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The Role of the Chinese Dollar Peg for Macroeconomic Stability in China and the World Economy

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Abstract

During the 1997/98 Asian crisis and the 2007-2010 world financial and economic crisis, China has proved to be a stabilizer for East Asia and the world. The paper stresses the crucial role of the dollar peg for macroeconomic stability in China. The paper explores the current role of China's nominal exchange rate stabilization as stabilizing factor for China, East Asia and the world economy. Distortions originating in real exchange rate stabilization are identified and are argued to be a risk for global growth perspectives. To prevent further economic and financial turmoil the paper recommends policy coordination between China and the US. The exit from unconventional low interest rate policies in the US combined with the end of real (but not nominal) exchange rate stabilization in China is seen as necessary to stabilize long-term growth in China, East Asia and the US.

I. Introduction

The financial and economic crisis from 2007 to 2009 has brought the US-Chinese exchange rate dispute to a new dimension. Whereas the crisis caused China to return to the pre-2005 tight dollar peg to stabilize industrial production, the Federal Reserve aggressively cut interest rates to prevent a meltdown in financial markets. As the recovery in the US continues to lag behind China, the re-emergence of carry trades and the re-acceleration of Chinese reserve accumulation have added new fuel to the highly controversial exchange rate dispute. For instance, Krugman (2010) welcomed the Chinese New Year by calling China mercantilistic and predatory. In the US congress pressure is rising to label China as a "currency manipulator" and to introduce trade sanctions (The Economist 2010). Most recently the notion of a currency war has emerged.

The political pressure for a nominal yuan appreciation is based on scientific investigations which find the Chinese yuan to be strongly undervalued, for instance 25% on a trade-weighted basis and 40% against the dollar (Goldstein and Lardy 2009, Cline and Williamson 2009). In contrast, Cheung, Chinn and Fujii (2009) argue that the assessment concerning the misalignment of the Chinese yuan strongly depends on the underlying methodology. Reisen (2010) argues that the undervaluation of the yuan originates in the Balassa-Samuelson effect rather than mercantilistic trade policies. McKinnon and Schnabl (2009) stress – with reference to the Japanese experience with yen appreciation – that the US-Chinese trade-imbalance cannot be cured by the

nominal appreciation of the Chinese currency. Freitag and Schnabl (2010) scrutinize the direction of causality between US monetary and Chinese exchange rate policies and conclude that the Chinese current account balance cannot be delinked from the US low interest rate policies.

Given the heterogeneous policy recommendations concerning the future path of the yuan/dollar rate combined with the fact that China has become an engine of global growth, the papers aims to analyze the benefits and costs of pegging the yuan to the dollar. It stresses the stabilizing role of the nominal dollar peg for China, East Asia and the world and identifies the risks of (inevitable) real exchange rate stabilization. A coordinated exit from US low interest rate and Chinese real exchange rate stabilization policies is recommended to rebalance China and the US.

II. The Dollar Peg as a Domestic Stabilizer

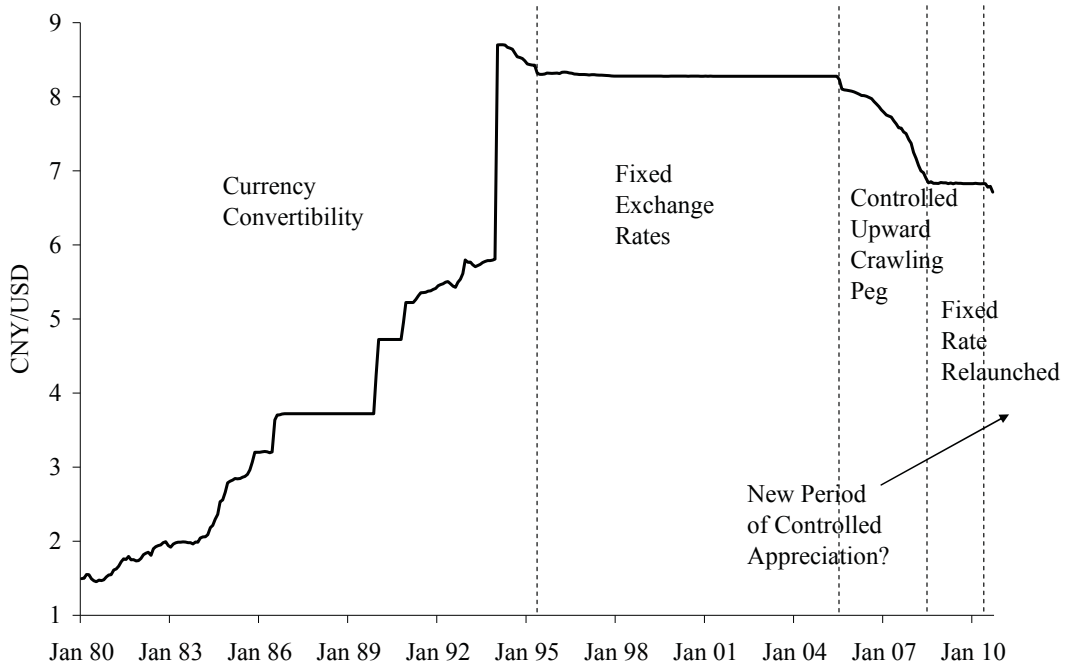
In both crisis and non-crisis periods China's dollar peg has fulfilled the role of a macroeconomic stabilizer. Since the tight dollar peg was introduced in 1994, it provided a robust framework for the economic catch-up process. Defying the international pressure to allow the yuan to float, to appreciate in a one-time step, or in a controlled gradual fashion, the fixed exchange rate has brought stability to fragile goods and underdeveloped financial markets.

1. The Peg as a Stabilizer of Chinese Goods Markets

Before 1994 China's currency was inconvertible in the strong sense. There were multiple exchange rates[1], exchange controls on both current and capital account transactions. Exports and imports had to be funneled through state trading companies. Tight capital controls insulated domestic relative prices from world markets. Without free arbitrage between domestic and foreign prices the official exchange rate was set arbitrarily and was devalued in steps from 1.5 yuan per dollar in 1979 to 5.8 yuan per dollar by the end of 1993 (Figure 1). Tight capital controls prevented "hot" money flows.

[1] An official rate and floating swap rates for exports of manufactures in different parts of the country.

Figure 1: The Yuan-Dollar Exchange Rate

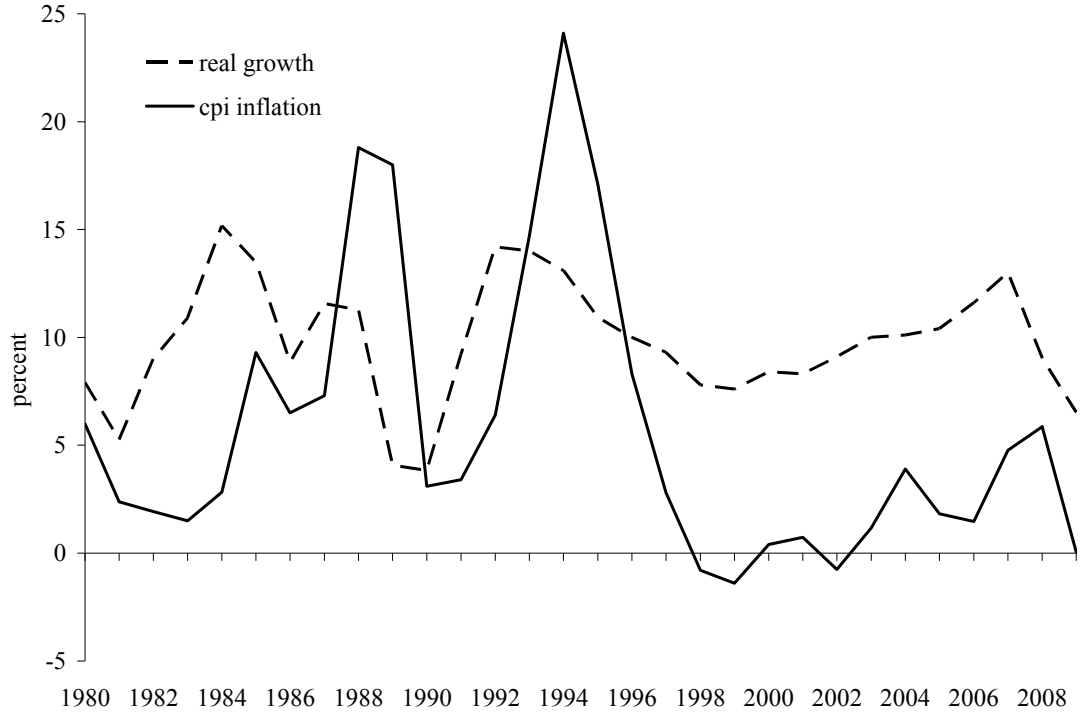


Source: IMF.

Starting from 1994 Chinese authorities abolished exchange controls on current-account transactions (exporting, importing, transfers, interest and dividends) and unified the exchange rate at 8.7 yuan per dollar in 1994. The substantial devaluation of the official rate from 5.8 yuan per dollar was followed by rising inflation, which rendered real depreciation minimal. By 1995, the nominal exchange rate had settled down to about 8.28 yuan per dollar and became for about 10 years a stabilizing moment for the Chinese economy.

During the phase of currency inconvertibility China had suffered from a bumpy ride in real growth and inflation – peaking out with the high inflation of 1993-95 (Figure 2). With a very small domestic capital market the Peoples Bank of China had faced problems in anchoring the overall price level. With the unification of the exchange rate regime in 1994, the move to full current account convertibility by 1996 presented an opportunity to stabilize expectations. Pegging the exchange was equivalent to stabilizing the domestic price level. Inflation and growth stabilized (Figure 2).

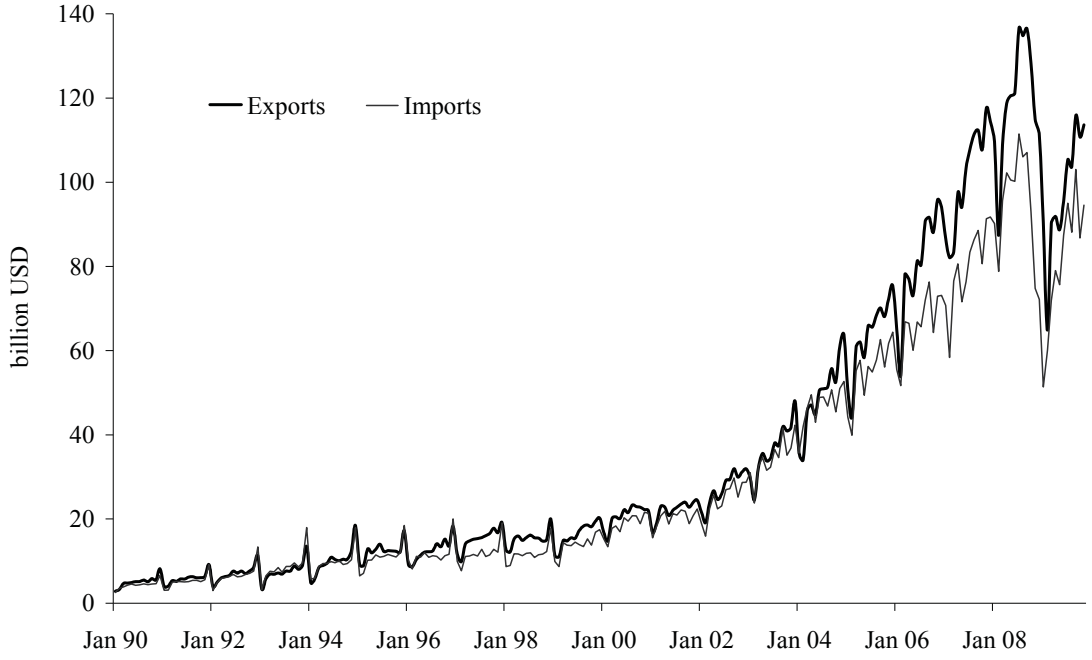
Figure 2: Real GDP Growth and Consumer Price Inflation, China



Source: IMF.

The stabilization of the macroeconomic performance laid the foundation for increasing investment and buoyant trade, which became the backbone of the Chinese growth miracle. After the steady expansion during the 1990s, the speed of trade growth accelerated in the new millennium. Overall dollar exports mushroomed from 200 billion dollars in 2000 to 1.4 trillion dollars in 2008 (Figure 3). From 1994 to 2008 Chinese investment grew by in average 16 % per year. Given the resulting fast growth of industrial production, employment in the manufacturing sector soared together with productivity and wages. The wealth of the Chinese working and new middle class was boosted.

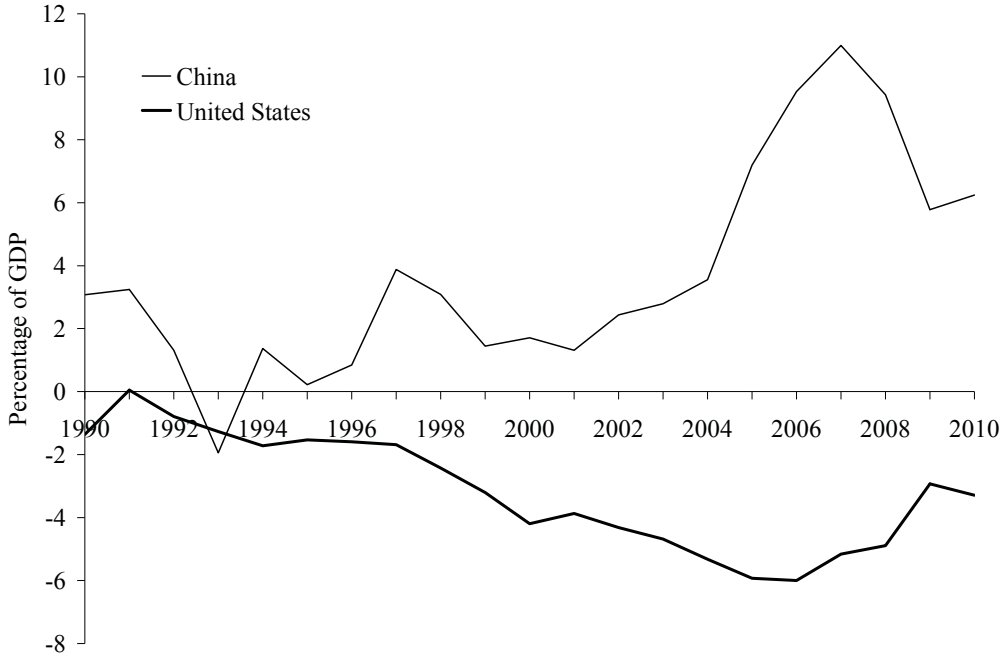
Figure 3: Chinese Exports and Imports



Source: IMF.

Because the success of the Chinese export industry was accompanied by a rising current account surplus, in particular versus the US (Figure 4), conflicts about so-called global imbalances and the dollar peg emerged. Dooley, Folkerts-Landau and Garber (2004) created the notion of economic success, which was based on a mercantilist trade strategy. Cline (2005) argued that the Chinese yuan was substantially undervalued and called for a new Plaza Agreement to correct the imbalances. Bergsten (2010) stresses the leading role of the Chinese exchange rate policy for other East Asian countries, which he accuses of mimicking the Chinese undervaluation strategy.

Figure 4: Chinese and US Current Account Balance



Source: IMF. Data for 2010 are based on IMF staff estimates.

2. The Peg as a Stabilizer of Chinese Financial Markets

China resisted international pressure to appreciate the yuan as the dollar peg not only promotes exports, but also stabilizes financial markets. Financial markets have assumed a crucial motivation for pegging the yuan to the dollar, as – based on persistent current account surpluses (Figure 4) – China has accumulated a rising stock of foreign assets, which transformed China into an immature creditor country. While the stock of international assets gradually increased, Chinese creditors remained unable to internationally lend in yuan to finance the persistent current account surpluses.

There are two possible reasons for the inability to lend in its own currency. First, because (as in the case of China) domestic financial markets are shallow and fragmented and the currency is not convertible, the yuan is not accepted for international lending. Second, (as in the case of the Japanese yen) due to network externalities international capital markets have been pre-empted by major currencies from areas with highly developed financial markets. Aside from relatively illiquid foreign direct investment outflows, an immature creditor economy continually accumulates liquid claims on foreigners denominated in international currencies such as the dollar or the euro.

The resulting currency mismatch makes monetary management and securing portfolio equilibrium in domestic financial markets more difficult. If the exchange rate (potentially) fluctuates, private financial intermediaries face currency risk. With China's large saving surplus being invested in dollar claims on foreigners, in the balance sheets of private financial institutions sharp exchange rate appreciations can cause substantial losses and can wipe out the net worth of well-capitalized banks or enterprises. The currency mismatch and the problems of risk management are further aggravated if foreigners exert pressure to have the creditor country's currency appreciate – as most recently with Krugman's (2010) and Bergsten's (2010) "China bashing".

Such complaints lead to what McKinnon and Schnabl (2004) call the syndrome of *conflicted virtue*. Countries that are "virtuous" by having a high saving rate (like China, Japan and Germany, but unlike the US) cumulate a stock of liquid dollar claims. Whereas domestic holders of dollar assets worry about an appreciation of the domestic currency, foreigners start complaining that the country's ongoing flow of trade surpluses is unfair and threaten trade sanctions unless the currency is appreciated. Because of the destabilizing properties of open-ended currency appreciation, the virtuous country becomes "conflicted".[2]

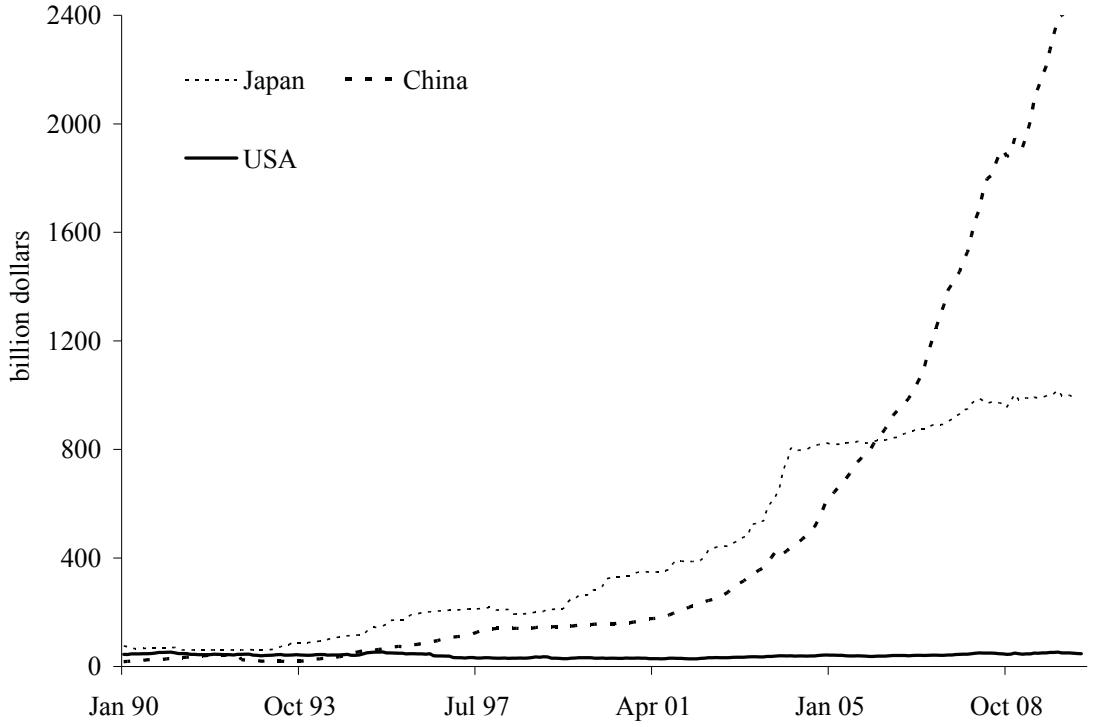
Thus in immature creditor economies, stabilizing the exchange rate is equivalent to stabilizing the financial sector, which holds dollar assets. This is even more the case, because world and Chinese interest rates have reached historical lows. As long as the exchange rate is stabilized, Chinese interest rates are prevented from falling towards zero. Otherwise, from the principle of open interest rate parity sustained appreciation expectations would depress interest rates below the interest rate of the anchor country (Goyal and McKinnon 2003) thereby pushing China (like before Japan) into a near-zero interest liquidity trap.

3. The Destabilizing Effect of the Upward Crawling Peg

Given the stabilizing role of the dollar peg for an immature creditor economy any move away from the peg is likely to cause turmoil. This was experienced during China's upward crawling peg from July 2005 to August 2008, when one-way bets on the Chinese yuan led to an acceleration of speculative capital inflows and to extensive sterilization operations by the Chinese central bank. Today, as unprecedented and unconventionally low interest rate policies in the large industrial countries have created a quasi-unlimited amount of global liquidity, the potential to bet on the appreciation of the yuan has become even larger.

[2] In contrast to Germany, Japan is also an immature international creditor. Japan runs large current account surpluses but does not lend much abroad in yen. In contrast to China its overseas direct investment finances a substantial part of its current account surplus.

Figure 5: Foreign Reserves, China, Japan, US, 1990-2010



Source: IMF and Peoples Bank of China.

China bowed to international pressure and released its fixed rate anchor on July 21, 2005 (Figure 1), allowing for one time revaluation of 2.1% and a controlled nominal appreciation of about 6% per year. During this period, despite monetary tightening in the US between 2004 and 2007, Chinese foreign reserves soared from 415 billion dollars in 2004 to 1,884 billion dollars in 2008 (Figure 5). At a first glance the tremendous increase in Chinese foreign reserves is closely linked to the drastic rise of the current account surplus from 3.5% of GDP in 2004 to 9.9% in 2008. Speculative capital inflows seem absent, as in the balance of payments statistics, errors and omissions (as a proxy for unrecorded capital flows) and short-term capital inflows remain small and negative suggesting net capital outflows rather than inflows during the gradual appreciation period (Figure 6).

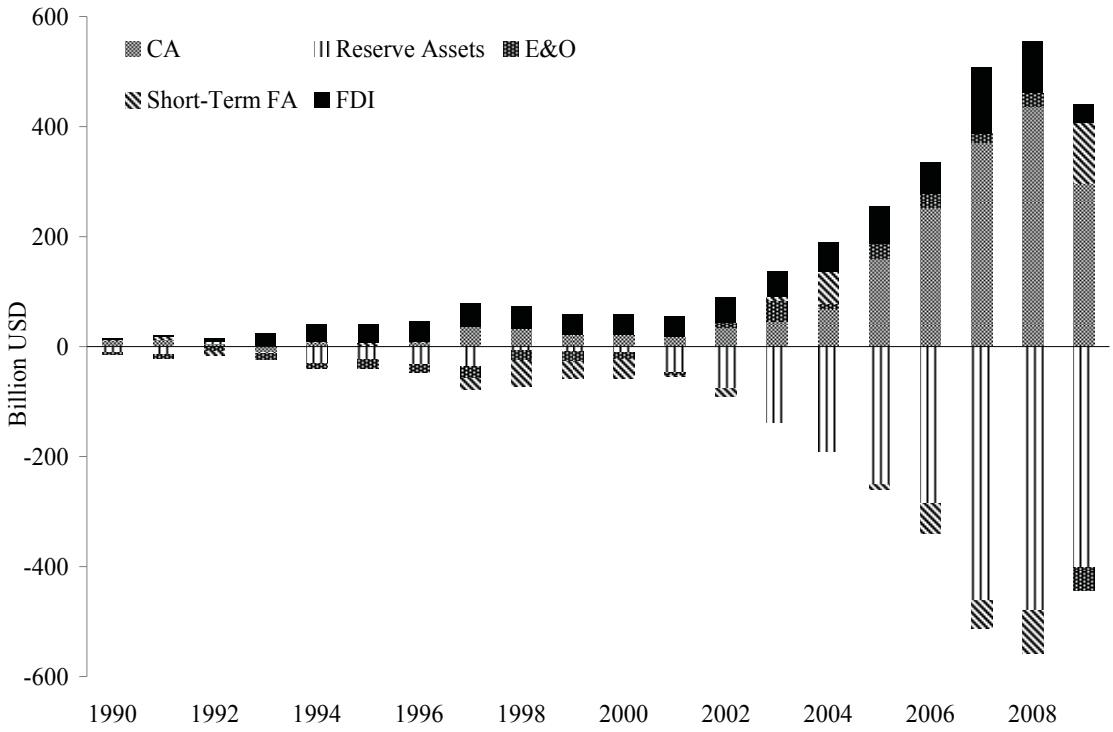
The official balance of payments statistics may, however, provide an incomplete picture of hot money inflows, as Chinas' international capital transactions remain subject to tight controls (Ma and McCauley 2007).[3] Bouvatier (2006), who indentifies US interest rates and exchange rate expectations as main determinants of Chinese hot money flows argues that they may be hidden in "other investments" of the finan-

[3] Ma and McCauley (2007) see substantial gaps between onshore and offshore yuan yields as indication for capital account restraints.

cial account or in errors and omissions. But both items do not show respective changes after 2005 (Figure 6). Martin and Morrison (2008) trace hot money inflows on the asset side of the Chinese balance of payments statistics, as speculators are argued to circumvent Chinese legislation by over-reported or false foreign direct investment, under-reported import and over-reported export values. Also transfers (labeled as remittances) are identified as channels of speculative capital inflows.

Indeed, from 2004 to 2008 both net FDI inflows and the current account surplus increased substantially (Figure 6). Net foreign direct investment rose from 53 billion dollars in 2004 to 94 billion dollars in 2008 by about 80%. The trade surplus increased from 58 billion in 2004 dollars to 360 billion dollars in 2008. Net transfers doubled from 23 billion dollars in 2004 to 46 billion dollars in 2008. Net income surged from -3 billion in 2004 to 31 billion in 2008. Martin and Morrison (2008) quantify the total sum of hot money inflows from 2004 to the first half of 2008 to be within a range of 500 billion dollars to 1.75 trillion dollars.

Figure 6: Chinese Balance of Payment

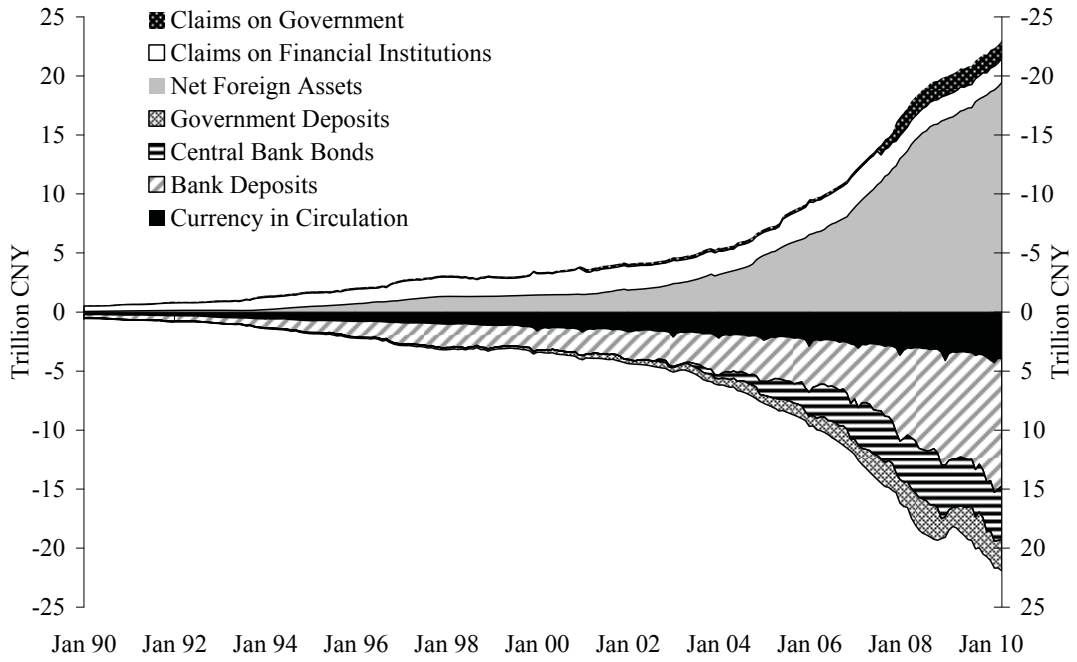


Source: IMF.

The surge of speculative capital inflows in form of FDI, transfers and over-reported trade surpluses had to be matched by the build up of official exchange reserves as shown in Figure 6. Because the accelerating speed of reserve accumulation would have led to excessive monetary expansion, the Peoples Bank of China (PBC)

was forced to sterilize the immediate impact on the monetary base. The liability side of the Peoples Bank of China's balance sheet (Figure 7) shows – with negative signs – sterilization instruments, i.e. central bank bonds, required reserves and government deposits at the central bank.

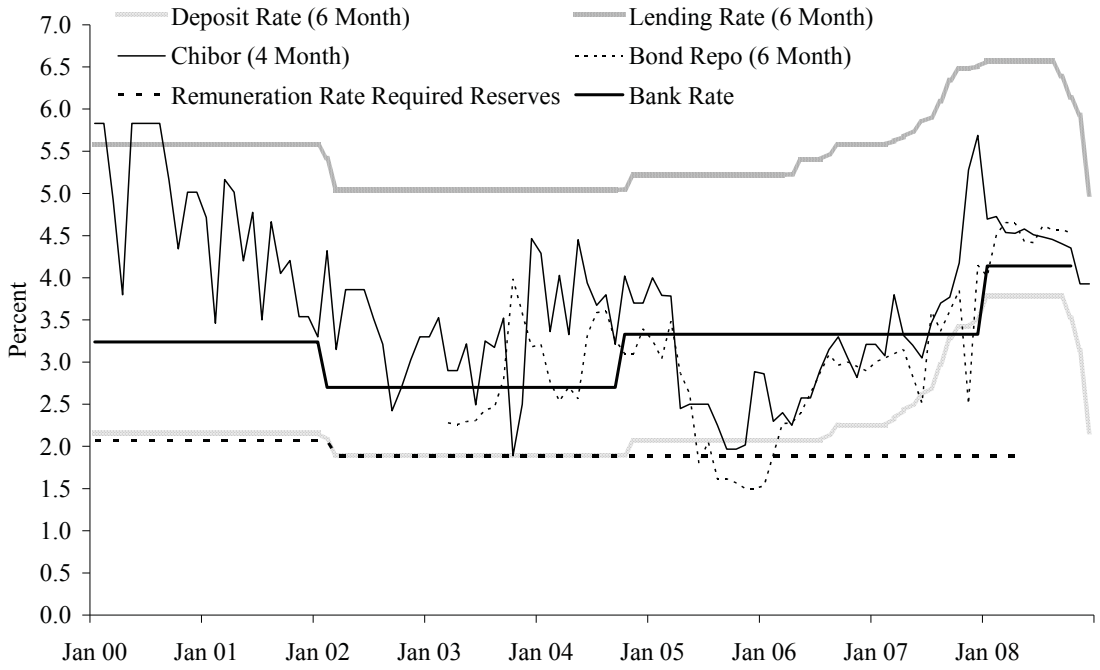
Figure 7: Peoples Bank of China Balance Sheet



Source: IMF.

As long as the sales of central bank bonds occurred at market rates, the monetary tightening threatened to drive interest rates upwards, in particular as the underdeveloped Chinese capital markets could only absorb a limited amount of central bank bonds. When Chinese interest rates started to rise after 2005, to contain sterilization costs an increasing proportion of the rapidly accumulating foreign reserves was sterilized by reserve requirements both in domestic and foreign currency at a substantially lower rate than the remuneration of central bank bills (Figure 8).

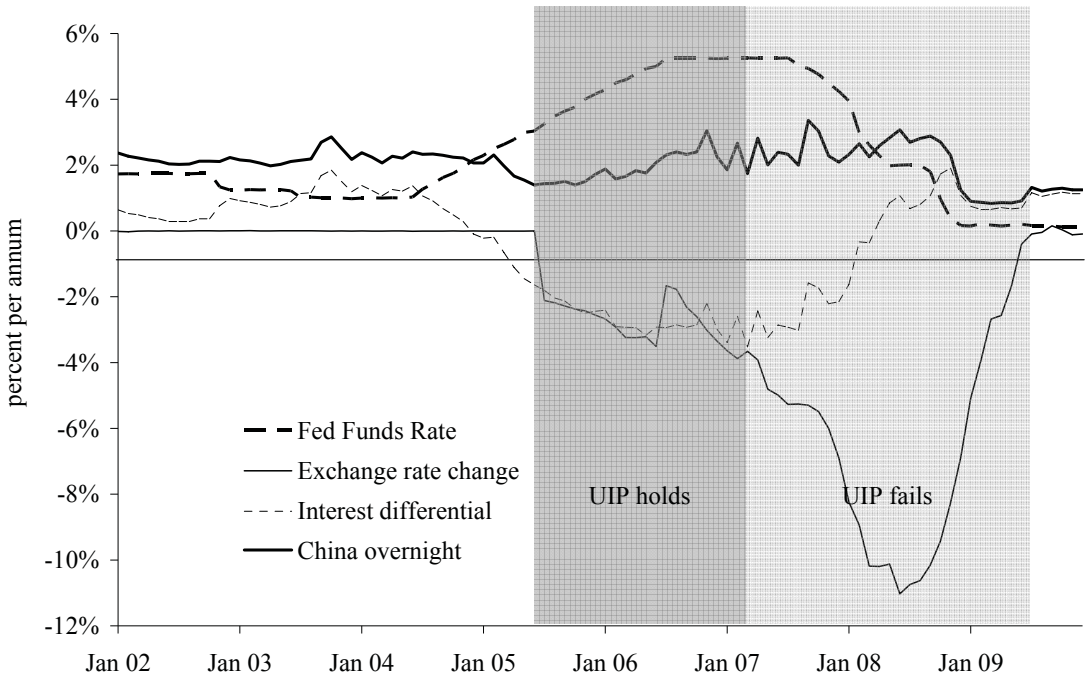
Figure 8: The Fragmented Structure of Chinese Interest Rates



Source: Datastream.

Figure 9 shows as proxy for the international portfolio balance the deviation from UIP, i.e. the deviation of the US-Chinese interest rate differential from yuan/dollar exchange rate changes. Before mid 2004, when the yuan/dollar rate was expected to remain stable, there was no substantial deviation of the interest differential from exchange rate changes. By mid 2004 Chinese interest rates started falling relative to US interest rates as if the market was anticipating the revaluations, which started in July 2005. The interest differential became negative in early 2005 when the Federal Funds Rate started to climb. By the end of 2006, Chinese interest rates were as much as 4 percentage points less than in the US, but were matched by an respective yuan appreciation to equilibrate the international portfolio balance.

Figure 9: China: Deviations from Uncovered Interest Rate Parity, 2002-2010



Source: Datastream.

However, when the US federal funds rate fell sharply from 5.25 percent in August 2007 to 2 percent by August 2008, the interest rate differential became positive in favor of China and the PBC began to increase some interest rates on yuan assets to steer against inflation in 2007 (Figure 8), the continuing yuan appreciation opened the door for one-way bets on yuan appreciation. Hot money inflows into China accelerated. The result was a "corner" solution: no private holdings of dollar assets unless subsidized by the government (McKinnon and Schnabl 2009). The international portfolio balance – defined as UIP – was lost (Figure 9) and inflation started to rise (Figure 2). UIP was restored when the global crisis led to a reversal of international capital flows.

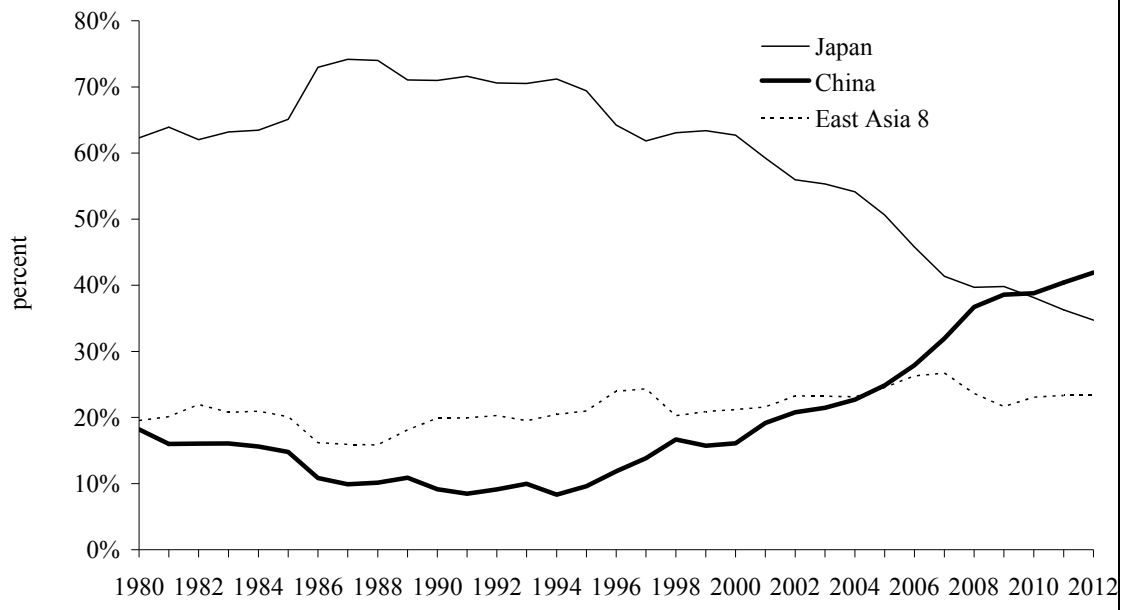
III. The Chinese Dollar Peg as an International Stabilizer

The large size of the Chinese economy combined with its dynamic growth performance, which remained robust during both regional and global crisis periods have transformed China into a stabilizer for East Asia and the world economy.

1. China and East Asia

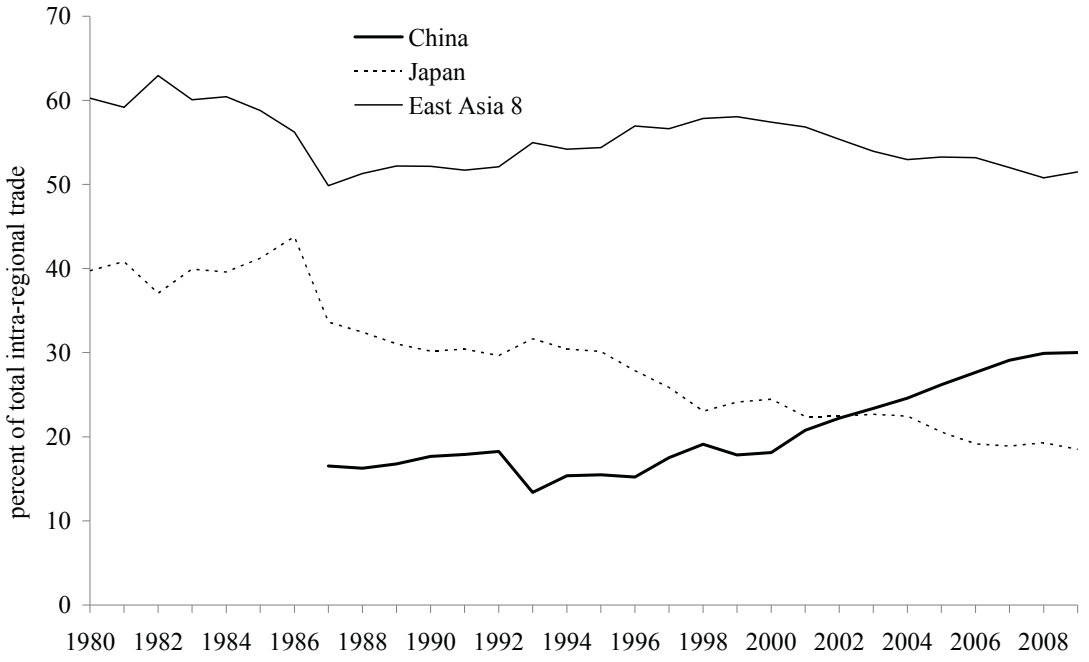
The economic weight of China in East Asia has grown steadily, taking over Japan's role as dominating economic power in the region (upper panel of Figure 10).[4] In 1990, when the Japanese bubble burst, Japan made up roughly 70% percent of East Asian GDP, whereas China accounted only for roughly 10%. Due to the lasting stagnation of Japan and the dynamic expansion of China, by 2009 both countries accounted for roughly 38% percent of East Asian GDP, with trends pointing into different directions. During the same time period the weight of the smaller East Asian (East Asia 8) economies – namely Indonesia, Hong Kong, South Korea, Malaysia, Philippines, Singapore, Taiwan and Thailand – remained widely constant at around 24%.

Figure 10: Economic Weights in East Asia



as percent of East Asian GDP

[4] East Asia is defined as Japan and China plus eight smaller East Asian economies (Hong Kong, Indonesia, Malaysia, Philippines, Singapore, South Korea, Taiwan, Thailand). The weights are calculated based on US dollar GDPs.



as percent of intra-East Asian exports

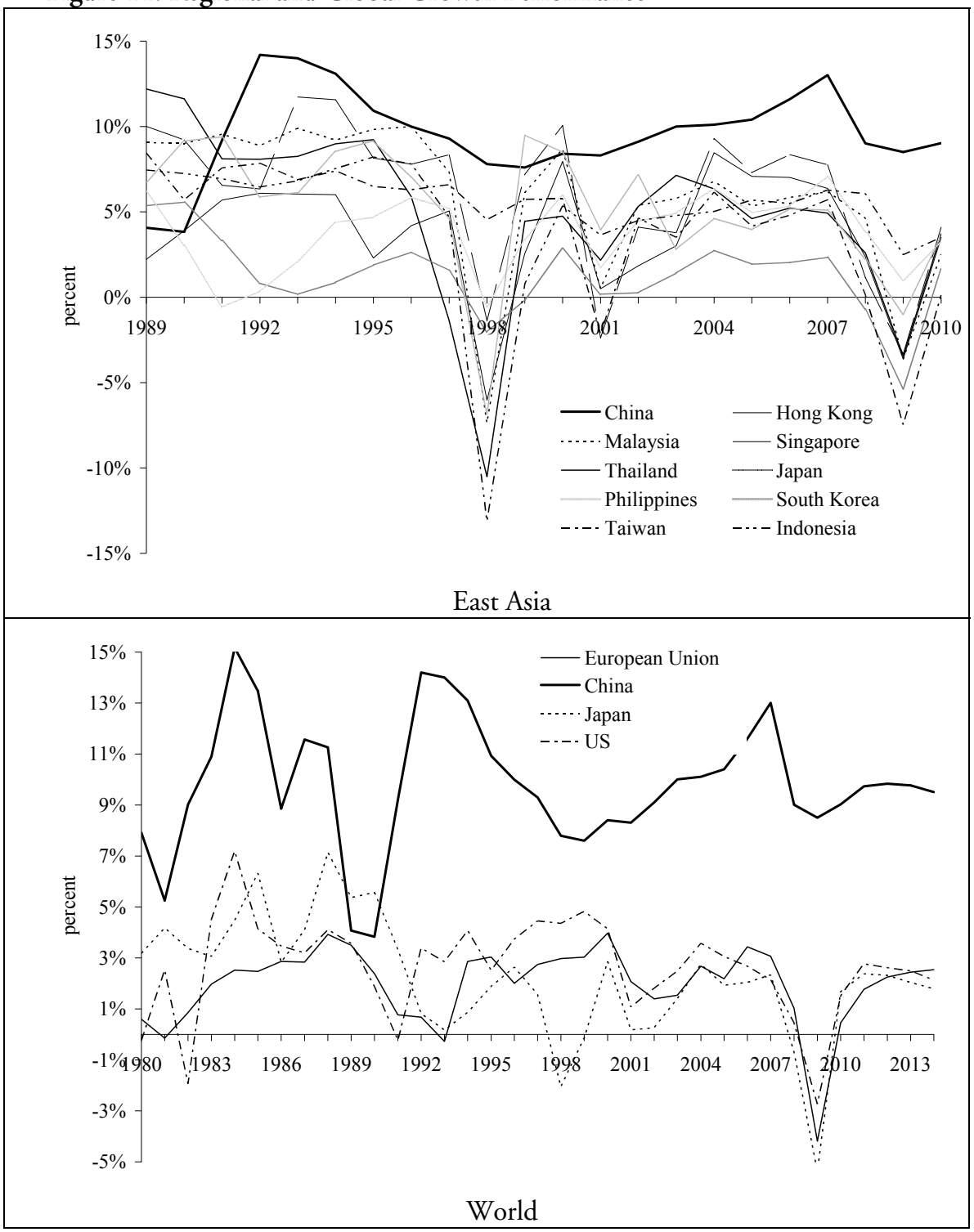
Source: IMF.

Also intra-East Asian trade volumes soared, with China becoming the hub of a dense intra-regional production network. China's buoyant industrial sector assumed the role of an export platform to the industrial countries (in particular to the US) that links Japanese production technologies (imported in form of FDI) with inputs from the smaller East Asian economies. The lower panel of Figure 10 shows that between 1990 and 2009 the share of Chinese exports as percent of total East Asian intra-regional exports increased from 17% to 30%. During the same period, the share of Japan's intra-regional exports declined from 30% to 18%. The share of the smaller East Asian countries on intra-East Asian trade remained widely constant at slightly above 50%.

Given its high and robust trade and growth performance China assumed the role of the East Asian growth engine. As shown in upper panel of Figure 11 China excels with the highest growth performance in the region. In crisis periods China proved to be more resilient to global and regional shocks than its smaller neighboring countries. China's exchange rate peg as well as decisive anti-cyclical macroeconomic policies played a crucial role in stabilizing the region. During the 1997/98 Asian crisis sharp devaluations by the crisis countries (Indonesia, Malaysia, Philippines, South Korea and Thailand) as well as by Japan, Taiwan, and Singapore imposed strong deflationary pressure on China, which ignored advice to let the yuan become more "flexible" and depreciate in turn. By keeping the yuan tightly pegged to the dollar China did not add further momentum to the competitive depreciations in the region. China's

one trillion dollar fiscal expansion program allowed its neighbors to recover faster.

Figure 11: Regional and Global Growth Performance



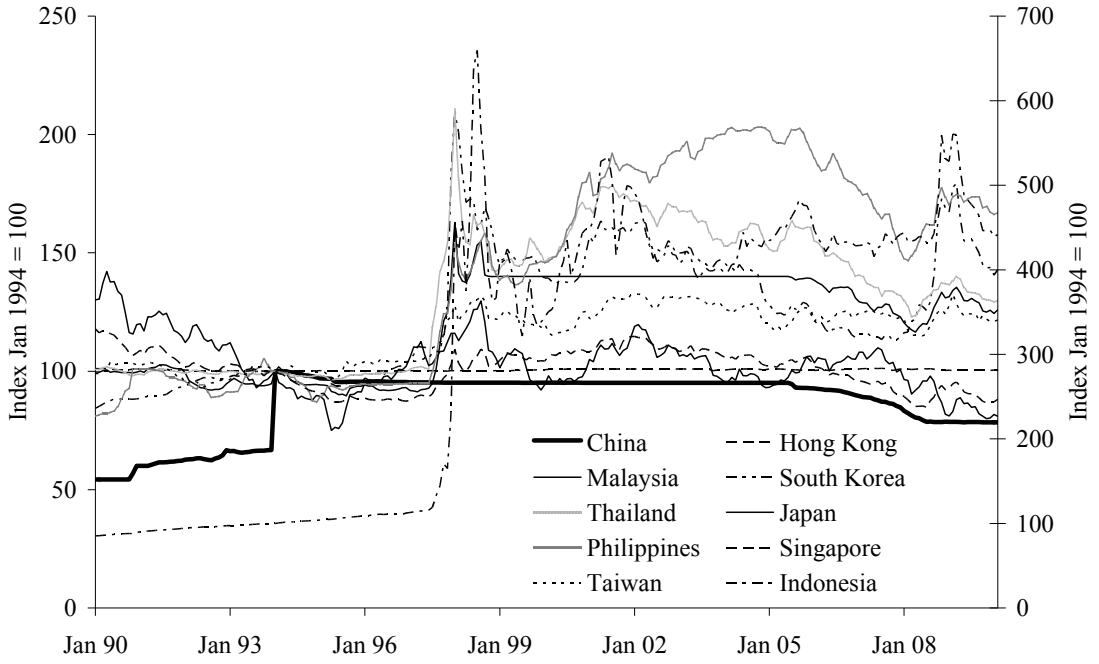
Source: IMF.

In contrast, the depreciating Japanese yen caused and aggravated the Asian crisis. Because the East Asian countries except Japan pegged their currencies to the dollar, the fluctuations of the yen against the dollar have been a major source of regional business cycle fluctuations (McKinnon and Schnabl 2003). When the yen depreciated against the dollar since the mid 1990s – while the other East Asian currencies remained pegged to the dollar – growth in Japans small neighboring countries declined. As South Korea, Taiwan, Hong Kong and Singapore lost market shares in Japan and third markets – with the US being the most important one – current account deficits increased. The resulting loss of confidence in the East Asian tiger miracle culminated into the Asian crisis. The depreciation of the Japanese yen during the crisis further aggravated the slump.

After the Asian crisis the Chinese yuan assumed a prominent role within the informal East Asian dollar standard. Before the Asian crisis intra-regional exchange rates including the yuan, won, ringgit, baht and so on were all stabilized against the dollar without a particular role being attributed to one of them. By commonly pegging to the dollar, the East Asian countries stabilized intra-regional exchange rates to reduce transactions costs for intra-regional trade, which makes up about half of international trade in the region (McKinnon and Schnabl 2004a). The floating yen was an important outlier, which caused substantial fluctuations in intra-regional competitiveness.

After the Asian crisis, while some smaller East Asian countries allowed for more – but by far not full – exchange rate flexibility against the dollar, the Chinese yuan assumed the role of an informal internal anchor next to the dollar as an informal external one. In Figure 12 the East Asian exchange rates are indexed at 100 in January 1994 when China unified its multiple exchange rate and pegged it tightly to the dollar. The Chinese yuan exhibits – beside the Hong Kong dollar – the highest degree of exchange rate stability. Whereas the yuan remains stable in both crisis and non-crisis periods, the East Asian currencies (including the Japanese yen) seem to pursue a "dual exchange rate target" against the dollar and the yuan.

Figure 12: East Asian Exchange Rates against the Dollar



Source: IMF (Indonesia right hand scale, others left hand scale.

In contrast to a currency basket – as a monetary framework, which allows targeting directly more than one currency with specific (pre-defined) weights – the dual target is more a sequential one. First, the smaller East Asian countries observe the move of the yuan against the dollar. Then, they decide about the degree of exchange rate stabilization against the dollar to maintain exchange rate stability against the dollar and the yuan. With all smaller members of the East Asian dollar standard stabilizing their exchange rates against dollar and yuan also intra-regional cross rates – for instance between ringgit and won or Singapore dollar and baht – are fixed.

The dollar remains the intervention and reserve currency, because the dollar markets are liquid and dollar reserves can be easily invested in the US financial markets. In contrast, outright exchange rate stabilization against the yuan is impossible or costly because the Chinese yuan is inconvertible. Foreign reserves are difficult to invest in yuan, because Chinese financial markets are shallow and fragmented. Therefore, mimicking the exchange rate path of the yuan against the dollar is the best way to create the public good of intra-regional exchange rate stability. Figure 12 shows that when the yuan embarked on its appreciation path from July 2005, the East Asian countries followed – to a lesser or greater extend – the appreciation of the yuan against the dollar.

By choosing flexibly the parities against the dollar, while the yuan remains tightly pegged to the dollar, the smaller East Asian economies including Japan[5] can stimulate growth in two ways. First growth is stimulated because of China's higher and stable growth performance. Second, by deciding upon the degree of depreciation against the Chinese yuan, growth can be shifted from China into the smaller East Asian countries, in particular during recessions. Figure 12 shows that during the Asian crisis (1997/98), the crisis in the semiconductor sector (2001) and the US subprime crisis (2007/08) the smaller East Asian countries including Japan allowed for significant depreciations against the yuan to beggar the large and healthy neighbor. Since 1994 all East Asian countries including Japan have kept their exchange rates on the depreciation side of the yuan against the dollar.

If, as desired in the US, the Chinese yuan would be floated against dollar, the informal dollar standard would fall apart and the intra-East Asian production network would suffer from fluctuations in intra-regional competitiveness. In contrast to the European countries, which floated their currencies against the dollar in the early 1970s and used the German mark as an internal anchor, it is more difficult to find an internal East Asian anchor for two reasons. First, the Chinese yuan does not fulfill the structural pre-requisites of an anchor currency in form of currency convertibility and of being backed by developed financial markets. Second, the Japanese yen fulfills the structural criteria of convertibility and developed financial markets, but does not qualify as long as the zero-interest rate policy persists. To this end, the informal East Asian dollar standard with the dollar as first (external) anchor and the Chinese yuan as a second (internal) anchor is currently the (second) best solution to maintain the intra-regional exchange rate stability and growth.

2. From a Regional to a Global Stabilizer

Whereas during the Asian crisis China fulfilled the role of a regional stabilizer, the 2007-09 subprime-rooted global financial and economic slump transformed China into a global stability hub. Rising shares of Chinese exports and GDP as percent of world exports and world GDP combined with highly dynamic growth have transformed China into a global player. China's share of world GDP has risen from 2% in 1980 to more 13% in 2010. Average yearly real growth between 1994 and 2010 was close to 10% compared to 0.8% in Japan, 2% in European Union and 2.6% in the US. Whereas during the crisis year 2009 growth slumped to -4.2% in the European Union, -5.4% in Japan and -2.8% in US, China proudly reported a robust growth of 8.5% (lower panel of Figure 11). Whereas zero interest policies and fiscal stimuli failed to jumpstart the advanced economies, China's macroeconomic stabilization policies proved effective.

[5] Note that although Japan stopped active foreign exchange intervention in 2004 the level of the yen against the dollar via monetary expansion is influenced by (unconventional) monetary policy measures.

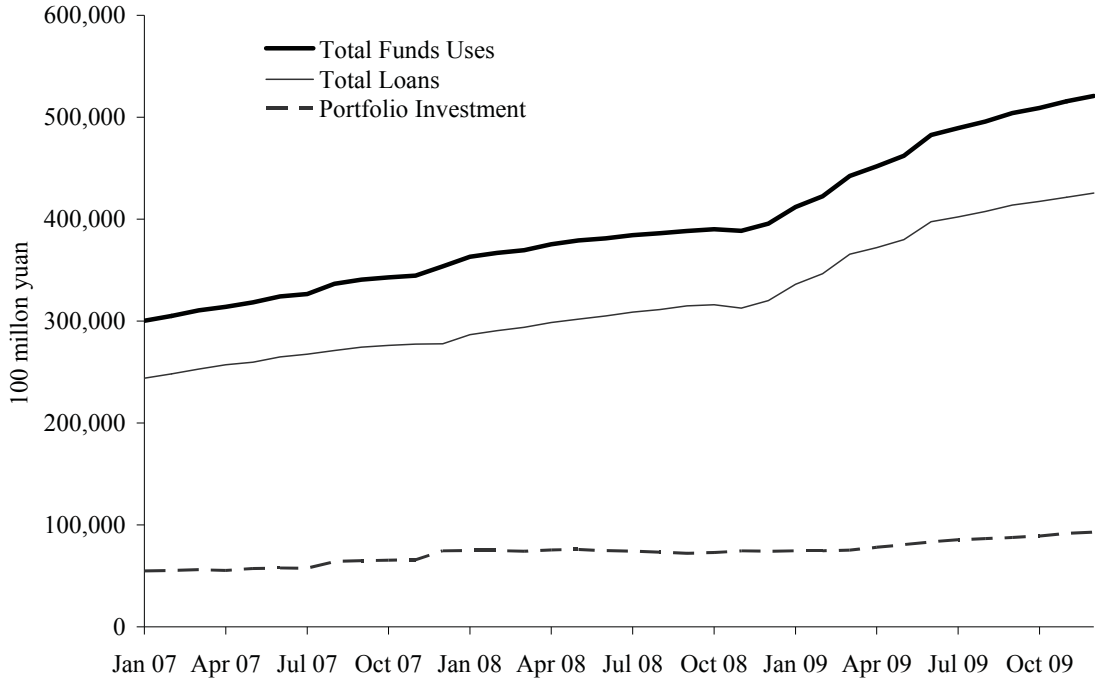
When by mid 2008 the global crisis had reached China via the export channel[6] and unemployment among migrant workers had soared, the Chinese government took decisive action with the exchange rate peg being in the center of the stabilization measures. The Peoples Bank of China could terminate the gradual appreciation and re-peg the yuan to the dollar at a rate of 6.83, because during the crisis hot money flows were redirected towards the US and Chinese dollar assets were not any more threatened by revaluation losses. Chinese reserve accumulation was interrupted between August 2008 and February 2009 (Figure 5) and the uncovered interest rate parity was restored (Figure 9).

In November 2008 the Chinese government announced a four trillion yuan stimulus package for the years 2008/09 combined with an industrial policy program for promoting key sectors such as automobile, steel, machinery and textile. The return to the tight dollar peg served as a backbone of the macroeconomic stimulus program (McKinnon and Schnabl 2009). As suggested by the seminal Mundell-Fleming open macroeconomics model, an isolated credit financed fiscal expansion would have been ineffective. Rising domestic interest rates would have triggered an appreciation of yuan, with both effects crowding out the expansionary effects of fiscal expansion.

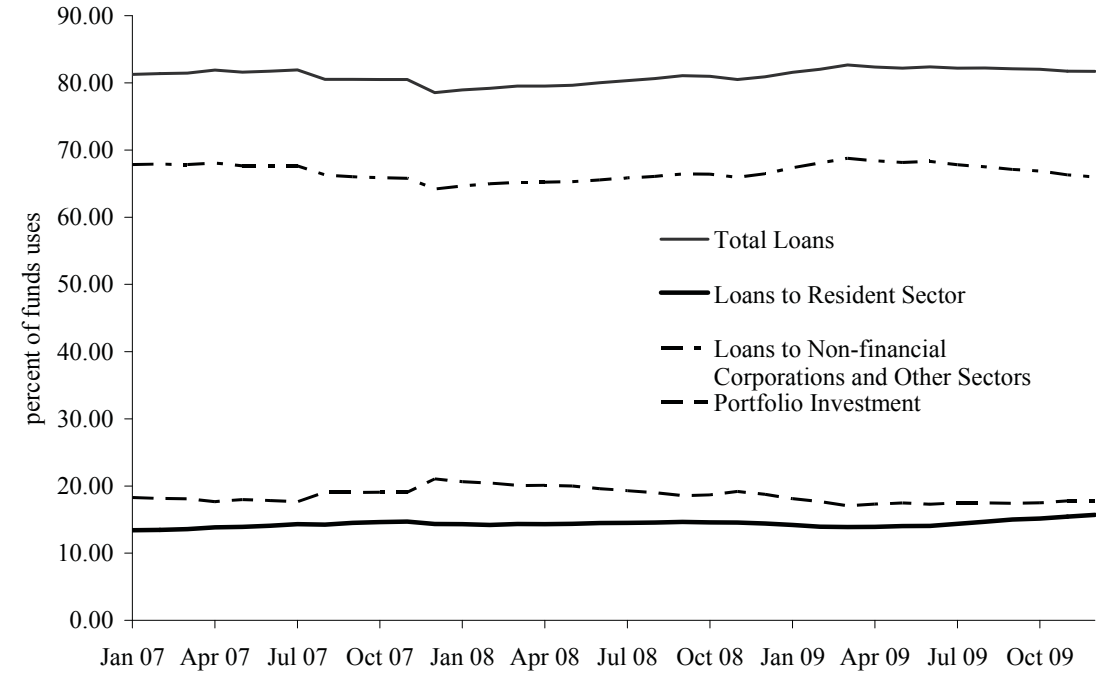
This effect was prevented by the monetary expansion with the exchange rate peg acting a coordinating mechanism for the fiscal and monetary stimulus. As reserve accumulation stopped, the Peoples Bank of China was able to engineer a credit expansion by moving from sterilization to desterilization. Shadowing the monetary expansion in the US, reserve requirements on commercial banks were reduced and other credit constraints were loosened (Figure 7). Bank lending rates, deposits rates and the remuneration rate of required reserves were cut (Figure 8). From November 2008 bank lending increased significantly with a focus on loans to non-financial corporations (lower panel of Figure 13). Soon, the Chinese growth locomotive started over.

[6] From August 2008 to February 2009 nominal Chinese exports dramatically declined from 134 billion dollars to 64 billion dollars (Figure 3).

Figure 13: Uses of Funds of the Chinese Banking Sector



uses of funds of financial institutions (yuan and foreign currency)



percent of overall uses of funds

Source: Peoples Bank of China.

IV. Distortions and Fragility

As unemployment in the US remains high, the Federal Reserve is expected to keep interest rates close to zero until 2011 or 2012. In contrast, the success of the Chinese fiscal, monetary and exchange rate stabilization measures have strengthened expectations that China will continue its dynamic catch-up path. With an (expected) real growth rate of about 10% for the years 2010 and 2011 China has become an attractive target of a new wave of carry trades (Roubini 2010, McKinnon et al. 2009). Hot money inflows resumed as indicated by newly accelerating reserve accumulation (Figure 5). At the latest the June 2010 announcement that the yuan will become more flexible has put the scenario back to the period before 2008. Reserve accumulation combined with sterilization is likely to gain speed and thereby aggravate distortions in the Chinese and world economy.

1. Global Surplus Liquidity and Overinvestment

From a global perspective the current Chinese boom with growth rates well above eight percent may not be lasting, because an unprecedented low level of global interest rates has driven China's investment beyond what could be sustainable in the long run. The business cycle theories of Knut Wicksell (1898) and Friedrich August von Hayek (1929) help to understand the long-term risks, which are linked to interest rates close to zero in the US (and other large industrial countries) combined with buoyant inflows of FDI and hot money into China, which trigger real exchange rate stabilization.

To model business cycle fluctuations Wicksell (1898) and Hayek (1929) distinguished between "good" investment – which yields returns above a "natural" equilibrium interest rate[7] – and low return (speculative) investment – which is induced by an interest rate below the equilibrium (I>S). Overinvestment is triggered when the central bank (Wicksell 1898) or the banking sector (Hayek 1929) keep interest rates below the natural interest rate during the economic upswing. Whereas the monetary overinvestment theories were modelled for closed economies, in today's liberalized international capital markets interest rates in emerging markets can decline below the "natural interest rate" due to buoyant capital inflows from highly liquid, low yield developed capital markets.

Because growth in the US, Japan and the euro area remains sluggish, the Federal Reserve, the Bank of Japan and the European Central Bank continue to keep interest rates exceptionally low. Because the recovery is faster in East Asia, the low interest rates in the large countries feed carry trades into East Asia rather than domestic investment. If as since June 2010 the Chinese yuan can be expected to appreciate, there

[7] At the equilibrium interest rate saving is equal to investment: S=I.

is a double incentive to borrow in dollars and to invest in higher yield foreign currency assets. For instance, a carry trader can borrow for close to zero in the US and earn a return of 2% in buoyant China. Assuming that the yuan will appreciate – say by 3% per year – the overall return would be 5% (if a way is found to circumvent Chinese capital controls).

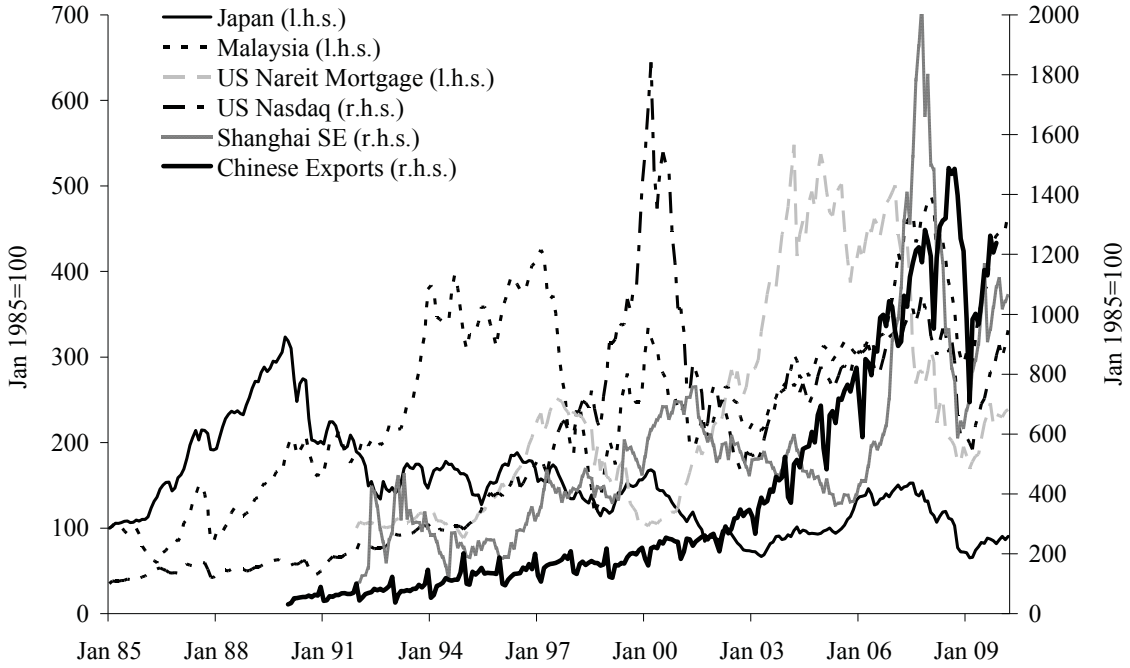
Enterprises compare the expected return on investment with the financing conditions on capital markets. A falling interest rate allows for additional investment with lower returns, i.e. a lower marginal efficiency. Overinvestment in China is likely to be triggered, because (in the sense of Wicksell 1898) the large central banks have cut policy rates to unprecedented low levels and (in the sense of Hayek 1929) private capital inflows have brought the Chinese interest rate to a level, which is uncommonly low for fast growing emerging markets. In China, money market rates have been floating between one and three percent, while the economy has been growing at real rates around ten percent.

In the models of Wicksell (1898) and Hayek (1929) the upswing continues as – how currently observed in China – the demand for investment goods rises. Capacity reserves are activated. Wages and consumption increase. The positive economic expectations can be transmitted to asset markets where speculation may set in (Schumpeter 1912).[8] With credit growth becoming speculative, productivity increases slow down. Consumer price inflation accelerates which conveys a signal supportive of building up additional capacities and increasing wages further. Finally, the central bank has to tighten money supply to contain inflation. Alternatively, financial institutions tighten credit when they regard the upswing as unsustainable.

Figure 14 shows a wave of wandering bubbles as described by Schnabl and Hoffmann (2008), augmented with Chinese exports. The wave of wandering bubbles, which are argued to be triggered and perpetuated by a gradual decline of nominal and real interest rates in the large industrial countries, sets in the mid 1980s when Japan cut interest rates to contain the post-Plaza yen appreciation. The substantial acceleration of credit growth in Japan led to a boom in real estate and stock markets, the well-known Japanese bubble economy. The burst of the Japanese bubble in December 1989 marked the starting point of two lost decades of economic stagnation. Attempts to revive the Japanese economy by further interest rate cuts triggered the first wave of carry trades to the East Asian tiger countries, where a boom in the export-oriented industrial sectors emerged. The burst of the bubbles in the stock and real estate markets culminated into the 1997/98 Asian crisis.

[8] A speculative mania may emerge, in which speculative price projections and "the symptoms of prosperity themselves finally become, in the well known manner, a factor of prosperity" (Schumpeter 1912, 226).

Figure 14: Wandering Bubbles



Source: IMF. Shanghai stock exchange 1991:01=100.

The Asian crisis led to a flight to the save havens of the large financial markets, where the dotcom bubbles emerged. The Federal Reserves' decision to counteract the sharp decline in US stocks market at the end of the dot-com boom is widely seen as the starting point for the US subprime boom and the second wave of carry trades from US, Japan and euro area to East Asia, Central and Eastern Europe and the raw material exporting countries (Hoffmann and Schnabl 2009).

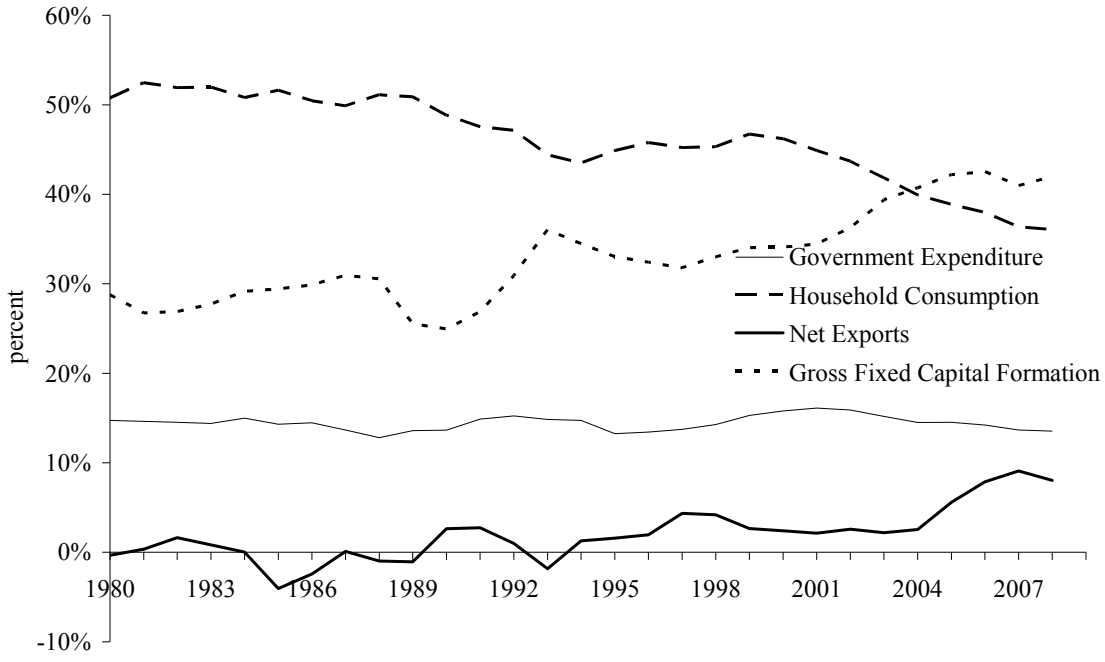
The period of lost international portfolio balance between China and the US was accompanied by a bubble in Chinese stock markets as represented by the Shanghai stock exchange in Figure 14, which seems to have absorbed speculative capital inflows ended when hot money inflows were reversed. The subprime crisis triggered the advent of the current (close to) zero interest-rate policies on a global level and therefore the third – and up to now largest – wave of carry trades (Roubini 2009). Currently Chinese monetary authorities aim to dilute new bubbles in stock and real estate markets by sterilization measures and credit constraints. Figure 14 shows that prices in Chinese stock markets have more recently remained moderate compared to the bubble. Nevertheless the Chinese export sector could currently experience an overinvestment boom because of preferential treatment with respect to capital allocation and real exchange rate stabilization.

2. Administrative Capital Allocation, Real Exchange Rate Stabilization and Structural Distortions

Despite the general notion of an export-led economy, investment rather than net exports have been the major driver of Chinese growth and employment. Figure 15 shows that by 2008 investment (plus inventory changes) accounted for about 42% of GDP thereby constituting the most important GDP expenditure component. In addition net exports accounted for 8% of GDP by expenditure in 2008. Because investment and exports make up about half of Chinese GDP, Chinese economic policies have been keen to sustain investment of Chinese enterprises, with focus on the export sector.

The system of Chinese investment based export promotion hinges on two pillars, which are linked by the Peoples Bank of China's sterilization policies: subsidized capital allocation via the state owned banking sector to promote investment in the export sector and real exchange rate stabilization to promote sales of exports. The outcome is structural distortions in the Chinese goods and financial markets, which endanger the long-term growth performance.

Figure 15: Chinese GDP by Expenditure



Source: IMF.

In capital markets sterilization policies lead to distortions, because non-market based sterilization allows for "centrally planned" capital allocation via a dependent central bank and a state controlled banking sector. As sterilization is widely non-market based – with required reserves being remunerated at around 2% – the general interest rate level in China is kept extremely low (Figure 8). This keeps in a high-growth economy the demand for capital high, whereas sterilization and direct credit constraints keep the supply of capital tight.

The resulting surplus demand for capital puts the monetary authorities into the position of directing capital into sectors with preferential treatment via the so-called "window guidance":[9] "*The PBC will strengthen window guidance and credit guidance to intensify efforts to adjust the credit structure. Efforts will be made to optimize the credit structure, to encourage growth in some sectors while discouraging growth in others.*"[10] Two strategies of credit allocation are likely. First, the enterprise sector (which has a preference for investment) is likely to receive preferential treatment vs. the household sector (which has a preference for consumption). Second, within the enterprise sector export enterprises are likely to be (among others) the prime beneficiary of state directed capital allocation.

The lower panel of Figure 13 shows the uses of funds of the Chinese banking sector since 2007 when data became available. The shares of non-financial corporations and the resident sector are widely constant, which can be seen as an indication for "centrally planned" capital allocation. The share of loans to non-financial corporations dominates with roughly 65%, while the share of loans to the resident sector remains small at around 15%. The state controlled flows of funds in favor of the enterprise sector can explain why the share of GDP of household consumption has gradually declined, whereas gross fixed capital formation and net exports have gradually increased (Figure 15).

Within the enterprise sector, the likelihood is large that export enterprises have been subsidized by the provision of low cost capital. For instance, Hale and Long (2010) provide evidence that Chinese large and state-owned firms have better access to lost-cost capital than small private firms. Tighter capital constraints (preferential capital allocation) in smaller (larger) firms are linked to higher (lower) efficiency. Prasad (2009: 227) argues that Chinese export enterprises are subsidized via the provision of lost cost capital, including interest rate subsidies to agricultural and energy sectors to hold down the cost of inputs for industrial production.

[9] Preferential treatment of specific sectors and enterprises via window guidance (*madoguchi shidô*) was a common way of credit allocation during the catch-up process of Japan (Hamada and Horiuchi 1987: 244-246).

[10] China Monetary Policy Report Quarter Two, 2008, 13.

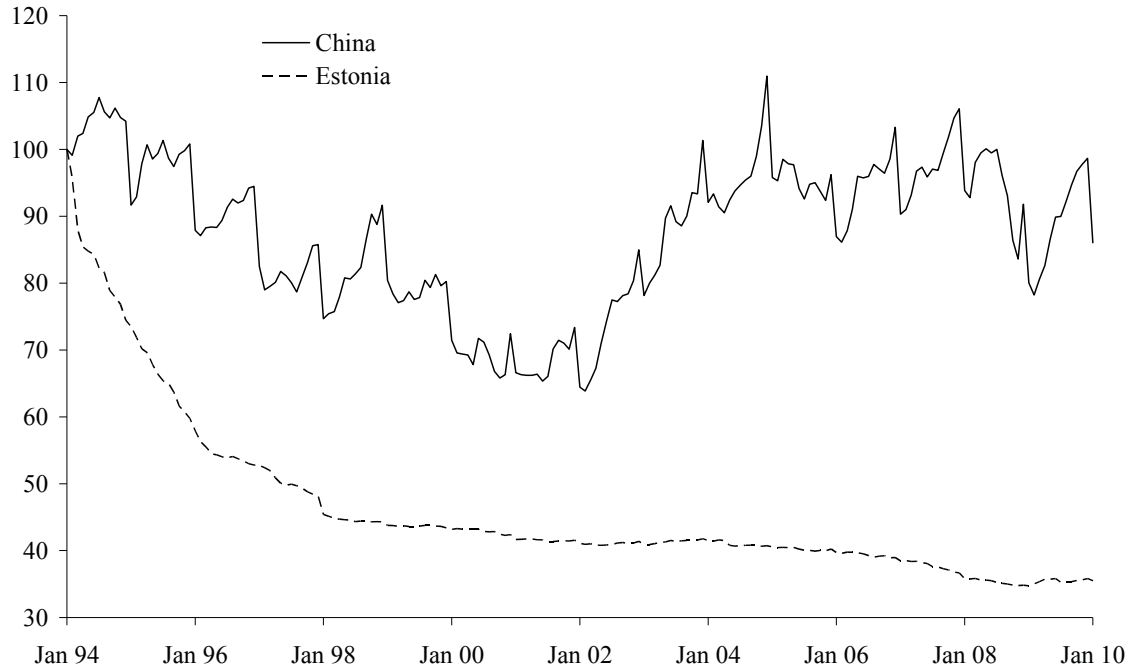
On goods markets the structural distortions originate in real exchange rate stabilization. Nominal exchange rate stabilization – as for instance criticized by Cline (2005), Bergsten (2010) and the US public (Economist 2010) – cannot be distorting, as fixed exchange rates do not cause balance of payments misalignments themselves.[11] But exports are subsidized, if the Peoples Bank of China stabilizes the price level in addition to the nominal exchange rate. This helps to clear export production on international markets, but the economic structure is tilted towards the production of export goods at the expense of the domestic oriented economy (for instance services).

The real exchange rate targeting discourages domestic consumption as expenditure switching from traded to non-traded goods via real appreciation is disturbed. If the Peoples Bank of China would leave the foreign currency purchases unsterilized the monetary base would grow and prices would increase. The resulting real appreciation would raise non-traded (domestic) goods prices relative to traded (foreign) goods prices thereby shifting the demand (and consumption) to foreign (i.e. imported) goods. Chinese net exports and US net imports would decline, but this process is interrupted by the sterilization policies.

To provide an impression of the impact of sterilization policies on the real exchange rate (and the current account position) in the face of buoyant capital inflows, Figure 16 compares the real exchange rate of the Chinese yuan (with the dollar as reference currency) with the real exchange rate of the Estonian kroon (with the euro as reference currency) since 1994. Both countries maintained tight pegs to their anchor currencies since 1994 and experienced fast capital market driven economic convergence towards their anchor countries. In contrast to China the currency board arrangement of Estonia and its membership in the European Union strongly restricts non-market based sterilization of foreign reserve accumulation.

[11] Whereas with a floating exchange rate the monetary policy is determined by the central bank and the exchange rate is left to float, under a peg the exchange rate is targeted and money supply is left to market forces. Economies with underdeveloped goods and capital markets have been using pegs ever since to import macroeconomic and financial stability (McKinnon and Schnabl 2004).

Figure 16: Real Exchange Rates of China and Estonia against Anchor Currencies



Source: IMF. Index Jan 94=100.

The outcome for the real exchange rate is a gradual real appreciation of the Estonian kroon against the euro, whereas – despite considerable fluctuations – the real exchange rate of the Chinese yuan against the dollar has remained widely unchanged since 1994, although substantial productivity gains should have led to a significant real appreciation of the Chinese yuan. Unsurprisingly, up to the 2007-09 crisis, Estonia exhibited rising current account deficits, whereas in China the current account surplus increased.

In the view of Wicksell (1898) and Hayek (1929) overinvestment occurs if interest rates are held below the (natural) market rate as in the case of subsidized preferential credit allocation. In addition, the marginal efficiency of investment in the export sector is artificially biased upwards by real exchange rate stabilization. Both factors suggest that investment in the export sector has grown beyond what is sustainable in the long-term. In Figure 14 the wave of wandering bubbles is augmented by Chinese nominal exports, which have experienced tremendous growth since the turn of the millennium. Chinese exports have been reanimated by the most recent close-to-zero interest rate policies, whereas Chinese stock and real estate prices have grown at a more moderate level due to sector specific credit constraints and regulations. The investment in the export sector with a low marginal productivity is only sustainable as long as low interest rate subsidies and real exchange rate stabilization persist.

3. International Distortions

From an international perspective, the distortion of the Chinese economy towards industrial production and exports matches the decline of the US industrial sector in the US as China's most important trading partner. This corresponds to US claims that Chinese exports have contributed to deindustrialization in the US (Cline 2005 and Bergsten 2010). Yet, international trade is mutual. Rising comparative advantage in one sector in one country is linked to rising comparative advantage in another sector in the other country.

The US-Chinese distortions in the goods markets are matched by distortions in the financial markets, which are inflated in the US because of low interest rate policies and giant US government bond purchases by the Chinese central bank. In contrast, Chinese financial markets remain underdeveloped because the potential size of capital markets is reduced when foreign exchange intervention redirects capital flows towards the US. Furthermore, non-market based sterilization and state controlled capital allocation contribute to further fragmentation.

Thus, in the view of the overinvestment theories the Ricardian international partition of labour between China and the US with respect to goods and financial markets has gone beyond the market based equilibrium, because expansionary US monetary policy keeps prices in the international financial markets artificially low, whereas sterilization policies in China nudge prices in international goods markets down. A correction of both types of price distortions would cure the mutual (i.e. global) imbalances.

V. International Policy Coordination to End Global Imbalances

Because artificially low prices in US and Chinese goods and financial markets have caused structural distortions in the both countries, the current pattern of international partition of labor between China and US is not sustainable. Once interest rates in the US increase or rising inflation in China forces the PBC to further tighten credit supply, new economic turmoil is likely to emerge. A currency war between China and the US would further aggravate the distortions in the world economy. Therefore an exit from the current policy patterns – exceptionally low interest rates in the US and real exchange rate stabilization in China – is in the very interest of both countries.

However, one-sided exits of the US or China from the current policies would further becloud the growth perspectives. If China would end nominal exchange rate stabilization with the US keeping interest rates low, one-way bets on yuan appreciation would further grow and the Peoples Bank of China would be forced to even larger foreign reserve accumulation and sterilization measures. Chinese capital markets would be fragmented even more and future adjustment costs would grow further.

If the Peoples Bank of China would stop sterilization – while US interest rates remain low and Chinese nominal exchange rate stabilization persists – a tremendous inflationary pressure would be created, which would erode the competitiveness of the Chinese export industry and nurture further asset price bubbles. If the US would unilaterally end its low interest rate policies, US unemployment is likely to further rise because of painful adjustment in the financial sector. The industrial sector would not be able to provide compensating growth because of persistent low-cost competition from China.

For this reason an international policy agreement between the US and China is necessary to rebalance both economies. The US has to commit to gradually increase interest rates. China has to commit to end real (but not nominal) exchange rate stabilization. If interest rates in the US increase, speculative capital inflows into China and thereby nominal appreciation pressure will slow down what allows to reduce sterilization.

The resulting real appreciation of the Chinese yuan as inflation is likely to rise would give the US industrial sector room to regain domestic and international competitiveness. The revival of the industrial sector in the US would provide a substitute for adjustment in the financial sector. The persistence of the nominal peg of the yuan to the dollar is necessary to stabilize Chinese, East Asian and US growth. In both countries, industrial and financial sectors would be allowed to rebalance with a positive impact on global growth.

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