Economics 101

High Powered Money

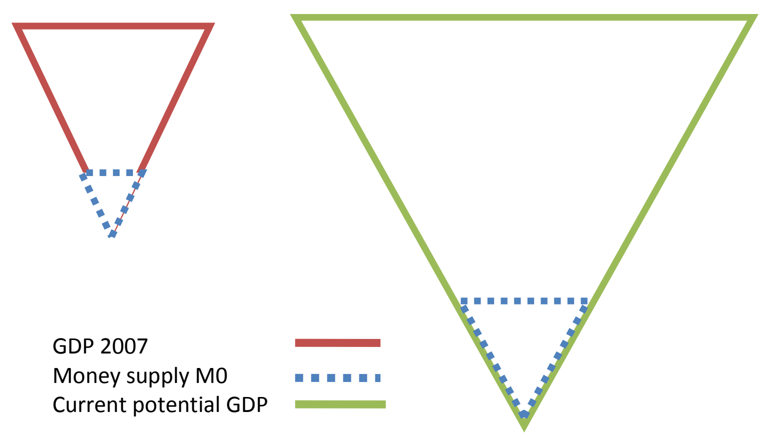
The base money allowing credit expansion

Foreword:

The term “fractional banking system” explains how money, when placed into a deposit, multiplies into credit because banks have to retain only a fraction of the initial amount deposited and lend out the remaining part to other credit institutions – hence, the term “high powered money”.

In the US, the monetary base (MB) is the effective starting point for the fractional banking system and its size is controlled by the central bank, the Federal Reserve (Fed). It consists of “currency in circulation” and “reserve balances with Federal Reserve” (deposits from US banks with the Fed).

Since the financial crisis has started in 2007, the US monetary base skyrocket from USD 800billions up to current level of USD 3’200billions. Theoretically, this sum could support a Gross Domestic Production (GDP) of close to USD 60trillions versus the current size of USD 15.5trillions when compared to the ratio of MB/GDP pre-2007!



It goes without saying that the majority of such nominal GDP-increase would be in form of fast rising prices (rather than increased real output) and, obviously, the US central bank is fully aware of the inherent risk that this massive amount of excess liquidity could start gaining traction (increasing money velocity).

In the following we will list what tools the US Fed could likely implement as to avoid that the excess “high powered money” leads to an increase in money velocity and rampant inflation; we will also discuss what impact on different asset classes those various measures by the Fed would have.

Facts:

*Inflation is always and everywhere a monetary phenomenon (*Milton Friedman). When, like in the US, high powered money gets quadrupled over 5 years while during the same period GDP rose only by 25% one can imagine the inflationary impact once velocity of money reverses its contracting pace and starts in accelerate.
Of course, we are fully aware of the consensus thinking telling that despite all the money printing since 2008 we have not yet seen inflation kicking-in meaningfully, let alone hyperinflation. But only because prices have not gone up yet, this does mean that it will never happen. Actually, with each week that is passing by the chances for the inflation kick-off increases and with current inflation expectations pricing models pointing rather on the deflation side the moment of truth might be closer than most investors anticipate.

Actually, to all those investors who still believe that deflation is the greater threat than inflation we reiterate the main arguments of the various quantitative easing initiatives by the Fed since 2008: preventing deflation. Should despite all the programs prices fall back below 1% as measured by the Fed's own inflation indicator (PCE) than investors should be prepared for an increase of the current monthly USD 85billions asset purchases. In other words, the US central bank won't give up on its mission to lift prices to their defined level of price "stability" of 2.0-2.5%. Therefore, the focus of all financial market participants should be on "when" as opposed to "if" inflation kicks in…

Investors might think about preparing a framework helping to detect early an acceleration of prices. Among them balance sheet expansion by the banks relative to newly printed Fed-money could be a helpful and leading guide. Also, a falling US dollar might pre-indicate changing price expectations. But ultimately increasing inflation figures (CPI, PCE etc.) will deliver hard evidence of rising prices.

Now, let's list three quantitative tightening tools the US central bank could implement once its PCE should accelerate beyond 2.5% and let's also discuss possible impacts on financial markets.
(Remarks from Fed chairman Bernanke that his central bank could also shorten its balance sheet by letting mature the various bonds will not be discussed as such strategy could take years to bring the sheer size of its balance sheet back to a normalized level and hardly be labeled as being decisive and determined).

1. **Reverse QE (selling Treasury and mortgage backed securities -MBS):**

The Fed can simply start selling paper off their portfolio into the open market to the purchasing bank/agent. It would reduce the asset side of the balance sheet and simultaneously decrease the liability side (reserve balances with Federal Reserve). This would certainly be the most straightforward tool to draining excess liquidity and this with imminent effect – we would estimate the amount of Treasury securities and MBS to be sold in the size of USD 2’000bilions as to bring down *high powered money* to USD 1’200billions (what would still be 50% higher than pre-crisis compared to an 25% increase in GDP).

The impact on financial markets:
Flooding the credit market with USD 2’000billions, while the US Government is issuing an additional USD 500-800billions as to finance budget deficits, would undoubtedly provoke a full-blown bond crash– whether interest rates for 10y US Treasuries would reach 6, 8 or 10% or even more cannot be calculated but becomes irrelevant anyway given the implication such rates would have on other assets and the economy.

Also, MBS spread over Treasuries would widen dramatically leading to a disproportional increase in interest expenses on homes. Resulting lower disposable household income would drag on consumer spending which counts for 70% of GDP.

The other big economic agent, the US Government, would suffer exploding interest rates expenses, too, given their debt level of 107% to GDP. Either deficits or taxes would need to raise sharply, both bringing further headwind to economic prosperity.

Finally, Fed’s own balance sheet would suffer dramatic losses. If 10y Treasury notes yield raises from 2.50% up to 6% on an initial USD 3’000billion portfolio that would lead to losses of some several hundred billions of US Dollars! As a reminder, the Fed’s own equity base is a smallish USD 50billions, only…
Anyone’s guess how such realized losses would be treated by the US central bank. In Zimbabwe, such losses were transformed in “non-interest earning assets”. The accounting principal became a farce; more money was printed against those “assets” until hyperinflation kicked in.

With our best will, we simply cannot imagine that the US Fed would go that route!

2. Increase dramatically reserve requirements for banks:

In order to prevent high powered money from multiplying, the US central bank could theoretically freeze USD 2’000billions of commercial banks money on its balance sheet – however, increasing the reserve requirements of the banks in that size would make it impossible for banks to lend it out. This is like cutting the transmission mechanism (core of the fractional banking system) and the private economic agents could not access to credits.

<u>The impact on financial markets:</u>
Such a drastic measure would oblige banks to continuously hold US treasuries. Profit and losses on such obligations would depend at which rate the banks can refinance their static bond holdings at the Fed. While the outcome on medium- to long-term interest rates is uncertain, just like for the general stock market (possibly down), it would be a semi-nationalization of banks and their share prices would likely plummet.

This option is very, very unlikely.

3. Fed issuing and selling its own debt:

Instead of selling Treasuries and mortgaged backed securities into the open market and risking exploding interest rates, the Fed could issue its own debt. By doing so, investors would buy those securities via banks and brokers and such operations simply alter the liability side of the Fed’s balance sheet: “reserve balances with Federal Reserve” would be reduced and to be replaced on the same side of the ledger by “Bills”. So, no reduction in the size of balance sheet but financed differently.

<u>The impact on financial markets:</u>
High powered money being reduced, a possible uncontrolled acceleration of credit could be muted. As a consequence inflation could be held in check provided such transaction would be implemented in a short period of time, which is more than challenging.

But issuing own debt would definitely push <u>short-term</u> rates up strongly. While it is difficult to judge how the medium- to long-term end of the Treasury and MBS curve would react on fast rising short-term rates we can say with certainty that the Fed would be powerless to stop such a development unless it would implement an interest rate ceiling on capital market that’s similar to the one in the early 1940’s.

(Inverse interest rate curve would be a logical development and, with such complicated and manipulated tools in play, further unintended consequences would bring new problems, like the FED buying long-term bonds and consequently increasing the money base again.)

With US Government average maturity of its outstanding debt being reduced over the last couple of years, an increase in short-term rates would have an adverse effect on financing cost. Again, with 107% debt-to-GDP a 100bp increase in rates eats about 1% of national income for higher interest servicing costs.
On the household side, higher rates and likely higher spreads of MBS over Treasuries would also drag on disposable income depressing again consumption in the GDP-equation…

The issuance of immense new short-term debt by a central bank almost always brings a lower currency with it – similarly, the option outlined above would most likely provoke the US dollar to depreciate in a significant manner with Gold being a possible beneficiary.

This option is likely to be envisioned by the Fed in our view.

Looking forward:

While yields on 10y US Treasuries have risen from 1.60% up to currently 2.60 % in matter of weeks merely based on speculation that the Fed could reduce the monthly asset purchases of USD 85billions provided that certain economic conditions might improve, we wonder how high yields and spreads would react should the central bank stop expanding its balance sheet…

Actually, a possible path-dependent Fed framework could look like this:

Improving economic activity	=>	tapering
Normalized economic activity	=>	end of quantitative easing
Above-trend economic activity	=>	quantitative tightening

Given all the media talk of US industrial renaissance and energy revolution (oil-gas fracking) we cannot exclude acceleration in US economic activity. Should that occur, the Fed would need to curb some USD 2'000billions of excess reserves in a decisive manner and very fast so, as to avoid rampant credit growth, increase in money velocity and inflation.

Of the possible options the US central bank has at its disposal to hinder excess money transforming into high- or hyperinflation we argued that all three do have potentially gigantic costs that affect households, businesses, the government and/or foreign holders of US assets.

That's when Ben Bernanke's famous sentence *(…the U.S. government has a technology, called a printing. ... that allows it to produce as many U.S. dollars as it wishes at essentially no cost)* will get its final judgment. Eventually, chickens come home to roost!

To summarize, it is very hard to imagine how these massive excess reserves could one day be drained without major dislocation in capital markets. Those investors convinced that the US economy will travel back to normalized levels should therefore ask themselves what is likelier – a Fed that will let money and credit markets find their equilibrium while accepting all the inherent and associated risks or a central bank that will simply let inflation run its course.

Gold, Silver and related assets could offer a rewarding shelter – a strategy worthwhile considering given the very depressed prices in these classical inflation hedges.

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Sources:
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