

Research of China's Credit Currency Mismatch

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Abstract

Large positive current mismatch exists in China at present, and with the continual development of financial reform, the risk of the current mismatch will gradually diffuse from the micro layer to the macro layer, so it is very important to study China's credit currency mismatch. Based on the theoretical research of the credit currency mismatch, the formula of AECM is used to measure the level of China's credit currency mismatch, and the causes are analyzed, and corresponding policy advices are proposed in this article.

Keywords: Credit currency mismatch, Assets, Debts, Aggregate effective currency mismatch (AECM)

The currency mismatch means the phenomena that the net income flux or the asset debt stock net value of one economic body is sensitive to the change of the exchange rate, and it can be divided into the credit currency mismatch and the debt currency mismatch. The credit currency mismatch means that the foreign currency asset possessed by one country exceeds the foreign currency debt, or else, it is the debt currency mismatch.

1. Theoretical hypotheses of the credit currency mismatch

1.1 Hypothesis of "Original Sin" (Eichengree and Hausmann, 1999)

It thinks that when the imperfection of the interior financial market in the developing countries induces the deficiencies of capitals in the interior economic development, they have no choice but to issue the foreign currency bond financing in the international financial market, so the currency mismatch happens. Kahn (2005) thought that developing countries had to issue the bonds which were computed by the foreign currencies in the international financial market because of the original sin, so the serious debt currency mismatch would occur in the emerging market countries, and to reduce the degree and risk of the currency mismatch, the emerging market countries had to accumulate large numbers of foreign currency assets, which would increase the cost expense of the emerging market countries, and gradually make them to turn to the credit currency mismatch.

1.2 Hypothesis of "Beyond Original Sin" (Goldstein & Turner, 2004)

It thinks that the currency mismatch could reflect the influence of the exchange rate change on the discount value of the future income/payout flow, and it can be approximately represented in (1) the par value of the currency of the financial asset and debt, and when other conditions are changeless, the asset net value is more sensitive to the change of exchange rate, the currency mismatch is more serious; (2) the sensitive degree of the present values of future income and payout flows to the change of exchange rate.

1.3 Hypothesis of "Fear of Floating" Calvo & Reinhart, 2002)

It thinks that because of the mismatch of debt and asset, the developing countries would not implement the floating exchange rate system, which is called as the "fear of floating", and it will further prick up the degree of the credit currency mismatch or the debt currency mismatch. By analyzing of the exchange rate system of merging market countries after the financial crisis, two main conclusions can be obtained. (1) Because of fearing

the floating, many countries which claim to implement the flexible exchange rate system adopt the “soft” pegged exchange rate system. (2) Because of the close trading association with US, the emerging countries have sufficient reasons to keep the stability of exchange rate, even carry out the complete dollarization.

1.4 Hypothesis of “the Conflicted Virtue” (McKinnon, 2005)

It thinks that the countries with the “advantage” of high saving would generally induce the favorable balance of the balance of payments, and be the international net credit countries, and the international credit countries which can not offer the credit by their own currencies would have the problem of the credit currency mismatch, and this mess of currency mismatch is called as “the conflicted virtue”. With the accumulation of dollar rights and interests, domestic holders of dollar assets would more and more worry about their dollar assets, and continually turn them into the domestic currency assets, and compel the domestic currency to increase in value, and foreign countries would complain the durative trading surplus of these countries because of the undervaluation of currency. These two situations often interlace together to make the credit courtiers in the conflicted mess, and if they allow their currencies to increase in value, the individuals or institutions which hold the dollar assets and have not hedged these assets will face the risk that the domestic currency will increase in value, and may be bankrupted, and at the same time, the export enterprises would lose the competitive force suddenly, and the deflation will occur, and the economy will finally get in the fluidity trap like the “zero interest rate” of Japan; but if these credit countries would not make the domestic currency increase in value, foreign countries would threaten initiating the trade sanction.

2. Measurement and cause analysis of China’ credit currency mismatch level

2.1 Hypotheses of the measurement model

Goldstein & Turner (2005) put forward that the ratio of the short-term foreign debt and the international reserve (SFC/RES) and the ratio of the generalized currency (M2) and the repertory of foreign exchange (M2/RES) could be the index to measure the degree of the currency mismatch, and they also established one new index, i.e. AECM. For the credit currency mismatch, i.e. when the net foreign currency assets exceeds zero, the computation formula is

$$AECM = \left(\frac{NFCA}{GDP} \right) \left(\frac{GDP}{MGS} \right) \left(\frac{FC}{TD} \right), NFCA > 0,$$

and it can simplified as

$$AECM = \left(\frac{NFCA}{MGS} \right) \left(\frac{FC}{TD} \right), NFCA > 0$$

Where, NFCA denotes the net foreign currency asset, MGS denotes the total amount of the commodity and labor import, FC and TD respectively denote the debt of foreign currency and the total debt. Obviously, when the NFCA is positive, the value of NFCA is smaller, FC/TD is smaller, and the value of AECM is smaller, which indicate that the degree of currency mismatch is smaller. In addition, MGS could reduce the money supply of net assets, and accordingly reduce the currency mismatch when the net asset is positive, and this index is to aim at the hedging of the management in fact.

2.2 Measurement of China’s credit currency mismatch level

The currency mismatch level from 1999 to 2008 is seen in Table 1, and the net foreign exchange asset is positive, so it is the credit currency mismatch. From Table 1 and Figure 1, because the proportion of China’s short-term foreign loans in the total foreign loans and the proportion of the total foreign loans in the total debts are relatively small, and the proportion of M2 in the foreign exchange repertory and the proportion of the short-term foreign loans in the foreign exchange repertory are lower, so though China has certain currency mismatch, but comparing with the currency mismatch degree in the Southeast Asia Countries’ Crisis, it is smaller, which indicates that the probability that China has the currency crisis and the financial crisis in the future is small. However, because of the largely increase of the foreign exchange repertory and the appreciation of RMB exchange rate from 2005 to 2007, China’s credit currency mismatch degree ascends quickly. And in the current foreign exchange management system of China, incomplete financial market lacks in necessary hedging tools, and the relatively stable exchange rate makes enterprises to lack in the enthusiasms to avoid the risk of exchange rate, which will accumulate the mismatch risk on the micro layer. In the system of exchange, settlement and sales, enterprises should surrender of exchange by basically fixed price, and to maintain the stability of the exchange rate, the central bank would frequently publicly implement the market operation, so the assets of foreign currency are centralized in the central bank, and the independency of the currency policy is influenced, and the

mismatch risk on the micro layer is also centralized to the macro layer of the country. In 2008, the value of AECM descended slightly, because China's foreign trade import increased largely, the export of foreign trade shrunk and the global fluidity deflated, and the financing of foreign loans was relatively difficult and its proportion in the total debts descended relatively in the global financial crisis. However, the global financial crisis induced the trade protectionism rose and the foreign trade sanction came forth continually, and China with the credit currency mismatch is suffering the pressures from the international society continually.

2.3 Cause analysis of China's credit currency mismatch

First, the essential cause is that the RMB, not the international reserve currencies, could not act as the money of account in the international trade and investment, and large numbers of foreign current assets and debts form in the international economic association of the domestic economic bodies. Second, because China has implemented quasi-fixed exchange rate system aiming at dollar for a long term, which makes the domestic economic bodies are not sensitive to the risk of exchange rate, so the existed currency mismatch could not be reduced. In addition, the push of the system of exchange, settlement and sales makes the central bank to undertake most currency mismatch risks of domestic economic bodies. Third, according to the dual-gap model, China has the trend of high savings, and in the actual background that the economy grows largely, many factors such as the low-consumption tendency of Chinese residents, low dominant income level, large income distribution gap, and incomplete social security mechanism make the consumption demand of China to be deficient, but the savings increase largely to turn into more and more trade surplus, and as a result, the asset scale of foreign currencies is bigger and bigger. The large foreign exchange repertory brought by the dual-favorable balance of the trade items and the capital items is one of representations that the currency mismatch is more and more serious. Fourth, the direct consequence of the credit currency mismatch is the increasing upward pressure of RMB, and the existence of the upward anticipation of RMB will make foreign capitals flow into China by legal or illegal channels (such as concealed in the normal item income and expenses), and at the same time, domestic micro economic bodies would substitute existing foreign currency asset into RMB assets to avoid the currency mismatch risk, which would further expand the upward pressure of RMB, and form a vicious circle. That was more obvious at the beginning that the financial crisis broken out, so China's credit currency mismatch of 2007 was the most serious mismatch and the upward pressure of RMB is the largest one.

3. Relative policy advices

At present, the degree of economic globalization is enhanced continually, and the financial reform of China has in the key term, so it is very important to control the risk of currency mismatch by the establishment of policies and the development of the market. From the short-term, middle-term, and long-term, the problem how to strengthen the risk prevention of China's credit currency mismatch and reduce the currency mismatch level, even to get ride of the mess of currency mismatch is studied as follows.

(1) In the short term, three aspects should be noticed to prevent the risk of credit currency mismatch. First, with the gradual perfection of China's market economic system, many financial institutions such as state commercial banks and the property right system reform of state enterprises should be quickened, and make these institutions to be the micro economic bodies with independent property right, so they could actively control the currency mismatch risk, and enhance the ability to face the disadvantageous impacts induced by the change of exchange rate. Second, the innovation of financial products, especially the hedging products, should be quickened and developed. At present, in the development and innovation of financial products, Chinese financial institutions have insufficient enthusiasms, which could not satisfy the demand of the current economic bodies. When the risk of China's currency mismatch turns to the micro economic bodies, the demand of micro bodies for the products avoiding the risk of exchange rate will increase continually. And if this demand could not be satisfied sufficient, the sensitivity of micro bodies to the change of exchange rate will be amplified, and accordingly the stability of the economy and finance of the country will be impacted.

(2) In the middle term, four transition works should be made well to eliminate the currency mismatch. First, the financial market, especially the bond market, should be developed largely. The lagging of Chinese bond market makes the economic bodies have to purchase the bonds with foreign currency account in the international financial market, so the credit currency mismatch would occur. The financial market of China has been developed quickly in recent years, but the development of the bond market is still slow, even lagged. Up to the late of 2007, the circulation market value of Chinese stock market had achieved 9306.435 billion Yuan, and expanded 8 times than the year of 2004. The balance of the national debt and the policy financial bond was 763.7 billion Yuan, expanded 3 times than the year of 2004, but the balance of enterprise debt was only 505.9 billion Yuan, expanded 4 times than the year of 2004, which fully showed the strong development potential of Chinese

bond market. Second, the compulsory system of exchange, settlement and sales should be reformed at the proper time. And in the compulsory system of exchange, settlement and sales, the foreign exchange repertory had ascended largely with the increase of the export in recent years, and the currency mismatch risk in this term was centralized in the macro layer depending on the maintenance of the exchange rate level. Though the exchange rate formation mechanism of China changed largely, and it made the currency mismatch risk turn to the micro economic bodies, but the compulsory system of exchange, settlement and sales largely limited the prevention ability of the micro economic bodies to the currency mismatch risk. Therefore, the reform of the system of exchange, settlement and sales should be reformed urgently, and the policy encouraging the export should be adjusted. Third, the exchange rate formation mechanism of RMB should be further perfected, and gradually turn to the free floating exchange rate system. According to the Mundell-Fleming model, to realize the complete efficiency of the currency policy, the free floating exchange rate system must be implemented, so to eliminate the interference of the credit currency mismatch to the currency policy, the fear of floating should be eliminate to make the exchange rate float freely. Fourth, the convertibility of RMB capital and the financial account should be gradually realized. China has not completely realized the RMB convertibility of capital items, and in the direct investment items, through the direct investments to China has been opened, but the direct investment to foreign countries has be not loosened. For the securities investment, only QFII (Qualified Foreign Institutional Investors) and QDII (Qualified Domestic Institutional Investor) could enter into the capital market of China, and the foreign loans have been still strictly controlled.

(3) In the long term, the RMB should be the international reserve currency to eliminate the source of the credit currency mismatch. In the condition of opening economy, for the countries that the domestic currency has not accomplished the internationalization, if they enter into the international market to participate in the international division and exchange, part of their assets and debts or incomes and expanses must be accounted by the foreign currency, so the currency mismatch will not be avoided, so the RMB must be internationalized as the international reserve currency, only in this way, the credit currency mismatch could be solved essentially. Before the RMB becomes the international reserve currency, it should be regional reserve currency first, so China should actively participate in the cooperation with the East Asia to make the RMB to be the basic currency in the East Asia, and based on that, realize the internationalization of RMB. Though it is still a long-term idea, but depending on the large consumption market, China certainly would expand the trade of RMB in the East Asia by the role of “market supplier”, and spread the trade network and radiation region of RMB to make RMB be internationalized.

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Table 1. China's currency-mismatch level computed by the formula

Year	NFCA	FC	TD	RES	RES	AECM
1999	2112	0.10	0.12	9.36	0.10	0.15
2000	2479	0.09	0.11	9.82	0.08	0.12
2001	3224	0.30	0.11	9.01	0.24	0.15
2002	5361	0.33	0.09	7.80	0.20	0.16
2003	6077	0.40	0.09	6.63	0.19	0.13
2004	8276	0.46	0.09	5.03	0.17	0.13
2005	11023	0.56	0.10	4.52	0.19	0.17
2006	14528	0.57	0.10	4.15	0.17	0.18
2007	20457	0.59	0.09	3.61	0.14	0.19
2008	27977	0.56	0.07	3.57	0.11	0.18

Source from: Websites of China People's Bank, State Administration of Foreign Exchange of China, Ministry of Commerce, State Statistic Bureau.

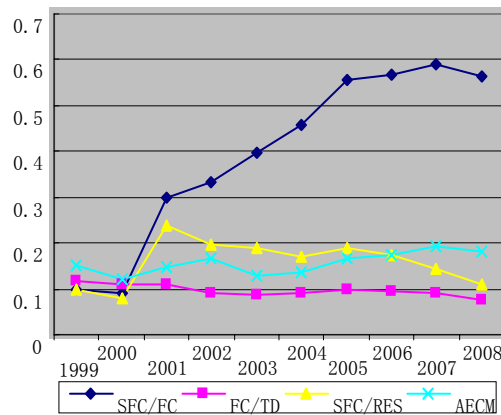


Figure 1. Sketch Map of SFC/FC, FC/TD, SFC/RES, AECM

Note: SFC is the short-term foreign debt, RES is the repertory of foreign exchange, M2 is the general currency supply, and the unit of NFCA is 0.1 billion dollar.

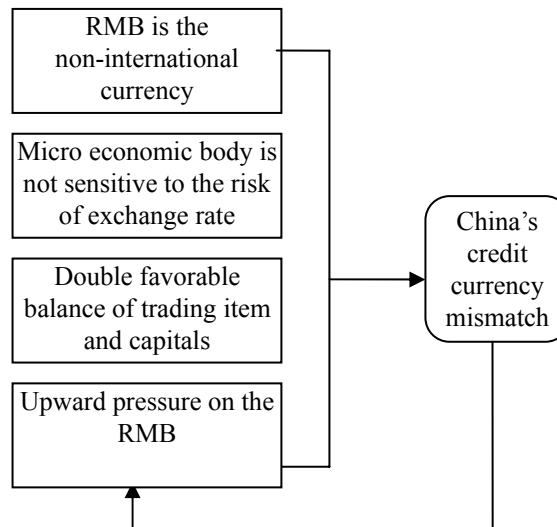


Figure 2. Causes and Vicious Circle of China's Credit Currency Mismatch