

Fixed Income Securities

Topics to be Discussed

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Description of Fixed Income Securities

Fixed income securities are a group of investment vehicles that offer a fixed periodic return

- ☛ Key forms of fixed income securities
 - bonds
 - preferred stock

Characteristics Used to Evaluate Fixed Income Securities

Manner of Payment

- ☛ many fixed income securities offer periodic payments (e.g. semiannual interest) and a specified amount payable at maturity
- ☛ some securities offer no periodic interest

Risk

- ☛ what is the nature of the security protecting the investor's investment

Yield

☛ current yield

- annual interest/current market value
- example

\$10,000, 22-years until maturity, 7 3/4% bond trading at 80.13

interest = $\$10,000 \times 7\frac{3}{4}\% = \775

trading price = $\$10,000 \times 80.13\% = \$8,013$

current yield = $\$775/\$8,013 = 9.67\%$

- this does not consider difference between purchase price and maturity value

☛ yield to maturity

- yield to maturity considers not only the periodic payments but also the difference between the purchase price and the maturity value
- yield reflects the earnings if investor holds security to maturity
- example

\$10,000, 22-years until maturity, 7 3/4% bond, trading at 80.13

present value tables

8,013 = present value of \$10,000 + present value of interest

What interest rate makes this equation true?

bond tables (see next page)

yield is 10% (not 9.67%)

☛ yield to call

- when fixed income security is callable prior to maturity, yield to maturity is not necessarily applicable
- if called, issuer will pay premium over 100% of face value
- similar to yield to maturity
- present value rate which makes all cash payments to call date equal to market value

Taxes on income

- ☛ interest on some debt instruments not subject to federal and/or state and local taxes

Liquidity

- ☛ degree of activity in secondary bond market will affect the price that can be obtained if and when a bond is sold

Bond Yield Table

7.75%	Years							
Yield	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0
8.50%	93.07	92.99	92.92	92.85	92.78	92.71	92.65	92.59
8.60%	92.20	92.11	92.03	91.95	91.88	91.80	91.73	91.67
8.70%	91.34	91.25	91.16	91.07	90.99	90.91	90.83	90.76
8.80%	90.49	90.39	90.29	90.20	90.11	90.02	89.94	89.86
8.90%	89.66	89.55	89.44	89.34	89.25	89.15	89.07	88.98
9.00%	88.84	88.72	88.61	88.50	88.40	88.30	88.20	88.11
9.10%	88.02	87.90	87.78	87.67	87.56	87.45	87.35	87.26
9.20%	87.22	87.09	86.97	86.85	86.73	86.62	86.52	86.42
9.30%	86.43	86.30	86.16	86.04	85.92	85.80	85.69	85.59
9.40%	85.66	85.51	85.37	85.24	85.12	85.00	84.88	84.77
9.50%	84.89	84.74	84.59	84.46	84.33	84.20	84.08	83.97
9.60%	84.13	83.97	83.83	83.68	83.55	83.42	83.30	83.18
9.70%	83.38	83.22	83.07	82.92	82.78	82.65	82.52	82.40
9.80%	82.64	82.48	82.32	82.17	82.02	81.89	81.76	81.63
9.90%	81.92	81.75	81.58	81.43	81.28	81.14	81.00	80.87
10.00%	81.20	81.02	80.86	80.70	80.54	80.40	80.26	80.13
10.20%	79.79	79.61	79.43	79.26	79.11	78.95	78.81	78.67
10.40%	78.42	78.23	78.05	77.87	77.71	77.55	77.40	77.26
10.60%	77.09	76.89	76.70	76.52	76.35	76.19	76.03	75.88
10.80%	75.79	75.59	75.39	75.20	75.03	74.86	74.70	74.55
11.00%	74.53	74.32	74.12	73.93	73.74	73.57	73.41	73.26
11.20%	73.30	73.08	72.88	72.68	72.50	72.32	72.15	72.00
11.40%	72.10	71.88	71.67	71.47	71.28	71.10	70.93	70.78
11.60%	70.93	70.71	70.49	70.29	70.10	69.92	69.75	69.59
11.80%	69.79	69.56	69.35	69.14	68.95	68.77	68.60	68.43
12.00%	68.68	68.45	68.23	68.03	67.83	67.65	67.47	67.31

SOURCE: Reproduced from *Expanded Bond Value Tables*, Pub. 83, copyright 1970, page 844, Financial Publishing Co., Boston, MA

Types of Fixed Income Securities

Bonds

☛ Treasury Securities

- U.S. Savings Bonds

- ⇒ Series I

- ▶ http://www.treasurydirect.gov/indiv/products/prod_ibonds_glance.htm
- ▶ issued at face value
- ▶ reach maturity thirty years from date of issue
- ▶ smallest denomination is \$50 (\$25 when purchased electronically)
- ▶ current rate: 0.74% through April 30, 2011
- ▶ inflation adjusted interest rate (adjusted every May and November)
- ▶ interest earnings subject to Federal income tax

- ⇒ Series EE

- ▶ http://www.treasurydirect.gov/indiv/products/prod_eebonds_glance.htm
- ▶ as of May 2005, bonds are issued at 50% discount to face value (bonds issued electronically issued at face value)
- ▶ for EE bonds issued May 2005 and after, they earn a fixed rate of interest (0.60% through April 30, 2011). Rates for new issues are adjusted each May 1 and November 1 with each new rate effective for all bonds issued in the six months following the adjustment.
- ▶ interest is fixed for 20 years, the rate depending on the set rate when the bonds were issued, bonds mature in 30 years
- ▶ smallest denomination is \$50

- ⇒ Series HH

- ▶ as of August 31, 2004 no longer sold or convertible to other Savings Bonds

- ⇒ advantages

- ▶ easy to buy
- ▶ safe; principal and interest guaranteed by full faith and credit of the United States
- ▶ market based interest
- ▶ no fees or commissions
- ▶ if lost, replaced free of charge
- ▶ federal taxes deferred until redeemed; can be exempt from federal tax if used to pay college expenses
- ▶ no state or local taxes
- ▶ liquid long-term investment – can cash EE or I bonds anytime after 12 months. However there is a 3 month penalty if bonds cashed in before 5 years

- ⇒ disadvantages

- ▶ limited purchase: \$20,000 face value in one year per person
- ▶ other vehicles may pay higher rates
- ▶ no secondary market

- Additional Treasury Obligations
 - ⇒ interest bearing bonds
 - ▶ original maturity of more than ten years
 - ▶ minimum denomination \$1,000
 - ⇒ interest bearing notes
 - ▶ original maturity of one to ten years
 - ▶ minimum denomination \$1,000
 - ⇒ non-interest bearing bills
 - ▶ original maturity of one year or less
 - ▶ minimum denomination \$10,000
 - ⇒ treasury holds weekly auctions for treasury bills
 - ⇒ at various times treasury will auction notes and bonds
 - ⇒ securities backed by full faith and credit of U.S. government; considered “risk free”
 - ⇒ interest not subject to state and local taxation; subject to federal taxation
 - ⇒ there is a secondary market

PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239



Embargoed Until 11:00 A.M.
January 13, 2011

CONTACT: Office of Financing
202-504-3550

TREASURY OFFERING ANNOUNCEMENT ¹

Term and Type of Security	91-Day Bill
Security Description	13-Week Bill
Offering Amount	\$29,000,000,000
Currently Outstanding	\$27,999,000,000
CUSIP Number	9127952M2
Auction Date	January 18, 2011
Original Issue Date	October 21, 2010
Issue Date	January 20, 2011
Maturity Date	April 21, 2011
Maximum Award	\$10,150,000,000
Maximum Recognized Bid at a Single Rate	\$10,150,000,000
NLP Reporting Threshold	\$10,150,000,000
NLP Exclusion Amount	\$9,800,000,000
Scheduled Purchases in Treasury Direct	\$739,000,000
Minimum Bid Amount and Multiples	\$100
Competitive Bid Rate Increments ²	0.005%
Maximum Noncompetitive Award	\$5,000,000
Eligible for Holding in Treasury Direct Systems	Yes
Eligible for Holding in Legacy Treasury Direct	Yes
Estimated Amount of Maturing Bills Held by the Public	\$109,004,000,000
Maturing Date	January 20, 2011
SOMA Holdings Maturing	\$3,782,000,000
SOMA Amounts Included in Offering Amount	No
FIMA Amounts Included in Offering Amount ³	Yes
Noncompetitive Closing Time	11:00 a.m. ET
Competitive Closing Time	11:30 a.m. ET

¹Governed by the Terms and Conditions set forth in The Uniform Offering Circular for the Sale and Issue of Marketable Book-Entry Treasury Bills, Notes, and Bonds (31 CFR Part 356, as amended), and this offering announcement.

²Must be expressed as a discount rate with three decimals in increments of 0.005%, e.g., 7.100%, 7.105%.

³FIMA up to \$1,000 million in noncompetitive bids from Foreign and International Monetary Authority not to exceed \$100 million per account.

PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239



For Immediate Release
January 18, 2011

CONTACT: Office of Financing
202-504-3550

TREASURY AUCTION RESULTS

Term and Type of Security		91-Day Bill
CUSIP Number		9127952M2
High Rate ¹		0.155%
Allotted at High		31.78%
Price		99.960819
Investment Rate ²		0.157%
Median Rate ³		0.140%
Low Rate ⁴		0.130%
Issue Date		January 20, 2011
Maturity Date		April 21, 2011
	Tendered	Accepted
Competitive	\$124,540,447,000	\$27,635,805,000
Noncompetitive	\$1,114,890,000	\$1,114,890,000
FIMA (Noncompetitive)	\$250,000,000	\$250,000,000
Subtotal⁵	\$125,905,337,000	\$29,000,695,000⁶
SOMA	\$0	\$0
Total	\$125,905,337,000	\$29,000,695,000
	Tendered	Accepted
Primary Dealer ⁷	\$103,750,000,000	\$19,350,690,000
Direct Bidder ⁸	\$15,035,000,000	\$3,900,218,000
Indirect Bidder ⁹	\$5,755,447,000	\$4,384,897,000
Total Competitive	\$124,540,447,000	\$27,635,805,000

¹ All tenders at lower rates were accepted in full.

² Equivalent coupon-issue yield.

³ 50% of the amount of accepted competitive tenders was tendered at or below that rate.

⁴ 5% of the amount of accepted competitive tenders was tendered at or below that rate.

⁵ Bid-to-Cover Ratio: \$125,905,337,000/\$29,000,695,000 = 4.34

⁶ Awards to combined Treasury Direct systems = \$831,459,000.

⁷ Primary dealers as submitters bidding for their own house accounts.

⁸ Non-Primary dealer submitters bidding for their own house accounts.

⁹ Customers placing competitive bids through a direct submitter, including Foreign and International Monetary Authorities placing bids through the Federal Reserve Bank of New York.

Treasury Quotes

Source: <http://online.wsj.com/public/resources/documents/tsyquotefree.htm>

U.S. Government Bonds and Notes

Representative Over-the-Counter quotation based on transactions of \$1 million or more. Treasury bond, note and bill quotes are from midafternoon. Colons in bond and note bid-and-asked quotes represent 32nds; 101:01 means 101 1/32. Net change in 32nds. n-Treasury Note. i-Inflation-indexed issue. Treasury bill quotes in hundredths, quoted in terms of a rate of discount. Days to maturity calculated from settlement date. All yields are to maturity and based on the asked quote. For bonds callable prior to maturity, yields are computed to the earliest call date for issues quoted above par and to the maturity date for issues quoted below par.

*-When issued. Daily change expressed in basis points.

Bonds and Notes

Maturity	Coupon	Bid	Asked	Chg	Asked yield
2011 Jan 31	0.875	100:00	100:01	-1	0.0547
2011 Feb 15	5.000	100:09	100:09	-1	0.0965
2011 Feb 28	0.875	100:02	100:02	unch.	0.1071
2011 Feb 28	4.500	100:13	100:14	-1	0.1334
2011 Mar 31	0.875	100:04	100:04	unch.	0.1206
2011 Mar 31	4.750	100:26	100:27	-2	0.1577
2011 Apr 30	0.875	100:06	100:06	unch.	0.1527

Source: http://online.wsj.com/mdc/public/page/2_3020-treasury.html?mod=topnav_2_3024

Bills

Maturity	Bid	Asked	Chg	Asked yield
2011 Jan 27	0.113	0.108	unch.	0.109
2011 Feb 03	0.135	0.130	-0.005	0.132
2011 Feb 10	0.140	0.135	unch.	0.137
2011 Feb 17	0.145	0.140	-0.003	0.142
2011 Feb 17	0.145	0.140	-0.003	0.142
2011 Feb 24	0.145	0.140	unch.	0.142
2011 Mar 03	0.148	0.143	+0.003	0.145

☛ Agency Bonds

- bonds issued by political subdivisions of the U.S. government
- some backed by full faith and credit of U.S.; others guaranteed by issuing agency
- historically, agency issues have offered higher yields than treasury obligations
- many are exempt from state and local taxes
- secondary (OTC) market for agency bonds

☛ Municipal Bonds

- bonds are the issue of states, counties, cities, and other political subdivisions such as school districts and water and sewer districts
- two broad classes of bonds: general obligation and revenue
- interest immune from federal income tax (capital gains are taxable)
- due to tax advantage, interest rates on municipal bonds less than other comparable taxable bonds
- secondary (OTC) market for municipal bonds

☛ Corporate Bonds

- terms of corporate bonds vary as to security, risk, yield, and maturity
- usual denomination \$1,000
- usual term 25 to 40 years
- interest usually paid semiannually
- secondary market (OTC and exchanges)

☛ Institutional Bonds

- smallest segment of bond market
- obligations marketed by variety of private, non-profit institutions
⇒ schools, hospitals, churches
- secondary market almost nonexistent

Average Daily Trading Volume in the U.S. Bond Markets \$ Billions

	Municipal	Treasury ¹	Agency MBS ¹	Corporate Debt ²	Federal Agency Securities ¹	Total ³
1996	1.1	203.7	38.1	-	31.1	274.0
1997	1.1	212.1	47.1	-	40.2	300.5
1998	3.3	226.6	70.9	-	47.6	348.5
1999	8.3	186.5	67.1	-	54.5	316.5
2000	8.8	206.5	69.5	-	72.8	357.6
2001	8.8	297.9	112.0	-	90.2	508.9
2002	10.7	366.4	154.5	16.3	81.8	629.7
2003	12.6	433.5	206.0	18.0	81.7	751.8
2004	14.8	499.0	207.4	18.8	78.8	818.9
2005	16.9	554.5	251.8	16.7	78.8	918.7
2006	22.5	524.7	254.6	16.9	74.4	893.1
2007	25.1	570.2	320.1	16.4	83.0	1,014.9
2008	19.4	553.1	344.9	11.8	104.5	1,033.6
2009	12.5	407.9	299.9	16.8	77.7	814.6
<u>2009</u>						
Jan	12.1	358.0	363.6	16.1	75.0	824.9
Feb	11.6	387.0	331.6	15.6	85.1	830.9
Mar	10.9	402.1	337.7	15.5	89.4	855.6
Apr	12.6	350.9	291.6	17.1	85.2	757.4
May	12.0	396.3	277.6	19.7	85.2	790.7
Jun	13.1	466.5	325.3	19.3	84.6	908.6
Jul	11.9	353.4	256.0	17.1	74.1	712.6
Aug	12.1	433.3	270.5	15.7	73.1	804.6
Sep	14.9	432.0	276.1	17.9	76.3	817.2
Oct	12.9	450.4	318.6	17.7	74.5	874.0
Nov	12.4	463.7	305.9	16.1	67.8	865.9
Dec	12.9	401.4	243.8	13.3	61.8	733.1
<u>2010</u>						
Jan	14.1	439.8	312.1	19.7	67.8	853.4
Feb	13.0	462.0	318.3	17.3	72.7	883.3
Mar	13.9	504.4	259.6	18.2	74.3	870.5
Apr	13.9	455.5	232.8	17.2	67.0	786.4
May	14.1	623.8	259.5	16.2	70.6	984.2
Jun	13.2	508.0	256.5	14.6	70.0	862.4
Jul	12.5	440.6	297.9	14.8	69.7	835.5
Aug	12.5	537.3	342.2	15.3	72.0	979.2
Sep	12.7	557.4	348.6	16.6	69.4	1,004.7
Oct	12.7	558.2	435.4	16.9	78.2	1,101.4
Nov	14.1	667.2	424.5	15.2	77.9	1,198.7
Dec	13.3	583.7	359.3	14.1	67.8	1,038.3
YTD '09	12.5	407.9	299.9	16.8	77.7	814.6
YTD '10	13.3	528.2	320.6	16.3	71.5	949.8
% Change	7.1%	29.5%	6.9%	-2.5%	-8.0%	16.6%

1 Primary dealer activity

2 Excludes all issues with maturities of one year or less and convertible securities

3 Totals may not add due to rounding

Source: CM-US-Bond-Market-Trading-Volume-SIFMA-1.xls

- ☛ Evaluation of Bonds
 - Major bond rating agencies
 - ⇒ Moody's
 - ⇒ Standard & Poors
 - ⇒ Fitch Ratings

BOND RATINGS

Credit Risk	Moody's	Standard and Poor's	Fitch Ratings
Investment Grade			
Highest Quality	Aaa	AAA	AAA
High Quality	Aa	AA	AA
Upper Medium	A	A	A
Medium	Baa	BBB	BBB
Not Investment Grade			
Lower Medium	Ba	BB	BB
Lower Grade	B	B	B
Poor Grade	Caa	CCC	CCC
Speculative	Ca	CC	CC
No Payments / Bankruptcy	C	D	C
In Default	C	D	D

Note to Bond Rating Table: Moody's uses a modifier of 1, 2 or 3 to show relative standing in a category. Standard and Poor's and Fitch Ratings use a modifier of plus or minus.

Evaluation of Bonds (continued)

- ☛ Inadequacy of ratings
 - every bond in a category not necessarily of equal quality
 - rating agencies sometimes differ in evaluation of some issues
 - raters are too slow in changing ratings
 - raters may be influenced by profit motive
- ☛ Deficiencies of historical rate of returns
 - studies of investment returns must have beginning and closing date: choice of these dates may influence results
 - historical rate of return cannot be taken as indicative of future rate of return
 - your investments are in specific securities, not “average security”; rates of return for specific securities vary greatly

Tracking Bond Benchmarks							
Friday, January 21, 2011							
Closing index values, return on investment and yields paid to investors compared with 52-week highs and lows for different types of as "n.a." will update around 12p.m. the following business day.							
Index	Close	% Chg	YTD total return	52-wk % Chg	YIELD (%), 52-WEEK RANGE		
					Latest	Low	High
Broad Market Barclays Capital							
U.S. Government/Credit	1750.34	0.20	-0.23	4.81	2.630	2.000	3.220
Barclays Aggregate	1539.09	0.18	-0.12	4.84	3.040	2.350	3.650
Hourly Treasury Indexes Barclays Capital							
Composite (Price Return)	1383.59	0.09	-0.58	0.01	2.110	1.350	2.600
Composite (Total Return)	11621.49	0.10	-0.42	2.98	2.110	1.350	2.600
Intermediate (Price Return)	1252.03	0.04	-0.30	-0.05	1.810	1.050	2.300
Intermediate (Total Return)	9979.63	0.05	-0.16	2.67	1.810	1.050	2.300
Long-Term (Price Return)	1782.16	0.48	-2.57	-0.38	4.240	3.190	4.600
Long-Term (Total Return)	17667.71	0.49	-2.30	4.33	4.240	3.190	4.600
U.S. Corporate Indexes Barclays Capital							
U.S. Corporate	1956.67	0.30	-0.11	6.90	4.040	3.470	4.680
Intermediate	1982.03	0.18	0.28	6.75	3.390	2.750	4.120
Long-term	2266.80	0.62	-1.20	7.42	5.940	5.320	6.420
Double-A-rated (AA)	416.92	0.28	-0.41	5.55	3.240	2.600	3.780
Triple-B-rated (Baa)	463.15	0.27	0.06	7.63	4.610	4.030	5.150

Preferred Stock

- ☛ Compared to bonds
 - dividend amount fixed, but may be skipped (rarely)
 - dividends on preferred stock lower claim than interest to bondholders

- ☛ Compared to common stock
 - dividends on preferred higher claim than dividends to common stockholders
 - safer -- prior claim on assets
 - unless participating stock, cannot provide access to higher earnings
 - lacks substantial capital gains potential

- ☛ Attraction to individual
 - lower unit cost than bonds
 - more frequent dividend payments (quarterly) than bond interest (semiannually)

- ☛ Attraction to corporation
 - substantial (70%) tax exemption