



Lies, Damned Lies & Economic Forecasts

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Lies, Damned Lies & Economic Forecasts

Agenda

1

What's the big deal?

2

Experts kNOw better than the rest of us, right?

3

Financial/Economic experts kNOw better, right?

4

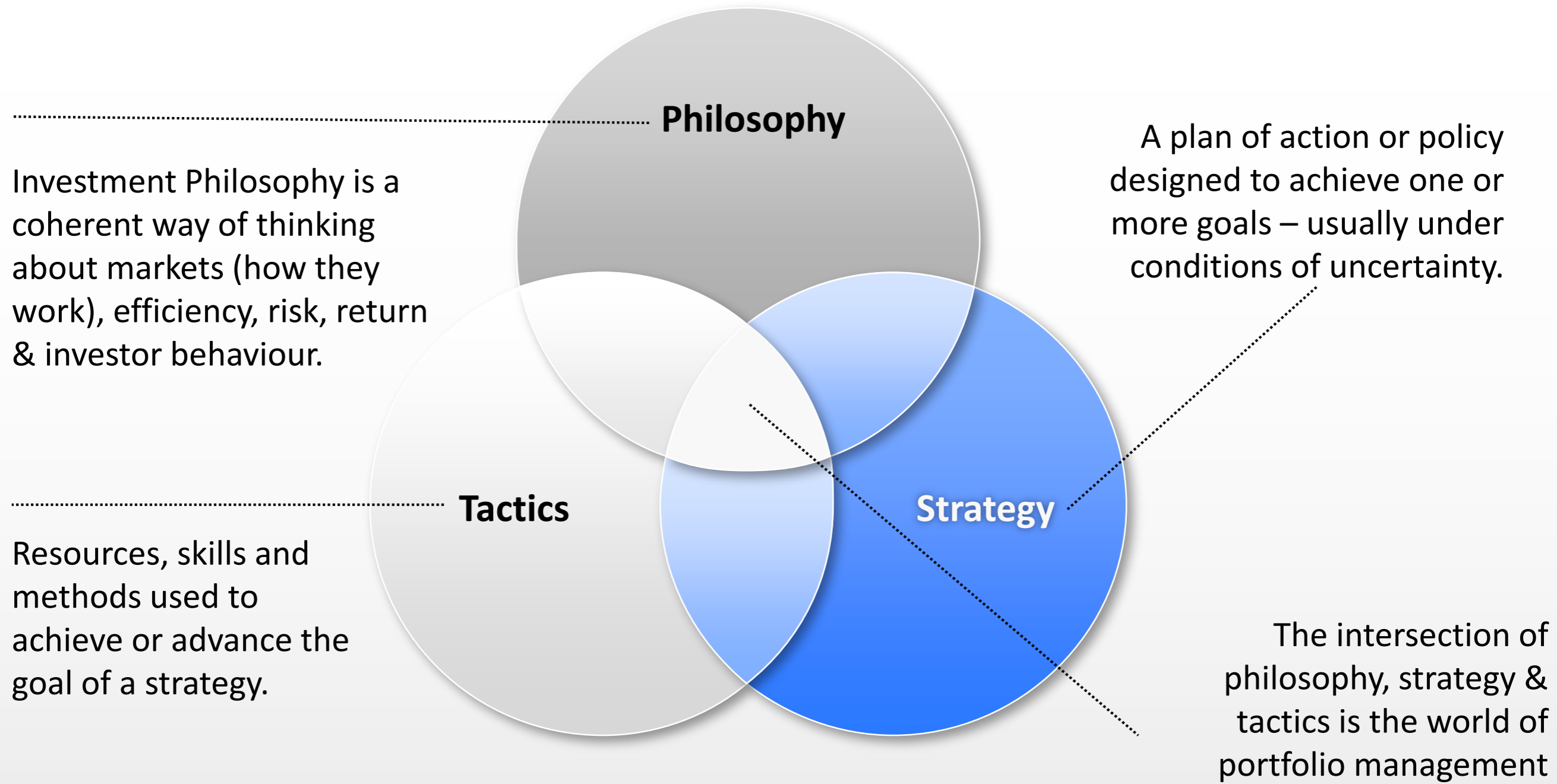
A framework for thinking about economic forecasts

5

Updated economic forecasts

Philosophy, Strategy & Tactics

Where Does this Fit?



The difference between strategy and tactics: Strategy is done above the shoulders, Tactics are done below the shoulders.

What Should I Benchmark?

Prudent Person

Investments shall be made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable safety of their capital as well as the probable income to be derived.

Prudent Investor

A U.S. law that sets the standard of fiduciary duty for those entrusted with the responsibility of managing others' money, such as trustees and estate administrators. It requires that a trustee weigh risk versus reward when making investment decisions, taking into account the income that may be generated by the investment as well as the probable safety of the invested capital.

Prudent Investor vs Prudent Man/Person

1. Trust accounts are judged on their entire portfolio, rather than whether the investment was prudent at the time of purchase.
2. Diversification is explicitly required under the Prudent Investor Act
3. Suitability is deemed more important than individual investments
4. Fiduciaries are allowed to delegate investment management to qualified third parties

What Should I Benchmark?

General Objectives

“The primary objectives, in priority order...

1. Safety

Safety of principal is the foremost objective... *The goal will be to mitigate credit risk and interest rate risk.*

2. Liquidity

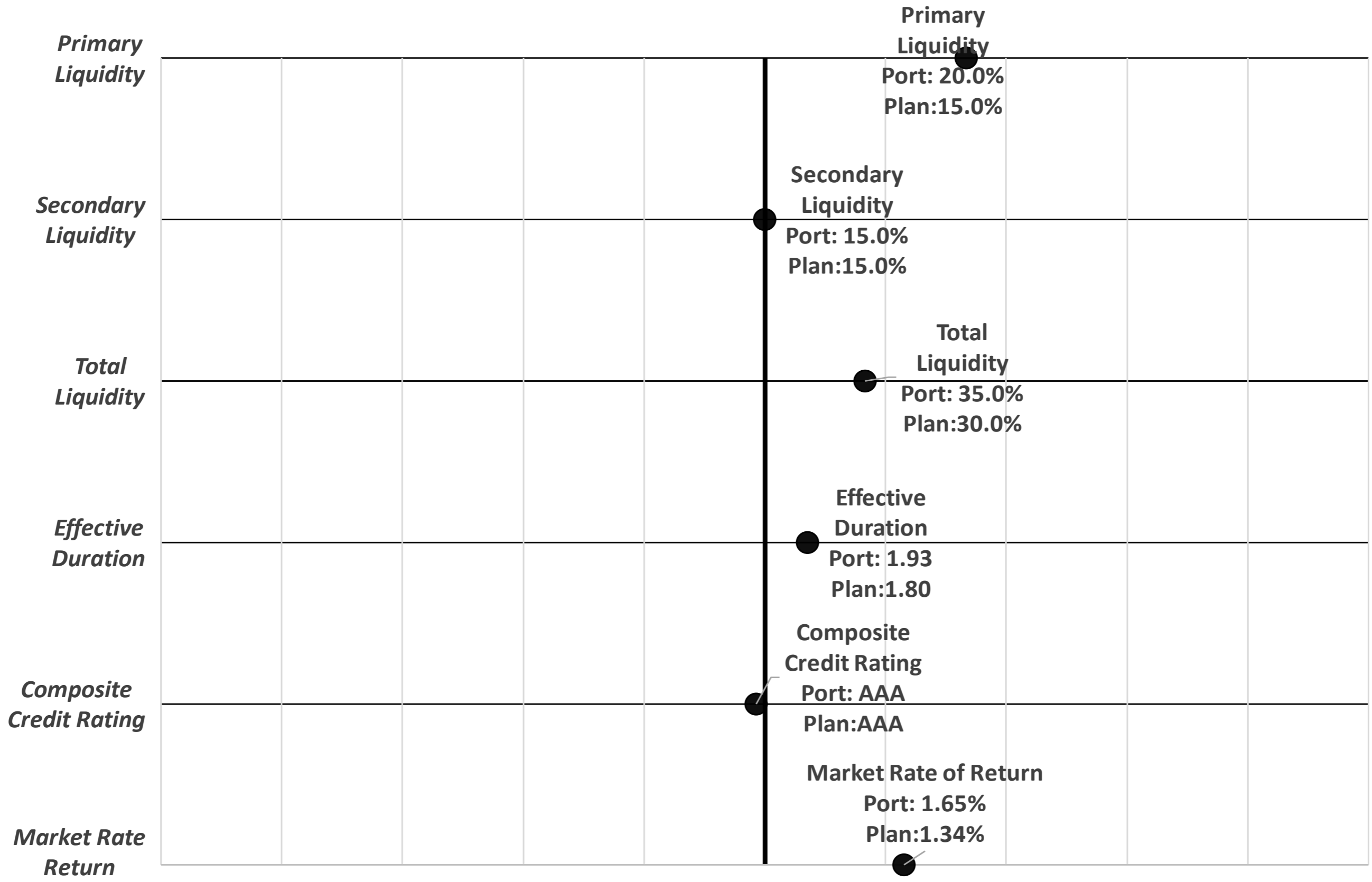
The investment portfolio shall *remain sufficiently liquid* to meet all operating requirements that may be reasonably anticipated.

3. Return

The investment portfolio shall be designed with the objective of attaining a *market rate of return throughout budgetary and economic cycles*, taking into account the investment risk constraints of safety and liquidity needs.”

Benchmark Suitability

Gain/Loss is not listed! Why not?



For the background and concepts behind this visualization see the presentation "Understanding Benchmarks: Concepts" by Kevin Webb, CFA

Prediction ↔ Forecast

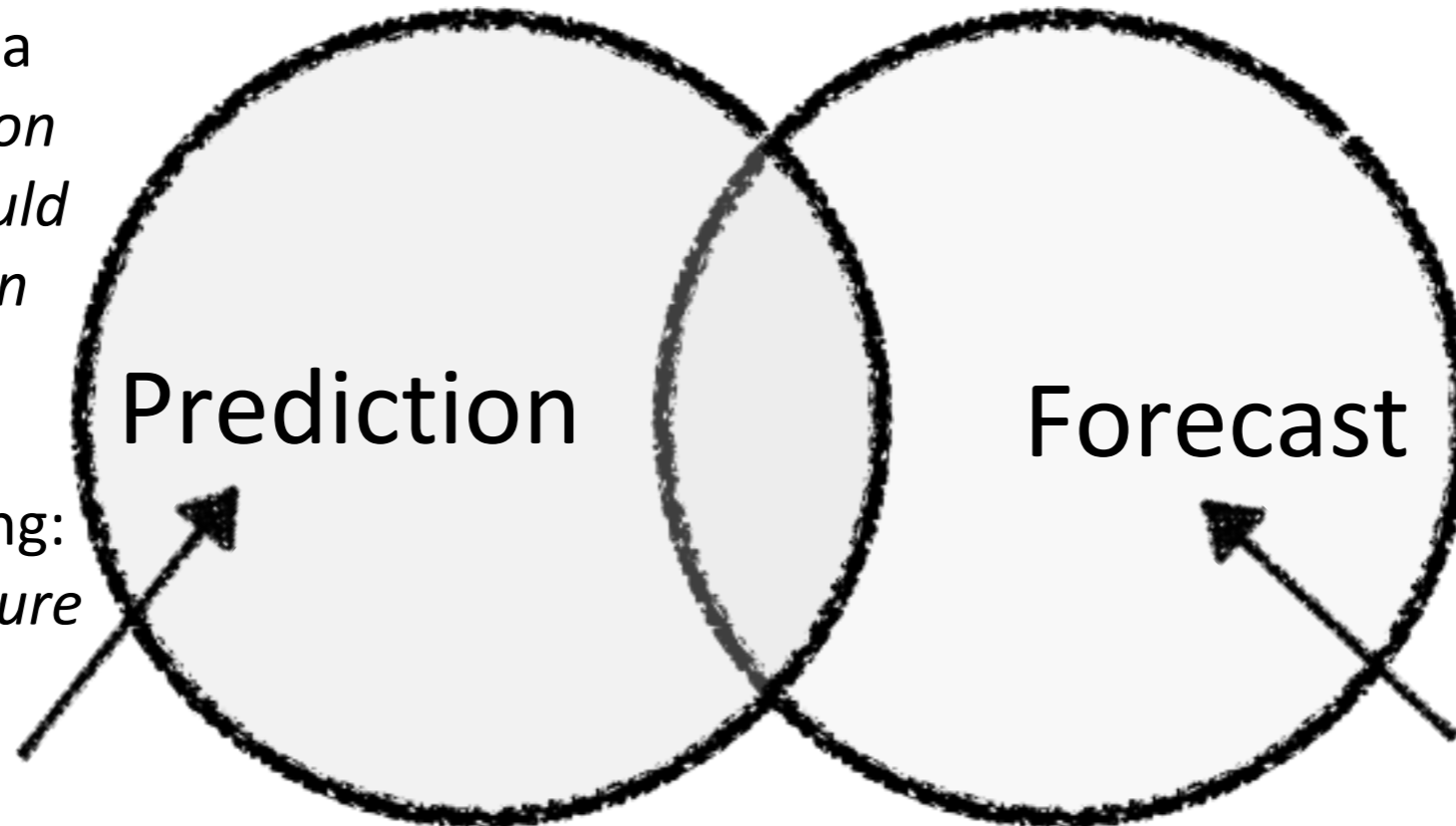
noun

a thing predicted; a forecast: *a prediction that the Greeks would destroy the Persian empire.*

- the action of predicting something: *the prediction of future behavior.*

ORIGIN

mid 16th cent.: from Latin *praedictio(n-)*, from *praedicere* ‘**make known beforehand**’ (see [predict](#)).



Verb

(past and past participle **forecast** or **forecasted**) [*with obj.*]

predict or estimate (a future event or trend): *rain is forecast for eastern Ohio* | [*with obj. and infinitive*]: *coal consumption is forecast to increase.*

noun

a prediction or estimate of future events, especially coming weather or a financial trend.

forecaster | 'fôr,kastər| noun: a person who predicts or estimates a future event or trend: economic forecasters are predicting a downturn.

Experts kNOw better, right?

**Rock n' roll? It will be gone
by June**



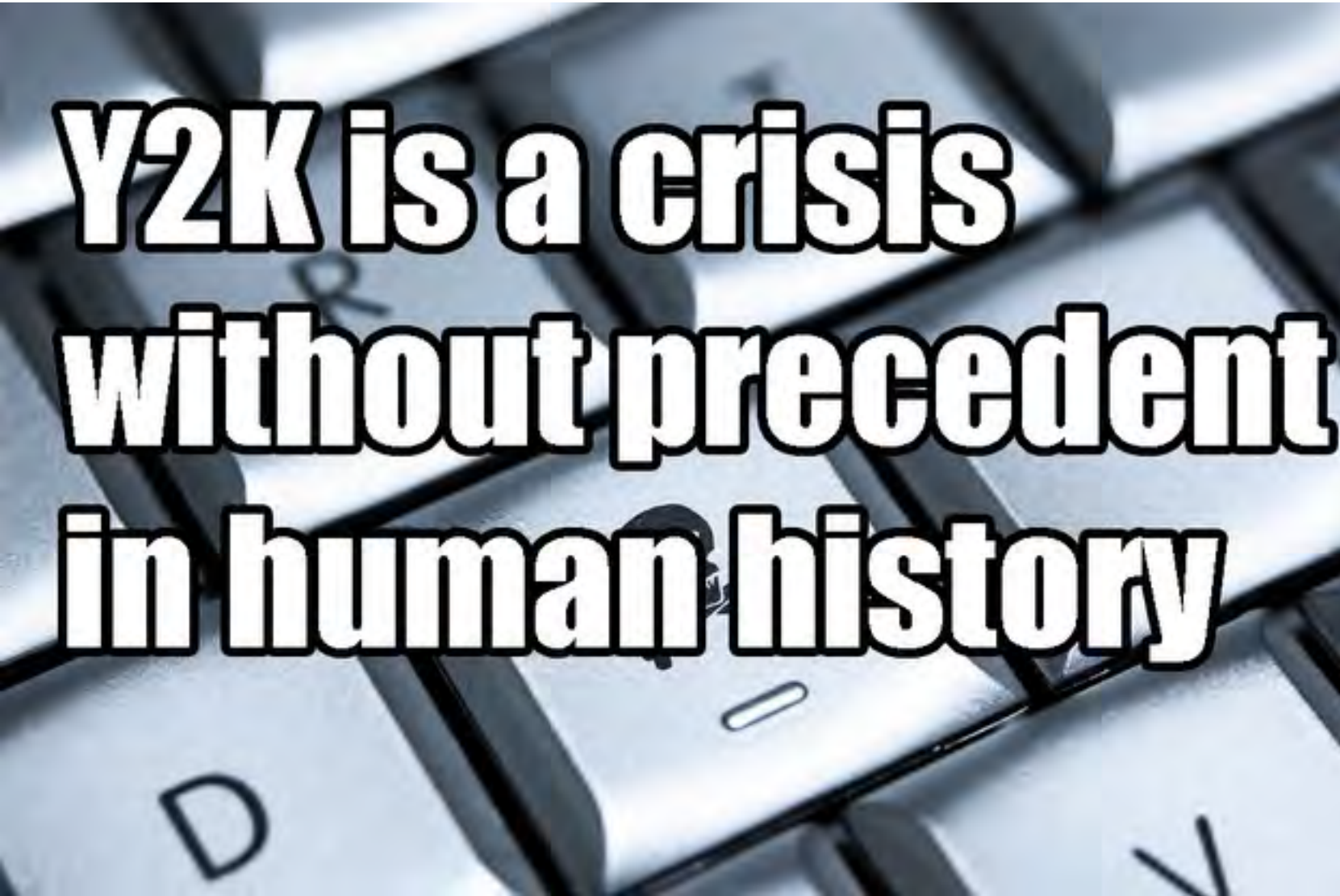
**Variety
magazine,
1955.**

Experts kNOw better, right?



A Decca Records executive to the band's manager, Brian Epstein, following an audition in 1962. He continued: "We don't like your boys' sound. Groups are out. Four-piece groups with guitars, particularly, are finished."

Experts kNOw better, right?



**Y2K is a crisis
without precedent
in human history**

**Byte magazine
editor Edmund
DeJesus, 1998.**

Experts kNOw better, right?

**Next Christmas
the iPod will be
dead, finished,
gone, kaput**



Alan Sugar, 2005.

Experts kNOw better, right?



There's no chance that the iPhone is going to get any significant market share. No chance

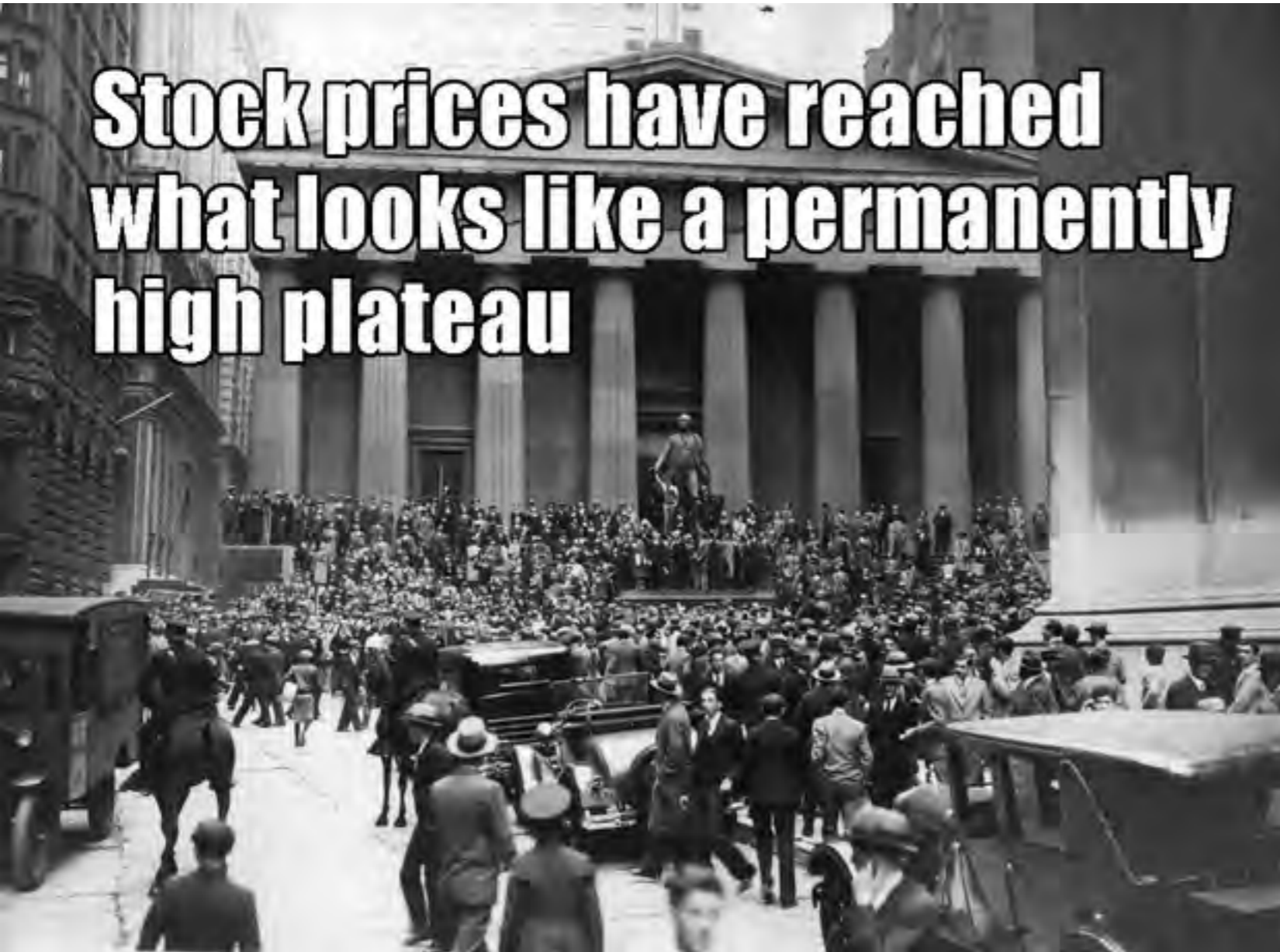
**Microsoft CEO
Steve Ballmer,
2007.**



"The only function of economic forecasting is to make astrology look respectable." - John Kenneth Galbraith

Financial experts kNOw better, right?

**Stock prices have reached
what looks like a permanently
high plateau**



Economist Irving Fisher in October 1929, three days before the stock market crash that triggered the Great Depression.

Financial experts kNOw better, right?



Franklin Raines (CEO of Fannie Mae), 10th June 2004: "These subprime assets are so riskless that their capital for holding them should be under 2 percent."

Financial experts kNOw better, right?



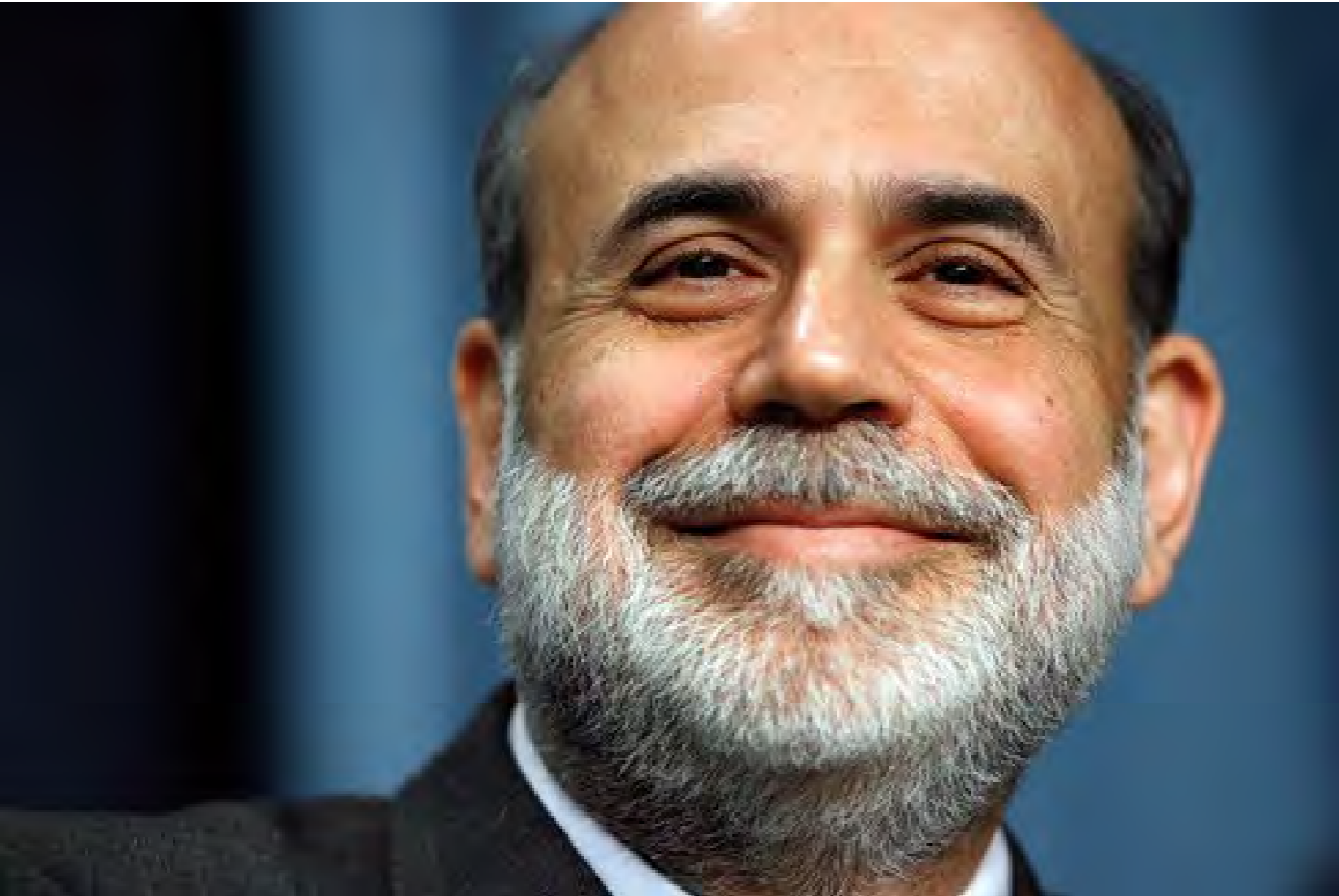
Joseph Cassano (Head of Financial Products at AIG), 2007: "It is hard for us, without being flippant, to even see a scenario within any kind of realm of reason that would see us losing one dollar in any of these Credit Default Swap transactions."

Financial experts kNOw better, right?



In December 2007, Goldman Sachs chief investment strategist Abby Joseph Cohen made a Fisher-like prediction of her own. She suggested the S&P 500 would hit 1,675 by the end of 2008, a climb of 14% — it actually ended below 900.

Financial experts kNOw better, right?



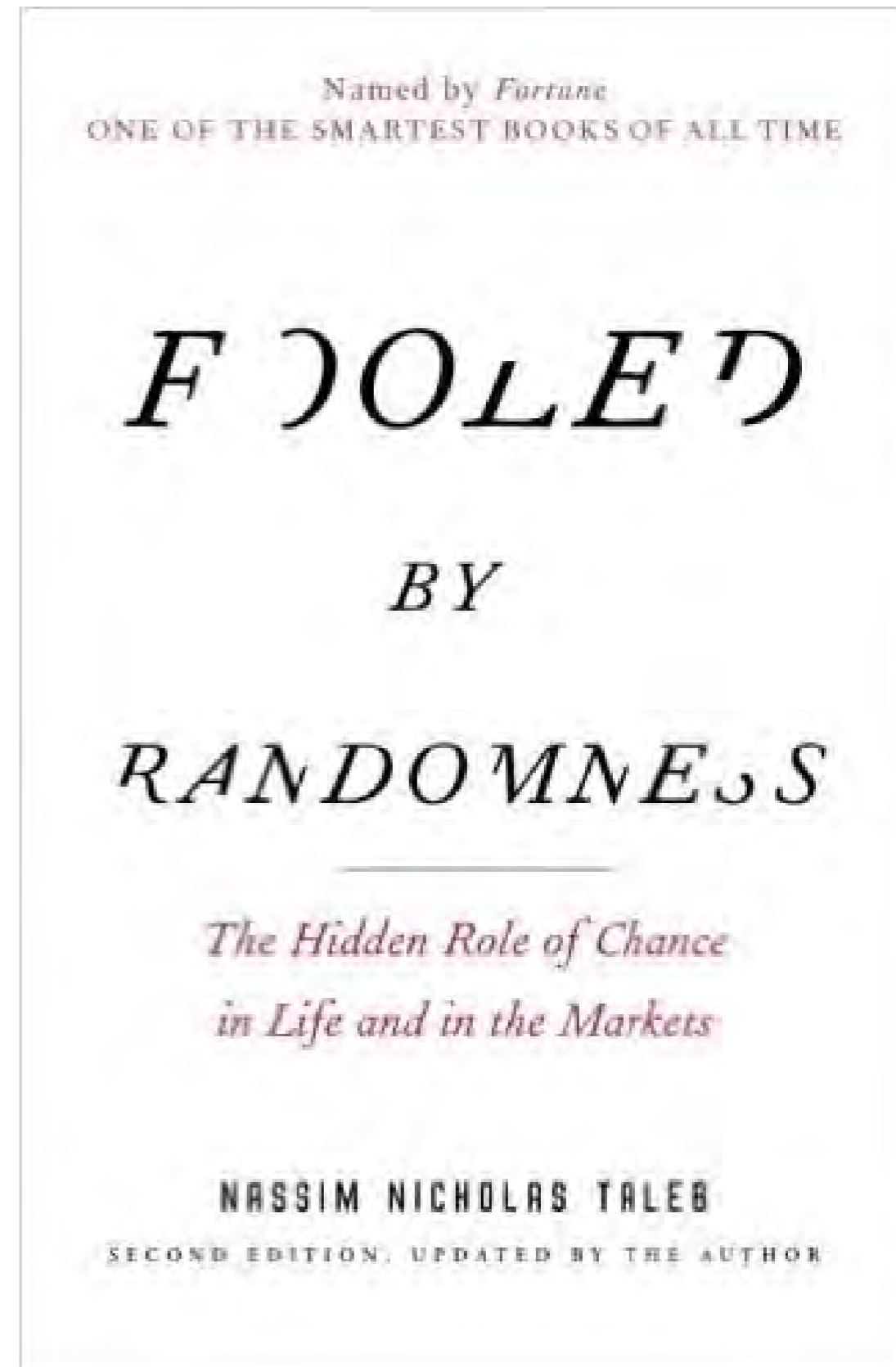
Ben Bernanke, 10th
January 2008 - "The
Federal Reserve is
currently not
forecasting a
recession."

Financial experts kNOw better, right?



Donald Luskin (US investment guru), 14th September 2008:
"Anyone who says we're in a recession, or heading into one—especially the worst one since the Great Depression—is making up his own private definition of 'recession'."

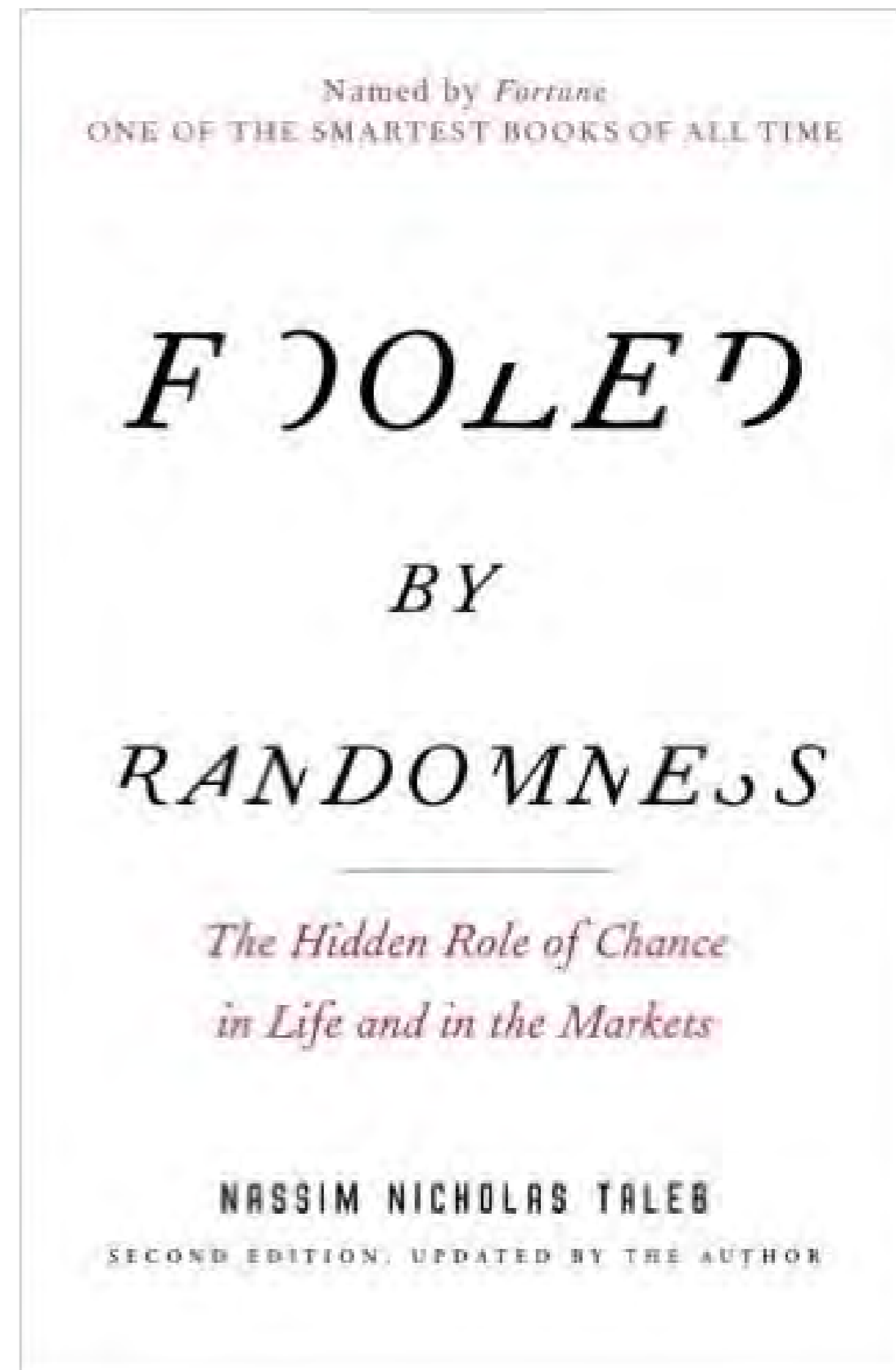
Coin Flipping as Insight



Are Coin Flips Really Random?

Adler, David E. "A Reliable Randomizer, Turned on Its Head." The Washington Post, August 2, 2009.
<http://www.washingtonpost.com/wp-dyn/content/article/2009/07/31/AR2009073104170.html>

“Generate a long series of coin flips producing heads and tails with 50% odds each and fill up sheets of paper. If the series is long enough you may get eight heads or eight tails in a row, perhaps even ten of each. Yet you know that in spite of these wins the conditional odds of getting a head or a tail is still 50%.”



100 Simulations: Avg~4.7 / # >=4 ~ 70

Simulation #1					Simulation #2					Simulation #3					Simulation #4					Simulation #5					Simulation #6					Simulation #7					Simulation #8					Simulation #9					Simulation #10									
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The Flip Side of the Coin

“DR. THEODORE P. HILL asks his mathematics students at the Georgia Institute of Technology to go home and either flip a coin 200 times and record the results, or merely pretend to flip a coin and fake 200 results. The following day he runs his eye over the homework data, and to the students' amazement, he easily fingers nearly all those who faked their tosses.”

Odds of 6 Heads in a row on 200 flips?



probability of 6 heads in a row 200 coin flips



Web Apps Examples Random

Input interpretation:

sequence of coin flips	number of flips	200
	consecutive heads	6

Probability:

More digits

$\frac{10\,055\,065\,607\,232\,664\,699\,800\,060\,596\,833\,042\,695\,309\,909\,291\,044}{214\,980\,169} \cdot \frac{12\,554\,203\,470\,773\,361\,527\,671\,578\,846\,415\,332\,832\,204\,710\,888}{928\,069\,025\,792} \approx 0.800932$

Approximate chance:

1 in 1.2

Approximate expected length of longest run of heads:

More digits

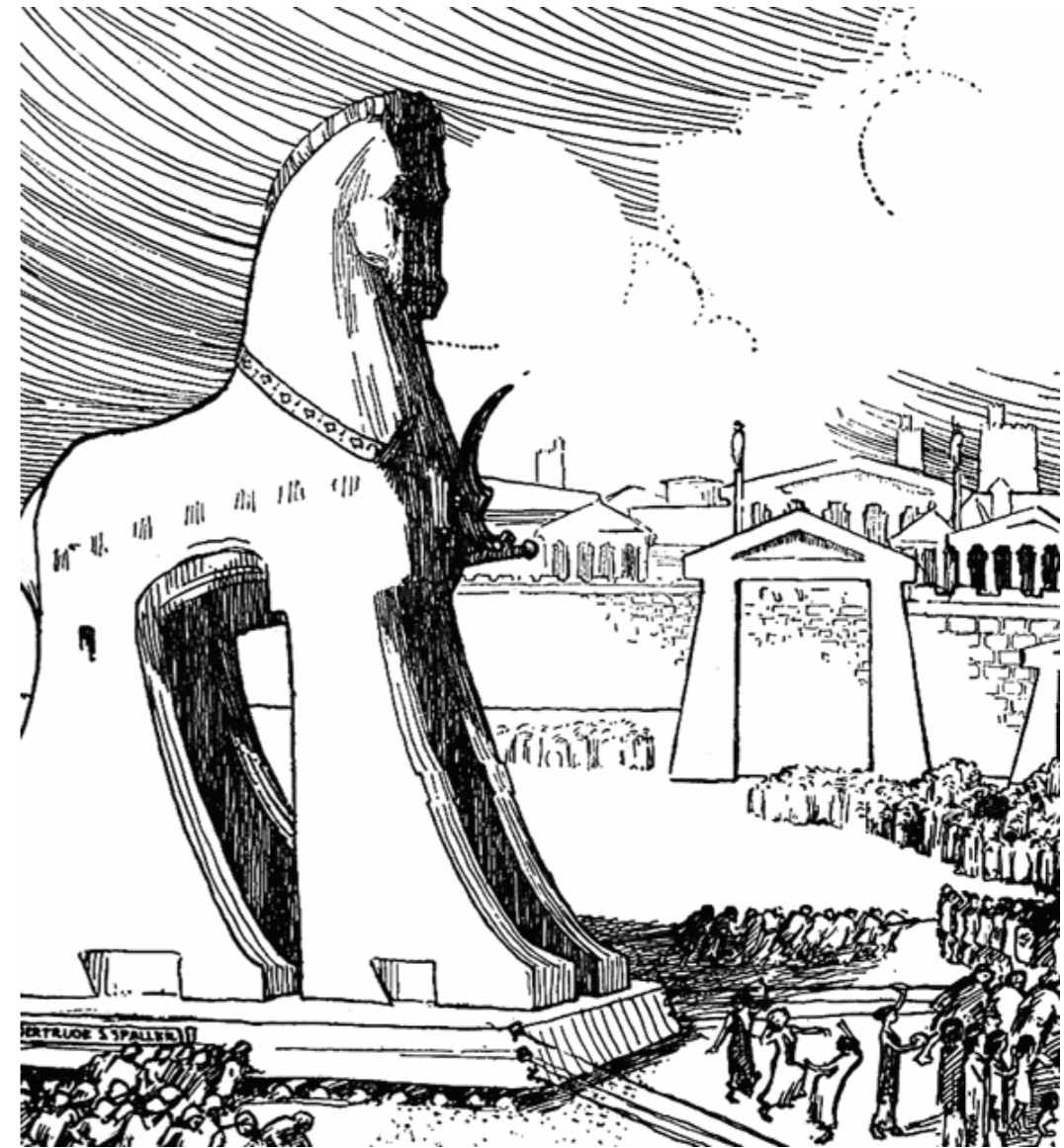
$$-\frac{1}{2} + \frac{\gamma}{\log(2)} + \frac{\log(100)}{\log(2)} \approx 6.9766$$

$\log(x)$ is the natural logarithm
 γ is the Euler-Mascheroni constant

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POWERED BY THE WOLFRAM LANGUAGE

Hurricanes & The Iliad



Technically the Trojan Horse is not mentioned in The Iliad
Trojan Horse. (2016, January 6). In Wikipedia, The Free Encyclopedia. Retrieved 19:02, January 10, 2016, from https://en.wikipedia.org/w/index.php?title=Trojan_Horse&oldid=698496365

Hurricane Rita 9/19/05

Rita Projected Path



DEVIATIONS IN TRACK AND/OR INTENSITY FROM CURRENT PROJECTIONS COULD RESULT IN SIGNIFICANT DIFFERENCES FROM THE INFORMATION ON THIS GRAPHIC

The Weather Channel

weather.com

19 Sep 2005 13:42 GMT / 19 Sep 2005 09:42 AM EDT

Hurricane Rita 9/22/05

Rita Projected Path



DEVIATIONS IN TRACK AND/OR INTENSITY FROM CURRENT PROJECTIONS COULD RESULT IN SIGNIFICANT DIFFERENCES FROM THE INFORMATION ON THIS GRAPHIC

The Weather Channel

weather.com

22 Sep 2005 21:42 GMT / 22 Sep 2005 05:42 PM EDT

Hurricane Rita Final

Hurricane Rita Storm Track (2005)

LawrencevilleWeather.com



Hurricane Ike 9/6/08



Hurricane Ike 9/10/08



Chalcas the wise

“...Chalcas the wise, the Grecian priest and guide,
That sacred seer, whose comprehensive view,
The past, the present, and the future knew...”



Wall Street Journal Economic Forecast Survey

Economic Forecasting Survey

The Wall Street Journal surveys a group of more than 60 economists on more than 10 major economic indicators on a monthly basis.

Economic Indicators

GDP (quarterly)

GDP (annual)

CPI

Oil Prices

Unemployment

Nonfarm Payrolls

Federal Funds Rate

10 Year Note

Home Prices

Housing Starts

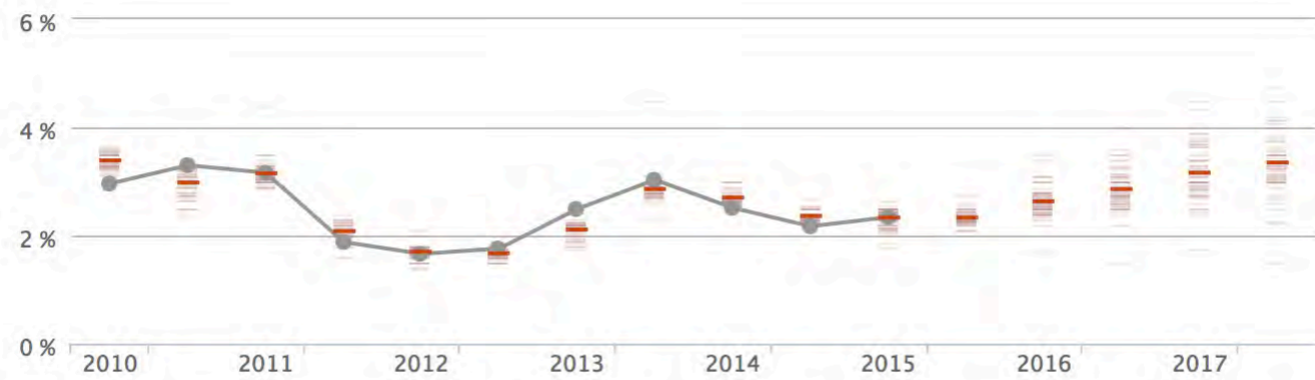
Recession Probability

Download data for December 2015

Edition 2015-12-01

10 Year Note

Actual Estimates 12 yr. **8 yr.** 4 yr.



Share view:
Embed

10 Year Note

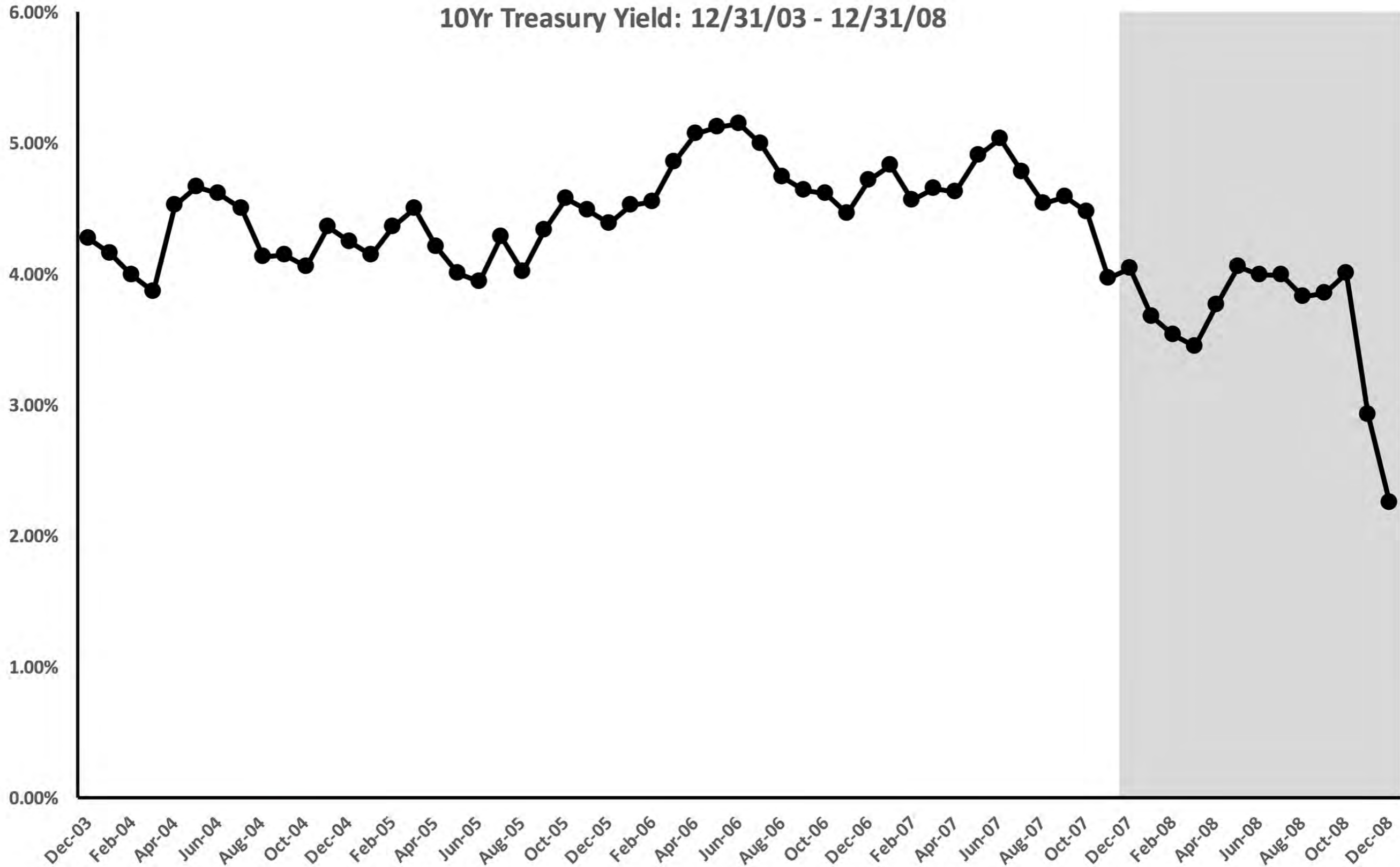


- Updated Monthly

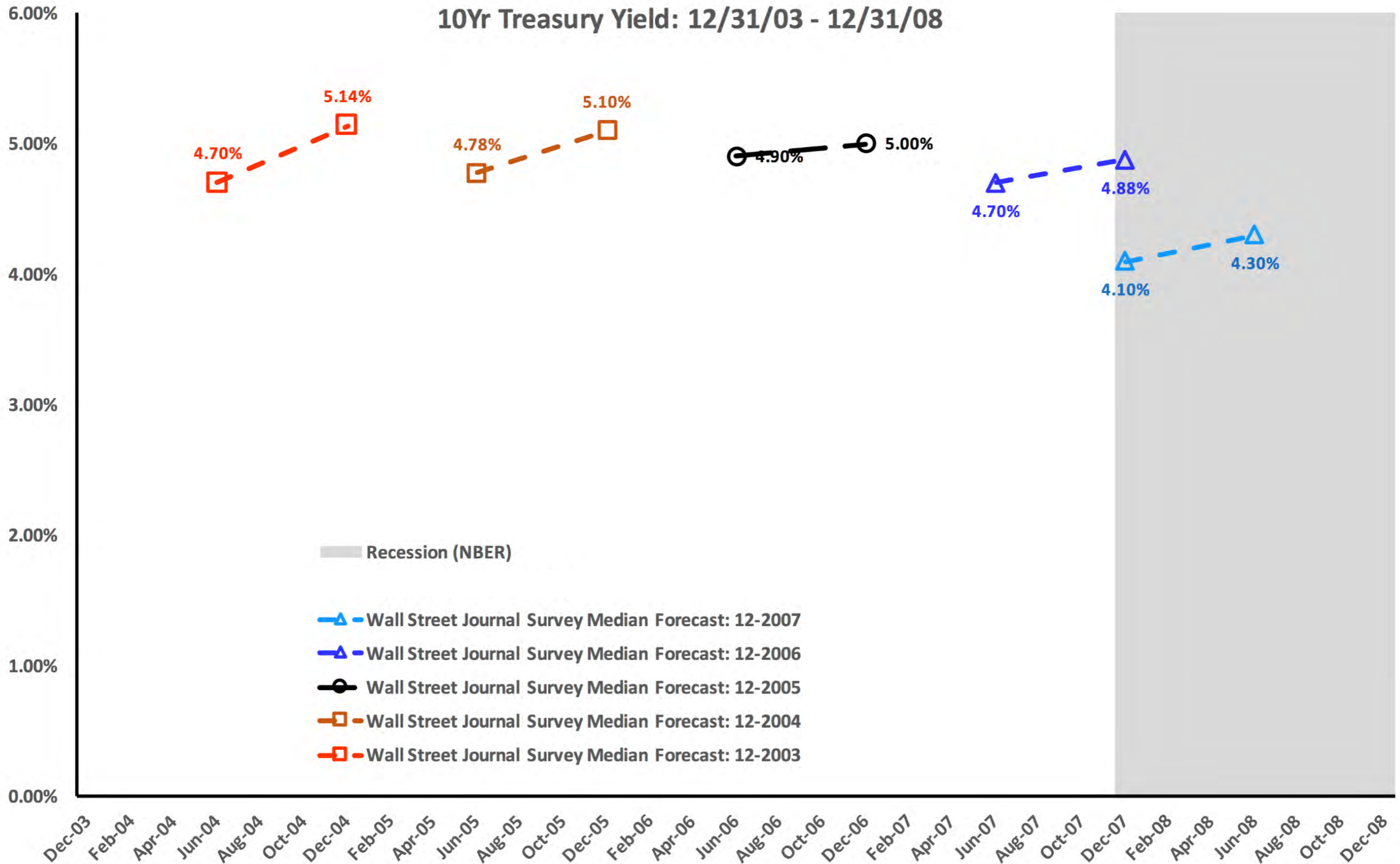
- Includes Identities

- Spreadsheet Data

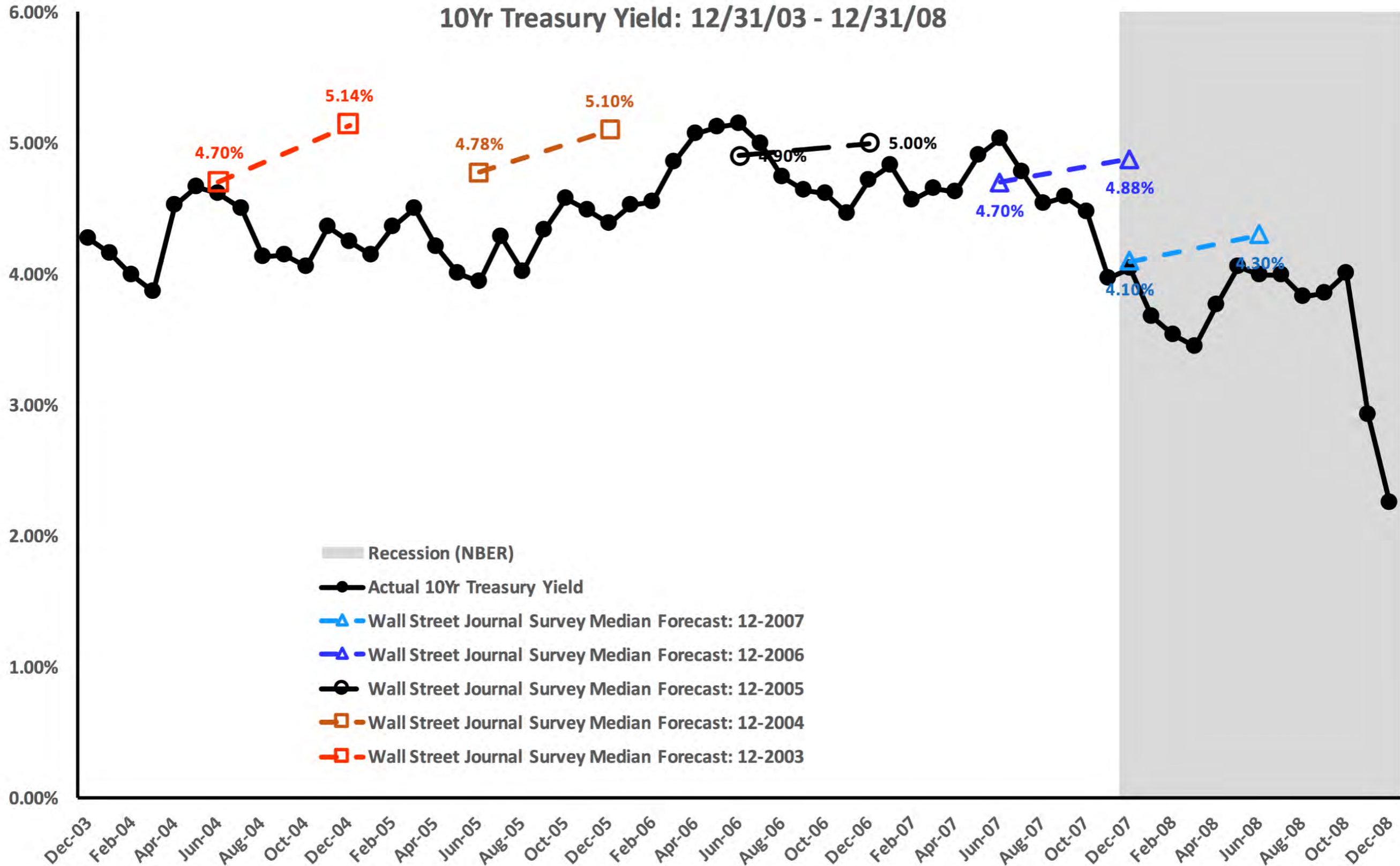
History Alone



Forecast Alone

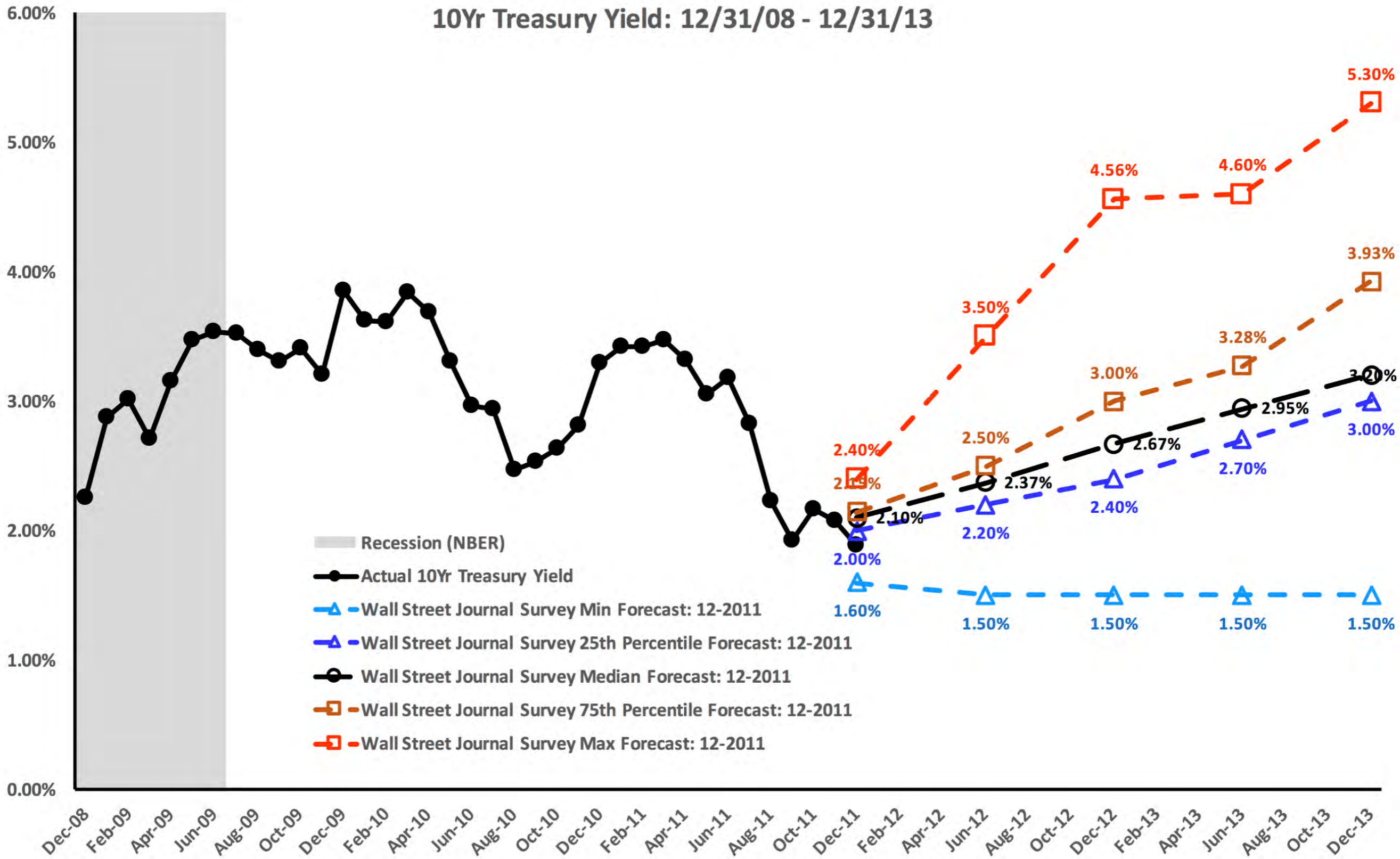


All Together

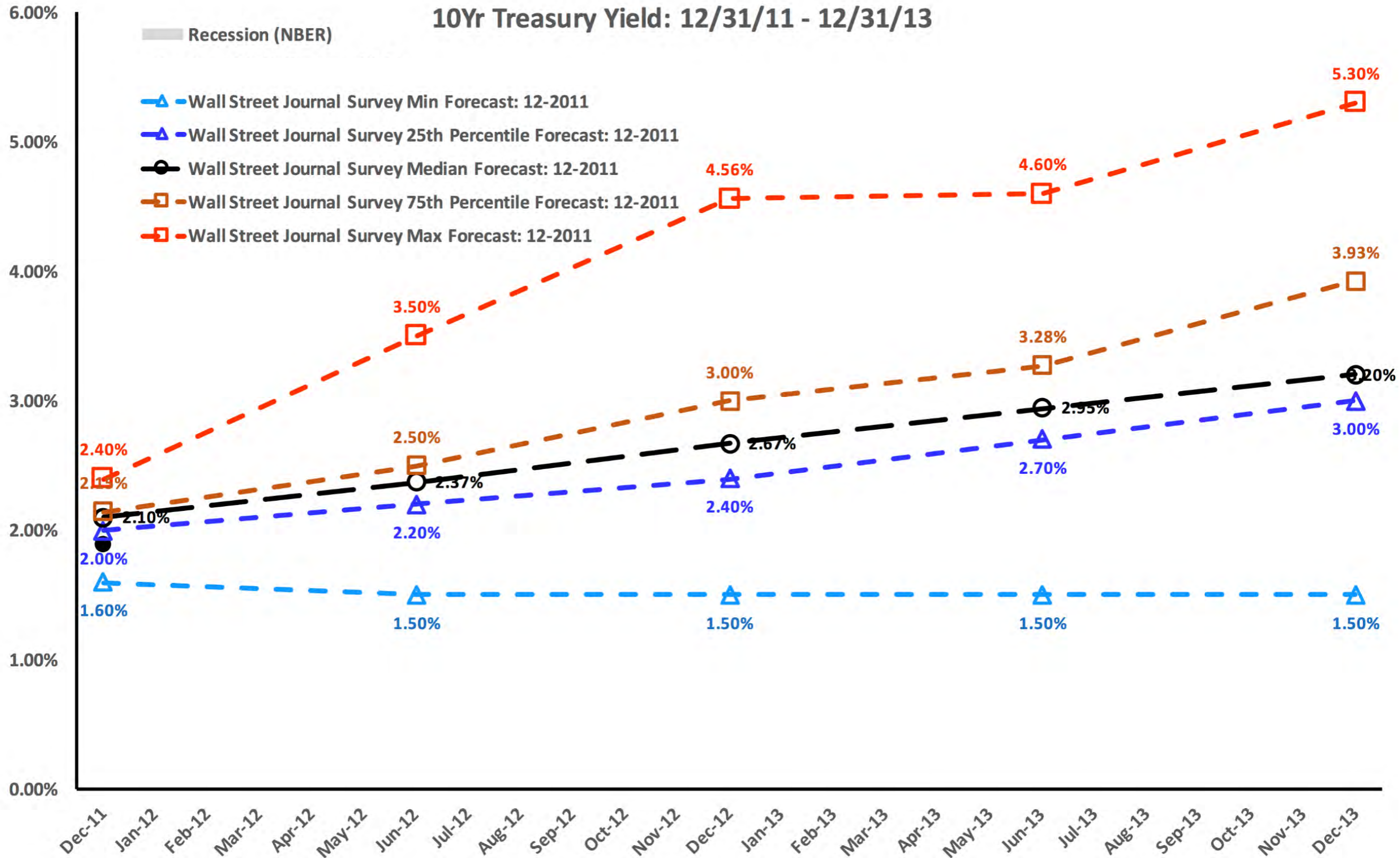


Chalcas Chart: Dec-08 to Dec-13 on Dec-11

10Yr Treasury Yield: 12/31/08 - 12/31/13

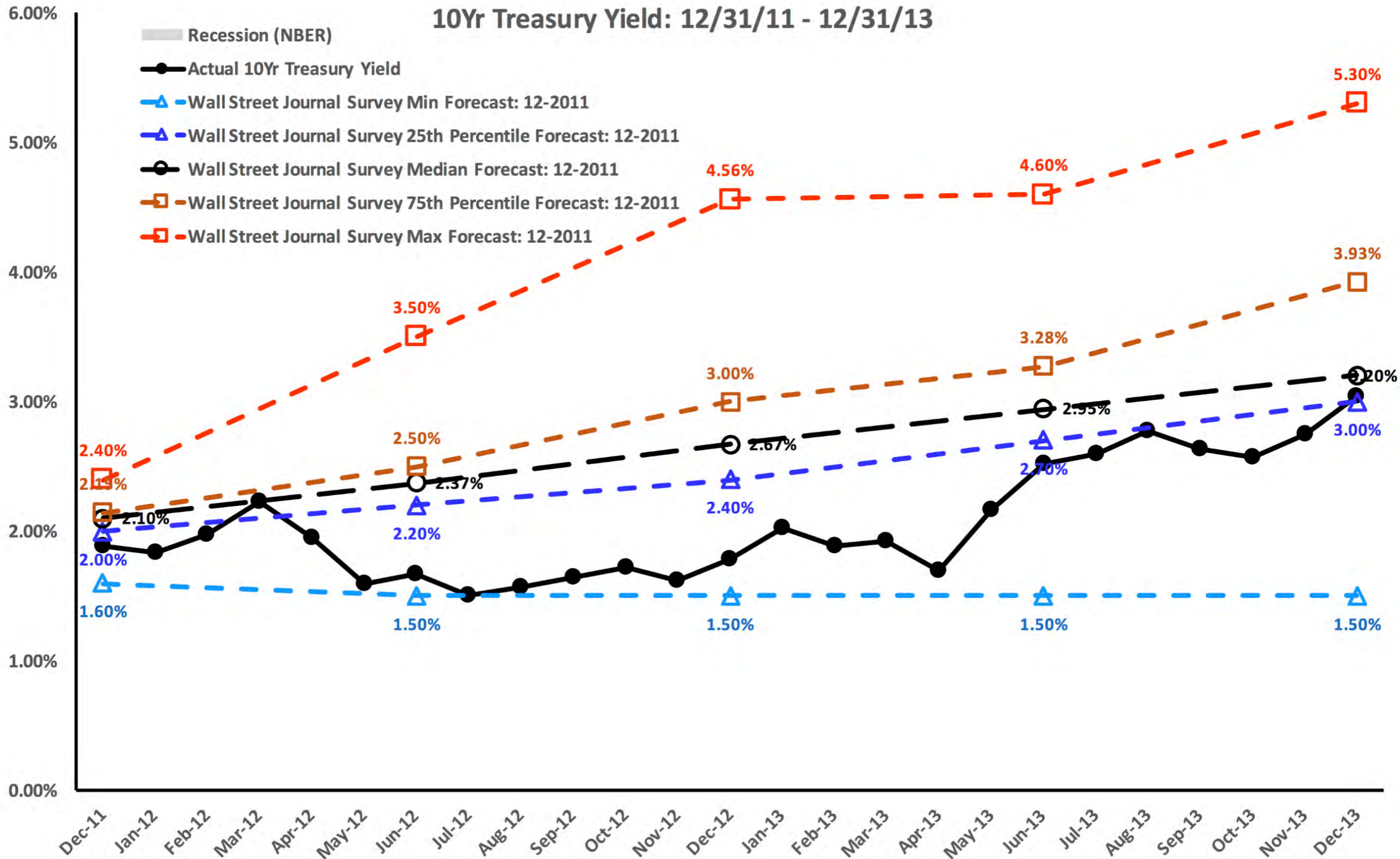


Let's Focus. How did they do? Your Guess?



How did “they” do? Did You Remember?

10Yr Treasury Yield: 12/31/11 - 12/31/13



Who did the best?

Overall Rank for Wall Street Journal 12-2011 Survey Forecasts for 06/30/12						
Overall Rank	Forecaster	Fed Funds Rate	10Yr Treasury Yield	Unemployment Rate	CPI YoY	GDP
1	Moody's Investors Service	9	11	21	12	9
2	Univ of Central FL	9	24	25	4	3
3	IHS Global Insight	9	24	30	4	6
4	NEMA Business Information Services	1	9	25	27	15
5	Capital Economics	24	1	41	4	9
6	The Conference Board	9	6	41	19	7
7	Mesirow Financial	1	11	21	8	43
8	Credit Suisse	24	3	30	8	25
9	Goldman Sachs & Co.	9	18	30	27	9
10	PNC Financial Services Group	1	17	21	21	34
11	Comerica Bank	9	32	6	16	32
12	<i>Morgan Stanley</i>	8	6	37	13	32
12	<i>UCLA Anderson Forecast</i>	9	22	52	10	3
14	<i>Bank of America Securities-Merrill</i>	24	3	41	14	15
14	<i>JPM</i>	24	32	30	2	9
16	Societe Generale	45	3	48	3	1
17	California State University	1	18	14	32	38
18	The Northern Trust	20	8	21	27	30
19	<i>Macroeconomic Advisers</i>	24	31	30	10	15
19	<i>Parsec Financial</i>	24	27	4	1	54
21	Fannie Mae	42	11	41	14	3
22	Decision Economics Inc.	1	32	6	35	38
23	Barclays	9	45	6	19	34
24	Vanderbilt University	24	11	41	16	25
25	Nomura Securities International Inc.	24	28	25	16	25

Who did the best the next time? Not the same firms.

Overall Rank for Wall Street Journal 12-2011 Survey Forecasts for 12/31/12						
Overall Rank	Forecaster	Fed Funds Rate	10Yr Treasury Yield	Unemployment Rate	CPI YoY	GDP
1	NEMA Business Information Services	1	6	30	12	2
2	Mesirow Financial	1	17	20	2	28
3	Capital Economics	24	1	43	2	3
4	Univ of Central FL	9	24	30	6	5
5	IHS Global Insight	9	23	34	2	9
6	The Conference Board	9	4	30	32	5
7	Bank of America Securities-Merrill	24	9	43	10	1
8	Morgan Stanley	8	3	34	26	19
9	Credit Suisse	24	6	34	11	18
10	California State University	1	17	20	20	36
11	JPM	24	17	34	6	22
12	Nationwide Insurance	9	16	24	46	9
13	PNC Financial Services Group	1	26	24	32	22
14	Economic Analysis	7	33	3	44	19
15	Vanderbilt University	24	5	43	20	16
16	<i>Goldman Sachs & Co.</i>	9	17	43	18	22
16	<i>Economic and Revenue Forecast</i>	24	28	17	12	28
18	<i>UCLA Anderson Forecast</i>	9	33	52	2	16
18	<i>Decision Economics Inc.</i>	1	30	7	27	47
20	Fannie Mae	42	9	43	15	4
21	Nomura Securities International Inc.	24	30	24	8	28
22	Perna Associates	1	41	17	27	31
23	<i>Comerica Bank</i>	9	33	10	27	39
23	<i>Moody's Investors Service</i>	9	28	20	20	41
25	International Council of Shopping	52	9	10	40	9

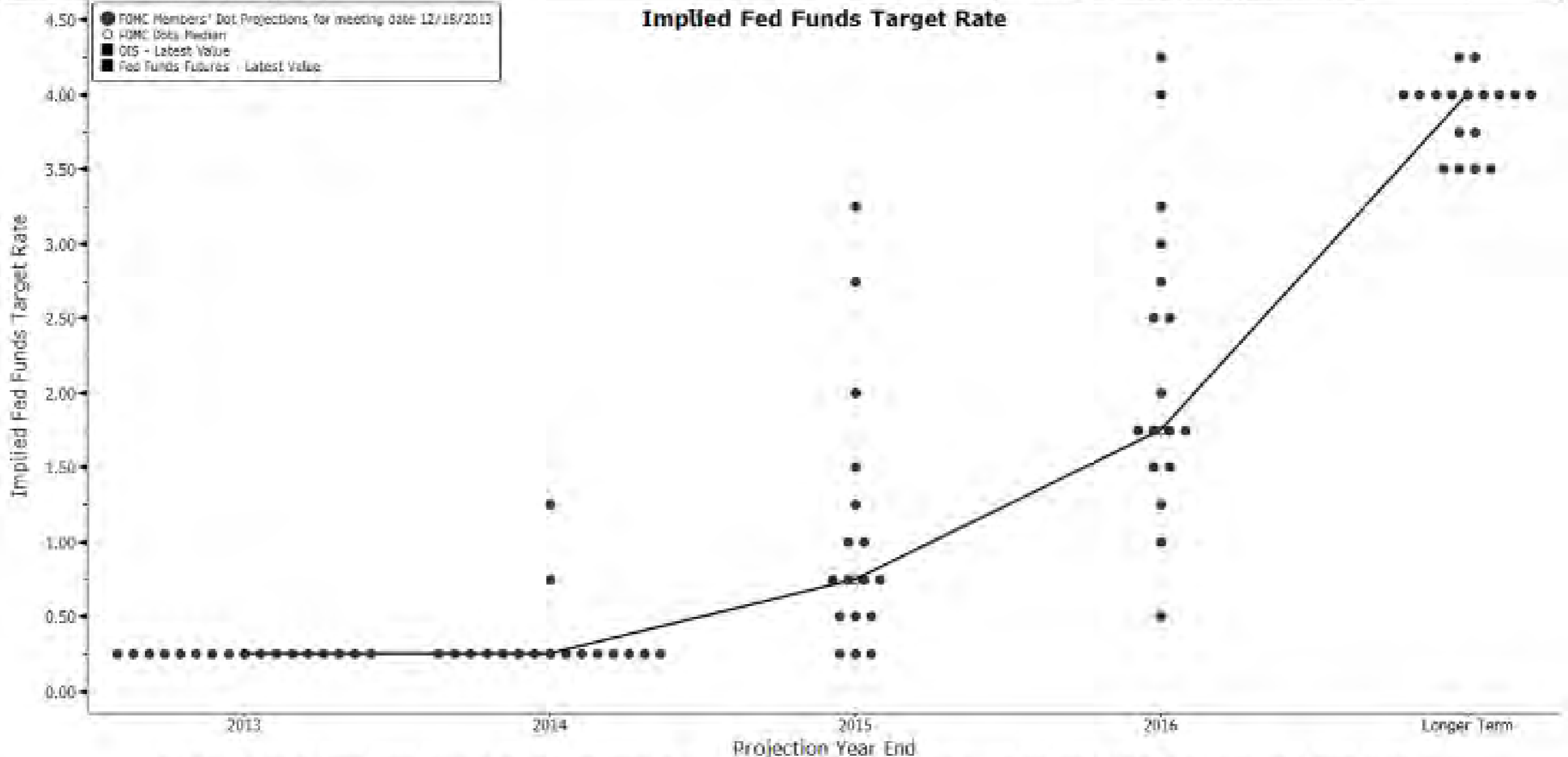
What about the FED? 12/18/2013 Forecasts

FOMC Dot Plot

View Projection Historical

Meeting Date

BE Fed Spectromete-



Australia 61 2 9777 8600 Brazil 5511 2595 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000

What about the FED? 12/17/2014 Forecasts

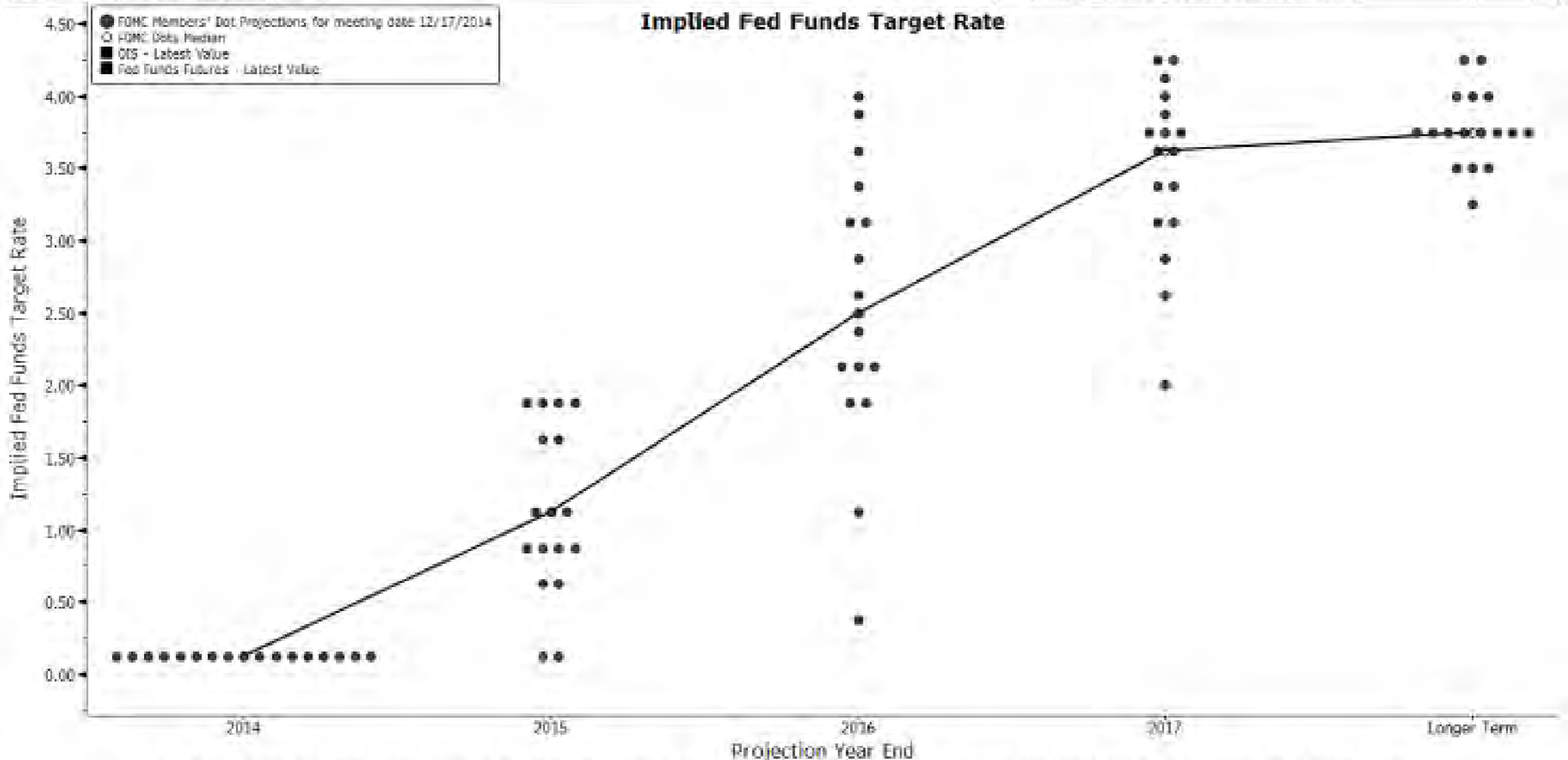
FOMC Dot Plot

View Projection Historical

Meeting Date

Chart **Table**

BE Fed Spectromete...



Australia 61 2 9777 8600 Brazil 5511 2595 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000

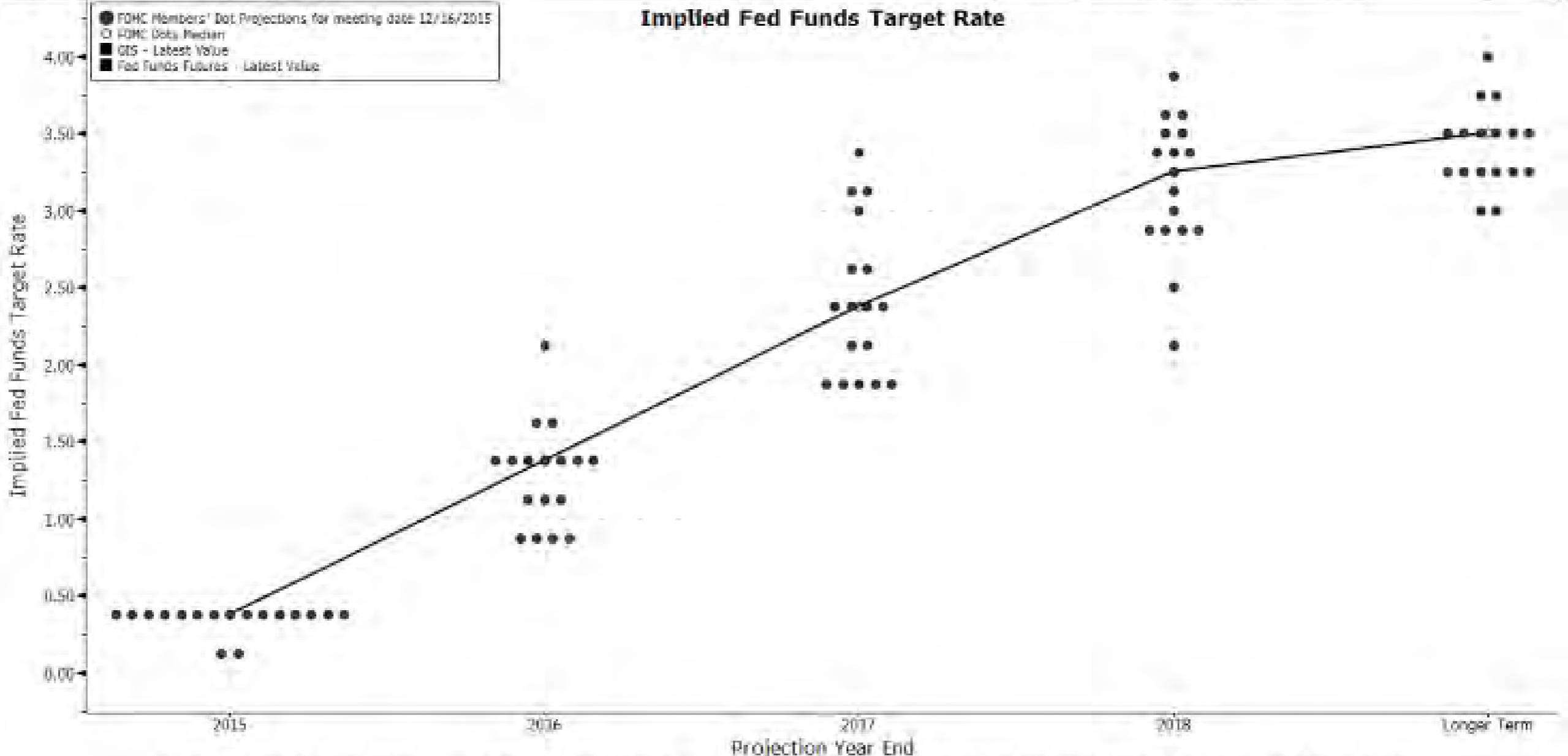
What about the FED? 12/16/2015 Forecasts

FOMC Dot Plot

View Projection Historical

Meeting Date

BE Fed Spectromete- Compare with



Australia 61 2 9777 8600 Brazil 5511 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000

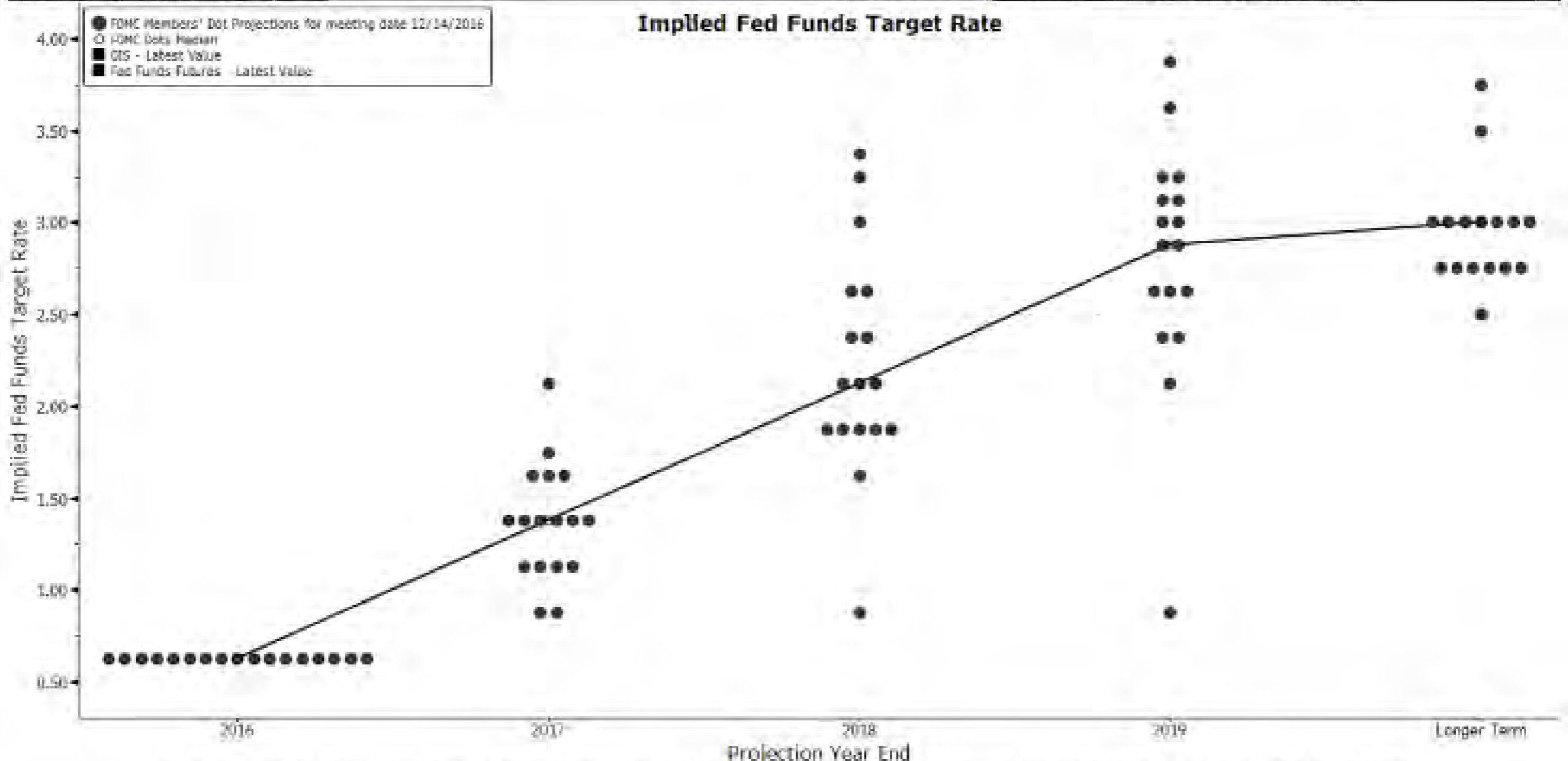
What about the FED? 12/14/2016 Forecasts

FOMC Dot Plot

View Projection Historical

Meeting Date

BE Fed Spectromete-

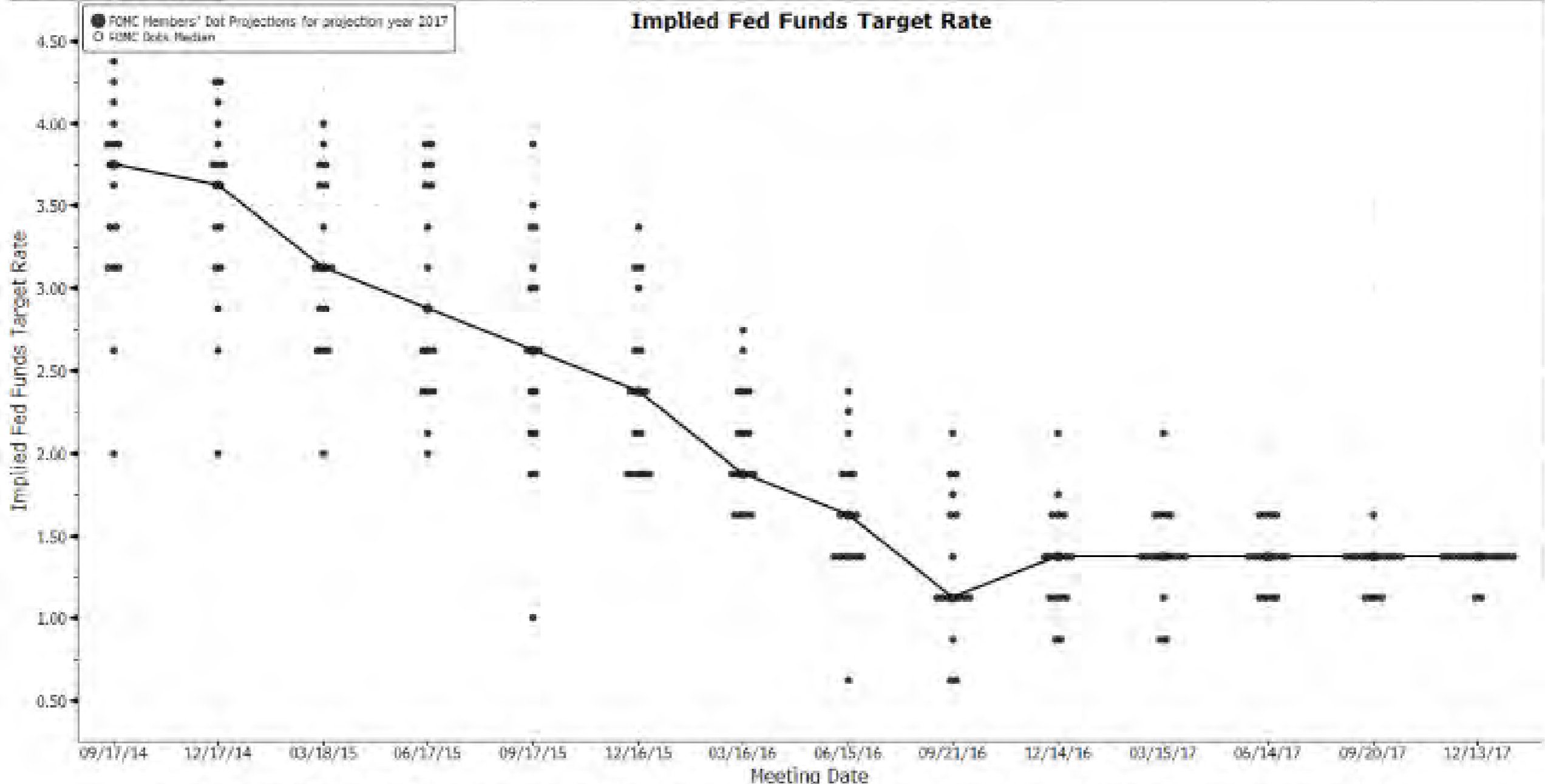


Fed Funds 12/31/17 Forecasts Historical

FOMC Dot Plot

View Projection Historical

Projection Year End



Australia 61 2 9777 8600 Brazil 5511 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000

Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000

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SN 710249 CST GMT-6:00 G729-3167-3 06-Jan-2018 15:16:41

Which forecaster should you follow?

The average/median forecast

“If you’re looking for an economic forecast, the best place to turn is the average or aggregate prediction rather than that of any one economist. ... This property— group forecasts beat individual ones— has been found to be true in almost every field in which it has been studied.”

Silver, Nate (2012-09-27). The Signal and the Noise: Why So Many Predictions Fail-but Some Don't (p. 197-198). Penguin Group US. Kindle Edition.

“The group mean forecasts from a series of surveys are on the average over time more accurate than most of the corresponding sets of individual predictions. This is a strong conclusion, which applies to all variables and predictive horizons covered and is consistent with evidence for different periods and from other studies.” - Zarnowitz, Victor (January 1992). Business Cycles: Theory, History, Indicators, and Forecasting (p. 457). University of Chicago Press. Downloadable from <http://www.nber.org/books/zarn92-1>

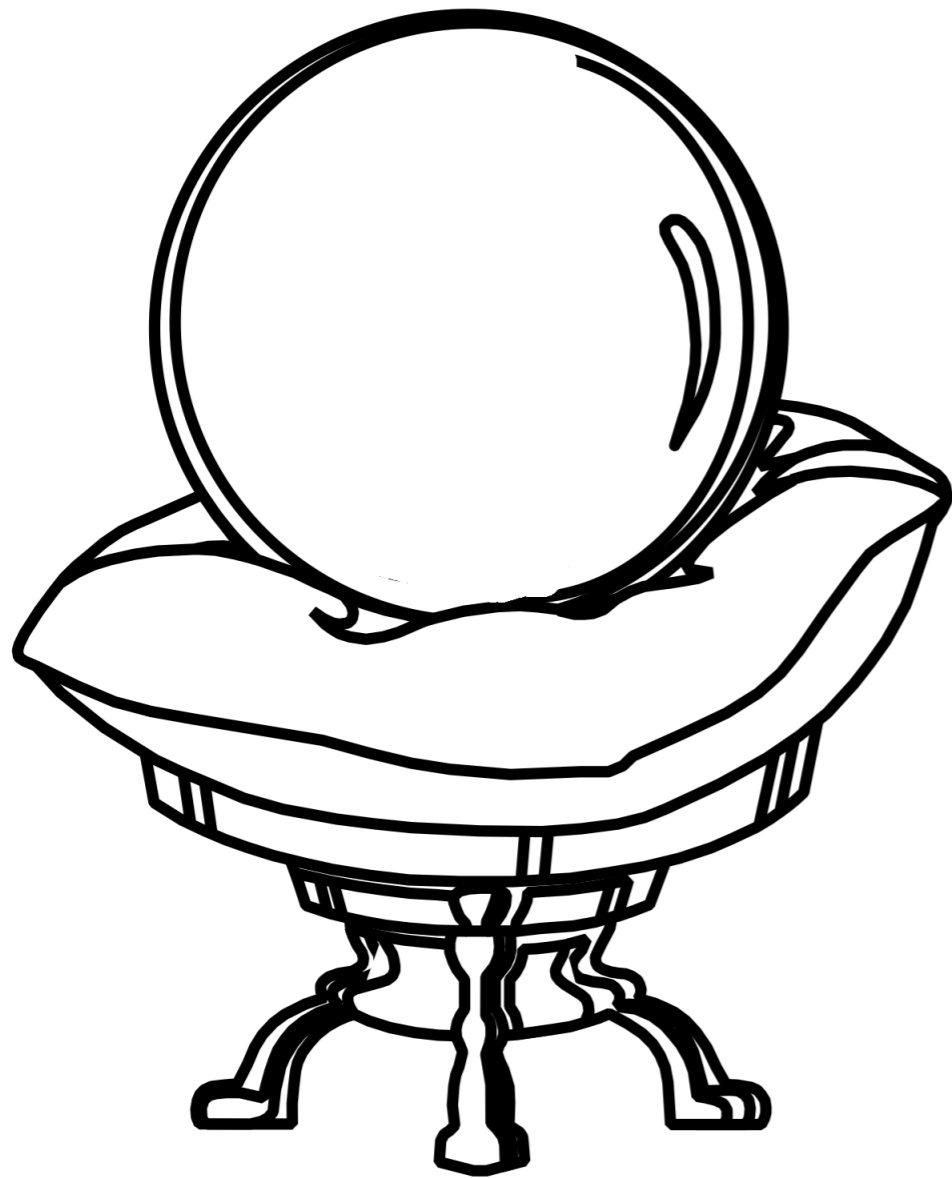
Required for planning purposes...



“Nobel laureate Kenneth Arrow has warned, “[O]ur knowledge of the way things work, in society or in nature, comes trailing clouds of vagueness. Vast ills have followed a belief in certainty.””

“... The young statisticians in the Weather Division ... finding that prevailing techniques were not significantly more reliable than the null ... sent a memo to the General of the Air Corps suggesting that the group be disbanded. Six months later ... ‘The general is well aware that your forecasts are no good. However, they are required for planning purposes.’ The group remained intact.”

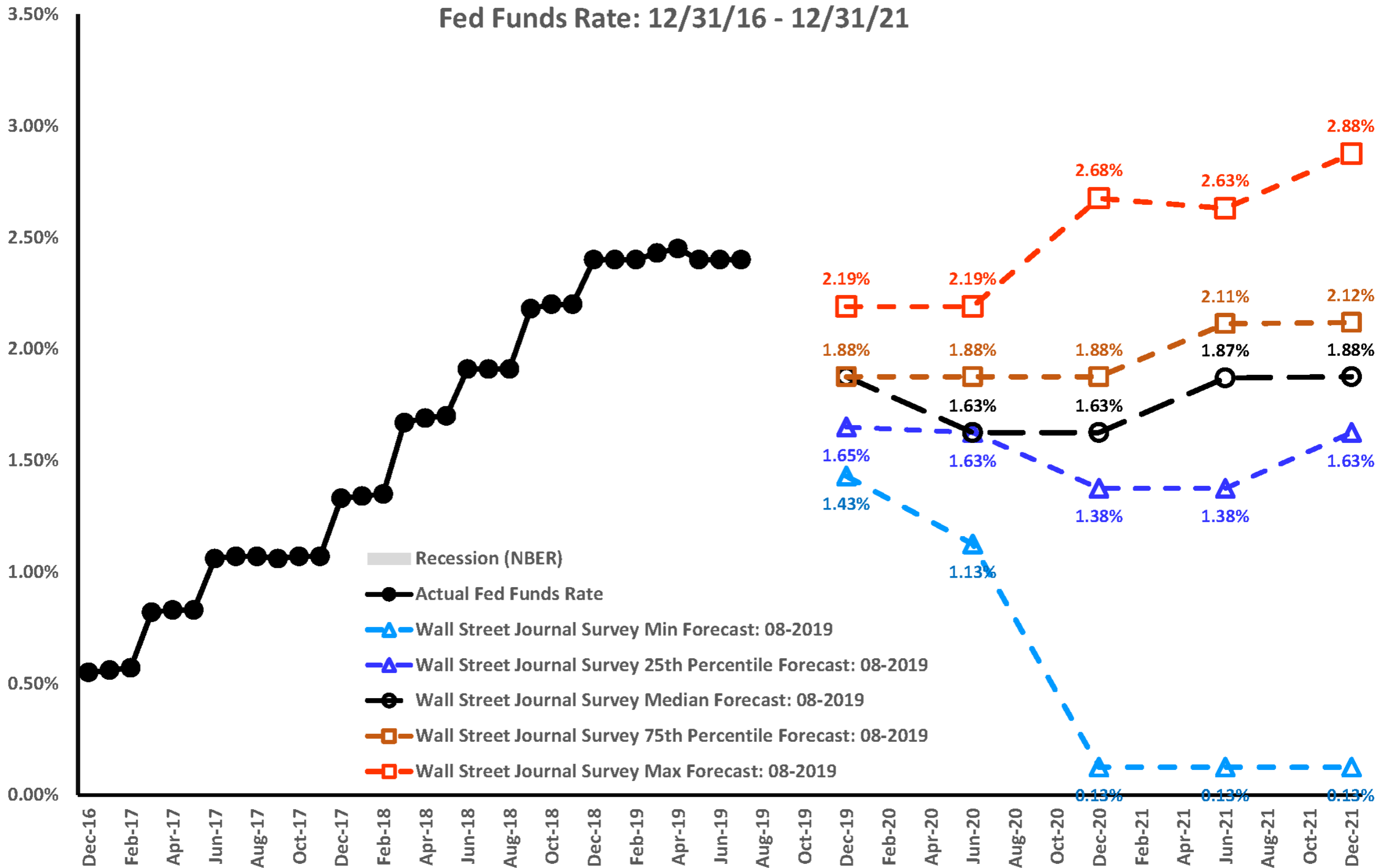
**For fools rush in where
angels fear to tread**



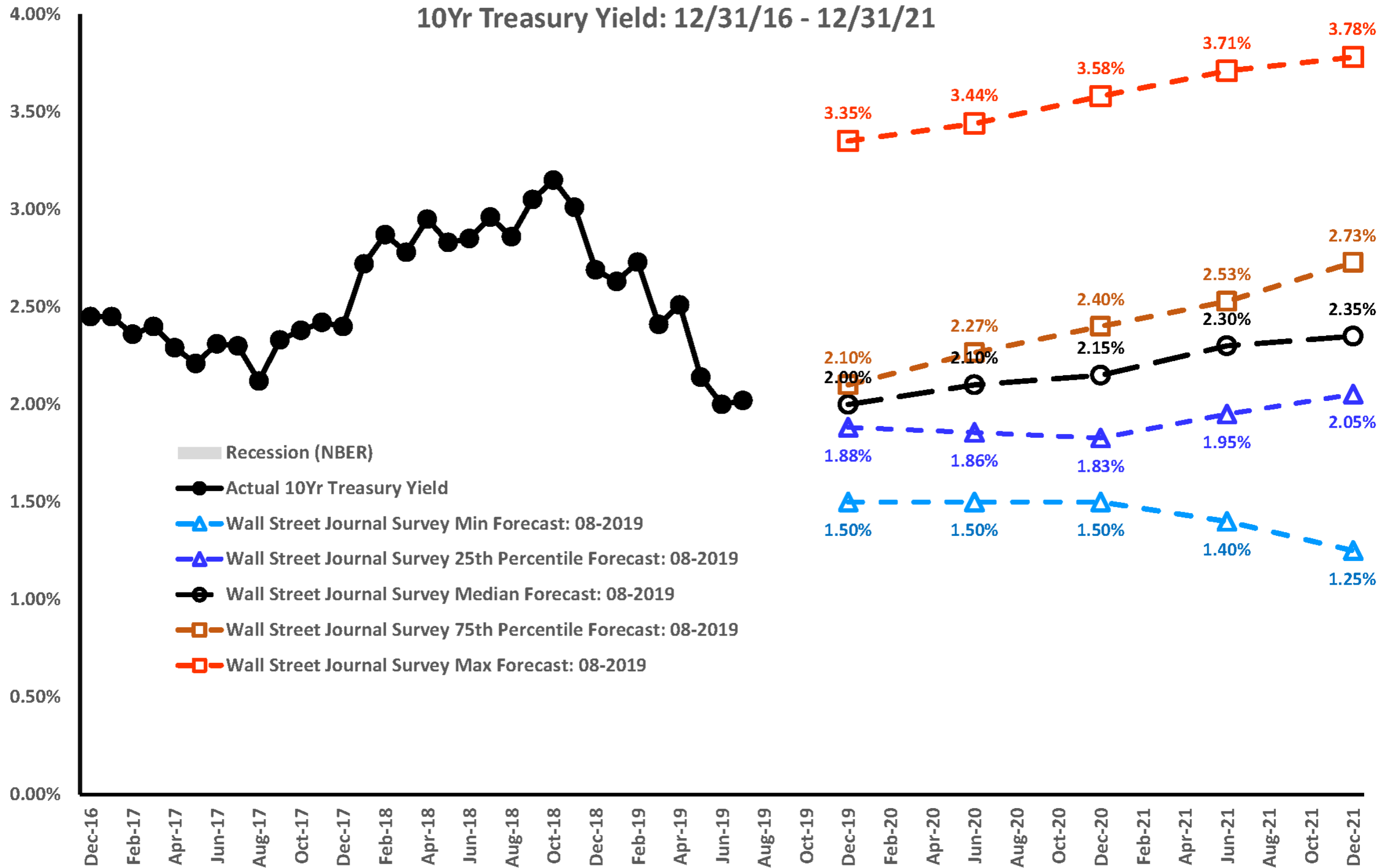
**“He who lives by the crystal
ball soon learns to eat
ground glass.”**

**C.C. Gaither;Alma E Cavazos-Gaither. Statistically Speaking: A
Dictionary of Quotations (Kindle Locations 960-961). Kindle Edition.**

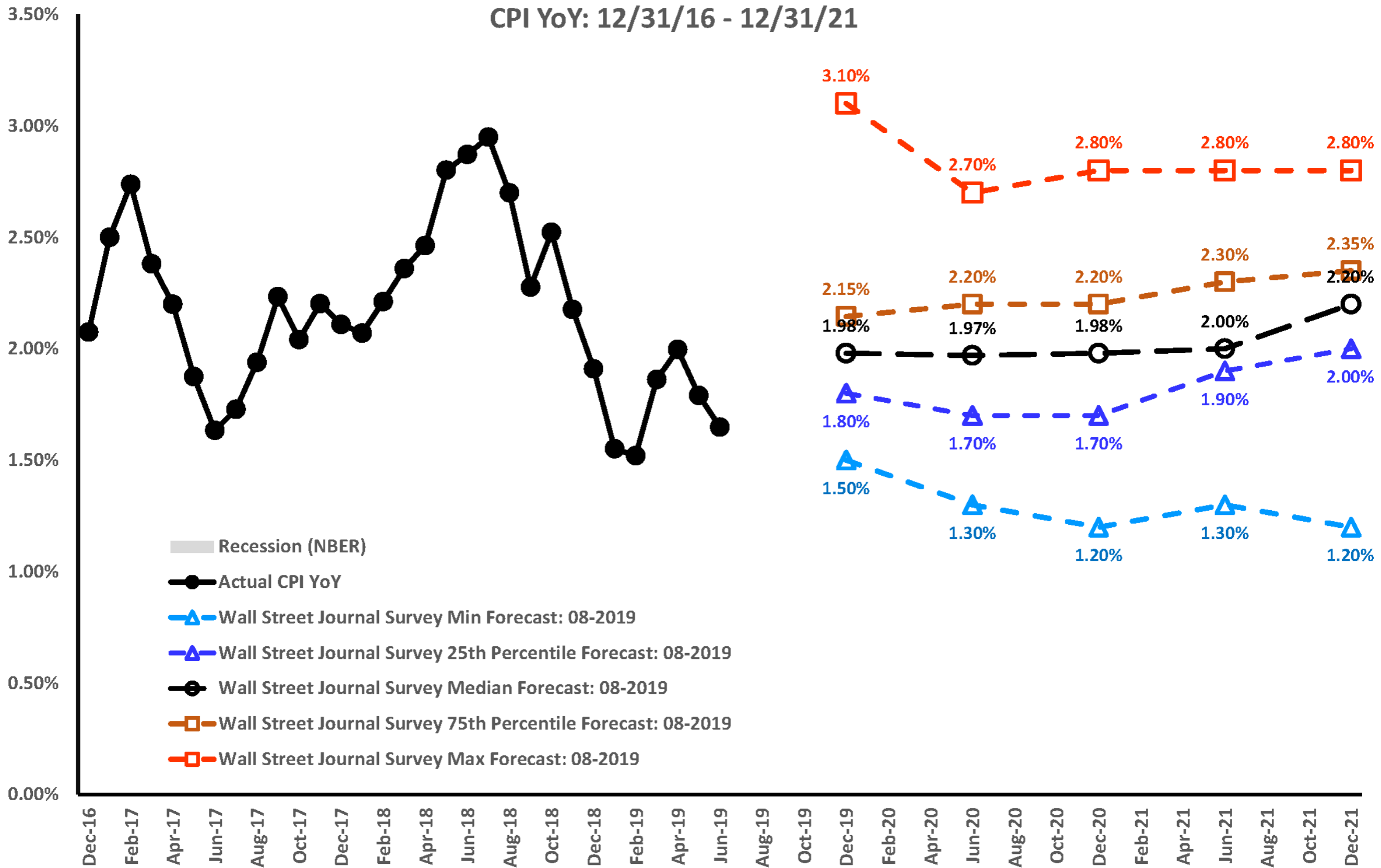
Chalcas Chart: Dec-16 to Dec-21 on Aug-19



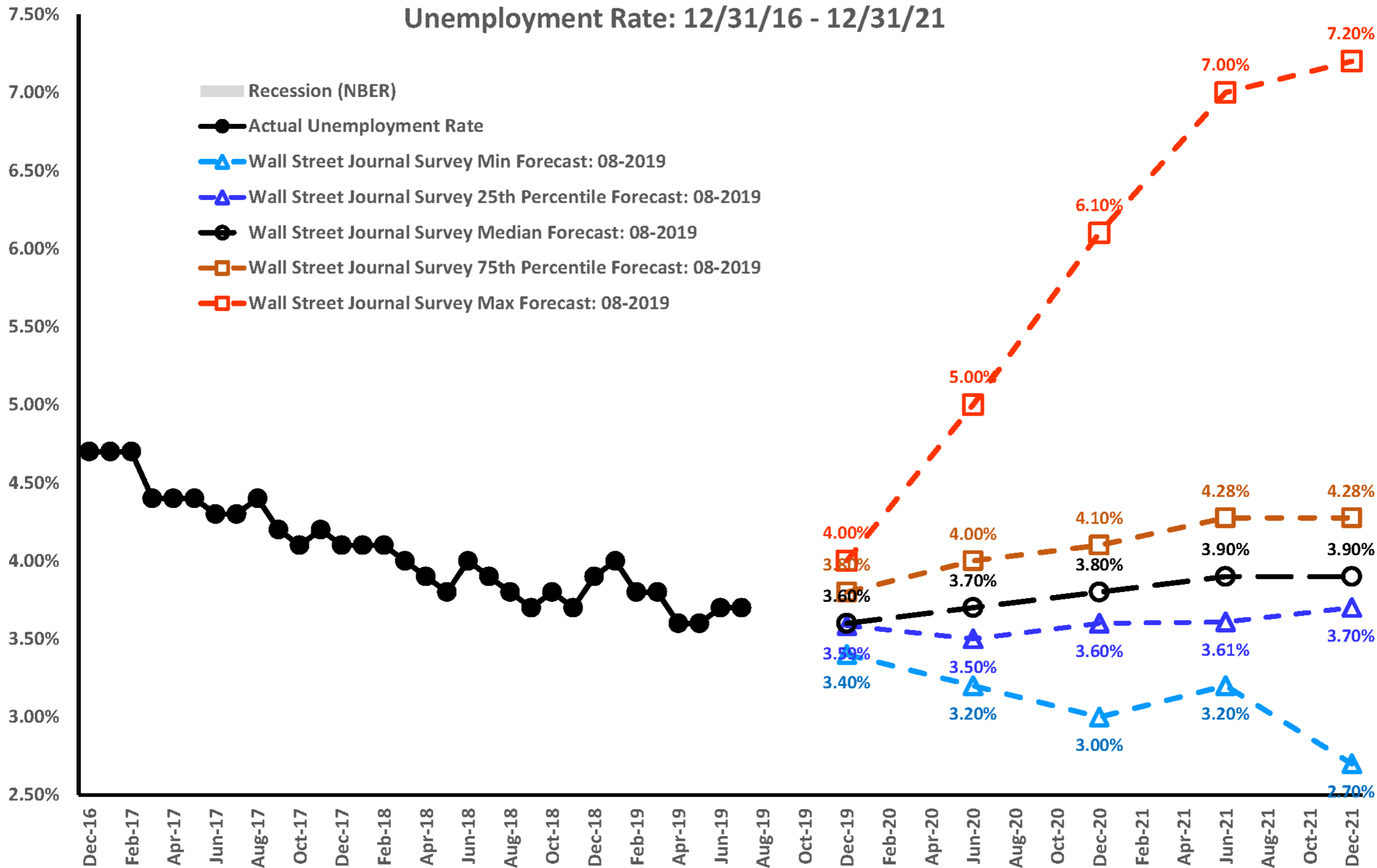
Chalcas Chart: Dec-16 to Dec-21 on Aug-19



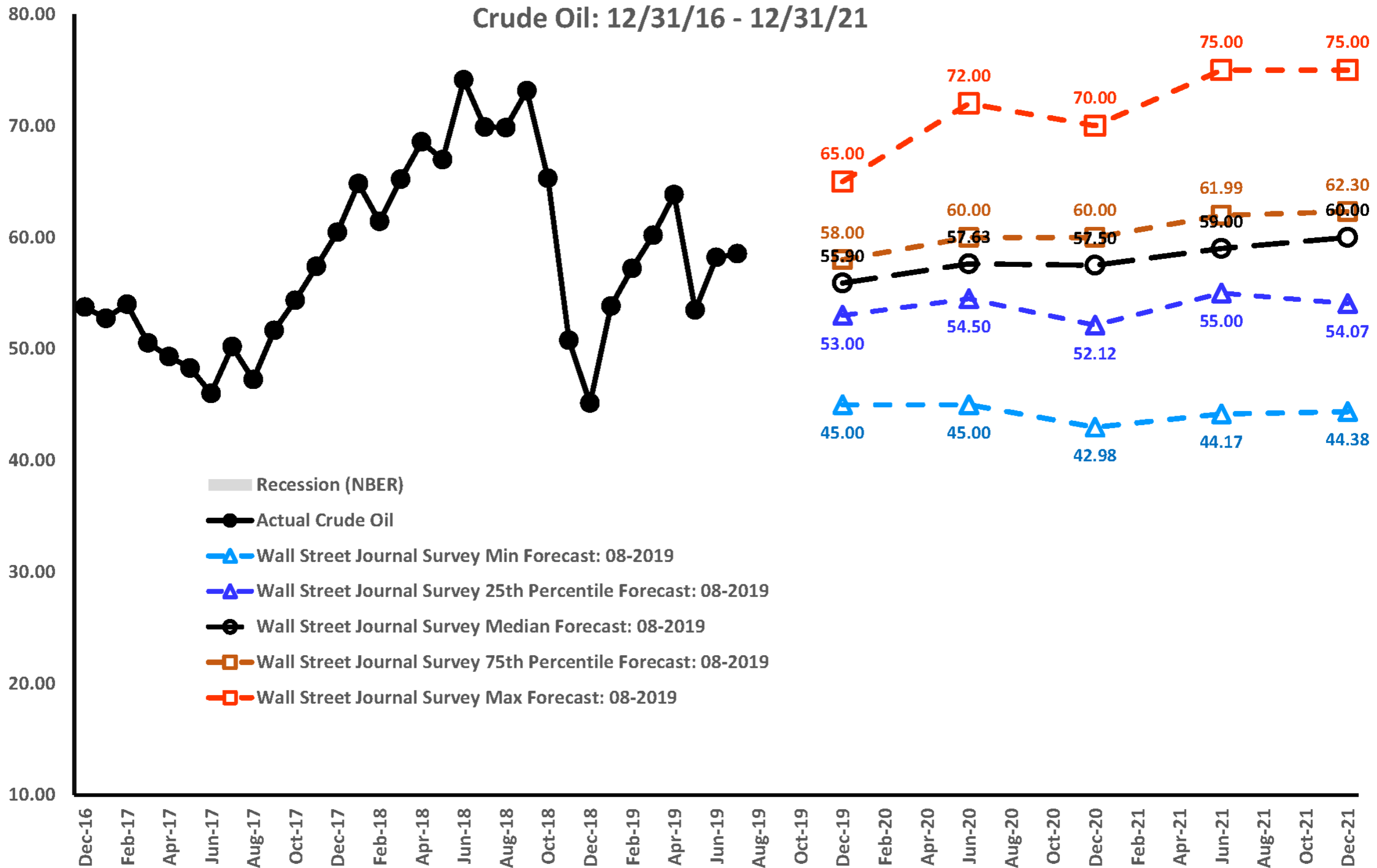
Chalcas Chart: Dec-16 to Dec-21 on Aug-19



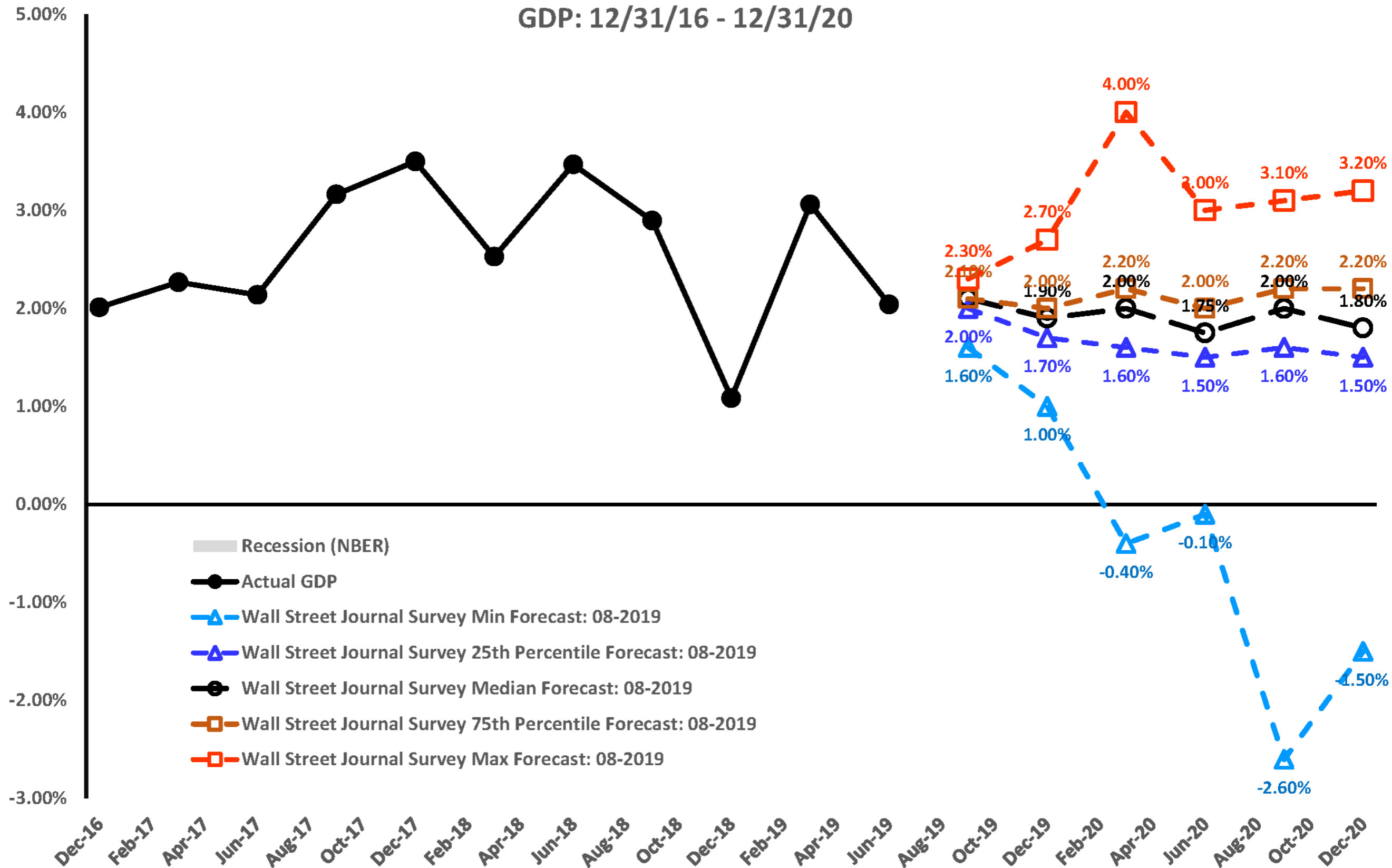
Chalcas Chart: Dec-16 to Dec-21 on Aug-19



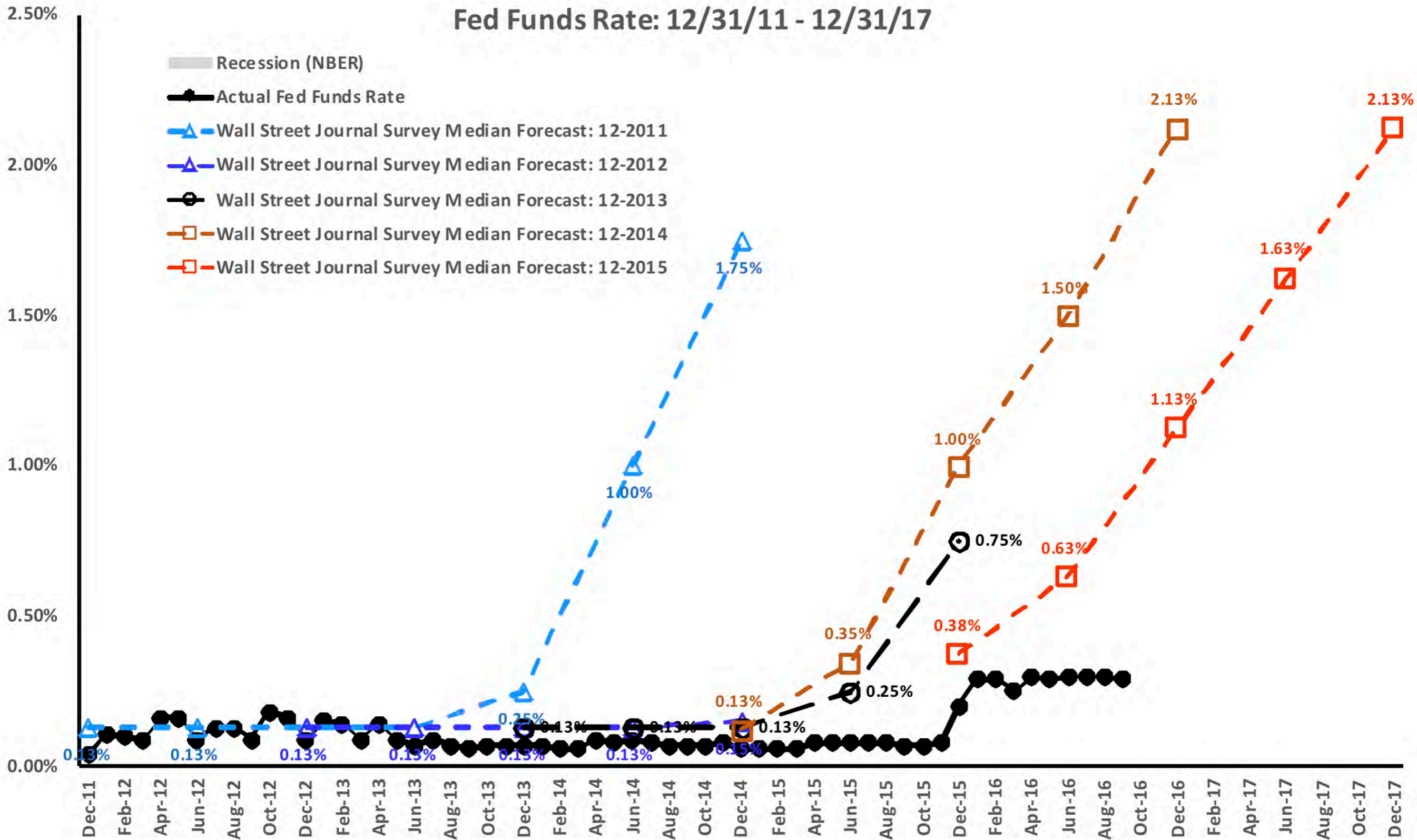
Chalcas Chart: Dec-16 to Dec-21 on Aug-19



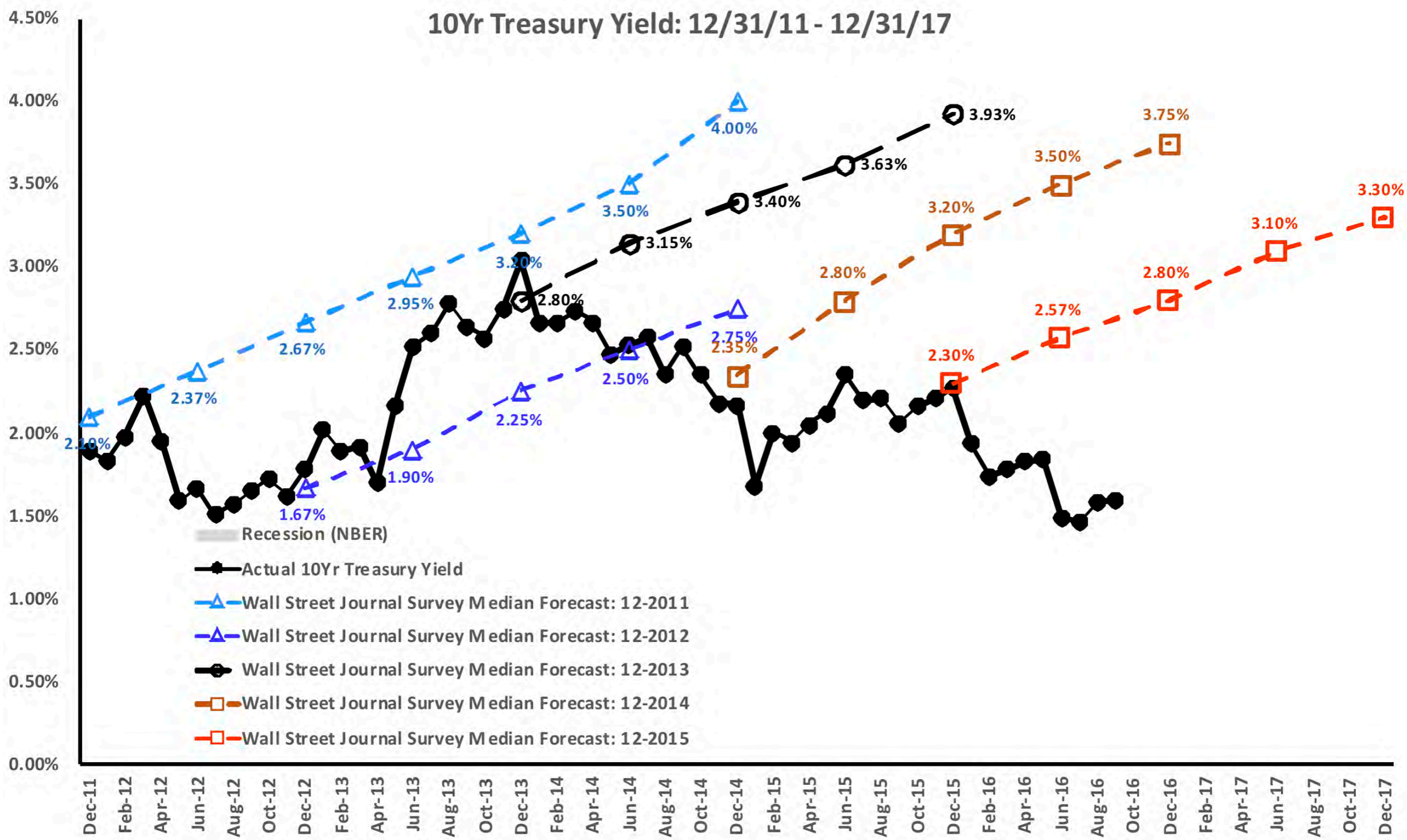
Chalcas Chart: Dec-16 to Dec-20 on Aug-19



Fed Funds Visual Accuracy Test

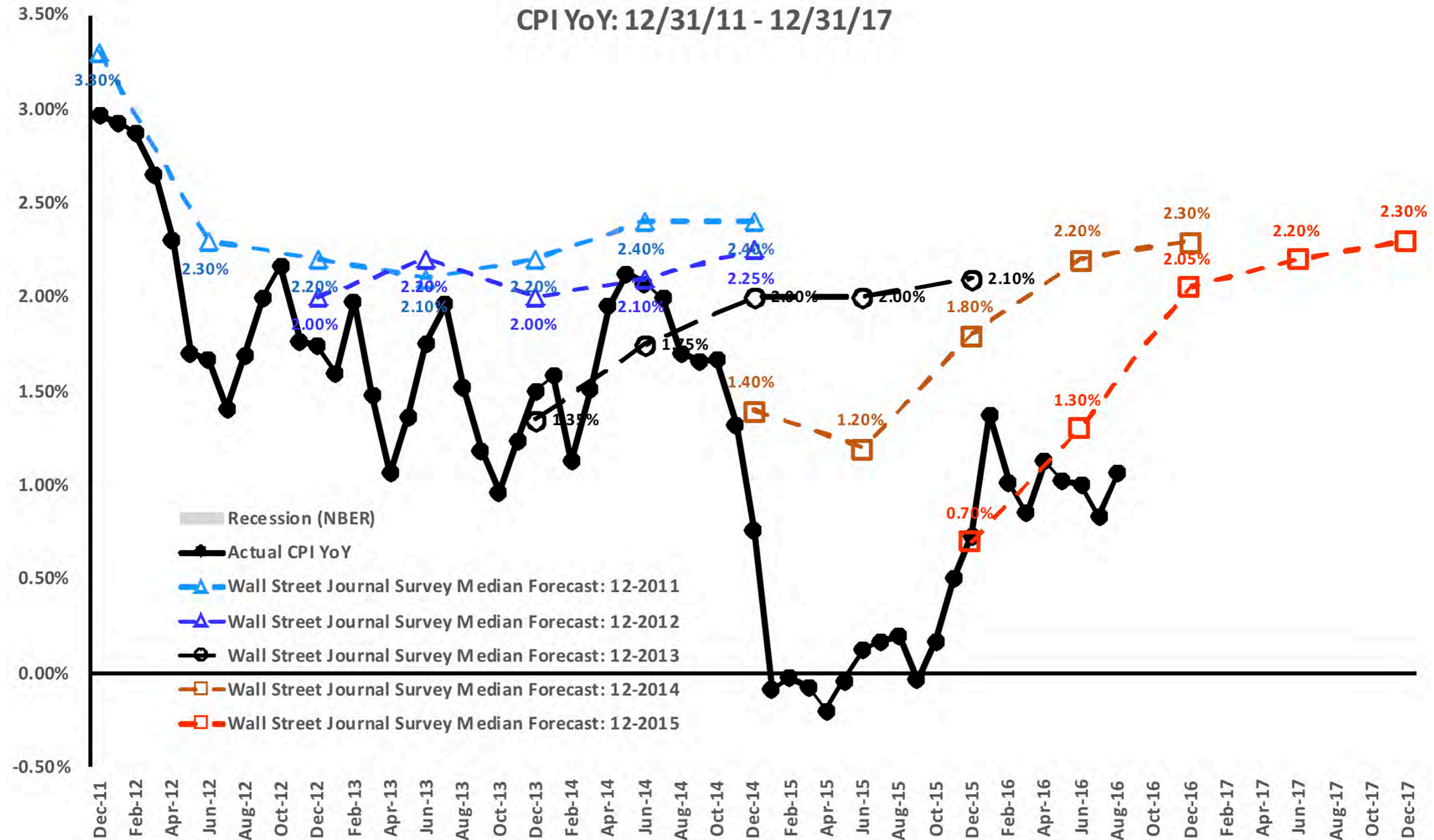


10Yr Treasury Yield Visual Accuracy Test



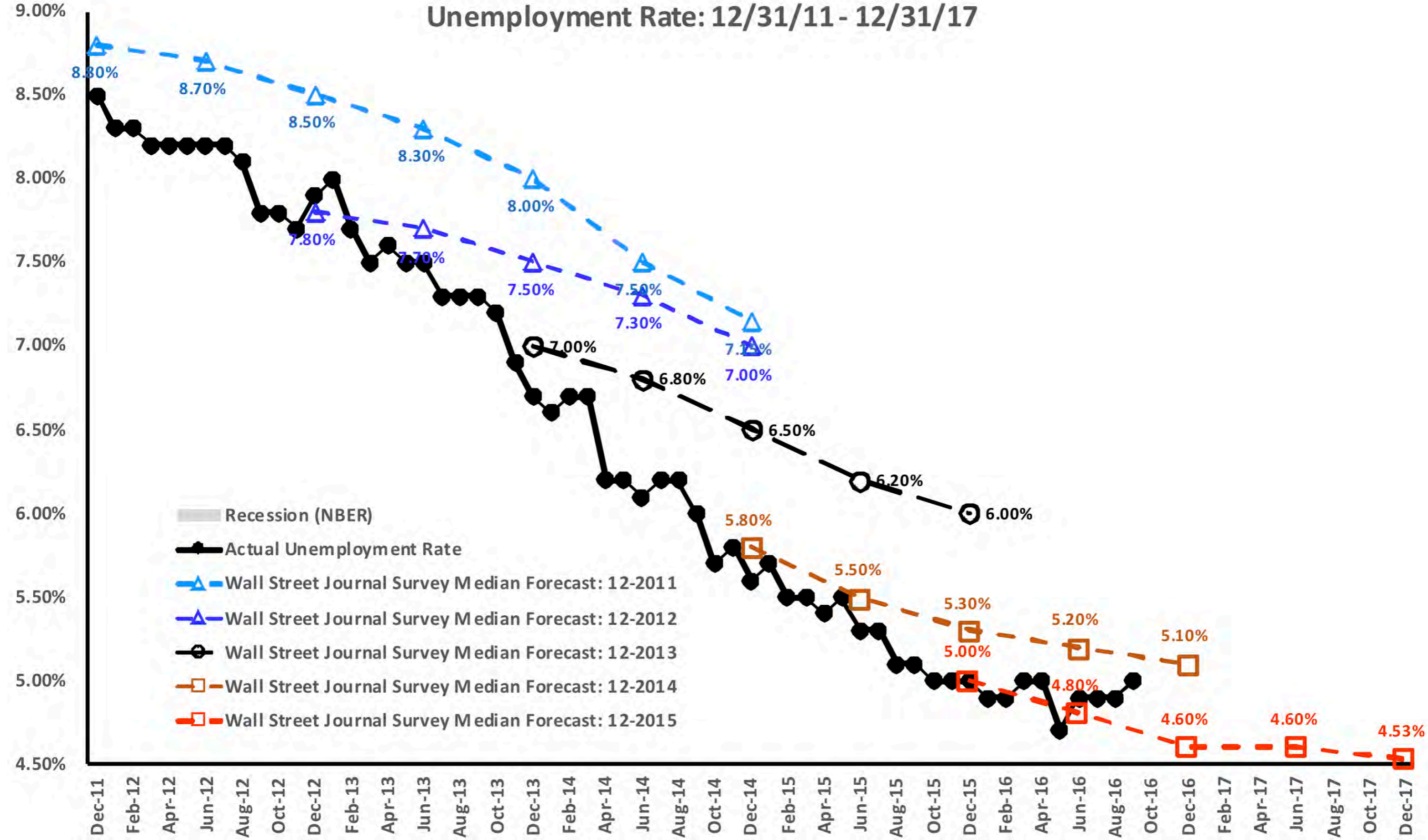
CPI YoY Visual Accuracy Test

CPI YoY: 12/31/11 - 12/31/17



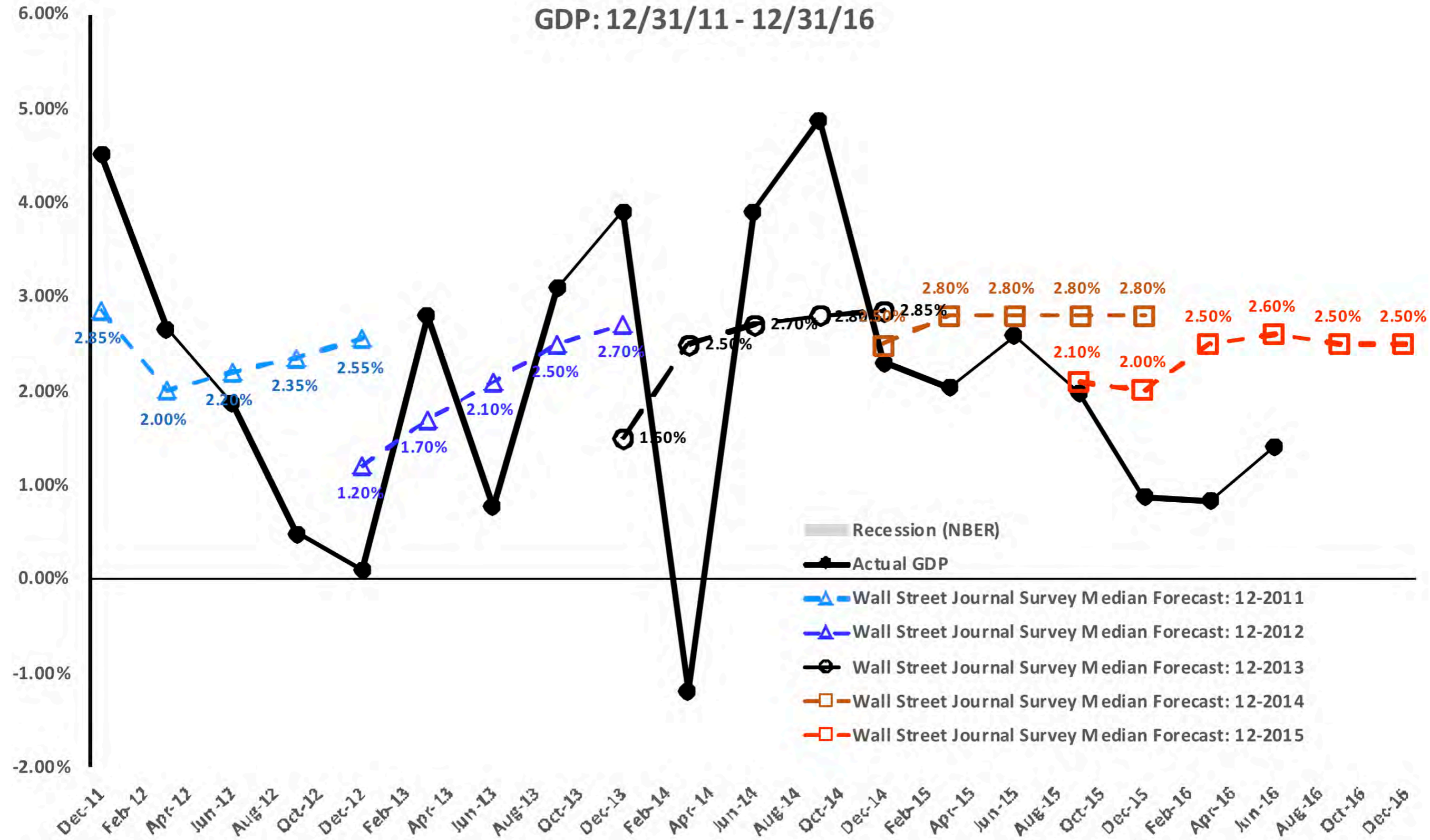
Unemployment Rate Visual Accuracy Test

Unemployment Rate: 12/31/11 - 12/31/17

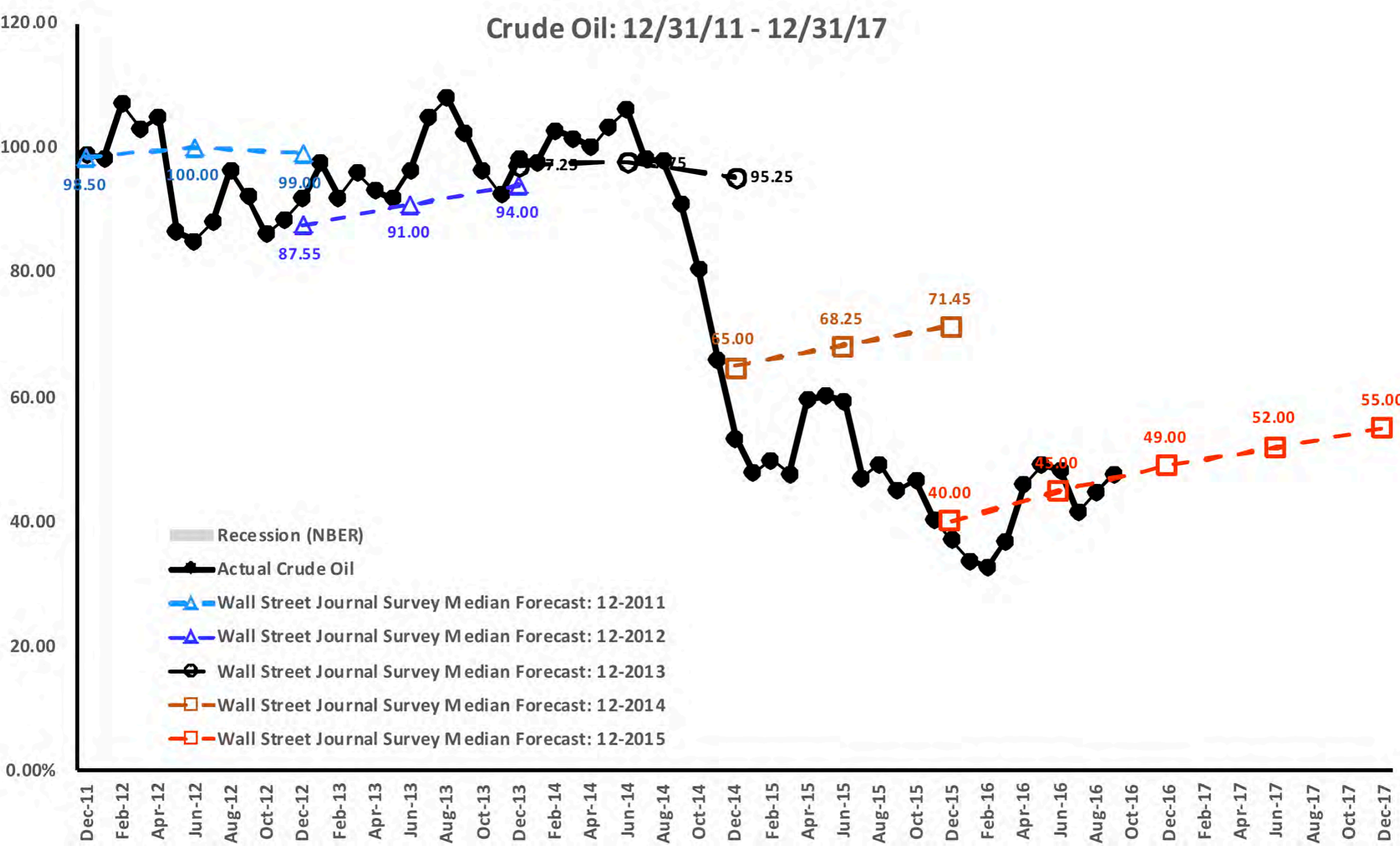


GDP Visual Accuracy Test

GDP: 12/31/11 - 12/31/16



Crude Oil Visual Accuracy Test



Analysis by Kevin Webb, CFA. WSJ and Bloomberg forecasts as published. Econ data from FRED.

Federal Reserve

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Monetary Policy



Monetary policy is the Federal Reserve's actions, as a central bank, to achieve three goals specified by Congress: maximum employment, stable prices, and moderate long-term interest rates in the United States.

The Federal Reserve conducts the nation's monetary policy by managing the level of short-term interest rates and influencing the availability and cost of credit in the economy. Monetary policy directly affects interest rates; it indirectly affects stock prices, wealth, and currency exchange rates. Through these channels, monetary policy influences spending, investment, production, employment, and inflation in the United States.

[Learn more](#)

Federal Open Market Committee

[FOMC Calendar](#)

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[FAQs](#)

[FOMC Longer-Run Goals and Monetary Policy Strategy \(PDF\)](#)

[Communications Policies: Committee \(PDF\) | Staff \(PDF\)](#)

Recent Documents

[FOMC Statement: PDF | HTML](#)

Released December 13, 2017

[Projection Materials: PDF | HTML](#)

Released December 13, 2017

[Press Conference](#)

December 13, 2017

[FOMC Minutes: PDF | HTML](#)

Released January 3, 2018

Upcoming Dates

Jan. 30-31 FOMC Meeting
Two-day meeting

Feb. 21 FOMC Minutes
Meeting of Jan. 30-31

March 20-21 FOMC Meeting
Two-day meeting
Press Conference

April 11 FOMC Minutes
Meeting of March 20-21

<https://www.federalreserve.gov/monetarypolicy.htm>

Congressional Budget Office

Budget and Economic Data

CBO regularly publishes data to accompany some of its key reports. These data have been published in the [Budget and Economic Outlook and Updates](#) and in their associated supplemental material, except for that from the [Long-Term Budget Outlook](#).

BUDGET

- [10-Year Budget Projections](#)
- [Long-Term Budget Projections](#)
- [Historical Budget Data](#)
- [10-Year Trust Fund Projections](#)
- [Detailed Revenue Projections](#)
- [Spending Projections, by Budget Account](#)
- [Estimates of Automatic Stabilizers](#)

ECONOMIC

- [10-Year Economic Projections](#)
- [Potential GDP and Underlying Inputs](#)

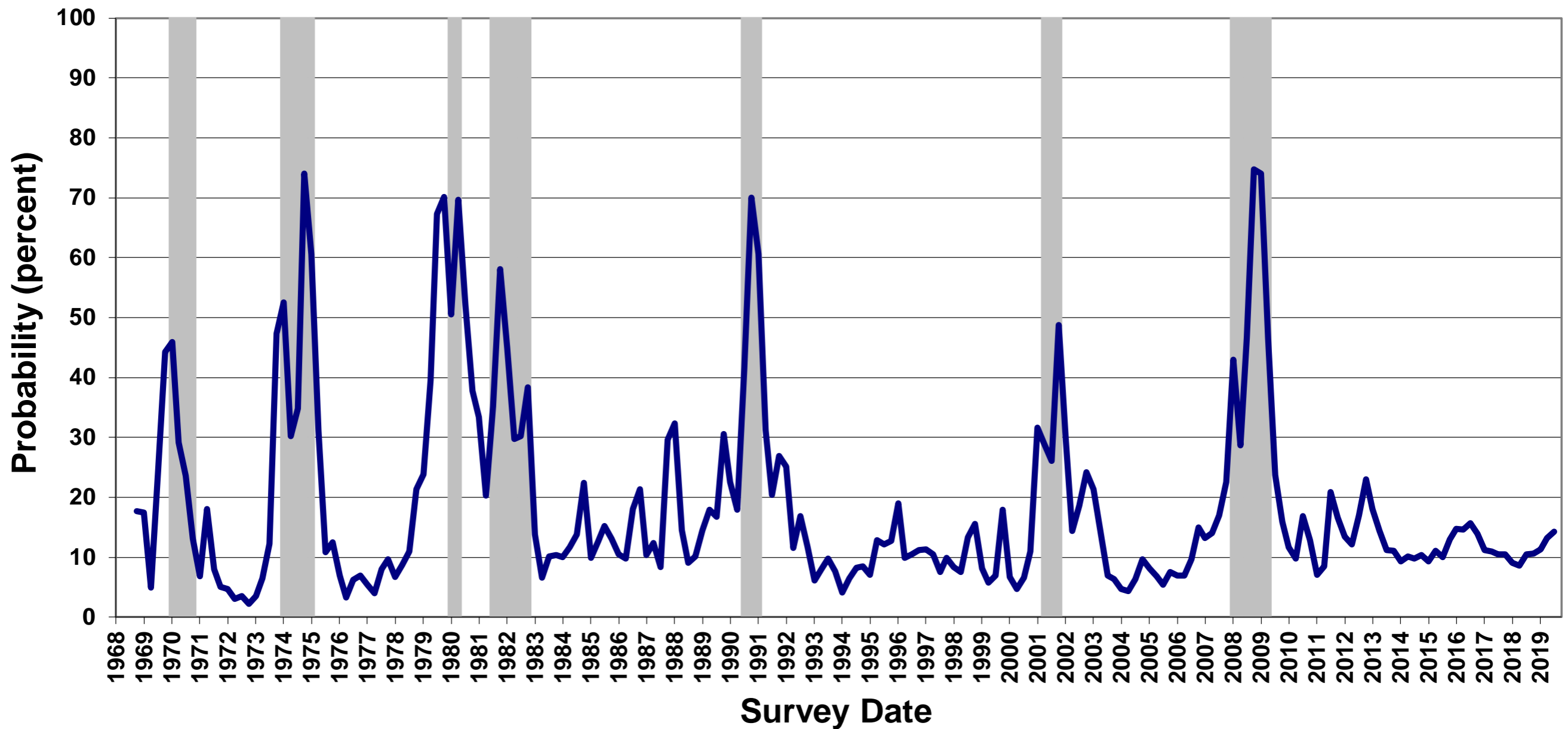
10-Year Economic Projections

Projections of output, prices, labor market measures, interest rates, and income.

Jun 2017	Jan 2017	Aug 2016	Jan 2016	Aug 2015	Jan 2015	Aug 2014
Feb 2014	Feb 2013					

Survey of Professional Forecasters

The Anxious Index
Probability of Decline in Real GDP in the Following Quarter
Quarterly, 1968:Q4 to 2019:Q3



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