

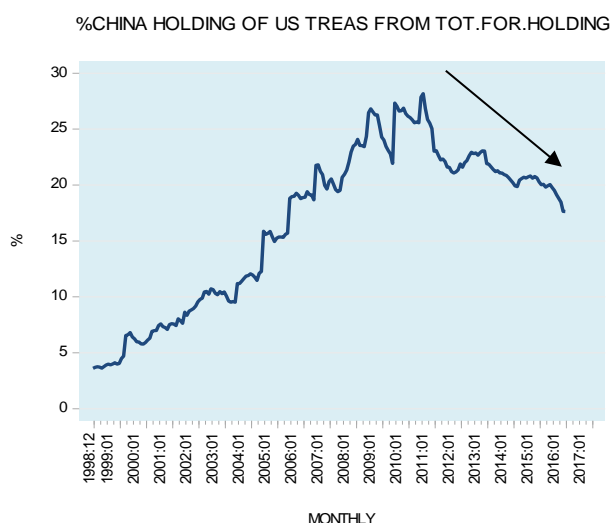
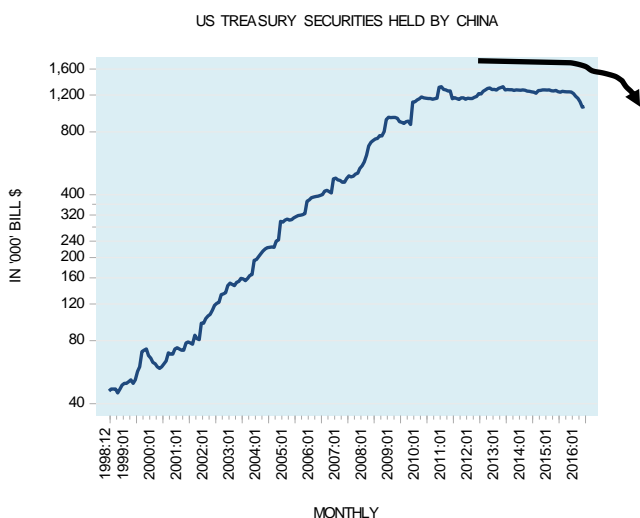
ECONOMIC INSIGHTS

COMMENTARY

Would a Chinese sell-off of US Treasuries threaten the US dollar and raise US interest rates?

After climbing to **\$1.315** trillion by July 2011, China's holdings of US Treasuries have been in a downtrend closing at **\$1.058** trillion by December last year – a fall of **19.5%**.

As a percentage of total foreign holdings of US Treasuries, China's holdings fell from **28.2%** in July 2011 to **17.6%** by December 2016.



There is a strong consensus view that a sharp fall in China's holdings of US Treasuries could seriously weaken the US dollar and cause a significant rise in the US interest rate structure. How realistic is this view?

What determines the exchange rate?

Exchange rates appear to be moving in response to so many factors that it makes it almost impossible to ascertain where the rate of exchange is likely to be headed. We suggest that rather than paying attention to this multitude of variables, it is more sensible to focus on the *essential* variable.

As far as exchange rate determination is concerned, we suggest that this variable is *the relative changes in the purchasing power of various monies*. It is the relative purchasing power of different countries' money which sets the underlying rate of exchange.

A price of a basket of goods is the amount of money paid for the basket. We can also say that the amount of money paid for a basket of goods is the purchasing power of money with respect to that basket of goods.

If in the US, the price of a basket of goods is \$**1** and in Europe, an identical basket of goods is sold for **2** euros then the rate of exchange between the US dollar and the euro must be two euros per one dollar i.e. **1** dollar = **2** euros.

Further, an important factor in setting the purchasing power of money is the supply of money. If, over time, the rate of growth in the US money supply exceeds the rate of growth of European money supply, all other things being equal, this will put pressure on the US\$. This is because the increase in money supply means that the price of the US basket of goods rises versus that of the European basket, all other things being equal.

To use the previous numeric example, if, because of rapid escalation of the US money supply, the same basket of goods in the US now costs \$**2** while remaining at **2** euros in Europe, then the exchange rate is now **1** dollar = **1** euro. In other words, the dollar has halved in value against the euro as the value of the same basket of goods has doubled in local (US) currency terms.

Another important factor in driving the purchasing power of money and the exchange rate is the *demand* for money. For instance, with an increase in the production of goods the demand for money will follow suit. The demand for the services of the medium of exchange will increase since more goods now have to be exchanged. As a result, for a given supply of money, the purchasing power of money (i.e. its value) will increase. Less money will be chasing more goods.

Various factors, such as the interest rate differential, can cause a temporary deviation of the exchange rate from the level dictated by the relative purchasing power. Such deviations, however, will set corrective forces in motion.

Let us say that the Fed raises its policy interest rate while the European central bank keeps its policy rate unchanged.

We have seen that if the price of a basket of goods in the US is one dollar and in Europe two euros, then according to the purchasing power framework the currency rate of exchange should be one dollar for two euros.

As a result of a widening in the interest rate differential between the US and the Eurozone an increase in the demand for dollars pushes the exchange rate in the market toward one dollar for, say, three euros.

This means that the dollar is now overvalued as measured by the relative purchasing power of the dollar versus the euro.

In this situation, it will pay to sell the basket of goods for dollars then exchange dollars for euros and then buy the basket of goods with euros – thus making an arbitrage gain.

For example, individuals will sell a basket of goods for one dollar, exchange the one dollar for three euros, and then exchange three euros for **1.5** basket, gaining **0.5** of a basket of goods.

The fact that the holder of dollars will increase his/her demand for euros in order to profit from the arbitrage will make euros more expensive in terms of dollars – pushing the exchange rate back in the direction of one dollar for two euros.

We suggest that an arbitrage will always be set in motion if the rate of exchange deviates, for whatever reasons, from the underlying exchange rate as determined by the relative purchasing power of monies.

Sale of Treasuries by Chinese investors and the US dollar

The possibility that Chinese authorities may reduce their holdings of US assets and switch to European assets is seen by various commentators as a major threat to the US dollar.

Now, let us assume that because of this shift the US dollar weakens. This weakening however, runs contrary to the underlying exchange rate as set by the relative purchasing power of monies.

If, pursuant to the logic outlined above, the dollar is not too expensive (i.e. not overvalued in terms of purchasing power) then the fall in the dollar resulting from asset allocation changes by China will be of short duration.

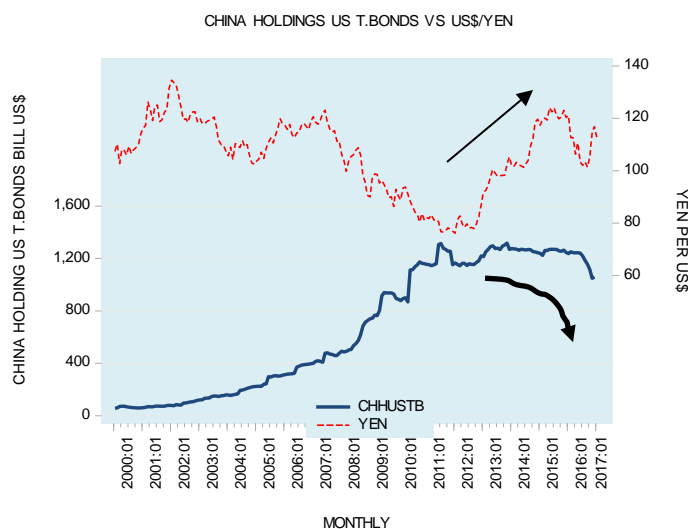
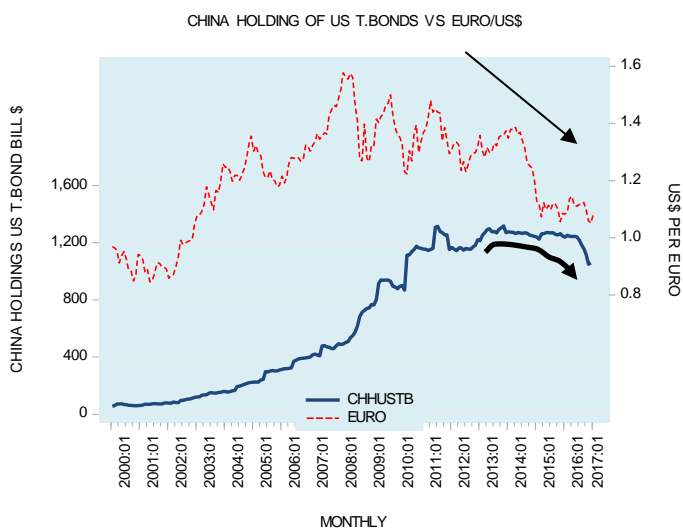
This is because – as described above – arbitrageurs will act to bring the exchange rate in line with the relative purchasing power of the respective monies.

For instance, a fall in the dollar against the euro will make it advantageous to sell goods for euros, then exchange euros for US dollars.

With more dollars one will then be able to secure more goods and services. Obviously, this will set in motion corrective forces until the exchange rate gravitates toward the underlying or true exchange rate.

Note that the visible fall in China’s holdings of US Government debt from July 2011 to December 2016 was not associated with a sharp decline in the US dollar against major currencies.

On the contrary, during this period – when holdings fell by **19.5%** - the US dollar strengthened by **27%** against the Euro and by **52.3%** against the Yen.

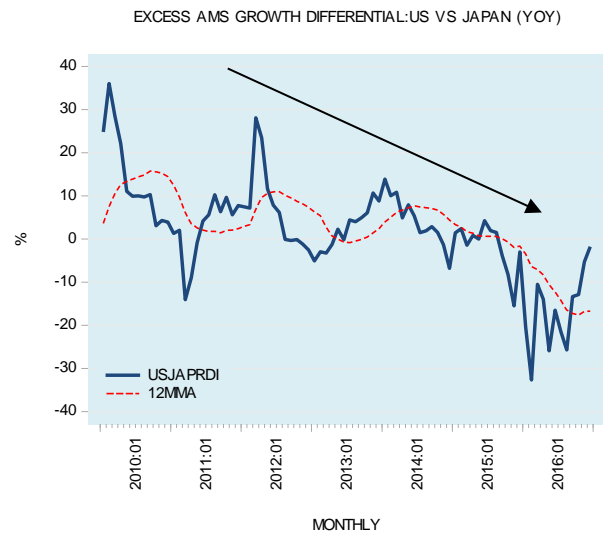
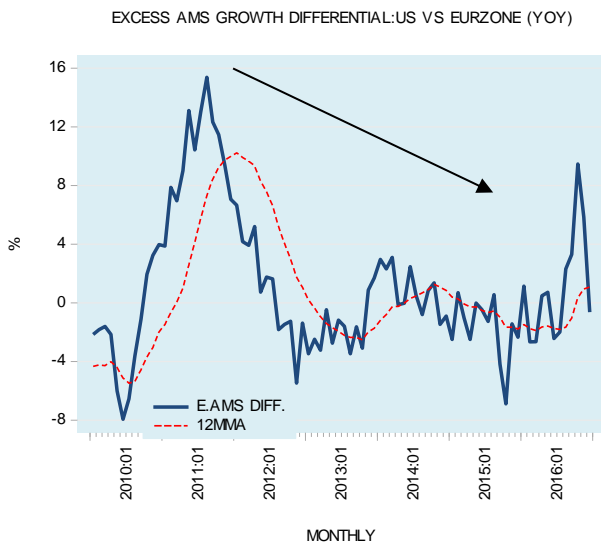


The key factor behind this is that the relative purchasing power of US money versus the purchasing power of Eurozone money and Japanese money provided support to the US\$ rate of exchange.

In order to capture changes in the purchasing power of money we compare, in the charts below, the relative growth of money supply (using AMS, our preferred measure) between, on the one hand, the US and Eurozone and, on the other, the US and Japan.

Compared with the Eurozone and Japan, US money supply (AMS) growth has displayed a visible downtrend – implying that the pace of money pumping in the US has been declining versus both the Eurozone and Japan.

This has resulted in a stronger US dollar against the euro and the yen.



Sale of Treasuries by Chinese investors and US interest rates

The essence of interest rate determination is individuals' time preferences. As individuals' wealth expands, they will consider allocating their resources towards activities which, prior to this expansion, they could not afford.

We suggest that an increase in wealth is associated with a lowering of time preference i.e. a shift in preference towards future consumption as opposed to current consumption.

For instance, the lowering of time preferences because of real wealth expansion is likely to be associated with a greater eagerness to save and to make investments, thus lowering the *demand* for money. This means that for a given price of money an increase in the *supply* of money in excess of people's needs is going to emerge.

To get rid of this increase in supply, all other things being equal, people are likely to increase the buying of various assets, in the process raise their prices, and lower their yields. (Note again the increase in the pool of real wealth is associated with a lowering in the interest rate structure. The converse takes place with a fall in real wealth).

What is the relationship between interest rates and an increase in money supply? An increase in the supply of money, all other things being equal, means that those individuals whose money has increased are now much wealthier. This in turn sets in motion a lowering in time preferences. Hence, this sets in motion a greater willingness to invest and to lend real resources. The increase in lending and investment means the lowering of the demand for money by the lender and by the investor.

Consequently, for a given price of money an increase in the supply of money coupled with a fall in the demand will result in the excess supply of money, which in turn bids the prices of assets higher and lowers their yields.

We can thus see that the key for the determination of interest rates is individuals' time preferences, which are realized through the interaction between supply and demand for money or by excess money.

An increase in excess money leads to a downward pressure on interest rates while a fall in excess money leads to an upward pressure on rates.

Let us now examine the role of China in this framework. As far as the *supply* of money – i.e. the supply of US dollars – is concerned China has no effect whatsoever.

The source of the supply of dollars is the central bank (the Fed) and commercial banks (via fractional reserve banking).

From the *demand* perspective, when China raises their exports of goods to the US the first effect of this is to raise China's demand for US dollars.

However, once the Chinese central bank invests these dollars back into US Treasuries this offsets Chinese demand for US money.

Hence, the overall net effect is no change in the demand. Demand could also emerge when the Chinese central bank intervenes to stop the Yuan from strengthening.

Once, however, the central bank invests these dollars into other assets this lowers the demand for US money.

Given that, China's actions affect neither the demand for US money nor it has anything to with its supply; this implies that China's actions have no lasting effect on US interest rates.

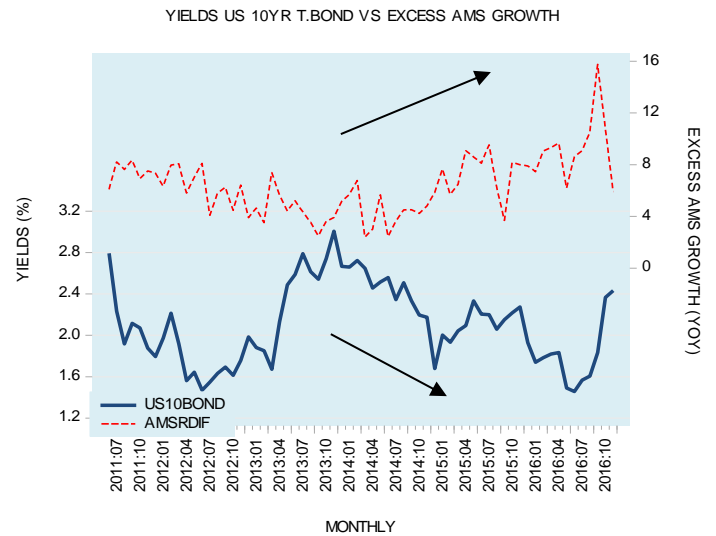
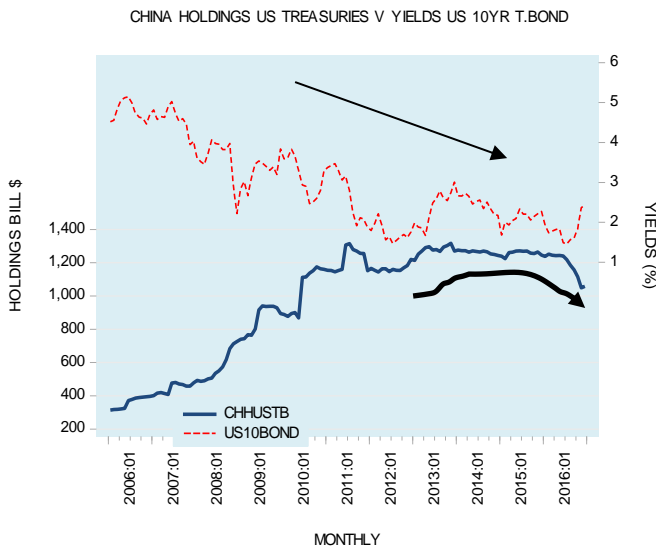
If China were to decide to sell off its holdings of US Treasury Bonds, obviously it could lead to an initial short-term rise in yields.

However, the Chinese are unlikely to sit only with US dollars - they would most likely employ the dollars obtained from Treasury bond sales to purchase some other US assets, which in turn will push their prices up and explicit and implicit yields lower.

China's action therefore is unlikely to have any effect on excess US money overall. Hence, other than possible short term spikes, China's selling of Treasury bonds likely to have no effect on the general level of US interest rates.

Indeed, a fall in Chinese holdings of US Treasuries between July 2011 and December 2016 was accompanied by an underlying downtrend in the yield on the 10-year Treasury bond.

Also, note that the yield displays a clear inverse correlation with the excess money supply (AMS) growth – in line with our earlier discussion.



Summary and conclusion

Contrary to popular thinking, a sharp decline in China’s holdings of US Treasuries is not going to alter the interest rate structure over time and it is not going to result in a plunge of the US dollar against other currencies.

The key factor that determines exchange rates is the relative purchasing power of moneys of various countries. A possible decline in the Chinese holding of US Treasuries is not going to affect over time the relative purchasing power of various monies and hence the US dollar exchange rate.

Our analysis also indicates that a possible decline in China’s holdings of US Treasuries is not going to alter the interplay between the supply of and the demand for money and therefore will not have a lasting effect on the interest rate structure.

AAS ECONOMICS LTD “AASE” believes this information to be reliable, no warranty is given as to its accuracy and persons who rely on it do so at their own risk. In so far as this information contains material from other sources, AASE has not checked those sources and accepts no responsibility for the accuracy of that material. All information is for the person to whom it is provided and is not to be passed to any third party.