CESifo Working Papers

www.cesifo.org/wp

Pegging the Renminbi to a Basket – Facts, Prospects and Consequences

Heikki Oksanen

CESIFO WORKING PAPER NO. 3254
CATEGORY 7: MONETARY POLICY AND INTERNATIONAL FINANCE
NOVEMBER 2010

CESifo *Working Paper No. 3254*

Pegging the Renminbi to a Basket – Facts, Prospects and Consequences

Abstract

On 19 June 2010 the Chinese authorities announced that the renminbi (RMB) was henceforth to be pegged to a currency basket. Yet, it has quite closely followed the USD, though having appreciated by 2.7 % by the time of writing. At the G20 Seoul Summit on 11-12 November 2010, China committed to further reform the RMB exchange rate regime. We discuss here what a genuine basket peg could mean for China, with the view that the weight for the EUR should obviously be significantly increased, the SDR being a strong option for practical implementation. This would also have a positive impact on the EU. China's currency reform has possible implications for its USD-dominated assets. Their reduction could trigger a further depreciation of the USD. The potentially costly consequences call for new rules for the world financial architecture. China's expansion will inevitably lead to a diminishing international role for the USD.

JEL-Code: F30, F31, F33, F42.

Keywords: China, renminbi, yuan, basket peg, foreign exchange rates.

Heikki Oksanen
Directorate-General for Economic and Financial Affairs
European Commission
Heikki.Oksanen@ec.europa.eu

This version: cut-off date for the data 16 November 2010
The views expressed in this paper are those of the author and do not necessarily reflect the views of the European Commission.

1. Introduction

On 19 June 2010 the Chinese authorities announced that the renminbi (RMB) was henceforth to be pegged to a basket of currencies. Since then, after an initial 0.4 % appreciation against the USD, over 2½ months there was little change compared to the policy of pegging to the US dollar (USD) pursued since July 2008: the RMB was quite closely following the USD. By the time this paper was written (16 November), amid pressure from the US and other countries since early September until the eve of the G20 Summit in Seoul on 11-12 November, the RMB was 2.7 % stronger against the USD than before 19 June. The G20 Summit produced general guidelines for managing exchange rates and called on the IMF to deepen its work in this area. At the meeting, China reiterated its earlier statement that it 'will further reform the RMB exchange rate regime, increase exchange rate flexibility, and promote a balanced BOP (balance of payments) account' (G20 Seoul Summit 2010). After the meeting, on Monday and Tuesday 15-16 November, the RMB was *depreciated* by 0.1+0.2 % against the USD — perhaps symbolically to show firmness on the Chinese side.

For a system of pegging a currency to a basket we have three analytically distinct questions: (1) the composition of the basket, (2) for the observers, monitoring the external value of any currency using a basket of currencies as the reference, and (3) management of the currency against its basket by the central bank. The purpose of this paper is to discuss (1) and (2), while all three are politically interlinked. For point (3), we discuss how the composition of the basket might affect the management of the RMB and some of the consequences of possibly changing it and making it transparent. However, we do not deal here with the question of the alleged undervaluation of the RMB and how to bring about its *real* appreciation through a combination of changing the nominal exchange rate of the RMB and any other policies affecting the relative price and cost level of China compared to the outside world. This latter issue is a broad topic that merits further study.

So, we ask the questions what the RMB basket now seems to be and what it could be. These are open issues, obviously also for the Chinese authorities when considering the further reform of the RMB exchange rate regime they have committed to. The aim here is to discuss the facts, prospects and possible consequences of moving to a genuine basket peg where the EUR would have a significant weight.

China's diverse economic relations speak in favour of moving in that direction. Also, the role of the RMB internationally would be enhanced if its close peg to the USD were terminated. A relevant option is to peg it to the SDR (Special Drawing Right) and make this fully transparent. This would enhance the role of both the SDR and the RMB in international trade and finance.

If the PBoC were to give a significant weight to the EUR in the RMB basket, the exchange rate uncertainly in EU-China trade would be reduced. Also, making the link between the RMB and the USD weaker would reduce the risk of disproportionate appreciation of the EUR if the USD were to fall.

Moving towards pegging the RMB to a more diverse basket than hitherto, for example to the SDR, can be advocated on relatively solid grounds based on China's trade flows and other economic ties. However, managing the change is not a simple matter as China needs to reform its currency policy while giving careful consideration to possible implications for its holdings of foreign assets. It is estimated that USD 1.6 trillion, or two thirds of its foreign exchange reserves of USD 2.65 trillion in September 2010, are denominated in USD. Reduction of the USD weight in the RMB basket could induce a shift of international asset holdings from the USD to other currencies. This could trigger a depreciation of the USD against the EUR (and other major currencies). The consequences could be costly for the Chinese central bank, but also for the international economy as a whole. This calls for attention when designing rules for the world financial architecture.

China's economic expansion will in the long term lead to a diminishing role for the USD and, provided that China liberalises its capital movements, to an increasing role for the RMB. Making the basket peg of the RMB fully transparent and giving the second most important convertible currency, the EUR, a significant weight could be an important step in this direction.

2. The announcement of 19 June 2010: RMB made more flexible and pegged to a basket

The Chinese authorities announced on Saturday 19 June 2010 that the exchange rate regime of the renminbi (RMB) was reformed to enhance flexibility and that the reference for managed floating was a basket of currencies. The People's Bank of China (PBoC) did not, however, give any indication of the composition of the basket or of the rules other than referring vaguely to 'market demand and supply'. It was also announced that daily changes in the RMB/USD rate continued to be limited to a maximum of 0.5%.

Since then, after an initial 0.4% appreciation against the USD, over 2½ months there was little change compared to the policy of pegging to the US dollar (USD) pursued since July 2008 (Figure 1). On 1 September the RMB was just 0.2% stronger against the USD than on 18 June. Amid renewed pressure from the US, it appreciated by 1½% in the run-up to a meeting between President Barack Obama and Premier Wen Jiabao on 23 September.

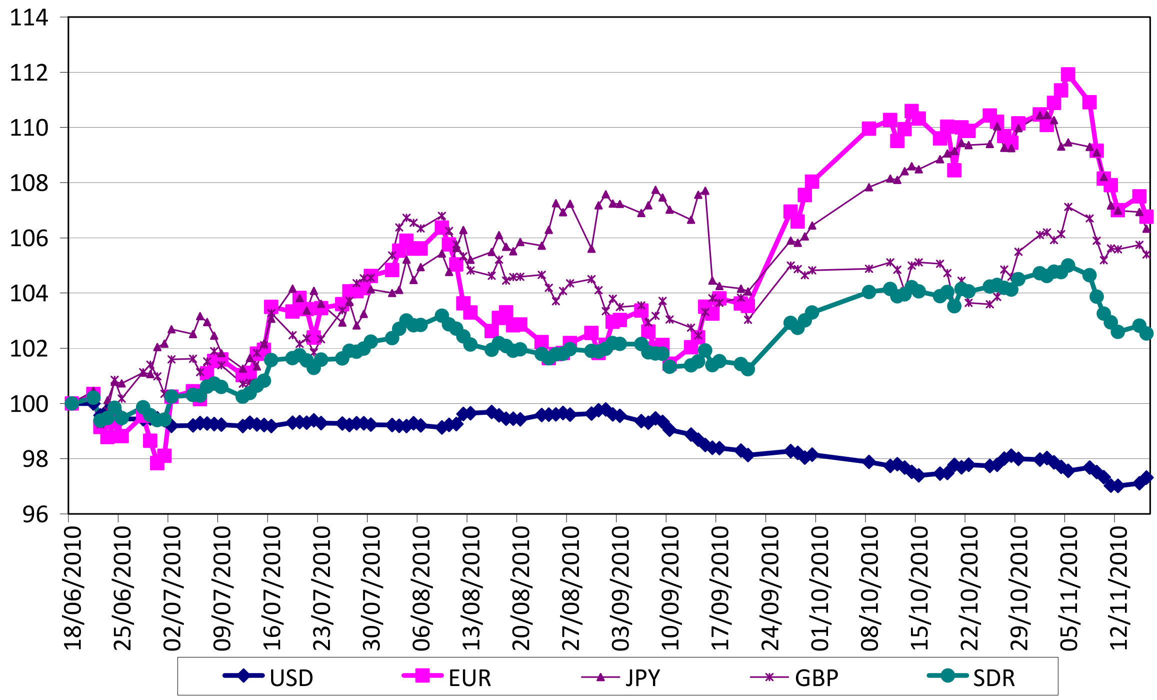
Starting from 22 September the USD fell sharply against other major currencies amid the announcement by the US Federal Reserve that it would continue to ensure that the markets remained liquid. During the Chinese holidays of 1-7 October international pressure built up. When the PBoC returned to work on Friday 8 October, it fixed the USD rate at only 0.2% lower than a week earlier, while the USD had fallen significantly against the EUR. At the IMF annual meeting on 8-10 October significant disagreements and frustration were expressed, resulting in stalemate (Financial Times 11 October 2010). The RMB first appreciated a little, followed by a 0.7% reversal. Again, a week before the G20 Seoul Summit of 11-12 November the RMB started to appreciate, making it 3% stronger against the USD than on 18 June. After the meeting, on Monday and Tuesday 15-16 November, the RMB *depreciated* by 0.1+0.2% against the USD — perhaps symbolically to show firmness on the Chinese side. Strictly speaking, the first small change cannot be explained by movements in the other currencies, while the latter one could also have followed from the fall of the EUR (see the last two observations in Figure 1). So, this is a typical question of interpretation as the rule and policy followed by the PBoC is not fully transparent.

Above, we mostly referred to the USD rate of the RMB as this is how most policy makers and commentators in the daily press discuss the RMB, often even forgetting to mention that the reference is the USD. Relatively little attention is paid to the fact that the RMB is now (16 November) 7% weaker against the EUR than on 18 June, having bottomed out at a 12% low when the EUR was strongest on 5 November. So, have we forgotten that the RMB is now supposed to be pegged to a basket?

Figure 1 gives the RMB values of the USD, EUR, JPY, GBP and SDR since 18 June. We can see that the RMB has followed the USD quite closely, except initially after 19 June and gradually since 1 September, making the RMB 2.7% stronger than on 18 June. This can also be confirmed by a statistical analysis. Assuming that the four SDR currencies (USD, EUR, JPY, GBP) are in the basket and using the daily quotations from 18 June confirms the almost exclusive dominance of the USD, while the JPY and GBP get negative weights. Leaving them out gives 85-95 % for the USD and 5-15 % for the EUR. The results are in this range from all regressions using the whole period or the more stable sub-period, and including a trend variable or not. If it is assumed that there was no trend until 1 September and a trend thereafter, the USD-EUR basket gets weights of 94 % and 6 %.[1]

Figure 1. Renminbi rates of various currencies since 18 June 2010

18 June 2010 values = 100, daily observations; last observation 16 November 2010



Source: Chinese State Administration of Foreign Exchange (SAFE), daily quotations.
Legend: line down (up) indicates appreciation (depreciation) of the RMB against the currency.

To avoid paying excessive attention to the USD rate of the RMB, we look here at the SDR rate as a proxy for the effective nominal exchange rate of the RMB (the latter being a summary measure of the RMB rate against a wide basket of currencies, see below). The composition of the SDR is set by the IMF, selecting a limited number of freely usable currencies and determining their weights according to their relative importance in the world's trading and financial system. It is also referred to here as the Chinese authorities have announced that they would like to promote the role of the SDR internationally (Zhou, Xiaochuan, 2009, Governor of the PBoC).

Immediately after 18 June and until 1 July the EUR was weaker against the USD than initially (see Figure 1). This meant that the RMB became stronger not only against the USD

[1] Including the South Korean Won and Malaysian Ringgit in the analysis does not improve the explanation. This was verified as the KRW was mentioned in the context of the RMB basket in 2005-2008, and on 30 August the MYR appeared in the exchange rate table, in addition to the SDR currencies, on the website of the SAFE, the Chinese State Administration of Foreign Exchange.

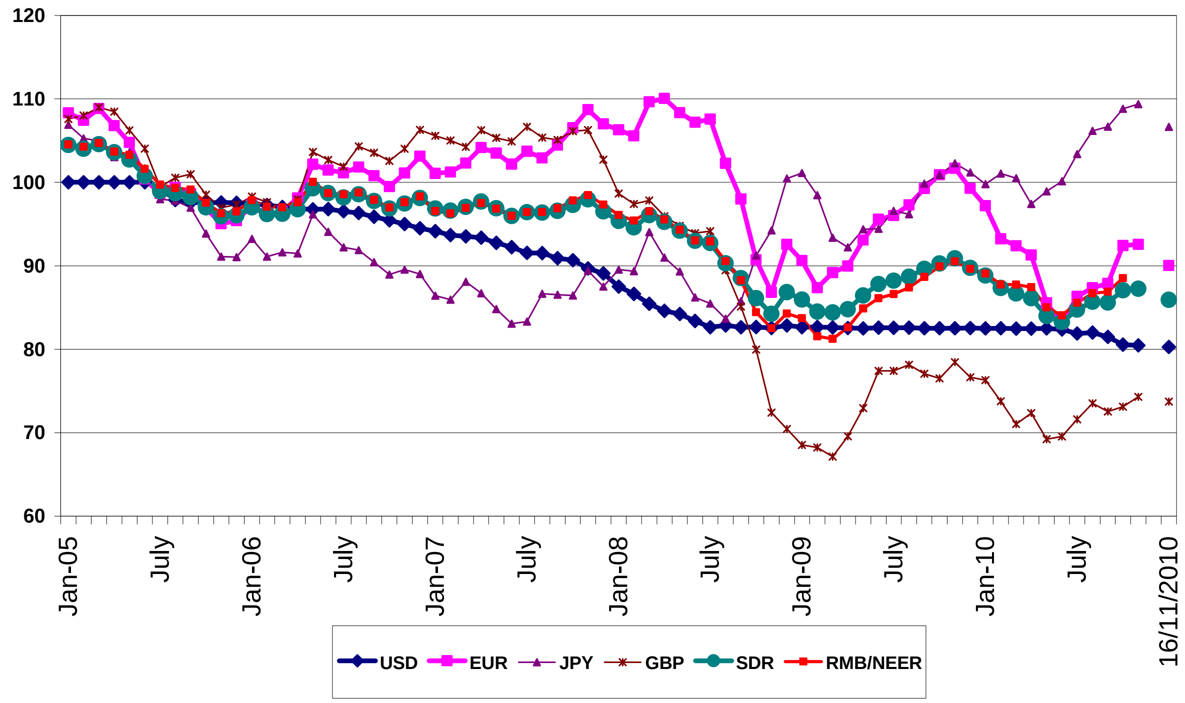
but also against the EUR and the SDR. From 2 July the EUR appreciated, peaking on 9 August, and rallied again from 10 September onwards. After having reached a depreciation of 5% against the SDR on 5 November, the RMB is now (16 November) 2.5% weaker against the SDR than on 18 June. This derives mostly from the stronger EUR, but also from the appreciation of the JPY and the GBP against the USD.

3. Movements since July 2005

The official exchange rate system of the RMB was unified from the beginning of 1994. From mid-1995 the RMB was pegged to the USD at 8.3 RMB until 22 July 2005, when it was appreciated by 2% and it was announced that it would be pegged to a basket of currencies with some flexibility. Neither the composition of the basket nor other details were revealed.

Figure 2. Renminbi rates of various currencies from January 2005

21 July 2005 currency values = 100, monthly averages (November averages 1-12/11; last data are for 16/11/2010)



Source: http://www.x-rates.com/.
Legend: line down (up) indicates appreciation (depreciation) of the RMB against the currency; RMB/NEER is the inverse of the Nominal Effective Exchange Rate of the RMB, source European Commission (2010); it is rebased by equalising its average value over January 2005-October 2010 with the RMB/SDR index.

By July 2008 the RMB had appreciated against the USD by 21.1% compared to July 2005. It had at the same time depreciated against the EUR by 8.3%, driven by the appreciation of the EUR against the USD since March 2006; see Figure 2. For some observers these movements gave rise to the view that the EUR had gained a significant weight in the RMB basket (Frankel, 2009). However, the short-term movements in the RMB/USD rate show much less volatility than the RMB/EUR rate. Therefore, the alternative interpretation is that the USD still by far dominated the RMB basket, but the RMB was gradually strengthened against it for reasons other than movements in the EUR/USD rate. The hypothesis of a crawling peg appreciation is also consistent with the various announcements of the PBoC (July 2005 and May 2007) that it would give more significance to market forces, which, at the time, drove the RMB upwards.

In July 2008 (amid the global financial crisis, but before the Lehman Brothers bankruptcy) the PBoC announced that the previous policy was 'temporarily' abandoned. Since then, until 19 June 2010 the RMB was de facto pegged to the USD with a narrow band around RMB 6.83.

From July 2005 to June 2010 the RMB fluctuated against the EUR, following the RMB/USD and EUR/USD rates. By coincidence, in June 2010, compared to July 2005, the RMB had appreciated 16-17% against both the USD and the EUR, and as the values of the JPY and GBP had moved in opposite directions, the RMB was also 16% stronger against the SDR; see Figure 2.

Now, the depreciation of the RMB against the SDR by 2.5% from 18 June 2010 is worth putting into the perspective of the earlier movements: the RMB rate of the SDR is now roughly back to its level at the end of 2008 (Figure 2).

In Figure 2 we also show the movements of the RMB nominal effective exchange rate (NEER) from January 1994.[2] As can be seen it moves almost perfectly with the SDR rate, the largest deviation in spring 2009 being only 3 percentage points (obviously connected to exchange rate movements amid the global crisis). The RMB/SDR rate thus represents the external value of the RMB in a much larger perspective than just against the four SDR currencies, but has the important advantage that its daily observations are easily available and that the SDR (basket) can be freely traded at any moment in the international market.

4. There are no easy options for the RMB

It seems that the 19 June announcement has so far not led to a significant change in the currency basket used for daily management of the RMB. Yet, the announcement helped to hold back criticism of China's currency policy by the US and others for 2½ months, and since September China has been able to counteract the pressure with a gradual, slightly fluctuating appreciation against the USD that now amounts to 2.7%.

One option is a continuation of this pattern: keeping focus on the RMB/USD rate and China making limited concessions to international pressure. However, the work on the further reform of the RMB exchange rate regime that China committed to at the G20 in Seoul could benefit from considering other options, including awareness of the problems involved in them.

A genuinely freely floating RMB is not yet feasible. The RMB is not a fully convertible currency and capital movements in and out of China are not free. Developing conditions for a genuinely freely floating RMB will take at least 10 years. Therefore, we should expect that

[2] The NEER indicators are calculated using weights from a matrix of trade flows. The European Commission (DG ECFIN) data are based on 41 countries (European Commission, 2010). We also checked the RMB NEER estimates from the BIS and IMF based on trade across a larger number of countries. All the three NEER indicators give the same picture and the RMB/SDR rate correlates almost perfectly with them since 1998. The calculations are available from the author on request.

the RMB will for the time being remain pegged to something under the code word ‘managed floating’.

Continuation of the pace of gradual appreciation against the USD, as has now been observed since 19 June, would make 6-7% in 12 months, i.e. roughly the pace from July 2007 to July 2008. Many actors and commentators may see this as the most likely scenario, possibly as the second (or third) best under a limited choice. Also, Yi Gang, one of the Vice-Governors of the PBoC and head of the SAFE, was indeed reported to have confirmed at the IMF meeting that gradual appreciation continues, albeit without going into specifics (China Daily 9 October 2010). China Daily reported on 30 October 2010 that Li Daokui, a PBoC adviser, had said that ‘the yuan could move 3 to 5 percent a year’, referring to the RMB/USD rate.[3]

However, gradual appreciation against the USD (or any known basket for that matter) is problematic and may indeed turn out infeasible. Relatively firmly held expectations of appreciation induce speculative inflows of hot money. This happened under the crawling peg in the period July 2005–July 2008, as widely recognised already at the time and firmly established in retrospect. Tsuyuguchi (2009), using all available statistics, estimates that the accumulated amount of hot money flowing in from 2007 until the first half of 2008 was close to USD 200 bn, and this then flowed out in the second half of 2008 when the RMB/USD exchange rate was fixed again. He concludes that these movements can be explained by the possibility of various arbitrage transactions under the expectations of appreciation of the RMB. Based on his figures and the change in the RMB/USD rate it can be roughly estimated that speculators gained USD 10-15 bn at the expense of the PBoC. This is not a small amount, even for the PBoC.

Now that various measures towards liberalising capital movements have been taken and speculators can borrow at exceptionally low USD rates we should expect that the responsiveness of hot money flows has increased. It is therefore possible that disturbance from inflows of hot money, including gains to speculators, could cause serious policy problems. Geoff Dyer reports from Beijing that this is already happening and Yao Yang (a Chinese academic) also points to the possible grave disturbances from ‘footloose money’ triggered by RMB appreciation (both in Financial Times 10 November 2010).[4]

Appreciation expectations could turn out to be harmful for further reforms of China’s financial system if the authorities have to fight back hot money by introducing controls on capital movements or delaying liberalisation. Geoff Dyer reports that the regulator is already stepping up inspections.

One interpretation of the policy followed from late June until early September is that the PBoC deliberately wanted to burn the fingers of speculators and made changes in the RMB/USD rate in both directions. However, the initial appreciation after 19 June and the trend since early September are interpreted by market commentators as indications of a trend

[3] Focusing on the RMB/USD rate appears also in other reporting in China Daily, for example on the previous day (29 October 2010), as the main headline was ‘Yuan drop will help exporters’, referring to the ½% *depreciation* against the USD over the previous two weeks, with no reference to movements of other currencies. We should note here that speaking about gradual appreciation can also refer to the real effective exchange rate in the medium term. This is a separate matter, and could indeed be targeted under many different strategies for the daily management of the nominal RMB rate.

[4] Gradual appreciation would help contain inflationary pressures by hitting profits and other incomes, but depending on whether the impact of inflowing capital is successfully sterilised it may fit badly with the overheated property markets.

that is likely to continue. This is also indicated by the RMB forward rates quoted internationally as the 3-month forward rate jumped to 5-6% p.a. in October. Under such expectations the speculators cannot count on relatively safe profits from one day to the next, but if the trend towards appreciation is firm enough, say over three to six months, the result is almost the same as from a declared crawling peg, although with more uncertainty. Interestingly, the expectations indicated by the RMB forward rates tamed down after the G20 Summit.

While these comments should show that crawling peg is not an easy option, it is not easy either to regain control over the markets through a significant revaluation as a discrete move. If it is too small, it triggers expectations of a further move, with the same consequences as gradual appreciation. To kill these expectations the revaluation may have to be large, larger than reasonable from the point of view of economic fundamentals. As in any country, considering this strategy triggers infighting between the export sector and others. Premier Wen went as far as saying that hitting the Chinese export industries could cause social unrest that would be a disaster for the world (Financial Times 7 October 2010). The Chinese export industries have obviously got the ear of the authorities, and it seems that the gains for exporters due to the *depreciation* against the other major currencies since 19 June have not received due attention as the RMB/USD rate is overly accentuated.

5. Hypotheses of motivations behind the 19 June announcement

According to one hypothesis the 19 June announcement aimed at enabling a *depreciation* of the RMB against the USD if the EUR was to depreciate significantly. According to this view, the Chinese authorities were preparing to defend their case by explaining (to the US authorities and others) that the RMB should not fully follow an appreciating USD but give significant weight to the EUR. This view was also advanced — according to Reuters on 7 September 2010 — by two Chinese economists, Li Jianwei and Yu Bin at a think tank under the State Council. They wrote, before the 19 June announcement, referring to the need to keep Chinese exports competitive in all markets: 'If there is large-scale euro depreciation against the dollar, we should progressively increase the flexibility of the renminbi's exchange rate and maintain the renminbi's nominal effective exchange rate at a reasonable, balanced level'. It is plausible that this consideration affected the 19 June announcement. The EUR had depreciated against the USD by 13% in less than three months, obviously partly due to the outbreak of the euro-area government debt crisis (Greece and others). The Chinese authorities had reason to be worried about its consequences.

So far this eventuality has not emerged. After 19 June the EUR fell only a little and for a short period against the USD and gained strength again, being on 16 November 2010 11% stronger than on 18 June. We can see that the EUR has not been given a significant weight, at least until now. Sure, the Chinese experts stated that flexibility should be increased 'progressively'. Now, the question remains as to which factors should determine this. Regardless of what the Chinese authorities might have in mind, we may note that if the weights were to be changed as a function of movements in the exchange rates, i.e. a larger weight for the EUR is activated only if/when it falls significantly, the policy would be biased towards keeping the RMB weak, following the USD when it falls and the EUR when it depreciates.

Let's be clear that this hypothesis is not confirmed, and in any case, the authorities have declared that further reforms are being considered. However, it gives rise to two clarifications: (1) if the weights in the basket are changed as a function of the movements between the foreign currencies, then the basket is not well defined; (2) it is useful to call a policy rule genuine pegging to a basket only if the composition of the basket is well defined and made public — of course, also in this case the value of the currency against its basket could be changed by a discrete decision, but then it would be clear that it was a change in the peg and the economic reasons for doing so would be debated.

The apparent non-transparency (or secrecy) of the composition of the RMB basket has important consequences for economic agents. Consider a counterfactual: suppose that the RMB had appreciated more than it did from 21 September until after the IMF meeting of 8-10 October and again at the beginning of November before the G20 Summit. As at the same time the USD depreciated so strongly against all major currencies, we would not know whether the PBoC had increased the weight of the EUR in their basket, or whether they gave in to international pressure and appreciated deliberately against the USD, still pegging mainly to the USD. The answer to this question would have affected significantly the expectations on future movements and perceived risks, and via them the capital flows and also real economy variables.

This was an illustration with a counterfactual, but the situation is pretty much the same with the current uncertainty regarding the true underlying policy rule followed by the PBoC. For the moment the most plausible hypothesis is that the USD by far dominates the basket and on these two occasions China gave in a little to international pressure. Removing this uncertainty by announcing the composition of the basket could be in the interest of several actors in this play, including the PBoC. If this were done, the outcome would most likely be a decreased weight for the USD as the share of the USD even in the foreign exchange reserves of the PBoC is smaller than the 85-95% implied by the observed currency movements.

Thus, removing the obviously excessive attention to the RMB/USD rate and continuing to peg to a basket but reconsidering its composition, notably increasing the weight of the EUR significantly, and making the basket fully transparent is an option for the PBoC that we consider next.

6. Pegging the RMB to a transparent basket, possibly to the SDR

The economic reasons for China to peg mainly to the USD are becoming less and less convincing. China itself is currently the second largest economy in terms of GDP, and it will even overtake the euro area in 2012 (in PPP terms). In 2008 China's direct merchandise exports to the US accounted for 22% of China's exports, while the share of the European Union was 25%. For China's imports the share of the US is even smaller.

Pegging the RMB to a transparent basket with a significant weight for the EUR has several merits. If the RMB followed a known basket of freely convertible currencies, its use in trade in East Asia would be enhanced. This is a stated ambition of the Chinese authorities and various moves have been taken in recent months. In August McDonald's became the first non-Chinese company to raise funds in RMB.

RMB-denominated private sector cross-border operations are still tiny and will remain so until a major move is announced and convincingly followed. If the RMB were still following closely the USD, there is no reason why private agents should shift to the RMB. The RMB becomes more attractive if it follows a broader basket of currencies and if the composition is made transparent. Transparency is also a signal of commitment as the consistency of the policy can be monitored on a daily basis. Pegging to a transparent basket separates the effects of relative movements in the basket currencies from the value of the RMB against this basket. The latter is the key policy instrument controlled by the PBoC. The overall uncertainty faced by traders and asset managers is reduced if the uncertainty regarding the composition of the basket is eliminated.

The exact composition of the basket is probably not decisive. It could at the extreme be the USD and EUR with equal weights if simplicity is desired. However, the SDR is a serious option as it is defined by the international community (IMF) and its composition is at least as defendable as that of any other basket of convertible currencies based on their global role.

Giving prominence to the SDR would also enhance its role internationally, something that was advocated by PBoC Governor Zhou Xiaochuan (2009). Apart from proposals to the international community to this end, linking the RMB to the SDR is a decision that China could take on her own. As a consequence, both the SDR and the RMB would gain importance in international trade and finance.[5]

It is sometimes said that the SDR is not really a currency but only an artificial unit of account. True, it is not a currency, *sui generis*, but it is a well-defined basket of four freely convertible currencies and can therefore be traded at every moment on the international financial markets. Like any other well-defined basket of convertible currencies, it can therefore be used in commercial contracts for setting the price or amount of credit, and then it is for the contracting parties to cope with the risk relating to the value of the SDR in their home currencies. In this respect, it is not worse than the USD except for traders who regard the USD as their home currency. The same applies to transaction costs: as the USD is the vehicle currency in international transactions (and will remain so for the time being), using the USD is economical for the party with the USD as its home currency. Again, for all other traders, the SDR is as good as the USD in this regard.

If one large country, China, were to peg its currency to the SDR, then the SDR would become an attractive reference unit for a large number of traders. It could become a commonly used invoicing currency, the price being quoted in SDR and the contract stipulating that the payment is made in any other currency at the prevailing exchange rate.[6]

This way the choice of the contract/invoicing currency in especially East Asian trade could be affected by the announced exchange rate policy rule of the PBoC.[7]

7. A European perspective

---

[5] On the prospects for the SDR rivalling the USD, see Williamson (2009). Former IMF Managing Director Michel Camdessus launched on 17 November 2009 (Camdessus, 2009) the idea that the RMB (and the currencies of some other large countries) should be included in the SDR basket. This proposal was also endorsed by Robert Mundell in a recent press interview (China Daily 3 September 2010, report 'Stable renminbi will help internationalisation moves'). This proposal may stem from considerations of prestige but overlooks the disadvantage that including any non-convertible currency in its basket would make the SDR itself non-convertible and therefore significantly hamper its use in any transactions and contracts.

[6] The composition of the SDR is determined by the IMF every five years. The details in force as from 1 January 2011 will be decided at the end of 2010. The 5-yearly review of the composition does not hamper its private use as the new amounts of each currency are adjusted so that the value of the SDR does not change in the very instance of the re-definition. Also, the new composition will be valid until the end of 2015.

[7] The current rule that the daily movements in the RMB/USD rate are limited to 0.5% would have to be removed under pegging to the SDR (or if the EUR otherwise had a significant weight) as traders could otherwise take advantage of the hangover left for further adjustment. Since 19 June 2010 the daily movements in the SDR/USD rate have exceeded 0.5% on four regular banking days and twice after a holiday break.

A significant weight for the EUR in the RMB basket would reduce uncertainty faced by traders in China-EU trade. More generally, van den Noord (2009) concludes from his theoretical analysis of the US, China and the EU that, in the run-up to the current financial crisis, China's peg to the USD aggravated the effects of liquidity glut originating from the US. He then concludes that, in principle, a floating RMB would be the first best for China and the EU as it would allow each of them to pursue their own growth and inflation objectives without having to absorb spillovers from the US. As a freely floating RMB is not feasible for many years (since China cannot fully liberalise its capital flows at once), the best option for both China and the EU is for China to peg to a composite of the USD and EUR.

Similarly, Pisani-Ferry (2010), discussing positive-sum game opportunities for China and the EU, considers that 'the persistence of a fixed link between the RMB and the dollar leads the euro and other European currencies to play the role of an adjustment variable, which involves a risk of disproportionate appreciation' of the EUR.

In short, for China, quasi-pegging to the USD means that it tends to import the monetary policy of the US, while pegging to a broader basket would mean that, under a fixed peg, the combined average monetary policy effect of all the central banks in the basket is followed. This is just to refer to the general tendency. In China this link is not firm, because capital movements in and out are not free. Also, changing the value of the RMB against the basket is a policy instrument controlled by the PBoC, to be used for achieving domestic macroeconomic objectives.

Thus, there would be broader benefits for China and also for the EU if the PBoC were to give a significant weight to the EUR in the basket, in addition to reducing the exchange rate uncertainly in EU-China trade.

8. A genuine basket separates exchange rate policy from management of FX reserves

The primary function of the central banks is to set monetary policy in the light of macroeconomic factors. However, the PBoC performs an additional important function as it holds more financial assets than any other single public finance institution in world history, as Wikipedia puts it. The State Administration of Foreign Exchange (SAFE), which is part of the PBoC, manages the foreign exchange reserves (Hu Yu-Wei, 2010). The two functions can be separated from each other, and this is most probably advisable for efficient management. If the exchange rate of the RMB is set against a well-defined basket, this can be done in a relatively simple way: use this official basket of currencies as the unit of account for assessing the SAFE's performance as the asset manager.

This rule would have important consequences for the SAFE's portfolio: if its assets have the same currency composition as the basket for the RMB peg then the effect of fluctuations in the cross rates between the foreign currencies on the SAFE's investment result are eliminated. Thus, this composition of the portfolio and its implied rate of return (over each period) can be regarded as the benchmark. The same argument would apply to other possible Chinese institutions managing foreign assets (China Investment Corporation and others).

9. Possible consequences for capital flows and the EUR/USD rate

Thus, pegging the RMB to a transparent basket, for example to the SDR, could mean a shift of Chinese exchange reserves towards the EUR (this could follow, in general, from delinking the RMB from the USD as also Pisani-Ferry, 2010, infers). This tendency follows from the structural factors, and leads to a separate and important question as to how the adjustment could and should take place as China's large USD holdings are there and the new stable structure cannot be achieved in an instant.

In the recent past, it was estimated that two thirds of China's foreign exchange reserves are invested in USD-denominated assets. This was confirmed in the news on 3 September 2010 by China Securities Journal. Citing an unnamed reserve manager it stated that the shares were: USD 65%, EUR 26%, GBP 5% and JPY 3%. Based on this, USD 1.6 trillion out of China's total foreign exchange reserves of USD 2.5 trillion (in June 2010; the latter being roughly 50% of Chinese GDP) is invested in USD-denominated assets, most of them issued by the US Treasury and US government agencies (mortgage-linked bonds).

With this initial currency composition, pegging the RMB to the SDR could induce a significant reduction in the share of USD-denominated assets in Chinese foreign exchange reserves. Out of the USD 1.6 trillion denominated in USD, a shift down to the weight of the USD in the SDR could lead to a reduction by a few hundred billion USD.

Such a shift, possibly accompanied by a shift in holdings by other agents, could have serious consequences, triggering a significant depreciation of the USD against other major currencies, notably the EUR and JPY (as also pointed out by Pisani-Ferry, 2010). China, triggering this move, would directly suffer from the fall in the value of its USD asset holdings. European producers would suffer from decreased cost competitiveness in international markets. Japan is already struggling with an overvalued JPY. The US economy could also suffer, directly from an inflationary impulse and indirectly via negative developments in the rest of the world. Other factors affecting the major currencies would not necessarily eliminate this scenario (the fall of the USD after 21 September 2010 is the most recent warning sign). The EUR is currently strong despite the economic crisis in the euro area. In the medium term the US may face even bigger challenges with its government deficit and debt.

As the short-term consequences can be serious, the PBoC will certainly manage the shift of its USD holdings to other currencies carefully. The value of the USD investments has been one of the main concerns of the Chinese authorities already for years, as repeatedly expressed, for example, by Premier Wen Jiabao. It is conceivable that re-pegging to the USD in July 2008 was driven by this concern, and the Chinese authorities wanted to signal their trust in the USD in order to stabilise it. It was probably not a pure coincidence that the USD then started to appreciate (against the EUR), and this continued until November 2008, i.e. also after the Lehman Brothers bankruptcy in September 2008. International financing was disturbed badly, but the USD appreciated by 24% against the EUR from July to November. The Chinese treated the USD as the safest currency, and others followed.

The Chinese authorities still occasionally reiterate the trust they then showed in the USD, and it is conceivable that giving dominance to the USD in the RMB basket still today is affected by their concern for the value of the USD.

It is understandable that China as one of the main players dislikes instability. This may mean that it moves very cautiously and gradually. It is the largest single holder of foreign exchange (USD 2.65 tn), by far larger than the Eurosystem (EUR 250 bn) and the US Federal Reserve (practically none as it issues the USD). Due to the huge amount of its USD assets, the PBoC does not want to withdraw them in a way that would cause a fall in their value. It also gave supporting signals to the EUR in late spring 2010 when the EUR was under pressure, partly due to the interest in preserving the competitiveness of Chinese production in European markets. Some market commentators consider that the steep rise of the JPY since last April, especially after the PBoC's 19 June announcement, was partly caused by acquisitions by

China (Bloomberg 9 September 2010). According to these sources the Japanese authorities were seeking contact with their Chinese counterparts. Whatever else might have happened, the Japanese central bank intervened in mid-September and succeeded in bringing the JPY down, although this turned out to be only a temporary success.

10. Managing the transition

The question then arises as to what could be done to achieve the long-term economic benefits and to avoid an excessive fall in the value of the USD during the transition.

There are not many effective ways to cope with this. It is not easy to find another party who would be willing to accommodate a several hundred billion USD shift in currency holdings and eliminate the unwanted disturbance to the exchange rates. The various central banks could aim at this, as they have occasionally done in the past since the collapse of the Bretton Woods system. However, the potential shift in currency holdings is larger than ever. The capacity of the central banks is limited by their own capital. The Eurosystem has close to EUR 400 bn (including unrealised capital gains; October 2010). There is always the imminent risk that supporting the USD could eventually fail and the Eurosystem would incur a massive financial loss. Japan is a big creditor of the US government and it will have to consider the various options carefully. However, increasing the share of USD-denominated holdings would go against Japan's ambition to reduce it.

This leaves us with the US institutions. After the collapse of the Bretton Woods system, in especially serious circumstances they have carried out foreign exchange market interventions, coordinated with other governments and central banks. The US Federal Reserve, with its capital estimated at somewhat over USD 400 bn (own capital plus difference between market and book value of gold reserves), can intervene in the market to support the USD and it can also sell gold.

However, the main player in the end is the US Treasury itself with its borrowing operations. If a free fall of the USD threatens, it can prevent it by denominating some of its debt in EUR, SDR or other convertible currencies.

This may sound unrealistic but it has happened before. In 1978 the US Treasury issued a series of bonds denominated in German marks and Swiss francs to prevent a fall in the USD ('Carter bonds', after the US President at the time). This precedent has been remembered now as new initiatives for global financing are in high demand. For example, Jaeger (2010), discussing the prospects for the RMB becoming a reserve currency in the next 15-20 years, considers that the US government 'may increasingly have to resort to issuing non-dollar-denominated debt'.

This could happen as part of the process of bringing government finances more upfront in the new architecture for the world monetary and financial system. The euro area countries show the lead. They now borrow mainly in EUR, also from outside the euro area, but they have accepted discipline on public debt. The ceilings have surely been exceeded, but they still give guidance and are going to be made harder in the wake of the public finance crisis in some Member States.

Maybe also the US Treasury needs to adopt self-discipline. It could have an upper ceiling for its debt issued in USD and denominate any temporarily needed excess in other currencies. Such a rule would eliminate the suspected moral hazard of defaulting on part of its debt through inflation and a falling dollar. This would make its policies more credible.

Realistically, a fundamental change like this will not emerge in the near term. However, the currency markets are forward-looking and it is always possible that the views of the long-term prospects may change and affect the markets instantly. Expectations of a healthy reform, even if it is perceived to take time to achieve, may provide well-needed stability to the world financial system right now.

The PBoC is one of the three or four biggest players in both daily management of world finances and in designing the system's future architecture. In some ways it is the most influential one as it has the largest reserves. It naturally weighs the consequences of its actions carefully as it knows that it affects the markets by its volume, intentionally or not. China sets the value of the RMB against the other currencies according to its own rules, and may revise them. It would be an exaggeration to say that it also sets the bilateral rates between the major currencies by its asset holding policy. However, this element is there at every moment. It makes its moves and sees carefully how the market reacts before moving further. All other players in the market, including private agents, are watching China.

11. Summary and conclusions

On 19 June 2010 the Chinese authorities announced that the renminbi (RMB) would henceforth be pegged to a currency basket. Yet, it has quite closely followed the USD, though having appreciated by 2.7% by the time of writing this paper (16 November 2010). Statistical analysis indicates that assuming only the USD and EUR were in the basket, the USD has a weight of 85-95% and the EUR the remaining 5-15%. This pattern and the movements between the major currencies over this period mean that the RMB has *depreciated* against any reasonable basket of major convertible currencies. We use the SDR as a proxy for such a basket as it reflects the relative importance of the four major convertible currencies for China and the global economy.

Based on China's diverse economic ties we considered here a genuine basket peg with a significant weight for the EUR, the SDR being a strong option for practical implementation. This would enhance the role of both the SDR and the RMB internationally, and also have a positive impact on the EU.

It is obvious that fundamental changes in the international financial institutions and instruments will take time to emerge. Most notably, the RMB will not assume a significant role until it has become freely convertible. The process to achieve this will easily take at least 10 years, perhaps significantly longer. What is certain is that it will not happen without transparency in managing the external value of the RMB as otherwise private agents will not use it widely. More transparency reduces the risks for the market participants but, at the same time, liberalised capital flows become more difficult to control for the Chinese authorities. This is a dilemma that is always facing them. The Chinese have expressed their long-term objective of moving in this direction as it is necessary for an enhanced role for the RMB globally.

China's move to give more prominence to the EUR could have implications for its USD-dominated foreign exchange reserves, estimated at USD 1.6 trillion. Their reduction could trigger a depreciation of the USD against the EUR. Therefore, the EU economy and others would be adversely affected. This calls for further work on the world financial architecture. Putting the size and currency composition of government debt of all major countries on the agenda of the international financial institutions is not an easy task. However, it is obvious that they are among the main economic factors that have spillover effects on neighbours. In a world that is moving away from the dominance of the USD in international financing and trade towards a tri-polar system comprising the USD, EUR and RMB, enhanced international collaboration is indispensable for keeping volatility of currencies within tolerable limits.

Some of the issues involved may not sound very relevant for the most immediate future, at least for those who believe that the RMB is misaligned and all efforts should be made to convince the Chinese authorities to appreciate it significantly. Distancing ourselves from this controversy, as *real* appreciation in the medium term is a much broader issue, we have discussed here the regime of pegging the RMB to a basket determining its value from one day to the next. At the G20 Seoul Summit of 11-12 November 2010, China committed to 'further reform the RMB exchange rate regime'. In considering the options, they face several questions, some of which seem merely technical, such as the composition of the RMB basket, but may still potentially have significant implications for both China and the rest of the global economy. Due to its economic size and share in world trade, and its international asset holdings, China's policy regarding 'managed floating' of the RMB is important for the global economy already at this stage, regardless of what the longer-term implications are.

Policy makers always face the question whether it is better to be transparently committed to a policy line or to keep their hands free for interfering. Defining the basket for pegging the RMB fully transparently or keeping it blurred is one such question. The choice matters for both immediate effects and long-term prospects.

References

Bloomberg 9 September 2010, 'Japan plans to seek discussions with China on bond purchases', at http://www.bloomberg.com/news/2010-09-09/japan-plans-to-seek-talks-with-china-on-bond-purchases-after-record-buying.html.

Camdessus, Michel (2009), 'Toward a new International Monetary System', International Conference, Guanghua School of Management, Beijing, 17 November 2009.

China Daily 3 September 2010, 'Stable renminbi will help internationalisation moves'.

China Daily 9 October 2010, 'Fast-rising yuan a "risk to global economy"'.

China Daily 29 October 2010, 'Yuan drop will help exporters'.

China Daily 30 October 2010, 'Yuan could move 3 to 5 percent a year'.

European Commission (2010), Quarterly report on price and cost competitiveness, Technical annex, DG for Economic and Financial Affairs, at http://ec.europa.eu/economy_finance/db_indicators/competitiveness/.

Financial Times 7 October 2010, 'China hits out on renminbi'.

Financial Times 11 October 2010, 'IMF meeting dashes hopes for co-operation'.

Financial Times 10 November 2010, Geoff Dyer 'China must beware scoring own goal with QE2 criticism', and Yao Yang 'Beijing can afford to stand firm in Seoul'.

Frankel, Jeffrey (2009), 'The RMB has now moved back to the dollar', blog 11 March 2009, at http://content.ksg.harvard.edu/blog/jeff_frankels_weblog/category/china/.

G20 Seoul Summit 2010, Leaders' declaration 11-12 November 2010, and its annexes.

Hu, Xiaolian (2010), 'Three Characteristics of the Managed Floating Exchange Rate Regime', People's Bank of China speeches, 22 July 2010 (Ms Hu is a Vice-Governor of the PBoC), at http://www.pbc.gov.cn/publish/english/956/index.html.

Hu, Yu-Wei (2010), 'Management of China's foreign exchange reserves: a case study on the State Administration of Foreign Exchange (SAFE)', No 421, *European Economy, Economic Papers*, Directorate-General for Economic and Financial Affairs, European Commission, July 2010.

Jaeger, Markus (2010), 'Yuan as a reserve currency', Deutsche Bank Research, 16 July 2010.

PBoC (2010), the People's Bank of China announcement of 19 June 2010, 'Further Reform the RMB Exchange Rate Regime and Enhance the RMB Exchange Rate Flexibility', at http://www.pbc.gov.cn/publish/english/955/index.html.

Pisani-Ferry, Jean (2010), 'China and the world economy: a European perspective', Bruegel Policy Contribution, March 2010.

Reuters 7 September 2010, 'Strong yuan would hurt China: economists', at http://www.reuters.com/article/idUSTRE6860MZ20100907.

Roubini, Nouriel (2010), 'The Road to Trade War Runs Through QE, Currency', Roubini Global Economics, 15 October 2010, at http://www.roubini.com/analysis/135209.php.

Tsuyuguchi, Yosuke (2009), 'The recent flow of "hot money" in China', Bank of Japan Review, July 2009.

van den Noord, Paul (2009), 'From global imbalances to excess liquidity: a political economy view', Paper presented at the 6th Euroframe Conference, London, 12 June 2009, at http://www.euroframe.org/fileadmin/user_upload/euroframe/docs/2009/EUROF09_Van_den_Noord.pdf.

Williamson, John (2009), 'Why SDRs could rival the dollar', Peterson Institute for International Economics, Policy Brief, No PB09-20, September 2009.

Zhou, Xiaochuan (2009), 'Reform the International Monetary System', 23 March 2009 (Mr Zhou is the Governor of the PBoC), at http://www.pbc.gov.cn/publish/english/956/index.html.