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Revisiting the Internationalization of the Yuan

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Abstract

As the world's second largest economy, largest trading nation, and the largest foreign holder of United States (US) government bonds, the People's Republic of China (PRC) needs a currency with international status that can match its economic status in the global economy. However, sequencing is important. Before the internationalization of the yuan can make meaningful progress, necessary conditions, such as the existence of deep and liquid financial markets, a flexible exchange rate and interest rates responsive to market conditions must be created.

The process of yuan internationalization essentially is a process of capital account liberalization. Due to the unprecedented and complex global financial crisis and the PRC's huge imbalances, capital account liberalization has to be pursued in a cautious way. As a result, the internationalization of the yuan is bound to be a long-drawn process.

The PRC's road map for the internationalization of the yuan is flawed with many missing links and wishful thinking. Yuan internationalization guided by the current road map may be proven counterproductive.

JEL Classification: F31, F33

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1. INTRODUCTION

Since its launch in early 2009, the internationalization of the yuan has been making rapid progress. As the world's second largest economy, largest trading nation, and the largest foreign holder of United States (US) government bonds, the People's Republic of China (PRC) needs a currency with international status that can match its economic status in the global economy. While the PRC economists universally support the internationalization of the yuan as a long-term goal, worries about the possible negative impact of the PRC monetary authorities' current push for the internationalization on the PRC's welfare and financial stability have emerged since 2010. In fact, yuan internationalization has become one of the most controversial issues among economists in the PRC.

This chapter is a reexamination of the endeavor of yuan internationalization since 2009. The main findings are that despite the progress made, the PRC does not have a viable road map for yuan internationalization yet, and perhaps it cannot have one. The much-proclaimed project could prove an anticlimax. In the short term, the PRC's policy focus should not be on promoting the internationalization of the yuan, because there are many more urgent challenges to face. The reform of the PRC's exchange rate regime and liberalization of interest rates should take precedence. Needless to say, to carry out capital account liberalization disguised as yuan internationalization without having met necessary prerequisites is dangerous.

Section 2 is a brief survey of the literature on the definition and characteristics of an international currency. Section 3 deals with the objectives of the PRC's efforts in promoting yuan internationalization. Section 4 gives critical assessments on the PRC's road map of yuan internationalization. The fifth section examines the progress the PRC has made and section 6 discusses some of the problems arising from yuan internationalization. Section 7 discusses the relationship between yuan internationalization and capital account liberalization. The final section offers concluding remarks.

2. FUNCTIONS OF AN INTERNATIONAL CURRENCY

There is a large body of literature on the nature of an international currency and the ways to internationalize a national currency. According to Kenen (2009), an international currency is used and held beyond the borders of the issuing country. An international currency is not merely used for transactions with residents but is also used for transactions between residents and nonresidents. Theoretical discussions of currency internationalization usually begin with the functions of an international currency. Kenen (1983) presents some early thoughts on the roles of international currencies. Chinn and Frankel (2005) provide a list of international functions of an international currency (Table 1).

Table 1: The Role of an International Currency

Function of money	Governments	Private actors
Store of value	International reserves	Currency substitution (private dollarization) and investment (portfolio allocation)
Medium of exchange	Foreign exchange market intervention	Vehicle currency, invoicing trade and financial transactions, settlement currency
Unit of account	Anchor for pegging local currency	Denominating trade and financial transactions

Source: Based on Chinn and Frankel (2005).

According to Chinn and Frankel (2005), an international currency should be a store of value, a medium of exchange, and a unit of account for both residents and nonresidents. The functions can be further divided into two subfunctions: private use and public use. When an international currency is used for private purposes, it is used for currency substitution, bridging currency trading in foreign exchange markets, and invoicing and denominating trade and financial transactions. When it is used for public purposes, it is used as a reserve currency, an intervention currency, and an anchor currency.

The above-mentioned functions of an international currency will be used as a point of reference as this study assesses the progress of yuan internationalization and explores possible routes for internationalization. A currency can play the role of an international currency on different levels. For example, among all the functions of an international currency, the most supreme is the role of an international reserve currency. It seems that on the second highest level stands the role of vehicle currency.

Understanding differs on the classification of the functions of an international reserve currency. For example, according to Ito (2011), the role of an international currency can be classified as follows (Table 2).

Table 2: Dimensions of an International Currency

	Private sector	Official sector
Unit of account	Trade invoicing Denomination of financial products	Being pegged by other countries Use in currency baskets of foreign central banks SDR composition currency Denomination of government bonds
Medium of exchange (settlement)	Trade and financial transactions	Currency circulation abroad Government financial transactions (such as ODA) Central bank swaps Currency intervention
Store of value	Cross-border deposits Cross-border securities	Foreign reserves (of other countries)

Notes: ODA = official developmment assistance; SDR = Special Drawing Rights.

Source: Ito (2011) based on the matrix first proposed by Kenen.

It is worth noting that in table 2, “trade invoicing” is put under the category of “unit of account” rather than “medium of exchange”. It seems that both roles of invoicing trade and denominating financial transactions should fall in the category of unit of account. Another important point is that a distinction between the role of invoicing and that of settlement must be made clear. It is very common that while a currency is used as an invoicing currency in a certain transaction, settlement is made in another currency for the same transaction. As pointed out by Ito, Satoshi, Sato, and Shmizu (2010), Special Drawing Rights (SDR) is a unit of account but not a settlement currency. The recognition of the difference between these two roles is very important.

As an international currency, the role of the invoicing currency is more fundamental than that of the settlement currency. If exporters’ most important consideration is to avoid exchange rate risks, they would prefer to use their own national currency to invoicing trade. As long as exporters can convert the settlement currency into their own national currency, it does not matter that much what currency is used for trade settlement. In contrast, if trade is invoiced in a foreign currency, then the use of the national currency as the settlement currency will not help exporters to avoid an exchange rate risk. The same is true of importers, though they are exposed to opposite exchange rate risks.

If the invoicing currency has been decided, the choice of settlement currency is not entirely irrelevant. Settlement currency as a medium of exchange performs different roles from those of an invoicing currency. Because possible time lags between the settlement of trade and currency exchange and possible changes in the exchange rate during this time, the choice of settlement still makes a difference in terms of profits and losses for exporters and importers. When an invoicing currency is decided, the direction of change in the exchange rate should be a very important consideration. In contrast, when a settlement currency is chosen, the stability of a currency should be a priority.

Generally, when exporters are in favor of one currency as the invoicing currency, they would be in favor of the same currency as the settlement currency. This is also true of importers. But in reality, the situation can be more complicated. In many discussions an implicit assumption is made that a settlement currency must be an invoicing currrency at the same time. This assumption is misleading, because the causes leading to the use of a currency as the invoicing currency or the settlement currency are not the same.

Park (2010) points out that a greater usage in financial denomination rather than trade invoicing appears to be a much more important qualification for a major international currency. Daily turnover of the world’s currency markets (all instruments included) was close to $4 trillion a day in 2010, while the value of world merchandise exports fell 23% to $12.15 trillion in 2009, and world commercial services exports declined 13% to $3.31 trillion (WTO 2010).

When a currency is referred to as a store of value, it may refer to the currency in the form of cash and deposits, or to the fact that financial assets and liabilities are widely denominated by the currency. Holding a currency in the form of cash and deposits as store of value is different

from holding financial assets denominated in the currency. The difference between the two forms becomes obvious during a financial crisis. It should be emphasized that an international currency need not be equally widely used in denominating both financial assets and liabilities of the issuing country of the currency. For example, while US foreign liabilities are overwhelmingly denominated in the dollar, its foreign assets are mostly denominated in foreign currencies. The ultimate test for a currency's international position is the extent to which the currency can be used to denominate liabilities of the issuance country.

3. POSSIBLE BENEFITS OF YUAN INTERNATIONALIZATION FOR THE PRC

Why did the PRC monetary authorities decided to push the internationalization of the yuan so vigorously? What are the specific results the PRC government wishes to achieve by pushing yuan internationalization?

First, the internationalization of the yuan will reduce exchange rate risks, to which the PRC firms are exposed. The internationalization of the yuan means that more foreign trade and financial transactions will be invoiced and settled (paid) in the yuan. As a result, the exchange rate risks for the PRC firms will be reduced or canceled out accordingly. Because of the PRC's persistent current account and capital account surpluses, yuan appreciation pressure has been building up steadily since early 2003. Many believe that if exports are invoiced and settled in the yuan, the PRC exporters will be able to avoid exchange rate risk while the yuan is in the process of appreciation, and hence the momentum of the PRC's exports can be maintained.[1]

Second, the internationalization of the yuan will reduce the PRC's transaction costs in trade, including the cost of trade finance, and lead to a further expansion of international trade. The rapid increase in the use of the yuan as a settlement currency (payment currency) has greatly boosted the PRC's border trade.

Third, the internationalization of the yuan will improve the funding efficiency of the PRC's financial institutions, hence increasing their international competitiveness and lead to the expansion of the PRC's financial services sector. It is conducive to the PRC's efforts for developing Shanghai as an international financial center.

Fourth, the internationalization of the yuan means that the need for the PRC to hold the dollar as a medium of exchange and a store of value will be reduced accordingly, which in turn

[1] Unfortunately, the assumption is likely wrong. With the yuan as invoicing and settlement currency, the appreciation of the yuan will lead to the loss of market shares by the PRC exporters and hence the reduction of exports anyway.

means that the PRC will be able to reduce seigniorage paid to the US.[2] Taking into consideration the high probability that in the long run the dollar will devalue further and the US government will inflate away its debt burden by monetizing its budget deficit (such is already the perception of quantitative easing), by reducing the holding of dollar denominated financial assets, the PRC will be able to reduce capital losses on its huge foreign exchange reserves in the future.

4. THE ROAD MAP OF YUAN INTERNATIONALIZATION

Historically, for most countries, the internationalization of their currencies has been market-driven and without any road maps.[3] In fact, many countries have resisted the pressure to internationalize their currencies. In Japan, the internationalization of the yen was launched under US pressure. The road map for yen internationalization was essentially a road map for capital account liberalization in line with US wishes ([Takagi] 2009). It seems that there is no precedent for successful internationalization of a currency that is guided by a predetermined road map. Among those countries with a form of road map, Japan failed to promote yen internationalization as planned. Germany succeeded in making the euro an international currency, but it came at the expense of the Deutsche mark and it is abundantly clear in the wake of the eurozone sovereign debt crisis that Germany was forced into a suboptimal monetary union. Although in the literature some clues for categorizing the routes leading to the internationalization of a national currency can be found, there is no extensive discussion on guiding principles for drawing a viable road map for currency internationalization.[4]

The PRC's road map[5] for the internationalization of the yuan follows what could be called "a functional approach." For the designers of the road map, the final destination of internationalization is to make the yuan on par with the dollar in playing the role of an international reserve currency. To arrive at this destination, conditions have to be created to enable the yuan, as much as possible, to fulfill the functions of an international currency. But

[2] Seigniorage amounts to the return on the extra assets (real and financial) that a country is able to acquire because of the external holdings of its currency, less the interest paid on the assets in which the foreigners invest their holdings and less any extra administrative costs arising from the international role of its money (Pearce 1981: 389).

[3] Eichengreen and Flandreau have argued differently (2010).

[4] Park (2010) proposed that the PRC should follow a regional approach to the internationalization of the yuan.

[5] The PRC authorities have not published any formal documents to present the road map of yuan internationalization. However, based on available documents that are aimed at addressing operational problems with regard to yuan internationalization and talks and papers by those who are close to the decision makers, we still can have a glimpse at what is in the mind of authorities on how they are prepared to push yuan internationalization.

the journey of the yuan to the world is staged in order of difficulty. Yuan internationalization has to start by making the yuan available to nonresidents. This appears logical. Without making the yuan available to non-residents, how can the yuan be used internationally? The PRC has a specific advantage in the form of the existence of Hong Kong, China—an international financial center and the single most important entrepôt for the PRC. Hence, yuan internationalization starts with the promotion of the use of the yuan for settling imports from Hong Kong, China.

The PRC monetary authorities proclaim that no artificial incentives have been provided to encourage the PRC importers to use the yuan as a settlement currency. What it has done is to remove the restrictions on the choice of currency for trade settlement by the PRC enterprises in several steps. However, it has to be asked: although freedom of choice has been given to the PRC importers, why must they choose the yuan instead of other currencies for import settlement, especially when taking into consideration the fact that the yuan has been on the course of appreciation for six years and is likely to continue in the foreseeable future? Of course, Hong Kong, China exporters can be asked a similar question: why would they be happy to accept yuan payments? Unfortunately, in the PRC's road map, these questions are not asked, let alone answered.

There are a large number of theoretical and empirical studies exploring the selection of an invoicing currency (Grassman 1973; Goldberg and Tille 2008; Friberg and Wilander 2008; Kawai 1996; Ito, Satoshi, Sato, and Shimizu 2010). According to these studies, trade between industrialized countries in manufactured products tends to be invoiced in the exporter's currency. Trade between an industrialized and a developing country in manufactured products tends to be invoiced in the industrialized country's currency. Trade between any pair of countries in primary products tends to be invoiced in an industrialized country's currency (Kawai 1996). Despite the fact that no conclusive results have been achieved, it is clear that the determinants of the choice of the invoicing currency are multifold. Exchange rates and expectations of exchange rate changes will influence an enterprise's choice of invoicing currency. Other factors on industrial and enterprise levels, such as a country's industrial structure, corporation organizations, enterprise business models and marketing strategies, types of products available, and development of relevant financial markets, may fundamentally influence an enterprise's choice of invoicing currency. The bargaining powers of trade partners also play an important role in deciding the final use of invoicing currency.

It is worth noting that in the literature, there are a lot of discussions on the choice of the invoicing currency, but relatively few discussions on the choice of the settlement currency.[6] When people talk about the use of the yuan for trade settlement, no one has asked whether the yuan is also used for trade invoicing. For foreign observers, it must be the case. But it is not. When trade is settled in yuan, it is not necessarily invoiced in yuan. In the PRC's road map, promoting the use of the yuan as invoicing currency has rarely been explicitly discussed.

[6] Perhaps this is because the chosen settlement currency usually is the same currency for invoicing.

As long as the yuan is used for trade settlement and hence yuan have flown out of the country, the designers of the road map do not seem to worry whether the yuan is used as the invoicing currency. However, if imports are still invoiced in dollars, the use of the yuan for settlement is not a great accomplishment in yuan internationalization. On the contrary, this situation can be a result of some perverse activities such as betting on yuan appreciation and can be easily reversed when circumstances change.

Why does the use of the yuan for import settlement occupy such a central place in the PRC's road map? There are two possibilities. One is to enable Hong Kong, China residents to hold yuan assets. Another is to enable Hong Kong, China residents to use the yuan to pay for their imports from the PRC. It seems that the PRC's emphasis is on encouraging Hong Kong, China residents to hold more yuan assets. To achieve this, the PRC government created mechanisms for the recycling of the yuan, soon after the yuan settlement for trade was launched. The essence of recycling is to create channels for Hong Kong, China residents to invest their yuan proceeds received from the PRC importers (and yuan obtained via other channels) in yuan assets provided by the PRC financial institutions.[7] Without the recycling, Hong Kong, China residents would have no option but to deposit their yuan with Hong Kong, China banks, which is not a great incentive for them to hold yuan assets due to low interest rates. It is worth noting that the yuan deposits with Hong Kong, China banks end up with the Shenzhen branch of the People's Bank of China (PBOC), which in turn pays interest on deposits. Generally, investment in yuan denominated assets such as yuan government bonds and yuan corporate bonds, if available, would give investors in Hong Kong, China higher returns. The issue here is not how the yuan can be recycled. The yuan has been recycled when Hong Kong, China residents deposit their yuan proceeds with Hong Kong, China banks. The real issue is, given possible costs, how much freedom the PRC government is willing to give to Hong Kong, China residents to choose yuan denominated assets to invest their yuan and how Hong Kong, China residents would utilize these opportunities, if they become available. This is a matter of capital account liberalization rather than one of yuan internationalization.

According to the road map for yuan internationalization, as a result of the accumulation of yuan assets by nonresidents (mainly Hong Kong, China residents), "somehow" incentives will increase for nonresidents to pay for the PRC exports with the yuan, which they obtained from selling goods and services to the PRC. Unfortunately, the road map has mixed two different functions of an international currency—the function of medium of exchange and that of store of value. As a medium of exchange, the yuan should move back and forth across borders constantly[8] rather than be withdrawn from circulation and accumulated in various forms of yuan assets. If the objective is to make the yuan a store of value and the objective has been

[7] Hong Kong, China institutions also created various types of yuan assets for investment.

[8] Or the yuan stays in Hong Kong, China to facilitate trade and financial transactions in Hong Kong, China, if the yuan is accepted to perform these functions.

achieved, then there would be no yuan left for Hong Kong, China importers to settle their imports from the PRC. For Hong Kong, China residents, the yuan cannot play both the role of medium of exchange and that of store of value at the same time. There is no "somehow" as hoped for in the PRC's road map. The incentives for Hong Kong, China importers to use the yuan for import settlement should be different from the incentives for them to hold yuan assets. Hence, it is possible that, after a long journey, it is still difficult to encourage Hong Kong, China importers to use the yuan for settlement. Many links between different legs of the yuan's journey in the road map simply do not exist.

As mentioned earlier, an internationalized currency must be widely used not only in invoicing and settling international trade but also in denominating financial transactions. Although since the launch of yuan internationalization, the PRC government has promoted the sale of yuan denominated bonds (both public and corporate), there seems to be no plan for the promotion of the use of the yuan as a denominating currency for financial assets. As pointed out by Park (2010), while there is a large amount of literature on how a currency can be used internationally for trade invoicing, very little has been written on the determinants of a currency for the denomination of financial assets. Perhaps, the role of financial assets denomination is difficult to separate from the role of value storage. Hence, the promotion of the use of the yuan for the denomination of financial assets will not be high on the agenda, until headway has been made for the use of the yuan as store of value. Furthermore, the extensiveness of the use of the yuan as the denominating currency for financial assets depends on the role of the PRC financial institutions in global finance. Unfortunately, although the PRC has some of the biggest banks in the world in terms of market capitalization, the PRC financial institutions' global presence is insignificant. For whatever the reason, the question of how the yuan will play the role of denominating currency for international financial assets has not been explicitly addressed in the PRC's roadmap.

The promotion of the use of the yuan as store of value has taken a few different routes. First, as mentioned earlier, yuan denominated assets are provided mainly for Hong Kong, China residents in connection with the scheme of yuan recycling. Though the PRC has yet to put forward a timetable, the sequencing of the provision of yuan assets has emerged. Different types of yuan assets will be provided corresponding to their possible impact on the PRC's financial stability. So far, Hong Kong, China residents are allowed to hold yuan deposits, yuan corporate bonds, and yuan government bonds. In the future, they may be able to invest in the PRC "A share" markets. The restrictions on the amount of investment will be loosened accordingly. The increase in the holdings of yuan assets by Hong Kong, China residents means that the PRC is borrowing from nonresidents. But with huge surplus capital and $3.2 trillion in foreign exchange reserves, why should the PRC be so keen on attracting more foreign capital, even if these assets are denominated in the yuan? The escape route should be to encourage nonresidents to hold yuan liabilities, for example, panda bonds. Unfortunately, this route is not fully explored.

The PBOC has entered into swap arrangements with some foreign central banks. This can be regarded as a second route. The holding of yuan deposits by foreign central banks with the PBOC has the potential to become an important channel for promoting the use of the yuan as reserve currency, due to the PRC's strong external position and the liquidity shortage of the global economy.

The third route can be the further participation in regional financial cooperation. Park (2010:19) points out, "In the event that the PRC decides on a regional strategy, it has two options to consider. The PRC might move to create a yuan bloc among the members of ASEAN + new 3, which includes ASEAN10, the PRC, Taipei,China, and Hong Kong, China. Alternatively, it could take advantage of ASEAN+3 as a framework for yuan internationalization." The PRC's current road map is pointing to the direction of the first option in what Park labeled the "regional approach". The PRC's promotion of yuan trade settlement with Hong Kong, China can be regarded as the first leg in the long journey in line with the ASEAN + new 3 approach. However, the PRC monetary authorities have not given up pushing yuan internationalization via the second regional approach.[9] More precisely, the PRC authorities are still hoping more can be done to consolidate the regional financial architecture within the framework of the Chiang Mai Initiative. Something conducive to yuan internationalization may materialize as a by-product of the PRC's engagement in regional financial cooperation. Currency swaps between central banks are cases in point.

Another important direction in the yuan's journey to the world is the participation in the reform of the international monetary system. But it seems that the PRC has not yet decided how to participate in the reform. For example, there is not yet a policy on what role the yuan should play in redefining the SDR.

In summary, it is expected by the PRC's decision makers that with the increase in yuan import settlement combined with policies aimed at facilitating yuan recycling, cross-border yuan flows will increase gradually and so will the stock of yuan held by nonresidents. The continuation of such cross-border flows somehow will eventually make the yuan an international currency that will be able to perform a full scope of functions. Unfortunately, because there are too many missing links in the road map, the yuan's journey could be very bumpy and even may not end up at the planned destination.

5. PROGRESS IN YUAN INTERNATIONALIZATION

The PRC seems to have made significant progress in the use of the yuan as a settlement currency, in the issuance of yuan-denominated bonds, and in signing currency swaps

[9] The PRC's enthusiasm for yuan internationalization is partially a result of the disappointment for the lack progress of regional financial cooperation.

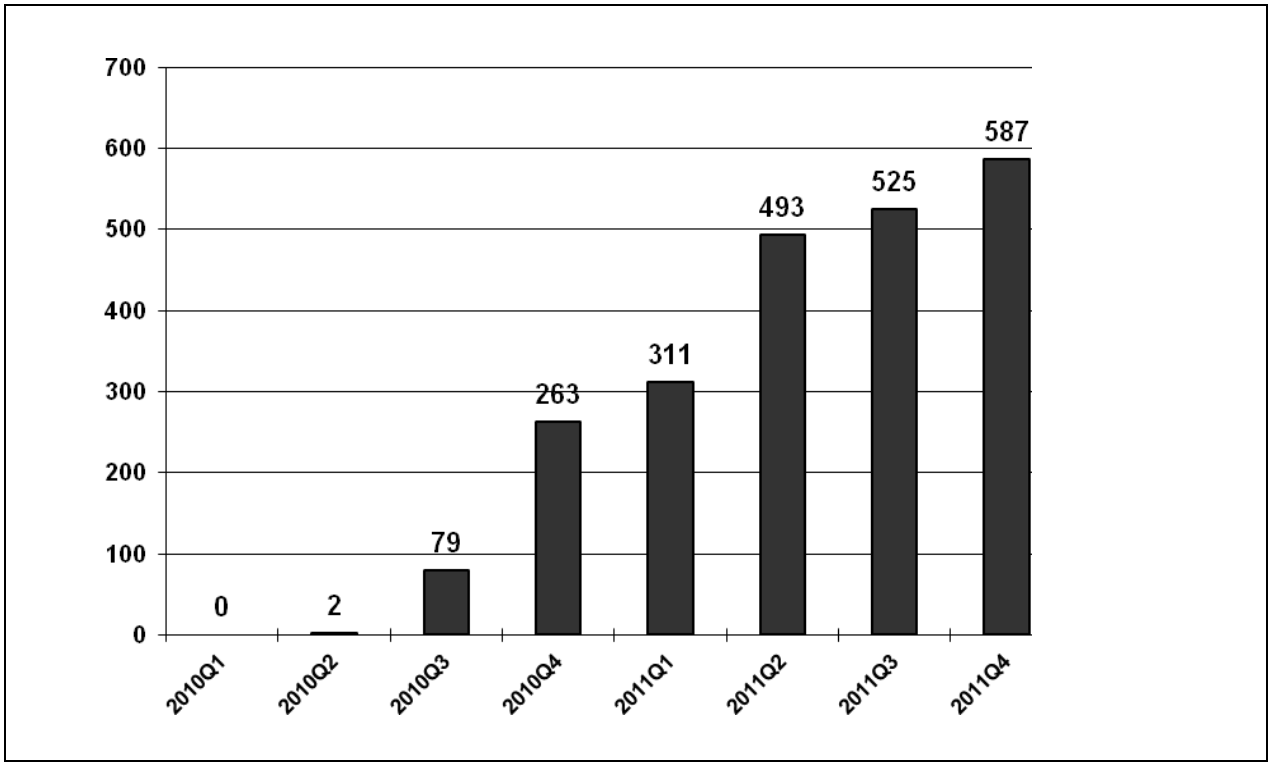
agreements with foreign central banks. The most hailed progress is the exponential growth of yuan deposits in Hong Kong until September 2011.

5.1 Use of the Yuan for Trade Settlement

The PRC announced a pilot yuan trade settlement scheme (PRTSS) in April 2009, with an extension of the scheme announced on 22 July 2010. Now virtually all important PRC firms are allowed to use the yuan to settle trade. The types of trade eligible for yuan settlement have also expanded to include not only physical goods but also services. As a result, the amount of yuan trade settlement has increased dramatically since the third quarter of 2010. According to the Hong Kong Monetary Authority (HKMA), the volume of yuan cross-border trade settlement conducted through Hong Kong reached 1.9 trillion yuan in 2011 (Figure 1).

Figure 1: Increase in the Use of the Yuan for Trade Settlement

(billion yuan)



Source: Zhang (2012).

The share of yuan trade settlement in the PRC's total foreign trade is another important indicator for the progress in yuan internationalization. In 2010, yuan trade settlements accounted for only 2.5% of the PRC's total trade. In 2011, the corresponding figure rose dramatically to 9% of the PRC's total trade (PBOC 2011).

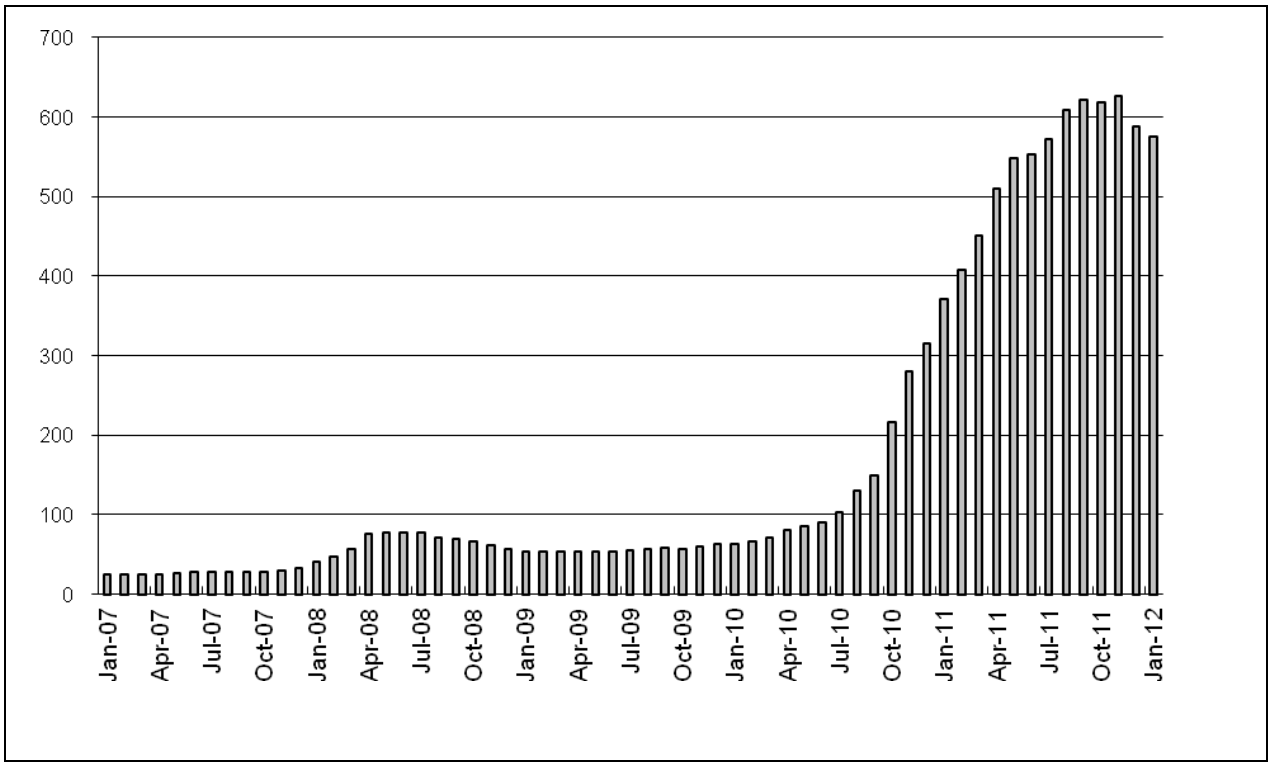
5.2 Yuan Deposits held by Hong Kong, China

The most direct and immediate result of the increase in yuan settlement for imports is the dramatic increase in yuan deposits held by Hong Kong, China residents. As of July 2011, the total amount of yuan deposits was 580 billion yuan, equivalent to HK$899 billion and accounted for 9.5% of the total HK$947 billion of deposits in Hong Kong, China—up from less than 2% just a year ago. It was widely expected that the total amount of yuan deposits would reach 1 trillion yuan by the end of 2011 (Figure 2).[10]

However, the momentum in demand for yuan deposits in Hong Kong, China suddenly lost in the third quarter of 2011 (Figure 2). As of the end of March of 2012, total yuan deposits held by Hong Kong, China residents was just 554.3 billion yuan. The reason for this change will be explained in section 6.

Figure 2: Yuan Deposits held by Hong Kong, China Residents

(billion yuan)



Source: Zhang (2012).

[10] As of the end of September 2011, deposits in Hong Kong, China reached 622.2 billion yuan.

5.3 The Issuance of Yuan Denominated Bonds

Yuan denominated bonds sold by non-PRC issuers in the PRC are called “panda bonds.” The first two panda bonds were issued on the same day in October 2005 by the International Finance Corporation and the Asian Development Bank. When foreign-funded enterprises in the PRC are in need of yuan, they can issue panda bonds to borrow yuan to finance their economic activities in the PRC. The yuan raised though such channels can only be used in the PRC.

Another important category of yuan denominated bonds is yuan bonds issued by the PRC entities in Hong Kong, China. The important issuers include the PRC’s Ministry of Finance (MoF), Bank of China (BoC), Export and Import Bank of China (EIBoC), and Ping An China Asset Management. In fact, the BoC and the EIBoC have been issuing yuan denominated bonds in Hong Kong, China for several years. In addition, MoF issued 20 billion yuan in yuan-denominated bonds in Hong Kong, China on 23 August 2011. This particular issuance was regarded as a major boost to yuan internationalization and a “big gift” to Hong Kong, China people by both Hong Kong, China and the PRC mass media.

The most popular category of yuan bonds are the so-called "dim sum" bonds, which are issued in Hong Kong. China. The amount of each such bond issue is relatively small. Hopewell Highway Infrastructure sold 1.38 billion yuan ($147 million) two-year yuan denominated bonds in July 2010, which were the first yuan bonds sold offshore by a nonfinancial Hong Kong, China-based company in Hong Kong, China. McDonald’s, Bank of East Asia, HSBC, Bank of Tokyo Mitsubishi UFJ, Deutsche Bank, Tesco, and Caterpillar are among the other important issuers. More than a total of 54 billion yuan of dim sum bonds had been issued by August 2011, up from 34 billion yuan for the whole of 2010 (Bloomberg 2010).

5.4 Yuan Swaps with Foreign Central Banks

Central bank liquidity swap arrangements allow the PBOC to provide liquidity support to its counterparts. Foreign banks sell a specified amount of their currency to the PBOC for yuan, at the market exchange rate. Yuan funds obtained by foreign central banks are deposited in accounts held with the PBOC as PBOC liabilities. The countries that have currency swap arrangements with the PRC include Argentina, Australia, Belarus, Brazil, Iceland, Indonesia, Kazakhstan, Korea, Malaysia, New Zealand, Singapore, the United Arab Emirates, and Uzbekistan. To facilitate yuan internationalization, the Hong Kong Monetary Authority (HKMA) has entered into a three-year currency swap arrangement totaling 200 billion yuan with the PBOC. Besides these swap agreements, more countries have expressed their interest in holding yuan assets as investment or foreign exchange reserves. This channel of yuan internationalization may be worth exploring further.

6. PROBLEMS OF YUAN INTERNATIONALIZATION

However, all is not well with yuan internationalization. Since late 2010, yuan internationalization has shown a clear pattern of asymmetry—the use of the yuan as an import settlement currency rose quickly, but not for exports. Yuan denominated bonds met strong demand, yet nonresidents had no incentive to issue them. And, while Hong Kong, China banks are happy to extend yuan loans, they are not welcome by borrowers. Among all manifestations of asymmetry, the most important asymmetry is in the use of the yuan for import settlement in relation to export settlement. This asymmetry has caused much debate among the PRC economists.

Before the debate on asymmetry had settled, another anomaly emerged: the yuan suddenly devalued for 11 consecutive days in early December 2011, while the PRC was still running a large current account surplus and a long-term capital account surplus. The asymmetry in the use of the yuan as a settlement currency and the unexpected devaluation of the yuan have forced economists to reconsider the reliability of the road map of yuan internationalization and even about the desirability of internationalization.

6.1 Asymmetry of Yuan Internationalization and Resulting Welfare Losses to the PRC

The asymmetry between yuan import settlement and yuan export settlement (Table 3) peaked in the fourth quarter of 2010, when the amount of yuan used for import settlement was 12 times more than that used for export settlement. Certainly, the asymmetry has been dramatically reduced since the second quarter of 2011. However, this weaker asymmetry was not a natural development of yuan trade settlement as hoped by the designer of the road map of yuan internationalization, which is an issue to be discussed in next subsection.

Table 3: Yuan Import Settlement to Yuan Export Settlement Ratio

Time (quarter)	Import-to-export Ratio (yuan settlement)
2010Q1	6.67
2010Q2	7.97
2010Q3	7.97
2010Q4	11.00
2011Q1	8.11
2011Q2	2.90
2011Q3	1.67

Source: China International Economic Consultants Co. Ltd. (CIEC) databank (2012) and People's Bank of China, Financial Reports, various issues.

It can be argued that, given strong expectations of yuan appreciation, internationalization will lead to serious asymmetry in yuan trade settlement. For example, with an undervalued exchange rate and expectations for the yuan to appreciate, it is natural that foreign importers of the PRC exports are reluctant to use the yuan to settle transactions, while foreign exporters are happy to accept yuan. Yuan appreciation expectations no doubt have played an important role in creating asymmetry. However, more recent development shows that the asymmetry is much more than a result of yuan appreciation expectations.

Most researchers will assume that in the PRC's case, if the yuan is used for settlement, it must also be used for invoicing. But, as mentioned earlier, this is simply wrong. Investigations show that while indeed many PRC importers use the yuan for settlement, most of them still use the US dollars for invoicing. This finding partially resolved the puzzle that the PRC importers are willing to use the yuan for settlement when the yuan is in the process of appreciation. INow, it can be seen that, because imports are still invoiced in the US dollars, yuan settlement does not means that the PRC importers need to forfeit potential gains from yuan appreciation. However, even this is not the end of the story. The true motivation behind the PRC importers to use the yuan for settlement is the existence of opportunities for exchange rate arbitrage, which we will be dicussed further in section 6.2.

Since 2011 experience has shown, that if the incentive for the PRC importers to use the yuan for settlement is exchange rate arbitrage instead of more sustainable fundamentals, the willingness of the PRC importers to use the yuan for settlement by the PRC importers can suddenly disppear. In fact, due to the reserval of the spread between onshore and offshore exchange rates, both the increase in the use of the yuan as import settlement currency and yuan assets held by Hong Kong, China residents have stalled since the third quarter of 2011. Of course, if the reversal is reversed again, the fortune will change again. This re-reversal happened in the 4th quarter of 2011. The important point is that without making the yuan an invoicing currency, the progress in using the yuan as a settlement currency is superficial. If there is no way to make the yuan an invoicing currency within reasonable costs, could it be an indication that the conditions for using the yuan as a medium of exchange have not matured yet?

One of the most obvious adverse results with asymmetry is that, with the same trade surplus, the PRC ends up with more foreign exchange reserves, which is what the designers of yuan internationalization originally wanted to avoid. It is easy to understand why this has happened: while the PRC continues to receive dollars from its exports, it gets fewer chances than before to spend these dollar proceeds for imports.

The fact that Hong Kong, China residents recycle yuan in the form of holding yuan assets instead of using yuan to purchase the PRC's exports means that they have lent to the PRC. Hence, there is another problem: yuan internationalization leads to extra capital inflows, which makes the PRC's balance of payments even more imbalanced. In the first three quarters of 2011, the PRC's capital account surplus was $226 billion, an increase of 110% over the same

period of 2010. The PRC's capital account surplus has surpassed its current account surplus once again since 2005. As a country that has been running a current account surplus for two decades and has accumulated $3.2 trillion, the PRC should not encourage net capital inflows.

Another adverse consequence of the asymmetry is the rising currency mismatch on the PRC's national balance sheet. As a result of the yuan import settlement and recycling, yuan, Hong Kong, China residents have increased their yuan assets, probably at the expense of their dollar assets. At the same time, the PRC has increased its yuan liabilities (recycled yuan) and its foreign assets (mostly dollar assets). In other words, yuan internationalization under the current road map has led to a change in the currency structure of the PRC's assets and liabilities in disfavor of the PRC. Since the 1998–1999 Asian financial crisis, East Asia has accumulated huge amounts of dollar denominated assets—mainly US government securities. Due to the deterioration of the US fiscal position and the Federal Reserve's expansionary monetary policy since the subprime crisis, the PRC should replace dollar denominated assets with yuan denominated assets as well as replace yuan denominated liabilities with dollar denominated liabilities. Unfortunately, yuan internationalization has achieved the opposite result.[11]

By definition, an increase in yuan settlement for imports without a corresponding increase in yuan settlement for exports[12] means an increase in yuan liabilities, which in turn means that there must be a corresponding increase in assets in the PRC's international balance of payments. If the PRC does not wish to see the increase taking the form of an increase in US dollar denominated foreign exchange, what should the PRC do? Assume the PRC originally exports $1 trillion in products and imports $800 billion in products, its total balance of payments surplus is $200 billion. If the PRC pays for $100 billion worth of imports in yuan, it will end up with $100 billion more in foreign exchange reserves. If the PRC extends yuan credits equivalent to $100 billion to foreign receipts that in turn use the borrowed yuan instead of dollars to buy the PRC products worth $100 billion, the PRC's yuan assets (yuan credits to foreign borrowers) would increase and equal to the increase in its yuan liabilities (yuan deposits or other forms of yuan assets held by nonresidents). As a result, the increase in dollar denominated foreign exchange reserves would remain the same—$200 billion. In this second case, the yuan has been used as the medium of exchange by the PRC's importers, the store of value by Hong Kong, China residents, the store of value by the PRC's creditors and, finally, the medium of exchange by foreign importers and the PRC's exporters. In other words, when the provision of yuan to the global market is realized through a capital account deficit, the PRC would be able not only to avoid further accumulating foreign exchange reserves and causing a perverse change in the currency structure of the PRC's assets and liabilities, but also give the

[11] It can be argued that if nonresidents invest in yuan assets with the yuan made available by yuan trade settlement scheme, an equivalent among of dollar investment in the PRC will be reduced. This substitution between yuan investment and dollar investment is not very likely, because the investors are different with different motivation.

[12] This is the most discussed feature of asymmetry in the PRC.

yuan more room to play the role of an international currency. Of course, this is not to say that yuan internationalization should begin with the PRC running a capital account deficit. The reality is more complicated. But the argument that the yuan internationalization has to begin with yuan import settlement is flawed.

6.2 Surge in Speculative Short-term Capital Flows

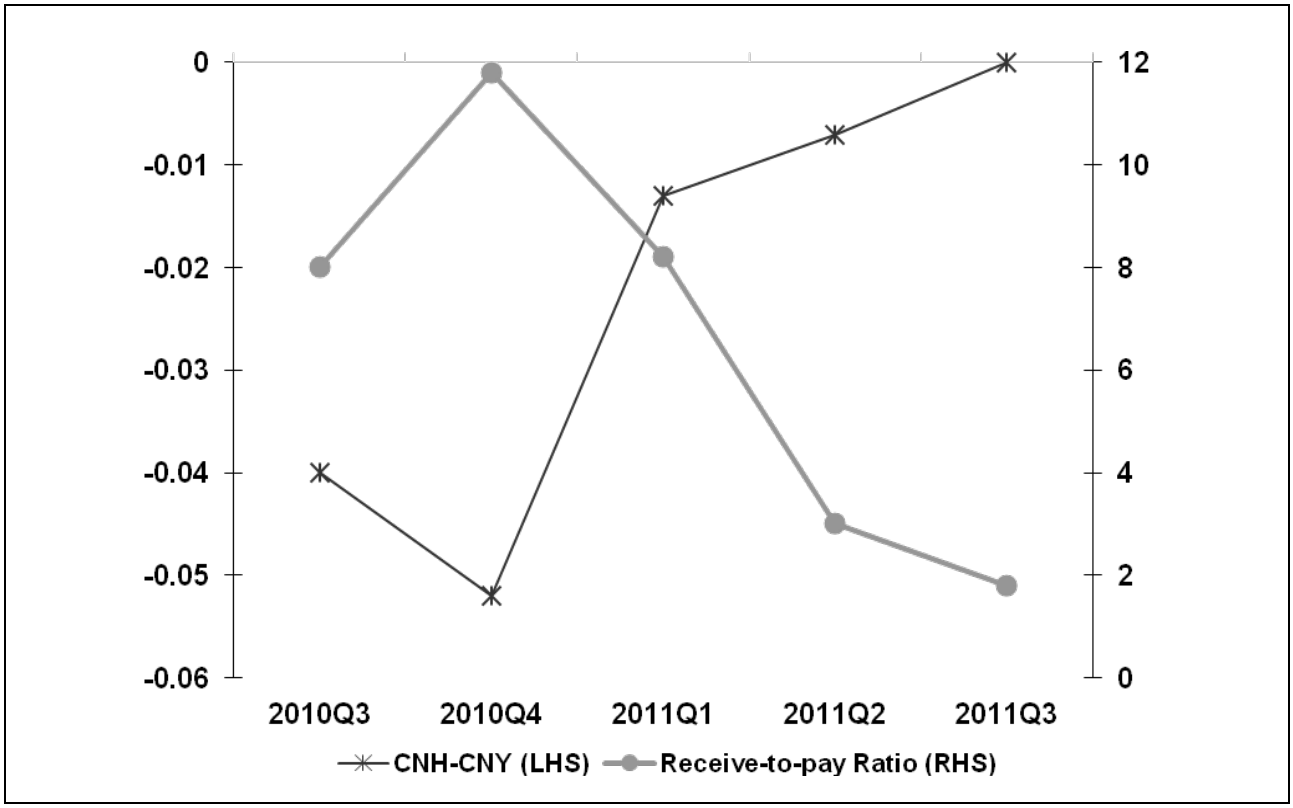
On the surface, the trade settlement scheme merely allows the PRC enterprises to use yuan to settle their trade transactions. In reality it enables enterprises, especially large enterprises with subsidiaries outside borders, to channel funds across the border between the PRC and Hong Kong, China. The starting point of yuan internationalization is supposed to be the use of the yuan for import settlement. But in practice, many PRC importers did not use the yuan to pay for their imports—let alone to use the yuan for invoicing. Instead, they utilize the opportunity provided by the trade settlement scheme, to conduct exchange rate arbitrage.

As a result of the launch of the trade settlement scheme, an offshore yuan market, known as the CNH market, was created in Hong Kong, China, side by side with the onshore market, now dubbed as the CNY market. The CNH market is a free market, while the CNY market is tightly regulated by the PBOC. Hence, two yuan exchange rates coexist: an onshore CNY exchange rate and an offshore CNH exchange rate. Due to yuan appreciation expectations and many other factors, until September 2011 the CNH was more expensive in dollar terms than the CNY. The existence of the CNH–CNY spread creates opportunities for the PRC enterprises to benefit from exchange rate arbitrage. Before the introduction of the yuan settlement scheme, importers had to buy dollars onshore—in the CNY market. Now they can sell yuan for dollars in the CNH market, creating appreciation pressure on the CNY and depreciation pressure on the CNH. The arbitrage should have eliminated the CNH–CNY spread fairly quickly. However, the intervention by the PBOC in the CNY market and carry trade conducted by Hong Kong, China residents in the CNH market created offsetting pressure on the CNY and the CNH. As a result, the CNH–CNY spread was maintained and arbitragers and arbitrage activities by the PRC importers continue. It is not unreasonable to conclude that the bulk of yuan used in the name of import settlement actually is used to buy dollars in the CNH market and imports in fact are still settled in dollars.

Table 3 shows that that yuan import settlement and yuan export settlement has become more balanced since the second quarter of 2011. Would it not be proof for the argument that following the increase in yuan availability across borders, the use of the yuan for export settlement will increase accordingly? Unfortunately, the tendency for a more balanced yuan settlement is deceptive. Since the middle of September 2011, financial conditions suddenly changed in Hong Kong, China. Due to liquidity shortages caused by the European sovereign debt crisis, banks from developed countries, especially European banks with exposure in Hong Kong, China withdrew their funds. As a result, CNH fell against the dollar and the CNH–CNY

spread turned negative. The PRC importers stopped buying dollars from the CNH market and returned to the CNY market. The PRC exporters stopped selling dollars in the CNY market and sold dollars in the CNH market instead. At the same time, because of a dramatic rise in funding costs for carry trade and the reduced attraction of holding yuan assets, Hong Kong, China residents started to unwind the carry trade and some dumped their holdings of yuan assets. Statistically, the yuan import–export settlement became more balanced. But this change is not a reflection of the success of yuan internationalization. It reflects the fluctuation of the movements of short-term capital flows across borders. Empirical studies (Zhang and Xu 2011) show that the yuan import–export settlement ratio (receive-to-pay ratio) is highly correlated with the CNH–CNY spread (Figure 3).

Figure 3: Correlation Between CNH–CHY Spread and Yuan Import–Export Settlement Ratio



Source: Zhang and Xu (2011).

Before the launch of the yuan settlement scheme, capital inflows were under tight control, and nonresidents couldn't obtain yuan assets freely. Yuan assets are now being made available in Hong Kong, China so nonresidents can obtain yuan assets outside their border. It can be seen that ultimately, questions such as how to promote the use of the yuan for trade settlement and to make the use of the yuan more balanced so that the PRC can avoid further accumulating foreign exchange reserves are the wrong questions. The real question is: after a very big step towards capital account liberalization, how will speculative capital move across borders?

Important questions include: what will be the consequences of these movements on the PRC's financial and macroeconomic stability?

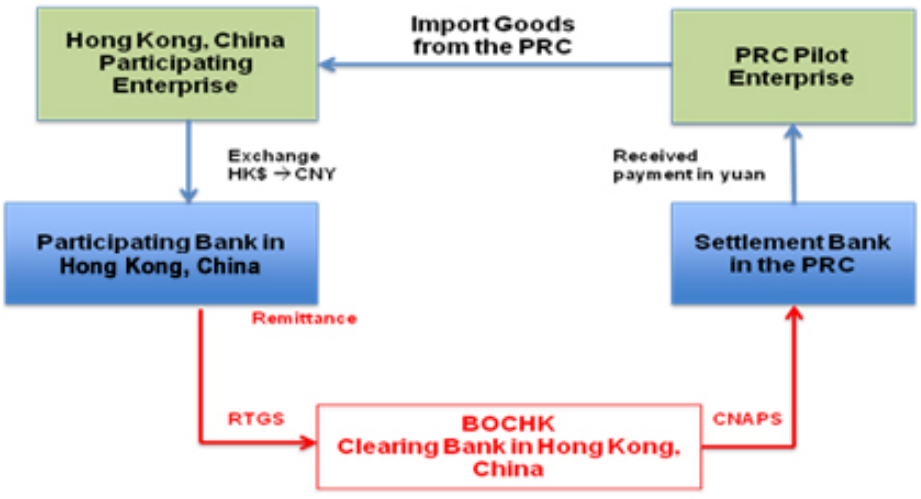
7. YUAN INTERNATIONALIZATION AND CAPITAL ACCOUNT LIBERALIZATION

According to the trade settlement scheme, currency conversion between the yuan and other currencies is allowed only under the following circumstances:

- cross-border trade settlement in yuan up to the amount of the relevant transactions;
- yuan trade finance loans where the customer does not have sufficient yuan for repayment;
- expenses relating to yuan bond issuance to be settled in Hong Kong, China; and
- transactions allowed by the PRC's authorities to be ultimately squared by the yuan clearing bank—Bank of China, Hong Kong (BOCHK) in the PRC's Foreign Exchange Trading Centre in Shanghai.

To maintain control over the net cross-border flows of yuan between the PRC and Hong Kong, China, all cross-border yuan flows must be settled via the BOCHK (Figure 4).

Figure 4: Yuan Settlement System



Notes: CNAPS = China National Automatic Payment System; PRC = People's Republic of China; RTGS = real time gross settlement systems.

Source: Shum, A. 2012. Renminbi Offshore Market and Future Globalization of Chinese Currency. Presentation at Rotman Master of Finance Speaker Series, University of Toronto, Canada. 15 February.

There are quotas for monthly settlements. Initially, the quarterly amount of net buying from or selling to the BoC was limited to 4 billion yuan. Later it was raised to 8 billion yuan. It is worth emphasizing that the quotas are net rather than gross amount of settlement. It is estimated that in 2011 around 70% of the PRC's yuan cross-border trade settlement was done through the BOCHK's clearing system (Zhang 2012).

One might ask how the yuan can be internationalized without first liberalizing the capital account. However, this is the wrong question. The truth is that yuan internationalization is an effort for capital account liberalization in disguise. Each step in yuan internationalization is a step in capital account liberalization. It can be said that if progress has been made in yuan internationalization, it is a result of capital account liberalization. In fact, since early 2002, the PBOC has started to call for a further liberalization of capital account.

One can make a thought experiment. Assuming that no effort is made to promote yuan internationalization, but the capital account is partially liberalized so that foreign capital can flow into the PRC's financial markets to acquire yuan assets, compared to the circumstances where the yuan is used for trade settlement, will there be any differences in the role of the yuan between the two? If the CNH is more expensive than the CNY and the interest rate is higher in the PRC than in Hong Kong, China, dollars will flow from Hong Kong, China into the PRC to buy yuan assets, the PRC importers will buy US dollars in the CNH market instead of in the CNY market, and the PRC exporters will sell their dollar proceeds onshore. It can be seen that under the scenario of partial capital account liberalization, results will be the same as in the event of yuan internationalization. The differences exist only in channels and mechanisms leading to the same results. For example, under the scenario of partial capital liberalization, Hong Kong, China residents buy yuan assets directly in the PRC's financial markets instead of in Hong Kong, China. In event of yuan settlement, yuan assets are acquired in Hong Kong, China.

After over two years' effort since 2009, despite the significant increase in yuan trade settlement, the PRC's trade is still largely invoiced in the dollar and yuan trade settlement is highly asymmetrical. Yuan internationalization has not achieved any of its original objectives, such as sheltering its export industries from exchange rate risks and reducing the holding of dollar denominated assets to avoid capital losses on foreign exchange reserves.

In contrast, the PRC's capital account liberalization has made some progress, which is evidenced by the surge of cross-border capital movements in response to changes in the global financial conditions. Since early 2010, the PRC government actually has been pushing two processes simultaneously—capital account liberalization and yuan internationalization—one by stealth and the other with much fanfare. Because each step toward yuan internationalization is prerequisite upon certain steps in capital account liberalization, an important question is whether the sequencing of capital account liberalization implied by the road map of yuan internationalization is consistent with the sequencing of capital account liberalization, which is well established in the literature and in practice. If the two sets of

sequencing are the same, it will not make much difference which process should take precedence. If the two sets of sequencing are not the same, it becomes impossible for the government to have two correct sets of sequencing at the same time.

Despite the fact that each step toward yuan internationalization is a prerequisite upon certain steps in capital account liberalization, capital account liberalization and especially the sequencing have never been discussed explicitly. Yuan internationalization is widely talked about, while capital account liberalization hides in the shadows. The steps with consequences on capital account liberalization are taken in the need for yuan internationalization. This situation will easily lead to missteps in capital account liberalization. For example, the starting point of yuan internationalization is the use of yuan for import settlement. This step is prerequisite upon a certain degree of liberalization of cross-border capital movements. However, the road map for yuan internationalization has said nothing about the need for interest rate liberalization and a flexible exchange rate regime. As a result, the cross-border capital flows as a result of yuan import settlement certainly will create distortions in resource allocation and interruptions in the PRC's financial stability. In my view, it is much better to draw a road map for capital account liberalization and explicitly discuss the sequencing of the liberalization. The road map of yuan internationalization should be decided on the basis of the road map of capital account liberalization.

Capital account liberalization in the PRC is a drawn out process. After having entirely liberalized its current account, the PRC has also liberalized the best part of its capital account. While there is no denying that, on top of a turbulent global financial environment, with a still fragile financial system, capital account liberalization should be pursued cautiously. However, this does not necessarily mean that the PRC should not discuss options for the completion of the few final steps in the long march toward capital account liberalization. If the conclusion is that no further action should be taken to liberalize the capital account, then action aimed at yuan internationalization should not be allowed to lead to a further liberalization of the capital account.

It seems that the PRC should first speed up interest rate liberalization so as to eliminate the enormous chances for arbitrage and rent seeking. At the same time, the yuan exchange rate should be liberalized in the sense that it is decided by market demand and supply. The PBOC could stop intervention in the foreign exchange market. It is a much simpler way to stop the accumulation of foreign exchange reserves. If the PRC still does not wish to do so, then there should be no more talk about capital account liberalization. With inflexible interest and exchange rates, capital account liberalization will render monetary policy ineffective and create large welfare losses for the PRC.

The argument that exchange rate reform needs a longer time than yuan internationalization is difficult to understand. In my view, due to the eurozone sovereign debt crisis, and the sudden surfacing of bearish sentiment about the PRC, yuan appreciation expectations have reduced significantly. In the past few months since the last quarter of 2011, yuan devaluation

expectations appeared in CNH forward and non-deliverable forward (NDF) markets. In December 2011, the yuan devalued for 11 consecutive days. These changes in sentiment and the new trend of capital outflows from emerging economies have provided the PRC with a rare opportunity to allow the yuan to float. Certainly, because capital account controls in the PRC have not been fully dismantled, the government can always use the prudential rule and other laws and regulations to manage cross-border capital flows to prevent overshooting of the exchange rate. Only when the exchange rate can adjust constantly around its equilibrium level and domestic interest rates are flexible enough in response to the fluctuations of cross-border capital flows, can the opportunity for exchange rate arbitrage and interest rate arbitrage be minimized. Then the internationalization of the yuan can be preceded in line with market conditions and with minimum welfare losses.

8. CONCLUSION

The internationalization of the yuan is a major challenge facing the PRC government. However, the PRC has yet to give a firm answer on what should be the final goal of internationalization. Fortunately, yuan internationalization does not currently conflict with other possible options, such as the creation of a supra-sovereign currency or a regional currency. While the PRC can benefit from the internationalization of the yuan, its possible negative effects on the PRC's financial stability may also be serious.

The twists and turns of yuan internationalization in 2011 raises a very important question: does the PRC want to take the risk of fully liberalizing its capital account without first putting its own house in order and giving the market force full play in determining the interest rates and exchange rates? The question facing the PRC is not about the desirability of yuan internationalization. It is about the prioritization of the PRC's financial reforms and regime changes. The question becomes even more acute when taking into consideration the fact that the global financial market is still in turmoil and the PRC's financial markets are in a messy state. It is risky to pin the hope of the emergence of a healthier and more robust financial system on the creative destruction of external shocks, while the existing system is still too weak to withstand such shocks.

The internationalization of the yuan requires convertibility and liberalization of the capital account. Due to the fragility of the financial system and its lack of attractive financial instruments, the PRC's liberalization of the capital account and hence the internationalization of the yuan must proceed in a gradual fashion.

Yuan internationalization should be a natural course of economic development and capital account liberalization. To push yuan internationalization in an artificial way is counter-productive. Policies aimed at promoting yuan internationalization should not be based on yuan appreciation. Otherwise, internationalization will not be sustainable.

The PRC's growing economy and trade volume are favorable conditions for internationalization. However, other conditions, such as the existence of deep and liquid financial markets, have not been met. To create conditions for the internationalization of the yuan, the PRC government should encourage financial markets to play an increasingly important role.

Sequencing is important. Without the initial realization of establishing market-determined interest rates and exchange rates, yuan internationalization could easily go astray. The process of yuan internationalization essentially is a process of capital account liberalization. Due to the unprecedented and complex global financial crisis and the PRC's huge imbalances, capital account liberalization should be pursued in a cautious way. The PRC should first put its own house in order. Before the internationalization of the yuan can make progress, the PRC must speed up the reform of its financial markets. Interest rates should be liberalized. At the same time, the yuan exchange rate should be allowed to float freely. Only when the PRC's financial reform makes an important breakthrough, can the internationalization of the yuan be able to make meaningful progress.

REFERENCES

Bloomberg News. 2010. www.bloomberg.com. Accessed 20 August 2010.

Chinn, M. and J. Frankel. 2005. Will the Euro Eventually Surpass the Dollar as Leading International Reserve Currency? National Bureau of Economic Research (NBER) Working Paper 11510. New York, US: NBER.

Eichengreen, B. and M. Flandreau. 2010. The Federal Reserve, the Bank of England and the Rise of the Dollar as an International Currency, 1914-39. Bank for International Settlements (BIS) Working Paper 328. Basel, Switzerland. BIS.

Friberg, R. and F. Wilander. 2008. The Currency Domination of Exports—A Questionnaire Study. Unpublished.

Goldberg, L.S. and C. Tille. 2008. Vehicle Currency Use in International Trade. *Journal of International Economics* 76 (2): 177–192.

Grassman, S. 1973. A Fundamental Symmetry in International Payment Patterns. *Journal of International Economics* 3(2):105–116.

Ito, T., K. Satoshi, K. Sato, and J. Shimizu. 2010. Why Has the Yen Failed to Become a Dominant Invoicing Currency in Asia? The National Bureau of Economic Research (NBER) Working Paper 16231. New York. US. NBER.

Ito, T. 2011. The Internationalization of the RMB: Opportunities and Pitfall. Manuscript for CDRF–CFR Symposium. Beijing. 1 November.

Kawai, M. 1996. The Japanese Yen as an International Currency: Performance and Prospects. In: *Organization, Performance and Equity: Perspectives on the Japanese Economy, edited by* R. Sato, R. V. Ramachandran, and H. Hori. Boston, London, Dordrecht: Kluwer Academic Publishers.

Kenen, P. 1983. The Role of the Dollar as an International Currency. Occasional Papers 13. Group of Thirty. New York, US.

Kenen, P. 2009. Currency Internationalization—An Overview. Manuscript. BoK-BIS Seminar on Currency Internationalization: Lessons from the Global Financial Crisis and Prospects for the Future in Asia and the Pacific. Seoul, Republic of Korea. 19–20 March.

Park, Y. 2010. RMB Internationalization and Its Implications for Financial and Monetary Cooperation in East Asia. *China and World Economy* 18(2): 1–20.

Pearce, D.W. 1981. The Macmillan Dictionary of Modern Economics. London: Macmillan Press Limited.

People's Bank of China (PBOC). 2011. Financial Statistic Report. Beijing: PBOC.

Takagi S. 2009. The Internationalization of the Yen. In Currency Internationalization: Lessons from the Global Financial Crisis and Prospects for the Future in Asia and the Pacific, BIS Paper No. 61. pp. 75–85.

Zhang, C. 2012. The Development of the Offshore RMB Business. Presentation at ADBI–OECD Roundtable on Capital Market Reform in Asia. Tokyo. 8 February.

World Trade Organization (WTO). 2010. Press Release. PRESS/598. 26 March.

Zhang, B. and Q. Xu. 2011. RMB Internationalization in the Context of Exchange Rate and Capital Account Control. Unpublished. (in Chinese).