FIRST EMPIRE SECURITIES
Member FINRA/SIPC

Market Update: Where Are Interest Rates Going?
January 27, 2016

Presented by

David Schiffman, Senior Financial Strategist

www.1empire.com

100 Motor Parkway, 2nd Floor | Hauppauge | NY | 11788
Toll Free: 800.645.5424 | Tel: 631.979.0097 | Fax: 631.979.0448

Economic Activity Actual/Forecasts

FIRST EMPIRE SECURITIES
Member FINRA/SIPC

96) Chart 7) Set as Default View Economic Forecasts

Country/Region/World | Contributor | Contributor Composite | Yearly | Quarterly

United States | Browse | Private | Official

Actual / Forecasts

Indicator	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Economic Activity										
Real GDP (YoY%)	-0.3	-2.8	2.5	1.6	2.2	1.5	2.4	2.5	2.5	2.4
Industrial Production (YoY %)	-3.4	-11.2	5.6	3.0	2.9	1.9	3.7	1.5	2.0	2.6
Housing Starts (000s SAAR, mo								1110	1240	1353
Price Indices										
CPI (YoY%)	3.8	-0.3	1.6	3.2	2.1	1.5	1.6	0.1	1.8	2.2
PCE Price Index (YoY%)								0.3	1.4	2.0
Core PCE (yoy%)	2.1	1.2	1.3	1.5	1.9	1.5	1.5	1.3	1.6	1.8
Labor Market										
Unemployment (%)	5.8	9.3	9.6	8.9	8.1	7.4	6.2	5.3	4.8	4.6
Non Farm Payrolls (000s SA,								209	184	168
External Balance										
Curr. Acct. (% of GDP)	-4.7	-2.7	-3.0	-3.0	-2.8	-2.3	-2.3	-2.5	-2.6	-2.7
Financial Balances										
Budget (% of GDP)	-4.7	-10.1	-8.4	-7.9	-6.5	-3.3	-2.8	-2.5	-2.5	-2.6
Government Debt (% of GDP)	39.3	52.3	60.9	65.9	70.4	72.3	74.1	74.0	74.1	74.0
Interest Rates										

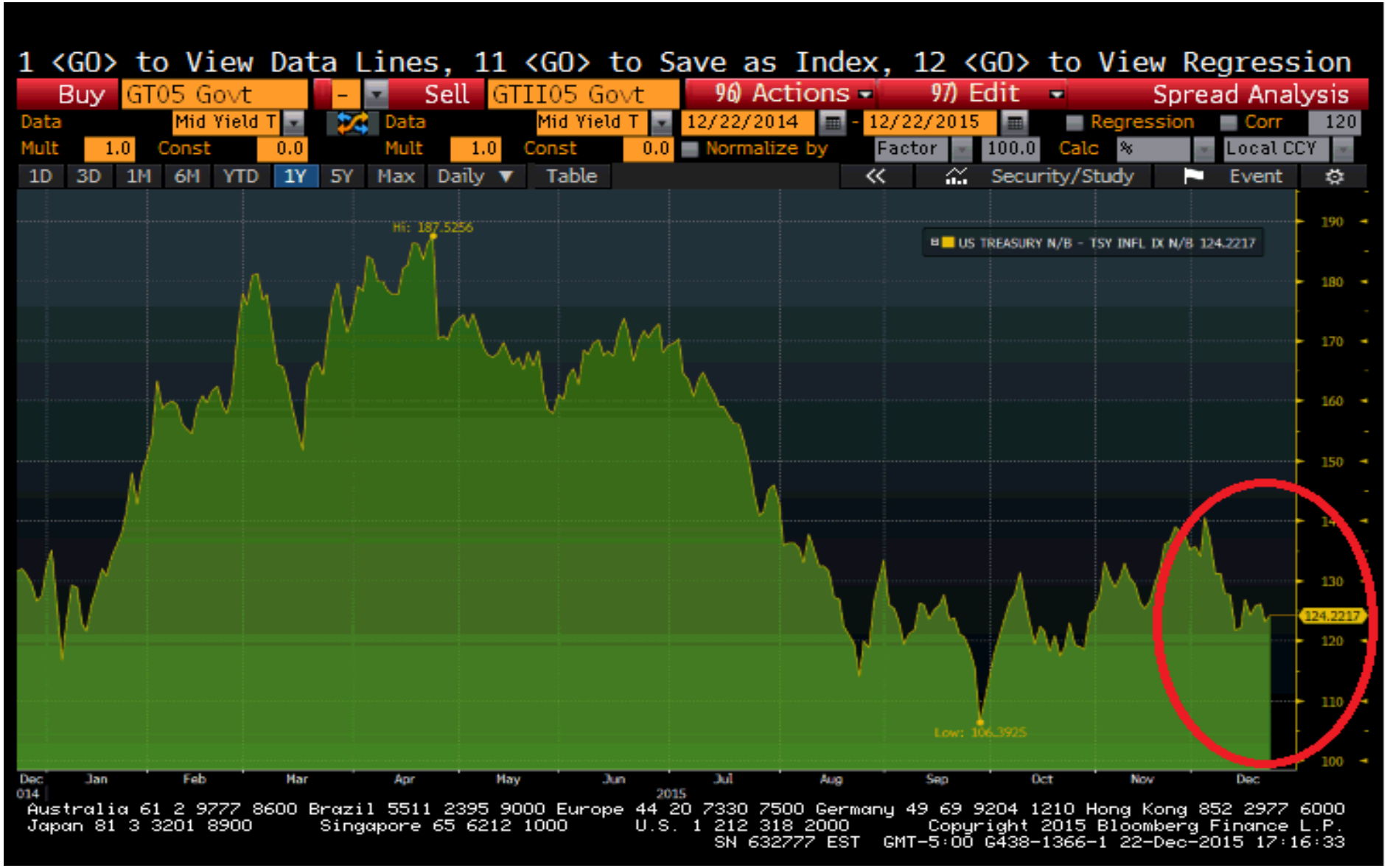
50) News Headlines | NSE »

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 Copyright 2015 Bloomberg Finance L.P.
SN 632777 EST GMT-5:00 G438-1366-0 22-Dec-2015 17:18:14

Source: Bloomberg

Inflation Expectations

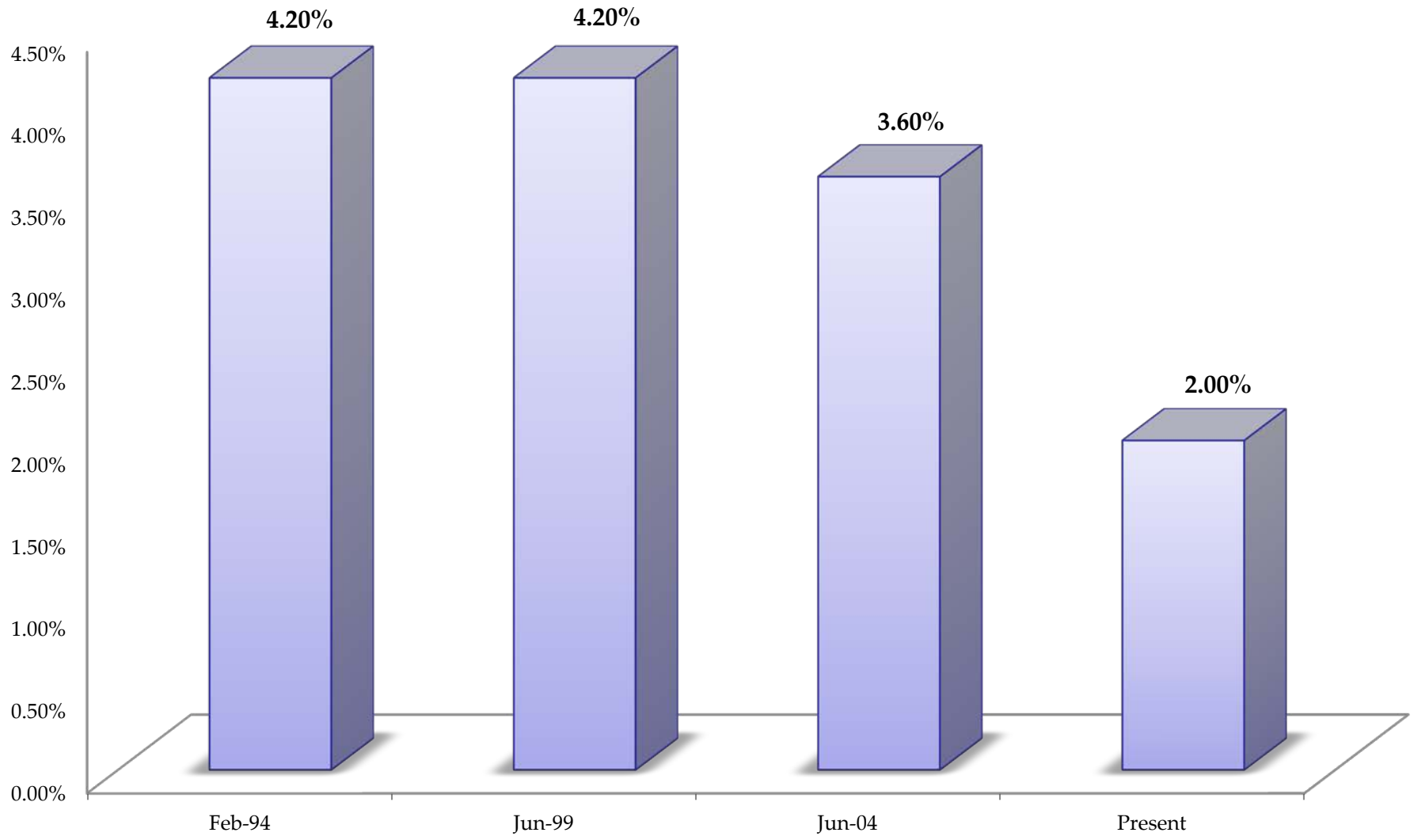
FIRST EMPIRE SECURITIES
Member FINRA/SIPC



Source: Bloomberg

GDP Growth prior to First Rate Hike

FIRST EMPIRE SECURITIES
Member FINRA/SIPC



Source: Bloomberg

A History of Interest Rates

Yield Curve - 2015

FIRST EMPIRE SECURITIES
Member FINRA/SIPC

YTD - 2015

HISTORICAL YIELD CURVE PAGE 2 OF 2

DATE RANGE 12/31/14 12/22/15 MTY RANGE 3M 30Y

	12/31/14	12/22/15	Change
3 MONTH	0.035	0.188	0.1527
6 MONTH	0.117	0.453	0.3368
1 YEAR	0.213	0.628	0.4148
2 YEAR	0.664	0.973	0.3084
3 YEAR	1.070	1.301	0.2309
5 YEAR	1.653	1.704	0.0516
7 YEAR	1.971	2.044	0.0724
10 YEAR	2.171	2.236	0.0645
30 YEAR	2.752	2.956	0.2039

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 Copyright 2015 Bloomberg Finance L.P.
SN 632777 EST GMT-5:00 G438-1366-2 22-Dec-2015 17:02:17

Source: Bloomberg

Implied Forward Rates

FIRST EMPIRE SECURITIES
Member FINRA/SIPC

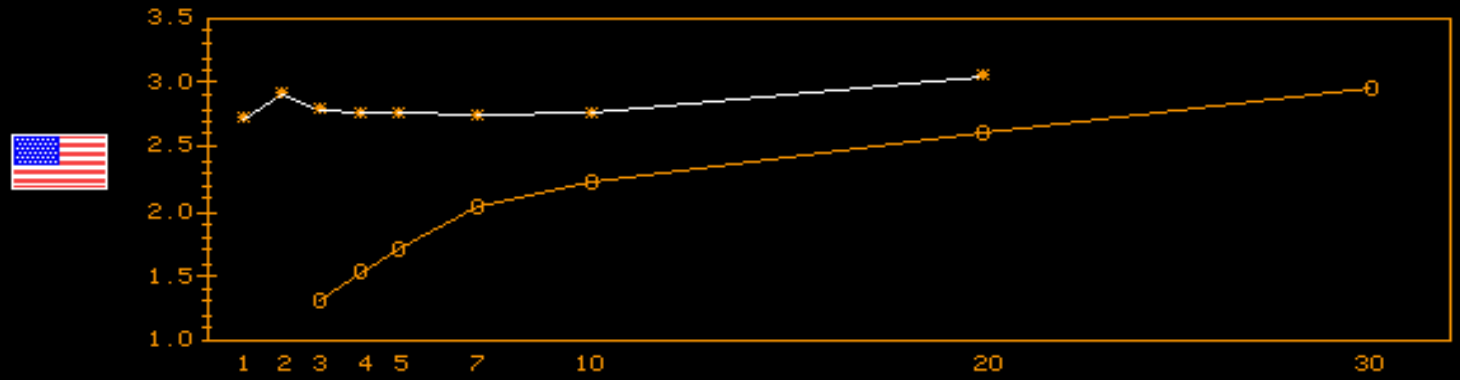
Enter all values and hit <GO>.

17:03 COUPON IMPLIED FORWARD RATES: USA

YRS TO MATURITY

FORWARD YRS	1	2	3	4^	5	7	10	20^	30
NOW	0.63	0.98	1.30	1.50	1.71	2.05	2.24	2.60	2.96
1	1.32	1.64	1.80	1.98	2.13	2.32	2.44	2.73	
2	1.96	2.03	2.19	2.33	2.48	2.52	2.58	2.84	
3	2.11	2.31	2.45	2.60	2.60	2.64	2.66	2.92	
5	2.73	2.90	2.78	2.76	2.77	2.74	2.77	3.05	

YIELDS ARE 2/YR COMPOUND



^:interpolated

YIELD CURVES

O-TODAYS

*- 5 YRS FWD

IYC CURVE # 25

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 Copyright 2015 Bloomberg Finance L.P.
SN 632777 EST GMT-5:00 G438-1366-2 22-Dec-2015 17:03:25

Source: Bloomberg

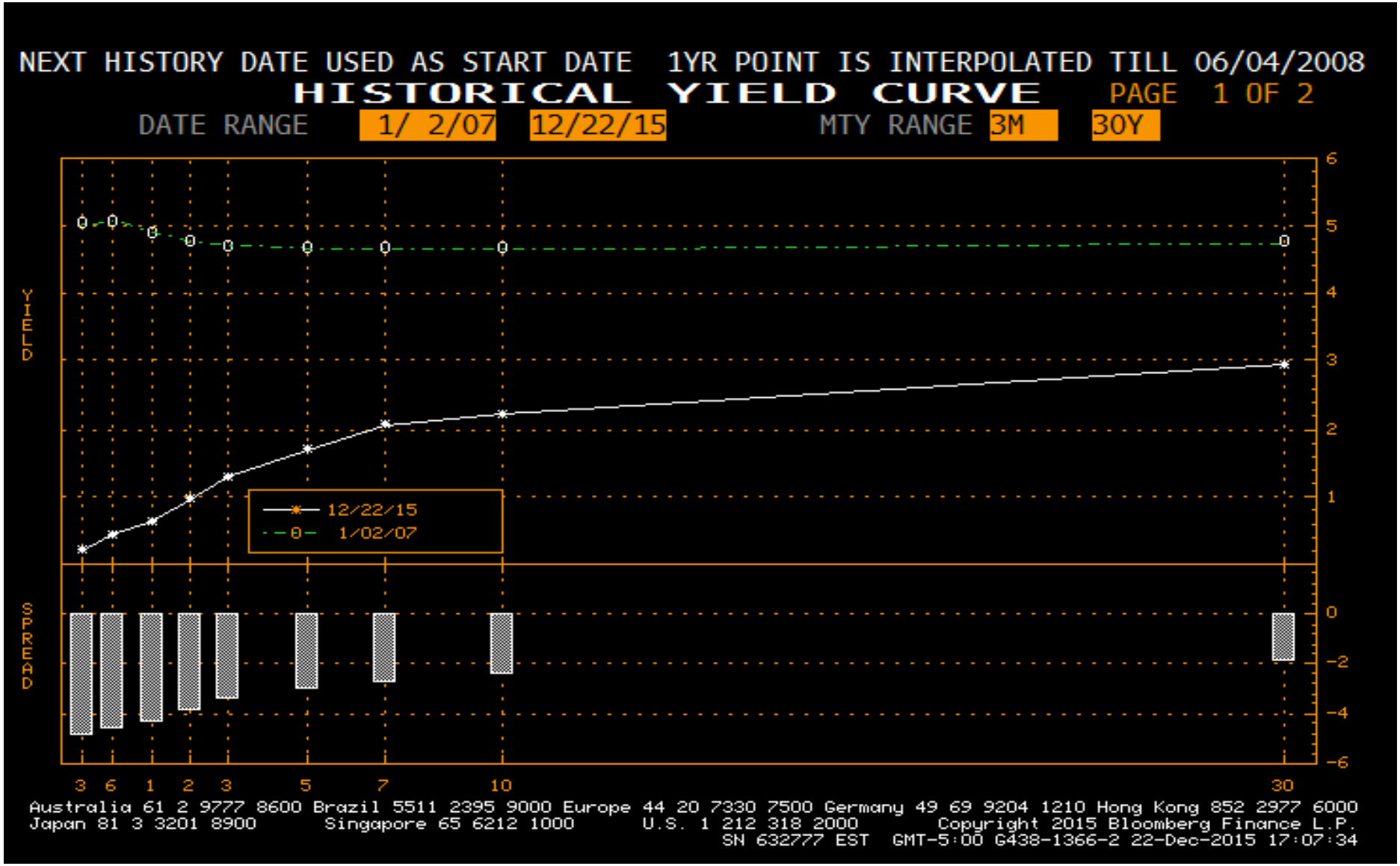
30 Years of Falling Interest Rates

FIRST EMPIRE SECURITIES
Member FINRA/SIPC

Source: Bloomberg

History of Interest Rates

FIRST EMPIRE SECURITIES
Member FINRA/SIPC



Source: Bloomberg

How Long Can Low Interest Rates Persist?

Fed Funds Rate Probability

FIRST EMPIRE SECURITIES
Member FINRA/SIPC

99) Export Data — World Interest Rate Probability

United States — Instrument: Futures: Fed Funds — FED Effective Rate 0.36

1) Overview | 2) Future Implied Probability

Current Implied Probabilities — 3) Add/Remove

Dates: Meeting / Calculation — Calculated 12/22/2015 — Based on rate 0.25-0.50

Meeting	Prob Of Hike	Prob of Cut	0-0.25	0.25-0.5	0.5-0.75	0.75-1	1-1.25	1.25-1.5	1.5-1.75
01/27/2016	0.0%	6.0%	6.0%	94.0%	0.0%	0.0%	0.0%	0.0%	0.0%
03/16/2016	47.0%	3.0%	3.0%	50.0%	47.0%	0.0%	0.0%	0.0%	0.0%
04/27/2016	53.0%	2.6%	2.6%	44.4%	47.4%	5.6%	0.0%	0.0%	0.0%
06/15/2016	70.7%	1.6%	1.6%	27.7%	46.2%	22.3%	2.3%	0.0%	0.0%
07/27/2016	75.2%	1.3%	1.3%	23.5%	43.2%	26.1%	5.5%	0.4%	0.0%
09/21/2016	83.2%	0.9%	0.9%	16.0%	36.5%	31.9%	12.5%	2.1%	0.1%
11/02/2016	86.8%	0.7%	0.7%	12.5%	31.8%	33.0%	16.9%	4.5%	0.6%
12/14/2016	91.5%	0.4%	0.4%	8.1%	24.6%	32.6%	22.9%	9.1%	2.0%
02/01/2017	93.4%	0.3%	0.3%	6.3%	20.7%	30.7%	25.2%	12.4%	3.7%

Historical Analysis for Meeting 01/27/2016 — 4) Add/Remove

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 Copyright 2015 Bloomberg Finance L.P.
SN 632777 EST GMT-5:00 G438-1366-1 22-Dec-2015 17:21:08

Source: Bloomberg

Japan's 10-year Government Note

FIRST EMPIRE SECURITIES
Member FINRA/SIPC

Source: Bloomberg

Global Rate Environment

FIRST EMPIRE SECURITIES
Member FINRA/SIPC

Regional | 97) Settings | World Bond Markets

91) Bonds | 92) Spreads | 93) Curves

Maturity 5 Year | Trading Mode | Data Range 3 Months

Country	CMI	Security	Bid	Ask	Yield	ld Chg	Yield	Low	Range (Avg / Now)	High	3M Chg
1) Americas											
10) United States		T 1 5/8 11/20	99-17+	99-17 3/4	1.719	+1.5		1.269		1.747	+27.2
11) Canada		CAN0 3/4 09/20	99.896	99.930	0.765	+1.5		.719		1.024	-4.8
12) Brazil (USD)		BRAZIL4 7/8 21	92.580	93.025	6.513	-0.5		4.727		6.555	+88.5
13) Colombia (USD)		COLOM 4 3/8 21	100.300	100.770	4.217	+0.8		2.720		4.334	+118.1
14) Mexico (USD)		MEX3 1/2 01/21	101.235	101.545	3.167	+0.3		2.711		3.261	+18.8
2) EMEA											
20) United Kingdom		UKT2 07/22/20	103.160	103.185	1.281	+2.4		1.121		1.396	+6.0
21) France		FRTR 0 1/4 20	100.745	100.775	0.092	+2.0		-.048		.231	-3.3
22) Germany		OBL0 1/4 10/20	101.370	101.385	-0.038	+2.4		-.220		.017	-3.1
23) Italy		BTPS0.7 05/20	100.660	100.695	0.538	+0.7		.327		.772	-21.7
24) Spain		SPGB 1.15 20	101.835	101.880	0.732	+2.0		.462		.964	-20.1
25) Portugal		PGB 4.8 06/20	115.885	115.975	1.111	+2.8		.907		1.508	-14.8
26) Sweden		SGB5 12/01/20	122.719	122.830	0.318	+2.8		-.085		.318	+30.8
27) Netherlands		NETHER3 1/2 20	116.025	116.055	-0.029	+2.1		-.175		.066	-7.6
28) Switzerland		SWISS 2 1/4 20	113.310	113.605	-0.700	+1.8		-1.099		-.697	-2.4
3) Asia/Pacific											
29) Japan		JGB 0.1 12/20	100.278	100.377	0.024			.018		.060	-2.6
30) Australia		ACGB 1 3/4 20	97.667	97.722	2.244	+2.0		1.963		2.401	+18.8
31) New Zealand		NZGB 6 05/21	114.789	115.013	2.960	+2.5		2.633		3.013	+33.8
32) South Korea		NDFB 2 09/20	101.280	101.359	1.825	-0.4		1.700		2.009	+7.5

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 Copyright 2015 Bloomberg Finance L.P.
SN 632777 EST GMT-5:00 H654-5942-1 23-Dec-2015 08:27:27

Source: Bloomberg

Conclusion

If I think rates will rise soon, should I just stay very liquid so we can re-invest at higher rates?

FIRST EMPIRE SECURITIES
Member FINRA/SIPC

Opportunity Cost – Waiting to Invest

If I wait in money market funds, at what yield do I need to invest in the future?

- Investment assumptions: Amount = $1,000,000 Maturity = 5 Years
- Interest rate assumptions: LAIF = 0.25% Alternative = 1.80%

Waiting Period (Months)	Accumulated Income LAIF @ 0.25%	Accumulated Income 5yr Agency @ 1.80%	Foregone Income	Remaining Term (Years)	Income Needed Through Maturity To "Breakeven"	Yield Needed to BE
3	$ 625	$ 4,500	$ (3,875)	4.75	$ 89,375	1.88%
6	$ 1,250	$ 9,000	$ (7,750)	4.50	$ 88,750	1.97%
9	$ 1,875	$ 13,500	$ (11,625)	4.25	$ 88,125	2.07%
12	$ 2,500	$ 18,000	$ (15,500)	4.00	$ 87,500	2.19%
15	$ 3,125	$ 22,500	$ (19,375)	3.75	$ 86,875	2.32%
18	$ 3,750	$ 27,000	$ (23,250)	3.50	$ 86,250	2.46%
21	$ 4,375	$ 31,500	$ (27,125)	3.25	$ 85,625	2.63%
24	$ 5,000	$ 36,000	$ (31,000)	3.00	$ 85,000	2.83%
27	$ 5,625	$ 40,500	$ (34,875)	2.75	$ 84,375	3.07%
30	$ 6,250	$ 45,000	$ (38,750)	2.50	$ 83,750	3.35%

FIRST EMPIRE SECURITIES
Member FINRA/SIPC

Thank You!

The information in this document has been obtained from sources we believe to be reliable, however, we do not guarantee it is accurate or complete. This document is not and should not be construed as an offer or solicitation of an offer to buy or sell any security or securities. From time to time officers, employees of the firm, or the firm itself holds a position in the securities referred herein, or acts as principal in transactions referred to herein. This information is subject to change without notice. First Empire Securities, Inc., Member FINRA/SIPC.

www.1empire.com

100 Motor Parkway, 2nd Floor | Hauppauge | NY | 11788
Toll Free: 800.645.5424 | Tel: 631.979.0097 | Fax: 631.979.0448