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# THE RENMINBI ON THE INTERNATIONALISATION TRAIL

by Sylvain Plasschaert

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## Abstract

THE RISE OF the renminbi (RMB)<sup>1</sup> as a key currency in international financial markets has been fast. It reflects China's general expansion in the 'real' world economy, and its accumulation of official foreign exchange reserves. There is no doubt that the role of the RMB for the global economy will increase. Just three decades ago, that seemed like a very remote notion. The question now is if the RMB will assume a pivotal role as an instrument for transactions in international trade and investment as well as, ultimately, as a reserve currency.

First, however, one should clarify what is actually meant by 'internationalisation' of a currency. This paper analyses the various distinct areas in which that process unfolds. The internationalisation of the RMB has a distinct Chinese flavour in the sense that the symbiotic role of (the Special Administrative Region of) Hong Kong requires special attention. The next important step towards internationalisation appears to be an extension of RMB convertibility to encompass purely financial transactions. Ultimately, the issue whether and when the RMB might reach the coronation stage as a major reserve currency is linked to broader questions about reconstructions of the international monetary system, primarily the dominating role of the U.S. dollar. Although the RMB appears slated for such a prominent role given China's increasing weight in the world economy, this paper will argue that such an event is not likely to take place soon but in the distant future.



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**Keywords:** China, Renminbi, international monetary system, capital account liberalisation

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## WHAT IS MEANT BY THE ‘INTERNATIONALISATION OF A CURRENCY?’

IN GENERAL TERMS, the internationalisation of a currency denotes the role(s) that a given currency may perform outside its own national geographic area. First, an international currency refers to a currency that is accepted in a large number of foreign countries as a legal medium of exchange (or in an informal way), possibly even also for purely domestic transactions in that foreign country. Today, the U.S. dollar is the international currency *par excellence*. Moreover, an international currency can also serve as an anchor currency when a domestic currency is linked to a major foreign currency with respect to cross-border transaction. The foreign exchange (‘forex’) rate of the domestic currency is then pegged to the benchmark international currency, or allowed to fluctuate within narrow bands against it.

A second relevant aspect is the use of a currency as a medium of exchange in international transactions. The USD is again the typical example given that international trade is still predominantly invoiced in U.S. dollars. In addition, the USD typically serves as an intermediary step in bilateral foreign currency deals in the huge forex market, the turnover of which nowadays reaches a total of four trillion U.S. dollar per day. The conversion between, for instance, the South Korean Won and the Brazilian Real is handled in a two-step fashion through the U.S. dollar.

Third, an international currency may also be retained as a ‘unit of account’ for actual currencies, mostly in conjunction with other currencies. The value of such an artificial currency is determined by a formula. The ‘Special Drawing Rights’ (SDR), handled at the International Monetary Fund, provide an example of such a unit of account.

Fourth, an important stage in the internationalisation of a currency occurs when it gives rise to a ‘parallel’ or ‘offshore’ market outside the ‘motherland’ of that currency. This takes place when deposits are put in banks in an offshore jurisdiction and when a whole gamut of financial instruments and products are devised and marketed upon that deposit base. In this respect, it is notable that the offshore RMB market in Hong Kong has grown impressively in recent years.

Fifth, an ultimate stage is reached when central banks invest their forex surpluses in bonds or other assets, denominated in the reserve currency. Several prerequisites need to be fulfilled however before a currency can reach reserve currency status.

Recently, the RMB has relatively quickly taken several steps along the road to fuller internationalisation. These developments actually signal a fundamental turnaround for the RMB compared to only a few decades ago.

## CHINA’S INTERNATIONAL TRADING AND PAYMENTS SYSTEMS

### Under Mao Zedong

PRIOR TO THE Deng Xiaoping reforms in the 1980s, international trade was assigned a subordinated role in China’s centrally planned economy. Economic self-reliance was the prevailing view and China’s domestic production was heavily protected by an artificial exchange rate, by a licensing system and by high import tariffs. In the closed economy, the official forex rate did not exert

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any direct influence on the behaviour of exporting or importing Chinese firms. Moreover, in the absence of convertibility of the domestic currency, a bilateral deficit with an individual foreign country could not be offset by a surplus with another country. Instead, reciprocal trade had in principle to be equalised (Kornai, 1992).

### The gradual reform in China's international trading system

EARLY IN THE Deng reform period, the flaws in China's Soviet-type pattern of trading and international payments was recognised. Starting in 1984 the trading system was gradually reformed, although with occasional reversals (cf. World Bank, 1988). The mono-bank, which prior to the reforms essentially acted as a fiscal rather than a commercial institution, was substituted in 1985 with a dual banking system based on a central bank and four commercial (state) banks.

A first measure was to break up the foreign trade monopoly of the 'foreign trade corporations', to the benefit of provincial authorities and soon also individual (state) enterprises. Exporting entities then became entitled to retain a portion of the profits. In the early eighties, China's forex rate was determined on the basis of the evolution of the balance of payments, with the U.S. dollar as the intervention currency, to the extent conversions in other currencies were involved. In 1986, the exchange rate stood at about 3.5 RMB to the U.S. dollar. Subsequently, the RMB has been repeatedly devalued.

The Chinese economy started to open up gradually with the trade reforms and the entry of foreign-invested enterprises (FIEs)<sup>2</sup>. Preferential treatment was granted to 'export promoting trade' in the sense that imported inputs were exempted from customs duties provided that they were used in the export processes. During a short period, China operated a dual exchange rate system, whereby exporters operating outside the still existing but gradually shrinking planning contours secured a higher RMB counterpart for the U.S. dollar earned. This parallel market made it possible to approximate the market value of the RMB. In 1994, the two exchange rate markets were unified and China introduced currency convertibility on current account. Henceforth, authorised importers could purchase foreign exchange upon the presentation of trading documentation (Naughton, 2007). At that time, the Chinese leadership even contemplated the move to full convertibility of the RMB, i.e. extending it to transactions on capital account. But the East Asian financial crisis in 1997-99 had a strong dissuasive impact and full convertibility was abandoned as a policy objective.

At the turn of the century, Chinese state banks were technically bankrupt because of the overhang of 'non-performing' loans. This was a legacy of the previous Soviet-type system, in which the investments by state enterprises were essentially financed by grants instead of repayable loans. Although the solvency of the banks was shaken, they managed to remain liquid as the Chinese population did not refrain from entrusting their savings to the banks. Indeed, there were few alternatives available. Soon afterwards, the financial sector was drastically reformed by Prime Minister Zhu Rongji. In recent years, the four main (state-owned) banks have also secured listing on the Hong Kong and Shanghai stock exchanges.

### China's export earnings record - in need of serious qualifications

SINCE THE 1980s, Chinese exports have increased remarkably, especially after its accession to the World Trade Organization in 2001. From the modest figures of \$20 billion in 1980, the value of China's export grew to over \$1.000 billion in 2010. In 2011, exports reached \$1,898 billion (+ 20 % y.o.y), while imports were at \$1,743 billion (+ 24 % y.o.y). In 2012, China's exports and imports have so far staged a much lower growth rate. This is due to lower demand from Europe

and but also to the slowdown in China itself where GDP is expected to grow by (only) 7.7 % during 2012.

China has in fact reached a higher degree of openness than other large economies such as India, Brazil or even the United States, measured in terms of the export to GDP ratio. However, the rise in exports and the resulting trade surplus must be seen in the context of the particular features of the Chinese economy (cf. Plasschaert, 2011). First, more than half of the exports from the Chinese mainland originate from foreign invested enterprises. Second, around half of the value of the exports from the Chinese mainland relates to internationally fragmented production chains. Such goods, particularly in the information and communication technology (ICT) sector, are assembled in China although they contain parts and components manufactured elsewhere, most often in neighbouring East Asian countries such as Taiwan. In recent years, the value of this 'processing trade' has been equivalent to the value of 'ordinary trade' (Ma and Van Assche, 2010 and Kawai, 2010). Although trade statistics attribute the total value of the exported end product to the jurisdiction where the last 'substantial transformation' is carried out, the percentage of the value added within China is often very modest. Third, it is unwarranted to draw trade policy inferences from a large bilateral deficit position of a country vis-à-vis China, as is the case in the USA and the EU. Instead, one must consider the overall worldwide stance of China's current account, which is much more balanced.

### The towering accumulation of exchange reserves by China

The amount of China's official reserves now exceeds \$3,000 billion. Admittedly, the recurrent surpluses of export earnings over import payments account for a large and growing proportion of forex reserves. While official reserves elicit more negative reactions abroad than China's recurring trade surpluses, it is misleading to exclusively link the accumulation of the forex reserves to the trade surpluses. A rough addition of the trade surpluses since the beginning of the 2000s actually shows that not more than one third of the present stock of forex reserves can be attributed to China's trade surpluses. Hence, other factors are at work.

First of all, the recurrent high net inflows of foreign direct investments (FDI) are not yet offset by the growing outward foreign direct investments by Chinese firms. Another component of the forex accumulation consists of net 'hot money' inflows in the form of short-term speculative flows of capital. Although the inconvertibility of the financial account imposes severe restrictions on transfers, capital can sneak into China in ways that do not formally transgress Chinese regulations; leads or lags in cross-border payments can for instance be modulated. This occurs especially between entities of the same multinational company, by way of changing the timing of effective cross-border payments. Such hot money inflows tend to cause concerns among the Chinese authorities since they add to inflationary pressures, in addition to being difficult to control.

### The position of the renminbi at the start of its internationalisation sequence

LOOKING AT THE position of the RMB in the beginning of its internationalisation process around 2004, when RMB deposits first were allowed in banks in Hong Kong, a few general observations are in order.

In comparison to the currency markets of the USD, the euro, the British pound or the Swiss franc, China did not yet have a genuine and fully free forex market, given that the market price of the RMB was not derived from the confrontation of operators on the demand and supply sides. More particularly, the Chinese forex market retained three characteristics that distinguished it from fully free forex markets (Zhang and Liang, 2005).

The first aspect was capital account inconvertibility; China had only accepted convertibility for current account transactions. This strict separation between current and capital operations postulates a battery of controls and documentation requirements that are enforced by the centralised State Administration of Foreign Exchange (SAFE). Banks in China can deal with their customers' current account transactions in an over-the-counter 'retail market'. They can also operate wholesale in the inter-bank forex market, which functions with an electronic trading platform. However, the banks must convert their net forex positions (overwhelmingly in U.S. dollars) into RMB accounts within the Chinese Central Bank.

The second characteristic of the RMB forex market was the obligation imposed on Chinese exporters to sell the forex earned to the Chinese Central Bank. Exporters thus had to convert their foreign currencies into RMB, or to deposit them in a foreign exchange account within a bank in China. They also had to buy foreign exchange from a Chinese bank in order to pay for their imports. Third, the exchange rate of the RMB was basically pegged to the U.S. dollar. The applicable (central) exchange rate of the RMB was fixed daily by the People's Bank in reference to the U.S. dollar. Within a trading day, the exchange rate was allowed to fluctuate within a span ranging from 0.5 % above or below the central rate. The RMB forex rate vis-à-vis the U.S. dollar and other currencies was not shaped exclusively by the market constellations of demand and supply, but remained highly controlled.

By 2004, the RMB had achieved a much stronger position compared to ten years earlier. Annual GDP growth in China was heading towards double digits and the health of the banking system had basically been restored. Then a few years later, the international financial crisis, which ravaged American and European banks, left the Chinese banking system largely unscathed. The strong trade balance and the inflow of FDI funds were feeding the rapid growth of the official forex reserves.

Despite the current strong economic fundamentals, the solid international stance of China's currency and the favourable future prospects, the present forex position of China is not fully optimal. Its stock of forex reserves is excessive, especially since it clearly exceeds the cushion that countries want to maintain in order to preserve vital import flows. In addition, the predominance of U.S. dollar assets in the reserves exposes China to the vagaries of the value of the U.S. dollar. Some foreign observers also argue that China could invest the booty of foreign exchange in domestic welfare-enhancing projects, such as infrastructure, instead of purchasing American treasury bonds that earn a very low return. However, thanks to the solid stance of its public finances, China is basically capable of financing domestic investments by domestically generated fiscal resources and bank-intermediated savings, thereby avoiding borrowing abroad.

## **STEP-BY-STEP INTERNATIONALISATION OF THE RMB**

THE RMB HAS in recent years acquired a number of characteristics of an internationally circulated currency. Let us now turn to look at some of the main steps in this process.

After some hesitation, the Chinese leadership now appears to support the internationalisation of its currency, although in a gradual and controlled manner. Provided that the Chinese economy continues to grow, the eventual emergence of the RMB as a widely accepted reserve currency is in a way viewed as a destiny that China may not avoid. The 12<sup>th</sup> Five Year Plan recognises the objective of moving towards the intermediary stage of full convertibility, including the freedom of capital movements. But, as repeatedly stated, the Chinese leadership wants to proceed gradually and prudently along the internationalisation trail. \_

The accumulation of forex reserves, which until recently has been invested predominantly in U.S. treasuries, raises several problems. Not only is the stock of reserves excessive by generally accepted standards, but the gaping dual deficits of the USA in its trade and fiscal balances fuel doubts about the solidity of the U.S. dollar as a store of value<sup>3</sup>. In addition, the return on U.S. treasuries is minimal. In light of this, China is in the process of diversifying parts of its reserve holdings away from the U.S. dollar, even though the U.S. dollar still provides the most liquid market for the investment of forex surpluses. China is also taking several steps to somewhat dampen the build-up of the forex reserves.

Indeed, a 'renminbising of China's foreign assets' would allow a welcome rebalancing of China's international balance sheet, as stressed by Cheung et al (2011). Whereas China is short in the sense that it has a net position in its own currency on the liabilities side<sup>4</sup>, its claims on the outside world are paradoxically denominated in foreign currencies, mainly U.S. dollars. The emergence of China into the position as a creditor country exposes it to substantial forex risks. This imbalance would however be attenuated if non-residents would use and hold RMB to a greater extent.

### Improvements in the infrastructure and mechanics of China's onshore forex market

ALL FOREX TRANSACTIONS must be carried out within the unified inter-bank forex market that was established in 1994, a system supervised by the State Administration of Foreign Exchange (SAFE). As long as the RMB was fixed at RMB 8.28 to one USD, only spot transactions were conceivable. However, the strict link to the USD was replaced by a reference to a basket of foreign currencies in 2005. The spot forex rate then became subject to some variation, thus creating some market demand for forward contracts whereby forex risk could be covered. Towards the end of 2006, a system of pseudo forex transactions, the so-called (deliverable) forex contracts were initiated<sup>5</sup>. More recently, other markets for derivatives, such as options, have also been started. But the Chinese forex market is even today mainly dealing with spot transactions between the RMB and the U.S. dollar, but also with the euro, the yen and the Hong Kong dollar. Yet, all in all, deals on that market relate essentially to spot transactions.

The mechanics of the expanding inter-bank forex market have also been strengthened. Importers and exporters can now enter into conversions with the currencies of a larger number of countries, in the realm of current account transactions. The turnover in the onshore forex market remains modest however, accounting for only 0.3% of the worldwide turnover in 2010, according to the Bank for International Settlements. The absence of capital account convertibility essentially explains the structure of the Chinese onshore RMB market.

Between July 2005 and July 2008, the RMB was de-linked from the U.S. dollar and operated within a managed floating system under reference to a basket<sup>6</sup> of currencies. However, at the outbreak of the international financial crisis in July 2008, China returned unofficially to the strict U.S. dollar peg. Before that, the RMB had appreciated by 21.5% against the U.S. dollar. This stance was again reversed in June 2010. The RMB has now appreciated by about 30% against the basket of foreign currencies between 2005 and 2012.

In 2011, there was an undeniable trend towards appreciation of the RMB, which was fed to a certain extent by speculative inflows that apparently succeeded in sidestepping the arsenal of forex controls. Subsequently, the daily trading permissible band was doubled in April 2012 to 1% on both sides of the central rate.

Moreover, the RMB/\$ central rate has been massaged by the Central Bank, according to empirical analysis<sup>7</sup>. This procedure is obviously inherent in a controlled exchange system, and takes place



through the sale or purchase of U.S. dollars against the RMB at times when market constellations in current account transactions transgress the self-imposed band. The authorities have allowed a slow and steady appreciation of the RMB in recent years, although less than what would have resulted from market pressures exacerbated by speculative moods.

Since July 2011, however, the RMB no longer moves only upwards since it now denotes a limited two-way flexibility. This new behaviour of the RMB is perceived as a sign that the RMB may come close to a basic equilibrium position. Authoritative sources in China anticipate that further and even substantial widening of the band may be enacted before not too long as a stepping stone towards full capital convertibility as well as acceptance of a floating rate regime shaped by market forces.

### Bilateral settlements in national currencies

CHINA'S CENTRAL BANK has concluded almost twenty bilateral currency swap agreements with other central banks during the last four years. In this way, China's trading partners obtain access to the Chinese currency for a convened maximum amount and interest rate, and vice versa. This eliminates the need to go through the U.S. dollar, thus allowing trading partners to economise on transaction costs.

The currency swap arrangement with Hong Kong is by far the largest so far, now to the tune of \$400 bn. In November 2011, a currency swap agreement with Austria was signed, which would directly involve the euro. While the list of partners is becoming longer, two are worthy of attention, namely Japan and Taiwan; the latter agreement was announced in September 2012 after three years of negotiations. These two countries trade large volumes with China every year. The political significance of the agreements between the two jurisdictions across the Taiwan Strait is difficult to overstate.

Such bilateral swap agreements have so far not been put very much into use, with the exception of the Hong Kong case in 2010, when Hong Kong faced a temporary dearth of RMB. Swap agreements are mostly useful in the case of a serious international payments crisis: drawing on the currency swap facility with China would allow importers in partner countries to secure goods from China. In a scenario like this, the RMB would in fact replace the U.S. dollar as the settlement currency and even as a reserve currency.

### The use of the renminbi in international trade and in foreign direct investments

EXPORTERS TO AND from China now have the possibility to make transactions in RMB. This is the result of a pilot programme launched in July 2009, which soon became generalised. This rule reduces transaction costs for enterprises exporting from China, which would otherwise have had to operate through the U.S. dollar or the euro. It also relieves parties in China from the exchange risk. For companies exporting to China, invoicing in RMB may prove to be a competitive advantage in their search for customers. Companies importing from China may hope to secure a discount on the purchase price from their suppliers in China.

Invoicing in RMB obviously assumes that the counterparty is able to secure the RMB required for the payment and that the company exporting to China can put the acquired RMB to proper fruition. Accordingly, the denomination of trade in RMB is most easily accessible to firms with international activities, including production within China. They can thus balance their debit and credit positions readily.

Invoicing in RMB has expanded rather rapidly to around 10% of China's overall trade (2011).



The available data reports that invoicing in RMB is, so far, much more prevalent in imports to China compared to exports from China. This is attributable to the expectation that the RMB until recently was inevitably moving along the appreciation path. In addition, payments connected to trade with China are often handled by banks in Hong Kong, where the involved parties maintain accounts.

### The partial relaxation of the controls on international payments

A NUMBER OF steps have been taken to remove or relax restrictions on international trade and related payments. A recent measure notably removed the previous obligation to repatriate forex proceeds made from exports by firms located in China and to convert them into RMB. Such proceeds can henceforth be kept in foreign exchange accounts within banks abroad. This new arrangement dampens the further accumulation of official foreign exchange reserves at the People's Bank of China.

Other measures relax the strict rules on capital transactions. An important and recently enacted exception to the inconvertibility of the capital account relates to inward FDIs, which have played an exceedingly prominent role in the economic upswing of China. Whereas foreign investors previously had to supply U.S. dollars or other convertible currencies, they may now fund their investments directly in RMB. There is no doubt that this new rule will greatly widen the door for inward FDI to China from Hong Kong investors, or by other foreign firms that possess RMB resources in Hong Kong.

Portfolio investments in China by foreigners are still fairly strictly circumscribed. Shares of Chinese firms are mostly listed on the Shanghai and Shenzhen equity A market, which denominates in RMB. The B market operates in U.S. dollars and contains a small number of Chinese firms, but it has become quite illiquid. Moreover, a limited number of Chinese firms are listed on the (Hong Kong) market (and quoted in Hong Kong dollars) or on the (New York) Stock Exchange or the Nasdaq (quoted in U.S. dollars). The latter type of shares is easily accessible for non-resident investors. The relevant point for our purposes is that the A shares are in principle not open to non-residents.

So-called 'Qualified Foreign Institutional Investors'<sup>8</sup> have been able to obtain permission for the last few years (within a quota) to buy (in U.S. dollars) or sell RMB denominated A-shares on China's onshore markets. This opening showed the disposition to gradually open up the onshore markets for cross-country transactions on capital account. Sizable net inflows of capital from abroad have been the main concern of the Chinese authorities, lest they fuel appreciation pressure on the RMB in a rapidly growing country.

As regards the inter-bank bond market, a scheme was initiated in August 2011 to allow 'qualified foreign institutional investors' to participate in RMB. While the overall amount of those foreign financial investments remains modest (initially RMB 20 billion), this channel has opened another hole in the wall of capital account rigidity.

### The RMB as a component of the Special Drawing Rights?

THE IDEA THAT the RMB should be incorporated into the formula of the 'Special Drawing Rights' (SDR) has been voiced in several circles recently. The SDR was created in 1969 at the International Monetary Fund as 'a monetary unit of international reserve assets' providing supplementary international liquidity. The SDR currently has four components: the U.S. dollar, the euro, the yen and the pound sterling.<sup>9</sup> The value of this type of artificial Unit of Account, which is not

really a currency, reflects the weighted value of the actual currencies that are comprised in the formula. In theory, such a currency cocktail could be put to international use, e.g. in international bond issues, and be vested with some features of a genuine currency. There is however a long way to go before markets for such artificial financial vehicles can gather sufficient trust from market participants and achieve more universal acceptance, thus allowing building up liquid markets.

The suggestion to include the RMB in the SDR is nevertheless a striking development, considering that the IMF in its review of the valuation method of the SDR in 2010 stated that “at this stage, the Chinese RMB would not appear to meet the criteria under the Articles of Agreement for being determined by the Fund as a freely useable currency” (IMF, 2010, p.17). Today, the IMF leadership is no longer opposed to such incorporation. The Governor of the Bank of China and the French presidency of the G20 share the same opinion. In a recent statement, the Brussels-based think tank Bruegel also suggests that the RMB be made a component of the SDR (Bruegel, 2011). Before this, however, the prerequisites of convertibility on capital account and the functioning of a genuine exchange market need to be fulfilled, were it only to allow a proper valuation and determination of the interest rate carried by the RMB and consequently of the SDR.

### Offshore, parallel markets in renminbi, particularly in Hong Kong

THE RMB IS nowadays experiencing a phenomenon similar to the emergence of the euro-currency markets in the sixties, the so-called euro-dollar<sup>10</sup> market, located mainly in London. In such offshore markets, deposits are made outside their national abode by non-residents, but in the same currency. This type of offshore deposits supply the basic material out of which a whole gamut of present-day financial products are engineered, such as certificates of deposits, medium- and long-term bonds and various derivatives, like for instance options and forwards.

The birth and rapid growth of the euro-dollar market initially intrigued the best minds in the field of international finance and inspired some fancy theories until it became clear that the dollar offshore markets simply resulted from a relocation of dollar assets from, say New York, to another jurisdiction, namely London, which offered a more favourable regulatory framework in terms of taxes, reserve requirements on banks and deposit insurance fees. The euro-dollar market thus allowed (even if only a slightly) higher net yield on deposits and lower funding costs.<sup>11</sup>

### The peculiar role of Hong Kong

THE INTERRELATEDNESS OF the P.R. China and Hong Kong is uniquely favourable to the off-shoring of the RMB. Hong Kong is promoted by its authorities through references to both the ‘global’ and the specific ‘China advantages’ that it can offer. Indeed, Hong Kong has now become the world’s third largest financial centre and the Hong Kong dollar (HK\$)<sup>12</sup> is fully convertible. Hong Kong hosts a whole array of banks and financial institutions, including affiliates of mainland banks. A large number of enterprises from mainland China are listed on the Hong Kong stock exchange.

Other features underpin the eminently positive role of Hong Kong for the Chinese economy. Among them is the fact that Hong Kong practices the legal tradition of the British ‘common law’ system with an independent judiciary. Moreover, the English language is widely practiced and the tax burden is light. In addition, both the Hong Kong and the Chinese authorities, within ‘one country, with two systems’, are reportedly cooperating closely with a view to solidifying the financial markets in Hong Kong and pursuing the internationalisation of the RMB, although its full convertibility is still at bay.<sup>13</sup>

In sum, Hong Kong provides an efficient springboard for the RMB to become gradually im-

mersed in the deepest waters of the international financial universe.<sup>14</sup> It functions as a convenient bridgehead to booming mainland China as well as a testing ground for financial reforms in the P.R. China and for the spread of the international use of the RMB as a currency for settlement, investment and funding.

Today, smaller pockets of offshore RMB markets are being established as banks in East Asia or to obtain permission to open such accounts in RMB. Singapore already harbours an offshore market in RMB, although still small. The City of London is also on record to welcome a similar offshore RMB market. But the ambitions of both centres may have been beaten by Taipei, which has just agreed with the P.R. China to provide mutual settling arrangements. Taipei wants to build an RMB offshore market on the expanding trade across the Taiwan Straits. Notwithstanding the impending competition from various sides, Hong Kong can be expected to remain the largest RMB offshore market for years to come.

### Still segmented markets

THE ONSHORE RMB market in mainland China and the offshore market in Hong Kong still remain segmented as they belong to different jurisdictions and display a number of regulatory differences. It must be recalled that the forex regimes differ substantially; the (onshore) RMB is now linked to a basket of currencies, in which the U.S. dollar is still the main component, whereas the HK\$ is strictly tied to the U.S. dollar in a currency board framework. Also, in contrast to the full convertibility of the HK\$, the RMB is convertible solely for current account transactions, although this principle appears subject to gradual erosion.

The role of Hong Kong as an offshore RMB platform began in 2004, when its residents were allowed to open RMB accounts. Since then the RMB market has grown in size and diversity. The Hong Kong Monetary Authority announced recently that Hong Kong banks will offer the whole range of RMB services to non-Hong Kong residents starting in August 2012, including unlimited exchange of RMB into HK\$ and vice versa. In its various segments, the RMB market in Hong Kong enjoys rapid growth, although the RMB deposits (also subject to a *de facto* high reserve requirement on Hong Kong banks) yield less than the onshore RMB deposits. The RMB deposits (including 'certificates of deposit') in Hong Kong totalled \$700 billion in July 2012, equivalent to 10% of all bank deposits in Hong Kong.

Further growth of the offshore RMB market is anticipated. But presently it remains relatively small as it caters mainly to enterprises operating in, or with China. Another problem is that funds raised in Hong Kong cannot easily flow back to the Mainland, given the restrictions on non-current transactions and of related controls.

Payment flows directed to the P.R. China, but which pass through offshore accounts in Hong Kong must ultimately be cleared through bank accounts in the onshore market in China. Various measures have already been taken to facilitate this reverse flow. In Hong Kong, a clearing function is entrusted to the local branch of the Bank of China. At the end of 2011, a 'Reverse Qualified Foreign Institutional Investors' scheme was introduced, whereby firms in China that have raised RMB funds in Hong Kong can repatriate them to the Mainland, within their allotted quota.

### The RMB bond market in Hong Kong

THE PRIMARY AND secondary market in Hong Kong for so-called 'Dim Sum' bonds has grown impressively in 2011 and 2012. Their size expands and their maturity, initially not more than two years, is lengthening. Also, the spectrum of issuers has become more diversified since July 2010

when foreign issuers were authorised to launch such bonds. Among them are multinational enterprises such as McDonald's, Air Liquide, the Chinese Treasury as well as the World Bank. These bonds may appeal to investors, as they yield more than simple bank deposits in HK\$. Issuing debts in RMB naturally attracts firms that have assets and revenues in mainland China, particularly since the interest due on the bonds currently is inferior to that on borrowings from onshore banks.

### Monetary policy considerations

THERE ARE CERTAIN advantages and drawbacks for a country whose currency is used offshore, as is prominently the case of the RMB in Hong Kong. As discussed by He and McCauley (2010), the use of one's own currency in deals abroad favours the expansion of domestic banks. In this respect, issuance outside mainland China provides indications for the pricing of other RMB financial products onshore. At the same time, monetary guidance is rendered more difficult for the authorities as the offshore market functions out of the reach of their usual policy instruments. Indeed, deals with counterparts abroad are not without risks, as illustrated by the recent international financial crisis. Nevertheless, a rather vast offshore dollar market cannot replace an inter-bank market, which dried up completely at the nadir of the international financial crisis. Hence, the dearth of dollar financing had to be cured by massive interventions by the Federal Reserve.

### The ultimate stage of reserve currency status

THE RMB WOULD reach the ultimate stage in its internationalisation process if it became accepted as a major reserve currency in a considerable number of countries, alongside the U.S. dollar (and the euro?) or even replacing the U.S. dollar at the helm. This possibility has quickly become a subject of much speculation, particularly regarding when such an event would take place.

### Determinants of reserve currency status

THE ACCEPTABILITY OF a country's currency as the preferred habitat for lodging the surpluses of central banks depends on a number of elements. (Cf. Forbes, 2009). First, the existence and the accessibility of a large, deep and liquid financial market with a wide supply of investing alternatives on offer is a necessary condition for the emergence and the solidification of a currency in its role as reserve vehicle. Second, operators search for a comparatively high return on the assets they hold in the reserve currency. Third, there is a desire to diversify the reserve holdings, as a means to mitigate the risk of putting all eggs in the same basket. A fourth factor is whether there are intense trade links with the reserve-currency country; this is often the case for neighbouring countries. Moreover, strong governance of the financial market as well as of the economy in general is also required, with a legitimate reputation for honesty and effective legal protection. Finally, political considerations cannot be overlooked as capital flees readily from politically unstable countries into 'safe haven' jurisdictions, even if the entry ticket would imply a negative penalty return. Hence, international investors' trust in a currency is essential to the acceptability of a currency as a reserve store of value.

In addition to these conditions, one should add the acquiescence of the government to allow its currency to act as an international reserve currency. Small countries on their own are not suited to allow their currency to be operated widely in an international reserve role.<sup>15</sup> Currencies such as the Swiss franc or the Australian dollar can thus at the most perform a limited and secondary role in the huge globalised forex market.

## Prospects for the renminbi

IN THE LIGHT of the prerequisites to reach the status of a reserve currency, it is clear that few central banks are currently disposed to place their external surpluses in RMB assets within China, even if China would allow free capital account convertibility. For the time being, the shallowness and relatively underdeveloped stage of China's financial markets induce the Chinese authorities to invest its huge foreign exchange reserves mainly in American government bonds, despite the weak position of the American current account and of its government's budget. China is still an 'immature creditor country', to quote McKinnon and Schnabel (2009). In contrast to the U.S., China cannot invest its surpluses abroad in its own currency.

This situation might change if the nascent offshore RMB markets, notably in Hong Kong, were to grow substantially so as to absorb ample foreign exchange reserves. But judging from the experience of the euro-dollar markets, it is uncertain whether the RMB offshore market can be considered sufficiently large in order to become a major receptacle for reserve funds.

The attitude of the Chinese authorities towards the internationalisation of the RMB has clearly become more positive. China appears to recognise that the RMB is bound to become a major pillar of the international monetary system, and that China will ultimately have to accept a reserve currency status for the RMB. The authorities are obviously unhappy about the dominant position of the American dollar. With their massive holdings of U.S. external debt, they would risk serious losses on their holdings in the event of a profound U.S. dollar crisis. China has in fact recently begun to somewhat diversify its reserve holdings away from the U.S. dollar.

Chinese top monetary authorities are reportedly insisting that the present international monetary system, overpowered by the U.S. dollar, should be replaced by a multi-polar system including the RMB. They realise that their huge foreign exchange reserves are both excessive as well as disliked abroad. Reaching a top ranking would also strengthen the geopolitical status of China. In addition, the possibility recently opened up to carry out transactions in one's own currency is likely to be beneficial to Chinese firms. China would also be able to reap so-called seigniorage revenues.<sup>16</sup>

Stemming the inflow of funds into China has in recent years been a concern for the Chinese monetary leadership. Despite the efficient measures to sterilise the expansion of the money supply resulting from the conversion of large forex receipts into RMB, the inflow of funds still exerts pressure on the economy as it expands the money supply and fuels inflation.

A forex reserve role also depends on whether foreign central banks find it profitable to invest their surpluses in assets issued by a reserve currency country. It is difficult for foreign central banks to find the opportunity to invest if the reserve currency country is consistently in a surplus position; "in terms of balance of payments mechanisms, the country issuing the main international currency can supply the world with liquidity only if this country runs a trade deficit" (Zhang, 2010).<sup>17</sup> The reserve currency country is induced to issue securities in which non-residents can invest.

A two-way movement of gross amounts is also essential to support the role of a reserve currency. The responsibilities of a major reserve currency country become acute in times of international crisis, as the recent worldwide financial crisis illustrates. The Federal Reserve had to intervene rapidly to avoid a cataclysmic disorder in the international financial system.

Recent developments in China's trade balance and in the official RMB market as well as in other currencies' markets suggest that the forex market may change from being a one-way flow with a built-in appreciatory pressure on the RMB. A two-way movement of China's forex rate may in fact become a lasting feature of China's monetary international position before not too long. This

would facilitate the acceptance of a more active international role of the RMB (Cf. Maziad and Kang, 2012). In this respect, it is noteworthy that a few countries have already started investing some of their forex reserves in RMB. However, this still occurs in the (onshore) RMB market, dealing with current account transactions.<sup>18</sup>

In sum, the RMB still has a long way to go before reaching the status of a widely used reserve currency. China must first offer a wide and diversified financial market, where central banks can safely lodge their forex assets. The U.S. dollar will remain the world's main 'anchor currency' for a number of years to come. It will maintain this position by virtue of being the dominant reserve currency and the intervention currency in exchange markets, at the same time as it is still the predominant currency for invoicing in international trade.

Notwithstanding its top position, the American dollar is already liable to some erosion. This is in part inflicted by the growing international use of the RMB. The decline of the U.S. dollar is however bound to be a fairly slow process, as is the further deepening and strengthening of China's financial system. From a historical perspective, it can be recalled that although the United States had become the world's largest trader before the Second World War, the sterling pound still remained the world's main reserve currency until the 1940s (Eichengreen and Flandreau, 2010). But then again, the rapidly unfolding future may of course not faithfully duplicate the patterns of the past.

A reform of the international monetary system would inevitably imply a number of problems, which lie outside the scope of this paper. Suffice it to recall in this context that:

"Currency power configurations are never static. They evolve along predictable lines with the growth and decline of nations. Looking at the international monetary system as a constantly-evolving oligopoly, it seems inevitable that a countervailing power would develop to challenge the dollar". (Mundell, 2003)

Nobel Laureate Mundell had the euro in mind when writing these words. Today, he and probably many others, would spontaneously point to the renminbi as the likely challenger, while hoping that the euro may overcome its present predicaments and revive to gain a stronger position.

## **TOWARDS FULL CONVERTIBILITY OF THE RENMINBI**

SINCE THE TIME when the IMF advised in favour of full convertibility of the RMB in the mid-1990s, the financial world has become more sophisticated, but also prone to more instability<sup>19</sup>. Several recent developments render the continuation of the present currency arrangements less sustainable and less advisable, even from the viewpoint of China's own interests. The impressive ascent of China in the export league and the continuous sizable net inflows of FDI into China exert inflationary pressures on the RMB. Although Chinese authorities have managed rather well to control the impact of the net flow of funds on the money aggregates (Ma and McCauley, 2007), the conduct of an autonomous monetary policy is becoming more difficult. Recalling the 'impossible trinity', exposed by Mundell in 1961, free capital movements and autonomous monetary policies are not compatible with a fixed-rate foreign exchange regime. The question also arises whether it is in China's own interest to maintain huge forex reserves, particularly since they are largely invested in low-yielding securities, denominated in U.S. dollars.

Chinese monetary authorities are not only aware of this, but seem to be accepting a larger international role of the RMB as well as a move towards full convertibility in the medium term. This



is manifested by the many steps taken to spread the use of the RMB in international payments and financial transactions. Chinese leaders have however explicitly stated that they want to move gradually but carefully towards full convertibility.

The move to full convertibility is not without risks, and further modernisation of China's financial system is needed. The international demand for RMB assets is likely to expand further although it should be satisfied by the adequate supply of RMB securities. A more up-to-date financial infrastructure that meets world standards would also dampen the risks that Chinese banks would become exposed to when operating with full RMB convertibility. In this respect, China is still experiencing the infancy of a modern market-economy financial system.

What concrete steps are suggested to prepare the Chinese financial system for full convertibility? A recent World Bank report, prepared in cooperation with an official Chinese think tank<sup>20</sup> recommends that China's financial system be moved closer to a genuine market economy. The report suggests that while the arrangements so far, including the restrictions on capital movements, pegging of the RMB to the U.S. dollar and the accumulation of huge forex reserves, have ensured financial stability, these arrangements will not be adequate for the future. Hence, the report advocates a transition to freer capital movements. It also suggests that interest rates should not be determined by the authorities, but shaped by market forces.<sup>21</sup> It also recommends the discontinuation of bank credits extended in the light of political considerations and biased in favour of large state-owned enterprises. Finally, the report stresses that further reforms must be carefully planned and sequenced.

The recommendations contained in the World Bank report are sensible and largely in line with the views of the Chinese leadership. Admittedly, while convertibility on capital account would usher in a momentous stage in the internationalisation sequence of the RMB, it would also have some serious implications. The RMB would almost certainly adopt a floating currency regime in which the forex rate would basically be determined by market forces. With faster economic growth in China compared to the Western world and in Japan, the RMB would tend to move upwards, thus contributing to balancing the external accounts of the major trading blocs. However, this provides no guarantee that the exchange rate of the RMB would oscillate closely around an 'equilibrium' level. The widespread belief in the waning days of the Bretton Woods system that generalised floating forex rates would endogenously induce re-equilibrating moves has often been contradicted by actual market prices. Instead, monetary authorities quite often intervened in the forex markets. Against this backdrop, one may wonder whether China, while professing adherence to a floating rate system, would renounce intervention.

Even though full convertibility would permit Chinese residents to freely invest their savings abroad, the likely outcome appears to be a net flow of capital into China, pushing the RMB higher. The adverse impact of a higher RMB on China's exports is however likely to remain limited, as it is today. Falling demand in the USA and Europe is in fact the main reason why many of Chinese firms manufacturing labour-intensive goods have been thinned out. Moreover, the adverse effect of the appreciation of the RMB on China's exports has partly been transmitted to other countries in South East Asia, which supply components and parts in global supply chains. Accordingly, the trade deficit of the USA and of the EU vis-à-vis China would not be erased. Besides, export of labour-intensive goods is no longer a major objective of China's industrial policy, illustrated by the fact that the labour-intensive sectors were given no attention in the 11<sup>th</sup> Five-year Plan. Instead, China's overall strategy is to expand the role of household consumption and to promote growth in the vast centre and west of the country.

In any event, gross and net capital flows to and from the outside world would be less destabilising



in China compared to the shattering impact that external financing had in smaller countries during the East Asian crisis in 1997-99. Indeed, considering China's high macro-savings and investment ratio, the substantial inflow of FDI and the giant stock of forex reserves, China has little need for financing through international financial markets.

Finally, the World Bank report also draws the attention to the need for a truly worldwide supervision of today's globalised financial world. With respect to China, the World Bank also stresses the need for adequate regulation and supervision of the banking system. This is already an arduous task in the purely domestic setting of a banking system that had to be completely revamped. It will even prove more challenging as Chinese operators become more actively involved in cross-border transactions. Yet, since China has been lucky to be hit only marginally by both the East Asian crisis and the recent financial tsunami that has shaken the West, it has been in a position to learn to avoid the policy mistakes that have unleashed such catastrophes.

Key officials in China have suggested 2015 to be the year when full convertibility would be achieved. Although this time schedule may prove to be too ambitious, full convertibility appears to be a realistic scenario soon. Attaining the status of a world reserve currency status lies in a more distant, and yet plausible future. In any case, the pace of RMB internationalisation will undoubtedly be determined by the Chinese leadership itself, and in line with China's time-honoured strategy of gradualism, it is likely to evolve in a stepwise fashion.

## ENDNOTES

1. The expression 'yuan' is used for quantities of the Chinese currency. To avoid confusion with the Japanese 'yen, I stick to the expression Renminbi throughout.
2. Foreign Invested Enterprises comprise both joint ventures between Chinese and foreign firms, and affiliates in China, fully owned by foreign firms.
3. Yet, paradoxically, and despite the large dual U.S. deficits, the U.S. dollar has to quite an extent acted as a safe haven currency during the worldwide financial crisis.
4. Inward FDI and portfolio investments are thereby counted as renminbi liabilities.
5. As opposed to the customary (deliverable) forwards, in non-deliverable forward deals, the two currencies are not actually exchanged but the difference in the outcomes at the initial fixing date and the later settlement date is paid out in one of the currencies, namely the U.S. dollar. Non-deliverables in RMB/USD were already transacted, at the end of the previous century, via Hong Kong, in a rather thin market. The non-deliverable market provided useful pointers to the later deliverable forward markets, by which it has now been largely supplanted.
6. The exact composition of the countries included in the reference basket has not been made public
7. Wang, Yi David, 2010, identified deviations of the onshore forex rate as against the rate that would be less constrained by the monetary authorities.
8. A similar, but more limited scheme exists for Chinese institutional investors, heading for investments outside China.
9. Another precedent was that of the European Currency Unit (ECU), which functioned from 1979 prior to the introduction of the euro in 1999.
10. The term 'euro' was already then a misnomer as Great Britain was not a member of the European Community. But the name has persisted, even until today.
11. Dollar business in London was also stimulated by the measures taken in the USA to dampen capital outflow from the USA, in a fruitless effort to stave off the devaluations of the dollar, which occurred in the early 1970s.

12. The Hong Kong dollar rests on a peg with the U.S. dollar since 1983, but in a Currency Board, in which a local monetary authority can only issue its currency, to the extent it is covered by foreign exchange reserves. This system conveys less autonomy; interest rates tend to mimic those in the reserve currency country. The Hong Kong authorities have restated recently that they do not intend to move to another monetary arrangement.
13. In February 2012, the authorities in Shanghai stated that they intend to establish not later than 2020, in Shanghai, a financial centre of worldwide significance with the onshore RMB at its core. So Hong Kong may then be confronted with a serious competitor within the same nation. But one is tempted to doubt that Shanghai is capable of mastering that fast the set of qualities that have molded Hong Kong into an outstanding international financial hub.
14. Similar comments apply to Macao; Thus, Macao operates its own currency, the Pataca. But, on account of its modest role, Macao is not specifically dealt with here.
15. Japan, in spite of its strong international creditor position, was rather reluctant during the 1980s to let the yen perform as a major international currency.
16. Seigniorage revenues accrue to a reserve currency country as a result of the wide difference between the value of currency and its production cost. They relate in essence to bank notes that are in circulation outside their country of origin.
17. This statement conforms to the dilemma which Triffin (1960) identified with respect to the U.S. dollar.
18. Malaysia, South Korea and Norway are mentioned in this connection and have apparently obtained permission thereto from the Chinese authorities.
19. As sharply analyzed by Andrew Crocket (2003)
20. Besides, in November 2011 a first annual 'financial sector assessment' has been carried out by a joint IMF-World Bank team.
21. Since, a few steps in liberalising interest rates on deposits and loans have been announced.

## BIBLIOGRAPHY

Bank for International Settlements, “*81st Annual Report 2010-2011*”, Basel, June 2011

Bank of Bilbao and Viscaya, “*As RMB internationalization advances, new headwinds call for policy steps*”, Economic Watch China, Hong Kong, July 17, 2012

Bruegel (YuY., Bénassy-Quéré A., Pisani-Ferry, J.), “*Reform of the International Monetary System*”, Policy Contribution, March 2011 (e-mailed)

Cheung, Y-W., Ma, G. and McCauley R., “*Reminbising China's foreign assets*”, Pacific Economic Review, 16:1, 2011

Crockett, A., “Strengthening the international financial architecture : making markets work better” in “*An International Finance Reader*”, Das. D. (Ed.), Routledge, 2003

Eichengreen, B. and Flandreau, M., “*The Federal Reserve, the Bank of England and the rise of the dollar as world currency 1914-39*”, BIS Working Paper n. 328, Oct. 2010

European Central Bank, “*The international role of the euro*”, Monthly Bulletin, July 2012

Forbes, K., “Financial network effects and deepening”, in “*The Euro at Ten: the next global currency?*”, Pisani, Ed., Ferry, J. and Posen, A.S., Peterson Institute for International Economics and Bruegel, 2010

International Monetary Fund, “*Review of the Method of Valuation of the SDR*”, Oct. 26, 2010

- International Monetary Fund and World Bank, *Financial Sector Assessment Program: China* “, Washington, November 2011
- Kawai, M., “Global rebalancing: an Asian perspective”, in Collignon S. et al (Eds), “Rebalancing the global economy“, Gütersloh: Bertelsmann Stiftung, 2011
- Kornai, J. “*The socialist system. The Political Economy of Communism*”, Oxford University Press, 1992
- Ma, G. and McCauley, R., “*Do China’s capital controls still bind? Implications for monetary autonomy and capital liberalization*”, BIS Working Paper n. 233 , August 2007
- Ma, G. and Van Assche , A. , “*China’s Role in Global Production Networks*“ mimeo, 2010
- Maziad, Samar and Kang Joong Shik, “*RMB internationalization : onshore / offshore links*”, IMF Working Paper WP 12 / 133, 2012e
- McKinnon, R. and Schnabl, G., “*China’s financial conundrum and global imbalances*”, BIS, Working Paper no .277, March 2009
- Mundell, R. “*A Theory of Optimum Currency Area*, *American Economic Review*, vol. 60, 1961, pp. 657-665
- Mundell, R., “Currency Areas, Exchange Rates and International Monetary Reform”, in Salvatore et al (Eds) *The Dollarization Debate*, Oxford University Press, 2003
- Park, Yung Chul and Song Shi-Young, “*RMB Internationalization: Prospects and Implementation for Economic Integration*”, conference at Bruegel, Brussels in January 2011, mimeo
- Plasschaert, S., “*Is the Renminbi undervalued? The myths of China’s trade surplus and global imbalances*”, Brussels: ECIPE working paper n. 02 / 2011
- Prasad, Eswar and Ye, Lei, “*Will the Renminbi rule?*“, Finance and Development, IMF, March 2012
- Triffin, R. “*Gold and the Dollar Crisis*“, New Haven: Yale University Press, 1960
- Van Assche, Ari, “*The Rise of Global Value Chains. Implications for Trade and Competition Policies*“, power point presentation at ECIPE, Brussels, March 2012
- Vallée, Shahin, “*The internationalization path of the RMB*“, Bruegel working paper, March 2012
- Wang, Yi David ‘*Convertibility Restriction Determination in China’s Foreign Exchange Market and its Impact on Forward Pricing*’, Stanford Center for International Development , Working Paper no. 414 , April 2010
- World Bank and the Development Research Center of the State Council, “*China 2030. Building a modern, harmonious and creative high income society*“, Washington, February 2012
- World Bank, “*External Trade and Capital*”, 1988
- Zhang, Y. “Global economic imbalance, the financial crisis and international monetary system reform”, in “*Rebalancing the Global Economy*”, Collignon, S. et al (Eds), Gütersloh: Bertelsmann Stiftung, 2010