Economics Group

Interest Rate Weekly



John E. Silvia, Chief Economist john.silvia@wellsfargo.com • (704) 410-3275 Mark Vitner, Senior Economist mark.vitner@wellsfargo.com • (704) 410-3277 Sarah House, Economist sarah.house@wellsfargo.com • (704) 410-3282

TIP: Pay Little Heed to Current TIPS Breakeven Inflation

Narrowing spreads between traditional Treasuries and TIPS over the past year imply a decline in long-term inflation expectations, but factors unique to the TIPS market raise doubt over the value of current signals.

Fall in Long-Term Inflation Expectations Overstated by TIPS

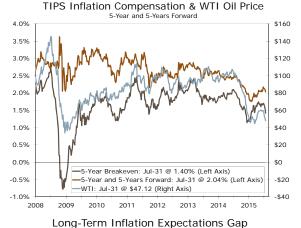
Spreads between traditional U.S. Treasury yields and yields for Treasury Inflation Protected Securities (TIPS) have become an increasingly ubiquitous gauge of inflation expectations. Yet, given liquidity premiums for TIPS and the reduced risk for extreme inflation outcomes, the signals stemming from TIPS breakeven inflation rates appear out of step with other gauges of inflation expectations.

Recent TIPS spreads have indicated a decline in inflation expectations, which may make it more difficult for the Fed to achieve the price-stability side of its dual mandate. The breakeven rate of inflation over the next five years has fallen by more than 60 bps over the past year. Given the fall in commodity prices, some dialing back of inflation expectations over the near term seems reasonable. However, longer-term breakeven rates, measured by the five-year five years forward, have also declined, and look unduly influenced by changes in the price of oil (top chart).

As the FOMC has been noting since last October, the decline in the market-based measures of inflation expectations has not been seen in survey-based measures of future inflation. The gap between inflation compensation indicated by TIPS and consumers' inflation expectations has declined a bit in recent months, but remains at elevated levels (middle chart). Consumer perceptions of inflation 5-10 years from now have been little changed, with the median long-term inflation rate averaging 2.7 percent over the past 12 months, only a touch lower than the 2.8 percent average the prior 12 months (bottom chart). Moreover, other gauges of inflation expectations from market participants have also indicated no material change in longer-term inflation expectations. The Federal Reserve Bank of New York's June Primary Dealer Survey showed the median submission for the most likely CPI inflation outcome for the next 5-10 years as 2.25 percent, only 3 bps lower than a year earlier and on par with the June 2013 survey.

Why the Dislocation?

The recent dislocation between market and survey-based measures of long-term inflation expectations may be due to the curiously tight relationship with commodity prices, as well as changes in risk and liquidity premiums. At less than one-tenth the size of the traditional Treasury market, TIPS yields contain a liquidity premium that leads breakeven rates to understate market participants' views of future inflation. Similar to other markets, TIPS have been thinly traded over the past year, which may have pushed up the liquidity premium and in turn led to a narrower spread with Treasuries. A reduction in the perceived risk of extreme inflation outcomes may also be driving investors away from TIPS, as the \$3.5 trillion expansion of the Fed's balance sheet has not generated the runaway inflation many feared.



120 120 100 100 80 80 60 40 20 -20 -20 -40 -60 -60 -Consumer - Market: Jul @ 69 bps —Six-Month Moving Average: Jul @ 73 bps -100 -100 09

Med. Inflation Expectations 1-Yr vs 5 to 10-Yr
University of Michigan Consumer Sentiment

—Median Inflation Expectations: Jul @ 2.8%

—Median Inflation Expect. For 5-10 Yrs: Jul @ 2.8%

Median Inflation Expectation for 5-10 Years Average 1990 - 2007: 3.2%

5%

4%

02 03 04 05 06 07 08 09 10 11 12 13 14 15

7%

6%

5%

4%

00 01

Source: Bloomberg LP, University of Michigan and Wells Fargo Securities, LLC

Wells Fargo U.S. Interest Rate Forecast

	Actual				Forecast							
	2014			2015			2016					
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	40	1Q	2Q	3Q	40
Quarter End Interest Rates												
Federal Funds Target Rate	0.25	0.25	0.25	0.25	0.25	0.25	0.50	0.75	1.00	1.25	1.50	2.00
3 Month LIBOR	0.23	0.23	0.24	0.26	0.27	0.28	0.70	0.95	1.20	1.45	1.70	2.20
Prime Rate	3.25	3.25	3.25	3.25	3.25	3.25	3.50	3.75	4.00	4.25	4.50	5.00
Conventional Mortgage Rate	4.34	4.16	4.16	3.86	3.77	3.98	4.15	4.23	4.28	4.37	4.63	4.75
3 Month Bill	0.05	0.04	0.02	0.04	0.03	0.01	0.13	0.55	0.86	1.15	1.33	1.72
6 Month Bill	0.07	0.07	0.03	0.12	0.14	0.11	0.27	0.63	0.91	1.22	1.42	1.75
1 Year Bill	0.13	0.11	0.13	0.25	0.26	0.28	0.69	0.99	1.24	1.57	1.79	2.17
2 Year Note	0.44	0.47	0.58	0.67	0.56	0.64	0.86	1.08	1.27	1.72	1.94	2.38
5 Year Note	1.73	1.62	1.78	1.65	1.37	1.63	1.78	1.89	2.01	2.20	2.32	2.61
10 Year Note	2.73	2.53	2.52	2.17	1.94	2.35	2.41	2.49	2.55	2.66	2.80	2.91
30 Year Bond	3.56	3.34	3.21	2.75	2.54	3.11	3.18	3.22	3.27	3.34	3.55	3.72

Forecast as of: July 31, 2015

Wells Fargo U.S. Economic Forecast and FOMC Central Tendency Projections

	<u>2015</u>	<u>2016</u>	<u>2017</u>
Change in Real Gross Domestic Product Wells Fargo	1.8	2.9	N/A
FOMC		2.4 to 2.7	
Unemployment Rate			
Wells Fargo	5.2	4.8	N/A
FOMC	5.2 to 5.3	4.9 to 5.1	4.9 to 5.1
PCE Inflation			
Wells Fargo	1.0	2.0	N/A
FOMC	0.6 to 0.8	1.6 to 1.9	1.9 to 2.0

Forecast as of: July 31, 2015

NOTE: Projections of change in real gross domestic product (GDP) and in inflation are from the fourth quarter of the previous year to the fourth quarter of the year indicated. PCE inflation is the percentage rate of change in the price index for personal consumption expenditures (PCE). Projections for the unemployment rate are for the average civilian unemployment rate in the fourth quarter of the year indicated.

Fed Data as of: June 17, 2015

Sources: IHS Global Insight, Bloomberg LP, Federal Reserve Board and Wells Fargo Securities, LLC

Wells Fargo Securities, LLC Economics Group

Diane Schumaker-Krieg	Global Head of Research, Economics & Strategy	(704) 410-1801 (212) 214-5070	diane.schumaker@wellsfargo.com
John E. Silvia, Ph.D.	Chief Economist	(704) 410-3275	john.silvia@wellsfargo.com
John E. Shvia, Ph.D.	Ciliei Economist	(704) 410-3273	John.shvia@wensiargo.com
Mark Vitner	Senior Economist	(704) 410-3277	mark.vitner@wellsfargo.com
Jay H. Bryson, Ph.D.	Global Economist	(704) 410-3274	jay.bryson@wellsfargo.com
Sam Bullard	Senior Economist	(704) 410-3280	sam.bullard@wellsfargo.com
Nick Bennenbroek	Currency Strategist	(212) 214-5636	nicholas. bennen broek @wells fargo.com
Eugenio J. Alemán, Ph.D.	Senior Economist	(704) 410-3273	eugenio.j.aleman@wellsfargo.com
Anika R. Khan	Senior Economist	(704) 410-3271	anika.khan@wellsfargo.com
Azhar Iqbal	Econometrician	(704) 410-3270	azhar.iqbal@wellsfargo.com
Tim Quinlan	Economist	(704) 410-3283	tim.quinlan@wellsfargo.com
Eric Viloria, CFA	Currency Strategist	(212) 214-5637	eric.viloria@wellsfargo.com
Sarah House	Economist	(704) 410-3282	sarah.house@wellsfargo.com
Michael A. Brown	Economist	(704) 410-3278	michael.a.brown@wellsfargo.com
Michael T. Wolf	Economist	(704) 410-3286	michael.t.wolf@wellsfargo.com
Erik Nelson	Economic Analyst	(704) 410-3267	erik.f.nelson@wellsfargo.com
Alex Moehring	Economic Analyst	(704) 410-3247	alex.v.moehring@wellsfargo.com
Misa Batcheller	Economic Analyst	(704) 410-3060	misa.n.batcheller@wellsfargo.com
Michael Pugliese	Economic Analyst	(704) 410-3156	Michael.d.pugliese@wellsfargo.com
Donna LaFleur	Executive Assistant	(704) 410-3279	donna.lafleur@wellsfargo.com
Cyndi Burris	Senior Admin. Assistant	(704) 410-3272	cyndi.burris@wellsfargo.com

Wells Fargo Securities Economics Group publications are produced by Wells Fargo Securities, LLC, a U.S broker-dealer registered with the U.S. Securities and Exchange Commission, the Financial Industry Regulatory Authority, and the Securities Investor Protection Corp. Wells Fargo Securities, LLC, distributes these publications directly and through subsidiaries including, but not limited to, Wells Fargo & Company, Wells Fargo Bank N.A., Wells Fargo Advisors, LLC, Wells Fargo Securities International Limited, Wells Fargo Securities Asia Limited and Wells Fargo Securities (Japan) Co. Limited. Wells Fargo Securities, LLC. ("WFS") is registered with the Commodities Futures Trading Commission as a futures commission merchant and is a member in good standing of the National Futures Association. Wells Fargo Bank, N.A. ("WFBNA") is registered with the Commodities Futures Trading Commission as a swap dealer and is a member in good standing of the National Futures Association. WFS and WFBNA are generally engaged in the trading of futures and derivative products, any of which may be discussed within this publication. Wells Fargo Securities, LLC does not compensate its research analysts based on specific investment banking transactions. Wells Fargo Securities, LLC sresearch analysts receive compensation that is based upon and impacted by the overall profitability and revenue of the firm which includes, but is not limited to investment banking revenue. The information and opinions herein are for general information use only. Wells Fargo Securities, LLC does not guarantee their accuracy or completeness, nor does Wells Fargo Securities, LLC assume any liability for any loss that may result from the reliance by any person upon any such information or opinions. Such information and opinions are subject to change without notice, are for general information only and are not intended as an offer or solicitation with respect to the purchase or sales of any security or as personalized investment advice. Wells Fargo Securities, LLC is

Important Information for Non-U.S. Recipients

For recipients in the EEA, this report is distributed by Wells Fargo Securities International Limited ("WFSIL"). WFSIL is a U.K. incorporated investment firm authorized and regulated by the Financial Conduct Authority. The content of this report has been approved by WFSIL a regulated person under the Act. For purposes of the U.K. Financial Conduct Authority's rules, this report constitutes impartial investment research. WFSIL does not deal with retail clients as defined in the Markets in Financial Instruments Directive 2007. The FCA rules made under the Financial Services and Markets Act 2000 for the protection of retail clients will therefore not apply, nor will the Financial Services Compensation Scheme be available. This report is not intended for, and should not be relied upon by, retail clients. This document and any other materials accompanying this document (collectively, the "Materials") are provided for general informational purposes only.

