STEIN BROTHERS
LONDON-STOCKHOLM

About the velocity of money

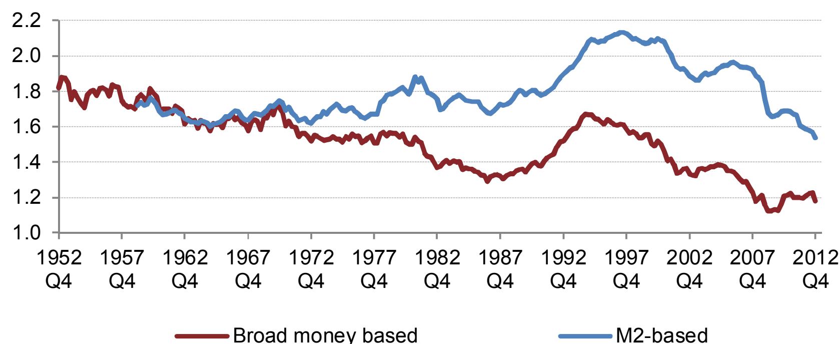
- **Broad money trends do not point to any inflationary danger**
- **References to the velocity of money often misunderstand the concept**
- **Velocity can be a pointer to asset price developments**

Previous comments have repeatedly made the point that current broad money growth in most economies is far too slow to cause any concern about inflation. Central bank asset purchases have meant that the monetary base has swollen in the USA, Japan, the euro area and the UK. However, the relationship between the monetary base and eventual output growth and inflation is tenuous at best. This should be perfectly clear from recent developments. The US monetary base has just about doubled (from 1.4 trillion dollars to 2.8 trillion) since QE1 began in November 2008. Over the same period, US broad money (my recreation of the M3 measure that the Fed ceased to publish in March 2006) has grown by 12%. US consumer prices have risen by 9% over the period. In Japan, the monetary base has risen by more than 80% since January 2001. Broad money (M3) has grown by 13%; and consumer prices are 3% lower.

However, one point often raised in response is ‘What about the velocity of money?’ The monetarist equation is MV=PT, that is to say, money multiplied by its velocity equals prices multiplied by transactions. Does not therefore a rising velocity of money mean a risk of higher inflation in that if V rises, either P or T has to rise as well? Yes – and no. A rise in V can also be off-set by a fall in M.

The velocity of money is calculated by dividing nominal GDP by nominal broad money. Today’s final GDP data for the fourth quarter of last year – which contained a second upward revision, to 0.4% growth, thus means a (very minimally) slower velocity of money in Q4 2012 than was previously estimated. Since the very long-term trend in most countries is for broad money to grow faster than GDP, this means that the very long-term trend of the velocity of money is to fall. Note however that narrower money measures can have trend growth slower than GDP, as is the case for US M2.

US velocity of money with different broad money measures



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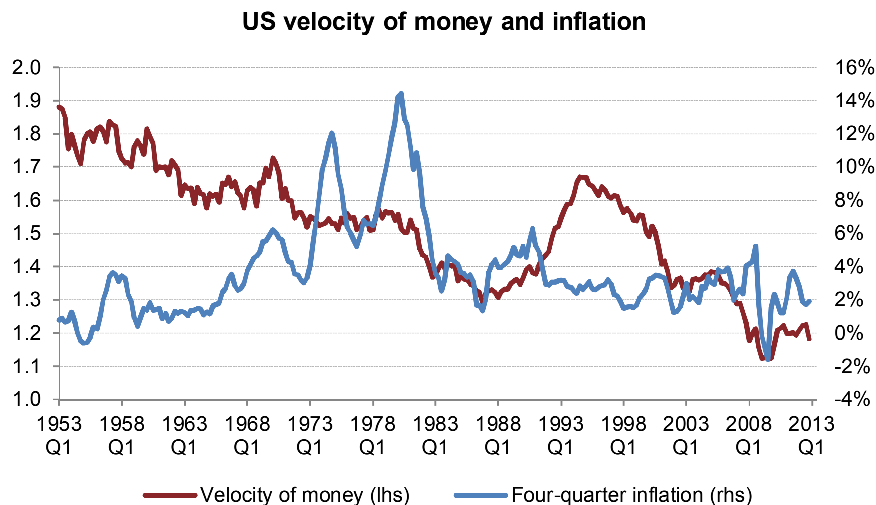
A rising velocity of money therefore means that broad money is growing slower than GDP and, as it were, each pound (or whatever) has to work harder to maintain the same amount of activity in the economy. This might potentially be inflationary, but only if the effect is solely or mainly on prices (ie, a rise in V and a rise in P). However, slower broad money growth is more likely to be associated with an eventual slowdown in activity (albeit subject to long and variable lags).

Anyone concerned about the relationship between broad money growth and inflation should therefore be more concerned about a falling velocity of money, since this is a sign that money growth is faster than GDP growth. This confirmed by the historical evidence. Higher US inflation tends to be preceded by a falling, not rising, velocity of money. For anyone concerned about near- or even medium-term US inflation, the current trend of the velocity – sideways since 2010 (really since 2008) should therefore be calming news.



There is another reason to keep an eye on the velocity of money. Broad money not only influences output growth and inflation, it also has an impact on asset prices. Rapid broad money growth tends to be associated with rising asset prices and *vice versa*. Perhaps more importantly, the change from falling to rising velocity has tended to be associated with eventual asset price corrections. While this relationship does not always hold true, it does so often enough to be worth keeping in mind. In other words, when broad money has grown faster than its trend for a sustained period and then slows (particularly if the slowdown is sharp), asset prices will some time later (usually within five quarters) take a tumble.

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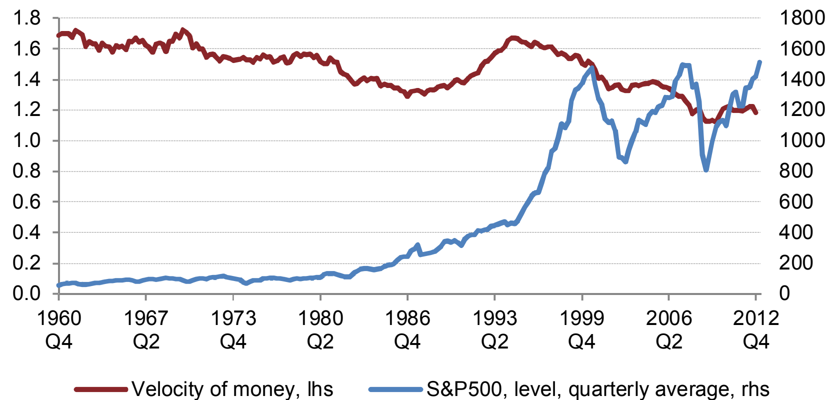
US velocity of money and share prices



The concern right now, both for the US economy and for US asset prices would therefore indeed be a rise in the velocity of money. Fortunately, this does not seem to be on the cards.

What is more of a concern, however, is how the battle-lines seem to be getting drawn within the FOMC regarding how long to continue the current accommodative policies. In addition to Janet Yellen (whose views have been noted in previous comments), both Charles Evans (Chicago, voting 2013) and Eric Rosengren (Boston, voting 2013) have come out in favour of at least continuing current asset purchases, as opposed to begin phasing them out towards the end of the year. They have been joined by Narayana Kocherlakota (Minneapolis), who next year replaces the decidedly hawkish Esther George (Kansas City) as a voting member of the FOMC. Mr Kocherlakota feels that the Fed is not doing enough and yesterday reiterated Ms Yellen's view that 6½% unemployment is not a trigger for action. On the other hand Bill Dudley (New York and therefore always voting) has indicated some support for the tapering off asset purchases.

The issue is not whether the Fed should continue to support the economy while it is weak. The issue is rather that there seems to be some members of the FOMC who implicitly believe in the Phillips Curve and are willing to trade lower unemployment for higher inflation (*not*, it should be said, Mr Kocherlakota). But that trade-off doesn't exist; all it leads to is higher inflation in return for very temporarily lower unemployment. In the somewhat longer term – a few years out – this is where the possible inflation danger for the US economy lies.

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