

CAMRI Global Perspectives

Monthly digest of market research & views

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The Critical Question is How High?

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The Federal Reserve needs to normalize US interest rates

For the past year the Federal Reserve has made it abundantly clear that they intend to raise the Fed funds rate this year. They have shifted the timing slightly from Q2 to Q3, but not their commitment. Therefore, their policy intent is perfectly transparent as to the start of the tightening cycle. Consequently, there is little to discuss about the first tightening move; it is a foregone decision and one that must be kept for the Fed to maintain their credibility with market participants.

What about the next move?

The next question is how soon will the next increase occur after the initial move. The basic answer to this question is that the data will determine this. Relatively rapid growth in GDP will push the employment rate closer to its estimated full employment level and therefore the Fed will tighten rates repeatedly until GDP growth slows again.

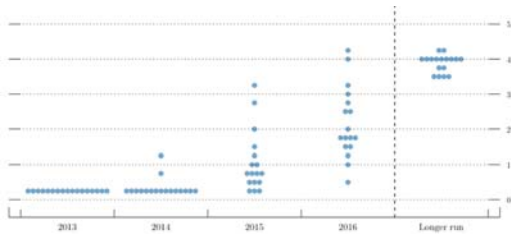
Presently there is little evidence to suggest that the second move will quickly follow the first because GDP growth at the start of 2015 has been woefully weak. Some of that weakness has been due to adverse weather, some to the West Coast dock strike, and others to temporary factors. Consequently, GDP growth is expected to accelerate in Q2 much like it did in 2014. From a policy perspective, therefore, Q3 GDP growth becomes critical to future tighten decisions. And that means the FOMC will have to wait until very late in 2015 before they can make an informed decision about when to execute the second rate increase.

A far more interesting question for investors is how high will the Fed raise their policy rate to achieve normalization?

Achieving a normalized official policy rate is highly important for the Fed not only because it will preserve their credibility, but also to provide some room for the Fed to engage in financial relief and stimulus at the onset of the next recession. As economic

history makes abundantly clear, expansions don't last forever.

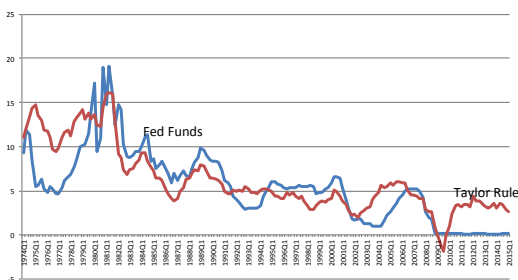
FOMC Members estimates for the median year-end Fed Funds rate



NOTE: In the upper panel, the height of each bar denotes the number of FOMC participants who judge that, under appropriate monetary policy, the first increase in the target federal funds rate from its current range of 0 to 1/4 percent will occur in the specified calendar year. In September 2013, the numbers of FOMC participants who indicated that the

There are several clues that are available that we can use to investigate the answer to this important question. First, what do FOMC members presently anticipate? And, second what do market participants anticipate. A glance at Chart 1 indicates the Fed funds rate that FOMC participants at the latest FOMC meeting believe that the Fed funds rate should eventually rise to 4%. We can interpret their estimate to be the long-run, natural policy rate.

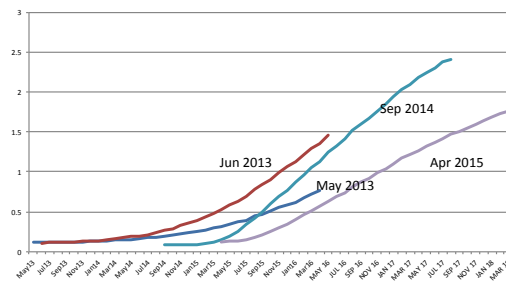
The Taylor Rule and the Funds Rate



Curiously the FOMC appears guided by the Taylor rule

It is very insightful to compare the FOMC members' current estimated natural rate with the implications from the original Taylor rule. By inserting the Fed's 2% inflation target and own long run assessment of potential economic growth, the Taylor rule yields a 4% natural policy rate outcome. This should not come as a surprise since most of the FOMC members have used or have accepted the results from the Taylor rule in the past. While there have been many criticisms of the Taylor rule in the past decade - it wasn't non-linear, it didn't account for negative rates in the past few years, etc. - the FOMC members continue to use it as a shorthand mechanism to discuss policy options.

Expected Fed Funds Rate contracts have Moderated

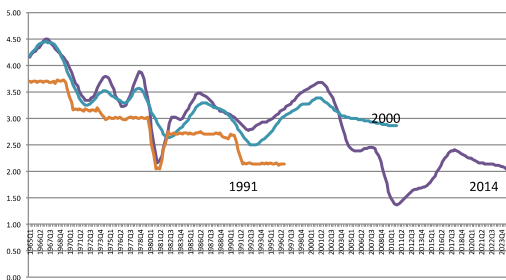


The latest market prediction is 1.8%

Another indicator for the natural rate is the policy rate expected by market participants. The latest Fed funds futures market rate provides an idea of what the financial market believes that the Fed will raise their policy rate to three years from now. Currently it predicts a 1.8% policy rate in May 2018. Just seven months ago the Fed

funds futures contract was predicting a rate of 2.4%. The market prediction is partly reflecting the present spate of weak economic data, and the subsequent softening in the tone of the FOMC’s policy statements.

Estimated Potential GDP Growth’s Secular Decline*

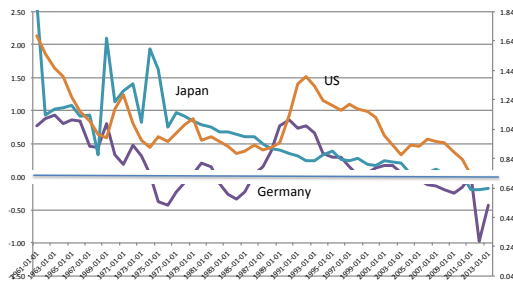


- CBO Estimates.
- IMF forecast developed economies will grow 1.6% pa in next 5 years.

Recent theoretical work implies a much lower natural rate.

The financial markets may also have been led to believe in a lower natural rate do to the prevalence of theoretical work describing a much lower natural rate in the future. In the past year there have been many studies that have addressed the theme of *secular stagnation*.

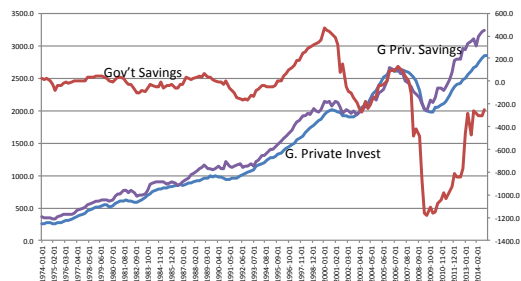
Population Decay in all the Developed Economies



Perhaps the most prominent proponent of

secular stagnation has been ex US Treasury Secretary Larry Summers*. He has argued persuasively that economic growth among the developed economies is decreasing and will eventually recede into stagnation. His arguments for secular stagnation revolve around several themes that include: decaying population growth in most developed economies (see Chart 4), falling labor participation rates, rising old age dependency rates, excess savings, and too little private and public investment. Chart 5 reveals that in the six years following the great recession, investment has been trailing savings, as businesses and households adjust from the debt stressed excesses that led to the great recession in 2008. The long-term interaction among these factors strenuously implies a very low natural rate of interest.

Private Savings Exceeds Investment

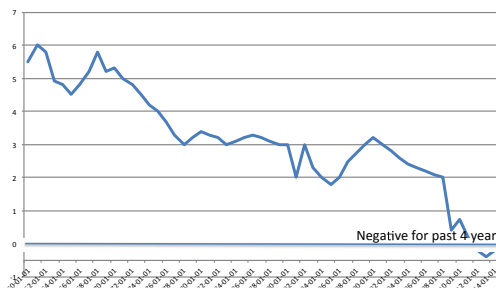


The new natural real rate

John C. Williams, the current President of the Federal Reserve Bank of San Francisco, has followed Larry Summer’s theme and estimated a natural rate of interest. Of course a natural rate of interest is unobservable. He defined his concept of the

natural rate to be the real fed funds rate consistent with real GDP equaling its potential in the absence of transitory shocks (business cycle peaks and troughs) and stable inflation.

Estimated Natural Interest Rate*



*Estimates originally made by John Williams Pres. Federal Reserve Bank of San Francisco.

He has estimated that the real natural rate has fallen over the past decade and became negative over the past three years. He has estimated that at least half of the decrease in his estimated natural rate is due to the decline in potential GDP. Moreover, he believes that it is likely to remain very low in future years, especially if economic stagnation persists.

Changing the Taylor rule

In Taylor’s original rule for the Fed funds rate he assumed that the real rate of interest would be 2%, a level that was consistent with potential GDP in past decades when potential GDP grew much faster. Thus, if we insert the average estimated natural rate that President Williams estimated over the past five years into the Taylor rule, then the long-run policy rate with inflation becoming

stable around the FOMC’s intended target would be around 2%.

Conclusion: Implications of low rates

It is premature to call Professor Summer’s thesis of *secular stagnation* accurate, but the factors behind it seem irrevocably leading to significantly lower growth in potential GDP. Given lower potential GDP growth in the future, President Williams’ work then implies a much lower natural rate of interest. Consequently, the FOMC will probably not raise the Fed funds rate anywhere near the levels presently being predicted by its members. Moreover, they will probably guide the market to anticipate fewer tightenings, and much longer intervals between each one.

Lower potential economic growth suggests that the full employment unemployment rate is also lower than presently being estimated. This would give the FOMC more time before having to adjust its fund rate higher to prevent wage inflation from threatening general inflation indexes.

Less inflation plus a lower natural rate strongly imply that bond yields will not return to levels that they reached in recent decades. Institutions that fund liabilities with long-term bonds will therefore have to adjust their liability promises to a new low interest rate era.

Lower yields on bonds will increasingly push investors deeper into the equity market and further out the credit spectrum. All policy

makers will have to become more aware of their decisions' effects on equity markets than they ever did before.

*US Economic Prospects: Secular Stagnation, Hysteresis, and the Zero Bound, Lawrence H Summers, Keynote Address NABE Policy Conference, February 24, 2014.

*The Decline in the Natural Rate of Interest, John C. Williams, President and CEO Federal Reserve Bank of San Francisco; March 2015.

*The Natural Rate of Interest: John C Williams Federal Reserve Bank of San Francisco Economic Letter

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KEY INDICATORS TABLE (AS OF 22 MAY 2015)								
INDEX	LEVEL (LC)	%1MO (LC)	%1MO (USD)	%1YR (LC)	%1YR (USD)	INDEX	LEVEL	%1YR
S&P500	2126.06	1.09%	1.09%	14.63%	14.63%	3MO LIBOR	0.28	25.25
FTSE	7031.72	0.60%	3.66%	7.11%	-1.61%	10YR UST	2.21	-13.36
NIKKEI	20264.41	0.65%	-0.69%	43.69%	20.36%	10YR BUND	0.60	-57.10
HANG SENG	27992.83	0.58%	0.56%	26.22%	26.25%	10YR SPG	1.78	-41.61
STI	3450.18	-0.28%	0.52%	8.98%	2.16%	10YR SGS	2.34	0.67
EUR	1.10	2.69%		-19.35%		US ISM	51.50	-6.90
YEN	121.54	1.36%		19.46%		EU PMI	52.30	-2.60
CMCI	1163.13	1.30%		-22.49%		JP TANKAN	7.00	-41.67
Oil	59.72	6.34%		-42.43%		CHINA IP	5.60	-32.20

Source: Bloomberg

APPENDIX

GLOSSARY OF KEY TERMS (Source: Bloomberg, with tickers in parenthesis. In US\$ where applicable)

S&P500: capitalization-weighted index of the prices of 500 US large-cap stocks (SPX)

FTSE: capitalization-weighted index of the prices of the 100 largest LSE-listed stocks (UKX)

NIKKEI: capitalization-weighted index of the largest 225 stocks of the Tokyo Stock Exchange (NKY)

HANG SENG: capitalization-weighted index of companies from the Hong Kong Stock Exchange (HSI)

STI: cap-weighted index of the top 30 companies listed on the Singapore Exchange (FSSTI)

EUR: USD/EUR exchange rate: 1 EUR = xx USD (EUR)

YEN: YEN/USD exchange rate: 1 USD = xx YEN (JPY)

CMCI: Constant Maturity Commodity Index (CMCIPI)

Oil: West Texas Intermediate prices, \$ per barrel (CLK1)

3MO LIBOR: interbank lending rate for 3-month US dollar loans (US0003M)

10YR UST: 10-year US Treasury yield (IYC8 – Sovereigns)

10YR BUND: 10-year German government bond yield (IYC8 – Sovereigns)

10YR SPG: 10-year Spanish government bond yield, proxy for EU funding problems (IYC8 – Sovereigns)

10YR SGS: 10-year Singapore government bond yield (IYC8 – Sovereigns)

US ISM: US business survey of more than 300 manufacturing firms by the Institute of Supply Management that monitors employment, production inventories, new orders, etc. (NAPMPMI)

EU PMI: Purchasing Managers' index for the 17 country EU region (PMITMEZ)

JP TANKAN: Bank of Japan business survey on the outlook of Japanese capital expenditures, employment and the overall economy, quarterly index (JNTGALLI)

CHINA IP: China's Industrial Production index, with 1-month lag (CHVAIOY)

LC: Local Currency

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