

# WELCOME TO:



## **“Public Funds Investing Made Easy”**

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## **Prepared for:**



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# WHAT CAUSED THIS...?



# THE GREATEST DETERMINANT - *YOU*



# 10 YEAR US TREASURY GRAPH

## 1/31/1991 THROUGH 12/29/1994



Source: Bloomberg


# US TREASURY YIELD CURVE

## 6/1/06 AND 12/18/08



Source: Bloomberg

# PROJECTED YIELD OF 2 YEAR US TREASURY

95) Chart Analysts			96) Forecast Histogram		Bond Yield Forecasts: Analysts					
United States					Q1 17	Q2 17	Q3 17	Q4 17	Q1 18	Q2 18
US 2-Year					1.35	1.45	1.56	1.71	1.86	2.05
			Bloomberg Wgt Avg		1.36	1.52	1.66	1.81	1.95	2.06
			Implied Forward Yield		1.20	1.40	1.50	1.70	1.90	2.05
			Median Forecast		1.22	1.36	1.50	1.66	1.81	2.03
			Average Forecast		1.60	1.80	2.00	2.25	2.50	2.90
			High Forecast		0.80	0.79	0.90	0.90	0.90	0.95
Market Yield 1.33			Low Forecast		57	57	57	57	51	47
Responses										
Recent Updates										
T. Costerg			Feb. Survey Median		1.20	1.40	1.50	1.70	1.86	2.08
D. Holt			Jan. Survey Median		1.24	1.40	1.55	1.70	1.82	2.00
S. Barrow			Change in Medians		-0.04	0.00	-0.05	0.00	0.04	0.08
P. Lundvik										
Firm Name	Analyst	As of	Q1 17	Q2 17	Q3 17	Q4 17	Q1 18	Q2 18		
1) Action Economics LLC	M. Englund	02/09	1.21	1.37	1.50	1.62	1.77	1.93		
2) Amherst Pierpont Securities	S. Stanley	02/09	1.40	1.70	2.00	2.25	2.50	2.75		
3) BBVA Research SA	N. Karp	02/09	1.30	1.37	1.45	1.53	1.63	1.74		
4) Bank of America Merrill Lyn	M. Meyer	02/09	1.35	1.50	1.65	1.80				
5) Bank of Tokyo-Mitsubishi U	C. Rupkey	02/09	1.60	1.80	2.00	2.20	2.50	2.75		
6) Bank of the West/San Franc	S. Anderson	02/09	1.23	1.36	1.56	1.75	1.99	2.26		
7) BayernLB Holdings AG	N. Wuthe	02/09	1.40	1.50	1.60	1.80				
8) Chamber of Commerce of th	J. Foster	02/09	1.20	1.22	1.25	1.30	1.45	1.48		
9) Comerica Inc	R. Dye	02/09	1.20	1.23	1.48	1.70	1.94	2.13		

Source: Bloomberg

# FEDERAL FUNDS RATE

## 4/30/1991 – 3/15/2017



Source: Bloomberg

# FEDERAL RESERVE STATEMENT AS OF 3/15/17

The Federal Reserve made the following statement regarding the Federal Funds Rate on 3/15/17:



The screenshot shows the Federal Reserve Board of Governors website. The header reads "Board of Governors of the Federal Reserve System". Below the header is a navigation bar with links: "About the Fed", "News & Events", "Monetary Policy", "Banking Information & Regulation", "Payment Systems", and "Economic Research & Data". The "News & Events" link is selected. On the left side, there is a sidebar with a list of links: "Testimony and Speeches", "Press Releases", "Regulatory Reform", "Conferences", and "Other Public Communication". The "Press Releases" link is selected. The main content area shows the breadcrumb "Home > News & Events > 2017 Monetary Policy Releases" and the title "Press Release". Below the title, it says "Release Date: March 15, 2017" and "For release at 2:00 p.m. EDT".

**3/15/17 UPDATE:** *"...The Committee expects that economic conditions will evolve in a manner that will warrant gradual increases in the federal funds rate; the federal funds rate is likely to remain, for some time, below levels that are expected to prevail in the longer run. However, the actual path of the federal funds rate will depend on the economic outlook as informed by incoming data."*

View entire statement at: <http://www.federalreserve.gov/newsevents/press/monetary/20170315a.htm>

# WHAT IS A BOND?

\$100 1 Year 10.00% = 110 10%

# WHAT IS A BOND?

**Bond Buyer  
(Lender)**

**Bond Issuer  
(Borrower)**

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\$100 1 Year 10.00% =

110 (Fixed)

10%

# MARKET RATES WENT DOWN TO 8%

Bond Buyer (Lender)	Bond Issuer (Borrower)	Market rate for similar loans:
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\$100 1 Year 10.00% =	110 (Fixed)	8%
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Interest rates for similar bonds went down to 8%.

# SO, THE PRICE OF THIS BOND WENT UP...

Bond Buyer (Lender)	Bond Issuer (Borrower)	Market rate for similar loans:
---------------------	------------------------	--------------------------------

\$100 1 Year 10.00% =	110 (Fixed)	8%
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Interest rates for similar bonds went down to 8%. Therefore:

Sell the bond at this price:

\$102 1 Year 8.00% (approx \$8) = 110 (fixed)

# MARKET RATES WENT UP TO 12%

Bond Buyer (Lender)	Bond Issuer (Borrower)	Market rate for similar loans:
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\$100 1 Year 10.00% =	110 (Fixed)	12%
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Interest rates for similar bonds went up to 12%.

# SO, THE PRICE OF THIS BOND WENT DOWN...

Bond Buyer (Lender)	Bond Issuer (Borrower)	Market rate for similar loans:
\$100 1 Year 10.00% =	110 (Fixed)	12%

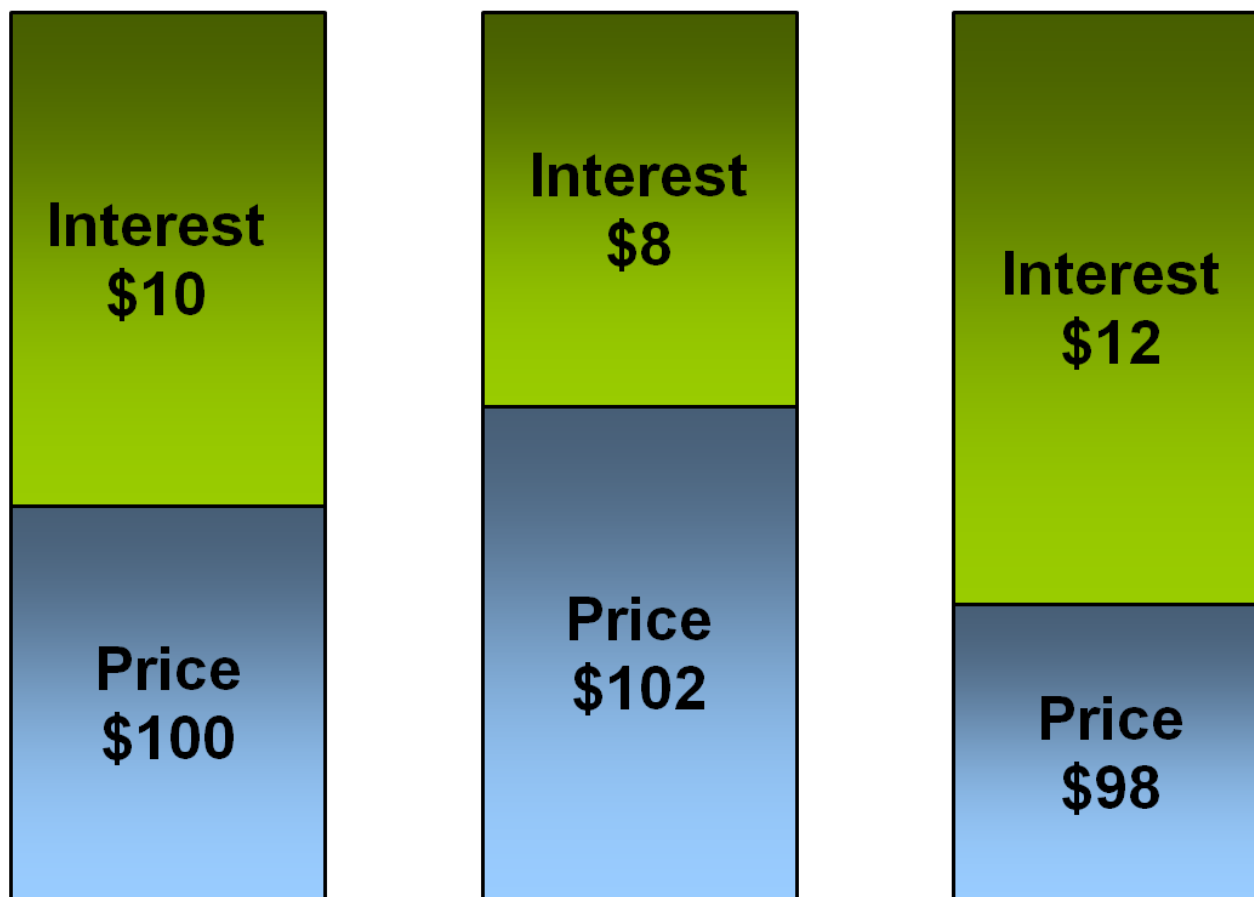
Interest rates for similar bonds went up to 12%. Therefore:

Sell the bond at this price:

\$98 1 Year 12.00% (approx \$12) = 110 (fixed)

# WHEN RATES GO DOWN, PRICES NECESSARILY GO UP

Bond Maturity  
Value \$110



# THE DOLLAR VALUE OF A BASIS POINT

The difference between 1.00% and 1.01% = 1 Basis Point

The \$ value of 1 Basis Point on \$1 million  
Invested for 1 year = \$100

In other words: 1 BP/\$1MM/1 Year = \$100

1 BP/\$1MM/6 Months = \$50

# A TYPICAL BOND

04/15/17	Coupon	Interest	Payments	Yield	Maturity
\$1,000,000	1.00%	\$5,000	10/15/17		04/15/19
		\$5,000	04/15/18		
		\$5,000	10/15/18		
		\$5,000	04/15/19	1.00%	\$1,000,000

**Don't forget about interest on interest....**

# THIS BOND IS AT A DISCOUNT

04/15/17	Coupon	Interest	Payments	Yield	Maturity
\$990,012	.50%	\$2,500	10/15/17		04/15/19
		\$2,500	04/15/18		
		\$2,500	10/15/19		
		\$2,500	04/15/19	1.00%	\$1,000,000

# THIS BOND IS AT A PREMIUM

04/15/17	Coupon	Interest	Payments	Yield	Maturity
\$1,039,500	3.00%	\$15,000	10/15/17		04/15/19
		\$15,000	04/15/18		
		\$15,000	10/15/18		
		\$15,000	04/15/19	1.00%	\$1,000,000

# SELL THE BOND BEFORE MATURITY: NO RATE CHANGE

04/15/17	Coupon	Interest	Payments	Yield	Maturity
\$1,000,000	1.00%	\$5,000	10/15/17		04/15/19
					<i>RECEIVE</i>
<b>Sell bond here</b>	.....	\$5,000	→ 04/15/18	1.00%	<i>\$1,000,000</i>
		\$5,000	10/15/18		
		\$5,000	4/15/19		

NOTE: Actual results may vary depending on original maturity of bond and length of holding period

# SELL THE BOND BEFORE MATURITY: RATES WENT DOWN

04/15/17	Coupon	Interest	Payments	Yield	Maturity
\$1,000,000	1.00%	\$5,000	10/15/17		04/15/19
					<i>RECEIVE</i>
<b>Sell bond here .....</b>		\$5,000 →	04/15/18	.50%	<i>\$1,004,980</i>
		\$5,000	10/15/18		
		\$5,000	4/15/19		

# SELL THE BOND BEFORE MATURITY: RATES WENT UP

04/15/17	Coupon	Interest	Payments	Yield	Maturity
\$1,000,000	1.00%	\$5,000	10/15/17		04/15/19
					<i>RECEIVE</i>
<b>Sell bond here</b>	.....	\$5,000	→ 04/15/18	1.50%	<i>\$995,050</i>
		\$5,000	10/15/18		
		\$5,000	4/15/19		

# A TYPICAL BOND THAT IS CALLABLE

04/15/17	Coupon	Interest	Payments	Yield	Maturity
\$1,000,000	1.00%	\$5,000	10/15/17		04/15/19
<b>Callable here .....</b>					
		\$5,000	→ 04/15/18	1.00%	
		\$5,000	10/15/18		
		\$5,000	04/15/19	1.00%	\$1,000,000

Yield to Call = 1.00%

Yield to Maturity = 1.00%

# A TYPICAL BOND THAT IS CALLABLE WITH 3 CALL DATES

04/15/17	Coupon	Interest	Payments	Yield	Maturity
\$1,000,000	1.00%	\$5,000	10/15/17	1.00%	04/15/19
Callable here, here, and here.		\$5,000	04/15/18	1.00%	
		\$5,000	10/15/18	1.00%	
		\$5,000	04/15/19	1.00%	\$1,000,000

Yield to Call = 1.00%

Yield to Maturity = 1.00%

# A CALLABLE BOND PRICE IS AT A PREMIUM

04/15/17	Coupon	Interest	Payments	Yield	Maturity
\$1,022,370	3.00%	\$15,000	10/15/17		04/15/19
<b>Callable here .....</b>					
		\$15,000	→ 04/15/18	.75%	
		\$15,000	10/15/18		
		\$15,000	04/15/19	1.85%	\$1,000,000

Yield to Call = .75%

Yield to Maturity = 1.85%

# A CALLABLE BOND PRICE IS AT A DISCOUNT

04/15/17	Coupon	Interest	Payments	Yield	Maturity
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\$992,080	.50%	\$2,500	10/15/17		04/15/19
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**Callable here** ..... \$2,500 → 04/15/18 1.30%

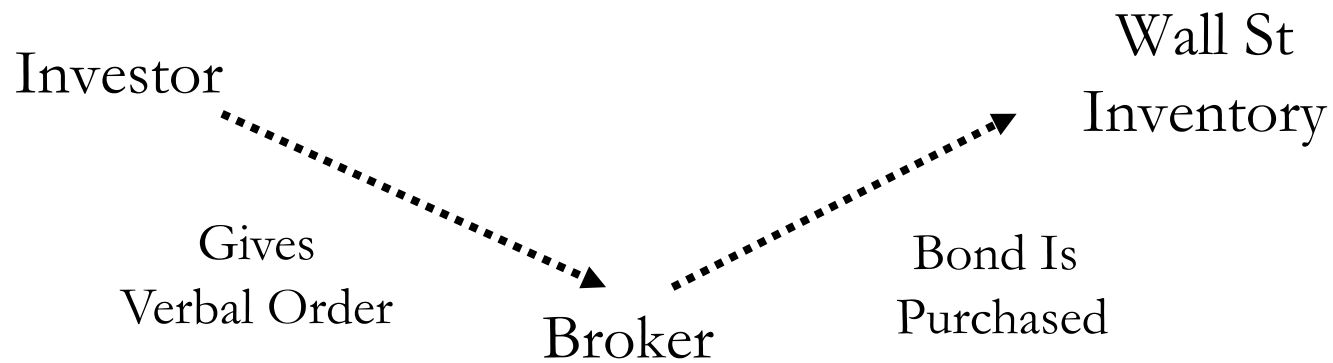
\$2,500 10/15/18

\$2,500 04/15/19 .90% \$1,000,000

Yield to Call = 1.30%

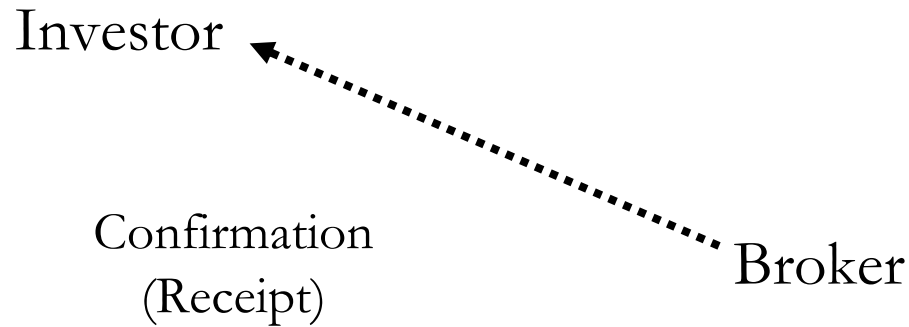
Yield to Maturity = .90%

# AFTER YOU BUY A BOND... WHAT HAPPENS NEXT?



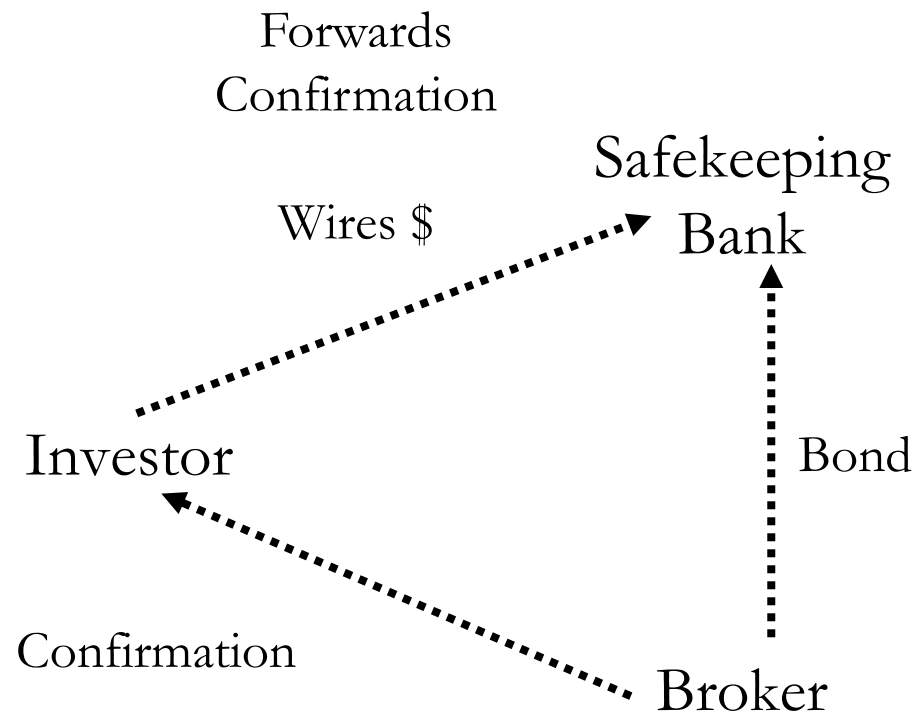
# AFTER YOU BUY A BOND...

## WHAT HAPPENS NEXT?



# AFTER YOU BUY A BOND...

## WHAT HAPPENS NEXT?



# DELIVERY VERSUS PAYMENT (DVP) IS “BEST PRACTICES”

This process, known as “Delivery Versus Payment” (DVP) is consistent with GFOA “Best Practices” (please see below):



“Investments should be settled in a delivery-versus-payment (DVP) basis. In this procedure, the buyer’s payment for securities is due at the time of delivery. Security delivery and payment occur simultaneously. This practice ensures that no funds are at risk in an investment transaction as funds are not released until securities are delivered ensuring the governmental entity has either money or securities at all times during the transaction.”

# WWW.TREASURY.GOV, RESOURCE CENTER, DATA AND CHARTS CENTER, DAILY TREASURY YIELD CURVE RATES

Date	1 Mo	3 Mo	6 Mo	1 Yr	2 Yr	3 Yr	5 Yr	7 Yr	10 Yr	20 Yr	30 Yr
04/03/17	0.73	0.79	0.92	1.02	1.24	1.47	1.88	2.16	2.35	2.71	2.98

# PORTFOLIO ANALYSIS

Sorted by Maturity					
Description	MATURITY	PAR	RATE	MTHS LEFT	
FEDERAL FARM CREDIT BANK	4/22/2018	\$ 3,000,000.00	0.550	12	Mths. NC
FEDERAL HOME LOAN MTG CORP	4/28/2018	\$ 1,000,000.00	1.500	0	Mths? Callable 4/28/17, 1X
FEDERAL HOME LOAN MTG CORP	7/20/2018	\$ 2,000,000.00	0.570	15	Mths. NC
FEDERAL NATL MORTGAGE ASSN	9/30/2018	\$ 2,300,000.00	2.200	5	Mths? Callable 9/30/17, 1X
FEDERAL HOME LOAN MTG CORP	4/14/2019	\$ 1,000,000.00	0.625	24	Mths. NC
FICO STRIP CPN-1	11/11/2019	\$ 1,023,000.00	0.000	31	Mths. NC
FEDERAL FARM CREDIT BANK	5/29/2020	\$ 2,000,000.00	2.000	1	Mth? Callable 5/29/17, 1X
FEDERAL NATL MORTGAGE ASSN	7/3/2020	\$ 3,000,000.00	0.900	3	Mths? Callable 7/3/17, Continuously
FEDERAL HOME LOAN MTG CORP	8/21/2020	\$ 1,000,000.00	1.000	40	Mths. NC
FEDERAL HOME LOAN MTG CORP	2/5/2021	\$ 1,000,000.00	1.250	46	Mths. NC
FEDERAL HOME LOAN BANK	5/25/2021	\$ 1,000,000.00	1.230	1	Mth? Callable 5/25/17, Quarterly
FEDERAL NATL MORTGAGE ASSN	2/14/2023	\$ 1,000,000.00	2.200	10	Mths? Callable 2/14/18, Continuously
Sorted by Call					
Description	MATURITY	PAR	RATE	MTHS LEFT	
FEDERAL HOME LOAN MTG CORP	4/28/2018	\$ 1,000,000.00	1.500	0	Mths? Callable 4/28/17, 1X
FEDERAL FARM CREDIT BANK	5/29/2020	\$ 2,000,000.00	2.000	1	Mth? Callable 5/29/17, 1X
FEDERAL HOME LOAN BANK	5/25/2021	\$ 1,000,000.00	1.230	1	Mth? Callable 5/25/17, Quarterly
FEDERAL NATL MORTGAGE ASSN	7/3/2020	\$ 3,000,000.00	0.900	3	Mths? Callable 7/3/17, Continuously
FEDERAL NATL MORTGAGE ASSN	9/30/2018	\$ 2,300,000.00	2.200	5	Mths? Callable 9/30/17, 1X
FEDERAL NATL MORTGAGE ASSN	2/14/2023	\$ 1,000,000.00	2.200	10	Mths? Callable 2/14/18, Continuously
FEDERAL FARM CREDIT BANK	4/22/2018	\$ 3,000,000.00	0.550	12	Mths. NC
FEDERAL HOME LOAN MTG CORP	7/20/2018	\$ 2,000,000.00	0.570	15	Mths. NC
FEDERAL HOME LOAN MTG CORP	4/14/2019	\$ 1,000,000.00	0.625	24	Mths. NC
FICO STRIP CPN-1	11/11/2019	\$ 1,023,000.00	0.000	31	Mths. NC
FEDERAL HOME LOAN MTG CORP	8/21/2020	\$ 1,000,000.00	1.000	40	Mths. NC
FEDERAL HOME LOAN MTG CORP	2/5/2021	\$ 1,000,000.00	1.250	46	Mths. NC

# THANK YOU!

*The information provided, while not guaranteed as to its accuracy or completeness, has been obtained from sources believed to be reliable. This is for informational purposes only. Because of individual client requirements, it should not be construed as advice designed to meet the particular needs of any client. This information should not be used as the primary basis of investment decisions. Contact your financial and tax advisors before implementing any strategies outlined in this material. Member SIPC and FINRA.*