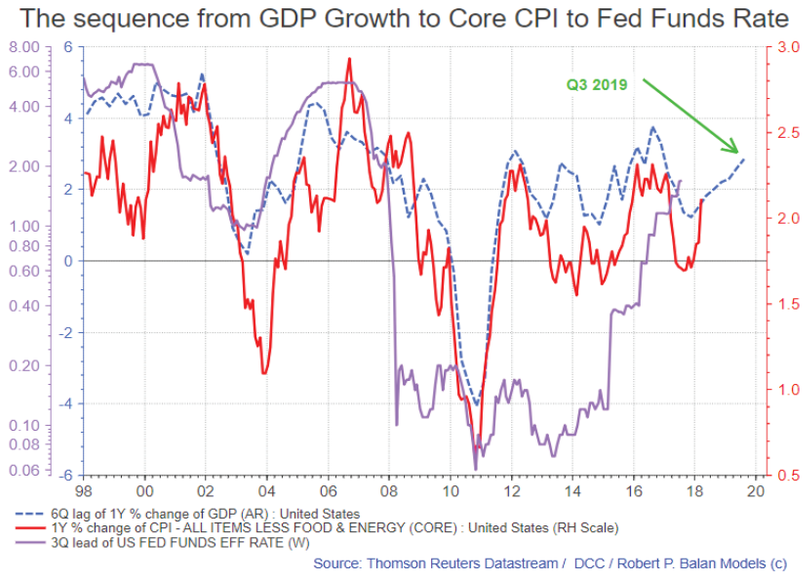
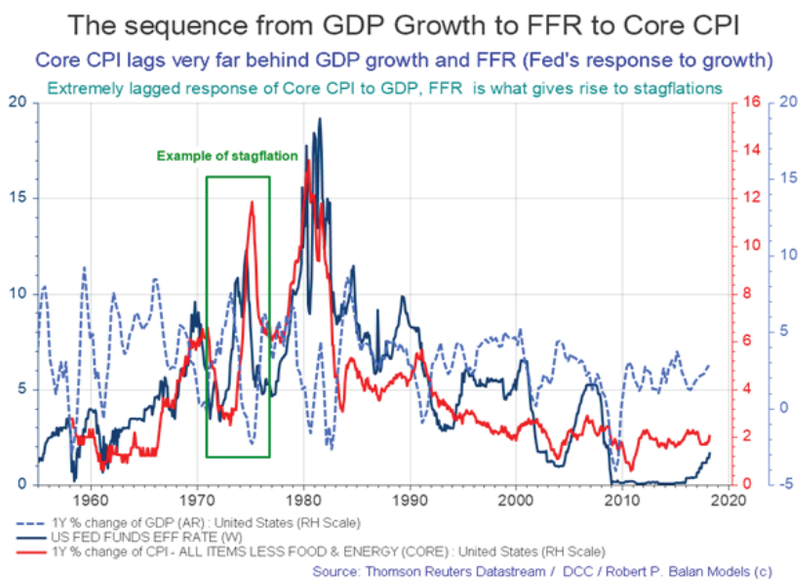
33 / What's Up With Core Inflation? Core CPI Will Rise Over The Next 5 To 6 Quarters YoY

We have been suggesting for some time, in previous editions of Capital Observer, that Core CPI will become an issue going into Q3 2018. So, we are not surprised that suddenly, Core Inflation is back in the limelight. Sharp gains over the past several months refocused market's attention to this very lagged variable which, if you properly think about it, does not deserve the attention of the market, much less the Federal Reserve. Why? Because Core CPI (or Core PCE, for that matter) is nothing but a "residue" of GDP growth, in the same way that the exhaust smoke of a car is a residue of the internal combustion that is powering the car. To extend the analogy further, the greater the output generated by the combustion engine, the greater the exhaust smoke at the end -- there is a distinct proportionality in the relationship of the output and the residue. That holds true for GDP growth and Core CPI (even Core PCE) -- the higher the GDP growth, the higher the resultant core inflation. Simply put, inflation is a function of GDP growth. *(see 1st graph on this page)*



Fed policies, GDP growth and Core Inflation rate in the past 50 years



It is therefore a mystery to us why the Fed chose to couch its monetary policy in terms of controlling inflation. We don't think core inflation has any real significance to the Fed (or more properly, there should not be). The variable lags so far behind GDP growth (which is the prime generator of inflation) that core inflation is virtually worthless as a macro data (except as input in bond valuations). If the Fed is not aware of this, then it's a pretty dumb Fed. But they are not dumb -- they just have other agenda -- they know what they are doing. Let's explore that at a later part of this article.

Some background info on inflation

There is a unique link between the change rate of core inflation and GDP change rate in the US, as can be obtained since 1950 (the earliest data available to me, *see 2nd graph on this page*). **Properly defined, core inflation is a linear and lagged function of GDP growth change rate -- therefore GDP growth rate is a valid predictor of core inflation**. As we are interested in using GDP growth as a predictor of inflation, we use GDP growth rates (both year-on-year, and quarter-on-quarter) in order to match the dimensions of core inflation (also, y-o-y and q-o-q). There are certain issues which we will ignore in this study; for instance, both variables are non-stationary, so the validity of regression results could be under doubt. But as we are merely illustrating the relationships between growth, core inflation and corresponding Federal Reserve monetary policy, we dispense with statistical proofs. Consequently, in the studies which we have undertaken for this article, we treated the links between GDP and core inflation as "mechanical," so that any change in the defining parameters of GDP is always fully transmitted into a strictly proportional change in core inflation.

There is a distinct cadence in the relationship between GDP growth, core inflation and the subsequent, and corresponding, reaction function of the Federal Reserve. **This is the timeline: GDP change rates lead changes in Core Inflation by 5 to 6 quarters. Core CPI, in turn, leads changes in the Fed Funds Rate (proxy of Fed policy changes) by 2 quarters.**

Read that again and refer to the 2nd graph on the previous page.

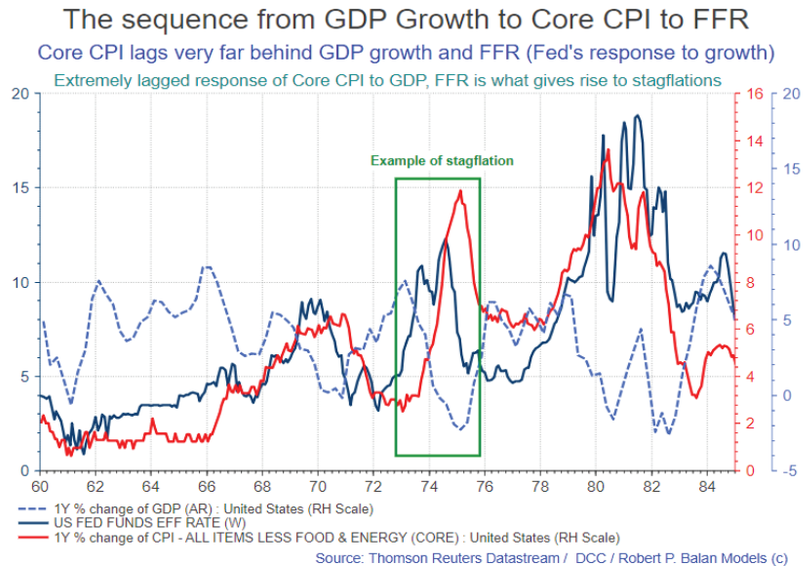
The very lagged response of core inflation to growth is what gives rise to one of the least understood economic phenomenon -- **stagflations**. This economic equivalent of a lose-lose situation happens because the lagged response of core inflation does not correspond to the general business cycle (*see 1st graph on this page*). **That is exacerbated further by the very late reaction function of the Federal Reserve to the changes in growth and changes in core inflation.** The relationships are circular but not non-linear.

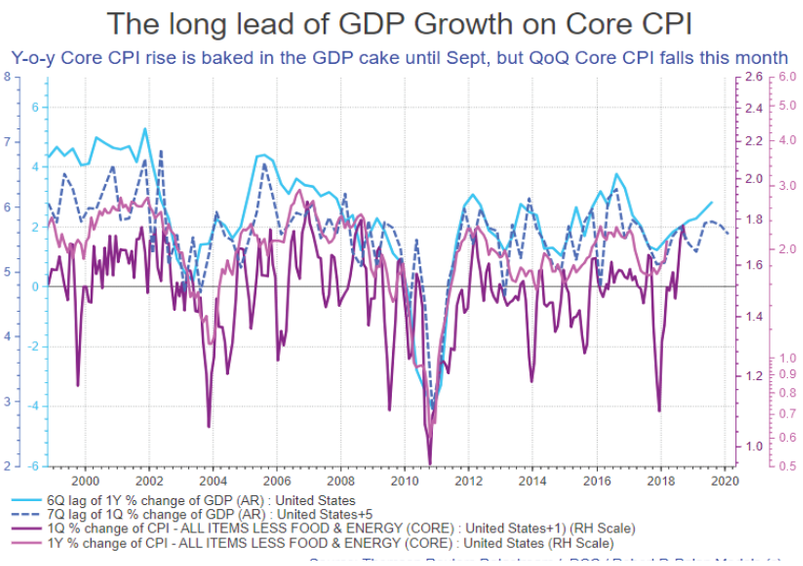
How stagflations occur, and why?

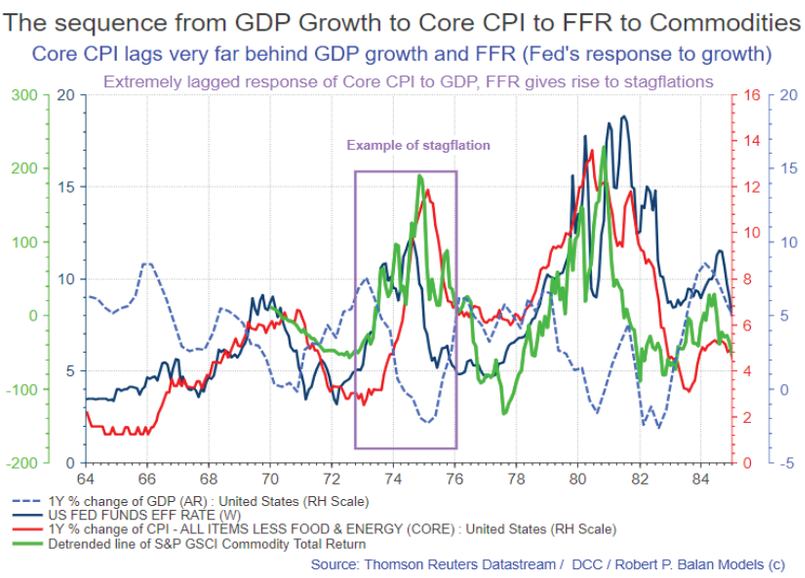
Stagflations arise when GDP growth starts falling, but the lagged response of core inflation from the previous up cycle is still rising. An example of a period when stagflation is rampant is shown in the graph shown above. Stagflations are not a creation of economic policies, per se -- these periods are the delayed manifestation of the "residue" of the economic combustion engine, as it travels to the back of the car. **These periods are baked in the GDP cake as well, and anyone with an understanding of the sequence and timeline of growth, core inflation, and Fed policy changes will be able to predict those periods at ease well ahead of time -- as long as 5 to 6 quarters before** (*see 2nd graph to the right*).

Not to be left unsaid, knowledge of those dynamics enables anyone to predict the path (and to some degree, the extent) of core inflation changes 5 to 6 quarters ahead (*see 2nd graph to the right*).

What the 2nd graph to the right suggests is that the year-on-year Core CPI will be rising well into September this year. The quarterly Core CPI however will tend to decline over the next two or three months.





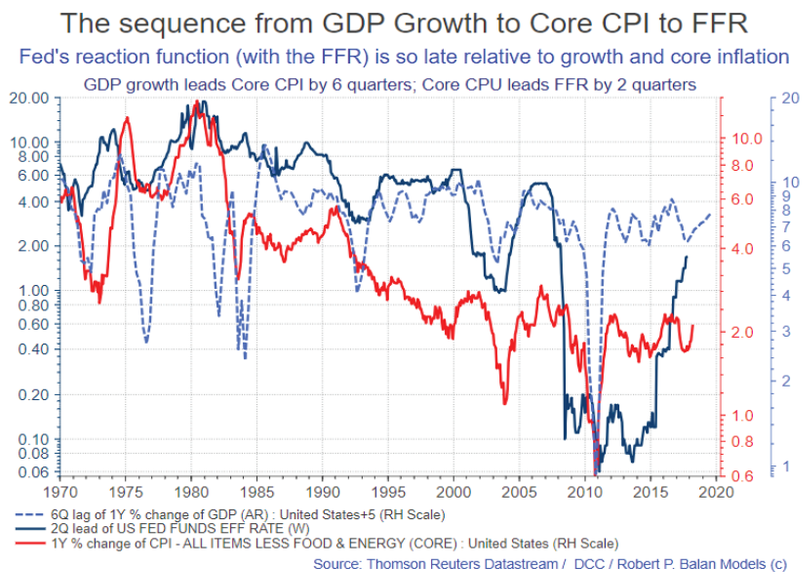


The 2nd graph on this page above also suggests that if GDP growth peaks in Q3 or Q4 2018, as we expect and discussed elsewhere, then we will see stagflation from Q1 to Q3 2019. We will see falling growth and rising core inflation -- interesting dynamics for the bond market and for commodities, which are linked to inflation.

Commodities should perform particularly well during stagflation periods due to the coupling of this asset class to inflation. Commodities are

generally linked to GDP, but the changes in this asset class lag behind changes in growth by 4 to 5 quarters. Hence it shares the same periodic signature with inflation but Commodities lead Core CPI slightly (by 1 to 2 quarters). We are convinced that Commodities provide the transmission mechanism of the causality which begins with GDP growth and ends up in Core CPI approximately one-a-half years later.

And as we said before, it does not need extraordinary obtuseness in monetary and fiscal policy to make this happen – it just happens due to the dynamics of the vectors in the mix. The variances in the lagged response of inflation to changes in GDP growth, and the lagged monetary response to those developments make stagflations inevitable, even if known beforehand (*see last graph on previous page*).



The Fed's focus on inflation is a sham

Inflation is a natural offshoot of GDP growth, and as we said, "baked in the cake." Therefore, it's really no big deal, whether or not the Fed allows core inflation to stay or rise beyond their 2% "line in the sand". Inflation will inevitably decline at some point in time after GDP growth has already fallen (due to tighter monetary policy), and after the FFR has already started easing off (due to the Fed's easing response to falling GDP). The graph below shows how that dynamic works (*see 1st graph on this page*):

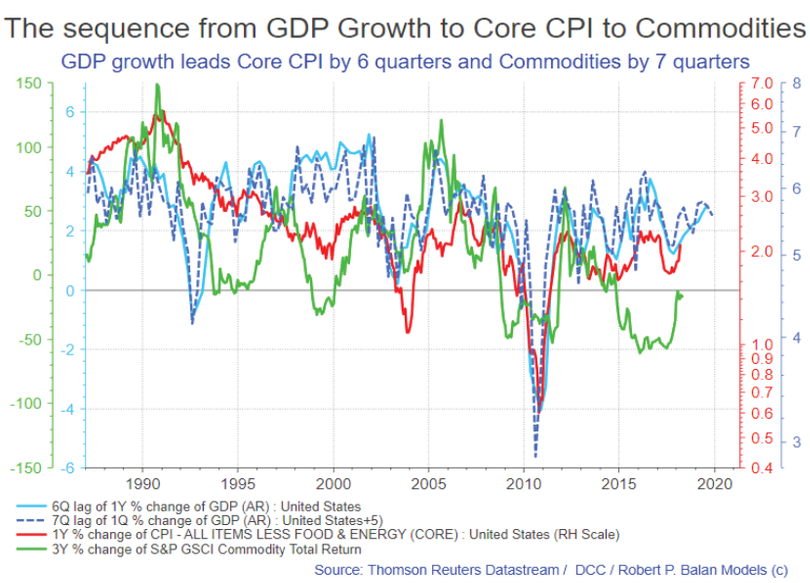
Simply put -- all the Fed's focus on core inflation is a sham and masks the fact that what the Fed is actually regulating is GDP growth. Think about it -- how can you ameliorate (with policy rates) the effect (core inflation)? **You try to regulate the cause (growth)**. But they could NOT say so in those terms -- they will be flayed alive if they say they are raising rates because they fear higher GDP growth rates. They have to use inflation as the bogeyman.

The Fed has not been very concerned about Main Street which will lose jobs if they engineer a recession by over-tightening -- which they have consistently done so in the past, and they will continue doing so in the future. There is that Fed academic arrogance which revels in the fact that they have the wherewithal to make the claim that they have "mastered" inflation (after inflation came down). Hence, they will try to "control" inflation at any cost (inevitably, via a recession). And of course, showing that they are doing "something" perpetuates the need for the Fed as "regulator" of the economy -- and of the commercial banks.

Some questions remain: if "controlling" inflation is a major remit of the Fed (the one that is most relevant to their policy making), how hard can that be to regulate something that tends to be "baked in the cake"? **Making core inflation come down is an easy thing to do. Anyone can do it. Just engineer a recession by raising rates hard, and core inflation will come crashing down 5 to 6 quarters after GDP has collapsed.**

Actionable ideas:

Understanding that Core CPI lags behind GDP growth, we know that inflation will be rising over the course of summer -- knowing that provides solid cues into some investment ideas. For instance, rising Core CPI into August - September provides support for our thesis that commodities will be ascendant into



Q3 2018. **For that matter, the long lead of GDP growth also implies that commodities will be performing well into Q3 2019**. This supports our other thesis that commodities will continue outperforming equities (+20% since mid last year). (*See last graph on previous page*)

There are other ideas in the shorter-term. The CPI report was published this week on May 10. Based on our work, we expect Core CPI year-on-year to keep rising, but Core CPI quarter-to-quarter to start falling. **This behaviour, if it happens, is consistent with our outlook that the year-on-year Core will keep rising and the quarter-on-quarter Core should have peaked last month** *(see graph on this page)* **and will continue to fall over the next 5 to 6 months.**