# SHOULD THE YUAN BE REVALUED?

*China's exchange rate policy is often invoked to explain the widening of the US trade deficit. Nevertheless, if prices (and hence the exchange rate) do indeed play a role in Chinese competitiveness, the impact expected from a possible rise in the yuan\* should not be over-estimated. China's competitiveness stems mainly from structural factors. Also, China's share in US trade remains relatively small. However, an appreciation of the yuan could be followed by an appreciation of all Asian currencies, which would then obviously have a greater impact on the American trade balance. The present caution of the Chinese authorities may be explained by fears about an appreciation worsening the distribution of resources and weakening local industry. Multinational firms do indeed benefit from very low unit labour costs in China. But local firms could be handicapped by a rise in the yuan, as they have far lower productivity.*

The exchange rate policy followed by the Chinese authorities is frequently challenged in the debate on the causes of the major, world trade disequilibria. The exchange rate of the yuan has been unchanged since 1 January 1994, at 8.277 yuan to the dollar, with a narrow fluctuation margin (± 0.18%). This is despite the fact that China's trade surplus ($30 billion in 2002[1]) and foreign direct investment inflows ($50 billion in the same year[2]) would have led to an appreciation of the Chinese currency had the People's Bank of China not blocked such a movement.

For several years, the Chinese authorities have claimed that they have been considering moving to a more flexible currency regime and pursuing greater capital movement liberalisation. International pressure for change has strengthened since the US administration, encouraged by domestic industries that see the low cost of Chinese exports as a source of deflation and job destruction, has come out in favour of a revaluation of the Chinese currency.

That said, there is little unanimity on the view that the yuan is undervalued or on the likely positive impact of a revaluation.

## Is the Yuan Undervalued?

The proposition that the yuan is undervalued (by between 10% and 50% depending on the estimates) is based largely on two arguments:

**.** *The dynamism of Chinese exports.* Having risen by 22% in 2002, Chinese exports expanded by a further 32% during the first nine months of 2003. According to some experts, China may overtake Japan as the world's third largest exporter this year, with more than 6% of the world market (compared to 4% in 2001). The United States, and to a lesser extent the European Union and Japan have substantial trade deficits with China: in 2002, the US trade deficit with China exceeded $100 billion, with those of the European Union and Japan standing at $40 billion and $20 billion respectively (see Box 1).

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### BOX 1 – DISCREPANCIES IN TRADE STATISTICS

Considerable discrepancies exist in the size of bilateral trade flows between China and its major partners, depending on whether the flows are declared by Chinese customs or by its trading partners. Taking transit trade through Hong Kong into account reduces these discrepancies significantly. Such transit trade is especially important in the case of Chinese exports to the United States, which China officially declares as exports to Hong Kong.

| China's trade surplus (1997-2000 average, in US$ billions) | with the United States | with Japan |
|---|---|---|
| Official Chinese data | 6.1 | 0.8 |
| Official data from partners | 69.4 | 20.4 |
| Chinese data adjusted for Hong Kong transit trade | 38.5 | 9.5 |
| Data from partners adjusted for Hong Kong transit trade | 63.7 | 7.9 |

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\* China's currency is the renminbi, the yuan being a unit of account. It is employed in this text as its usage is more current in France and other foreign countries.
1. Source: Chinese customs.
2. Source: United Nations, *World Investment Report*, 2003.

**.** *The accumulation of foreign exchange reserves*. Foreign direct investment in China rose by a further 50% during the first six months of 2003, despite the SARS epidemic. In addition, since the beginning of the year, China has recorded $30 to $35 billion short term capital inflows (hot money)[3]. These inflows of capital, coming on top of the trade surplus, have led to pressures on the exchange rate to appreciate, which has been countered by the People's Bank of China. As a result, Chinese forex reserves have risen by $70 billion since the beginning of 2003, reaching a level of $356 billion[4] in the middle of the year, despite the measures taken in 2003 to liberalise capital movements[5] partially. Given the present, limited liberalisation of China's capital account, greater flexibility in the exchange rate regime would lead to an appreciation of the yuan.

Nevertheless, the idea that the yuan is undervalued is not shared unanimously. Indeed, the real effective exchange rate of the yuan has only fallen by 9% since 1997-1998, when the currency was considered to be over-valued compared to other Asian currencies (Graph 1).

Graph 1 – The real effective exchange rate of the yuan (1995=100)
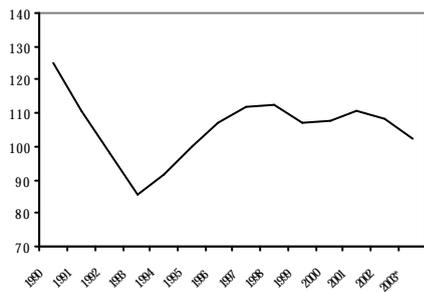


* 1st quarter 2003.
*Note:* This is the average rate against partner currencies (weighted according to trade flows), which is corrected for the relative movement of consumer prices. A rise (fall) in the REER corresponds to an appreciation (depreciation) of the Chinese currency in real terms.
*Source:* FMI, *International Financial Statistics.*

The competitive strength of Chinese exports should be examined from several points of view.

While Chinese exports are rising, import growth is very dynamic too: during the first nine months of 2003, imports rose even more rapidly than exports (+40% for manufactured products), and the trade surplus was halved when compared to the same period in the previous year ($9 billion as opposed to $18 billion). China's entry into the WTO (at the end of 2001) has led to a progressive fall in customs duties, which is equivalent to a revaluation of the yuan, as far as imports are concerned.

China's trade results from structural change which has been occurring in East and South-East Asia[6] for the last decade. The relocation of Asian production to China has led to a shift in the distribution of Asian exports to the world market, in favour of China. At the same time, the intra-Asian division of labour has induced strong growth of Chinese imports coming from its neighbours. As a result, the Chinese trade surplus with the United States and Europe is more than off-set by the deficits recorded with Asian countries (apart from Hong Kong).

Graph 2 – China's trade balance with major economic regions
*billion dollars*
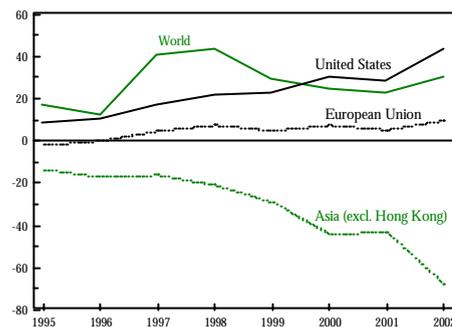


*Source:* Chinese Customs.

Lastly, China's competitiveness is not mainly linked to the exchange rate of the yuan, but stems rather from structural factors. Not only are wage levels low, but they are also flexible downwards given the abundant supply of labour: the revaluation of the yuan could thus be partly off-set by a fall in Chinese wages[7]. Furthermore, half of China's exports come from foreign subsidiaries set up in China, whose exports have a very high import content[8], which limits the sensitivity of exports to exchange rate movements.

## China and Asia

There are a number of ways in which greater flexibility could be introduced into China's foreign exchange regime: i) a one-shot or gradual revaluation of the yuan, consistent with the present fixed but adjustable parity regime; ii) a widening of the fluctuation margin, or even a float of the yuan; and iii) a currency peg on a more diversified basket of currencies, including both the euro and the dollar. The Chinese currency's exchange rate would rise in the short term in all three cases, because of China's balance of payments position (cases i and ii) or because of the appreciation of the euro (case iii).

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3. Minefi: *Revue des marchés financiers chinois*, n°27, 30 June - 4 July 2003. <http://www.dree.org/chine/actualité.asp>
4. Source: Bank of International Settlements, *Quarterly Review*, June 2003.
5. In 2003, the authorities raised the amount of foreign currency which Chinese nationals may obtain for travelling abroad and which certain companies may retain.
6. For the sake of simplicity, the term "Asia" used here refers to all East and South-East Asian countries listed in the Table on page 3.
7. The effective appreciation of the yuan in 1998 in the wake of the collapse of other Asian currencies thus led to falls in wages.
8. Every $100 exported by foreign subsidiaries contain $55 in imported intermediate goods. F. Lemoine & D. Ünal-Kesenci, "Spécialisation internationale et rattrapage technologique", *Economie internationale*, 92 (2002).

What impact would exchange rate appreciation likely have on Chinese exports? A gravity model (Box 2) developed by the CEPII has been used to estimate the effect of changes in the parity and/or the volatility of the yuan on Chinese trade[9]. A 10% appreciation is simulated which corresponds to a strong nominal shock, as it means that the dollar price of Chinese exports rises by 10% despite imported disinflation, cost compression and the pricing behaviour described above. The results indicate that a 10% real appreciation with respect to the dollar reduce, *ceteris paribus*, the volume of Chinese exports to the United States and to other countries whose currencies are pegged in nominal terms to the dollar, by 10%.

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**BOX 2 – THE GRAVITY MODEL**

The model is estimated on the bilateral exports of 15 emerging countries (mostly Asian and including China) to the same 15 countries, and 18 OECD countries. The equation is estimated in volume terms for the period 1984-2001, and is

$$\ln X_{ijt} = 1,424 \ln PIB_{it} + 1,186 \ln PIB_{jt} - 0,787 \ln DIST_{ij} + 1,023 \ln TCR_{ijt} - 0,450 VOL_{ijt}$$
$$\scriptstyle [0,079] \qquad\quad [0,081] \qquad\quad [0,021] \qquad\qquad [0,043] \qquad\qquad [0,064]$$
$$+ \, b_i + b_j + b_t + ACOM_{ijt} + 0,444 \, LC_{ij} + 0,436 \, 6 FC_{ij} + e_{ijt}$$
$$\scriptstyle [0,040] \qquad\quad [0,082]$$

Adjusted R² = 0.807

where $X_{ijt}$ stands for the volume of exports of country $i$ to $j$, in year $t$, in constant dollars, $PIB_{it}$ is the GDP per capita in standard purchasing parity of country $i$ in year $t$. $DIST_{ij}$ is the distance between the capital cities of the two countries $i$ and $j$. $TCR_{ijt}$ is the real exchange rate of $i$ with respect to $j$ (a higher level signifies greater competitiveness for i). $VOL_{ijt}$ is the volatility of the bilateral, nominal exchange rate (the coefficient of variation of the quarterly exchange rate), $ACOM_{ijt}$ is a vector of dummy variables which indicates the presence of a trade agreement in year $t$ between $i$ and $j$. $LC_{ij}$ is a dummy variable indicating the presence of a common language, and $FC_{ij}$ is a dummy variable indicating the presence of a common frontier. The estimation also includes fixed effects for the countries ($\beta_i$ et $\beta_j$) and the years ($\beta_t$). All variables are significant at the 1% level (the standard deviations are given in squared brackets). On the basis of this estimation, it follows that if China today behaves like the average of the countries in the sample\*, a 1% appreciation of the yuan will lead to a fall in exports of about 1%, whereas a rise in the volatility of the yuan will cause exports to decline by 0.4%.

(\*) A panel estimation resolves the problems faced when estimating the equation for China, problems linked to the reform and openness process that was started in 1988.

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How would the US deficit respond to such a major change in the parity? There would be no impact on the value of imports of Chinese goods. Import volumes would fall, by 10%, but each imported unit would be revalued by 10%[10]. A turnaround in the US trade balance could only come from a rise in US exports, whose competitiveness on the Chinese market would rise by 10%. But China only accounts for 4% of total US exports, which would therefore only increase by

0.4% (assuming that the price elasticity of export volumes is also equal to 1).

In reality, the US trade deficit with China is only a part of the US deficit with Asia. Once China and Taiwan are taken out, the US deficit in 2001 exceeded $110 billion, and was therefore higher than the deficit with China. Asia, excluding China, accounts for 20% of US exports, and a 10% real appreciation of all currencies in this region would lead to a 2% volume increase in US exports.

Some countries, such as Korea and Taiwan, which use China as their workshop, may nevertheless seek to avoid an appreciation of their currencies. Coming on top of an appreciation of the yuan, a rise in their own currencies would constitute a twofold shock to their competitiveness (higher prices for their intermediate products exported to China, and higher prices for final products exported from China). Other countries (Malaysia, the Philippines and Thailand), which compete with China in developed markets, may also feel an incentive to keep their real exchange rate unchanged in order to gain market share in the United States. However, the growing regional integration in Asia should be taken into account, as relative price stability is essential for increasing trade flows. The Asian countries are today aware of the advantages of this integration, and the ASEAN + 3 (China, S. Korea and Japan) acts already as a regional coordinating body. Within this framework, they could let their currencies follow the yuan, all the more so if Japan initiated this development, as it is the key country in Asian integration (see Table).

Table – Regional trade to various Asian countries in 2001, in % of total flows

| | Total exports of each country = 100 Destination area | | | | Total imports of each country = 100 Area of origin | | | |
|---|---|---|---|---|---|---|---|---|
| | China | Japan | Other Asia | Total Asia | China | Japan | Other Asia | Total Asia |
| China | - | 19 | 13 | 31 | - | 21 | 30 | 51 |
| Japan | 11 | - | 27 | 38 | 18 | - | 24 | 42 |
| South Korea | 15 | 11 | 16 | 42 | 10 | 20 | 14 | 44 |
| Thailand | 6 | 16 | 21 | 43 | 6 | 22 | 23 | 51 |
| Taiwan | 11 | 11 | 21 | 44 | 6 | 25 | 22 | 53 |
| Hong Kong | 33 | 2 | 11 | 46 | 10 | 13 | 37 | 59 |
| Philippines | 4 | 17 | 28 | 49 | 3 | 23 | 26 | 52 |
| Malaysia | 6 | 13 | 29 | 49 | 6 | 18 | 37 | 61 |
| Singapore | 4 | 6 | 43 | 53 | 5 | 15 | 34 | 54 |
| Indonesia | 5 | 23 | 27 | 54 | 6 | 20 | 31 | 58 |
| *For information:* | | | | | | | | |
| United States | 4 | 8 | 12 | 24 | 9 | 11 | 12 | 32 |
| World | 3 | 5 | 9 | 18 | 5 | 7 | 10 | 22 |

*Source:* CEPII, the CHELEM database.

The American trade balance improvement would remain limited in all cases, especially as the appreciation cannot be generalised given the heterogeneity of macroeconomic performance. In particular, the current deflation in Taiwan stands in the way of an appreciation of the Taiwanese dollar.

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9. See Agnès Bénassy-Quéré & Amina Lahrèche-Révil, "Trade linkages and exchange-rates in Asia: The role of China", CEPII *Working Paper*, No 2003-21, December 2003. It is very unlikely that the Chinese authorities opt for a free float of the yuan in the foreseeable future. For this reason, the question of volatility has not been examined here, and research has been concentrated on a possible revaluation.
10. The substitution of American production for Chinese production would, however, slow down in some sectors. Deflationary pressures exerted by imported Chinese products would also be reduced.

Similarly, the gains of a further appreciation of the yen are open to question. Lastly, it should be borne in mind that a real exchange correction of 10%, as put forward here, does constitute a major shock.

The current debate about China's exchange rate regime raises the issue of coordination within the international monetary system, which is presently too restricted to the G7. But the fundamental question does not hinge on whether or not China is practising exchange rate dumping. The United States' current account deficit is due less to a lack of competitiveness of its manufactured goods than to the endemic weakness of private and public savings. As long as US residents spend more than they earn, there is little likelihood of the deficit coming down. But it is precisely this excessive consumption which has been stimulating the world growth in recent years. For a country like China to become a locomotive of the world economy over time requires that its domestic market opens up and that its growth is consolidated. It is this last point that is especially important in determining the speed with which the inevitable appreciation of the yuan will occur.

## ◼ Giving Priority of Growth

The strong growth of the Chinese economy at present is associated with great stability in prices, and even falls in some years. This is partly explained by the outward nature of Chinese growth (the rise in exports drawing in investment) and the lethargy of domestic consumption (accompanied by very high savings). Were the yuan to rise, then maintaining the competitiveness of export companies would imply either a cut in margins or a cut in costs. The resulting downward pressure on wages would lead to a slowdown in domestic demand.

In 2003, the strong rise in investment (30%) in the construction and manufacturing industry resulted from speculative behaviour in the property market, public regional investment strategies aimed at creating jobs, and last from inflows of foreign capital. It is possible that an appreciation of the yuan could have perverse effects on the distribution of resources by reinforcing incentives to invest in the non-tradable sector (property) rather than in the export sector.

The cautiousness of the Chinese authorities may also be due to uncertainties about the appropriate level for the exchange rate, given the very strong disparities of productivity across companies.

In the manufacturing industry, the average monthly salary is about $110. If social charges are included, then Chinese labour costs are about 4% of US costs. In Guandong Province, which provides roughly a third of exports, labour costs are higher, equivalent to 5% of the US level. In contrast, they only stand at about 2% in some inland Provinces (which export little). Such low labour costs correspond to low levels of labour productivity: according to calculations made using production price parities, the average productivity of Chinese manufacturing industry is not more than 6% of the US level. However, productivity is much stronger in sectors dominated by foreign firms (shoes and electronics). These have especially low unit costs, and a competitive advantage relative to Chinese companies. Over the last ten years, the rise in their exports has been around 25% per year, on average, whereas the increase for Chinese firms has only been 6.5%: the contribution of the former to Chinese exports has thus risen from 20% in 1992 to 54% in 2003.

The yuan is therefore probably undervalued for multinational companies, but not necessarily for local firms. Consequently, the reluctance of the Chinese authorities to revalue their currency may be justified by their concerns about undermining the development of local firms. Just as the protection benefiting such firms is being reduced, leading to stronger competition in the domestic market, a revaluation might compromise their competitiveness.

*Agnès Bénassy-Quéré, Amina Lahrèche-Révil & Françoise Lemoine*
lerolland@cepii.fr