Trend Macrolytics, LLC
Donald Luskin, Chief Investment Officer
Thomas Demas, Managing Director
Michael Warren, Energy Strategist

FED SHADOW

The Fault is in R-Star

Monday, September 17, 2018

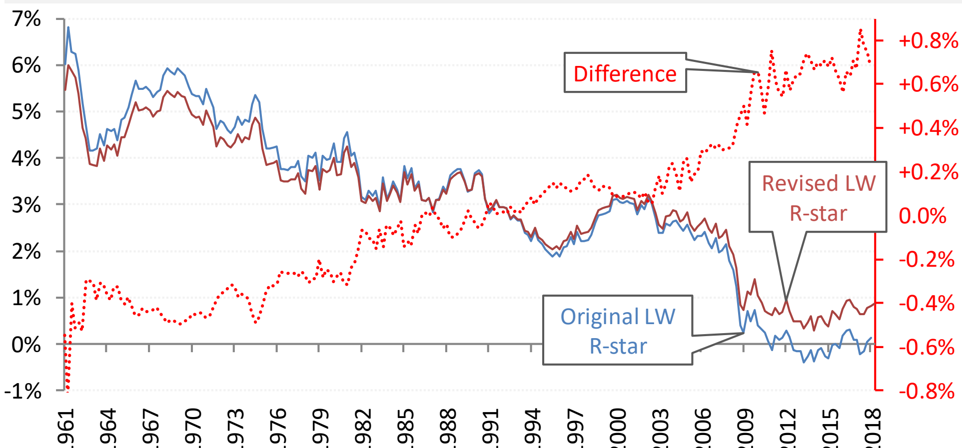
Donald Luskin

The "lambda_g" parameter says three extra rate hikes. Powell is right to be very skeptical.

Perfect timing. Fed chair Jerome Powell warned in his debut keynote speech at Jackson Hole that "Guiding policy by the stars" – that is, u-star (the natural unemployment rate) and r-star (the natural interest rate) – "has been quite challenging of late because our best assessments of the location of the stars have been changing significantly" (see "On Powell's Debut at Jackson Hole" August 24, 2018). Just seven days later, the Laubach-Williams model – the Fed's respected estimate of r-star – was quietly updated on the New York Fed's website, as it is each quarter. Except this time *the Laubach-Williams update included a substantial revision to its entire history from 1961 to present, revising its estimate of r-star at Q1-2018 from 14 bp to 82 bp, and bumping that to 86 bp for Q2* (please see the chart below). *One alarming interpretation would be that, if rate policy is algorithmically driven by Laubach-Williams, the revision means there are three more future rate hikes than previously expected.*

- The revisions are due to a combination of underlying macro data revisions, arbitrary parameter changes in the model itself – and what we believe are likely data errors. We have been working directly with Federal Reserve Board economist Thomas Laubach, and already our efforts have resulted in the New York Fed posting on Friday a PowerPoint presentation attempting to explain the data revisions and parameter changes, but not the errors.

Q2-2018 revisions to Laubach-Williams model of r-star



Source: FRBNY, TrendMacro calculations

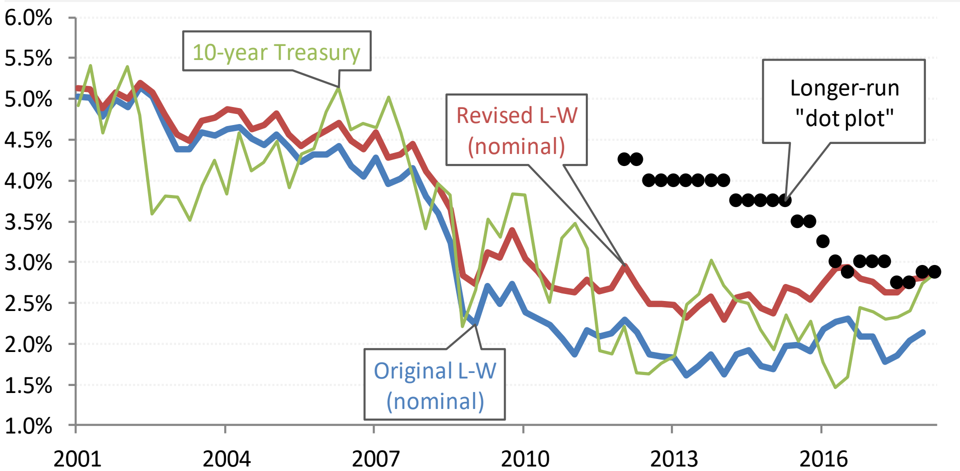
Update to strategic view

US FED, US MACRO: The September FOMC will see a rate hike, and the dots will move up a little. This will come after a sharp upward revision to the Fed's Laubach-Williams model of the natural rate of interest, by about 72 bp, or three rate hikes. This was first explained by BEA revisions to historic GDP, but further investigation shows it is primarily a change in a model parameter called "lambda_g." We believe there may also be input data errors. This brings LW into line with the longer-run optimal rate "dot plot," and with the 10-year yield. While only a quant artifact, the revision is in step with a period of economic optimism by policymakers. We think that optimism is well-founded, and will lead to further rate hikes indexed to improving growth and inflation, which in that context will not be tightenings. Powell's expression of skepticism about "navigating by the stars," so close to the LW revision, justifies his continued dovishness and only gradual rate hikes.

[Strategy dashboard]

- When we first started talking to Dr. Laubach two weeks ago, his immediate response was – quite sensibly – to point out, much as Powell had at Jackson Hole, that the revision was "not that surprising given the inherent uncertainty associated with any individual estimate of r*." Fair enough.
- He also noted that "The previous LW estimates were on the low end of the range of various estimates; the updated estimates are closer to the middle of the range." In nominal terms the upwardly revised LW estimate now eerily perfectly matches the longer-run optimal rate "dot plot" in the FOMC's Summary of Economic Projections, and the 10-year Treasury yield, which Powell believes is a proxy for the nominal natural rate (please see the chart below).

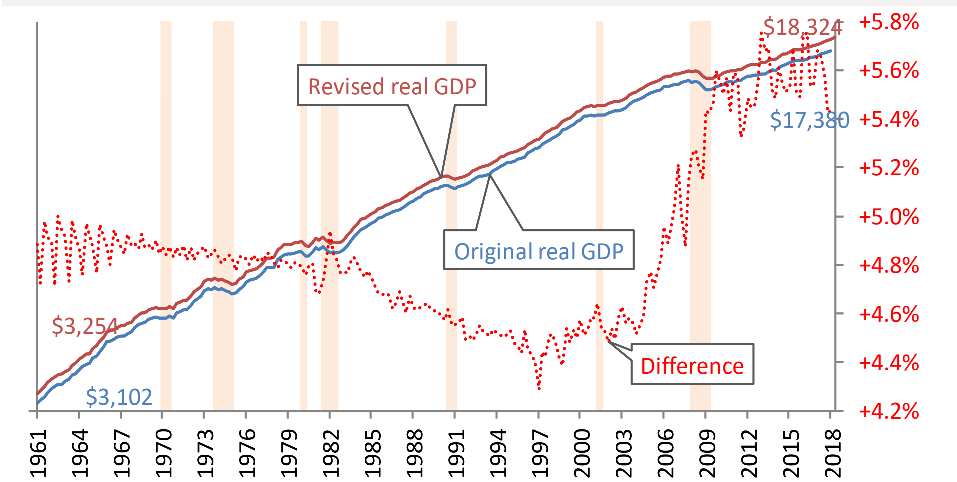
Laubach-Williams versus other indicators of r-star LW+2% inflation target



Source: FRBNY, FRB, Bloomberg, TrendMacro calculations

- *So it's not clear that this revision fundamentally changes the Fed's understanding of where policy rates should go in relation to some notion of a benchmark for policy neutrality.*
- Initially Dr. Laubach explained the upward revisions to us by citing

Q2-18 comprehensive update to real GDP Recession USD bil, log scale



Source: BEA, NBER TrendMacro calculations

Contact TrendMacro

On the web at
trendmacro.com

Donald Luskin
Chicago IL
312 273 6766
don@trendmacro.com

Thomas Demas
Charlotte NC
704 552 3625
tdemas@trendmacro.com

Michael Warren
Houston TX
713 893 1377
mike@trendmacro.energy

[About us]

Recommended Reading

China's social credit system fuels authoritarian regime
Sonika Gupta
Asia Times
May 5, 2018

Yellen: Fed should commit to future 'booms' to make up for major busts
Howard Schneider
Reuters
September 15, 2018

Manufacturing jobs are better jobs
Brendan Greeley
FT Alphaville
September 14, 2018

Three Blockbuster Novels From the 1950s, and Their Remarkable Afterlife
Sam Tanenhaus
New York Times Book Review
September 16, 2018

Elizabeth Warren's Corporate Illogic
Richard A. Epstein
Wall Street Journal
September 12, 2018

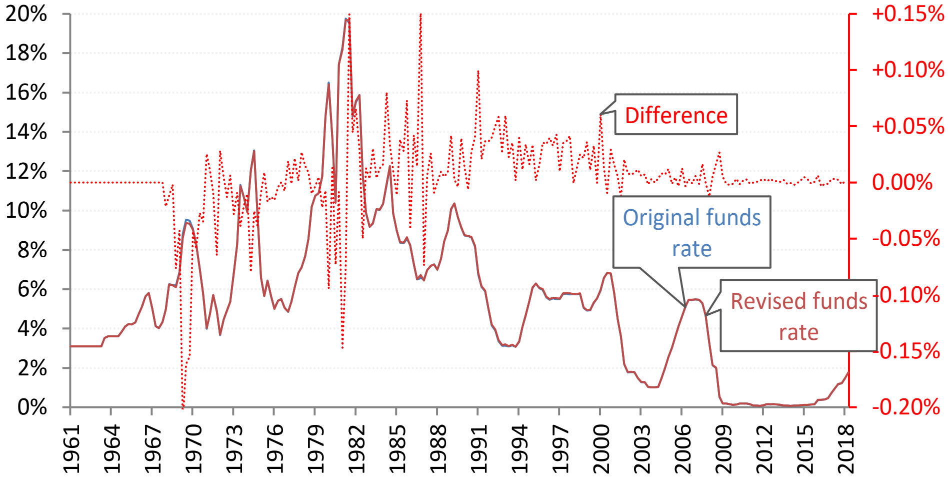
[Reading home]

the Bureau of Economic Analysis' "comprehensive update" to GDP. The update raised the level of real GDP over the entire span on the LW model, from 1961 to present. The largest upward revisions have been to the data since 2000, especially during the Great Recession (please see the chart at the bottom of the previous page). *But given the span of the many quarters involved, revisions to growth rates were de minimis – the rate of decline in the Great Recession was reduced by only 0.1% SAAR, and the rate of growth since was left unchanged. So it was difficult for us to see why this would have a large impact on the LW estimate of r-star.*

- Indeed, after two weeks of further investigation, Dr. Laubach told us that a key component in the upward revision was an internal model parameter – λ_g, or "lambda_g." Its value tunes a signal filter employed in the Stock-Watson technique underlying LW. Dr. Laubach told us, "on this occasion, it so happened that something changed in the data that made lambda_g jump."
- We don't mean at all to sound mocking toward Dr. Laubach, who has been very helpful, generous and open with us. But "something changed" isn't very satisfying for policy-makers who were counting on LW as a navigational tool.
- We've been involved with the creation and use of plenty of quant models over the years. As models have gotten increasingly sophisticated, the reality is that no one really deeply understands how they work anymore. Dr. Laubach is appropriately humble about it, saying of his model's use of the Stock-Watson filter, "nobody has used this technique over such a long span in real time, so we are all learning."
- Moreover, because the natural real rate of interest – as economist Knut Wicksell, who coined the term 120 years ago, pointed out – is unobservable, *models attempting to estimate it can't be reality-checked.* It's not surprising, then, to see a model like LW recalibrated in such a way that it just happens to produce a more consensus result. It's human nature for the model's keepers to move it in that direction, even if they aren't consciously aware of what they are doing.
- *And that's exactly why Powell is so skeptical about navigating by the stars. Indeed, is it so much of a stretch to think that when Powell spoke at Jackson Hole, he already knew about the LW revision that would come seven days later? If so, perhaps the jump in the revision inspired or added to Powell's skepticism. Perhaps he expressed skepticism in order to reassure Fed-watchers like us who think that LW has become something of a "policy rule" for the Fed* (see "Yellen Gives Conservatives Something to Cheer" February 17, 2017). *Perhaps, if he is – as we believe – not politically independent, this skepticism becomes a rationale for doing the Trump administration's dovish bidding* (see "Like It or Not, Trump is Right about the Fed" July 20, 2018).
- Finally, there seem to us to be inexplicable deviations between the original and revised versions of LW in data inputs that should be perfectly stable – such as the historical effective funds rate. These appear to be errors. There are other input series that we simply can't get to square with any source material we can find. We have

not been able to get Dr. Laubach to address these issues. The exhibits in the NY Fed's explainer are designed in a way that minimizes the visual perception of differences (they chart original and revised data, but not the *difference* between them; please see the chart below in order to appreciate the effect of this). We'd prefer to have answers, but we don't have any reason to believe that these errors are large enough to be important factors in the revision.

Seemingly identical original and revised funds rate inputs, and the true differences



Source: FBRNY, Bloomberg, TrendMacro calculations

As far as the upcoming FOMC at the end of this month, unless some catastrophe intervenes, the funds rate is going up 25 bp for sure, and always was, whether or not LW had been revised.

- It wouldn't surprise us one bit to see the longer-term optimal rate "dot plot" tick up a little, too, and the 2019 and 2020 dots a little bit along with them. *But that's not a hawkish thing. It's a growth thing.*
- The upward revision to LW may be a nudge in that direction for FOMC participants, but it's obvious from statements last week by Fed officials – notably former doves Governor Lael Brainard and Chicago Fed president Charles Evans – that there is a great deal of economic optimism in the air anyway (again, that's part of a consensus that may have unconsciously influenced the LW revision).
- We think that optimism is right, directionally. You don't have to buy into Brainard's specific notions of "tailwinds to domestic demand" or Evans' of a "return to the conventional monetary policy-making of yesteryear."
- *This is completely consistent with the policy path we've been talking about all along. We've said that the economy is pulling out of the "new normal" of "secular stagnation." We've said that the natural rate of interest would rise from its depressed levels. We've said that the Fed would hike rates approximately in tandem with that rise. Such rate hikes, by being indexed to the rising natural*

<u>rate, would not effectively be tightenings.</u>

- If anything, we think the sharp upward revision to Laubach-Williams – and what might be properly seen as the NY Fed's somewhat sheepish defense of it on their website – is reason for the Fed to temper this moment of mild exuberance with a little skepticism, to take to heart the warnings of Chairman Powell. *<u>This isn't rocket science – because it's not science at all. Perhaps it takes a non-scientist like Powell to see that.</u>*

Bottom line

The September FOMC will see a rate hike, and the dots will move up a little. This will come after a sharp upward revision to the Fed's Laubach-Williams model of the natural rate of interest, by about 72 bp, or three rate hikes. This was first explained by BEA revisions to historic GDP, but further investigation shows it is primarily a change in a model parameter called "lambda_g." We believe there may also be input data errors. This brings LW into line with the longer-run optimal rate "dot plot," and with the 10-year yield. While only a quant artifact, the revision is in step with a period of economic optimism by policymakers. We think that optimism is well-founded, and will lead to further rate hikes indexed to improving growth and inflation, which in that context will not be tightenings. Powell's expression of skepticism about "navigating by the stars," so close to the LW revision, justifies his continued dovishness and only gradual rate hikes.