

SHOULD THE RENMINBI FLOAT?

Jason Somerville

Senior Sophister

China has been widely accused of being a 'currency manipulator' in recent years, leading to concerns about a potential 'currency war'. Jason Somerville provides a balanced study of the issue, and ultimately argues that while China's currency appears to be undervalued, an incremental move towards floatation is in the best interests of both China and the rest of the world.

Introduction

'The argument for a flexible exchange rate is, strange to say, very nearly identical with the argument for daylight savings time. Isn't it absurd to change the clock in summer when exactly the same result could be achieved by having each individual change his habits?' (Friedman, 1953, p.173).

The valuation of the Renminbi (RMB) has been a source of lively debate for over two decades. After China de-pegged its currency from the US dollar (USD) in 2005 the rhetoric dried up, but the onset of the financial crisis and China's renewed intervention in the currency market has reignited the debate and become a source of political tension between China and the rest of the world – in particular the United States. There have been vociferous complaints by the US government that, by keeping its currency weak, Chinese exports are artificially cheap, causing job losses in America, Japan and other Asian economies. Stepping back from the political dimensions of this debate, this paper explores first whether the RMB is undervalued using a variety of economic measures. Second, the normative question 'should the RMB float?' will be explored. Finally, the 'fear of floating' argument will be assessed in the context of the Chinese economy in an attempt to shed some light on China's reluctance to let the RMB float.

Historical Background

In 1993, following the unification of the Chinese exchange rate regime, the yuan fluctuated within a relatively narrow range against the USD before being officially pegged at 8.28 yuan per dollar in 1996. This peg was rigidly upheld until July 2005. For most of its early period, this pegged exchange rate regime attracted little criticism. Indeed, it was widely seen as contributing to internal and external stability. However, from 2002 onward, there was mounting pressure, both external and internal, on China to de-peg the RMB and allow it to appreciate against the USD. In July 2005, the People's Bank of China (PBoC) announced that it would allow the RMB greater flexibility.

The cumulative appreciation against the dollar reached 17.5% by July 2008. However, the onset of the financial crisis prompted the Chinese government to temporarily change its policy due to concerns regarding economic stability. The RMB was unofficially re-pegged to the USD at a rate of 6.83 yuan per dollar. In June 2010, China again lifted the peg and the RMB resumed its appreciation against the dollar. As of November 22, the RMB had appreciated 19.7% against the dollar since the peg was lifted in 2005. The question is, has this appreciation caused the RMB to converge on its equilibrium value, or is it over/under valued?

Is the RMB Undervalued?

'All models are wrong, but some are useful' (Box and Draper, 1987, p. 424). As this quote indicates, there are limitations to every model and so several will be explored in an attempt to determine whether or not the RMB is undervalued. Since the RMB was only recently de-pegged from the USD, no comprehensive empirical analysis has been published. However, the majority of the adjustment occurred in the 3 year period between July 2005 and July 2008. Investigations that have covered this period will therefore provide an accurate yardstick for answering the question: 'is the RMB under or overvalued?'

Goldstein (2004) used the 'underlying balance approach' and 'adjustment of global payment imbalances approach' to measure the equilibrium exchange rate of RMB/USD. He found that the RMB was undervalued by about 15% to 25% against the USD prior to July 2005. Another approach to estimating the equilibrium value of the RMB has been to use behavioural equilibrium exchange rate (BEER) specifications. These models incorporate a variety of channels through which the real exchange rate is affected (e.g. Funke and Rahn, 2005). However, these approaches failed to identify if a currency is misaligned relative to another country's currency for the same reason that relative PPP fails to do so – because they typically rely upon price indices and not actual prices.

An alternative framework has been presented by Prasad and Wei (2005) who use a flow model to determine the relative value of the RMB. By examining the composition of capital inflows into and out of China, they argue that much of the reserve accumulation that has occurred in recent years is due to speculative inflows; hence, the actual degree of misalignment is small. Conversely, Frankel (2005) has argued that the RMB was 35% undervalued from a long-run perspective.

An interesting argument has been put forward by Cheung, Chinn and Fujii (2007) in their paper entitled ‘The Overvaluation of Renminbi Undervaluation’, in which they highlight a number of problems with these approaches. In attempting to determine whether the RMB is misaligned, they find that, once sampling uncertainty and serial correlation are accounted for, there is little statistical evidence that the RMB is undervalued, even though the point estimates usually indicate economically significant misalignment.

So prior to de-pegging in July 2005, while there were some statistical shortcomings, the overall consensus emerging from this line of research was that the RMB was undervalued relative to its long-run equilibrium. This is not surprising given that the Chinese economy averaged a growth rate of 9.25% since the currency peg was introduced in 1996.

Since 2005’s de-pegging, the RMB has appreciated nominally by 20% against the USD. However, the debate continues to rage. Cheung, Chinn and Fujii (2009) estimated the deviation of the RMB from its expected value at different stages over the de-pegging period. They found that the RMB was substantially below the value predicted by estimates based upon a cross-country sample, when using the 2006 vintage of the World Development Indicators. The economic magnitude of the misalignment is substantial – on the order of 50 per cent in log terms. Again, these authors add the caveat that the misalignment is typically not statistically significant, in the sense of being more than two standard errors away from the conditional mean. Interestingly, when 2008 data is used, the estimated undervaluation is on the order of only 10 per cent. Of note is their conclusion that ‘these results are not informative with regard to the question of how a change in the RMB/USD exchange rate would affect the overall US trade deficit’ (Cheung, Chinn and Fujii, 2009, p. 2). This highlights the uncertainty associated with what is the ‘best’ exchange rate policy for China, and indeed the world.

Nair and Sinnakkannu (2010) examined the evolution of the RMB between 2005 and 2009. They found that, on average, the RMB was undervalued in its real terms against the USD by 20.6% and against the euro (EUR) by 15.5% between July 2005 and June 2009.

Table 1: The overvaluation (+) and undervaluation (–) of the RMB against the USD, Japanese Yen (JPY) and EUR in %

Year	RMB/USD	Stdev	RMB/JPY	Stdev	RMB/EUR	Stdev
H2/2005	-19.40%	0.85	+2.202	0.48	-15.095%	0.53
2006	-21.06%	0.81	+2.079	0.64	-16.26%	0.61
2007	-20.82%	0.75	+5.171	1.37	-15.44%	0.81
2008	-20.25%	0.78	+8.501	1.08	-14.49%	0.89
H1/2009	-20.88%	0.80	+7.748	1.23	-16.17%	0.81

Overall -20.57 0.93 +5.182 2.87 -15.46% 1.01

(Nair and Sinnakkannu, 2010)

Though the nominal exchange rate of RMB/USD has slowly increased since its de-pegging, the real exchange rate with the USD was found to be consistently undervalued.

Having established that, despite empirical limitations, the RMB appears to be undervalued by most statistical measures, it is imperative to explore the normative question: ‘*should* the RMB float?’ Due to the nature of this analysis, there is no definitive answer. Value judgments ultimately come into play and so it is not surprising that this issue is a source of political tension. Here the main economic arguments, both for and against floating the RMB, will be presented.

The Argument for a Floating Exchange Rate

‘The biggest problem with China's economy is that the growth is unstable, unbalanced, uncoordinated, and unsustainable’ (Premier Wen Jiabao, 2007).

Given that the RMB appears to be undervalued, the argument for a flexible exchange rate is effectively an argument for currency appreciation. The rationale for a flexible exchange rate regime was put forward in Milton Friedman’s (1953) famous book ‘*Essays in Positive Economics*’. He argues that ‘it is far simpler to allow one price to change, namely, the price of foreign exchange, than to rely upon changes in the multitude of prices that together constitute the internal price structure’ (Friedman, 1953, p.173). By keeping the exchange rate fixed, incentives have become distorted and agents responding in an optimal way may generate a sub-optimal outcome.

Funke and Rahn (2005) have argued that China has achieved spectacular growth by selling deliberately undervalued exports and transforming itself into the ‘workshop of the world’. This growth has been underpinned by a policy of depressing its exchange rate in order to improve its international competitiveness. Indeed, Makin (2009) has argued that an inflexible yuan has yielded higher short-run output gains for China at trading partners' expense through a form of ‘exchange rate protection’. The author goes onto assert that the RMB’s misalignment has contributed to the global imbalances that drove the financial crisis.

Obstfeld and Rogoff (2009) have expanded upon this, arguing that such imbalances are intimately connected with the recent financial crisis. An artificially low exchange rate drove export led growth, culminating in large surpluses. They go on to suggest that these surpluses contributed to the United States’ ability to borrow cheaply abroad and thereby finance its unsustainable housing bubble. Worryingly, this trend has continued. In the first 10 months of 2010, China's trade surplus

totalled \$147.77 billion. This balance of payments surplus implies that the reserve component of the monetary base is increasing. Table 2 shows that China's foreign reserve accumulation has been growing steadily since 2001 and amounted to almost half of GDP in 2009. The fear is that these surpluses and the on-going reserve accumulation will provide the fuel for the next bubble.

Table 2 China's foreign reserve accumulation from 2001 to October 2010

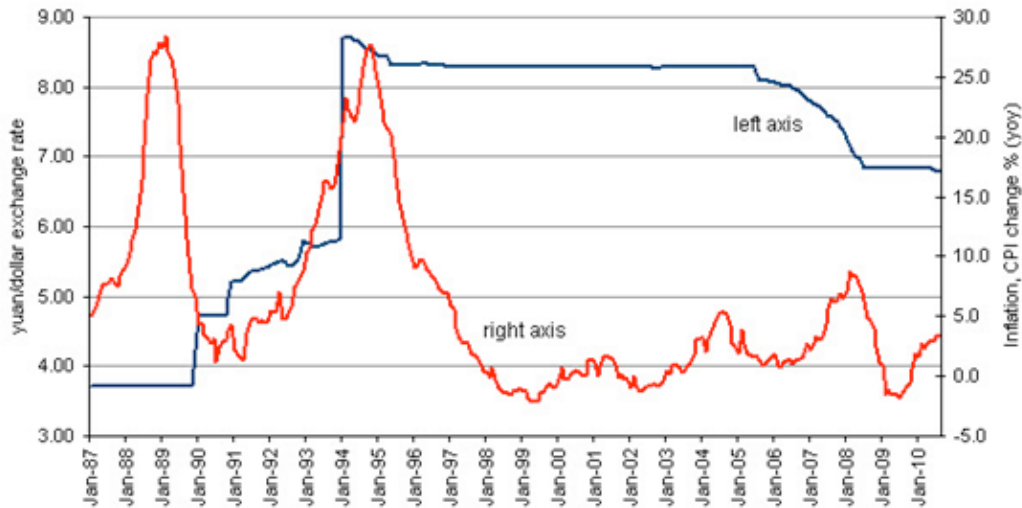
Year	USD Billion	Percentage of China's GDP
Dec 01	215.60	16.3
Dec 02	291.10	20.0
Dec 03	403.25	24.6
Dec 04	609.93	31.6
Dec 05	818.89	36.5
Dec 06	1,068.60	40.2
Dec 07	1,528.25	45.2
Dec 08	1,946.03	45.0
Dec 09	2,399.15	48.1
Jun 10	2,454.28	N/A

(Chinese State Administration of Foreign Exchange)

While the US has not officially labelled China a currency manipulator, as the *Financial Times* columnist Martin Wolf (2010) put it recently, 'If a decision to invest half a country's gross domestic product in currency reserves is not exchange rate manipulation, what is?'

Despite this expansion in the monetary base, inflation has been remarkably low over the past decade. High inflation would at some point render China uncompetitive at the prevailing exchange rate and lead to pressure for an appreciation of the exchange rate (Greenwood, 2008). Therefore, in order to offset the increase in the monetary base, the PBoC has issued 'Sterilisation bonds'. These are intended to soak up the increase in the monetary supply and therefore dampen inflationary pressures. However, as Mussa (2007) points out, sterilisation blocks the monetary, price and interest rate mechanisms that come into play to equilibrate imbalances. Furthermore, it becomes increasingly difficult to sterilise the inflow over time (Frankel, 2005).

Figure 1: Exchange rate and domestic inflation in China 1987 -2010



(Economist Online)

It could be argued that the appreciation of the RMB is inevitable given the Balassa-Samuelson effect. According to this argument, as productivity increases in rapidly developing economies like China, wages will increase causing the price level to rise. Eventually, this will lead to a nominal appreciation of the exchange rate due to excessive inflation (Xiao, 2008). Frankel (2005) has argued that, from a longer-run perspective, the prices of goods and services in China are low – not just low relative to the United States (at .23), but also low by the standards of a Balassa-Samuelson relationship estimated across countries (which predicts .36).

Fundamentally, an appreciation in the value of the Renminbi is necessary to boost domestic consumption. Increasing domestic consumption is essential to support the local economy, reduce China's dependence on export-led growth, reduce the risk of inflation and to allow Chinese workers to consume imported goods and services which are currently comparatively expensive to local goods. Guo and N'Diaye (2009) have explored in some depth the sustainability of China's export-oriented growth over the medium to longer term. They find that, if exports are to continue to drive growth it would require significant gains in market share through lower prices in a range of industries. They suggest this could be achieved through a combination of increases in productivity, lower profits, and higher implicit or explicit subsidies to industry. However, the evidence suggests that it will prove difficult to accommodate such price reductions within existing profit margins or through productivity gains. Therefore they conclude that 'rebalancing growth toward private consumption would provide a large impetus to output growth' (Guo and N'Diaye, 2009, p.2)

The Argument Against Floating

‘Continued pressures to revalue the RMB run the risk of disrupting the internal balance of saving and investment and pushing China on to a path of slower economic growth’ (Bosworth, 2004, p.1).

Those who argue against floating the RMB point to the parallels between Japan in the early 1980s and China today. In the third quarter of 2009 nominal GDP in Japan – though still vast by global standards – sank below its level in 1992. In the three decades between 1960 and 1990, Japan experienced rapid economic expansion, making it the world’s second largest economy. However, such a sudden expansion led to overheating, as excesses accumulated and bubbles formed. Japan's mistake was that it bowed to the demands of the US in the 1980s and allowed its currency (the Japanese Yen) to appreciate. It was the appreciation of the Japanese Yen in the 1980s that led to the bursting of a housing bubble and the stagnation of the Japanese economy for the last two decades.

Similarly, China has experience phenomenal growth over the past two decades and recently surpassed Japan as the world’s second largest economy. This had led market commentators to suggest that a huge property market bubble has formed, with some suggesting it is the biggest in financial history (Xie, 2010). The fear is that, by allowing the RMB to appreciate, the bubble could burst and devastate the Chinese economy. Rather, a policy of gradually deflating the bubble appears to be the best way forward for the economy. Floating the RMB and leaving its value to the whim of market forces could lead to a swift appreciation of the currency, causing the bubble to burst. The knock-on effects for economic activity could be disastrous.

However, the counter-argument is that by allowing the RMB to float, the PBoC will be free to deploy monetary policy to deflate the housing bubble. This is the classic policy trilemma. A country must ‘trade-off’ the following three goals: a fixed exchange rate, an independent monetary policy and capital mobility. According to the Mundell-Fleming model, any two policies imply that the third is not possible (Feenstra and Taylor, 2008). Which two policies are the best for China, and indeed the world, is unclear.

There are less ambiguous arguments to be made against letting the RMB float. There are structural differences between US and Chinese economy which have been overlooked. The US economy is characterised by large national and multinational corporations which are well equipped to hedge currency risk. Therefore a floating exchange rate does not pose much of a threat to US industry. The Chinese economy, on the other hand, is more dependent on smaller household businesses that are reliant on a weak RMB. Any appreciation of the RMB could erode the small profit margins that traditionally characterise these industries.

Indeed, the infant industry argument has long been touted as justification for a fixed exchange rate in China. According to this theory, some newly established activities are initially high cost relative to the established foreign enterprises and it requires time for them to become competitive

(Krueger and Tuncer, 1982). Therefore protection, such as ‘exchange rate protection’, might be justifiable.

One of the real points of contention concerns China’s hoard of foreign assets – in particular dollar denominated debt (Table 2). Any appreciation of the RMB could lead to a huge capital loss for China. As Paul Krugman (2009) puts it, China has gotten itself into a ‘dollar trap’. He argues that ‘China acquired its \$2 trillion stash – turning the People’s Republic into the T-bills Republic – the same way Britain acquired its empire: in a fit of absence of mind.’ A further appreciation of the RMB could continue to erode China’s external wealth. That said, from a global perspective, this would be a zero-sum game, with countries like the US benefiting the most. So it is clear that what is best for China is not necessarily what is best for the world. This is again a normative issue.

Fear of Floating?

In their influential paper, Calvo and Reinhart (2002) put forward the theory that nations have a ‘fear of floating’. Countries that say they allow their exchange rate to float mostly do not. While the authors pinpoint a lack of credibility on the part of the monetary authority as the main motivation behind this fear, this appears less applicable in the case of China. However, they do point to other causes. They find that exchange rate volatility appears to be more damaging to trade in emerging markets; perhaps because trade is predominantly invoiced in US dollars and hedging opportunities are more limited. Indeed, they found that, despite the rationale for accommodating real terms of trade shocks, countries often choose not to. Fear of an abrupt exchange rate swing in these cases may dominate the perceived need to allow for the nominal and real exchange rate to adjust. If it is the case China too has a ‘fear of floating’ then, from a purely economic perspective, there is a case for allowing the RMB to float. To recall Friedman’s (1953) argument, it is more efficient to allow one price, that is, the value of RMB, to change than to adjust a plethora of individual prices that make up the internal price structure of the Chinese economy.

Conclusion

The argument for floating the RMB is steeped in a myriad of political and economic issues. Leaving aside the political arguments, the empirical literature on the topic is also far from unanimous. While there are a number of empirical shortcomings, the RMB does appear to be somewhat undervalued relative to the USD and EUR. However, that doesn’t necessarily imply that a free-floating currency would be the best policy for China, or indeed the world.

If one solid conclusion can be drawn from this analysis, it is that if China’s peg is motivated purely by a ‘fear of floating,’ then there may be a clear economic rationale for moving to a more flexible exchange rate. Realistically, an incremental move towards a floating regime is in China and world’s best interest so as to avoid the volatility associated with large swings in the exchange rate.

The Chinese authorities appear to hold the view that the benefits of floating outweigh the costs. The above comments from the Chinese Premier reinforce the understanding that the nation needs to rebalance growth. Central to achieving that is a more flexible exchange rate and an independent monetary policy. Despite temporarily re-pegging the RMB to the USD during the financial crisis, the RMB has been moving towards a float regime since mid-2005. Since the unofficial peg was lifted in June 2010, the RMB has appreciated 2.6%. Therefore, whether the debate has been settled in economic literature appears less relevant; China is moving, albeit slowly, toward a more flexible exchange rate regime.

There are certainly benefits of this movement for the world economy. In an economic downturn, when central bank's find themselves in a liquidity trap they often expand the money supply in order to devalue their currency. This has taken the shape of quantitative easing recently. While this is advisable for asymmetric shocks to an individual nation, a shock as big and universal as the financial crisis makes such a policy a game of 'beggar-thy-neighbour', and ultimately amounts to a zero-sum exercise. Such policies have the potential to become a race to the bottom and mark an age of global 'exchange rate protection'. Given the economic consequences of protectionism in the 1930s, such an outcome could have a detrimental outcome for the world economy. Worryingly, talk of 'currency wars' has been making headlines in recent months and the political back-and-forth between the US and China has been intensifying that risk. While the political arguments have been omitted from this analysis, these developments have the greatest potential to dictate the flexibility of the RMB over the coming years.

References

Bosworth, B., 2004. *Valuing The Renminbi*. Washington, DC: The Brookings Institution.

Box, G. E. P. and Draper, N. R., 1987. *Empirical Model-Building and Response Surfaces*. Wiley.

Calvo, G. A. and Reinhart, C. M., 2002. 'Fear Of Floating'. *The Quarterly Journal of Economics*, MIT Press, 117(2), pp.379-408.

Cheung, Y., Chinn, M. and Fujii E., 2007. 'The Overvaluation of Renminbi Undervaluation', *Journal of International Money and Finance*. 26(5), pp.762-785.

Cheung, Y., Chinn M. and Fujii, E., 2009. 'China's Current Account and Exchange Rate'. In: R. Feenstra and S. Wei, eds. *China's Growing Role in World Trade*. Chicago University Press.

Feenstra, R. and Taylor, A. M., 2008. *International Economics*. Worth Publishers.

Frankel, J., 2005. 'On the Renminbi: The Choice Between Adjustment Under a Fixed Exchange Rate and Adjustment Under a Flexible Rate'. National Bureau of Economic Research. *Working paper no.11274*.

Funke, M. and Rahn, J., 2005. 'Just how undervalued in the Chinese renminbi?' *The World Economy*, 8(4), pp.465–489.

Goldstein, M., 2004. 'China and the Renminbi Exchange Rate'. In: C. Bergsten and J. Williamson, eds. *Dollar adjustment: how far? Against what?*. Washington, DC: Institute for International Economics.

Greenwood, J., 2008. 'The Costs and implications of PBC Sterilization'. *Cato Journal*, 28(2), pp.205-217.

Guo, K. and N'Diaye, P., 2009. 'Employment Effects of Growth Rebalancing in China'. IMF. *Working Paper no.09/169*.

Krueger, A. O. and Tuncer, B., 1982. 'An Empirical Test of the Infant Industry Argument. *American Economic Review*, 72, pp.1142-1152.

Krugman, P., 2009. 'China's Dollar Trap'. *The New York Times*, 02 April.

Makin, A., 2009. 'Is China's Exchange Rate Policy a Form of Trade Protection?'. *Business Economics*, 44(2), pp.80–86.

Friedman, M., 1953. *Essays in Positive Economics*. Chicago: Chicago Press.

Mussa, M., 2007. 'IMF Surveillance over China's Exchange Rate Policy'. In: Peterson Institute of International Economics, *Conference on China's Exchange Rate Policy*. Peterson Institute, 19 October 2007.

Nair, M. K. V. and Sinnakkannu, J., 2010. 'De-pegging of the Chinese renminbi against the US dollar: analysis of its effects on China's international trade competitiveness'. *Journal of the Asia Pacific Economy*, 15(4), pp.470-489.

Obstfeld, M. and Rogoff, K., 2009. 'Global Imbalances and the Financial Crisis: Products of Common Causes'. In: Federal Reserve Bank of San Francisco, Asia Economic Policy Conference. Santa Barbara, CA, 18-20 October 2009.

Prasad, E. and Wei, S.-J., 2005. 'The Chinese Approach to Capital Inflows: Patterns and Possible Explanations'. IMF, *Working Paper no.05/79*.

Wolf, M., 2010. 'How to fight the currency wars with stubborn China'. *Financial Times*, 05 October.

Xiao, G., 2008. 'China's Exchange Rate and Monetary Policies: Structural and Institutional Constraints and Reform Options'. *Asian Economic papers*, 7(3), pp.31-49.

Xie, A., 2010. 'I'll Tell You When Chinese Bubble Is About to Burst'. *Bloomberg*, [Online] 25 April. Available at: <http://www.businessweek.com/news/2010-04-25/i-ll-tell-you-when-chinese-bubble-is-about-to-burst-andy-xie.html>.