THE TREASURY
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Treasury Report: The Renminbi: The Possibility of Change, and its Likely Effects

Executive Summary

There is a tentatively held belief that the Renminbi (the Chinese currency) is currently undervalued by up to 30%. Keeping the Renminbi pegged to the US Dollar has been associated with a period of inflationary growth in the Chinese economy and with trade imbalances between China and the United States. Partly because of this growing bilateral trade imbalance, the United States has put pressure on China to revalue its currency. It has also been argued that having a pegged exchange rate restricts China's ability to conduct monetary policy to prevent over-investment in the economy and control domestic inflation pressures.

China has stated that it intends to reform its currency markets, but has not given a clear indication of the manner in which this will occur, nor of the timing of any change, other than to state that it will proceed according to its own needs and not in response to external pressure. The most likely scenario, according to market commentators, is an incremental change such as the adoption of a band around the existing peg, moving the peg up slightly, pegging to a basket of currencies, or some combination of these. An incremental change is likely to cause less short-term disruption in China, as long as it is accepted by financial markets, but might be undermined if speculators see it as a half-measure.

The effect of an incremental appreciation on the global economy is likely to be small, in part because the real Renminbi exchange rate is unlikely to move by as much as the nominal exchange rate. An appreciation is likely to cause a slowing of inflation within China, and may cause an increase elsewhere, predominantly in the United States. However, major changes in prices outside China are seen as a risk rather than a likely scenario. Meanwhile, one study of the effect on New Zealand predicts only a small (0.07%) increase in the value of New Zealand's exports to all countries following a 10% Renminbi revaluation. The study implied that the effects on imports would be similarly small. Another, qualitative, analysis by the IMF came to similar conclusions about the effect on the world economy.

These analyses depend on the assumption that any exchange rate policy change will not cause a crisis in the Chinese financial markets, such as by forcing weak Chinese banks into insolvency.

Purpose of Report

1. This report contains an assessment of the possibility of, and likely effects of, a Renminbi revaluation. The report has been prepared as part of The Treasury's regular monitoring of international economic developments.

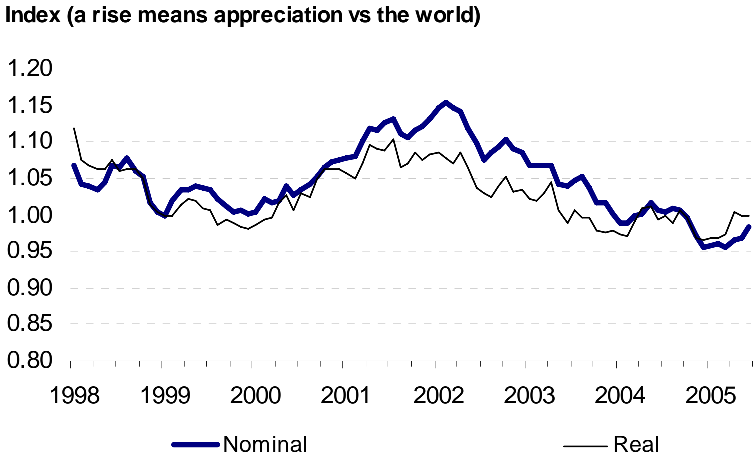
Analysis

Recent Developments

2. China has been operating a pegged exchange rate since 1994. The Renminbi's value is pegged to the value of the US Dollar, moving in a very narrow range above and below 8.28 Yuan per dollar. There is a broad consensus that at this value, the Renminbi is undervalued by up to 30% (though higher estimates do exist). The range of estimates is wide because it is difficult to determine whether or not a currency is fundamentally under- or over-valued.

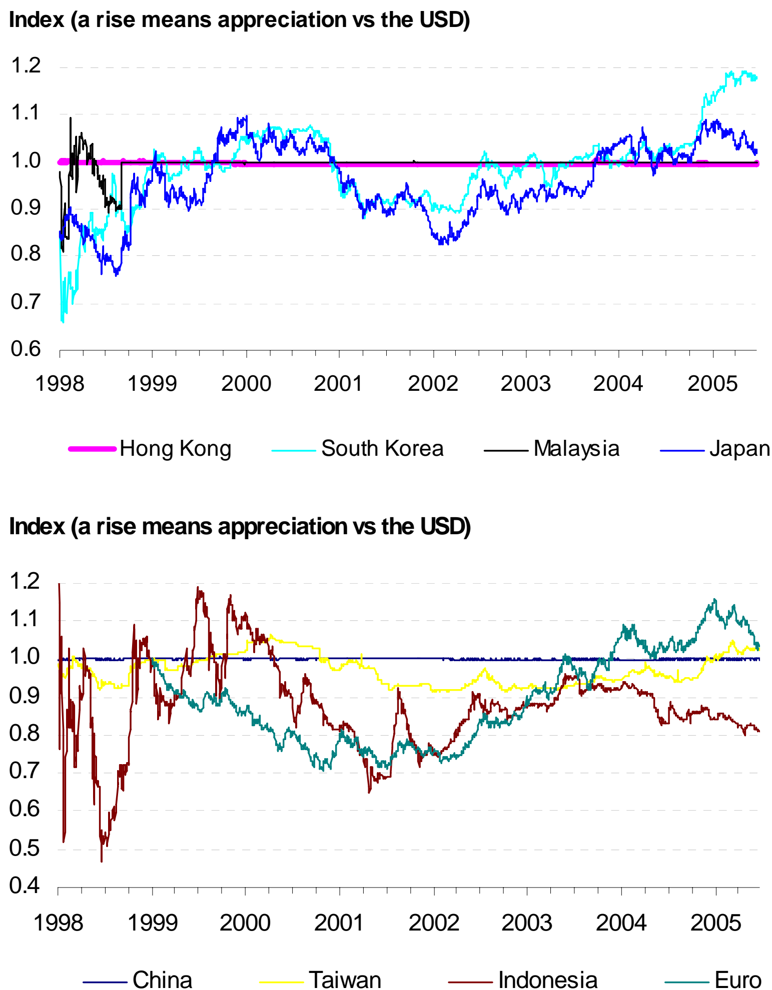
3. A number of other Asian countries also peg their exchange rates to the US dollar, or operate other managed exchange rate mechanisms (see figure 1 and 2). For example, Malaysia's exchange rate is pegged to the US dollar (3.80 ringgit per USD). To some extent, these managed exchange rates are designed to maintain relative competitiveness with China. In the event of a change in the Chinese exchange rate regime, it is therefore possible that these other countries will also change their regimes.

Figure 1: China's Effective Exchange Rate



Source: Datastream

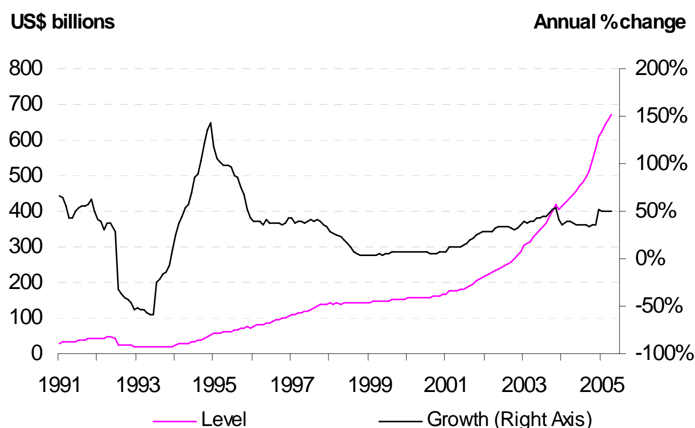
Figure 2: Exchange Rates vs the US Dollar



Source: Datastream

4. To hold the Renminbi's value low in the face of high demand by goods traders and particularly capital investors, the Chinese authorities have purchased large amounts of foreign currency at the fixed exchange rate. This reduces the available supply of foreign currency relative to the supply of Renminbi, suppressing the exchange rate. The Chinese authorities had accumulated US$660 billion of foreign exchange reserves at the end of March 2005, with this amount growing rapidly (see figure 3).

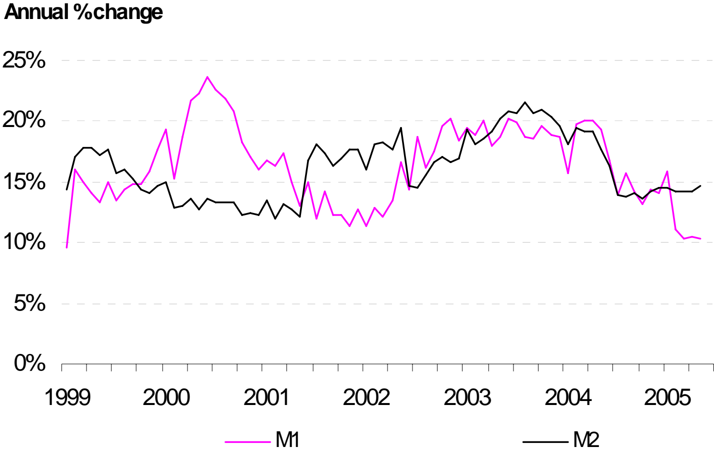
Figure 3: China's Foreign Currency Reserves



Source: Datastream

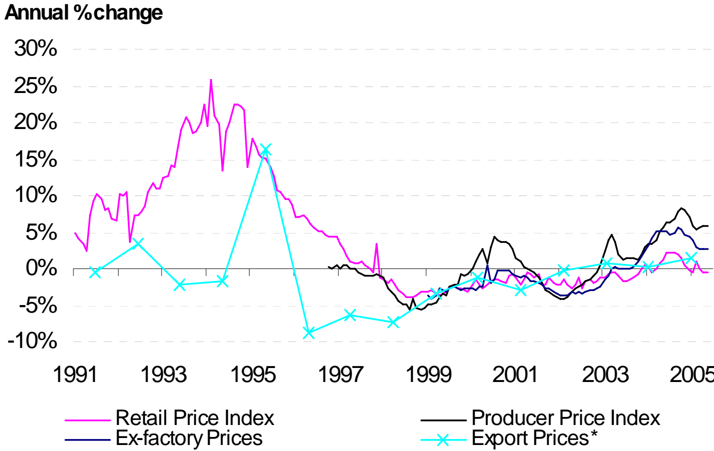
5. The growing reserves have caused an increase in liquidity. In response, the Chinese have issued domestic bonds to mop up the supply of Renminbi. But although such sterilisation means growth in the money supply have been relatively stable over the past six years, the rising reserves have been associated with price changes – a move from deflation in the late-1990s to steady or rising prices – and with an investment boom (see figure 4 and 5).

Figure 4: China's Money Supply Growth



Source: Datastream

Figure 5: China Inflation Measures

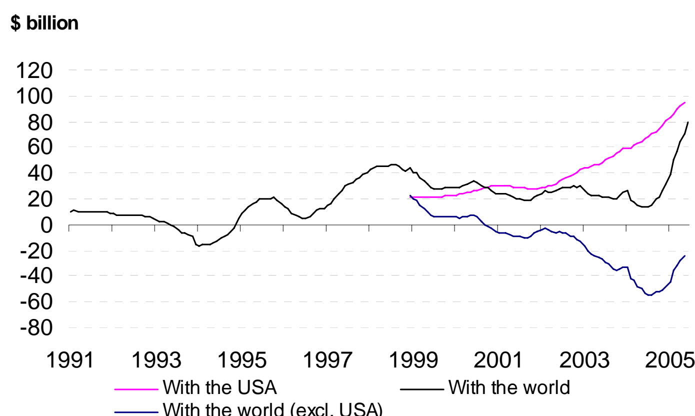


* Economist Intelligence Unit data

Source: Datastream

6. The relatively low value of the exchange rate has also contributed to a rapidly growing trade surplus, particularly with the United States.

Figure 6: China's External Trade Balance (Annual Running Total)



Source: Datastream

7. The Chinese authorities have come under pressure to reform the current currency arrangement. This pressure has come from other countries, particularly those experiencing growing trade deficits with China, as well as from international agencies who argue that China should reform the exchange rate for its own good. At one stage the United States went as far as proposing a 27.5% tariff on Chinese imports to pressure China to alter its exchange rate, but deferred the proposal at the end of June after advice that China was likely to revalue in the near future.

8. There is also some pressure to avoid reform, however. Firstly, reform is perceived as inherently risky by a Chinese ruling body which prefers a gradualist approach. This approach is referred to as "crossing the river by feeling the stones", a phrase often quoted by Deng Xiaoping in the past. Secondly, while China runs a trade surplus with the United States, it runs a deficit with the rest of the world (see Figure 6). And thirdly, while the Renminbi may now be undervalued, it was probably overvalued during the Asian crisis and China provided a stabilising influence by not devaluing.

Options for Reform

9. Reform might take place through revaluation, changing the exchange rate mechanism, or capital market liberalisation. These are effectively separate. This section concentrates on the possibilities of revaluation and mechanism change.

10. China has said that it is ready, in a technical sense, to alter the current exchange rate regime at any time, but that it will do so according to Chinese imperatives rather than in response to external pressure.

11. Current options for reform include:

- Do nothing.
- Raise the exchange rate peg (a revaluation of the fixed rate).
- Adopt a (wider) range around the existing peg, or a higher peg.
- Peg to a basket of currencies rather than the US dollar alone.
- Adopt a crawling peg (rising over time).
- Conduct a managed float of the Renminbi.
- Conduct a clean float of the Renminbi.

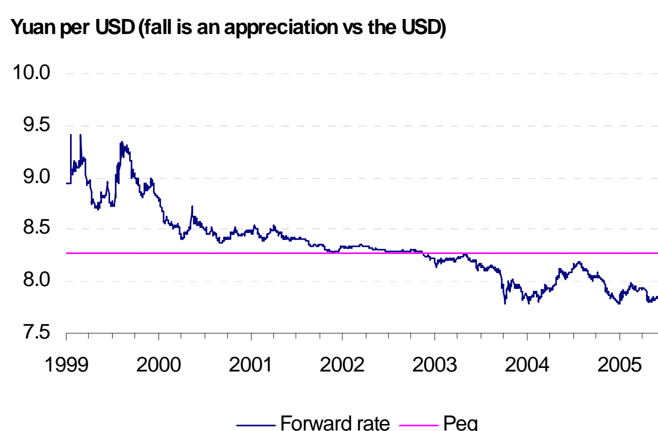
12. The current consensus is that China will move incrementally rather than radically, which in practice means alterations to the peg of a moderate nature. China will not want to endanger export and employment growth by a large change which might make exporters less competitive and push some local banks towards bankruptcy.

13. China might also wish to avoid major change in the interests of protecting the banking system. Non-performing loans are a problem in the domestic banking industry, and policy changes which affect the value of existing assets (e.g. foreign assets on bank balance sheets) or the credit-worthiness of businesses in China (e.g. exporters) could put banks at greater risk of technical insolvency.

14. The drawback of an incremental move is that it might encourage currency speculation. A small appreciation of Bretton-Woods currencies against the US Dollar was judged to be insufficient by speculators in the early 1970s, and led to the eventual collapse of the system. Small depreciations in Mexico in 1994 and Indonesia in 1997/98 were also seen to be less than required, and were followed quickly by a float in Mexico and a much larger devaluation in Indonesia.

15. In spite of the drawback, market data support the hypothesis of incrementalism. The Chinese currency is not freely convertible, but a 'shadow' forward market is provided in the form of non-deliverable forwards. These instruments allow people to hedge against future Renminbi exchange rate movements, without actually needing to exchange Renminbi. The non-deliverable forward contracts are currently implying a very mild Renminbi revaluation of about 5% over the next 12 months (see Figure 7).

Figure 7: Non-Deliverable Forward Rate (Implied Expected Spot Rate in 12 Months)



Source: Bloomberg

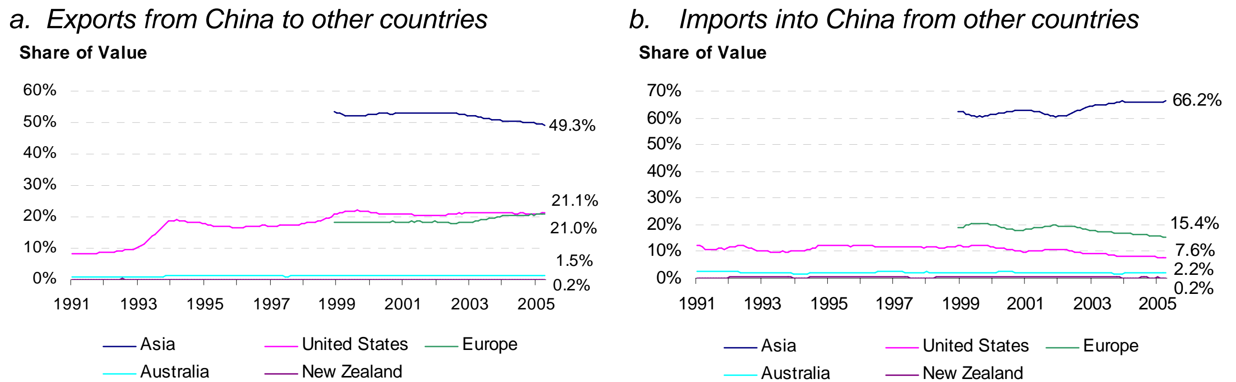
Possible Effects on the New Zealand Economy

16. The effects of a Renminbi revaluation are complex. Simple theoretical models are unlikely to be rich enough to capture the complete range of effects of a revaluation. For example: (1) it is likely that there will be third-country effects because China's revaluation affects not only the competitiveness of its exporters, but also the competitiveness of, say, United States exporters. (2) It is also likely that the effect on the prices of different commodities will vary, with prices for certain commodities or services supported and others undermined. (3) And finally, most simple models do not capture the effects of changing confidence, which typically manifest themselves through financial or direct investment flows.

    i. In the first case, New Zealand's trade will be affected not only by changes in Chinese demand, but also by changes in the demand of China's other trading

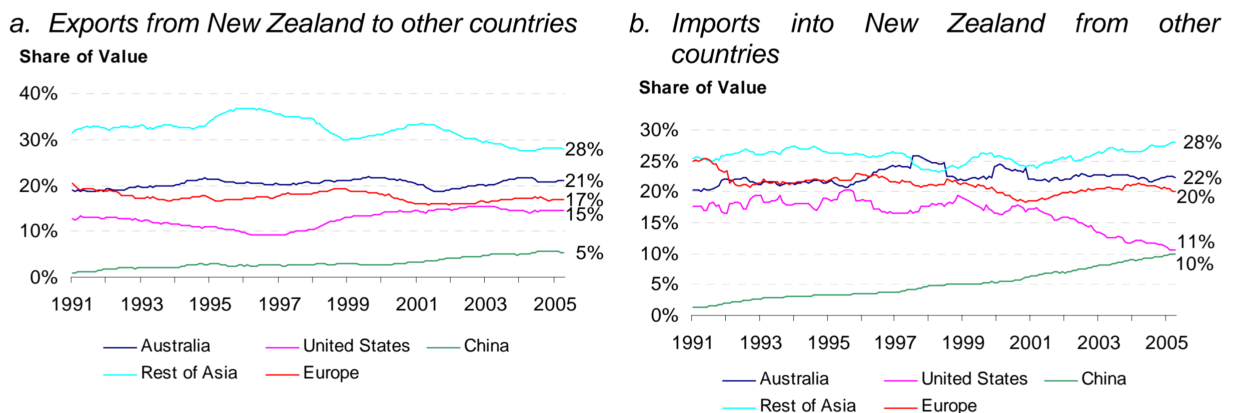
partners. Figures 8 and 9 summarise some of the significant trade links between regions. It is noted that although China has become an important export market for New Zealand, the effect of a Chinese revaluation on the *United States* could be more important for our exporters than the effect on China.

Figure 8: China's Trade Patterns (Annual Rolling Average)



Source: Datastream

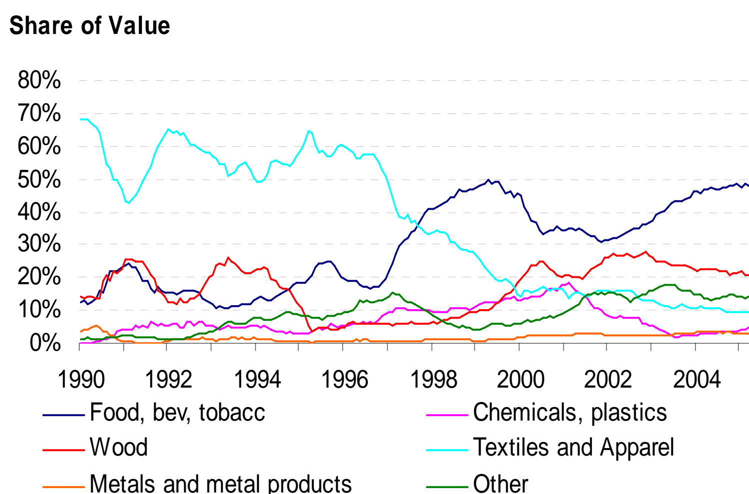
Figure 9: New Zealand's Trade Patterns (Annual Rolling Average)



Source: Statistics NZ

ii. In the second case, New Zealand's particular mix of commodity exports may be important. For example, it could be the case that the type of products New Zealand exports to China (mainly food, particularly dairy products) are more likely to be sold directly into the Chinese domestic market than, say, coal and ore. Equivalently, it could be the case that coal and ore are more likely to be used as inputs into the production of exports from China. To the extent that China's exports and domestic demand are not equally affected by exchange rate change, the mix of goods is pertinent. Figure 10 summarises the mix of New Zealand exports to China.

Figure 10: New Zealand Exports to China



Source: Statistics NZ

iii. Simple theoretical models are also unlikely to explicitly incorporate all effects on business and consumer confidence that might arise from exchange rate change.

17. One (partial) solution to the first two limitations is to use a more complex model. The AP-GCubed model is a model which includes 18 economies (including New Zealand) and 6 sectors in each economy.[1]

18. The AP-GCubed model implies that a 10% revaluation of the Renminbi will reduce Chinese GDP for a short time, but will have little effect on the Chinese current account balance. This is primarily because the revaluation would lead to a significantly lower inflation rate within China, which means the real exchange rate appreciation would barely exceed 2%, compared to the nominal appreciation of 10%. There is a risk, particularly if other countries revalue along with China, that slower inflation in revaluing countries will be matched by faster inflation in the United States. But large changes in prices outside China are not seen as a probable scenario.

19. Consistent with the small effect on China's current account balance, the model implies little effect on exports in other countries. For example, New Zealand's exports to China are predicted to grow by 1.5% (in US Dollars) relative to the "no appreciation" case, but New Zealand's total exports are expected to increase by just 0.07%. The presentation of the model results implies that the effects on imports would be similarly small. These results hold for other countries too, including the United States.

20. In predicting a small impact on other economies, the AP-GCubed model results are consistent with other, qualitative, analyses of the effect of a minor Renminbi revaluation. For example, the IMF has previously stated that "a currency revaluation would not by itself have a major impact on global current account imbalances—particularly given China's relatively small share in world trade".[2]

21. Both the quantitative and qualitative analyses require the assumption that revaluation will not cause any financial crisis, such as the insolvency of domestically owned banks in China. If the financial infrastructure is found to be more fragile than currently believed, there may be larger effects.

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[1] "What if China revalues its currency?", EconomicScenarios.Com, Issue 7, December 2003.

[2] "IMF Concludes 2003 Article IV Consultation with the People's Republic of China", IMF Public Information Notice No. 03/136, November 18th 2003.