Real and Nominal Interest Rates and Inflation

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Discussion Document for May 2015 Social Security Technical Panel

Methodological Recommendations

1. Inflation and nominal and real interest rates should be analyzed and discussed together, not separately.

2. In addition to (i) reviews of historical data and (ii) projections by other organizations, the Trustees/OCACT should consider (iii) evidence from surveys of professional forecasters and (iv) evidence inferred from market outcomes.

Historical Rates

5-year periods:	Nominal	Real	CPI
1960 to 1965	4	2.5	1.24
1965 to 1970	5.9	1	4.23
1970 to 1975	6.7	0	6.76
1975 to 1980	8.5	-0.9	8.91
1980 to 1985	12.1	6.9	5.22
1985 to 1990	8.5	5.1	3.83
1990 to 1995	7	4.3	3.03
1995 to 2000	6.2	3.9	2.43
2000 to 2005	4.6	2.4	2.49
2005 to 2010	3.8	1.8	2.3

Other Organizations

“The Trustees’ cite interest rate projections from:

Global Insight, Inc.

Macroeconomic Advisers

Moody’s Analytics

the Office of Management and Budget (OMB)

the Congressional Budget Office (CBO)

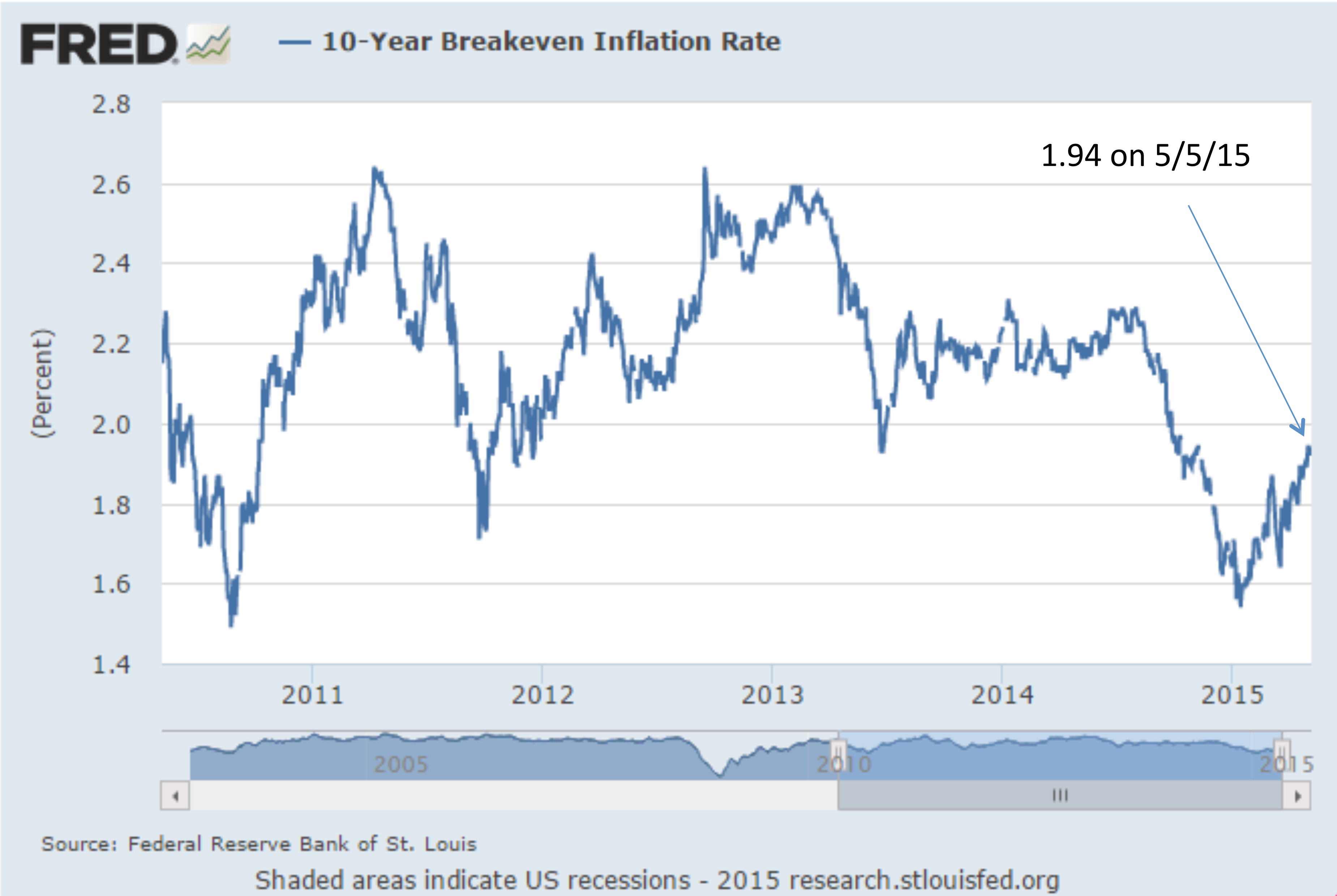
[covering different time periods.]

Apart from CBO, all were reported as having *lower* projected real interest rates than the Trustees.

Surveys

- “The Panel recognizes that averaging projections from a group of separate knowledgeable forecasters has the potential to lower the variance in projection compared to a single projection from a single group.”
- “However, the focus of many forecasters is on a much shorter horizon than 75 years.”
- “ And there remains the possibility of cognitive biases, biases which could be larger or smaller than in the process followed by the Trustees.”
- “Ongoing research is focused on examining the successes, limitations, and biases present in such surveys and exploring methods of drawing inferences that might be better than taking answers to survey questions literally.”

Market Models: TIPS v. Nominal



Market Models - 2

- Differences between TIPS and nominal securities
  - "TIPS are less liquid than nominal U.S. Treasuries, and there is evidence that their yields became unrealistically high (and prices unreasonably low) during stress periods such as the 2008-2009 financial crisis."

- Inferences from market for inflation derivatives at long-horizons also suggests low inflation (although there is some debate about use of risk neutral probabilities for projecting Trust Fund operations)

- Currently, the long-run projected *nominal* rate is roughly 3.9 percent in the model in Adrian et al (2015), substantially below the currently assumed nominal rate of 5.6 percent.

Recommended Assumptions

Lower inflation rate by 0.2
Lower real rate by 0.3 to 0.5
Widen inflation bands asymmetrically (more upside risk)
Maintain current bands +/- 0.5 around real rate

	Current			Proposed		
	I	II	III	I	II	III
Inflation	3.4	2.7	2.0	3.5	2.5	1.8
Real rate	3.4	2.9	2.4	3.1 2.9	PD 2.6 JB 2.4	2.1 1.9
Nominal Rate	6.8	5.6	4.4	6.6 6.4	PD 5.1 JB 4.9	3.9 3.7