Is Mercantilism Doomed to fail? China, Germany, and Japan and The Exhaustion of Debtor Countries

Mercantilism, Accumulation of Foreign Exchange Reserves, and RMB Internationalization

Yu Yongding

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Introduction

At this moment, the most serous threat to the global economy undoubtedly is a prolonged recession. To speed recovery while avoiding to worsen household balance sheet and fiscal and external balance, the US has no other option but to boost exports. This means that the US has to reduce its current account deficit. China is by far America's largest trade surplus country. While rejecting the scapegoating by American politicians who blame China for their own failure, China should address America's legitimate concern about China's imbalances. More importantly, the rebalancing of the Chinese economy is not only in the interest of the rest of the world, but also in the interest of China itself.

China's imbalance is characterized by persistent twin surpluses—current account and capital account surpluses over the past two decades. As a result, China's foreign exchange reserves have surpassed $3.3 trillion, the bulk of which is in the form of US government securities. By running twin surplus, China has accumulated more than $4.7 trillion foreign assets (3.18 trillion Foreign exchange reserves) and $2.9 trillion foreign liabilities, respectively. However, despite the fact that China has a positive net International investment position (NIIP) of $1.8 trillion (as of Feb. 2012), Its investment incomes were negative mostly over the past decade. In 2011, China's investment income was -$27billion. In 2012, it was -26 billion. It is crystal clear that China's accumulation represents a gross misallocation of resources.

The reason why a creditor has to pay interests to his borrower instead of getting paid by his borrower is mainly attributable to two simple factors. First, FDI that constitutes the bulk of China's liabilities has very high return. According Conference board, in 2008, the average investment return of American multinationals was as high as 33 per cent. According to the World Bank, in the same year, the average investment return of multinationals in general was as high as 22 per cent. In contrast, the return of China's investment in 10 years US treasuries was some 3 per cent. Second, there is a currency mismatch in China's assets and liabilities. China's assets are denominated in the US dollar, and its liabilities are mostly denominated in the RMB. Whenever there is a fall in

the USD, China's NIIP worsens. Third, US and other developed countries QEs, whatever the intention, will result in the dilution of the value of China's foreign exchange reserves. Following the passage of time and the aging of the Chinese society, sooner or later China will spend its foreign exchanges to compensate the insufficiency of its savings. Then China will find that its hard-earned foreign exchange reserves are no longer worth very much.

It is clear that a large loss for China is almost unavoidable now. China now is deeply in the dollar trap. What China can hope for is to minimize the losses. To do so, China has to have to better understanding and consensus view on the causes of China accumulation of foreign exchange reserves. The motivations for foreign exchange accumulation are different in different periods of time in China, which include China's deeply rooted mercantilist propensity, need for international liquidity, self-insurance, and so on. In later years, especially after the turn of the 21st century, although the Chinese government has realized that China's foreign exchange reserves have surpassed any reasonable level, the government is still reluctant to change policy in a bold manner, due to the fear of the possible negative impact of a reduction in current account surplus on economic growth and employment.

For decades, many economists argue that there is nothing wrong with running twin surpluses. Furthermore, they argue that current account surplus is inevitable, because China is a high saving country. The saving gap is a structural problem, and it will take long time to reduce, if it can be reduce. The implication of this argument is that there is little thing the Chinese government can do about the current account surplus. For them, China should resist firmly against American pressure on China to allow the RMB to appreciate, and continue to run twin surpluses.

China's current account-to-GDP ratio peaked at more than 10 per cent in 2008. The ratio has fallen quite rapidly since. It stood at 2.6 per cent in 2012. In my view, though imbalances are no longer a central issue both for the global economy and the Chinese economy, China should continue to address the problem of imbalances.

The first section discusses the causes of China's current account surplus and hence the accumulation of foreign exchange reserves. The second section discusses why while running current account surplus, China still attract huge FDI, and why China fails to translate its FDI inflow into current account deficit. The third section explains why to maintain imbalances in the form of twin surpluses are not in the interest of China. The last section is concluding remarks.[1]

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[1] China's persistent current account surplus against the US current account deficit has occupied a central place in Sino-American dispute. On the one hand, US politicians accuse China of "stealing American jobs and manipulating exchange rate". On the other hand, China claims that China's current account surplus against the US is a result of America's spendthrift life style and Americans should be grateful to China for its persistent large purchase of the US government securities.

1 The Causes of China's Current Account Surplus

Most studies on the causes of China's current account surplus are based on the identity:

$$S - I \equiv X - M \qquad (1)$$

where *S, I, X* and *M* represent saving, investment, export and import, respectively.[2] Broadly speaking, there are two strands of thinking about the causes of China's current account surplus among Chinese economists whose views are based on the identity. One school of thoughts argues that the cause of China's current account surplus is excess savings over investment. In other words, The Chinese consume too little and save too much. Another school of thoughts argues that the cause of China's current account surplus should be found in China's export promotion policy as well as external shocks that impact on China's external sector directly. The equation (1) is a transformation of the national income account. By definition the left hand side of the equal sign must be equal to the right hand of the equal sign, and vice versa. For example, if a country fail to sell part of its export in foreign markets and hence current account surplus decreases, the saving gap will decrease by the same amount as the decrease in the current account surplus automatically. This is because, by definition, the unsold exports will be counted as an increase in inventory investment. Other things being equal, the increase in the inventory investment means an equal decrease in the saving gap. In short, equation (1) can tell nothing about the causality between the saving gap and current account surplus, let alone how they are interacted with each other. Hence, neither argument on the causality can be verified or falsified a priori without referring to the historical facts. Here are some key facts:

1. Since the early 1980s, the Chinese government has adopted export promotion policy, which was based on East Asia's successful experience. In theory, export promotion was aimed at utilizing comparative advantage to improve resource allocation. In practice, for a long period of time, it was aimed at accumulation foreign exchange reserves. A popular slogan in China in the 1980s and the best part of the 1990s was to create a "*foreign-exchange-creation economy*"("*chuang hui jingji*"). To accumulate foreign exchange reserves meant that China had to run trade surplus. Accordingly, a comprehensive policy regime was introduced to encourage exports and discourage imports. The motivations for foreign exchange accumulation are different in different periods of time, which include mercantilist propensity, need for international liquidity and self-insurance, in order of time. In recent years, the Chinese government has realized that

[2] Redefining S as national saving and I as domestic investment (including both resident and nonresident investment within the borders), we have a new identity S-I=X-M+NI, where NI is investment income balance. By definition, trade balance + investment income = current account balance, namely, identity S-I=X-M can be replaced by identity S-I=CA. In the paper in most cases, trade balance and current account balance are interchangeable.

China's foreign exchange reserves have surpassed any reasonable level. However, no fundamental change of policy has taken place, due to the fear of the possible negative impact of a reduction in current account surplus on economic growth and employment.

2. From 1981 to 2011, China ran trade surplus (current account surplus) almost every year, except for 1985-1986, 1988-1989 and 1993. In all the three occasions, trade deficit were accompanied by overheating. In all these occasions, China's growth rate of investment was very high and so was inflation. On the other hand, whenever the global economy is in recession, China's current account surplus would fall drastically. This happened in the 1997-1998 Asian Financial Crisis and the 2008-2009 Global Financial Crisis.
3. Since the early 1980s, in order to encourage exports and discourage imports, the RMB exchange rate has been in the process of devaluation vis-à-vis the US dollar. The official RMB exchange rate declined from 1.50 yuan in 1980 to 8.62 yuan by 1994. Chinese monetary authorities engineered a one-off RMB devaluation in 1994, in which the official exchange rate fell by some 50%. The devaluation boosted China's exports and trade surplus significantly in the subsequent years. The RMB de-pegged from the US dollar and started the process of appreciation at 21 July 2005. Since then the RM exchange rate has appreciated by 30% in real terms. China's current account surplus peaked at some 10% of GDP in 2005 and then has been falling steadily ever since. In 2011, China's current account surplus-to-GDP ratio was 2.8% and it is expected to fall further in 2012. The fall in the current account surplus-to-GDP ratio since 2008 is attributable mainly to the global recession and the stimulus package-led increase in fixed asset investment, but RMB appreciation is also an important contributing factor.
4. In the 2000s, after decades' relentless pursuit of export promotion, China's economic structure has changed. China's exports have accounted more than 30% of GDP, one of the highest among large economies. At the same time, China has become the "global assembler and processor", and processing trade accounts more than 60 % of China's total trade. The domination of processing trade in China's trade certainly weakens the impact of exchange rate changes on current account, but far from having eliminated its impact.
5. In the 1980s and best part of 1990s, excess demand and inflation were the main concern of the government. From 1998 to 2002, the Chinese economy was under the shadow of deflation. Correspondingly, exports are increasingly being treated as an important engine for growth and hence employment. [3]
6. In the late 2003, overheating became the main threat and the government started to implement monetary and fiscal tightening. This situation was maintained, until the global financial crisis struck in the late 2008.

Comment [PR1]: Because of outsourcing of critical parts of the supply chain, I think it makes more sense to look at net exports, or for manufacturing, at exports minus imported components and materials.

[3] In early 2003, when the author raised the issue of RMB de-peg from the US dollar, the main worry expressed by the leadership was the possible negative impacts of the appreciation on growth and employment.

7. When the economy is overheating, the government's monetary and fiscal tightening is mainly aimed at reining in investment fever and China's export sector is often able to avoid bearing the **brunt of the** impact. Hence, it is common that current account surplus increases during macroeconomic tightening. This demand substitution can be seen more directly on the industrial level. For example, in 2004, out of fear of overcapacity, measures were taken to clamp down on investment in the steel industry as well as other industries that consumes large amounts of steel. As a result, China suddenly turned from a net importer to the world's biggest net exporter of steel.
8. After the global financial crisis, the opposite happened. While export fell dramatically, investment was increased dramatically and import fell but in a less dramatic fashion than exports, thanks to the stimulus package. As a result, current account surplus fell.

Comment [PR2]: This switch is the result of the prior expansion, yes? Not the clamp down in expansion?

The above observations show that China's current account surplus in the 1980s and 1990s was mainly a result of the government's conscientious pursuit of current account surplus through various policy instruments. At the same time, China's current account balance also subjected to the heavy influences of economic cycles and external shocks. During this period of time, instead of being the effects of the changes in saving gap, the changes in current account balance were the causes of the changes in saving gap. Since the early 2000s, for various reasons, the rise of the saving has become one of most striking features of the Chinese economy. Rather than passively accommodating the changes in current account balance, the saving gap impacts on current account balance. But even so, to proclaim that increase in current account surplus is due to the widening of the saving gap is still misleading. The interactive between the saving gap and current account surplus is much more complicated.

Comment [PR3]: I agree.

To give a clearer description and explanation of the dynamics of China's current account surplus that has fluctuated significantly over the past two decades, and its interactions with the saving gap, some modification on equation (1) is necessary. We rewrite equation (1) as

$$GDP - C = I + (X - M) \quad (2)$$

and redefine it as equilibrium condition rather than treat it as an identity based on national income account. Here the change in the inventory investment is no longer included in equation (2) as a residual term to guarantee the holding of the equation. We also make a distinction between potential output[4] and actual output—aggregate supply[5]. Given the equilibrium condition—equation (2), a key question is, after

[4] According to the OECD's Economic Outlook, Potential gross domestic product (GDP) is the level of output that an economy can produce at a constant inflation rate in a given time period.

[5] The total output produced within an economy and supplied to the markets at a given overall price level in a given time period.

equilibrium has been disrupted by an external shock, are there any market forces that will restore equilibrium? Another question is, if equilibrium can be restored by market forces, compared with the old equilibrium, what will the new equilibrium be?

Assuming that initially, though the economy is operating at less than full capacity, but it is in stead-state equilibrium[6]:

$$GDP_0 - C_0 = I_0 + (X_0 - M_0) \qquad (2)'$$

The introduction of time subscript is aimed at introducing dynamics into the analysis. Assuming that, due to a permanent[7] policy or external shock, export increases, which in turn will lead to an equal increase in GDP but without causing changes in the price level. Other things being equal, saving will increase and hence the saving gap. The increase in the saving gap will be equal to the increase in current account surplus. The equilibrium in the next period can be described as

$$(GDP_0 + \Delta X) - C_0 = I_0 + (X_0 + \Delta X - M_0) \qquad (3)$$

Equations (3) show that when the economy is operating at less than full capacity, an increase in current account surplus will lead to an equal increase in the saving gap, and equilibrium between aggregate demand and supply will be maintained after the automatic adjustment of the savings.

It is interesting that if policy and external shocks are impacted on investment rather than on export, neither the saving gap nor the current account balance will change. In this case, new equilibrium can be described as follows.

$$(GDP_0 + \Delta I) - C_0 = I_0 + \Delta I + (X_0 - M_0) \qquad (4)$$

More interesting and relevant cases are the interactions between the saving gap and current account surplus when the economy is operating at full capacity[8]. Assuming the economy initially is in stead-state equilibrium and price is flexible, an increase in export due to exogenous shocks will lead to a rise in the price level. Investment probably will decrease because of a rise in real interest rate[9]. The real appreciation will lead to an increase in import, which will partially offset the impact of the increase in export on current account surplus. As a result of the fall in real income, consumption demand will fall and hence saving will increase. The price level will

[6] Steady state means that all the components of aggregate demand grow at the same speed and hence the shares of all components of aggregate demand in GDP are constant.

[7] Which can be defined in various ways.

[8] Assuming that an increase in aggregate demand will lead to a changes in the price level.

[9] However, an increase in export at the same time may lead directly to a higher demand for export related investment. Here we assume that an increase in export will lead to a fall in investment.

continue to rise, until the increased saving gap is equal to the new current account balance. When equilibrium is restored, the shares of each component of aggregate demand in GDP will have changed in line with their respective sensitivities to the change in the price level. However, steady-state equilibrium will not be restored automatically through the price adjustment.

The dynamics of the interaction between the saving gap and current account balance can be better discussed within the following framework:

$$1 - c_0 = i_0 + (x_0 - m_0) \tag{5}$$

where lower case letters represent the shares of corresponding components of aggregate demand in GDP.

Assuming that initially the economy is in steady state-equilibrium, if the growth rate of export increases due to exogenous shocks, the inflation rate will rise. As have been discussed, in responding to the worsening of inflation, other things being equal, the investment rate will fall and the saving rate will rise, so that the saving gap-to-GDP ratio will be equal to the current account surplus-to-GDP ratio. However, there is no automatic market mechanism that will guarantee the restoration of steady state. Hence, equilibrium thus obtained is temporary. As a result of the fall in the investment rate, the potential growth rate of GDP will fall and perhaps so will aggregate supply[10], which in turn will lead to a further worsening of inflation—thus a vicious circle set in.

If the growth rate of investment, instead of that of export, increases due to exogenous shocks, the growth rate of inflation will rise. As have been discussed, the current account surplus-to-GDP ratio will fall because of the rise in real exchange rate[11], and so will the consumption rate because of the fall in real income. Eventually, the saving gap-to-GDP ratio will be equal to current account surplus-to-GDP ratio. However, in contrast to the case where the growth rate of export increases, a higher investment rate will lead to a higher potential growth rate of GDP and a higher growth rate of aggregate supply. As a result, inflation will fall. Theoretically speaking, disequilibrium caused by a higher growth rate of investment is self-correcting. However, in practice, due to all sorts of complications, overheating and overcapacity happen in tandem.

As having mentioned earlier, when the economy return to equilibrium after having adjusted to an external shock, steady state will not be restored at the same time. The share of each component of aggregate demand in GDP have changed, which also means that the growth rates of each component of aggregate demand will be different. To ensure that all components of aggregate demand will grow at the same rate,

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[10] There is the possibility that due to improvement in capital efficiency and resource allocation led by increase in export, the potential growth rate will increase and hence inflation may not worsen.

[11] the increase in investment will lead to an increase in import.

different policy instruments have to be used. When the economy has returned to steady-state equilibrium, the saving gap-to-GDP ratio and the current account surplus-to-GDP ratio will not equal to zero. When the nominal exchange rate is fixed, the accelerating or decelerating of inflation usually will not be strong enough to eliminate current account surplus as well as the saving gap. The elimination of current account imbalance needs the use of extra policy instruments such as exchange rate policy.

The discussion so far has shown that imbalance is a comprehensive problem, much more complicated than a question of which side of equal sign is the cause of the other side of the equal sign. Mathematically, *i, s, x and m,* are endogenous variables. In a reduced form of a simultaneous equation system, these and other variables will be determined by various policy parameters, given shocks and time *t.* Equation (1) as the equilibrium condition is just one of the equations in a system of dynamic simultaneous equations. The question of how to reduce current account surplus can be discussed in such a framework.

The causes of China's current account balance can be classified into three categories: exogenous shocks, structural factors, and interactions among macroeconomic variables. The exogenous shocks include both external shocks and policy shocks.

The most important cause that impacts on China's current account balance directly is China's export promotion policy. An introduction of a new policy aimed at promoting exports, such as a one-off devaluation of the exchange rate, can be regarded as an exogenous shock. Within the framework of equation (5), while a shock may lead to an increase in current account surplus or a higher current account surplus-to-GDP ratio, it is bound to disrupt the original stead-state equilibrium and lead to a change in the growth path of the economy.

Most important export promotion policies that implemented and still implementing include:

- Self-balancing of foreign exchanges and local contents requirements for important foreign investment projects. This policy was scrapped after China's WTO entry.
- Undervaluation of the exchange rate. Before the Asian financial crisis, China's exchange rate policy was characterized by the "real targeting approach". The exchange rate was set according to production costs of exports with the aim to the maintenance of competitiveness of exports. During the Asian financial crisis, the RMB was pegged to the US dollar. The peg was dropped in 2005. However, the pace of appreciation is slow.
- Tax rebate. This is a very important policy instrument. When the tax rebate rates were correctly calculated, they do not constitute subsidies. However, in practice, the policy provides undue incentives for enterprises to produce for external markets and enables uncompetitive exporting enterprises to survive.

- Preferential treatments aimed at encourage enterprises to participate in international production networks, and attracting foreign enterprises that can bring Chinese enterprises into the international production networks to invest in China. Preferential treatments take forms of better infrastructures, preferential loans, cheap land prices and so on.

External shocks also have important direct impact on China's current account surplus. When there is a global boom, China's current account surplus-to-GDP ratio will increase. When there is a global recession, China's current account surplus-to-GDP ratio will fall.

The pursuance export promotion policy for decades inevitably will lead to corresponding structural changes. This means that even if policy that had contributed to China's current account surplus has changed, the current account surplus will persist, until new structural changes have happened. Within the framework of equation (5), the structure changes that favour running a current account surplus means that the sensitivities of current account balance-to-GDP ratio to the changes in endogenous variables such as inflation and policy changes that may have negative impacts on current account surplus or the current account surplus-to-GDP ratio have been weakened. The most important structural changes that impact on current account balance directly include:

- Very large export sector. China has built a very large export sector accounting for more than 30% of GDP. Enterprises in the sector are more or less specialized in producing products for foreign market.
- A very large share of processing trade in trade. By definition, processing trade means trade surplus. The larger is the share of processing trade, the larger the trade surplus is. After decades of promotion by the government, processing trade has accounted for more than 60 % of China's total trade. In fact, China's general trade has been running deficit for many years. Just because the surplus from processing trade more than offset the deficit from general trade, China is able to run current account surplus.
- Products of a large proportion of foreign financed enterprises, which were attracted to China because of China's low production costs, are aimed at home markets or foreign markets.
- Exceptional high specialization in the production of many major categories of exports products.

Changes in current account surplus (or Changes in the current account surplus-to-GDP ratio) are macroeconomic phenomenon and should be explained in terms of interaction of macroeconomic variables in a given period of time and following the passage of time (Figure 1).

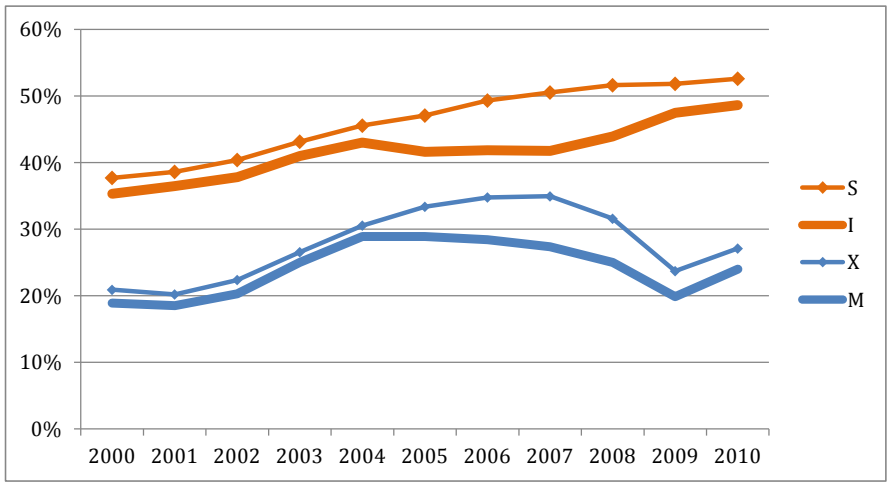
In 1985-1986, 1988-1989 and 1993, China ran sizable current account deficits. In all

the three occasions the economy was overheating with high inflation, which in turn was caused by high growth rate of investment.

Starting from 2004 China's current account-to-GDP ratio began accelerating and peaked at something about 10 per cent before the Global Financial Crisis struck. Certainly, this dramatic increase in the current account-to-GDP ratio cannot be simply attributed to the increase in the saving gap.

During this period, both investment demand and export demand were very strong. As a result, the economy was operating at full capacity and inflation was on the rise. Since late 2003 the Chinese government started to implement tight fiscal and monetary policy. However, the government was reluctant to allow the yuan to appreciate. The brunt of macroeconomic tightening was on investment. As a result, the growth rate of investment was kept more or less in line with that of GDP and export grew at a speed higher than that of GDP. A relatively low growth rate of import was attributable to the undervaluation as well as the government's control over investment. The growth rate of consumption failed to catch up with that of GDP, which was partially attributable to the real income effect of inflation.

Figure 1. The Dynamics of the Shares of Components of Aggregate Demand in GDP (%)



Source: Xu Qiyuan

The dramatic fall in China's current account surplus-to-GDP ration since the Lehman Brother fiasco was caused by a dramatic reduction of external demand vis-à-vis a less dramatic fall in import. On the other hand, while the growth rate of consumption was lower than that of GDP, the growth rate of investment was significantly higher than that of GDP. It is needless to say that the fall in the current account surplus cannot be attributed to the reduction of the saving gap. Rather, the saving gap narrowed to

accommodate the fall in the current account surplus-to-GDP ratio. The 4 trillion yuan stimulate package led to a significant acceleration of the growth rate of investment, which in turn led to a recovery of imports vis-à-vis a weaker recovery of exports. The rise in the saving rate in this period should be attributed to the strong economic recovery rather than a fall of the growth rate of consumption[12]. It can be expected that in 2012, due to the loosening by the government and the continued weak external demand, China's current account surplus-to-GDP ratio will continue to fall.

Although the high and rising saving rate should not be explained in isolation from the interaction between major macroeconomic variables, there is no denying that the high saving rate or the low consumption rate is an important long-term contributing factor to China's persistent current account surplus. China's saving rate has increased very dramatically. It rose from less than 37 per cent in 2000 to more than 50 per cent in 2007. How to explain this dramatic increase in the saving rate is a challenge. When the saving rate is analysed in a more disaggregated level, it is found that the corporate saving rate increased from 14.6 per cent in 1999 to 23.5 per cent in 2004 and then falling ever since. The household saving rate was 20.3 per cent in 1992 and fell to 18.5 per cent in 2004. It then started to rise and reached 23.4 per cent in 2008. The momentum of increase of the government saving rate is most unmistakable. It rose from 2.6 per cent in 1999 to 21 per cent in 2008. [13] Factors contributing to China's high saving include[14]:

- The shares of government expenditures on pension, education and health are low. As a result, people have to save for retirement, medical care and their children's education in the future.
- China's income policy allows state-owned enterprises to keep the bulk of their profits. For a long period of time until recent years, the growth rate of wages and salaries were lower than that of GDP. This pattern of income distribution between different sectors of the economy leads to a higher saving propensity for the economy as a whole.
- Income policy and fiscal policy widened the gap between the rich and poor. At the same time, enterprise saving[15], which in turn is attributable to high share of industry in the economy and hence large share of interest and profits, instead of wages to labour in national income.
- Low dividend payments. In the case of State-owned Enterprises (SOEs), the

[12] In fact some economists argued that official statistics about the continued fall in the share of consumption in recent years is wrong (Huang Yiping).

[13] Ma Guonan and Wang Y, China's high saving rate: myth and reality, BIS working paper No 312, June 2010.

[14] According to a World Bank study, saving is driven by higher output growth, fiscal consolidation, increases in private sector credit, favorable changes in age structure, and improvement in terms of trade. It is worth mentioning that to explain high saving is not equivalent to explain current account surplus. Hence, there is a methodological problem with the structural school.

[15] Corporate saving increase is a global phenomenon. In Asia, saving reached a record high level in 2004, a substantial part of the saving comes from public saving. Marco Terrones and Roberto Cardarelli: "Global saving and investment: the current state of play", World Economic Outlook, September 1, 2005, p.93, the World Bank.

state, the largest shareholder, receives no dividend at all from most SOEs until recently.

- Increase in profitability since the mid-1990s, due to rapid industrial growth and restructuring of SOEs.[16]
- A favourable age structure: low dependence ratio and high working-age-to-population ratio in the past two decades
- The widening of income gap: share of the rich that have higher saving propensity in GDP increases significantly.

In summary, China's current account surplus is not simply an effect of the saving gap. Neither is true another way around. Rather, current account surplus as well as the saving gap is a result of complicated interaction among various exogenous factors in a dynamic fashion. In a sense, *S-I=X-M* is a misleading framework for analysing the dynamics of current account balance. In order to keep the current account surplus-to-GDP ratio in a rational level, comprehensive policies that address all relevant factors at the same time are necessary.

2. Why China Runs Capital Account Surplus While Running Current Account Surplus?

Countries can be divided into current account surplus countries and current account deficit countries. Normally, current account surplus countries run capital account deficit, and current account deficit countries run capital account surplus. Japan and the US are two contrasting cases in point. However, while China has been running current account surplus for two decades, it has been running capital account surplus even longer. This pattern of international balance of payment is a major characteristic of China's imbalances, dubbed as "twin surpluses".

A country can run current account surplus and capital account deficit, like Japan and Germany. Alternatively, a country can run current account deficit and capital account surplus, like most East Asian countries before the Asian Financial Crisis. Running current account surplus means that China has enough foreign exchange earnings to pay for its imports. Theoretically speaking, there is no need for China to introduce foreign capital to pay for the imports. Instead China should translate its current account surplus into capital outflow. If capital inflow indeed has been used to finance imports, then an equal amount of export earns would not be spent, and ends up as increase in foreign exchange reserves.

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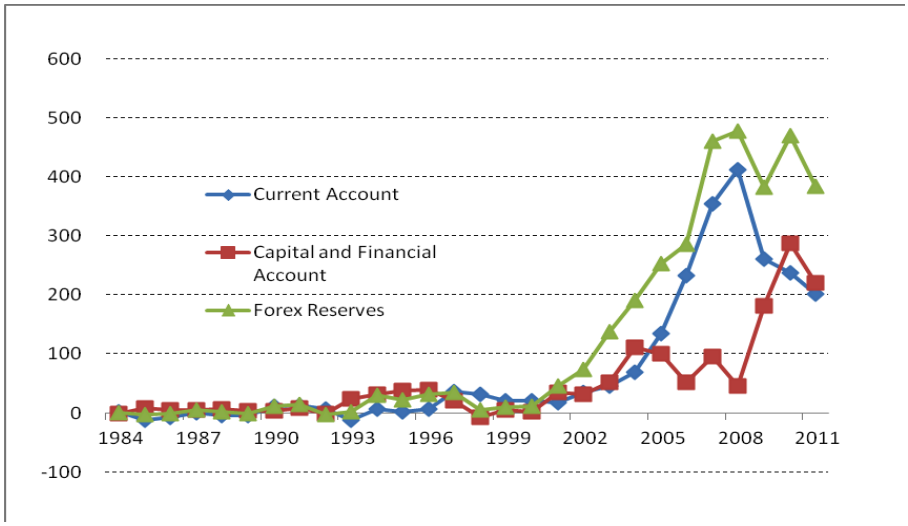
[16] Bert Hofman and Louis Kuijs: A Note on Saving, Investment, and Profits of China's Enterprises, World Bank Office Beijing. This note is written in their personal capacity. A version of this note was published in the Far Eastern Economic Review of October 2006. Since 2006, the share of enterprises in total saving has fallen, while that of household saving has increased. Now household saving has returned to be the largest contributor to total saving.

Only under special condition, countries run both current account and capital account surpluses to build up foreign exchange reserves. The sudden appearance of twin surpluses in East Asian countries in the aftermath of the Asian Financial Crisis is a case in point. However, there has never been any country in history, which has run twin surpluses persistently for two decades.

Figure 2. China's twin surpluses and increase in foreign exchange reserves (billion USD)



Sources: State Administration of Foreign Exchanges, the PBOC

From the figure 2, it can be seen that China has run twin surpluses for two decades, and for the most of years in the two decades China's capital account surplus is larger that its current account surplus. To attract foreign capital is one of fundamental policy of China's reform and opening up. The supposed aim of attracting foreign capital by developing countries is to supplement the shortage of domestic savings, so that they would be able to maintain a growth rate of investment and hence that of GDP higher than otherwise would have been. When China just started to attract foreign capital in the early 1980s, a debt crisis struck Latin American countries. Learning from Latin American experience, the Chinese government imposes tight control over foreign borrowing. However, on the other hand, China adopted various preferential policies to attract FDI, because FDI is not only non-debt creating but also able to bring in foreign technology, managerial skill and foreign market networks. However, the question is why a country with enough domestic saving for investment has to attract huge amounts of FDI over decades?

First, in China's efforts to attract FDI, local governments have played a key role.

Local government officials have very strong incentive to attract FDI, because the amount of FDI they are able to attract, is one of the most important, if not the single most important, performance criteria in their work (*Zheng Ji*). All chief officials at all levels of governments are assigned targets for FDI attraction. Those who attract the largest amount of FDI are the most likely candidates for further promotion. [17]In making decisions about FDI, whether alternative domestic financial resources are available often is not an important consideration for local governments.

To make thing worse, the competition among provinces in the country and competition among counties in the same province—in short—competition at all levels will be so heavy, not one will care about the costs.

From the myopic point of view of officials of local governments, FDI is a "free lunch". Another important attraction of FDI lies in the fact that in the initial stage local governments do not need to pay hard currency and bear only minimum investment risks. They do not care too much about paying large dividends 5 year later, because then the success of FDI probably will no longer be their responsibilities.

China's fiscal system and institutional arrangements characterized by value-added tax and sort of fiscal federalism, also give local governments great incentive to attract FDI. FDI has become indispensable for increasing tax revenues at local levels.

From the point of view of foreign investors, on top of political and macroeconomic stability, temptation of cheap but skilled workers, low tax rates, long tax holidays, hidden subsidies in emerge use, lax regulations on environmental protection, free infrastructure and low or negative rents on land uses is just too tempting to resist. So the interests of local governments in attracting FDI and foreign investors in investing coincide perfectly.

Second, the fragmentation of China's financial system is another important attributing factor to China's running capital account surplus while there are more than enough domestic resources to finance domestic investment. Due to the financial fragmentation, many enterprises cannot raise funds domestically, though funds are available in domestic financial markets. However, on the other hand, due to the preferential policy, to attract FDI as a way to raise funds is much easier. Therefore, the enterprises attract FDI first and then sold their foreign exchanges thus obtained to the central bank, and use RMB to buy capital goods produced locally. As a result, there is no change in China's current account, and capital inflows translate into increase in foreign exchange reserves.

Third, since the middle of the 2000s, China's IPO fever aimed at foreign investors produced the similar result. In order to give new impetus to the reform of state-owned

[17] Why FDI attraction has become an important criteria for work performance of local government officials is not a question the paper will discuss.

enterprises and commercial banks, the merger and acquisition of Chinese firms by foreign investors and the acquirement of shares by "international strategic investors" in China's commercial banks are encouraged. Consequently, capital flows in and adds to the existing stock of foreign exchange reserves, even though domestic capital markets have more than enough funds available for them. In 2005 alone, USD 32 billion capitals were attracted as a result of selling bank shares of international strategic investors, even though China had already piled up more than USD 800 billion foreign exchange reserves. In 2010, some Chinese commercial banks launched successively IPO abroad, despite the fact that domestic demand for the shares of the banks was strong and the banks did not really need foreign exchanges. As soon as they have raised the dollars by selling shares to foreign investors, they sold the bulk of the dollars to the PBOC for RMBs and the PBOC has to use the dollars to buy US government securities.

Fourth, speculative capital inflows aimed at arbitrage and rent seeking will also lead to increase in capital account surplus without creating offsetting changes in current account. It is very telling that for many years Virgin and Cayman Islands were China's second largest investors.

Having explained why China has attracted so much foreign capital mainly in the form of FDI while it has more than enough domestic resources to finance domestic investment, a related question is: as capital account surplus country, why does China run current account surplus instead current account deficit? Put it in another way, why does the net foreign capital inflow fail to translate into current account deficit in China?

To simplify analysis, assuming that initially the economy is in equilibrium:

$$S - I = CA = 0 \quad (6)$$[18]

Assuming there is capital inflow in the form of FDI, but the inflow fails to translate to current account deficit. Hence we have

$$\begin{aligned} &S - (I + FDI) = CA = 0 \\ &FDI > 0 \end{aligned} \quad (7)$$

One would be puzzled by equation (7), when comparing with equation (6): after having added FDI into the right hand side of the equation, how can the current account balance still be zero? There are two extreme cases:

$$FDI = 0 \quad (8)$$

or

[18] More precisely, we should have $S - I = X - M + IN = CA$ Where *IN* is investment income and *CA* is current account balance. Here *S* is redefined as national saving, which equals domestic saving minus investment income.

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$$I_0 = I - FDI \qquad (9)$$

Where I_0 is the new domestic investment after FDI has been introduced.

Equation (8) says that despite the inflows of FDI, the financial inflow has failed to translate into real investment in China. In fact in our discussion of the segmentation of China's financial markets and speculative capital inflows, we have explained why situation as described by equation (8) exists. What equation (9) describes is the crowding out of domestic investment by FDI.

3. Why China Should Correct Its Twin Surpluses

Is anything wrong with China's twin surpluses? In my view, there are at least four problems. I call them Dornbusch problem, Williamson problem, Krugman problem and Rogoff problem, respectively.

Late MIT professor Dornbusch pointed out in the 1970s that, running current account surplus means exporting capital. It is irrational for a developing country to lend money to rich countries, because domestic resources should be used for domestic investment, which will bring in higher returns and the improvement of people's living standards. China as one of the poorest countries in terms of per capita GDP lends money to the richest country in the world—the US for decades—is surely irrational

Comment [PR4]: But not if there is a wedge between the private and social returns. See my comment just above.

Prof Williamson pointed out in his speech in the RBI in 1995 that, capital inflows should be translated into current account deficit. Running twin surpluses implies that China fails to buy foreign capital goods and technology with borrowed money. Instead, on aggregate terms, it "lends" the money back to the original creditors with much low return. According to US Conference Board, in 2008 US firms' average investment return in China is 33 per cent, and according to the WB, multinationals' investment return in China is 22 per cent, respectively. In contrast, China's investment return on US government securities is less than 3 %.

Comment [PR5]: To continue my point from above, imagine that the right policy is import technology and to spur local production of capital goods to get the benefits of local learning by doing. Then the financial FDI which pays a financial return to foreign firms can be thought of as a form of royalty or license on the technology. However, I would agree that if this is really what is going on, it would be better to be more open and explicit about this and to see if there is any other way to get the technology at lower cost.

It can be argued that, even with a current account surplus, China might still want to encourage FDI and invest the proceeds of current account surplus in US government securities, because FDI brings in technology, the social return of the FDI may be higher than the private return that the foreign firms capture. There are two counter-arguments. First, technology and managerial skill generally can be brought. In fact, this was what Japan and Korea did in their high growth periods. They borrowed but strictly restricted and even forbidden FDI for long time. Indeed, China's technological catch up has been taking place at a very high rate. But this can be attributed to the introduction of foreign technology rather than the introduction of FDI, which is just one of many channels of technology transfers. Second, there are few, if any, evidences that can show that the spillover effect of FDI in China is significant. On the contrary, there are plentiful evidences that can show that the reliance on FDI

has reduced China's ability of creation and innovation. China's failure in producing cars with its own band-names, while all major foreign carmakers in the world have direct investment in China and China's car production capacity has surpassed 19 million units, is case in point. That said, the introduction of FDI may have a special

Krugman problem refers to the fact that, because of the devaluation of the US dollar in terms of the dollar index, China's foreign exchange reserves are facing serious capital losses. China's foreign assets denominated in the USD, and liabilities the RMB. Whenever there is a fall in the USD, China's NIIP worsens, and NIIP no longer reflects the accumulation of current account surplus.

Finally, according to professor Rogoff, due to the ballooning budget deficit, temptation for the US government to inflate away its debt burden may become irresistible. As a result, the purchasing power of China's packed saving in the form of US government securities may evaporate quickly. In 2003, China's foreign exchange reserves were just above US$ 400 billion. Now it stood at $3.2 trillion, an 800 % increase. However, in 2003, the price of crude oil was generally under US$ 30 a barrel, and the price of gold was less than US$ 400 an ounce. Now, prices for crude oil and gold are more than US$ 120 a barrel and US$ 1,600 an ounce, respectively. In fact, from 1929 to 2009, US dollar has devalued by 94 % in terms of purchasing power. It will devalue even further in the future. Even without further explicit inflation, because of a round after a round quantity easing (QEs), the dollar debasement will rampant, and value of China's foreign exchange reserves will evaporate even further.

Comment [PR6]: To continue, suppose that the return to the government on its holdings of T-bills is -$0.02 instead of $0.01. This may still be a small price to pay to get the technology.

Then, what are the basic steps China should taken for rebalancing the economy? China's twin surpluses can be described as

$$(X - M) + (FDI_i - FDI_o) > 0 \qquad (10)$$

$$X - M > 0$$

$$FDI_i - FDI_o > 0$$

Where FDI_i, FDI_o represent capital inflow and outflow, respectively. M can be divided into two parts: M_1 and M_2, representing import financed by export precedes and import that has to be financed by FDI. Rearrange expression (10), we have

$$(X - M_1 - FDI_0) + (FDI_i - M_2) > 0 \qquad (11)$$

The expression (11) says that part of China's imports is financed by capital inflows, and China's exports are larger than the financing need for the remaining imports and its outbound FDI. As the first step for rebalancing, China should ensure FDI inflow is necessary and truly used for financing imports of capital goods and technology. Second, China should narrow the gap between $X-M_1$ by either reducing X or

increasing M_1. Third, if the gap still exists, China has to translate this gap into outbound FDI rather than US government securities.

China's potential for outbound FDI has been increasing steadily. This is a positive development both for China and for the rest of the world.

4. What Is the Escaping Route?

Since 2003, China has felt the pressure on RMB appreciation more and more acutely. The main concern of the Chinese government was how to reduce the appreciation pressure without allowing the RMB to appreciate. Policy initiate was taken to encourage capital outflows and discourage capital inflows. However, the policy initiative failed to create any material impact on international balance of payments.

Regional Financial Cooperation was a response to the Asian Financial Crisis. The main aim of the cooperation, embodied in the Chiang Mai Initiative (CMI), was to pool funds in East Asia together and reduce the reliance on IMF rescue packages in case of crisis. Later possibility of coordination of exchange rates in the region was discussed intensively. All East Asian currencies were more or less under appreciation pressure. There was a great desire among the rest of East Asian countries for seeing the RMB to appreciate so as to reduce appreciation pressure on their own currencies. On the other hand, China was noncommittal and did not wish to be bond by a sort of Asian Exchange Rate System. After more than 10 years discussion, nothing has achieved in the area of regional exchange rate coordination. In 2008, in responding to the global financial crisis and its devastating effects on the global economy and Governor Zhou raised the issue of reform of the international monetary system by replacing the dollar—a national currency by a supranational currency such as SDR. Since the middle of the 2000s, following the accumulation of foreign exchange reserves, more and more Chinese economists realized that China has fallen into a dollar trap. If some new international reserve currency were introduced, there would be chance for China to put its accumulated assets in a safer store. SDR or reforms such as creating a substitution account would provide China with an escaping route. Unfortunately, though Zhou's proposal aroused huge interests in the world, but the responses from China itself was rather muted. It seems that the Chinese leadership did not have the stomach to challenge the current international monetary system dominated by the US dollar. The emthusiam for the reform of the international monetary system died down quickly, after several initiatives, including those from the UN and French government failed to attract enough support.

China's enthusiasm for RMB internationalization since 2009 partly reflects its frustration with the fruitlessness of the reform of the international financial architecture, and with the lack of progress in regional financial cooperation. PBOC's experience in currency swap with Korean central bank and some other central banks somehow gave the PBOC some inspiration for Chinese officials to believe that RMB internationalization is a way for China to set its own agenda in its pursuance for exchange rate stability and safeguarding the value of its foreign exchange reserves without being overly constrained by external conditions beyond its control.

Thus far, China has made significant progress in the use of the RMB as a settlement currency, in the issuance of RMB-denominated bonds, and in signing currency-swap agreements with foreign central banks. RMB deposits in Hong Kong are growing exponentially.

Since the Chinese government launched the so-called Pilot RMB Trade Settlement Scheme in April 2009, China's efforts to internationalise the renminbi have made impressive headway. By September 2011, RMB deposits in Hong Kong reached RMB622.2 billion, and it was widely expected that the amount would surpass RMB1 trillion by the end of 2011.

One might ask how the renminbi could be internationalised without a liberalised capital account. In truth, internationalisation of the renminbi is capital account liberalisation in disguise. If some progress has been made in the renminbi's internationalisation, it should be regarded as a by-product of capital account liberalisation.

On the surface, the pilot scheme allows enterprises on the Chinese mainland to use renminbi to settle their trade transactions. But it also enables enterprises, especially large ones, to channel their funds between the mainland and Hong Kong in the name of RMB trade settlement. As a result, an offshore RMB market, known as the CNH market, was created in Hong Kong, side by side with an onshore market dubbed the CNY market. The former is a free market, while the latter is tightly regulated by the People's Bank of China (PBOC).

Hence, two RMB exchange rates coexist: an onshore CNY exchange rate and an offshore CNH exchange rate. Due to expectations about the renminbi's appreciation, and many other factors, the CNH was more expensive in dollar terms than the CNY until September 2011. The existence of the CNH–CNY spread thus encouraged arbitrage by importers on the mainland. Before the settlement scheme's introduction, importers had to buy dollars in the onshore market. Now they could sell renminbi for dollars in the CNH market, creating appreciation pressure on the CNY and depreciation pressure on the CNH. This arbitrage should have eliminated the CNH–CNY spread fairly quickly. But the PBOC's intervention and carry trade conducted by Hong Kong residents created offsetting pressure on the CNY and the CNH, respectively. As a result,

the CNH–CNY spread was maintained and arbitragers gobbled up fat profits.

In mid-September 2011, financial conditions changed quite suddenly in Hong Kong. Due to liquidity shortages caused by the European sovereign debt crisis, banks from developed countries — especially those European banks with exposure in Hong Kong — withdrew their funds. As a result, the CNH fell against the dollar[MW3], while uncertainty about the Chinese economy also contributed to the fall of the CNH. Because the CNH became cheaper, mainland importers stopped buying dollars from the CNH market, returning to the CNY market. At the same time, mainland exporters stopped selling dollars onshore, and sold dollars in the CNH market instead. The reversal of the direction of exchange rate arbitrage created an onshore supply shortage of dollars, and hence the devaluation of the CNY against the dollar. Needless to say, the unwinding of carry trade by Hong Kong residents, who dumped their holdings of RMB assets — because of a dramatic rise in funding costs for carry trade and the reduced attraction of holding RMB assets — also contributed to the fall of the CNY.

The PBOC duly intervened, but to prevent the renminbi from falling rather than rising. Now, the renminbi has resumed its long-established course of slow appreciation in line with fundamentals, probably due to the PBOC's intervention and a temporary lull in the global financial market.

This episode of devaluation shows two things. First, the use of the renminbi as a trade settlement currency has stealthily forced open China's firewall of capital control. As a result, the fluctuation of short-term cross-border capital movements has become an important factor in determining the RMB exchange rate, and consequently, China's exchange rate is becoming more volatile. Second, progress in the renminbi's internationalisation based on expectations of its appreciation can be rolled back very easily. In fact, after the exponential increase in the early stage of the Pilot Scheme's implementation, the increase in RMB deposits in Hong Kong has stalled at around RMB620 billion since last September, far short of the market expectation of RMB1 trillion.

The twists and turns of the renminbi's internationalisation begs a very important question: does China really want to take the risk of fully liberalising its capital account without first putting its house in order and allowing the market to determine interest and exchange rates? The question facing China is not about the desirability of the renminbi's internationalisation. It is about the prioritisation of China's financial reforms and regime changes. The question becomes even more acute when taking into consideration the fact that the global financial market is still in turmoil and China's financial markets are in a pretty messy state. It is a dangerous gamble to pin the hope of the emergence of a healthier and more robust financial system on the creative destruction of external shocks, while the existing system is still too weak to withstand such shocks.

Concluding Remarks

It is crystal clear that to run twin surpluses and continue to accumulate foreign exchange reserves is not in China's interests. China has taken actions to correct external imbalances, but the progress is slow and the economy is sinking even deeper into the "dollar trap". China is continuing to run trade surplus, capital account surplus The bulk of the balance of payments surplus has again translated into US government securities.

The Chinese government has tried to correct imbalances by simulating domestic demand, allowing the yuan to appreciate gradually, diversifying foreign exchange reserves away from US treasuries, creating sovereign wealth funds, participating in regional financial cooperation, promoting the reform of the international monetary systems and the internationalization of the RMB. However, all these efforts, though useful and necessary, have failed to address the direct cause of the rapid increase in foreign exchange reserves.

To stop the accumulation of foreign exchange reserves and thus minimize China's welfare and capital losses, the simplest solution would be for the PBOC to call a halt to intervention. But this implies that China must allow the yuan to float more freely, while reserving the right to intervene when it must.

Ending central-bank intervention in currency markets is a complex issue. The devil is in the details. But, under any circumstances, the economic and welfare costs of China's slow pace in adjusting exchange rate are too high and will increase by day.

For the longer run, China should continue to create conditions to encourage households to increase consumption and especially consumption that is related with accumulation of human capital.

The RMB eventually will become an important international reserve currency. But it will take long time. China should allow market to take its natural course to lead the internationalization of the RMB.

It is worth emphasizing that at moment and something in the future, China cannot really take the risk of fully liberalising its capital account without first putting its domestic financial house in order and allowing the market to determine interest and exchange rates. The question facing China is not about the desirability of the RMB's internationalisation. It is about the prioritisation of China's financial reforms and regime changes.