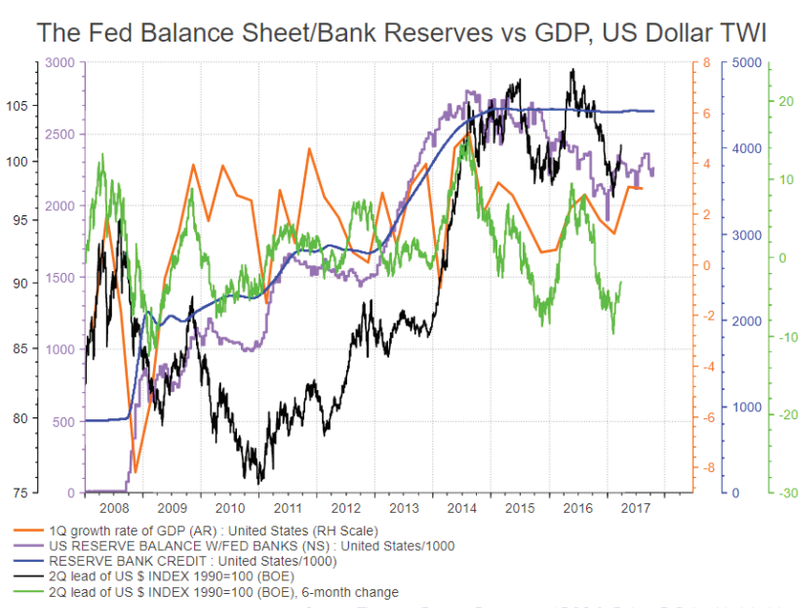
28 / Will the US Dollar strengthen when the Fed reduces its balance sheet? It may not be the case

The dollar fell from late April earlier in the year on the assumption that the Trump government will enact policies that will weaken the currency, and when it became clear that the populist-nationalist wave was not going to sweep across Europe in the magnitude that investors assumed initially. **The prospect of personnel changes at the Fed, and recognition that practically no one of the primary candidates for the Fed chairmanship would be as dovish as Yellen has been, helped the greenback to firm up support**. Likewise, optimism about tax reform, helped backed up of US rates in absolute terms as well as relative to other high-income countries. Higher US bond yields and widening premiums have indeed helped drive the dollar higher in the past 8 weeks. The recovery accelerated after momentum and trend followers which have built substantial short dollar position in recent months in the futures market, covered their positions following the surge in US rates and the US currency. However, primarily, the US currency started to recover due to efforts by the Fed›s leadership to convince investors that a December rate hike was still seen as appropriate. **But also helping put a bid to the greenback is investors` perception that systematic "normalization" of the balance sheets (reducing it to levels not far from its levels before the Great Financial Crisis (GFC) struck in 2008) will strengthen the US Dollar.**

But will reduction of the Fed's balance sheet really weakens the currency? Indeed, what would be the effect of fully reversing the quantitative easing that has taken place since 2007, a period in which the Fed's balance sheet has risen by $3.5 trillion, from $0.9 trillion to $4.4 trillion? We have written about some of the effects of the normalization process in the previous issue of this publication, but we have refrained from discussing its impact on the US currency, as it needs a more detailed treatment. There have been studies on the economic effects of this unconventional monetary easing, including an analysis by Fed economists that has been quoted recently by Fed Chair Janet Yellen. **Eric Engen, Thomas Laubach and David Reifschneider (all staffers at the Federal Reserve), presented conclusions that the effect of the entire QE programs was to reduce 10-year term premium, and therefore the bond yield, by 120 basis points by 2013. This is estimated to have reduced US unemployment by about 1.25 percentage points and increased inflation by about 0.5 percentage points. The researchers also indicated that the QE increased US equity prices by 11-15 per cent, and reduced the dollar effective exchange rate by 4.5-5 per cent**. These are obviously very large effects (if true) and if we are to assume that normalization of the balance sheet will produce the opposite results, then there would be plenty of reason to be worried. However, **we take some exceptions to those claims, as there is ample empirical evidence that some of the conclusions may not be correct.**

We are particularly intrigued about the claim that QE reduced the value of the US Dollar by 4.5-5.0 per cent. **In the narrative below, we document our thinking that instead of weakening the US Dollar, the QE programs served to strengthen the US Dollar instead, and that reducing the Fed balance sheet may therefore weaken the currency.** In the graph below, we show that the QE programs influenced the US currency via the GDP linkage. QE boosted economic growth and that the US quarterly GDP was positively influenced by the flow of the Fed`s balance sheet and the Fed`s bank reserves. **There is a lag between the flows and its impact on GDP growth (by about 1 quarter). GDP growth, in turn, positively correlated with the US Dollar, and positive GDP growth was matched by a US Dollar rise in value 1 quarter thereafter.**

We can also show that the US Dollar also strengthened via the interest rate channel but before we can do that, we have to show the correlation that has happened between the QE programs and interest rates. The claim was that the effect of the QE programs was to reduce 10-year term premium, and therefore the bond yield, by 120

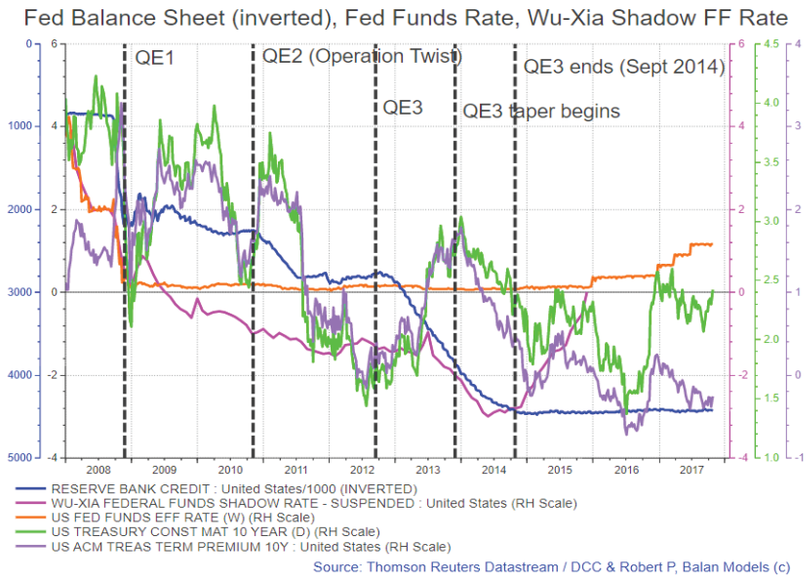


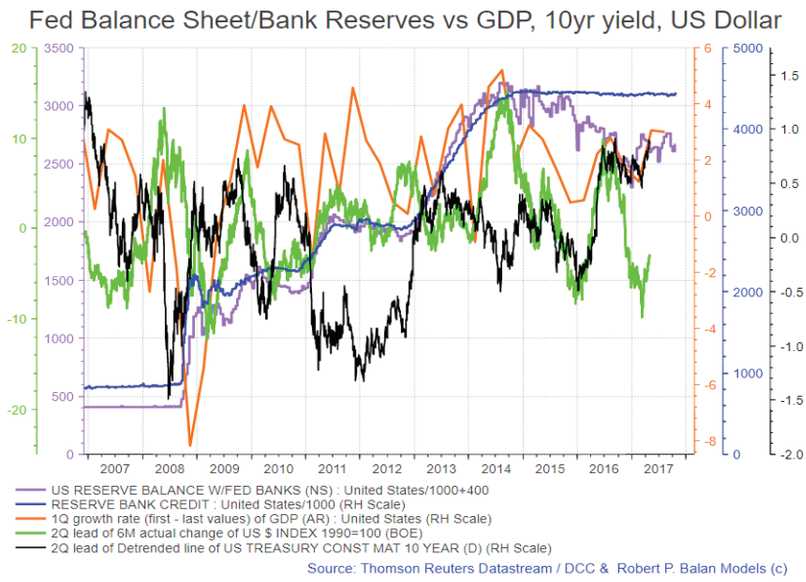
Source: Thomson Reuters Datastream / DCC &: Robert P. Balan Models (c)

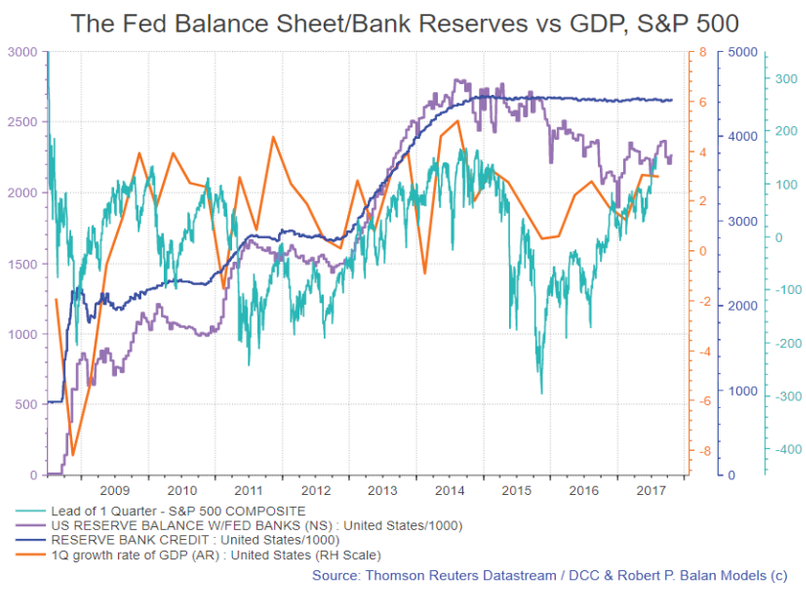
basis points by 2013. QE3, the last in the series, actually ended in September 2014. We can show that the programs indeed managed to lower long term rates by 2016, but the changes in the rates have been influenced primarily by the flows in the balance sheet rather than the changes in the nominal amounts of the ledger. There were counter intuitive moves observed – as the nominal amounts of the program rose sharply, long bond yields went sharply higher, instead of lower as the Fed expected. The culprit of course was the bond yield term premium which rose correspondingly, as the balance sheet increased on investor fears that inflation will be ignited (see 1st graph on this page).

Therefore, the relationship between the incremental changes in the balances sheet and the changes in the long bond yield can be said to be positive due to the influence of the term premium. We show the empirical evidence for that conclusion in the chart below. **If we juxtapose the long bond yield with the US quarterly GDP with a 6-month lag, then the relationship between the Fed's assets and growth, the long bond yield, and the US Dollar becomes clear – they are all positively correlated, given the proper lag which allows the impact of QE to flow into rising GDP, and which in turn, flows into the rising long rates and a stronger US Dollar** (see 2nd graph on this page).

Intuitively, we see the positive correlation of the balance sheets to GDP, rates, and the USA Dollar, in the very well-documented positive contribution of the increase in Fed`s assets to the phenomenal rise of the stock market since the onset of the GFC recovery in 2009. **The changes in the stock market bull market has corresponded well to the quarterly changes in GDP growth since the initial point of the GFC recovery. The changes in the stock market actually lags behind the changes in the balance sheet by one quarter** (see 3rd graph above).







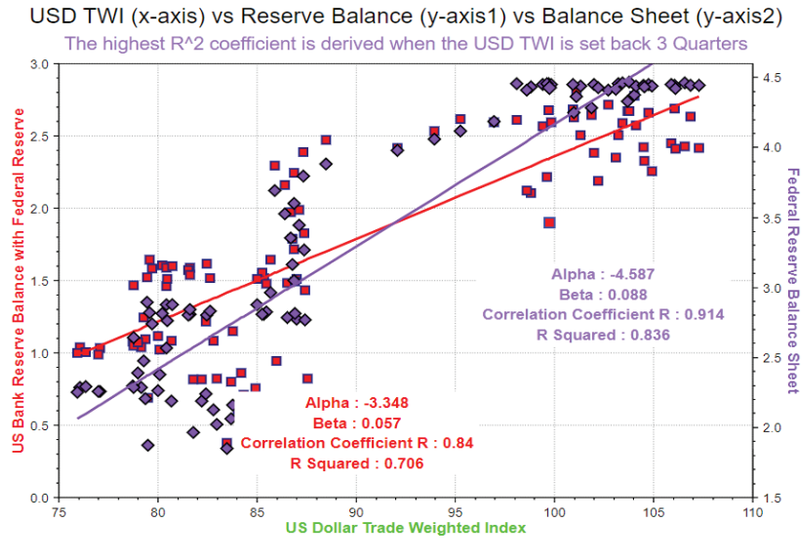
This positive correlation is very well-documented, **so there is no need for us to rehash the evidence. So, we ask rhetorically – if the increase in the Fed's balance sheets has done wondrous positive things for the stock market, is it too far-fetch to say that the rising stock market was accompanied by positive changes in the US GDP? And if that is the case, is it too far-fetched as well to say that both the stock bull market and corresponding**

rise in GDP were accompanied by rising rates and therefore a firmer US Dollar? We have seen all these come to pass. The only thing that hinders many of us to see the phenomenon is the time lags that occur before the impact of the positive changes in the Fed balance sheet flow into the economy, the stock market, the long bond yields and the domestic currency. These lags can be documented properly, and we did that with the following graphs on this page:

Conclusion:

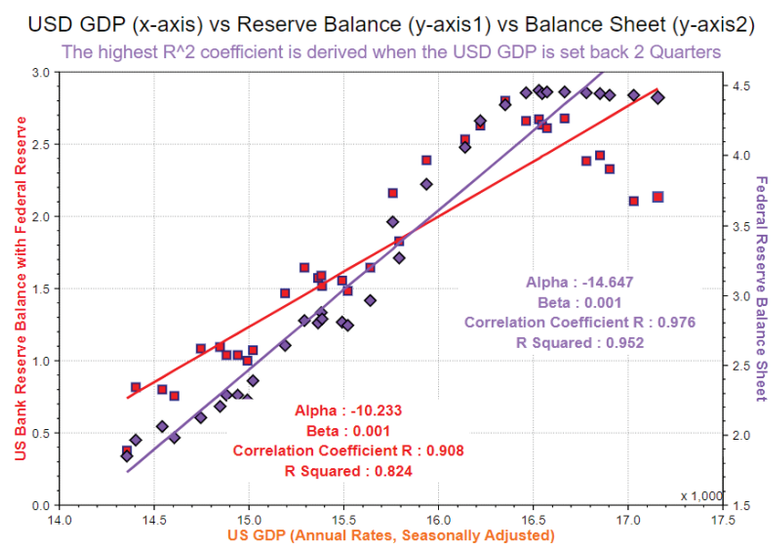
If we think about the impact of the Fed's balance sheet deeply, it can't be positive for the stock market and negative for the rest of the assets and growth. The fact is that the accumulation of central bank assets has been good for equities and the economy. And long rates and the US Dollar will be impacted positively by the rise of the economy. If the economy grows, rates will rise and the US Dollar will rise in tandem – these are relationships that endure. Those relationships do not go one way – if the Fed's balance sheets will be reduced, it will have a negative impact on the stock market and the economy. Falling equity markets and declining growth will cause bond yields to fall, and the US Dollar may also fall in tandem. We say "may" because we have seen cases of weaker growth post GFC where the US Dollar rose instead, when the demand for US government paper (the historical safe haven) – the demand channel – overrode the effects of lower US rates against the rates of other major countries (the rate differential channel). At this stage we do not discount that happening the next time growth falters in the US. This is a purely growth phenomenon and has nothing to do with the Fed's balance sheet.

For the US Dollar, the highest coefficient of determination (R<2) between it and the Fed balance sheets comes after 3 quarters from the change in the balance sheet.



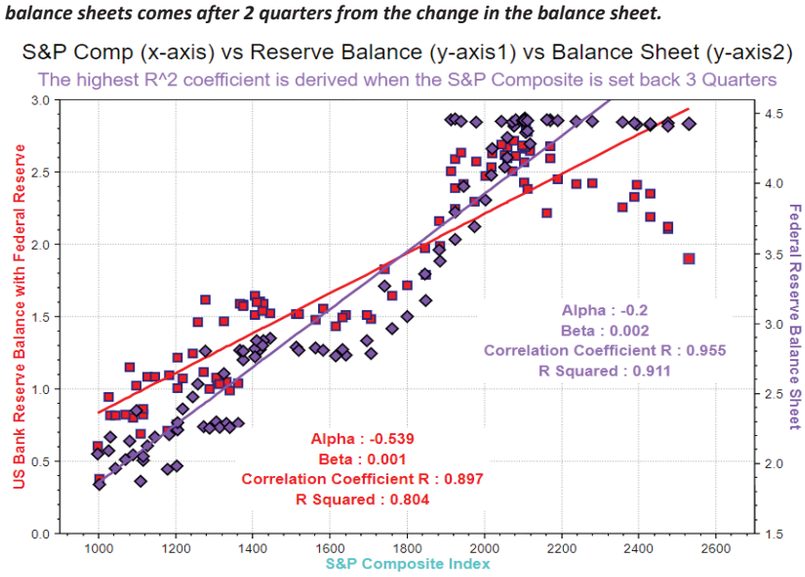
Source: Thomson Reuters Datastream / DCC & Robert P. Balan Models (c)

For the US GDP, the highest coefficient of determination (R<2) between it and the Fed balance sheets comes after 2 quarters from the change in the balance sheet.



Source: Thomson Reuters Datastream / DCC & Robert P. Balan Models (c)

For the S&P Composite, the highest coefficient of determination (R<2) between it and the Fed balance sheets comes after 2 quarters from the change in the balance sheet.



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