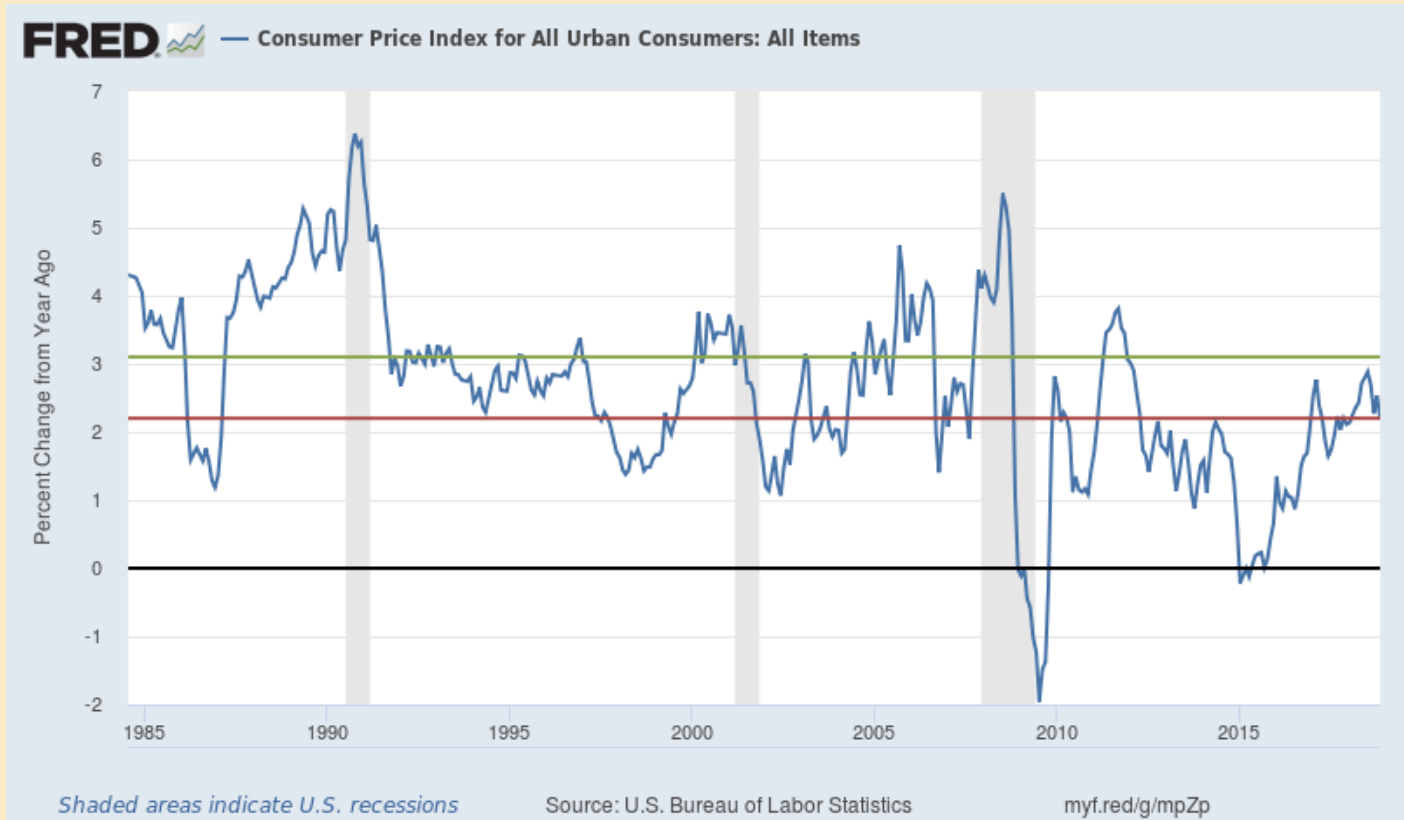


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Consumer Price Index



Red Line: Nov. 2018: 2.2% YOY
Green Line: Prior to 2008 Average: 3.1%

Retail Sales Year-over-Year Change (11/30/2008 to 11/30/2018)

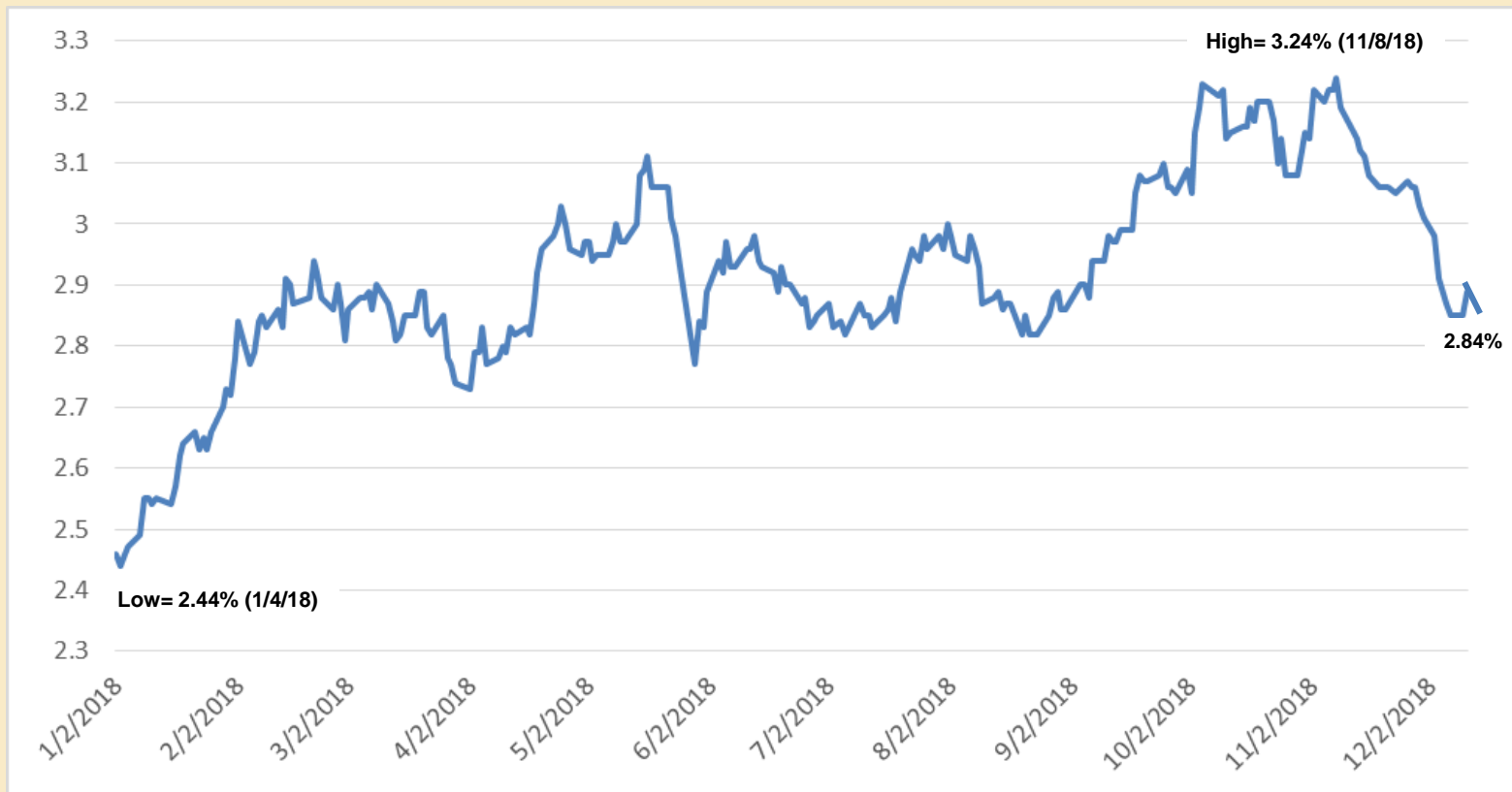
Current: 4.2 High on 6/30/2011: 8.20 Average: 3.13 Low on 3/31/2009: -11.50



Source: U.S. Census Bureau

M/M Change = 0.2% (consensus 0.1%; Prior 0.8%)

The 10-year yield is on the move:



Fed Funds Implied Probabilities

United States Instrument Futures: Fed Funds - Effective Fed Effective Rate 2.19

1) Overview 2) Future Implied Probability

Current Implied Probabilities 3) Add/Remove Rates

Dates Meeting Calculation Calculated 12/18/2018 Based on rate 2.00-2.25

Meeting	Hike Prob	Cut Prob	1.75-2	2-2.25	2.25-2.5	2.5-2.75	2.75-3	3-3.25	3.25-3.5	Fwd Rate
12/19/2018	67.5%	0.0%	0.0%	32.5%	67.5%	0.0%	0.0%	0.0%	0.0%	2.37
01/30/2019	68.8%	0.0%	0.0%	31.2%	66.0%	2.8%	0.0%	0.0%	0.0%	2.38
03/20/2019	76.3%	0.0%	0.0%	23.7%	57.6%	18.0%	0.7%	0.0%	0.0%	2.44
05/01/2019	77.8%	0.0%	0.0%	22.2%	55.5%	20.5%	1.7%	0.0%	0.0%	2.44
06/19/2019	82.1%	0.0%	0.0%	17.9%	49.0%	27.3%	5.4%	0.4%	0.0%	2.49
07/31/2019	82.9%	0.0%	0.0%	17.1%	47.7%	28.3%	6.3%	0.6%	0.0%	2.50
09/18/2019	84.4%	0.0%	0.0%	15.6%	44.9%	30.0%	8.3%	1.1%	0.1%	2.52
10/30/2019	84.6%	0.0%	0.0%	15.4%	44.6%	30.2%	8.5%	1.2%	0.1%	2.53
12/11/2019	83.5%	0.4%	0.4%	16.1%	44.3%	29.6%	8.4%	1.2%	0.1%	2.52

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