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How to Value China's Reserves

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One of the arguments put forward for resisting revaluation of the Chinese yuan is that China will "lose value" on its large foreign exchange reserves, held mainly in US dollars but also in sundry other currencies. If China's exchange rate is moved, for example, by ten percent from 6.6 yuan per dollar to 6.0 yuan per dollar, the yuan value of China's reserves will fall by ten percent, thus reducing China's wealth. This argument is arithmetically correct, but economically incorrect. China's wealth will not decline with revaluation of its currency.

This point is perhaps most dramatically seen by considering the impact of a devaluation of a country's currency. With devaluation, the local-currency value of foreign exchange reserves will rise. The greater the devaluation, the greater the rise. Apparently, a country could make itself unbelievably rich simply by devaluing its currency sufficiently, provided it holds some assets in foreign currency. But of course currency devaluation will not make a country richer (although it might make its products more competitive in foreign markets); its wealth will not have increased. Similarly, currency appreciation will not reduce the wealth of a country. To believe otherwise represents an inappropriate application of conventional accounting to the balance sheet of the monetary authorities (including SAFE in China's case). (State Agency for Foreign Exchange?)

How can China's reserves lose value, i.e. purchasing power? The basic channel is through higher prices in dollars for the goods and services it purchases in world markets. If world prices in dollars rise, the real value of a given value of China's dollar reserves will fall. To avoid this, China should be concerned with world-wide inflation, or at least increases in prices of the goods and services which China is most interested in buying. It is general inflation that should most concern China. If it is concerned about price increases in particular products, such as oil, the indicated action is to buy those products when their prices are low and store them (assuming they are storable) until they are needed. Of course, storage is not free, so the expected increase in prices must be sufficient to cover the storage costs. And of course large purchases of such products may bring about the price increases that are anticipated and even lead to a drop in price once the anticipatory purchases cease. Speculation on the future price movements of commodities is tricky, to say the least; while fortunes have been made when future price movements have been correctly forecast, many fortunes have also been lost when the forecasts turn out to be incorrect. We generally hear more about the winners than about the losers.

Holdings of foreign exchange reserves have some built-in protection against general inflation (as opposed to the price increases for particular commodities). Reserves are held mainly in the form of interest-bearing securities, and over time interest rates will reflect the rate of inflation. Lenders generally do not want to see an erosion in the purchasing power of their investments, so they will willingly lend only when they are protected against general inflation. That is, if inflation is expected to rise, interest rates will rise to reflect that expectation. Thus interest rates on reserve holdings will, over time, adjust to the expected rate of inflation: the higher the inflation, the higher will be interest rates. So only "surprise" inflations, not anticipated by market participants, should result in an erosion of the real value of foreign exchange reserves. And these days both Britain and the United States issue inflation-indexed bonds, so by buying such bonds agents can even insure themselves against surprise inflations, at least those captured by the consumer price indices in the Britain and the United States.

There is a second sense in which analysts may be concerned about a "loss of value" in foreign exchange reserves. If the reserves are held wholly in US dollars, for instance, and the dollar depreciates against other foreign currencies, such as the euro or the Japanese yen, the reserves will have lost value when measured in euros or yen. This possibility is bound to occur from time to time when major currencies are floating against one another. When dollars (in the example above) depreciate, citizens may fret about the decline in value measured in, say, euros. But of course, as we saw in late 2008 and again in 2010, such movements are typically not always in one direction. When the dollar appreciates against the euro, the value of dollar reserves rises when measured in euros.

The broader point is that when we are free to choose the unit of measurement, all interest-bearing financial assets are declining in value unless they happen to be held in that currency which is appreciating most rapidly. But the most rapidly appreciating currency is constantly changing. So to avoid loss when measured in this way, the currency-composition of reserves would have to change constantly. That is, financial managers would have to anticipate correctly which currency will appreciate most during, say, the next month, and move reserves into it.

There are at least three objections to such a strategy for China. First, China's reserve managers cannot foresee accurately which currency will appreciate most in the next month, month after month for years. (No one else can either.) Second, China's reserves, now in excess of $2.5 trillion, are far too large to move more than small percentages across currency markets every month. Third, and most fundamentally, such a strategy would make central bankers (or other monetary authorities) into currency speculators. But central bankers should not be currency speculators. They are in constant contact with other central bankers around the world, and they have access to information to which normal market participants do not have timely access. This makes them insiders, and in well run financial markets insiders are properly penalized for acting for gain on the basis of their insider information. China's central bankers have become members of the international club of central bankers. They should be excluded from access to other club members, and their analyses, if they have become currency speculators.

In short, China has chosen voluntarily to build up its foreign exchange reserves. It should not be unduly concerned about an apparent loss in value, whether measured in yuan, goods and services, or other currencies.