WILL THE RENMINBI BECOME A WORLD CURRENCY?[1]

by Wendy Dobson[2]and Paul R. Masson[3]

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Abstract

China has emerged as a major power in the world economy, so it seems natural to consider whether its currency will also have a major role. At present the renminbi is not used internationally. We look at the factors that contribute to the international use of currencies, and focus on the aspects of China's financial system that would have to change before the renminbi emerged as an important regional or world currency. Even with significant reforms, two questions would remain: whether the authorities would want to encourage its international use, and whether an economy with substantial party control could gain international acceptance for its currency.

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1.Introduction

China has emerged as a major power in the world economy. With real growth rates that have approached or even exceeded ten percent per annum over most of the last three decades, it has changed from a poor developing country to become the world's dominant manufacturing economy. Its share of world exports now puts it roughly on a par with the United States or Germany, while its share of world output—close to that of Japan when market exchange rates are used—is exceeded only by that of the United States when valued at purchasing power exchange rates.[4] Its financial clout has also grown. China holds the world's largest stock of foreign exchange reserves, now in excess of $1.4 trillion.[5] Its non-financial companies have begun to acquire foreign

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[1] We are grateful to Jing Han, Mark Kruger, and Robert Lafrance for comments. The views expressed are our own and do not represent those of any official institution
[2]Rotman School of Management, University of Toronto, ON, M5S 3E6, corresponding author..
[3] Rotman School of Management, Unviersity of Toronto, ON, M5S 3E6.
[4] Purchasing Power Parity (PPP) exchange rates value non-traded goods in a comparable way. Since these are priced much lower in China (and in most developing countries) than in the advanced countries, GDP at PPP is much higher in China than at market exchange rates.
[5] US dollars are used throughout the paper.

assets, mainly to secure access to natural resources in Angola, the Democratic Republic of the Congo, Nigeria and Sudan, while its banks have begun taking equity stakes in high profile companies such as Blackstone, Barclays, Bear Stearns[6], South Africa's Standard Bank, and others.

To date, China's currency, the renminbi (RMB), has served none of the purposes of an international currency. It is not used significantly (if at all) in invoicing China's imports and exports, nor does it circulate abroad.[7] Assets denominated in RMB are not held by foreign governments as part of their foreign exchange reserves, nor do foreign companies borrow in Chinese capital markets and repatriate the proceeds abroad. The reason for the almost complete lack of use of the currency internationally stems primarily from the restrictions placed by the Chinese authorities on the use of the currency (capital controls of various types), and from the underdevelopment of Chinese financial and capital markets. However, these two factors are in the process of being relaxed, raising the question of whether the currency will develop international uses, and, if so, how quickly and to what extent. While not convertible at present, the RMB seems to be quickly developing global status. For instance, European Central Bank head Jean-Claude Trichet and his Chinese counterpart, Zhou Xiaochuan, agreed in November 2007 to cooperate to avoid "severe" fluctuations in the exchange rate between the euro and RMB[8].

China's financial system is under-developed and inefficient as a mobilizer and allocator of funds, but it is moving slowly from a government-owned bank-dominated system to one in which equity and bond markets play more of a role. China's exchange rate regime at present stresses stability over efficiency; but the authorities are committed to allowing greater flexibility in determining the value for the currency. Capital controls are being removed, in part to offset the massive accumulation of foreign exchange reserves that result from the inflexibility of the exchange rate.

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[6] Plans were cancelled when Bear Sterns was taken over by JP Morgan in March, 2008.
[7] Since 2004, RMB balances have begun to be offered by Hong Kong banks. See below.
[8] "EU and China agree measures on 'severe' movements," CentralBankNews.com, 28 November 2007.

As China's financial system develops and the exchange rate regime becomes more "normal," will this mean that the currency of the world's second largest economy will also assume a commensurate role in the international monetary system? At present—and since the Second World War—the US dollar is the dominant international currency, having the preeminent role in trade invoicing, use as a vehicle currency for foreign exchange trading, and in the denomination of official international reserves as well as private claims. Its major rival is the euro, but in most dimensions the euro is far behind the dollar. While the advantages of issuing an internationally-used currency are disputed, being able to borrow in own's currency and denominate trade in it helps shift risks from domestic residents to foreign investors and importers and exporters. These risks were very evident in the emerging market crises of the 1990s, in which many Asian countries had large foreign currency indebtedness that was hard to service when their currencies depreciated substantially. As a result of this experience, Asian countries are considering various forms of monetary integration that might involve creation of a regional currency.

Furthermore, use of a country's currency as an international store of value allows the country issuing it to benefit from seigniorage and lower borrowing costs. At present, the very large acquisition of US dollar assets by foreign central banks has helped keep US interest low, stimulating US investment. Warnock and Warnock (2006) estimate that East Asian purchasers of US government bonds may have lowered long term rates by around 60 basis points. The large circulation of US currency outside the United States indirectly adds to US government revenues. However, international use of a currency also makes the monetary policy of that country's central bank less effective in controlling domestic activity and inflation, which has led some countries such as Japan to discourage reserve currency use. Moreover, having other countries peg to your currency makes it more difficult to use the exchange rate as a tool for adjusting the balance of payments—a drawback that the United States has experienced at various times in the post-war period.

While it is unclear whether China would encourage reserve currency use as it removes restrictions on capital flows, it seems natural to assume that RMB's global role should

reflect China's importance to the world economy. This is a view espoused by Avinash Persaud in an interview with *Global Investor*,[9] who based his argument mainly on the size of the economy. Barry Eichengreen (2005), has a differing view based on a study of the history of how sterling was replaced by the dollar. He argues that lack of liquidity and underdevelopment of financial markets in China will continue to be obstacles to the wider use of its currency.

The purpose of this paper is to carry out a systematic examination of the possibility that China's currency will become one of the world's major currencies, in official and private use. In the next section we lay out the characteristics of an international currency. In the third section, we compare China's policies on the exchange rate regime and capital account convertibility with what is implied by international best practice, and examine the reasons for divergences. In the fourth section we study the problems that the current situation creates, and hence the pressures for its evolution to a more flexible financial system and exchange rate regime in the future. Finally, we draw a series of conclusions about the policy and institutional changes that are still required before China can realize an important international presence for its currency (or even a regional one). Two basic issues are first, whether the Chinese authorities have any interest in seeing the Renminbi play an important international role, and second, whether continued heavy government and Party control of the financial system and the central bank would be consistent with it.

2.Characteristics of an International Currency

International uses of a currency include for invoicing imports and exports, as a unit of account, for denominating cross-border assets and liabilities, as a vehicle currency in foreign exchange markets (use of a third currency to reduce the number of bilateral trades, thus saving transactions costs), and as a component of official foreign exchange

[9] *Global Investor*, April 25, 2005.

reserves[10]. Hartmann (1998), following Cohen (1971), makes a parallel between international uses and the traditional functions of a currency used domestically, namely as medium of exchange, unit of account, and store of value, further distinguishing between private and official use at the international level. Thus, the private use of a currency as medium of exchange would include its use both for trade in goods (encompassing foreign trade as well as in some cases purely domestic trade, the latter occurring because of direct currency substitution, replacing the domestic currency) and trade in currencies (i.e., as a vehicle currency in triangular exchange between two other currencies). The official use as medium of exchange would involve its use as intervention currency. Hartmann provides a microstructure model of foreign exchange dealing that explains why some currencies become vehicle currencies. An international currency serves as a unit of account if it is used for quotation of prices in private transactions or officially as a pegging currency. Finally, the store of value role corresponds to private use as an investment currency or officially as a component of foreign exchange reserves.

At present, the dollar is the major internationally-used currency—as it has been since the Second World War—while the euro, Japanese yen, pound sterling, and Swiss franc lag behind in a number of dimensions. The US dollar, for instance, is used in the vast majority of foreign exchange market transactions, and for invoicing a range of commodities, notably oil. It is also the major component in other countries' foreign exchange reserves (see Table 1). Aside from the currencies mentioned above, there are no others that are used internationally to any great extent, though currencies often circulate in border regions of neighbouring countries, and countries may denominate trade in their own currencies with a limited number of close trading partners.

What contributes to the international use of a currency? This issue has been much discussed (see, for instance, Tavlas, 1991; Hartmann, 1998; and Cohen, 2001, and references therein to earlier literature). Tavlas (1991) summarizes considerations that advance the internationalization of a currency: 1) low and stable inflation; 2) open deep

[10] See Black (1985) and Tavlas (1991), or ECB (2007). The latter reviews the international use of the euro.

and broad financial markets; and 3) the country's share of world trade or world output. The attractiveness of a currency depends in part on its ability to keep its value in terms of other currencies and in terms of purchasing power over goods. This is related to the central bank's ability to deliver low inflation, which in turn depends on the credibility and independence of the central bank. In addition, the currency must be usable in the sense that official or privately-held balances must be easily convertible into other currencies through a variety of financial instruments with low transaction costs. Hartmann (1998) shows that low volatility is important in a dealer model in explaining low transactions costs, and moreover the latter contribute to higher volumes, which themselves further lower transactions costs. These reinforcing factors help explain the dominance of one or several vehicle currencies. Economic size also matters, since it gives a country market power, allowing it to denominate its trade in its own currency, forcing foreigners to take on the risk of currency fluctuations. Size also enhances the breadth and depth of domestic financial markets. Thus, the various factors are interdependent and reinforcing.

Chinn and Frankel (2005) examine what variables correlate with a currency's share in world foreign exchange reserves: the two main significant explanatory variables in their regressions are the GDP share of the economy (entering positively), and the economy's inflation rate relative to the world average (with a negative coefficient). Measuring GDP shares at market or PPP exchange rates has little effect on the estimated coefficients in the regressions (though not, as we will see below, when applied to China). Inflation is a more significant variable than another measure of a currency's attractiveness, a long moving average of exchange rate appreciation (or depreciation). The authors also included a lagged dependent variable to capture hysteresis effects. Its coefficient suggests reserve currency shares adjust slowly.

An implication of Chinn and Frankel's results is that China's share of international currency use could be expected to be large, at least after an adjustment period. Table 1 gives a comparison of the size of output and trade flows in China, the euro zone, Japan and the United States. While Chinn and Frankel correctly note that

market exchange rates are appropriate for valuing GDP when explaining reserve currency use, PPP exchange rates give a better measure of the size of the Chinese economy with respect to its production of goods and services and for international income comparisons. In PPP terms, China's GDP exceeds that of all countries except the United States; it is also below that of the euro area[11]. As development proceeds, Chinese non-traded goods prices should rise relative to those in the advanced countries, raising its GDP at market exchange rates to be more consistent with GDP at PPP. Since by most estimates it is undervalued, the nominal exchange rate of the RMB is also expected to appreciate. In addition, real output growth continues to be much higher than in the United States (and most other economies), so that in a few decades China's GDP is projected to exceed that of the United States, making it the world's largest economy. China's exports have grown more rapidly even than GDP, and in 2006 they nearly equalled those of the United States.

Thus, China's GDP share is substantial and growing, and inflation in recent years has generally been kept low (Chart 1). On the basis of these criteria, then, the RMB could be expected to become a major international currency. While Tavlas' factors 1) and 3) are relatively easily measured, factor 2) is not (as Chinn and Frankel acknowledge, explaining its omission from their regressions), but no less important, however. Tavlas goes on to argue that an attractive international currency must be associated with "… financial markets that are substantially free of controls; broad, in that they contain a large assortment of financial instruments; and deep, in that they have well-developed secondary markets." (Tavlas, 1991, p. 4). On this criterion, China clearly has a long way to go before it would rival the United States or the euro zone. China's rudimentary financial development is the major impediment to an international role for China's currency, and is thus the principal subject of the paper.

Tavlas points to the tight regulation of Japanese financial markets as a factor that has inhibited financial innovation and limited the international role of the yen. Indeed, the yen's share of official foreign exchange reserves remains small despite low inflation

[11] These figures reflect the downward revisions made at end-2007 to China's GDP at PPP rates; see "Global Growth Estimates Trimmed after PPP Revisions," *IMF Survey*, January 8, 2008.

and despite Japan being the world's second largest economy (until the creation of the euro zone). In contrast, the US dollar (and sterling before it) is the preeminent international currency because it has broad and deep financial markets. These markets are liquid, so that assets can be bought and sold with low transactions costs and with little adverse effect on market prices. Assets can be liquidated in emergencies with little penalty. For these reasons, the US dollar, and, in particular, US treasury securities are viewed as a safe haven in times of crisis.

Though it is difficult to isolate individual effects, the breadth and depth of US securities markets are the result of several reinforcing factors: the availability of sophisticated financial instruments and a range of private financial intermediaries and dealers, transparent and effective supervisory and regulatory oversight, legal recourse and contract enforcement, and a respected central bank able to operate effectively as a lender of last resort. The dollar's attractiveness is also importantly enhanced by the liquidity of the US treasury market, ranging from short-term treasury bills to 30 year bonds, issued in very large amounts by a triple-A-rated borrower. In several of these dimensions, the United States has important advantages over the other issuers of international currencies, including the euro zone, the United Kingdom, and Japan. For instance, though euro zone governments issue a large volume of government debt, there is no single issuer as large as the US treasury. This matters because different governments' liabilities are not perfect substitutes. These factors help explain why the euro has so far lagged behind the dollar as a reserve currency, with the dollar roughly twice as important (Cohen, 2000; Masson, 2007).

3. Current Status of Capital Controls, the Chinese Financial System and the Exchange Regime of the RMB

As noted, China's Renminbi scores well on two of the three criteria listed above: China has experienced low inflation, and its GDP and export shares are large (and growing fast). However, the currency is barely used internationally—partly as a result of past deliberate policies that limit holdings of the currency by foreigners, and more

generally because of the immaturity of China's financial markets. Even with the removal of impediments to non-resident holdings, the fate of the renminbi rests on its usability to purchase goods, services, and financial assets—that is, on its convertibility—and on the breadth and liquidity of the capital markets that are associated with it.

At present, the renminbi is convertible for current account transactions, that is, for payments for goods and services. Residents of China can freely use renminbi to acquire foreign exchange, if the purpose is to make payments for imports or to remit dividends and interest to service foreign obligations. However, capital account convertibility is more limited; Prasad and Wei (2005) estimated that controls still applied to around 25 percent of IMF categories. Renminbi balances acquired by foreigners (for instance, through the operation of subsidiaries located in China) or held by Chinese residents cannot be freely moved out of the country.

However, payments associated with current account transactions and trade credits also allow for some arbitrage between domestic and foreign yields.[12] And there is a beginning of international use of the currency as a store of value; since 2004, Hong Kong banks have been allowed to offer RMB deposits to individuals. Balances have grown quickly since then, and now amount to 28 billion yuan, or a little more than 1 percent of Hong Kong banks' foreign currency deposits. Nevertheless, foreigners cannot at present freely acquire Chinese assets in exchange for their foreign currencies. Restrictions on the convertibility of a currency severely limit its attractiveness in official forex reserves, as a means of denominating international claims and liabilities, or as a vehicle currency. Moreover, since the various aspects of international currency use reinforce each other, this would also constrain the scope for its use as an invoicing currency.

3.1 Capital controls

3.1.2 Outflows

[12] Ma and McCauley (2007).

Numerous capital account restrictions constrain the free convertibility of assets denominated in renminbi into those in other currencies. Liberalization of these restrictions is very gradual, especially for individuals. Chinese banks and non-financial companies also face restrictions on the foreign assets they can hold, but these are being weakened.

Until April 2006, Chinese individuals and companies could not buy securities offshore directly; at that time they were permitted to invest in foreign fixed income products, and invest dollar deposits held at home into foreign securities including equity through Qualified Domestic Institutional Investors (QDIIs). Domestic insurers were also authorized to convert RMB into dollars to invest in foreign bond and money market accounts. The QDII scheme was intended to open a channel for portfolio outflows through authorized intermediaries. The State Administration for Foreign Exchange (SAFE) announced in August 2007 that domestic investors would be permitted to open accounts with the Tianjin branch of the Bank of China to trade securities listed on the Hong Kong market with extension to other banks to follow.[13] This decision was later reversed by Premier Wen on two grounds: first, that the anticipated flows of funds might swamp the Hong Kong financial market, and second, that the proposal needed to be restructured.[14] Should such moves materialize, they will help internationalize the RMB and contribute to reining in the buildup of official foreign reserves by the PBOC.

State owned enterprises (SOEs) are increasingly allowed and indeed encouraged to acquire assets abroad, both to secure access to energy and other natural resources and as a way of investing their profits. China offers medium- and long-term loans on preferential terms as well as investment insurance for outward FDI; in late 2005, the Ministry of Finance established a special fund providing subsidies to support Chinese enterprises' overseas investment[15]. The effect has been to greatly boost investments abroad; Table 2 indicates that FDI outflows have grown strongly since 2004. The stock of

[13] "China Allows Direct Offshore Investments," *Financial Times*, August 21, 2007, p. 3.
[14] One of its alleged flaws was that it amounted to "one bank, one city, one market", raising bureaucratic and jurisdictional objections. "Chinese plan to allow purchase of Hong Kong shares put on ice", *Financial Times* November 5, 2007.
[15] UNCTAD (2006), Box VI.5, p.212.

FDI assets abroad was about $80 billion in 2006, while securities and other investments abroad each totalled well in excess of $200 billion. Highly publicized investments have ranged from direct investments by CNOOC in the Darfur region of the Sudan, China International Fund's expenditure on infrastructure in Angola linked to China's access to its oil production, and CNOOC's unsuccessful attempt to purchase Unocal for $18.5 bn. in 2005. In October, 2007, Citic Securities announced that it would take a $1 billion stake in Bear Stearns, the US investment bank, while the latter would take a comparable stake in Citic Securities. In November, ICBC purchased a 20% stake in South Africa's Standard Bank for $5.6 billion.

China has also created a "sovereign wealth fund" to invest some of its foreign exchange reserves in real assets. In June, 2007, China announced the creation of the China Investment Corporation (CIC) whose purpose is to invest $200 billion of China's foreign exchange reserves. One of its first investments was to take a $3 billion stake in Blackstone Partners, a US private equity firm, and in July, 2007, with the help of Blackstone and in partnership with Singapore's Temasek, the China Development Bank took a minority position in Barclays Bank. In order to calm fears that CIC's investments would be motivated by political considerations, its head Lou Jiwei stated that CIC's investment strategy would follow "commercial goals."[16] By late 2007, however, it had become apparent that most of CIC's initial assets would be channeled into domestic, not foreign, assets. CIC took over from one of its acquired state organizations, the Central Huijin Investment Corporation, the mandate to recapitalize China's major banks as they restructure and modernize (in this case the recipients were the Agricultural Bank of China and the China Development Bank). CIC will now oversee these investments.

With respect to foreign issuers, since 2005 the Asian Development Bank and the International Finance Corporation have been permitted to borrow in the Chinese domestic currency bond market through so-called Panda bonds, introducing international best practice in bond issuance procedures (UBS, 2006). So far, amounts have been small.

[16] "Beijing fund chief seeks to calm fears," *Financial Times*, October 16, 2007.

3.1.3 Inflows

China's restrictions on capital inflows are heavily biased against short term portfolio capital flows and in favor of foreign direct investment (FDI). The Chinese diaspora were the first equity investors to arrive, but since China's accession to the World Trade Organization in 2001 it has become the largest recipient of flows to developing countries, receiving more than $60 billion annually. By 2006, the total inward stock of FDI was nearly $550 billion[17] (Table 3) and more than 50 percent of China's fast-growing goods exports were produced by foreign-invested enterprises.[18] Initially, foreign producers were required to enter into joint ventures with Chinese partners. These ventures allowed the local partners to learn from their foreign partners, but in the past few years as the expertise of Chinese supply chains and of Chinese assemblers has increased, wholly-owned foreign entities have been permitted.

Foreign portfolio investment has been heavily restricted to prevent volatility from large changes in positions, for instance by institutional investors seeking to diversify risk in their global portfolios. In 2003, the QFII scheme (Qualified Foreign Institutional Investors) was introduced in an effort to boost domestic stock markets by allowing these investors to acquire domestic securities. These institutions must meet certain criteria; fund investors, for instance, must manage at least $10 billion of assets and have operated for at least 5 years[19]. QFIIs face limits on both the size of their investments in China, which must be approved by the state, and their ability to repatriate those investments. By 2007, however, QFII investment had grown to 3 percent of China's tradable market cap (compared to 40 percent in Korea and 7 percent in Taiwan).[20]

3.2 Domestic financial system

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[17] These figures are higher than those reported by UNCTAD. UNCTAD (2007) discusses problems in measuring the Chinese FDI and investment positions, including "round tripping" of Chinese FDI to avoid restrictions on portfolio outflows and a discrepancy between the ownership threshold used by the Chinese in defining FDI and the international norm.
[18] Feenstra and Hanson (2005); Whalley and Xin (2006); Gilboy (2004).
[19] UBS (2006).
[20] Ma and McCauley (2007).

The extent of financial development is so far limited. Naughton (2007) characterizes China's financial system as deep—the ratio of money (M2) to GDP attained 162 per cent in 2005, higher than that in Japan — but not broad, since it is dominated by bank finance with few market-based instruments. All banks of any size are also government-owned or controlled and face little competition as yet from debt markets. Markets for corporate debt, in the form of commercial paper and asset backed securities are only beginning to be established, since the largest SOEs have ready access to retained earnings and bank finance.

The corporate debt market is also seriously under-developed because of the restrictions placed on corporate issuers by several regulators. Both the central bank and securities regulators exercise oversight.. Following recent changes that eliminated requirements for planning commission approvals of issues, corporate issuance has begun to accelerate (in September 2006, corporate bonds accounted for 3 percent of outstanding bonds, compared to the 68 percent combined shares of government and central bank bonds). Corporate issuers, especially those listed on the Hong Kong Stock Exchange also tap into foreign markets. An assessment by UBS (2006) of the Chinese bond market highlights problems of market segmentation, lack of benchmark rates, poor liquidity, and an underdeveloped credit market because of the newness of the bankruptcy law. Zhou (2005) outlines the institutional deficiencies underlying these problems: lack of familiarity with bankruptcy laws, default procedures not based on market principles, investors lacking the transparency afforded by a credit rating system, lack of modern accounting standards or transparency employed by issuers; lack of market discipline and insufficient investor education. A study by McKinsey Global Institute determined that private companies were receiving only about a quarter of bank loans, despite producing more than half of Chinese output, suggesting that there are important efficiency gains from reforming the financial system (MGI, 2005).

The official institutions that support and regulate Chinese financial markets are likewise underdeveloped. The People's Bank of China (PBOC), as the central bank, controls the money supply and regulates credit to the commercial banks, but it does so

not through indirect instruments, such as open market operations; instead it changes reserve requirements and exerts direct control over banks' lending and deposit rates (Naughton, 2007). The PBOC is nominally independent, but reports to the State Council. It is also constrained in its ability to carry out an independent monetary policy by the lack of flexibility of the exchange rate against the US dollar. While inflation in China has recently been kept to single digits, there were several earlier episodes of strong inflationary pressures (Chart 1). The PBOC has not been able to tighten credit as much as it would if the exchange rate were flexible, and early in 2008 inflation spiked up to 9 percent.

Regulation of banks and financial markets cannot at present be characterized as transparent. There are six regulatory agencies (PBOC; the securities, banking and insurance regulators; as well as the Ministry of Finance and the NDRC) which share sometimes overlapping responsibilities for oversight over issuance, intermediaries, financial markets, and investment (UBS, 2006). Given that SOEs are the main players in the Chinese markets, with foreign participation severely limited, the regulatory regime has not been tested to the extent that it would have been in a more liberalized system, since lack of competition has inhibited innovation and the major players are under direct government control. As well, a major problem hanging over the financial system is the legacy of non-performing loans granted by the state-owned banks to SOEs based on non-commercial criteria, which are discussed in the next section.

3.3 The Renminbi

The Chinese currency has fluctuated little against the US dollar since the end of 1993, when it was devalued from 5.8 to 8.7 to the dollar. In July 2005, the Chinese authorities announced their intention to allow some limited flexibility, and the renminbi had appreciated by about 15 percent by early-2008, when it stood at 7 yuan per dollar (Chart 2). The quasi-fixity of the exchange rate, while Chinese inflation has remained low and the US dollar has been depreciating against other major currencies has produced a flat real effective exchange rate—even a small depreciation—despite very large current

account surpluses (Chart 3). Capital inflows through export earnings and large inflows of FDI have required central bank intervention to maintain the nominal exchange rate within the announced band[21], with the consequence that China has accumulated an enormous quantity of foreign exchange reserves; in early-2008 they stood at $1.5 trillion, the largest in the world. Restrictions on capital outflows have been easing so that they have grown strongly since 2003; even so, the overall balance of payments is in large surplus.

4.Problems Posed by the Current Financial System

While China has low inflation, strong economic growth and a growing current account surplus, the heavily managed exchange rate and restrictions on capital flows are significant factors influencing the conduct of monetary policy and contributing to the under-development of the financial system.

What are the reasons for these restrictions and what are the prospects they will change? The political priorities of the Chinese government are an important driver -- to ensure gradual controlled liberalization of the previously-planned economy at a rate that delivers sufficient economic growth each year to absorb millions of labor force entrants, migrants and laid off workers. The pace of reform and modernization of the financial system is influenced by this "growth at any cost" objective.[22]

4.1 The impact of "growth at any cost" on financial system performance

Economic growth has been essential to the success of the restructuring and privatization of hundreds of thousands of state-owned enterprises (SOEs) since the mid-1990s. Today an estimated three-quarters of industrial production originates in the non-state sector (which consists of a range of ownership categories from foreign to collective to private). This radical restructuring has succeeded, some would say overly so, as investment has surged in government-sponsored infrastructure, housing projects, and

[21] The band is guided by movements against an unannounced basket of currencies.
[22] It is worth noting, however, that political priorities are shifting. The 11th Plan (2006-10) has set equity and rebalancing the economy as major goals.

heavy industry and FDI has poured into the manufacturing sector since WTO accession in 2001. Indeed, economic growth is being driven primarily by high rates of investment which exceed 50 per cent of GDP and are rising, as investment has been growing at an unsustainably rapid pace, creating capacity overhangs in the heavy and chemical industries. Dollar and Wei (2007) report the results of a firm-level survey showing that state-owned firms are not allocating capital efficiently in the dash for growth; they have significantly lower returns to capital than domestic private or foreign firms.

Adjustment of excess capacity might be assisted by higher interest rates, but the lack of exchange rate flexibility means that PBOC must regulate commercial banks' credit operations by setting their lending and deposit rates directly. Reliance on across-the-board interest rate changes runs the risk of encouraging speculative capital inflows and putting further upward pressure on the exchange rate, requiring further central bank sterilization operations. Yet administered interest rates have been ineffective in slowing growth.[23] As well, administered interest rates reduce commercial banks' appetite for risky credits because these banks can rely for a good part of their income on large well-known borrowers with government connections and on the generous administered spreads between deposit and lending rates.[24]

Thus lack of exchange rate flexibility not only reduces the central bank's monetary policy independence and its ability to conduct monetary policy, but administered interest rates are an obstacle to the play of competitive forces desirable in a modern banking system.[25]

Another factor that inhibits modernization of the banking system is the banks' continued government ownership. In the planned economy of revolutionary China the financial system was nationalized and used to channel capital to politically desirable

[23] By August, 2007, the PBOC had raised interest rates four times in its attempt to curb price increases, rising asset values and over-capacity in manufacturing, yet the economy expanded nearly 12 percent in 2007:Q2, the strongest growth in twelve years (Zhang 2007).
[24] Dobson and Kashyap (2006) illustrate the size of the spread and discuss its impact on bank business plans.
[25] Eichengreen (2006) and Persaud (2007) lay out these connections in detail.

projects, particularly in heavy industry. Since 1984 the banking system has gradually been liberalized and modernized; policy banks have been turned into commercial banks and a huge legacy of non-performing loans has been removed from their books through asset sales and transfers to state-owned asset management corporations. Since 2004, the largest commercial banks have acquired foreign strategic investors and listed some of their shares on stock exchanges to encourage transparency and greater efficiency of banking operations. Since 2004, prudential standards and oversight have been strengthened and incentive structures for bank managers have been modernized.

A central issue going forward is whether bank incentive structures have changed sufficiently to make the banks' misdirected lending (mainly to SOEs) a thing of the past. There are several reasons to argue that this is not yet the case. The large banks continue to rely on traditional mainstay borrowers which are firms, many of them government-owned or -controlled. By the large banks' own published financial statements corporate customers still account for between 70 and 80 percent of their loans.[26] In 2005, more than 40 percent of the industrial SOEs were losing money and current data indicate the losses at government-controlled firms continue to mount. The largest SOEs are reporting burgeoning profits and financing new investments: in 2005 the ten largest accounted for over 53 percent of total revenues and the 165 SOEs owned by the central government accounted for more than 70 percent of SOE profits. Yet China still has 120,000 SOEs.[27] The implication is that banks' exposures are likely to be greater to the tens of thousands of government-owned or -controlled firms whose profits appear to be much less certain.

Administrative guidance by the central bank distorts credit decisions by emphasizing sectoral restrictions rather than decisions based on the risk and productivity indicators of borrowers and projects. For example, a productive and profitable borrower in a restricted sector will be denied credit while a less productive borrower in a permitted sector will have access – just the opposite outcome from that predicted by market forces. Small entrepreneurial borrowers also have difficulties accessing bank credit because of

[26] Dobson and Kashyap 2006.
[27] For further discussion see Dobson and Kashyap (2006).

regulations requiring the banks to demand high levels of collateral. Banks have also been slow to price their loans for risk. Podpiera (2006) shows that corporate profitability of the banks' commercial customers had no effect on loan growth and that the large state owned banks were losing market share to other financial institutions more quickly in the provinces with more profitable customers. Data on loan pricing patterns at the banks since 2004 show that interest rates charged borrowers are very compressed around the benchmark loan rate, suggesting little ability or preference to price for risk.

All of this means that governance in China's majority government-owned banks is a work in progress that affects incentive frameworks. While steps have been taken to increase representation by independent directors on boards, the involvement of Communist party officials, while declining, continues to be pervasive. Bank heads are members of the Central Committee (Naughton 2003); the CEO is often also the party secretary; bank performance is discussed at party meetings.

These management, ownership and governance weaknesses contribute to the belief among investors, depositors and customers that China's government-owned banks are "too big to fail". The biggest banks, now listed on the Hong Kong and Shanghai stock exchanges, are more subject to external monitoring than they were, but capital injections and continued party involvement in their governance undermine their efficiency. Indeed, the economic and credit booms since 2002 have tested their ability to evaluate and monitor new loans; bank loans have soared (reducing NPL ratios) in response to robust demand in expanding industries. Such indicators suggest that banks are also making commercial decisions, but since it takes time for these loans to mature, should China experience slower growth, as any market economy can expect to happen, NPLs are likely to increase and create stress on the banks. Yet depositors believe they have blanket protection of their deposits even if the rate of return is low. The PBOC is not independent, but there is widespread confidence in it as a lender of last resort.

4.2 Capital controls

Capital controls restrict the internationalization of the Renminbi. Some argue that capital account convertibility could substitute for exchange rate appreciation as relatively higher rates of return offshore attract large scale capital outflows by individuals and corporations. Ma and McCauley (2007) shed light on these issues. They find that onshore and offshore RMB yields are not equalized by cross-border arbitrage despite the legal channels for inflows and outflows and the leakages noted earlier. Because interest rate differentials persist despite leakages, capital controls still bind. The rationale for maintaining such controls, of course, declines as schemes like QDII and QFII are introduced and expanded, and as economic actors find ways to circumvent remaining restrictions. Eichengreen (2006) points out that loosening of capital controls may open the door to future vulnerability; he advocates a move to exchange rate flexibility, not capital account openness.

Ma and McCauley also examine the potential impact of allowing individual bank deposits to be freely converted into foreign assets, noting the January 2007 liberalization by PBOC/ SAFE allowing residents to convert RMB and foreign exchange up to a quota of $50,000 a year. Assuming 10 million wealthy residents would take advantage of the quota, gross annual switching of RMB into dollars could total $500 billion if full advantage were taken of such liberalization (the equivalent of around 36 percent of China's current stock of FX reserves, and nearly 25 percent of total household savings deposits in 2006). An empirical test based on data for Taiwan in 2000 when this kind of switching occurred in response to a widening interest rate differential favoring the US dollar, suggests that switching would be around 4 percent per annum, or a much smaller value of $100 billion. Comparison with observed behavior in neighbouring markets over a 5-year period appears in Table 3, where the shares of foreign currency deposits range from almost half of total deposits in Hong Kong to 4-5 percent in Korea and Taiwan. This more modest number suggests that making bank deposits freely convertible would not eliminate China's substantial balance of payments surplus.

5. The Renminbi as a Regional Currency

China is well integrated in manufacturing production with its Asian neighbours and the size of its regional trade is far in excess of its trade with Europe or North America, or even both combined (Table 4). The large size of its imports and exports results from the large amount of trade in intermediate goods, reflecting China's position as an assembly platform in integrated Asian supply chains. Imports from Asia exceed exports to Asia in large part because of China's role in doing final assembly of high tech products, which are then exported to North America and Europe.

It would seem natural for internationalization of the RMB to begin through its use as a regional invoicing currency. It appears that so far the RMB is not used in invoicing, but the recent relaxation that allows holding RMB balances in Hong Kong would establish the preconditions for RMB invoicing. Hartmann (1998) summarizes the regularities observed over the years in the choice of currency for invoicing. While industrial countries generally invoice exports in their own currencies, developing countries do so less requently. Trade in primary products is usually invoiced in dollars, and the United States is the only country whose share of invoicing exceeds substantially its share of world exports. China's extensive trade with more advanced countries like Japan and Korea would thus more likely be invoiced in the latters' currencies, or the US dollar, rather than the RMB. Fifteen percent of China's exports go to Hong Kong, but a substantial fraction of that is entrepot trade, and such trade is likely to be invoiced in the currency of the ultimate destination, if the European Union or the United States. Of course, it is possible that Hong Kong itself might adopt the RMB, discussed below. As for trade with ASEAN, which is substantial, it is perhaps the best candidate for some invoicing in RMB. Other factors explaining invoicing are absence of capital controls and the existence of broad and deep financial markets. If the RMB is to become an important regional invoicing currency, China must make progress in developing financial markets and improving their efficiency.

Internationalization will also be promoted through the expansion in activities of Chinese companies abroad. As Ma and McCauley (2007, p. 18) argue, "With an expanded overseas presence, treasurers of Chinese companies could more readily manage

their financial and currency exposure with large-scale transactions spanning both their onshore and offshore operations." Thus, the promotion of outward direct investment is likely to loosen the effect of other controls. Chinese banks with operations abroad will likely offer both RMB and foreign currency facilities to their corporate customers.

Internationalization of the RMB might also benefit from official efforts to foster Asian financial integration among the ten ASEAN countries, China, Japan, and Korea, although most concrete proposals for an Asian currency unit have come from the Japanese (see, e.g., Ogawa and Ito, 2002). So far, concrete measures have been limited to the creation of swap lines between central banks, but reducing intra-regional exchange rate volatility—given the importance of intra-regional trade—remains an important objective. This might conceivably lead to the creation of a regional currency or the adoption by other countries of an existing currency. The prospect of this happening is probably several decades in the future, by which time China should clearly be the region's largest economy, with a much more developed and liberalized financial system than it has now. But given the vagueness of the project, it is hard to judge whether this improves the prospects of the RMB as an international currency. Indeed, Eichengreen and Park (2005) have analyzed the impact of financial liberalization in the region and conclude that it has resulted in the development of deeper links with global financial markets than in regional financial integration. However, Eichengreen (2006, p. 70) envisages at least a limited regional extension of the use of the RMB, namely to Hong Kong: "Shifting to a renminbi peg (or adopting the renminbi) is inevitable in the very long run." As the renminbi fluctuates more against the dollar, the economic costs of Hong Kong's dollar peg are likely to become evident, even if there are strong political reasons to maintain it.

6. Conclusion: How Will the System Evolve, and What does it Mean for the Renminbi?

Widespread economic inefficiencies and constraints placed on economic policies make it likely that China's financial system will evolve in the direction of the more liberalized and market-oriented financial systems of the advanced countries. How quickly and to what extent will that evolution occur, and what will be its impact on RMB internationalization?

In the near term, China's growing external imbalances suggest that pressure is growing on three key policy variables discussed in the previous section: the trade surplus (which is being addressed with limited success by administrative actions to raise the cost of imports and reduce exports); capital outflows addressed through QDII, CIC, and investments abroad by other SOEs; and RMB appreciation, which is being carefully managed. It is not yet clear whether measures taken in 2007 will be sufficient to defuse international tensions. By the end of 2007, however, RMB appreciation had gathered steam and the seasonally adjusted trade deficit has begun to decline, aided by high commodity import prices.

The relevant horizon for considering a significant expansion of the RMB's international role is not the next year or two, however. The Chinese authorities are unlikely to accede to major changes in the exchange rate regime, nor to implement widespread liberalization of the financial system, in response to foreign pressure. Instead, more thoroughgoing changes may need to wait until the next 5-year plan, for 2011-2015. The growing policy emphasis on rebalancing the growth impetus to greater reliance on domestic demand will take time; it is in the next plan period and subsequent ones that we should expect reforms that would create a modern and market-oriented financial system. A partial list of required reforms would include:

- Further recapitalizing state-owned banks, decreasing the extent of state ownership, and putting in place commercial best-practice on new lending
- Developing securities markets for corporate borrowing
- Putting in place a flexible, market-determined exchange rate regime
- Removing most restrictions except prudential ones on inward and outward capital flows

- Improving regulation of financial institutions and markets, bankruptcy laws and the legal infrastructure for financial markets
- Increasing the independence of the PBOC and putting in place a domestic monetary policy framework such as inflation targeting.

Certainly, greater flexibility of the RMB and further moves to relax capital controls will help encourage some international use of the currency. Relaxing capital controls on banks' foreign currency operations without strengthening regulation and putting state-owned banks on a fully commercial footing would be building in trouble, however. Exchange rate flexibility in a context where banks were allowed to take on large foreign currency exposure would open the door to the same problems as faced the Asian emerging market economies in the 1997-98 Asian financial crisis. Thus, the authorities are wise to plan liberalization gradually. That being said, both theory and international experience show that a strong balance of payments and pressures for exchange rate appreciation are the ideal context for moving away from a fixed (or quasi-fixed) exchange rate regime (Eichengreen, Masson, et al., 2000).

In the meantime, the liberalization measures already in train will probably lead to increasing international use in invoicing and expansion of foreign holdings of RMB. But substantial use of the RMB as a store of value would require a major development of deep and liquid RMB securities markets in China. More fundamentally, the Chinese authorities would need to face the issue of whether actually to encourage the international use of China's currency. The advantages of doing so include potentially lower borrowing costs and international seigniorage, and also perhaps greater international prestige. The disadvantages come from potential loss of monetary control and the dangers of being under the influence of foreign investors or governments, should the latter decide to shift out of RMB subsequently. So far, furthering the international use of the RMB is not contemplated as a policy objective. Given the authorities' reluctance to expose the country to foreign pressures, they are likely to continue their cautious reforms rather than overtly encourage internationalization.

In any case, international currency use changes slowly, as has been detailed by others (e.g., Cohen, 1971), and recently confirmed by Chinn and Frankel's (2005) empirical work. Given the RMB's starting point, even if the major reforms listed above were accomplished, decades will likely pass before the currency assumes the multi-faceted role of an international currency that includes widespread use in trade invoicing, an important place in other countries' foreign exchange reserves, and use as major vehicle for foreign exchange transactions. And geopolitical influences should not be ignored: limiting the attractiveness of the RMB as a store of value internationally (e.g., in foreign exchange reserves) would be the fact that China was a one-party state with the economy under the control of the Communist Party. Doubts as to whether China's political regime can ever be viewed as completely market-friendly are likely to dampen prospects for the RMB to take on a role commensurate with the importance of China's economy in world output and trade.

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Table 1. Reserve Currency Countries and China:
Selected Indicators and Currency Shares of Global Reserves in 2006
(in percent)

	Share of world GDP		Share of world trade 2/	CPI Inflation	Current account (percent of GDP)	Share of global official reserves
	at market exchange rates	at PPP exchange rates 1/				
United States	27.3	22.5	17.6	2.5	-6.2	64.7
Euro Zone	21.9	16.8	19.0	1.9	0.0	25.8
United Kingdom	5.0	3.5		2.8	-3.2	4.4
Japan	9.0	7.0	7.4	0.3	3.9	3.2
China	5.5	9.7	10.5	2.0	9.4	0.0

Sources: *IMF,October 2007 World Economic Outlook and COFER databases, UN Monthly Bulletin of Statistics database for trade data, and World Bank, 2005 International Comparison Program for PPP data.*
1/ in 2005.
2/ Sum of imports and exports. Euro area trade data are for the EU, and exclude intra-EU trade, as do world totals

Table 2. China's International Investment Position

(USD mn)

Assets											
			Securities Investments			**Other Investments**					**Reserves**
	Total	**Outward FDI**	Total	Equity	Debt	Total	Trade Credit	Loan	Currency & Deposit	Other	
2004	929900	52700	92000	0	92000	166600	67000	59000	32300	8300	618600
2005	1222600	64500	116700	0	116700	215700	90000	71900	42900	10900	825700
2006	1626600	82400	229200	1500	227800	242000	116100	67000	47400	11600	1072900
Liabilities											
			Securities Investments			**Other Investments**					
	Total	**Inward FDI**	Total	Equity	Debt	Total	Trade Credit	Loan	Currency & Deposit	Other	
2004	637100	369000	56600	43300	13300	211500	65400	88000	37900	20200	
2005	800100	471500	76600	63600	13000	251900	90800	87000	48200	26000	
2006	964500	544200	120700	106500	14200	299600	104000	98500	58900	38200	
Net position											
			Securities Investments			**Other Investments**					**Reserves**
	Total	**FDI**	Total	Equity	Debt	Total	Trade Credit	Loan	Currency & Deposit	Other	
2004	292800	-313600	35400	-43300	78700	-44900	1600	-29000	-5600	-11900	618600
2005	422500	-407000	40100	-63600	103700	-36200	-800	-15100	-5300	-15100	825700
2006	662100	-461800	108500	-105000	213600	-57600	12100	-31500	-11500	-26600	1072900

Source: China, *SAFE, downloaded from CEIC.*

Table 3. Ratio of foreign currency deposits to total deposits (2000-05) 1/

	China	India	Korea	Taiwan	Indonesia	Hong Kong
Mean	6.63	2.89	4.22	5.27	18.10	46.48
Maximum	8.02	3.42	7.59	6.39	23.50	48.30
Minimum	4.30	2.31	2.79	3.38	14.67	44.37
S.D. (ann.) 2/	0.84	0.32	0.92	0.70	2.53	1.67
F.C. Deposits ($bn) 3/	161.57	3.97	18.63	45.27	19.22	249.31

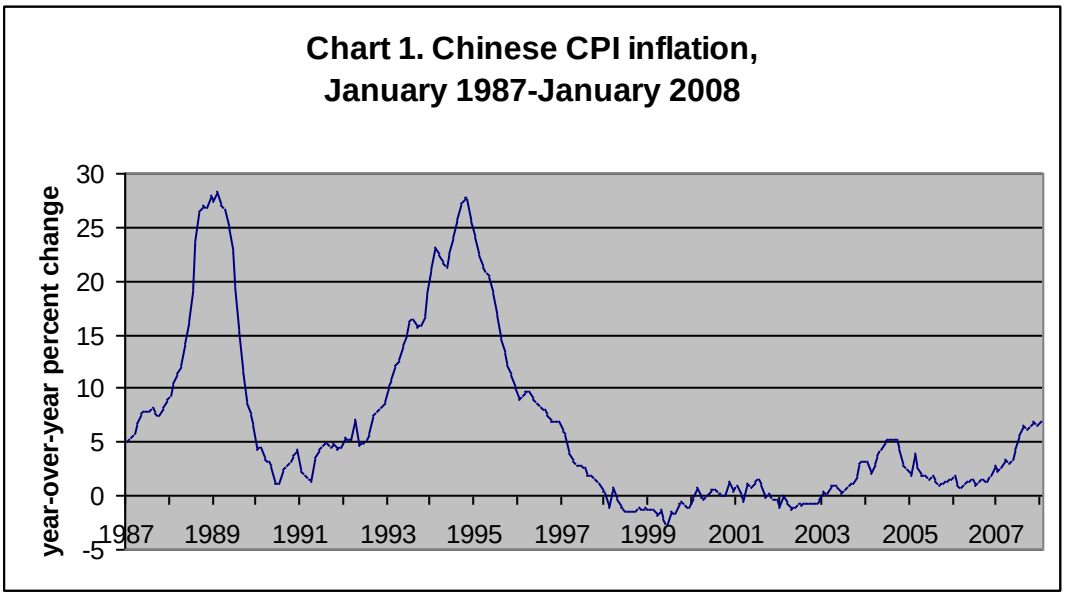
Source: *Ma and McCauley (2007:Table 4).*

1/ Monthly data, percent; total deposits include both local and foreign currency deposits
2/ Annualized standard deviation of monthly changes in percentage share
3/ End of 2005

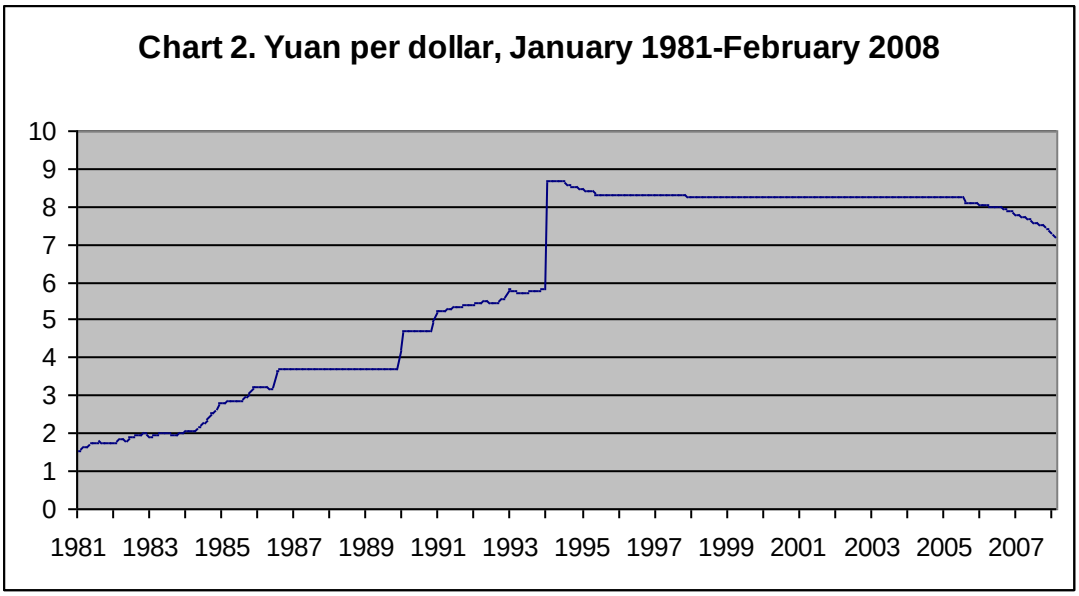
Table 4. Sources and Destinations of China's Imports and Exports, 2007

	shares, in percent	
	Imports	**Exports**
Africa	3.8%	3.1%
Asia	64.8%	46.6%
of which: ASEAN	11.3%	7.7%
Hong Kong	1.3%	15.1%
Japan	14.0%	8.3%
Korea	10.9%	4.6%
Europe	14.6%	23.6%
of which: EU	11.6%	20.1%
North America	8.5%	20.7%
Other	8.3%	6.0%

source: *China, General Administration of Customs*



Source: *IMF, International Financial Statistics*



Source: *IMF, International Financial Statistics*

Source: *IMF, International Financial Statistics*