

# **An Evaluation of Different Proposals and a Trade-Off Solution to the Reform of RMB Exchange Rate Regime**

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## **Abstract**

Just one year after the worst global financial crisis since the Great Depression of the 1930s, the RMB exchange rate started to face pressure to appreciate once again. For one thing, the domestic structural problems in Chinese economy which are related to RMB exchange rate have not yet been solved; for another, expectations on RMB appreciation and speculative inflows of capital returns to China. The reform of the RMB exchange rate regime seems both necessary and inevitable. In this paper we try to achieve three goals: (1) to provide a systematic evaluation of the current de facto dollar peg regime; (2) to evaluate the benefits and shortcomings of four different reform proposals on RMB exchange regime available in the current currency disputes; (3) to propose a trade-off solution to the reform of RMB exchange rate regime, which is capable of giving considerations to both macroeconomic stability and rebalancing of resource allocation between tradable and nontradable sectors. The trade-off solution include: a one-off 10% RMB appreciation accompanied by a band of annual  $\pm 3\%$  fluctuation again US dollar. The paper also points out that now is a very good time for implementing this solution.

Keyword: exchange rate regime, speculative capital flow, global imbalance,

## **1. Introduction**

China had started a gradual exchange rate reform since July 2005. But this process has stagnated since July 2008. To reduce uncertainty and help exporters weather a slump in demand triggered by the global financial crisis, China has effectively pegged the Yuan at about 6.83 per dollar since then. Just one year after the worst global financial crisis since the Great Depression of the 1930s, there has been

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considerable debate at home and much international criticism of the current de facto dollar peg regime of RMB exchange rate<sup>3</sup>. For instance, Paul Krugman (2010) points out, ‘China’s policy of keeping its currency, the renminbi, undervalued has become a significant drag on global economic recovery. Something must be done’. Accompanying such tensions, the RMB exchange rate started to face pressure to appreciate once again. For one thing, the domestic structural problems in Chinese economy which are related to RMB exchange rate have not yet been solved; for another, expectations on RMB appreciation and speculative inflows of capital returns to China. The reform of the RMB exchange rate regime seems both necessary and inevitable.

This paper aims to achieve three goals. First, it provides a systematic evaluation of the current de facto dollar peg system of RMB exchange rate. Secondly, it evaluates the benefits and shortcomings of four different reform schemes on RMB exchange regime which are popular in debate of this issue, namely (i) gradual appreciation within a narrow fluctuation band; (ii) pegging to a basket of currencies; (iii) real exchange rate appreciation through market oriented factor price reforms and accompanied by moderate inflation, while keeping existing nominal exchange rate fixed; (iv) coordinated basket peg system in East Asia or other exchange rate cooperation plans in East Asia. Thirdly, it proposes a trade-off solution to the reform of RMB exchange rate regime, which is capable of giving considerations to both macroeconomic stability and rebalancing of resource allocation between tradable and nontradable sectors. The rest of the paper is organized as follows. Section 2, 3, and 4 examine issues concerned with these three goals, respectively, while the last section summarizes and concludes.

## **2. An evaluation of the current de facto US dollar peg regime**

Exchange rate is one of the most important prices in an open economy. Either realized adjustments or unfulfilled expectations in the exchange rate will affect imports and exports, consumer product prices and asset prices. An appropriate exchange rate formation mechanism is very important to maintain short-term macroeconomic stability. At the same time, the exchange rate is one of key factors which determine relative prices of trade goods to non-trade goods. Rapidly changing productivity rates in a fast growing economy like China always require quick adjustments of relative prices of traded and non-traded goods to ensure a reasonable economic structure and avoid the risks of economic imbalances. From the perspectives of maintaining macroeconomic stability in the short run and sustainable economic growth in the long term, this section focuses on evaluating the benefits and shortcomings of current RMB exchange rate formation mechanism.

### **2.1 The evaluation from the macroeconomic stability perspective**

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<sup>3</sup> For more details, please see Simon Evenett, “The US-Sino Currency Dispute: New Insights from Economics, Politics and Law”, *A VoxEU.org Publication*, Centre for Economic Policy Research, April 2010.

## **2.1.1 Shortcomings**

### **(1) Expectations of RMB Appreciation, speculative capital inflows and shocks on aggregate demand**

Continued mismatch between supply and demand in the foreign exchange market leads to expectations on appreciation of the RMB. Since 2002, due to many factors such as joining the WTO, a large-scale increase of foreign direct investment, a new wave of heavy industrialization, and so on, China's trade goods sectors has expanded rapidly, which has greatly enhanced China's import substitution capabilities and accelerated exports. As a result, China's trade surplus has burgeoned dramatically. Pressure for the RMB appreciation in the international community had been triggered since 2003 and much talking had been swirling around the world on the RMB appreciation. Under pressure, China had started a gradual exchange rate reform since July 2005, but this process has stagnated since July 2008. To reduce uncertainty and help exporters weather a slump in demand triggered by the global financial crisis, China has pegged the Yuan at about 6.83 per dollar since then. In the high time of global financial crisis, expectation on RMB appreciation was suspended.

The RMB appreciation expectations return after the financial crisis and the pressure for RMB revaluation will be strengthened in the future. During the financial crisis, the expectations on the RMB appreciation once disappeared. However, a weakening U.S. dollar and China's impressive economic recovery in 2009 has renewed pressure on the RMB to appreciate. At present, this pressure has intensified with the improving situation of China's international trade. On the one hand, growth in China's exports and imports in December 2009 exceeded expectations, and China's exports are now larger than those of any other country. On the other hand, the financial crisis has put on great pressure on the global economic growth and employment. For instance, over the last two years 7 million jobs have been lost in the United States, including 85,000 in December 2009. In such a circumstance, China's managed exchange rate regime causes many concerns among trading partners. In their view, the policy of keeping the exchange rate down is equivalent to an export subsidy and tariff, namely, to protectionism. If China keeps on rejecting to revalue the RMB, undoubtedly it will become a target for many countries which feel that it benefits at their expense.

The RMB appreciation is expected to affect aggregate demand through two channels. The first is to cause pressure on the money supply, which will lead to monetary expansion in case of insufficient sterilized intervention, and hence to stimulate the rises in asset prices and aggregate demand. The trade surplus, FDI surplus, and speculative capital inflows associated with RMB appreciation expectations, increase the imbalance between supply and demand in foreign exchange market. In order to maintain exchange rate stability, monetary authorities have to buy all the excess supply of foreign exchange in the market, which would increase the foreign currency assets of the monetary authorities as well as the corresponding domestic monetary supply. Since 2003, the growth in foreign currency assets

dominates the base money growth. The growth rate of foreign exchange assets even exceeds the growth rate of broad money, which makes the monetary authorities face enormous pressure on money supply growth. If the sterilized intervention measures cannot keep up, the money growth will be out of control. After the breaking up of the financial crisis, the growth rate of foreign currency assets has once fallen below that of broad money. However, in the future the growth rate of broad money will fall to normal levels and the short-term capital will reenter China, the money supply will soon be under severe pressure again.

**Table 1 China's monthly short-term international capital flows in 2009 (billion yuan)**

Month	1	2	3	4	5	6	7	8	9	10	11	12
Increase in foreign currency reserves	-325	-14	417	551	806	421	430	362	618	557	605	104
Trade Surplus	391	48	186	131	134	83	106	157	129	240	191	184
FDI	75	58	84	59	64	90	54	75	79	71	70	121
The valuation effect	-395	-107	195	36	252	50	19	93	102	94	62	-256
Short-term international capital inflows	-396	-13	-48	325	356	198	251	37	308	152	282	55

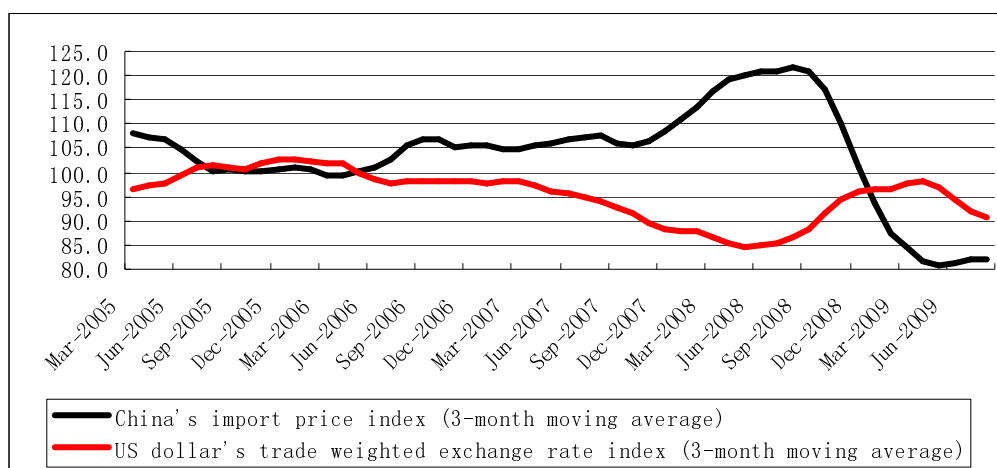
Source: Zhang Ming (2010) China's short-term capital flows in 2009, RCIF Working Papers, No. 2010004.

Second, even if the monetary authorities has maintained a stable growth rate of broad money supply by successful sterilization interventions, expectations on RMB appreciation itself will stimulate rises in asset prices and aggregate demand. The expectations on RMB appreciation hit the capital market just like a major new technological revolution, both of them alter expectations on relative return on assets. We may consider a situation that there are two main choices for residents in their portfolio. One is bank deposits with fixed interest rate; the other is risky assets with floating rate of return. Once the RMB appreciation is expected, expected returns on those risky assets of non-trade goods sectors, such as real estate, will increase and risky asset price goes up. In this process, even if the broad money supply which is mainly composed of various deposits has not changed, the value of collateral will increase due to rising asset prices, which reduce the actual cost of loans to enterprises and residents, and hence stimulate aggregate demand. It is so-called financial accelerator effects in Bernanke, et al (2000).

**(2) U.S. dollar exchange rate fluctuations, import price fluctuations, shocks on aggregate supply and demand**

In the dollar peg exchange rate system, substantial fluctuations in the U.S. dollar exchange rate will result in substantial fluctuations in the prices of imported goods. In the literature, one outstanding advantage of the pegged exchange rate regime is that it helps to maintain domestic price stability. But the validity of this argument is questioned in China. During the periods of volatile American economy and U.S. dollar exchange rate, the dollar is not a good nominal anchor and the economies of those countries which chose a dollar peg may suffer from volatile fluctuations too. Figure 1 indicates that the prices of imported goods fluctuate with the nominal dollar exchange rate. It can be found in this figure that when dollar's trade-weighted exchange rate fall around 10% between the end of 2007 and the middle 2008, the imported prices of Chinese import goods increase 15%. It can be concluded in such a case, both trade conditions and price stabilities are facing severe shocks in China.

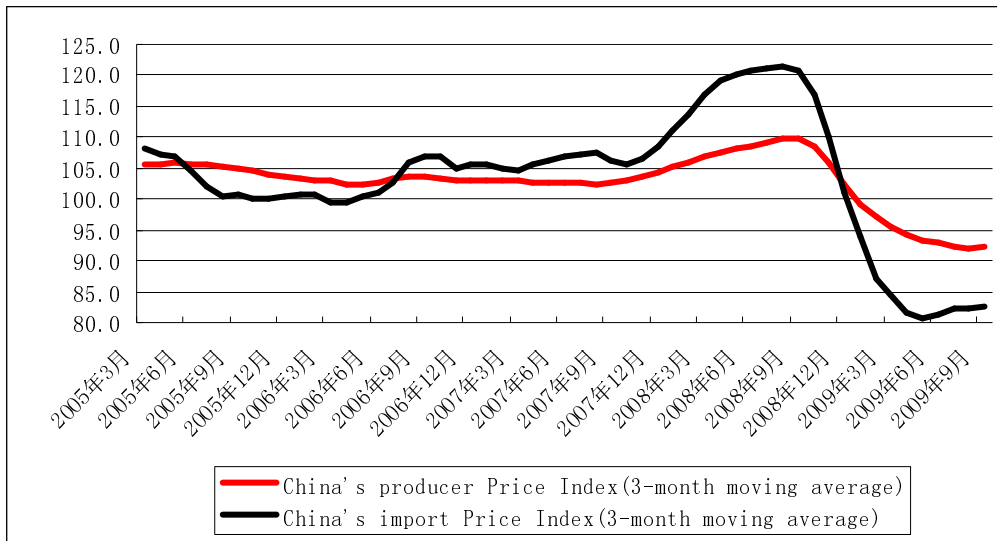
**Figure 1 China's import prices and the US dollar trade-weighted exchange rate (3-month moving average)**



Source: CEIC

Fluctuations in prices of imported goods may affect the domestic aggregate supply and demand, and is one of the major explanatory factors of the domestic price fluctuations. Fluctuations in the prices of imported goods will change the relative prices of domestic products, bring the adjustment to the supply side in a structural sense and change the levels of outputs and prices. Since both ratios of imports and exports to GDP and industrial added value to GDP are very high in China, the price fluctuations of imported goods have prominent effects on domestic prices. Figure 2 shows that the trends in China's domestic Producer Price Index (PPI) and the price index of imported goods are quite consistent. A more detailed research in Gao (2009) indicate that the correlation coefficients between prices of global commodity and China's domestic price index such as PPI and CPI are at quite high values.

**Figure 2 China's import prices and domestic producer price index  
(3-month moving average)**



Source: CEIC

### 2.1.2 Benefits

Pegging to US dollar is thought to help maintain short-term trade and employment stability. But it may be just a misunderstanding. The competitiveness of export prices is determined by the export trade-weighted exchange rate, and the costs of imported goods are determined by imported trade-weighted exchange rate. Either to keep competitiveness of exports or relatively stable costs of imports, the policy target shall not be to maintain the stability of exchange rate of RMB against the dollar. In fact, just as mentioned before, when the exchange rate U.S. dollar against other major trading partners fluctuated severely, China's import and export, prices, aggregate supply and demand will face severe shocks.

As the Chinese enterprises generally use the U.S. dollar as the invoicing and settlement currency, pegging to US dollar is thought to help domestic enterprises to avoid exchange rate risks, but it is not accurate. By pegging RMB to US dollar, exchange rate risks that enterprises are faced have not disappeared, but have just become invisible. For example, an enterprise who exports to Europe employs US dollar as the invoicing and settlement currency. Its European customers face the risks of exchange rate fluctuations between dollar and euro, and to hedge it, they sign a forward contract in the foreign exchange market. However, customers themselves may not bear all the hedging expenses, but would rather decrease the bid prices in dollar. Hence the hedging costs actually do not disappear but seems invisible to Chinese enterprise, and who will cover such cost is ultimately determined by the bargaining power of Chinese and foreign parties.

### 2.2 Evaluation from the perspective of sustainable economic growth

## 2.2.1 Shortcomings

In the current dollar peg system, the RMB exchange rate can not play the role of an effective price instrument to allocate domestic resources between trade goods and non-traded goods, and hence intensifies distortions in economic structure. There are obvious difference between economic fundamentals of the U.S. and China, and the real effective exchange rate of RMB which is dominated by U.S. dollar effective exchange rate is difficult to adjust to meet the demands of domestic economic restructuring. Cheap RMB helps to maintain the competitiveness of trade goods and improve the employment in the trade sectors. But cheap RMB will hurt the competitiveness and job opportunities of domestic nontradable sectors. It is exactly happened in the present China. Industry output which mainly comes from production of trade goods occupies a very high proportion of GDP, which is among highest in the world. The output of service sectors, on the other hand, occupy a very low share of GDP which is not only far below than those of developed countries, but also lower than those of developing countries with the similar levels of national incomes. Much of industrial outputs cannot be consumed in the domestic markets and have to be exported to international markets. The service sector is so underdeveloped and many demands for better service in medical care, education, environmental improvement and transportations cannot be satisfied<sup>4</sup>.

**Table 2 Comparison of the industrial structure across different countries**

	China	Low-income countries	Low-and middle-income countries	average level in the world
Proportion of agriculture to GDP	15	25	12	4
Proportion of industrial to GDP	53	25	40	28
Proportion of service sector to GDP	32	50	48	68
share of employment in service sector	27		43	

Source: World Development Indicators 2008

Distorted development of traded goods sector relative to the non-traded goods sector have negative effects on distribution of income, employment, environment, natural resources, etc. Generally, service sector is much more labor-intensive than industries. The relative underdevelopment of service sectors is associated with less job opportunities and lower share of labor compensation in national income. The

<sup>4</sup> The scarcity in the service industry cannot fully be attributed to the distorted exchange rate, the administrative monopoly existing in many service sectors and insufficient supply of relevant public goods are among other important reasons for underdevelopment of service sectors.

newly added jobs in export industries, in particular those highly capital intensive industries like iron and chemical industry, due to cheap currency is far from able to make up the job losses in service sectors. Excessive influx of resources into more environmental demanding industrial sectors make a large quantity of energy and environmental resources exported. Pan, et al (2008) have done some calculations based on input-output table and found that in 2002 China exports consumed around 240 million tons of standard coal, which accounted for 16% of primary energy consumption. It resulted in a net increase in domestic emissions of 150 million tons. Namely, when China accumulates trade surplus, it is also accumulated a large number of “ecological deficit”.

Cheap currency helps expand the relative advantages of traded goods sector over those of foreign counterparts as well as domestic non-traded goods sectors, and hence protect their size. However, it does no good to technical innovations and industrial upgrading in such sectors. The process of currency appreciation hence will be a natural selection process of more innovative enterprises, since enterprises with more innovations in technology and managements will get much more development opportunities than those with less innovations. Recalling the experiences of Japan’s in the 1980s, it was exact under tremendous pressure of currency appreciations that many Japanese enterprises with well-known brands chose to accelerate technological innovation and industrial upgrading, and hence has laid a firm foundation for competitiveness in technology and management in the world.

Distorted exchange rate hampered other reforms in China as well, in particular reform of the capital account, as well as the increasing use of RMB internationally. Since the RMB is cheap, it is difficult to initiate the reform of capital account under the consistent unilateral expectations of RMB appreciation. Domestic enterprises would slow down their overseas investment and foreign investors try to enter China. In such a circumstance the main task of capital account management is to guard against the negative impacts of speculative capital inflows, and further reform on China’s capital account and financial liberalization process will thus be delayed as well.

### **2.2.2 Benefits**

At the early stage, the dollar peg mechanism helped to expand the size of industrial sectors and accumulated foreign reserves at an adequate level, which benefited technical developments and stable growth in investment. But such benefits have severely diminished at present. At early stages of economic development, scale of economy plays an important role in putting forward industrial developments. At the same, a large quantity of investment goods is needed to be imported, and hence there is huge demand for foreign reserves. Competitive local currency help to attract domestic resources to traded goods sector, to expand the scale of the industrial sectors, to improve quickly accumulations in technology and human capital, to contribute to accumulation of foreign exchange reserves, and hence to ensure steady growth of imports of investment goods and domestic investment. But after thirty years of fast

developments, at present the overall scale of industrial sector is not too small, but is too large; the scale of foreign reserves far exceeds the needs for tackling the international balance of payments dilemmas.

### **3. The evaluation of different policy options for RMB exchange rate reform**

This part turns to evaluation of benefits and shortcomings of four different policy options for reforming RMB exchange rate mechanism. They include (1) gradual appreciation of RMB within a narrow fluctuation band; (2) pegging to a basket of currencies; (3) real exchange rate appreciation through market oriented factor price reforms and accompanied by moderate inflation, while keeping existing nominal exchange rate fixed; (4) coordinated basket peg system in East Asia or other exchange rate cooperation plans in East Asia.

#### **3.1 Policy Option One: A gradual appreciation of RMB within a narrow fluctuation band**

It is a policy choice which was actually the RMB exchange rate formation mechanism just before the outbreak of financial crisis, namely the RMB exchange rate reform occurred during the period from mid-2005 to mid-2008. It is somewhat similar to BBC (Basket, Band and Crawl) regime. The last round RMB exchange rate formation mechanism had exactly taken into account a basket of currencies, a fluctuation range, as well as a crawling trend. The main difference is that the C (crawling) in the BBC system is often adjusted according to differences in price levels at home and abroad, while China's exchange rate adjustment factors for the crawling trend had not been clearly explained and besides, a clear appreciation trend had showed in the operation. Based on the targets of the RMB exchange rate reform set by monetary authorities, the appreciation trend may be understood as moving closer to a reasonable and equilibrium exchange rate.

##### **3.1.1 Benefits**

(i) To achieve a gradual appreciation of the RMB, a slight improvement of the economic structure, and a slight alleviation of many structural problems impeding China's economic growth.

(ii) To introduce fluctuations of the RMB against the U.S. dollar, to increase enterprises and residents' awareness of hedging exchange rate risks, and to promote the developments of relevant financial products and market for hedging exchange rate risks;

(iii) During the period of rising commodity prices, exchange rate may be employed to alleviate imported inflation pressure;

(iv) To alleviate pressures in the international community partially;

(v) To increase the international community's demand for the RMB, and to increase the usage of Yuan in the neighboring countries and regions.

### **3.1.2 Shortcomings**

(1) To trigger consistent expectations on the RMB appreciation and a larger scale of speculative capital inflows, which may result in serious domestic asset price bubbles, as well as a certain degree of economic overheating and inflation risks. Hence it poses a great challenge of short-term monetary policy management and macroeconomic stability.

(2) To increase the uncertainty on profit forecasts of export sectors, to incur modest increase in the export prices in the international market and moderate decrease in import prices, and to bring short-term negative impact on those tradable sectors.

## **3.2 Policy Option Two: Pegging to a basket of currencies**

Pegging to different currency baskets would bring different results. For instance, pegging to a basket of currencies based on import weights helps to maintain the stability of import costs and domestic prices, while pegging to a basket of currencies based on import weights helps to maintain the competitiveness of export. Here we considers the most commonly used way, namely to determine the weights of a currency by considering its import and export volume in China's total foreign trade volume.

### **3.2.1 Benefits**

(1) In the context of the dollar depreciation, it helps to alleviate the dollar-driven depreciation of the RMB trade-weighted exchange rate. In comparison to the US dollar peg regime, it helps relieve the pressures coming from both speculative capital inflows and the international community. But it needs to be pointed out all these benefits are based on the context of the dollar depreciation. If the dollar appreciates, such benefits disappear.

(2) To maintain competitiveness of exports, and stabilize costs of imports and alleviate pressures of imported inflation.

(3) To introduce fluctuations of the RMB against the U.S. dollar, to increase enterprises and residents' awareness of hedging exchange rate risks, and to promote the developments of relevant financial products and market for hedging exchange rate risks;

(4) To increase the international community's demand for the RMB, and to increase the usage of Yuan in the neighboring countries and regions.

### **3.2.2 Shortcomings**

(1) It is just another form of fixed exchange rate system. In such a regime, the exchange rate does not make automatic adjustment to the changes in domestic foreign exchange market. Given rapid changes in economic fundamentals behind China's foreign exchange market, the level of exchange rate can not be sustained in the long run and will be associated with pressures from international community and speculative capital inflows in the short run.

(2) Exchange rate can not be used as an instrument to rebalance the economy.

### **3.3 Policy Option Three: Substitute factor price reforms and a moderate inflation for exchange rate reform**

The main content of this proposal is to adopt a series of domestic reforms to substitute for exchange rate reform. Reforms include land policy reforms (such as restricting preferential policies enjoyed by industrial enterprises, and making changes in the current government monopoly model of land supply), energy price reforms (such as a more market-oriented price formation mechanism of electricity, water, oil), strengthening protection measures of workers' rights and interests (such as implementing the "Labor Law" more seriously), and other factor price reforms. All these reforms will improve on resource allocation and reduce trade imbalances. Therefore they may be taken as an alternative to exchange rate reform. Considering that reforms in factor prices will be associated with inflation, this proposal advocates tolerance of moderate inflation.

The above-mentioned reforms in the areas of production factors are very important for optimizing resource allocation and reduce the imbalances in the domestic economy. However, they are not enough to replace the exchange rate reform. Conducting reforms on both fields of factor prices and exchange rate at the same time are most useful for changing current price distortions and imbalances in resource allocation.

Exchange rate reform is able to solve two problems. First, it is able to overcome one-way RMB appreciation expectations and hence reduces their macroeconomic shocks; second, it is capable of correcting relative price distortion between the traded and non-traded goods, which would avoid over-flow of resources to tradable sectors and ease the economic structure imbalance. It shall be pointed out that trade surplus is the most important factor among various economic fundamentals that support the RMB appreciation expectations, while the origin of trade surplus lies in overflow of domestic resources to tradable sector. Therefore, the most fundamental goal that exchange rate reform shall achieve is to establish a rational incentive mechanism to direct reasonable allocation of resources between tradable and nontradable sectors.

Of course exchange rate reform is not the only instrument to adjust the resource allocation between tradable and nontradable sectors. The establishments of clear property rights of production factors, market-oriented price formation mechanism and reducing monopoly in China's service sectors are also important. However, reforms on factor prices cannot substitute for exchange rate reform. For example, under distorted exchange rate, even if China have implemented market-oriented reforms of energy prices, energy prices are still distorted since undervaluation of exchange rate would correspondingly result in overvaluation of domestic energy price. Therefore there is complementary relationship between factor price reforms and exchange rate reform, and both of them are important. If one important price is distorted, the other price will be distorted too. Distorted resource allocation follows.

If we have to sort out which one is more important, exchange rate reform may stand out. There are several reasons. First of all, exchange rate reform is more on target to reduce RMB appreciation expectations and international community pressures, which are crucial to maintain near term macroeconomic stability. Second, it is more convenient to use and more effective on improving the distorted allocation of resources. Third, taking into the current inflation expectations account, exchange rate price reform also helps to curb inflation.

### **3.3.1 Benefits**

It helps guide reasonable allocation of resources among various sectors, reduce the trade surplus, and alleviate many other related economic structural imbalances.

### **3.3.2 Shortcomings**

(1) In the short term, there will be a negative impact on both output and employment in traded goods sector. The real exchange rate appreciation caused by either the nominal exchange rate appreciation (a drop in demand) or general increases in price levels (rising costs) mean profit losses of traded goods sectors, which are associated with structural adjustment of output and decline in employment.

(2) It is hard to achieve only a moderate level of inflation and hence monetary policy would face a very difficult situation in the reforms of factor prices. In particular when the initial inflation level is high, the effects of inflation expectations are hard to manage and the risks of serious inflation increase.

(3) Inflation may erode the real purchasing power of residents' wealth, and deteriorate the pattern of income distribution.

(4) Inflation increase uncertainties that enterprises and residents face in future investment consumption, and hence brought about the loss of output.

## **3.4 Policy Option Five: A coordinated basket peg system in East Asia or other regional exchange rate cooperation plans**

In addition to these aforementioned policy options, many other options have been put forward by the international community for China to refer to. Some are based on regional exchange rate cooperation. Among them, the plan of 'Common Currency Basket Peg' proposed by Williamson (1999) has been paid much attention. Another representative come from Eiji Ogawa, who advocates the ASEAN + 3 (Japan, China, and Korea) to establish a Asian Currency Unit (ACU) as a weighted average of East Asian currencies and to maintain the exchange rate stability within the region by manages its own currency within the reasonable band around the ACU (Ogawa, Shimizu, 2005). Ogawa and Ito (2002) have also suggested that East Asian economies shall move to a basket currency regime based on their own trade weights. Wyplosz (2001) argues that East Asia may adopt a similar approach with that of the current European Monetary System (EMS) to build an Asian Monetary System (AMS). The common feature of these proposals is to maintain the regional exchange rate stability. For China, their benefits and shortcomings are quite similar to those of the second policy option discussed above, namely being pegged to a basket of currencies. For more discussions, please refer to Zhang (2006).

## **4. A trade-off solution to the reform of RMB exchange rate**

### **4.1 The content of the compromise plan**

The trade-off solution to RMB exchange rate reform is detailed as the following two major points: (1) the Yuan exchange rate against the U.S. dollar is appreciated 10% one time; (2) after this 10% appreciation, the exchange rate fluctuate within an annual floating band of  $\pm 3\%$ .

#### **4.1.1 A trade-off adjustment of exchange rate**

(i) Due to the fast and immense structural change of the Chinese economy, it is very difficult to estimate a proper level of equilibrium RMB exchange rate. Several regular methods of computing equilibrium exchange rate as listed in Montiel and Hinkle (1999) are confronting substantial challenges in the application for China. The mostly commonly adopted method is the single equation model due to its simplicity. However, the issues of how to choose a proper real RMB exchange rate, how to choose analytical determinants according to specific patterns in Chinese economy, has not been sufficiently addressed in the literature so far. The empirical results are quite mixed as well. Besides, some partial equilibrium or general equilibrium models based on multiple equations encounters many challenges in data collection, model specification, and robustness of models, and it is quite difficult to reach convincing and agreed conclusions based on such models.

(ii) However, imbalances in the balance of international payments, supply and demand in the foreign exchange markets, and domestic economic structure suggest that the current exchange rate depart from its reasonable level.

(iii) Appropriate RMB exchange rate adjustments should make the exchange rate move closer to its equilibrium level on the one hand, and should not produce too huge negative impacts on the macroeconomic stability in the short term.

(iv) The one-time 10% appreciation of the RMB is able to achieve the goal of approaching to the equilibrium exchange rate<sup>5</sup>, but will not produce immense negative impact. There are a large quantity of studies on the impacts of exchange rate on GDP growth, imports and exports, employment, inflations and other important macroeconomic variables. But most of them have defects in data collections, model specification and reliability tests. Recent studies of Yao, Tian and Su (2009) and Cui and Su (2009) are among the most convincing ones. The former focuses on examining the relationship between export prices and exports, and concludes that export price elasticity is approximately -0.65, namely 1% raise in the export prices yields 0.65% decrease in export. The latter calculates the pass-through effects exchange rate and obtains a estimate of around 50% , namely 10% increase in the RMB trade-weighted exchange rate usually generate a 5% raise of export prices averagely<sup>6</sup>. If we combine the key findings of these two studies, we may conclude that if the RMB appreciates against the U.S. dollar 10%, supposing that all other conditions remain unchanged, the nominal effective exchange rate will appreciate 10% too, and it will make export growth rate drop 3.3%. A scenario which is much closer to the reality is that when the RMB appreciates 10%, the currencies of most competing export countries, namely East Asian countries, may appreciate more or less. Hence the appreciation of the nominal effective exchange rate of RMB may be lower than 10% and the actual fall in China's export growth rate may be less than 3.3%.

A one-off 10% appreciation of the RMB against the dollar will not only produce shocks to exports, but also decrease import substitution. It will also decrease short-term investment<sup>7</sup>, slow down national economic growth, and lower domestic price levels. However, based on both international and domestic experiences, a fluctuation of 3-4% in export growth is not rare. If the economy remains at a normal level, such an export impact will not affect the growth of national economy, prices and employment seriously.

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<sup>5</sup> The most recent study of Cheung, Chinn and Eiji Fujii (2009) argues the current exchange rate is undervalued around 10 percent.

<sup>6</sup> The pass-through effect of exchange rate has been extensively studies in the literature, for instance Bi and Zhu (2007), Shi et al (2009), and so on. However, the model of Cui et al (2009) does well in its robustness test. In general, most studies conclude that the pass-through effect coefficient lie between 30% and 70%, and it differs across different industries as well. In the surveys conducted by the author in Jiangsu Province, most representatives from export enterprises mentioned that 50% concession in prices has been a usually acceptable number for both sides of exporters and importers in negotiations since 2008.

<sup>7</sup> The RMB appreciation will affect investments and employment in both directions. For the traded goods sector, the effects are negative, while for the non-traded goods sector, the effects are positive.

The market generally holds a relatively optimistic vision of China's economic performance in 2010. The whole-year GDP growth rate forecasts made by the IMF and the World Bank are 9% and 8.7%, respectively. The estimates from other academic and financial institutions are generally between 9% and 11%. It indicates that China's economic growth has been back to the normal track or even confronted with danger of overheating. If we take other governmental supporting measures into consideration, it is concluded that China is capable of dealing with the shocks coming from exchange rate adjustment.

#### **4.1.2 A trade-off solution to RMB exchange rate formation mechanism**

(i) By introducing an annual floating band of  $\pm 3\%$  after one-off appreciation, the RMB exchange rate system transits to "managed floating regime", which lies in between the two extremes, namely the fixed and freely floating exchange rate regimes. There are several aims for introduction of a  $\pm 3\%$  fluctuation band to achieve. The first one is to promote awareness of exchange rate risks of enterprises and residents, and hence prepares for further expansion in fluctuation band. The second is that such a fluctuation band may be employed to moving closer to the equilibrium exchange rate. Based on international experiences and our calculations, a rapid growing economy like China's usually needs 3% appreciation in its real effective exchange rate per year. The third is to manage expectations. By a permitting  $\pm 3\%$  fluctuation band, monetary authorities are able to curb excessive expectation on appreciation and hence to avoid their negative shock to economic stability.

(ii) A band of  $\pm 3\%$  fluctuation, which are managed by monetary authority, can be based on pegging to a basket of currencies. Given increasing importance of regional trade and investment in East Asia, monetary authority may take consideration of some form of regional exchange rate cooperation in ASEAN+3 economies.

### **4.2 An evaluation of the trade-off solution to RMB exchange rate reform**

#### **4.2.1 Benefits**

(1) Through a one-time RMB appreciation against the dollar, it achieves an appropriate level of effective exchange rate which is closer to its equilibrium one. It helps to reallocate domestic resources between tradable and nontradable sectors, to reduce trade surplus and to adjust economic structural imbalances.

(2) To eliminate unilateral RMB appreciation expectations more thoroughly and to reduce the negative impact of speculative capital inflows.

(3) To respond positively to the challenges posed by the international community, and to help avoid trade wars;

(4) In the context of inflation, it helps to bring down inflation expectations as well as actual inflation;

(5) To introduce fluctuations in the RMB exchange rate against the U.S. dollar, to promote awareness of exchange rate risks of enterprises and residents, and to promote the developments of relevant financial products and markets for hedging exchange rate risks;

(6) To increase the international community's demand for the RMB, and to increase the usage of Yuan in the neighboring countries and regions.

#### **4.2.2 Shortcomings**

(1) In the short run, it will produce negative shocks on exports, investment in tradable sectors, and short-term economic growth, which may also be accompanied by a small amount of frictional unemployment.

#### **4.3 The timing of the trade-off solution**

Based on a number of reasons, we believe that now it is a very good time for implementing the compromise plan of the RMB exchange rate reform.

(1) Due to maintaining a relatively loose monetary policy, the risk of asset price bubbles may be one of main negative shocks on for Chinese macroeconomy in 2010. Monetary authorities need to pay much effort to stop the RMB appreciation expectations and the corresponding shocks on monetary supply and adjustments of domestic assets prices.

(2) As international pressures on trade wars and RMB appreciations increase, to keep a friendly international economic environment and the global free trade system, China needs to take measures actively and positively.

(3) By adopting an expansionary fiscal policy and loose monetary policy, china has successfully spurred its economic growth. China has rebounded from the global slump with vigor and its GDP growth target in 2009, namely 8%, has been achieved. Besides, there is no deflation pressure in the near future. Therefore China is capable of dealing with adjustments in economic structure brought by the RMB appreciation. Negative shocks of a one time 10% RMB appreciation shall be limited and the macroeconomy will fluctuate in its normal range.

(4) The negative effects on potential economic growth of distortions in economic structure have intensified gradually. A series of reforms including exchange rate reform shall be conducted to adjust the domestic economic structure as soon as possible. Such reforms will lay firm foundation for a healthy and sustainable economic growth.

## 5. Summary and conclusions

Exchange rate policy plays a key role in protecting macroeconomics stability and adjusting economic structure in the current China. It differs from other policy measures in one crucial respect: it addresses simultaneously internal balance and external balance. In this paper we evaluate benefits and shortcomings of China's current de facto dollar peg system and many policy options available for of the RMB exchange rate reform.

We find that all things considered, a one time 10% RMB appreciation accompanied by annual  $\pm 3\%$  fluctuation band again US dollar is better than the alternatives. It has many benefits, such as to reallocate domestic resources between tradable and nontradable sectors, to reduce trade surplus, to adjust economic structural imbalances, to eliminate unilateral RMB appreciation expectations more thoroughly, and to reduce the negative impact of speculative capital inflows, and so on. It has shortcomings as well. In the short run, it will produce negative shocks on exports, investment in tradable sector, and short-term economic growth, which may also be accompanied by a small amount of frictional unemployment.

We also conclude that now it is a very good time for implementing the trade-off solution of the RMB exchange rate reform. The negative effects on potential economic growth of distortions in economic structure have intensified gradually. A series of reforms including exchange rate reform shall be conducted to adjust the domestic economic structure as soon as possible. Such reforms will lay a firm foundation for a sound economic recovery and sustainable economic growth.

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