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# Bond Prices and Yields

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# Bond Characteristics

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- Fixed income security
    - An arrangement between borrower and purchaser
    - The issuer makes specified payments to the bond holder on specified dates
  - Face or par value
  - Coupon rate
    - Zero coupon bond
  - Indenture
    - The contract between the issuer and the bondholder
-

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# Different Issuers of Bonds

- U.S. Treasury
    - Notes and Bonds
    - Ranging from 10 to 30 years
    - In denominations \$1,000 or more
    - Minimum reduced in 2008 to \$100
    - Semiannual payments
-

# Treasury Bonds, Notes and Bills

January 17, 2006

## Explanatory Notes

Representative Over-the-Counter quotation based on transactions of \$1 million or more. Treasury bond, note and bill quotes are as of mid-afternoon. Colons in bid-and-asked quotes represent 32nds; 101:01 means 101 1/32. Net changes in 32nds. n-Treasury note. i-Inflation-Indexed Issue. Treasury bill quotes in hundredths, quoted on terms of a rate of discount. Days to maturity calculated from settlement date. All yields are to maturity and based on the asked quote. Latest 13-week and 26-week bills are boldfaced. 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 below par. \*When issued.

Source: eSpeed/Cantor Fitzgerald

U.S. Treasury strips as of 3 p.m. Eastern time, also based on transactions of \$1 million or more. Colons in bid and asked quotes represent 32nds: 99:01 means 99 1/32. Net changes in 32nds. Yields calculated on the asked quotation. ci-stripped coupon interest bp-Treasury bond, stripped principal. np-Treasury note, stripped principal. 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 below par.

Source: Bear, Stearns & Co. via Street Software Technology Inc.

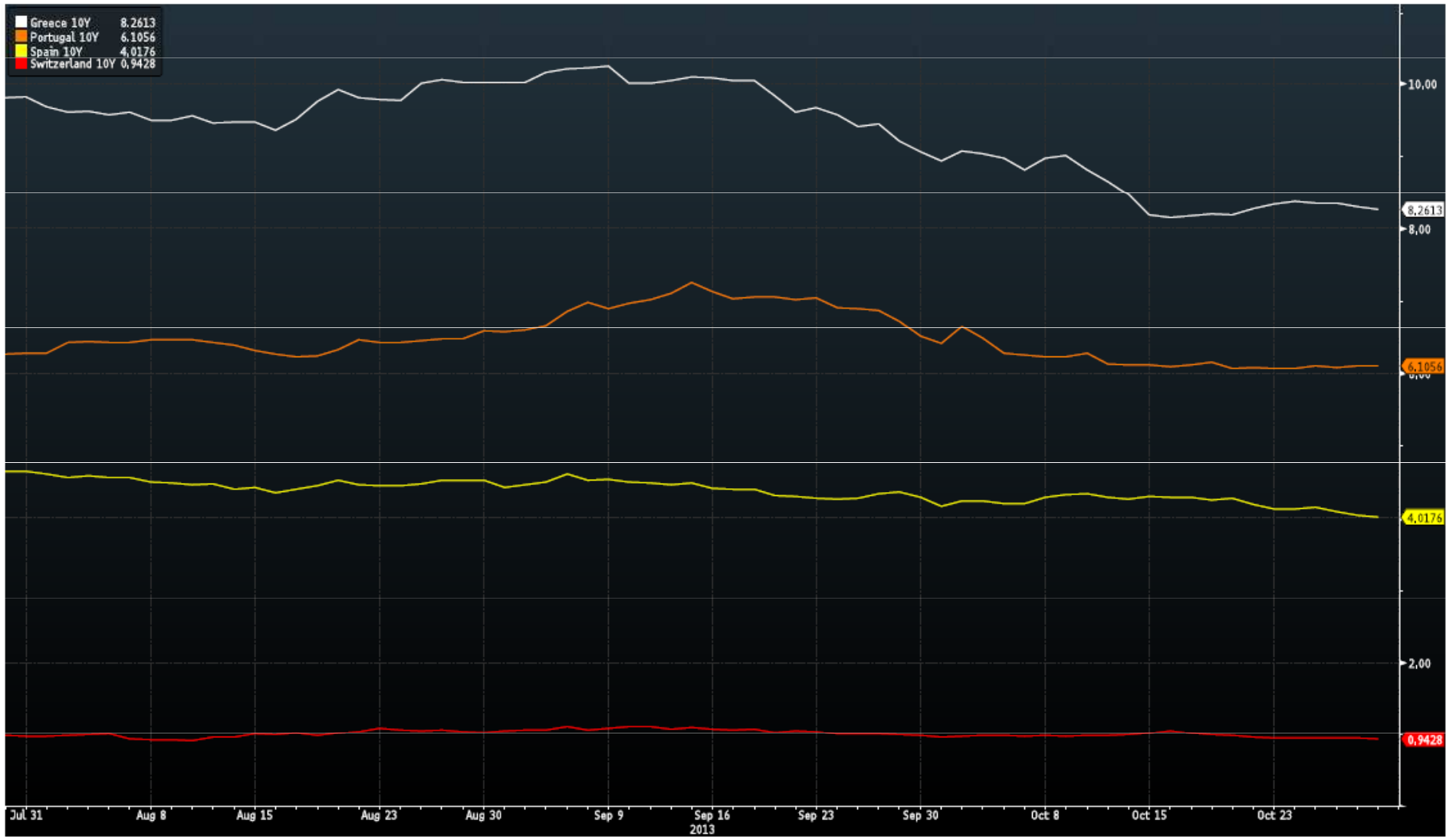
Maturity					Maturity					Maturity									
Rate	MO/YR	BID	ASKED	CHG	ASK YLD	Rate	MO/YR	BID	ASKED	CHG	ASK YLD	Maturity	Type	BID	ASKED	CHG	ASK YLD		
<b>Government Bonds &amp; Notes</b>																			
1.875	Jan 06n	99:29	99:30	1	3.76	3.875	Feb 13n	97:10	97:11	4	4.31	Feb	06	bp	99:22	99:22	...	3.91	
5.625	Feb 06n	100:03	100:04	...	3.82	3.625	May 13n	95:25	95:26	5	4.29	Feb	06	np	99:22	99:23	...	3.86	
9.375	Feb 06	100:12	100:13	...	3.68	1.875	Jul 13i	99:27	99:28	9	1.89	Apr	06	ci	99:00	99:01	...	4.09	
1.625	Feb 06n	99:22	99:23	1	4.16	4.250	Aug 13n	99:16	99:17	5	4.32	May	06	ci	98:21	98:22	...	4.15	
1.500	Mar 06n	99:13	99:14	...	4.31	12.000	Aug 13	118:20	118:21	-1	4.26	May	06	np	98:19	98:20	...	4.32	
2.250	Apr 06n	99:12	99:13	...	4.33	4.250	Nov 13n	99:14	99:15	4	4.33	May	06	np	98:19	98:20	...	4.32	
6.500	Feb 10n	108:04	108:05	2	4.29	2.000	Jan 14i	100:19	100:20	9	1.92	Jul	06	ci	98:03	98:03	1	3.94	
4.000	Mar 10n	98:29	98:30	3	4.28	4.000	Feb 14n	97:22	97:23	4	4.34	Aug	06	ci	97:19	97:20	1	4.23	
0.875	Apr 10i	95:30	95:31	5	1.87	4.750	May 14n	102:27	102:28	5	4.33	Aug	06	np	97:15	97:16	...	4.44	
4.000	Apr 10n	98:28	98:29	3	4.28	13.250	May 14	127:12	127:13	1	4.30	Oct	06	ci	96:28	96:29	...	4.30	
3.875	May 10n	98:13	98:14	3	4.27	2.000	Jul 14i	100:20	100:21	10	1.91	Nov	06	ci	96:16	96:17	...	4.34	
3.625	Jun 10n	97:11	97:12	2	4.28	7.625	Feb 25	138:18	138:19	10	4.57	Nov	06	np	96:14	96:14	...	4.45	
3.875	Jul 10n	98:11	98:12	3	4.28	6.875	Aug 25	129:16	129:17	9	4.57	Feb	07	ci	95:19	95:20	...	4.21	
5.750	Aug 10n	106:03	106:04	2	4.26	6.000	Feb 26	118:19	118:20	9	4.57	Feb	07	np	95:13	95:14	...	4.39	
4.125	Aug 10n	99:10	99:11	2	4.28	6.750	Aug 26	128:25	128:26	9	4.57	May	07	ci	94:18	94:18	...	4.26	
3.875	Sep 10n	98:09	98:10	3	4.28	6.500	Nov 26	125:22	125:23	10	4.57	May	07	np	94:14	94:15	...	4.34	
4.250	Oct 10n	99:26	99:27	3	4.29	6.625	Feb 27	127:18	127:19	9	4.57	Aug	07	np	94:14	94:15	...	4.35	
4.500	Nov 10n	100:28	100:29	3	4.29	6.375	Aug 27	124:19	124:20	11	4.57	Aug	07	np	93:18	93:18	...	4.26	
4.375	Dec 10n	100:12	100:13	3	4.28	6.125	Nov 27	121:11	121:12	10	4.57	Nov	07	ci	93:15	93:16	...	4.32	
4.250	Jan 11n	99:28	99:29	2	4.27	3.625	Apr 28i	130:00	130:00	15	1.95	Nov	07	np	92:17	92:18	...	4.29	
3.500	Jan 11i	107:25	107:26	6	1.85	5.500	Aug 28	113:03	113:04	9	4.56	Nov	07	np	92:16	92:16	...	4.32	
5.000	Feb 11n	103:09	103:10	3	4.27	5.250	Nov 28	109:24	109:25	10	4.55	Feb	08	ci	91:19	91:20	1	4.26	
13.875	May 11	103:02	103:03	...	9.81	5.250	Feb 29	109:24	109:25	10	4.56	Feb	08	np	91:19	91:19	1	4.27	
5.000	Aug 11n	103:17	103:18	4	4.27	3.875	Apr 29i	135:22	135:23	10	1.95	Feb	08	np	91:16	91:17	1	4.31	
14.000	Nov 11	107:25	107:26	...	4.19	6.125	Aug 29	122:16	122:17	10	4.55	May	08	ci	90:20	90:21	1	4.27	
3.375	Jan 12i	108:16	108:17	8	1.86	6.250	May 30	124:28	124:29	10	4.55	May	08	np	90:18	90:19	1	4.30	
4.875	Feb 12n	103:00	103:01	3	4.30	5.375	Feb 31	112:28	112:29	9	4.51	Aug	08	ci	89:23	89:23	1	4.25	
3.000	Jul 12i	106:26	106:27	8	1.87	3.375	Apr 32i	131:01	131:02	15	1.87	Aug	08	np	89:21	89:21	1	4.28	
4.375	Aug 12n	100:11	100:12	3	4.31	<b>U.S. Treasury Strips</b>													
4.000	Nov 12n	98:06	98:07	4	4.30	Maturity Type BID ASKED CHG ASK YLD													
10.375	Nov 12	110:13	110:14	...	4.34	Feb	06	ci	99:23	99:23	...	3.53	Nov	16	bp	62:01	62:01	4	4.46

<HELP> for explanation.

Regional		97) Settings		99) Feedback		World Bond Markets					
91) Bonds		92) Spreads		93) Curves							
Maturity 10 Year		Trading Mode						Data Range 3 Months			
Country	CMI	Security	Bid	Ask	Yield	Yld Chg	Yield	Low	Range	High	3M Chg
1) Americas											
10) United States		T 2 ½ 08/23	100-03	100-03+	2,487	-1.6		2,487		2,994	-12.3
11) Canada		CAN1 ½ 06/23	92,270	92,310	2,403	-2.2		2,403		2,812	-10.6
12) Brazil (USD)		BRAZIL8 7/8 24	140,260	141,490	3,981	-10.5		3,981		4,801	-38.1
13) Colombia (USD)		COLOM 8 1/8 24	131,695	133,360	4,181	-4.0		4,129		4,901	-2.3
14) Mexico (USD)		MEX8 09/24/22	132,350	133,450	3,577	--		3,330		4,064	-24.3
2) EMEA											
20) United Kingdom		UKT2 ¼ 09/23	97,275	97,305	2,561	-3.6		2,397		3,016	+25.0
21) France		FRTR 1 ¾ 23	96,120	96,145	2,201	-2.0		2,189		2,624	-5.7
22) Germany		DBR2 08/15/23	102,535	102,545	1,715	-2.5		1,649		2,044	+4.8
23) Italy		BTPS 4 ½ 24	103,445	103,505	4,121	-1.2		4,094		4,574	-27.6
24) Spain		SPGB4,4 10/23	103,000	103,125	4,014	-2.3		4,014		4,603	-63.1
25) Portugal		PGB4,95 10/23	91,060	91,545	6,106	+3		6,065		7,260	-15.6
26) Sweden		SGB1 ½ 11/23	93,122	93,216	2,264	-2.0		2,141		2,723	+10.8
27) Netherlands		NETHER1 ¾ 23	97,225	97,260	2,064	-2.5		2,032		2,460	+7
28) Switzerland		SWISS 4 02/23	126,500	127,010	0,943	-1.0		,917		1,133	-4.4
29) Greece		GGB2 02/24/23	66,190	67,190	8,260	-3.6		8,146		10,239	-154.7
3) Asia/Pacific											
30) Japan		JGB 0.8 09/23	101,980	102,075	0,578	-2.6		,578		,812	-20.8
31) Australia		ACGB 2 ¾ 24	89,557	89,653	3,968	-1.3		3,588		4,232	+27.2
32) New Zealand		NZGB 5 ½ 23	107,611	107,968	4,458	-3		4,158		4,796	+27.7
33) South Korea		NDFB 3 ¾ 23	100,395	100,399	3,383	-1.5		3,362		3,727	-7.0

Australia 61 2 9777 8600 Brazil 5511 3048 4500 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 2013 Bloomberg Finance L.P.  
 SN 541209 CET GMT+1:00 H221-4714-1 30-Oct-2013 09:14:47

EJ044531 Corp (GGB 2 02/24/23)  
EH396864 Corp (PGB 4.95 10/25/23)  
EJ678058 Corp (SPGB 4.4 10/31/23)  
SS102372 Corp (SWISS 4 02/11/23)



# Accrued Interest and Quoted Bond Prices

- Quoted prices are not the prices that investor pay for the bond
- Quoted price does not include the interest that accrues between coupon payments dates

$$\text{Accrued interest} = \frac{\text{Annual coupon payment}}{2} \times \frac{\text{Days since last coupon payment}}{\text{Days separating coupon payments}}$$

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### **EXAMPLE 14.1** Accrued Interest

Suppose that the coupon rate is 8%. Then the annual coupon is \$80 and the semiannual coupon payment is \$40. Because 30 days have passed since the last coupon payment, the accrued interest on the bond is  $\$40 \times (30/182) = \$6.59$ . If the quoted price of the bond is \$990, then the invoice price will be  $\$990 + \$6.59 = \$996.59$ .

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# Commercial bonds

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- Corporations
    - Most of them traded in OTC markets by bond dealers
  - Municipalities
  - International Governments and Corporations
  - Innovative Bonds
    - Floaters and Inverse Floaters
    - Asset-Backed
    - Catastrophe
  - Indexed Bonds
-

# Figure 14.2 Corporate Bond Listings

ISSUER NAME	SYMBOL	COUPON	MATURITY	RATING		HIGH	LOW	LAST	CHANGE	YIELD %
				MOODY'S/S&P/	FITCH					
Genx	GMT.IK	8.875%	Jun 2009	Baa1/BBB/BBB-		107.545	107.538	107.545	-0.100	5.433
Marshall & Ilsley	MI.YL	3.800%	Feb 2008	Aa2/A+/A+		98.514	98.470	98.514	0.064	5.263
Capital One	COF.HK	7.686%	Aug 2036	Baa2/BBB-/BBB-		113.895	113.390	113.733	0.257	6.621
Energy Gulf States	ETR.KC	6.180%	Mar 2035	Baa3/BBB+/BBB		99.950	94.616	99.469	0.219	6.220
AOL Time Warner	AOL.HG	6.875%	May 2012	Baa2/BBB+/BBB		107.205	105.402	106.565	0.720	5.427
Household Intl	HI.HJG	8.875%	Feb 2008	Aa3/AA-/AA-		100.504	100.504	100.504	-0.109	5.348
SBC Comm	SBC.IF	5.875%	Feb 2012	A2/A/A		102.116	102.001	102.001	-0.156	5.415
American General Finance	AIG.GOU	5.750%	Sep 2016	A1/A+/A+		101.229	101.135	101.135	-0.530	5.595

**FIGURE 14.2** Listing of corporate bonds

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<HELP> for explanation, <MENU> for similar functions.

<Search> 90) Export Feedback 6 results Security Finder

30) All 31) Eqty 32) FI 33) Mtge 34) Cmdty 35) Indx/Stats 36) FX 37) Funds  
 40) Corp 41) Govt 42) Loans 43) Pfd 44) CDS 45) CDS Idx 46) Muni 47) Futr 48) Optns 49) IRS 50) IRS Vols

60) Excluded (4): Matured/Called, Non-Verified Bonds 61) Edit Columns

R	Issuer Name	Ticker	Coupon	Maturity	Series	BB Rtg	Mty Type	Announce	Curr	Ask Px	Source
		AAPL									
1	Apple Inc	AAPL	2.400	05/03/2023		AA+	BULLET	04/30/2013	USD	91.628	TRAC
2	Apple Inc	AAPL	3.850	05/04/2043		AA+	BULLET	04/30/2013	USD	85.605	TRAC
3	Apple Inc	AAPL	1.000	05/03/2018		AA+	BULLET	04/30/2013	USD	97.564	TRAC
4	Apple Inc	AAPL	FLOAT	05/03/2018		AA+	BULLET	04/30/2013	USD	99.659	TRAC
5	Apple Inc	AAPL	0.450	05/03/2016		AA+	BULLET	04/30/2013	USD	99.704	TRAC
6	Apple Inc	AAPL	FLOAT	05/03/2016		AA+	BULLET	04/30/2013	USD	99.895	TRAC

Zoom 100%

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
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APPLE INC

AAPL 3.85 05/43

85.605/85.605

(4.764/4.764) TRAC

AAPL 3.85 05/04/43 Corp

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- 34) TDH Trade Hist
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- 36) CF Prospectus
- 37) CN Sec News
- 38) HDS Holders
- 39) VPR Underly Inf

66) Send Bond

Issuer Information

**Name** APPLE INC  
**Industry** Communications Equipment

Security Information

**Mkt of Issue** Global  
**Country** US **Currency** USD  
**Rank** Sr Unsecured **Series**  
**Coupon** 3.85 **Type** Fixed  
**Cpn Freq** S/A  
**Day Cnt** 30/360 **Iss Price** 99.41800  
**Maturity** 05/04/2043  
**MAKE WHOLE @15 until 05/04/43/BULLET**  
**Issue Spread** 100.00bp vs T 2 ¾ 11/15/42  
**Calc Type** (1)STREET CONVENTION  
**Announcement Date** 04/30/2013  
**Interest Accrual Date** 05/03/2013  
**1st Settle Date** 05/03/2013  
**1st Coupon Date** 11/04/2013

Identifiers

**BB Number** EJ6592533  
**CUSIP** 037833AL4  
**ISIN** US037833AL42

Bond Ratings

**Moody's** Aa1  
**S&P** AA+  
**Composite** AA+

Issuance & Trading

**Amt Issued/Outstanding**  
 USD 3,000,000.00 (M) /  
 USD 3,000,000.00 (M)  
**Min Piece/Increment**  
 2,000.00 / 1,000.00  
**Par Amount** 1,000.00  
**Book Runner** DB,GS  
**Reporting** TRACE

Screen saved as C:\Users\76289\Desktop\bonds\apple.bond.gif/4.764) TRAC

AAPL 3.85 05/04/43 Corp

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Exchanges, Issuance & Trading Information

Clearing House	Exchange	MIC Code	Mkt Segment
EUROCLEAR	BERLIN	XBER	
TRACE ELIGIBLE	DUSSELDORF	XDUS	
CLEARSTREAM LUX	FRANKFURT	XFRA	
FED FUNDS	HAMBURG	XHAM	
	MUNICH	XMUN	
	STUTTGART	XSTU	

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AAPL 3.85 05/04/43 Corp 99) Feedback Page 5/11 Description: Bond

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66) Send Bond

Bond Ratings

Agency/Type	Bond Ratings	Effective Date
MOODY'S Bond Rating	Aa1	04/30/2013
STANDARD & POOR'S Bond Rating	AA+ 	04/30/2013
BLOOMBERG COMPOSITE Bond Composite	AA+	04/30/2013

<HELP> for explanation.

<Search> 90 Export Feedback 5 results Security Finder

30 All 31 Eqty 32 FI 33 Mtge 34 Cmnty 35 Indx/Stats 36 FX 37 Funds  
40 Corp 41 Govt 42 Loans 43 Pfd 44 CDS 45 CDS Idx 46 Muni 47 Futr 48 Optns 49 IRS 50 IRS Vols

60 Excluded (3): Matured/Called, Non-Verified Bonds 61 Edit Columns

R	Issuer Name	Ticker	Coupon	Maturity	Series	BB Rtg	Mty Type	Announce	Curr	Ask Px	Source
		NOKIA									
1	Nokia OYJ	NOKIA	5.375	05/15/2019		B+	BULLET	04/30/2009	USD	101.425	TRAC
2	Nokia OYJ	NOKIA	6.750	02/04/2019	EMTN	B+	BULLET	01/28/2009	EUR	113.169	BGN
3	Nokia OYJ	NOKIA	5.000	10/26/2017	REGS	B+	CONVERTIBL	10/23/2012	EUR	225.535	BGN
4	Nokia OYJ	NOKIA	5.500	02/04/2014	EMTN	B+	BULLET	01/28/2009	EUR	101.310	BGN
5	Nokia OYJ	NOKIA	6.625	05/15/2039		B+	BULLET	04/30/2009	USD	95.550	TRAC

Zoom 100%

Australia 61 2 9777 8600 Brazil 5511 3048 4500 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 2013 Bloomberg Finance L.P.  
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# Innovative Bonds

- ❑ Floaters and Inverse Floaters
    - Same as floating-rate bonds
    - Coupon rate on these bond falls when the general level of interest rates rises
  - ❑ Asset-Backed
    - Income from a specified group of assets is used to service the debt
    - Walt Disney Bonds
  - ❑ Catastrophe
    - Way how to transfer catastrophe risk in capital market
  - ❑ Indexed bonds
    - Payments are tied to a general price index or a price of a commodity
      - ❑ TIPS
-



APPLE INC

AAPL Float 05/16 99.918/99.918

TRAC

AAPL Float 05/03/16 Corp

99) Feedback

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- 38) HDS Holders
- 39) VPR Underly Inf

66) Send Bond

Issuer Information

**Name** APPLE INC  
**Industry** Communications Equipment

Security Information

**Mkt of Issue** Global  
**Country** US **Currency** USD  
**Rank** Sr Unsecured **Series**  
**Coupon** 0.292 **Type** Floating  
**Formula** QUARTLY US LIBOR +5.0000  
**Day Cnt** ACT/360 **Iss Price** 100.00000  
**Maturity** 05/03/2016  
**BULLET**  
**Issue Spread**  
**Calc Type** (21)FLOAT RATE NOTE  
**Announcement Date** 04/30/2013  
**Interest Accrual Date** 05/03/2013  
**1st Settle Date** 05/03/2013  
**1st Coupon Date** 08/03/2013

Identifiers

**BB Number** EJ6592335  
**CUSIP** 037833AF7  
**ISIN** US037833AF73

Bond Ratings

**Moody's** Aa1  
**S&P** AA+  
**Composite** AA+

Issuance & Trading

**Amt Issued/Outstanding**  
 USD 1,000,000.00 (M) /  
 USD 1,000,000.00 (M)  
**Min Piece/Increment**  
 2,000.00 / 1,000.00  
**Par Amount** 1,000.00  
**Book Runner** DB,GS  
**Reporting** TRACE

APPLE INC

AAPL Float 05/16

99.918/99.918

TRAC

AAPL Float 05/03/16 Corp

99 Feedback

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- 7) Exchanges
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- 10) Schedules
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Coupons

51) Coupons

Benchmark	US0003M	Benchmark Freq	Quarterly
Fix Frequency	Quarterly	Next Coupon Date	02/03/2014
Paying Agent		Prev Coupon Date	11/03/2013
Pay Calendars	EN US	Cap	Floor
Refix Calendars	EN	Margin	+5
First Irreg Cpn	Normal	Reset Days Prior	2
Last Irreg Cpn	Normal	Current Coupon	.292
		Cpn Conv	Mod-Unadj
		Cpn Freq	Quarterly
		Lockout	

Table View Chart View

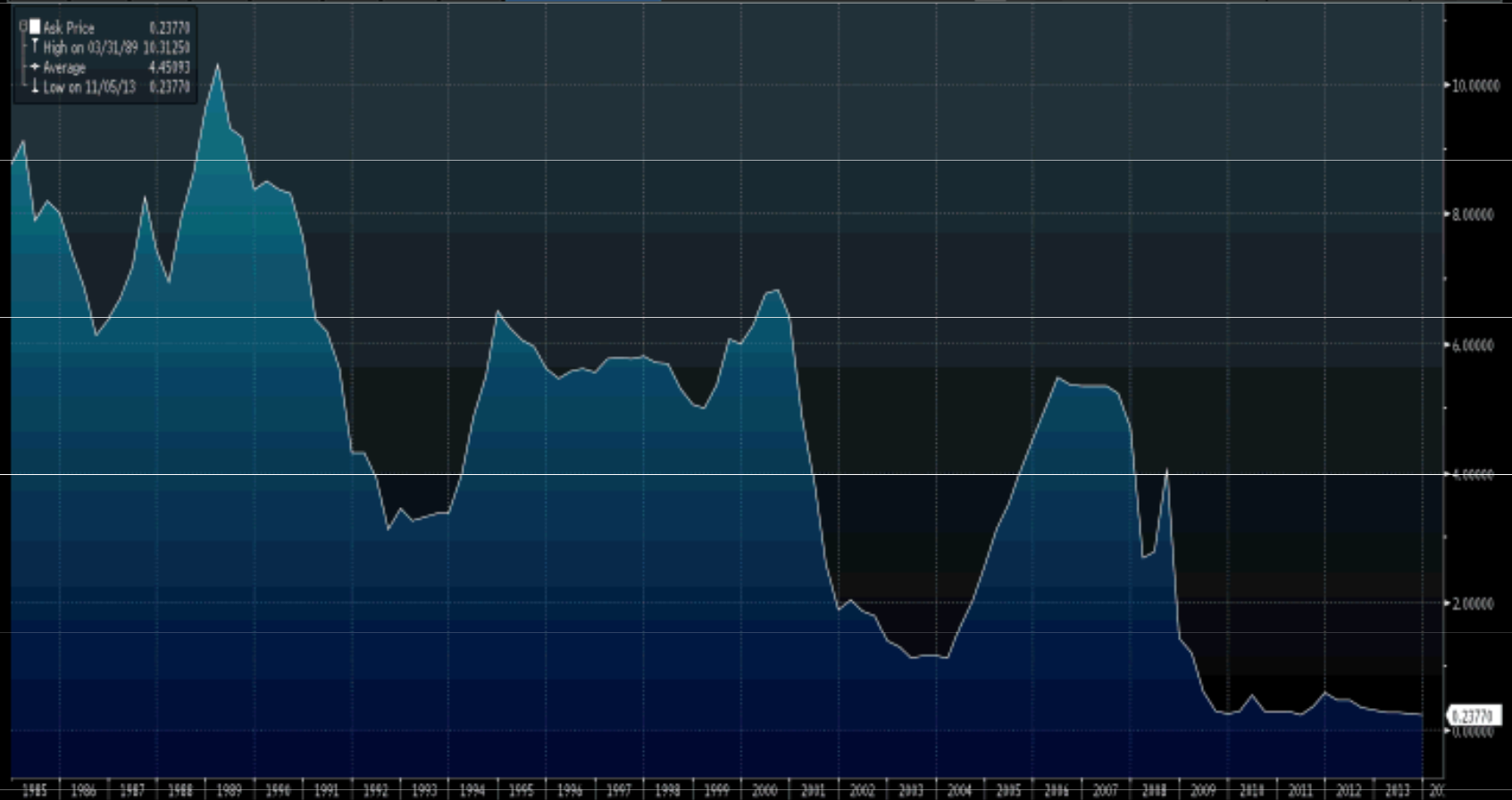
Past Payments	
Accrual Start	Rate
02/03/2014	
11/03/2013	0.29200
08/03/2013	0.31560
05/03/2013	0.32310

Margin History	
Date	Margin

US0003M 0.23770 -.00040 -- / --  
At 11/5 Op 0.23770 Hi 0.23770 Lo 0.23770 Prev 0.23810

US0003M Index 95 Save As 96 Actions 97 Edit 98 Table Line Chart  
12/31/1984 - 11/05/2013 Ask Yield 11) Compare Mov. Avgs No Lower Chart  
1D 3D 1M 6M YTD 1Y 5Y Max Quarterly Security/Study Event

Ask Price 0.23770  
High on 03/31/89 10.31250  
Average 4.45893  
Low on 11/05/13 0.23770



Australia 61 2 9777 8600 Brazil 5511 3048 4500 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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# Table 14.1 Principal and Interest Payments for Treasury Inflation Protected Security

**TABLE 14.1**

Principal and interest payments for a Treasury Inflation Protected Security

Time	Inflation in Year Just Ended	Par Value	Coupon Payment	+	Principal Repayment	=	Total Payment
0		\$1,000.00					
1	2%	1,020.00	\$40.80		\$ 0		\$ 40.80
2	3	1,050.60	42.02		0		42.02
3	1	1,061.11	42.44		1,061.11		1,103.55

<HELP> for explanation.

<Search> 90 Export Feedback 1-20 of 37 results Security Finder

30 All 31 Eqty 32 FI 33 Mtge 34 Cmdbt 35 Indx/Stats 36 FX 37 Funds  
 40 Corp 41 Govt 42 Loans 43 Pfd 44 CDS 45 CDS Idx 46 Muni 47 Futr 48 Optns 49 IRS 50 IRS Vols

60 Exclude:  Matured/Called 61 Edit Columns

R	Name	Ticker	Coupon	Maturity	Mty Type	Country	Curr	Identifier	BB Rtg	Ask Px	Source	Type
		TII										
1	United States Treasury Inflat	TII	0.625	02/15/2043	NORMAL	US	USD	912810RA8	NA	80-10	BGN	
2	United States Treasury Inflat	TII	0.750	02/15/2042	NORMAL	US	USD	912810QV3	NA	83-28 <sup>3</sup> / <sub>4</sub>	BGN	
3	United States Treasury Inflat	TII	2.125	02/15/2041	NORMAL	US	USD	912810QP6	NA	116-14+	BGN	
4	United States Treasury Inflat	TII	2.125	02/15/2040	NORMAL	US	USD	912810QF8	NA	116-11 <sup>3</sup> / <sub>4</sub>	BGN	
5	United States Treasury Inflat	TII	3.375	04/15/2032	NORMAL	US	USD	912810FQ6	NA	138-08+	BGN	
6	United States Treasury Inflat	TII	3.875	04/15/2029	NORMAL	US	USD	912810FH6	NA	141-25	BGN	
7	United States Treasury Inflat	TII	2.500	01/15/2029	NORMAL	US	USD	912810PZ5	NA	121-18 <sup>3</sup> / <sub>4</sub>	BGN	
8	United States Treasury Inflat	TII	3.625	04/15/2028	NORMAL	US	USD	912810FD5	NA	136-23	BGN	
9	United States Treasury Inflat	TII	1.750	01/15/2028	NORMAL	US	USD	912810PV4	NA	110-26	BGN	
10	United States Treasury Inflat	TII	2.375	01/15/2027	NORMAL	US	USD	912810PS1	NA	119-01 <sup>3</sup> / <sub>4</sub>	BGN	
11	United States Treasury Inflat	TII	2.000	01/15/2026	NORMAL	US	USD	912810FS2	NA	114-13+	BGN	
12	United States Treasury Inflat	TII	2.375	01/15/2025	NORMAL	US	USD	912810FR4	NA	118-16 <sup>3</sup> / <sub>4</sub>	BGN	
13	United States Treasury Inflat	TII	0.375	07/15/2023	NORMAL	US	USD	912828VM9	NA	98-29 <sup>3</sup> / <sub>4</sub>	BGN	
14	United States Treasury Inflat	TII	0.125	01/15/2023	NORMAL	US	USD	912828UH1	NA	96-26 <sup>3</sup> / <sub>4</sub>	BGN	
15	United States Treasury Inflat	TII	0.125	07/15/2022	NORMAL	US	USD	912828TE0	NA	98-03+	BGN	
16	United States Treasury Inflat	TII	0.125	01/15/2022	NORMAL	US	USD	912828SA9	NA	98-12+	BGN	
17	United States Treasury Inflat	TII	0.625	07/15/2021	NORMAL	US	USD	912828QV5	NA	103-23+	BGN	
18	United States Treasury Inflat	TII	1.125	01/15/2021	NORMAL	US	USD	912828PP9	NA	107-10	BGN	
19	United States Treasury Inflat	TII	1.250	07/15/2020	NORMAL	US	USD	912828NM8	NA	109-06 <sup>3</sup> / <sub>4</sub>	BGN	
20	United States Treasury Inflat	TII	1.375	01/15/2020	NORMAL	US	USD	912828MF4	NA	109-17	BGN	

Zoom 100%

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CPI YOY 1.2%

For Sep

Next Release 20 Nov 14:30

Survey --

US CPI Urban Consumers YoY NSA

Bureau of Labor Statistics

CPI YOY Index

Economic Indices Description

Series US CPI Urban Consumers YoY NSA



(NSA, YoY%)

Country United States

Source Bureau of Labor Statistics

1) Description

2) Release Details

3) Related Indicators

4) Related News



Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
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TII 0 5 02/15/43 ↓ 80-09<sup>3</sup>₄ + 14 79-26+ / 80-09<sup>3</sup>₄ 1.476 / 1.453 -- x --

912810RA@BGN Go

25 Settings

99 Feedback

Holdings: Current

TII 0 5 02/15/43 - TSY INFL IX N/B

CUSIP 912810RA

1) Current 2) Historical 3) Matrix

Search Name -- 21) Save 22) Delete 23) Saved Searches 24) Refine Search

Text Search [ ] Holder Group All Holders 25) Export

	Holder Name	Portfolio Name	Source	Opt	Amt Held↑	% Out	Latest Chg	File Dt	
			All Sources	All					
1	FED RESV BK NY SOMA HOLDING	n/a	Research		5,600,000	24.35	0	10/30/13	
2	ALLIANZ ASSET MANAGEMENT A	n/a	ULT-AGG		742,372	3.23	32,646	11/05/13	
1	CAPITAL GROUP COMPANIES IN	n/a	ULT-AGG		719,500	3.13	133,375	09/30/13	
4	VANGUARD GROUP INC	n/a	ULT-AGG		574,250	2.50	118,190	06/30/13	
5	BLACKROCK	n/a	ULT-AGG		356,254	1.55	131,855	11/04/13	
6	AMERIPRISE FINANCIAL INC	Multiple Portfolios	MF-AGG		135,271	0.59	86,951	08/30/13	
1	TIAA CREF INVESTMENT MANAG	Multiple Portfolios	MF-AGG		134,113	0.58	61	09/30/13	
8	TRANSAMERICA LIFE INSURANC	TRANSAMERICA LIFE INSU	Sch-D		118,580	0.52	118,580	06/30/13	
9	DANSKE INVEST A/S	Multiple Portfolios	MF-AGG		105,500	0.46	-3,900	09/30/13	
1	PRUDENTIAL FINANCIAL INC	n/a	ULT-AGG		31,282	0.14	200	09/30/13	
11	PRINCIPAL FINANCIAL GROUP I	n/a	ULT-AGG		29,124	0.13	2,693	09/30/13	
1	FMR LLC	n/a	ULT-AGG		28,475	0.12	-4,822	09/30/13	
1	SUN LIFE FINANCIAL INC	n/a	ULT-AGG		25,472	0.11	1,484	08/31/13	
1	NATIONWIDE MUTUAL INSURAN	NATIONWIDE MUTUAL INS	Sch-D		21,000	0.09	21,000	06/30/13	
1	UBS AG	n/a	ULT-AGG		17,614	0.08	17,614	06/30/13	
16	HARTFORD INVESTMENT MANAG	Multiple Portfolios	MF-AGG		15,850	0.07	0	09/30/13	
1	ARROWPOINT CAPITAL GROUP	n/a	ULT-AGG		15,800	0.07	13,200	06/30/13	
8	ING INVESTMENT MANAGEMENT	Multiple Portfolios	MF-AGG		15,530	0.07	-25,890	06/30/13	

% Out 38.90 Zoom 100%

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912810RA@BGN Go

25) Settings

99) Feedback

Holdings: Current

TII 0 5 02/15/43 - TSY INFL IX N/B

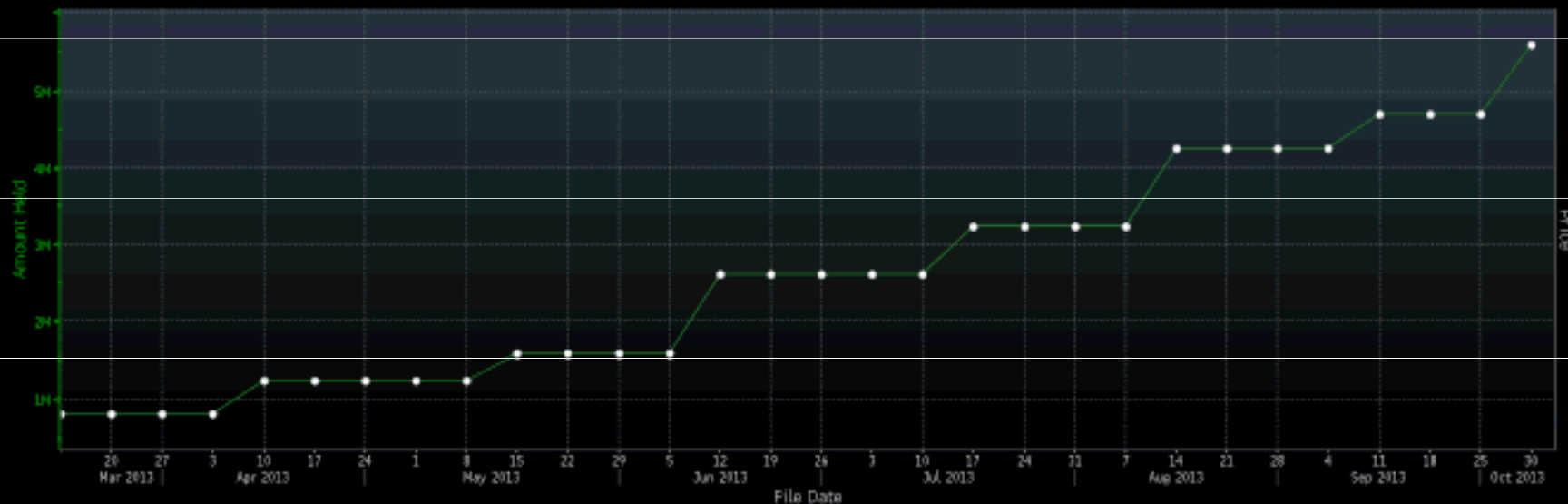
CUSIP 912810RA

### Historical Holdings

### FED RESV BK NY SOMA HOLDINGS

● Market Value

○ Amount Held



Close

ING INVESTMENT MANAGEMENT Multiple Portfolios MF-AGG 15,530 0.07 -25,800 06/30/13

% Out 38.90 Zoom 100%

Australia 61	2 9777	8600	Brazil 5511	3048	4500	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 2013 Bloomberg Finance L.P.					

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# Bond Pricing

- Repayments occur months or years in the future
    - Depend on the future value and present value
  - Nominal risk free rate
    - Real risk free rate + compensation for expected inflation
  - Not riskless
    - Additional premium
      - Default risk, liquidity, taxation, call risk, etc.
-

# Bond Pricing

$$P_B = \sum_{t=1}^T \frac{C_t}{(1+r)^t} + \frac{ParValue_T}{(1+r)^T}$$

$P_B$  = Price of the bond

$C_t$  = interest or coupon payments

$T$  = number of periods to maturity

$y$  = semi-annual discount rate or the semi-annual yield to maturity

Price: 10-yr, 8% Coupon (SA), Face =  
\$1,000

$$P = 40 \sum_{t=1}^{20} \frac{1}{(1.03)^t} + \frac{1000}{(1.03)^{20}}$$

$$P = \$1,148.77$$

$$C_t = 40 \text{ (SA)}$$

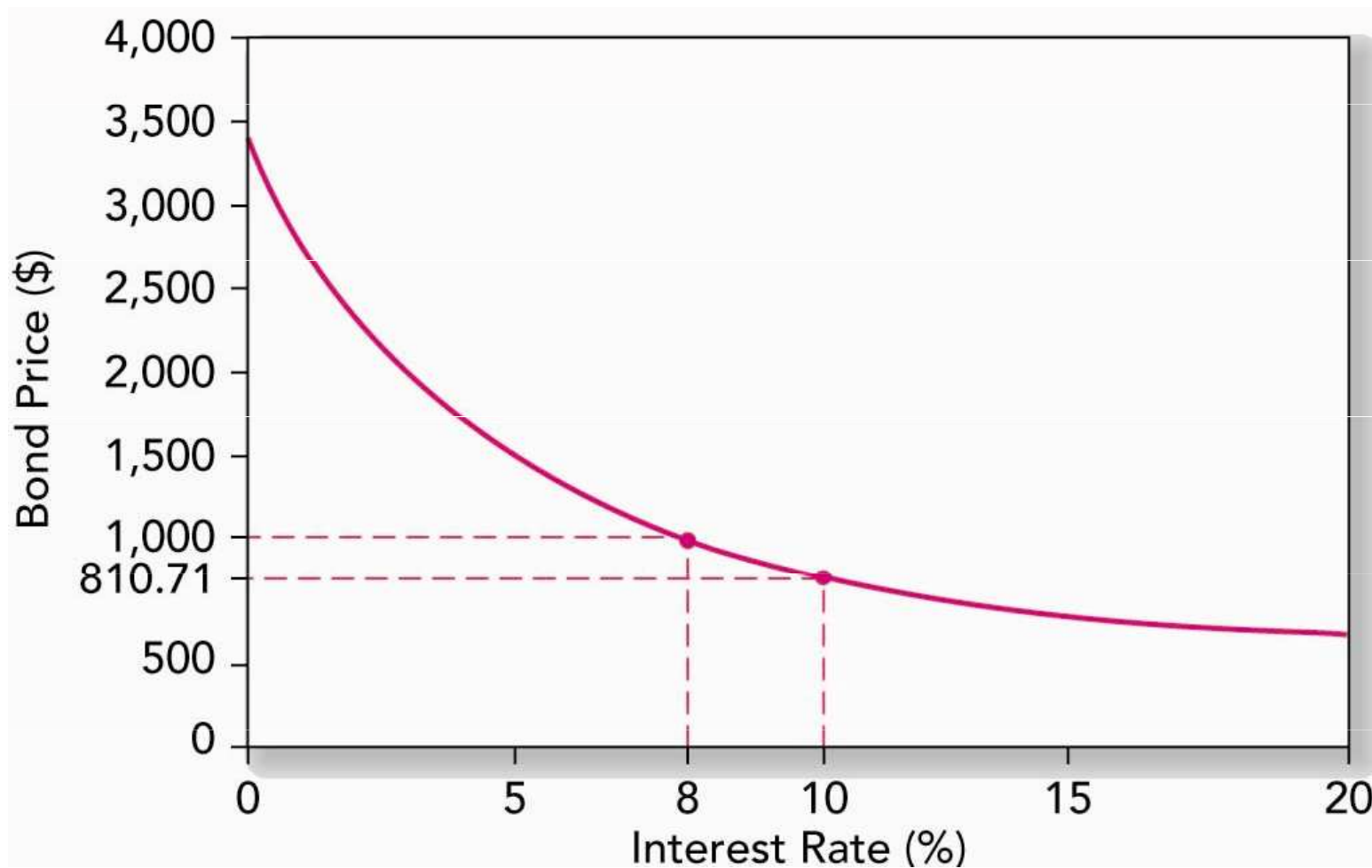
$$P = 1000$$

$$T = 20 \text{ periods}$$

$$r = 3\% \text{ (SA)}$$

- At a higher interest rate
    - PV is lower
  - Bond price will fall as market interest rates rise
  - The negative shape (Bond Price x Interest Rate)
    - Inverse relationship between prices and yields
    - An increase in the interest rate results in a price decline that is smaller than the price gain resulting from decrease in the interest rate
- 
- convexity

# Figure 14.3 The Inverse Relationship Between Bond Prices and Yields



- 
- The inverse relation between price and yield is a central feature of fixed-income securities
  - Interest rate fluctuations represent the main source of risk
  - General rule in evaluating bonds price risk
    - Keeping all other factors same
    - The longer the maturity of the bond, the greater the sensitivity of price to fluctuations in the interest rate
  - This is why short-term T securities are considered to be the safest
    - Free not only of default risk but also largely price risk
-

# Table 14.2 Bond Prices at Different Interest Rates (8% Coupon Bond, Coupons Paid Semiannually)

Time to Maturity	Bond Price at Given Market Interest Rate				
	4%	6%	8%	10%	12%
1 year	1,038.83	1,029.13	1,000.00	981.41	963.33
10 years	1,327.03	1,148.77	1,000.00	875.35	770.60
20 years	1,547.11	1,231.15	1,000.00	828.41	699.07
30 years	1,695.22	1,276.76	1,000.00	810.71	676.77

**TABLE 14.2**

Bond prices at different interest rates (8% coupon bond, coupons paid semiannually)

# Yield to Maturity

- An investor considering the purchase of a bond is not quoted
  - Use bond price, maturity day, coupon payment to infer return offered by the bond over its life
- Yield to maturity
  - Interest rate that makes the PV of a bond's payments equal to its price
- The average rate of return that will be earned on a bond if it is bought now and held until maturity



# Yield to Maturity

- Interest rate that makes the present value of the bond's payments equal to its price.

Solve the bond formula for  $r$

$$P_B = \sum_{t=1}^T \frac{C_t}{(1+r)^t} + \frac{ParValue_T}{(1+r)^T}$$

# Yield to Maturity Example

$$950 = \sum_{t=1}^{20} \frac{35}{(1+r)^t} + \frac{1000}{(1+r)^T}$$

**10 yr Maturity**      **Coupon Rate = 7%**

**Price = \$950**

**Solve for r = semiannual rate**

**$r = 3.8635\%$**

	A	B	C	D	E
1	Semiannual coupons			Annual coupons	
2					
3	Settlement date	1/1/2000		1/1/2000	
4	Maturity date	1/1/2030		1/1/2030	
5	Annual coupon rate	0.08		0.08	
6	Bond price (flat)	127.676		127.676	
7	Redemption value (% of face value)	100		100	
8	Coupon payments per year	2		1	
9					
10	Yield to maturity (decimal)	0.0600		0.0599	
11					
12	The formula entered here is: =YIELD(B3,B4,B5,B6,B7,B8)				

## SPREADSHEET 14.1

Finding yield to maturity in Excel

**eXcel**

Please visit us at

[www.mhhe.com/bkm](http://www.mhhe.com/bkm)

# Effective annual yield

- Annualized interest rate on a security computed using compound interest techniques.
- The yield on an investment in one year, taking into account the effects of compounding.
- $AEY = (1 + \text{periodic rate})^{\text{period}} - 1$
- Number of period representing a year
- Eg. Semiannually  $\rightarrow$  periods = 2

# Effective annual yield

- For example, if one has a fixed-income investment such as certificate of deposit that pays 3% in interest each month, the annual percentage yield is more than 3% because compounding the interest results in a (slightly) higher return each month.

# Effective annual yield

- In this example, the annual effective yield is calculated thus:

Annual percentage yield =  $(1.03)^{12} - 1 = .43$   
= 43%, where 1.03 is 1 plus the monthly interest and 12 is the number of times in a year interest is compounded. It is also known as the annual effective yield.

- Use for comparison with e.g. bonds with different coupon periods
-

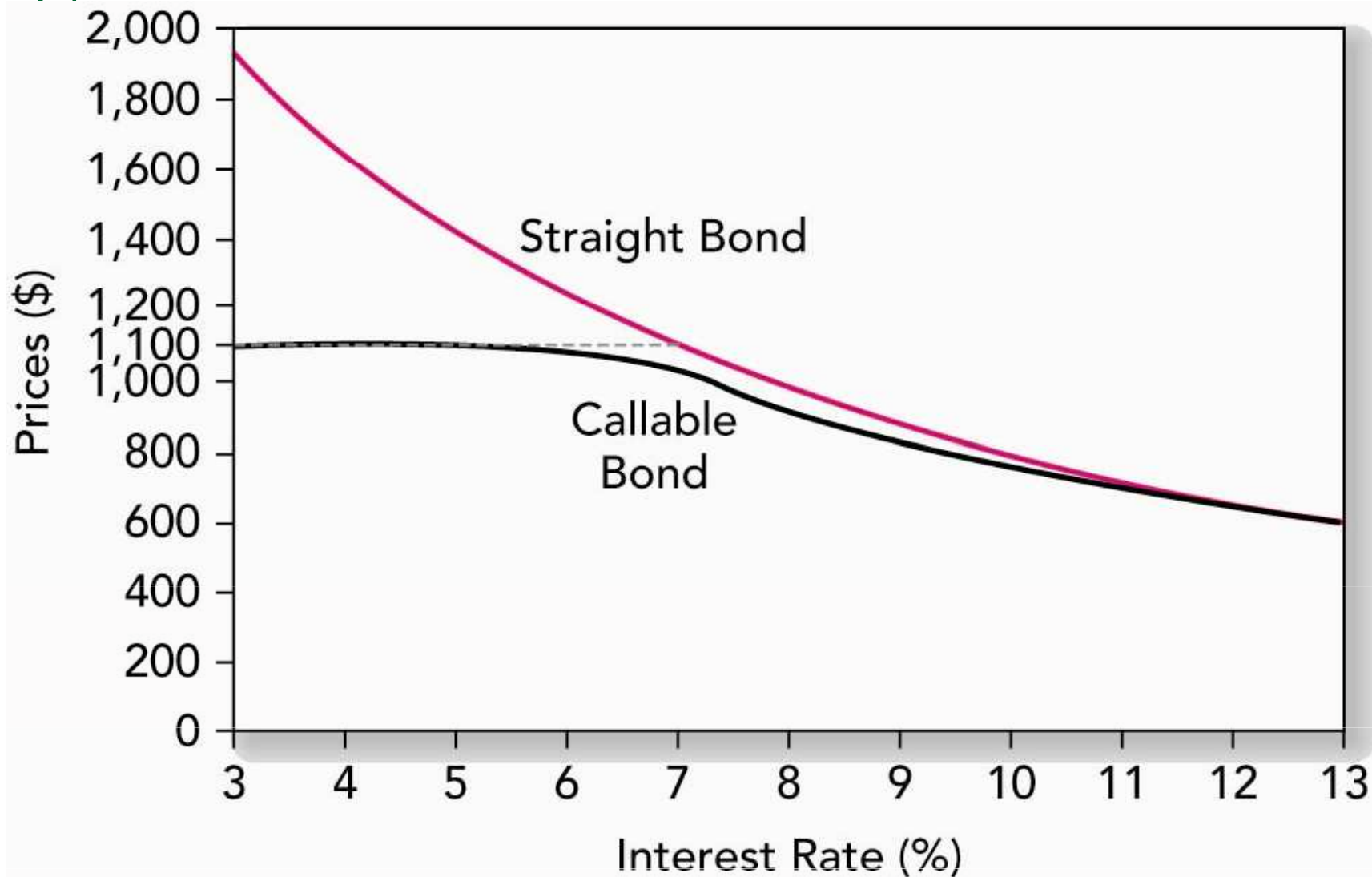
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# Yield to Call

- Yield to maturity
  - Hold till maturity
- Yield to Call



# Figure 14.4 Bond Prices: Callable and Straight Debt





## Example 14.4 Yield to Call

	Yield to Call	Yield to Maturity
Coupon payment	\$40	\$40
Number of semiannual periods	20 periods	60 periods
Final payment	\$1,100	\$1,000
Price	\$1,150	\$1,150

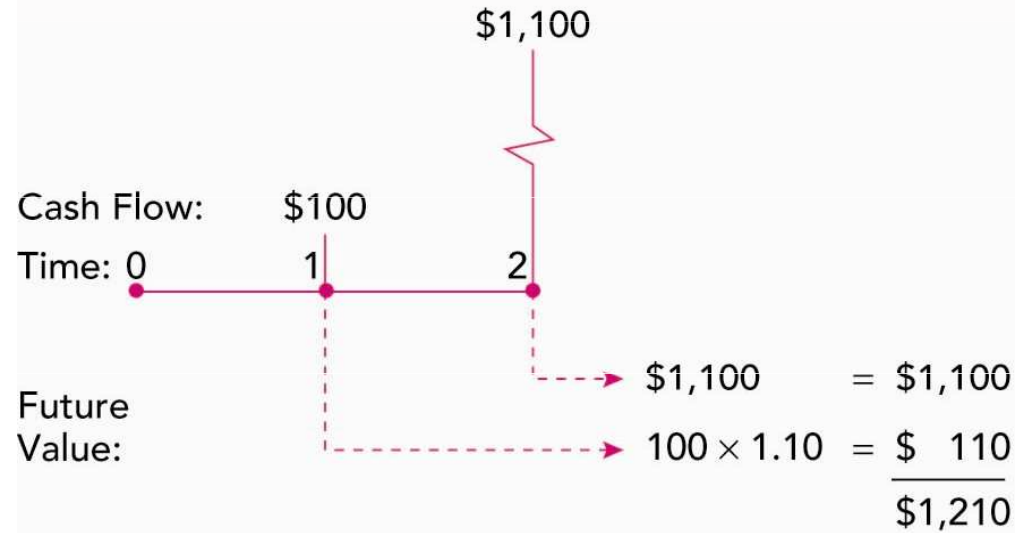
- Yield to call = 6,64%
  - Yield to maturity = 6,82%
-

# Realized Yield versus YTM

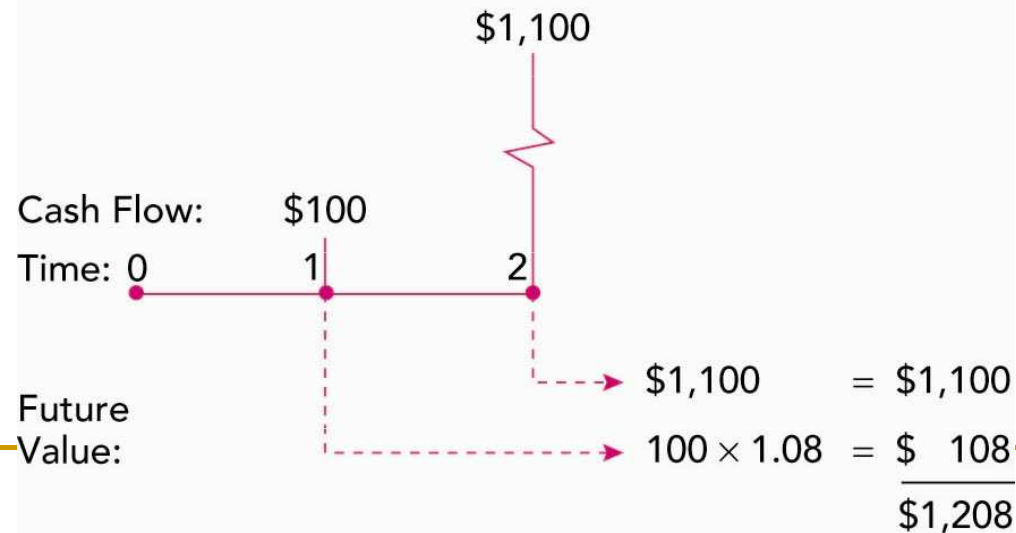
- Reinvestment Assumptions
    - All coupons from return realized over life if all coupons are reinvested at an interest rate equal to the bond's yield to maturity
    - Example: a 2-year bond, paying **10% coupon** once a year
  - When reinvestment rate equal to the 10%
    - Realized compound return equals yield to maturity
    - If not - reinvestment rate risk
      - Changes in interest rate
-

# Figure 14.5 Growth of Invested Funds

A. Reinvestment Rate = 10%



B. Reinvestment Rate = 8%



# Bond Prices Over Time

---

- Bond prices are set according to the PV
    - If coupon rate  $>$  market interest rate
      - Income is greater than that available elsewhere in the market
      - Price of these bonds above their par values
    - If coupon rate  $<$  market interest rate
      - Income is lower than that available elsewhere in the market
      - Price of these bonds under their par values
-

# Holding-Period Return: Single Period

$$\text{HPR} = [ I + ( P_0 - P_1 ) ] / P_0$$

where

I = interest payment

$P_1$  = price in one period

$P_0$  = purchase price

---

# Holding-Period Example

CR = 8%                      YTM = 8% N=10 years

Semiannual Compounding  $P_0 = \$1000$

In six months the rate falls to 7%

$$P_1 = \$1068.55$$

$$\text{HPR} = [40 + (1068.55 - 1000)] / 1000$$

$$\text{HPR} = 10.85\% \text{ (semiannual)}$$

---

---

# Default Risk and Ratings

- Rating companies
    - Moody's Investor Service
    - Standard & Poor's
    - Fitch
  - Rating Categories
    - Investment grade
    - Speculative grade
-

# Figure 14.8 Definitions of Each Bond Rating Class

Bond Ratings									
	Very High Quality		High Quality		Speculative		Very Poor		
Standard & Poor's	AAA	AA	A	BBB	BB	B	CCC	D	
Moody's	Aaa	Aa	A	Baa	Ba	B	Caa	C	
<p>At times both Moody's and Standard &amp; Poor's have used adjustments to these ratings: S&amp;P uses plus and minus signs: A + is the strongest A rating and A - the weakest. Moody's uses a 1, 2, or 3 designation, with 1 indicating the strongest.</p>									
Moody's	S&P								
Aaa	AAA	Debt rated Aaa and AAA has the highest rating. Capacity to pay interest and principal is extremely strong.							
Aa	AA	Debt rated Aa and AA has a very strong capacity to pay interest and repay principal. Together with the highest rating, this group comprises the high-grade bond class.							
A	A	Debt rated A has a strong capacity to pay interest and repay principal, although it is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than debt in higher-rated categories.							
Baa	BBB	Debt rated Baa and BBB is regarded as having an adequate capacity to pay interest and repay principal. Whereas it normally exhibits adequate protection parameters, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity to pay interest and repay principal for debt in this category than in higher-rated categories. These bonds are medium-grade obligations.							
Ba	BB	Debt rated in these categories is regarded, on balance, as predominantly speculative with respect to capacity to pay interest and repay principal in accordance with the terms of the obligation. BB and Ba indicate the lowest degree of speculation, and CC and Ca the highest degree of speculation. Although such debt will likely have some quality and protective characteristics, these are outweighed by large uncertainties or major risk exposures to adverse conditions. Some issues may be in default.							
B	B								
Caa	CCC								
Ca	CC								
C	C	This rating is reserved for income bonds on which no interest is being paid.							
D	D	Debt rated D is in default, and payment of interest and/or repayment of principal is in arrears.							



<HELP> for explanation.

Enter #<Go> for Rating Profile

9) Company Tree Ratings ▾

92) Alert

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Credit Profile

United States of America

MOODY'S

1) Outlook	STABLE
2) CC LT Foreign Bank Depst	Aaa
3) CC LT Foreign Curr Debt	Aaa
4) CC ST Foreign Bank Depst	P-1
5) CC ST Foreign Curr Debt	P-1
6) Long Term Rating	Aaa
7) LC Curr Issuer Rating	Aaa
8) FC Curr Issuer Rating	Aaa
9) Local Currency LT Debt	Aaa

FITCH

16) LT FC Issuer Default	AAA *-
17) LT LC Issuer Default	AAA *-
18) Foreign Currency LT Debt	AAA *-
19) Local Currency LT Debt	AAA *-
20) Foreign Currency ST Debt	F1+ *-
21) ST FC Issuer Default	F1+ *-

DBRS

22) Foreign Currency LT Debt	AAA *-
23) Local Currency LT Debt	AAA *-
24) Foreign Currency ST Debt	R-1H *-
25) Local Currency ST Debt	R-1H *-

10) STANDARD & POOR'S



11) Outlook	STABLE
12) Foreign Currency LT Debt	AA+u
13) Local Currency LT Debt	AA+u
14) Foreign Currency ST Debt	A-1+u
15) Local Currency ST Debt	A-1+u

RATING AND INVESTMENT

26) LT Foreign Crncy Outlook	STABLE
27) LT Domestic outlook	STABLE
28) Domestic Curr Issuer Rtg	AAA
29) Foreign Curr Issuer Rtg	AAA

<HELP> for explanation, <MENU> for similar functions.  
 Enter #<Go> for Rating Profile

91) Company Tree Ratings ▾

92) Alert

Page 1/2

Credit Profile

Hellenic Republic Government Bond

MOODY'S		11) STANDARD & POOR'S 	
1) CC LT Foreign Bank Depst	Caa2	12) GGB 2 02/24/42	B-
2) CC LT Foreign Curr Debt	Caa2	13) Issue Recovery Rating	NR
3) CC ST Foreign Bank Depst	NP	14) Outlook	STABLE
4) CC ST Foreign Curr Debt	NP	15) Foreign Currency LT Debt	B-
5) LC Curr Issuer Rating	C	16) Local Currency LT Debt	B-
6) FC Curr Issuer Rating	C	17) Foreign Currency ST Debt	B
7) Foreign Currency LT Debt	C	18) Local Currency ST Debt	B
8) Local Currency LT Debt	C		
9) Foreign Currency ST Debt	NP	FITCH	
10) Local Currency ST Debt	NP	19) GGB 2 02/24/42	B-
		20) Outlook	STABLE
		21) LT FC Issuer Default	B-
		22) LT LC Issuer Default	B-
		23) Foreign Currency LT Debt	B-
		24) Local Currency LT Debt	B-
		25) Foreign Currency ST Debt	B
		26) ST Issuer Default Rating	B

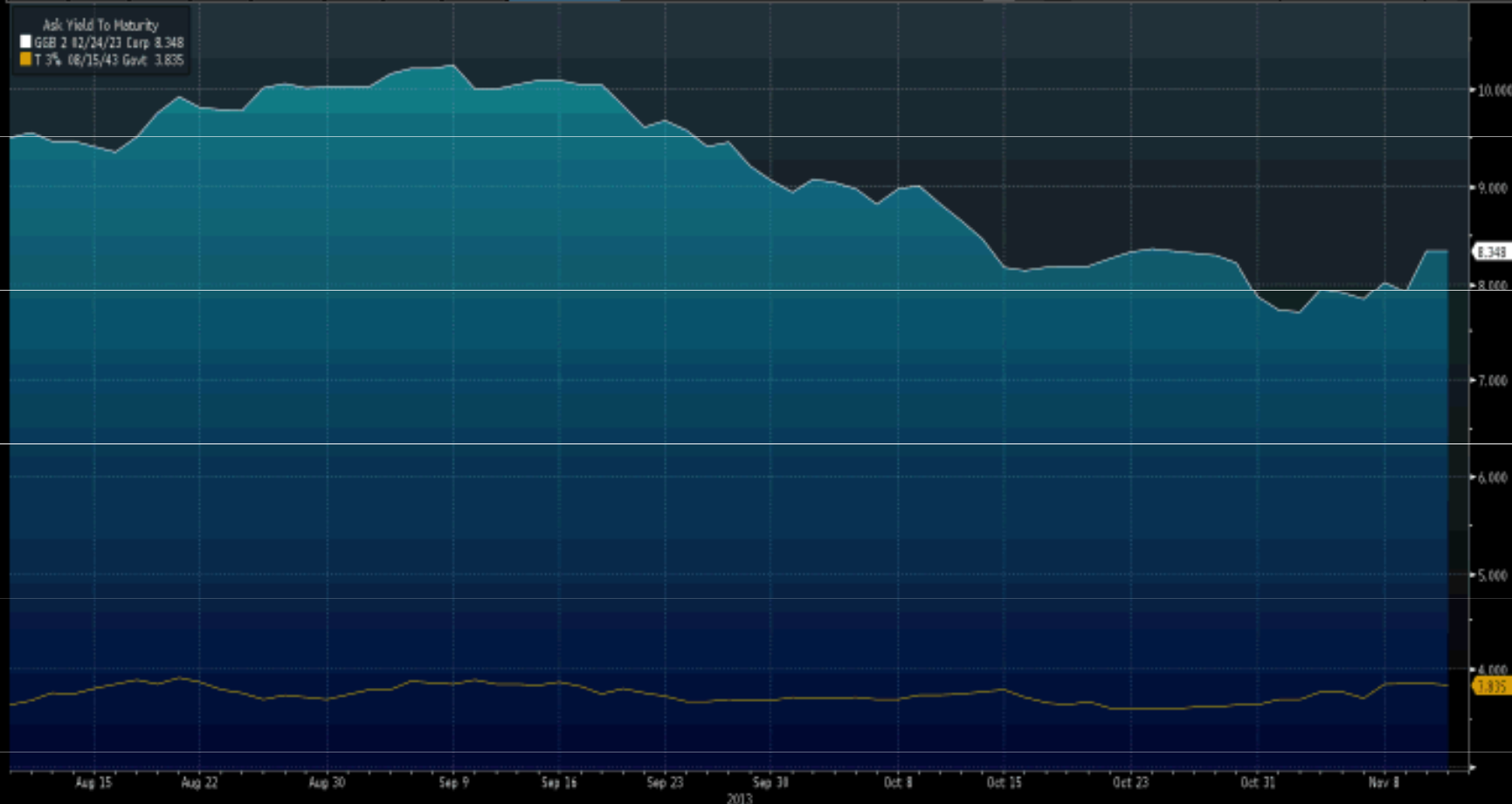
GGB 2 02/24/23 € ↓66.325 -.040 65.765 / 66.885 -- X --

At 13:36 Op 66.365 Hi 66.460 Lo 66.225 Prev 66.365 BGN

GGB 2 02/24/23 C 95 Save As 96 Actions 97 Edit 98 Table Line Chart

08/09/2013 - 11/13/2013 11) Compare Mov. Avgs

1D 3D 1M 6M YTD 1Y 5Y Max Daily Security/Study Event



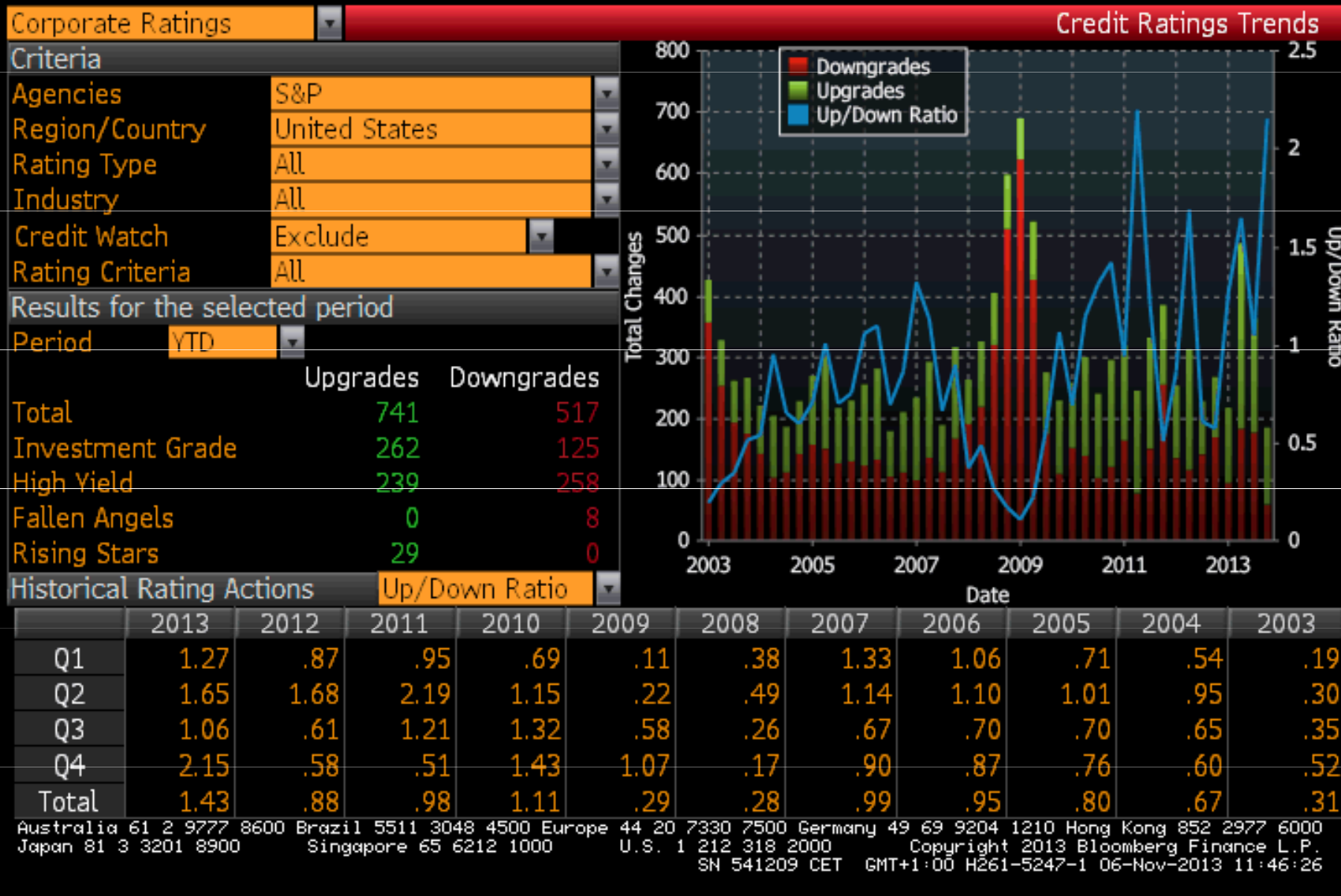
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Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000  
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---

# Junk Bonds

- High-yield bonds
  - Before 1977 – fallen angels
  - After 1977 – original-issue junk
  - Drexel Burnham Lambert – Michael Milken
    - Network of potential investors into junk bonds
      - Till 1980's
-

<HELP> for explanation, <MENU> for similar functions.



<HELP> for explanation.

### 8 Fallen Angels Downgrades

	Company Name	Effective Date ↓
1)	Warnaco Group Inc/The	02/13/2013
2)	Municipal Bond Insurance Assn	02/28/2013
3)	National Public Finance Guarantee Corp	02/28/2013
4)	ADT Corp/The	07/31/2013
5)	Century Surety Co	09/30/2013
6)	Star Insurance Co	09/30/2013
7)	Savers Property & Casualty Insurance Co	09/30/2013
8)	Vantislife Insurance Co	10/02/2013

<HELP> for explanation.

<Search> 90 Export Feedback 12 results Security Finder

30 All 31 Eqty 32 FI 33 Mtge 34 Cmdty 35 Indx/Stats 36 FX 37 Funds  
40 Corp 41 Govt 42 Loans 43 Pfd 44 CDS 45 CDS Idx 46 Muni 47 Futr 48 Optns 49 IRS 50 IRS Vols

60) Excluded (20):Matured/Called, Non-Verified Bonds

61) Edit Columns

R	Issuer Name	Ticker	Coupon	Maturity	Series	BB Rtg	Mty Type	Announce	Curr	Ask Px	Source
	ADT*										
1	ADT Corp/The	ADT	6.250	10/15/2021	144A	BB	BULLET	09/24/2013	USD	106.290	BGN
2	ADT Corp/The	ADT	6.250	10/15/2021	REGS	BB	BULLET	09/24/2013	USD	104.000	TRAC
3	ADT Corp/The	ADT	4.875	07/15/2042		BB	BULLET	04/01/2013	USD	78.000	TRAC
4	ADT Corp/The	ADT	4.875	07/15/2042	144A	BB	BULLET	06/27/2012	USD	78.000	BVAL
5	ADT Corp/The	ADT	4.875	07/15/2042	REGS	BB	BULLET	06/27/2012	USD	78.000	BVAL
6	ADT Corp/The	ADT	4.125	06/15/2023		BB	BULLET	04/18/2013	USD	92.340	TRAC
7	ADT Corp/The	ADT	4.125	06/15/2023	144A	BB	BULLET	01/07/2013	USD	89.500	BVAL
8	ADT Corp/The	ADT	4.125	06/15/2023	REGS	BB	BULLET	01/07/2013	USD	89.500	BVAL
9	ADT Corp/The	ADT	3.500	07/15/2022		BB	BULLET	04/01/2013	USD	86.000	TRAC
10	ADT Corp/The	ADT	2.250	07/15/2017		BB	BULLET	04/01/2013	USD	97.500	TRAC
11	ADT Corp/The	ADT	2.250	07/15/2017	144A	BB	BULLET	06/27/2012	USD	96.875	BVAL
12	ADT Corp/The	ADT	2.250	07/15/2017	REGS	BB	BULLET	06/27/2012	USD	96.875	BVAL

Zoom 100%

Australia 61 2 9777 8600 Brazil 5511 3048 4500 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 2013 Bloomberg Finance L.P.  
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ADT US \$ Market  P38.08 / -- P 14x --

Prev 43.15 Vol 1,509,532

ADT US Equity **98 Report** **99 Feedback** Page 1/4 Description: Profile

1) Profile 2) Issue Info 3) Ratios 4) Revenue & EPS

ADT CORP/THE 5) Other Commercial Services (CC

The ADT Corporation provides security services. The Company provides electronic security, interactive automation and related monitoring services for residences and small businesses in North America. [BBGID BBG003641015]

6) Price Chart (GP)



Px/Chg 1D (USD)	43.15/-0.07%
52 Wk H (03/14/13)	50.0739
52 Wk L (06/13/13)	37.9743
YTD Change/%	-2.944/-6.39%
Mkt Cap (USD)	9,083.9M
Shrs Out/Float	210.5M/198.8M
SI/% of Float	24.3M/12.2%
Days to Cover	9.8

7) Earn (ERN) 8) Est (EE)

Date Bef-mkt (C)	11/20/13
P/E	24.25
Est P/E 09/13	23.53
T12M EPS (USD)	1.78
Est EPS	1.83
Est PEG	2.52
9) EU SSR Illiquid	
10) Dividend (DVD)	
Ind Gross Yield	1.16%
Cash 10/28/13	0.125

11) Corporate Info

12) <a href="http://www.adt.com">www.adt.com</a>	
Boca Raton, FL, United States	
Empls 16,000 (09/28/12)	
13) Management (MGMT)	
14) Naren K Gursahaney	
Chief Executive Officer	
15) Alan D Ferber	
Chief Customer Officer	
16) Anita Graham	
Senior VP/CAO	
17) 12M Total Ret (TRA)	4.92%
Beta vs SPX	N.A.

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ADT US \$ Market  P38.08 / -- P 14x --

Prev 43.15 Vol 1,509,532

ADT US Equity 96 Settings 97 Actions 98 Output 99 Feedback Earnings & Estimates  
 ADT Corp/The Periodicity Quarterly Consensus Standard Cur USD

1) Earnings History (ERN)

Next Announcement (C) 11/20/13  
 Prior Announcement 07/31/13  
 Avg/Implied 1 Day Move 2.74% / 5.12%

2) Current Multiples

Trailing 12M P/E 24.25  
 Forward 12M P/E 23.32  
 Est. LTG (EPS) 9.33%

3) Analyst Coverage (ANR)

Buy/Hold/Sell 7/4/0  
 Current Price 43.15  
 Target Price 51.00

4) Current Consensus (EEO)

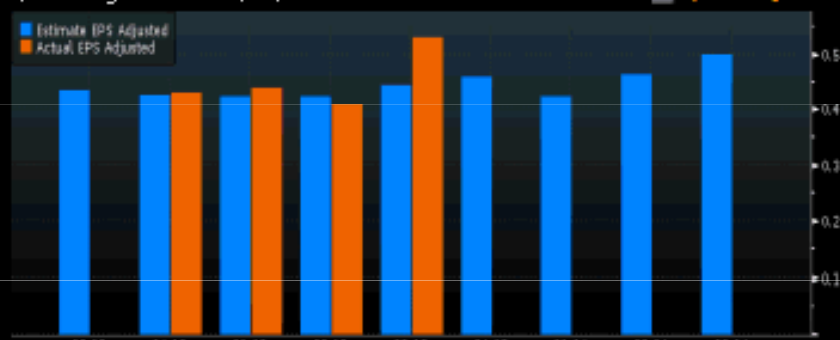
21) Current Period Overview (Q4/13)

22) Prior Period Analysis (Q3/13)

Measure	Q4/13 Est	4wk Chg	YoY Gr	Growth vs Comps	Past Surprise
11) <input checked="" type="radio"/> EPS Adjusted+	0.460	-1.60%	7.0%	Weaker	Beat 3 of 6
12) <input type="radio"/> EPS GAAP	0.450	-4.26%	12.5%	Weaker	
13) <input type="radio"/> Sales	843,000M	0.07%	3.8%	Weaker	Beat 1 of 6
14) <input type="radio"/> Net Income Adjusted+	100,250M	-3.14%	-0.7%	Weaker	
15) <input type="radio"/> Operating Profit	198,000M	-2.62%	-	-	-
16) <input type="radio"/> EBITDA	426,750M	-1.33%	-	-	-

5) Earnings Trends (EM)


Q4s Only



6) Estimate Revision Charting (EEG)



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ADT US \$ Market  P38.08 / -- P 14x --

Prev 43.15 Vol 1,509,532

ADT US Equity 96) Settings 97) Actions 98) Output 99) Feedback Relative Valuation

Comp Source Bloomberg % Rev. by Industry FY2012 Region Global Currency USD

1) Other Commercial Serv >  Metric ADT Low Comp Range High

P/E 24.25 16.61 39.40

EPS 1 Yr Gr N.A. -49.99 119.68

Rev 1 Yr Gr 3.79 -7.61 74.14

ROE 7.59 3.60 77.49

Chg Pct 1M 7.71 -1.20 14.03

● ADT US ◆ Median

21) Overview 22) Comp Sheets 23) Markets 24) EPS Preview 25) Ownership 26) Credit 27) Custom

Name	Mkt Cap (USD)	Last Px (USD)	Chg Pct 1D	Px Chg Pct:M-1	Rev - 1 Yr Gr:Y	EPS - 1 Yr Gr:Y	P/E	ROE LF	Dvd Yld
Average	6.14B	30.22	-0.05%	4.23	13.28%	5.74%	26.14	15.12%	1.90%
100) ADT CORP/THE	9.08B	43.15	-0.07%	7.71	3.79%	N.A.	24.25	N.A.	1.16%
101) G4S PLC	6.29B	4.05	0.88%	-1.20	7.68%	-40.60%	N.A.	-16.03%	3.56%
102) BRINK'S CO/THE	1.51B	31.37	-0.95%	14.03	2.01%	9.41%	20.58	8.77%	0.96%
103) ABM INDUSTRIES INC	1.53B	27.69	-0.18%	5.09	1.26%	-10.08%	17.91	8.88%	2.15%
104) ZARDOYA OTIS SA	7.17B	17.15	0.08%	1.63	-1.22%	-49.99%	30.11	58.72%	N.A.
105) ECOLAB INC	31.73B	105.32	-0.60%	6.02	74.14%	23.59%	32.64	14.34%	0.87%
106) ROLLINS INC	3.95B	27.09	-1.24%	2.03	5.46%	10.14%	32.98	30.49%	1.29%
107) KAR AUCTION SERVICES I	4.02B	28.95	-1.03%	0.49	4.09%	26.42%	31.62	7.29%	1.97%
108) SOTHEBY'S	3.60B	52.67	0.61%	3.74	-7.61%	-36.90%	39.40	10.21%	1.06%
109) HEALTHCARE SERVICES G	1.89B	27.09	-1.81%	6.32	21.19%	14.04%	33.86	21.22%	2.50%
110) LIFELOCK INC	1.46B	16.14	1.77%	9.87	42.53%	N.A.	N.A.	N.A.	2.11%
111) SECOM CO LTD	14.21B	60.92	1.52%	2.15	12.73%	79.33%	19.45	10.58%	N.A.
112) PROSEGUR COMP SEGURI	3.77B	6.11	1.35%	3.33	30.64%	5.23%	16.61	24.66%	N.A.

11) Edit Comparables 16) Select Stats 17) Group by Zoom 100%

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# Factors Used by Rating Companies

- Coverage ratios
    - Earnings to fixed costs
    - Low or falling – cash flow difficulties
  - Leverage ratios
    - Debt-to-equity ratio
  - Liquidity ratios
    - Current:
    - Quick (without inventories)
  - Profitability ratios
  - Cash flow to debt
-

# Table 14.3 Financial Ratios and Default Risk by Rating Class, Long-Term Debt

	Three-year (2002 to 2004) medians						
	AAA	AA	A	BBB	BB	B	CCC
EBIT interest coverage multiple	23.8	19.5	8.0	4.7	2.5	1.2	0.4
EBITDA interest coverage multiple	25.5	24.6	10.2	6.5	3.5	1.9	0.9
Funds from operations/total debt (%)	203.3	79.9	48.0	35.9	22.4	11.5	5.0
Free operating cash flow/total debt (%)	127.6	44.5	25.0	17.3	8.3	2.8	(2.1)
Total debt/EBITDA multiple	0.4	0.9	1.6	2.2	3.5	5.3	7.9
Return on capital (%)	27.6	27.0	17.5	13.4	11.3	8.7	3.2
Total debt/total debt + equity (%)	12.4	28.3	37.5	42.5	53.7	75.9	113.5
Historical default rate (%)	0.5	1.3	2.3	6.6	19.5	35.8	54.4

**TABLE 14.3**

## Financial ratios and default risk by rating class, long-term debt

Note: EBITDA is earnings before interest, taxes, depreciation, and amortization

Source: *Corporate Rating Criteria*, Standard & Poor's, 2006. Historical default rates from "Static Pools Cumulative Average Default Rates (%)," Standard & Poor's. Reproduced by permission of Standard & Poor's, a division of The McGraw-Hill Companies, Inc.

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# Protection Against Default

- Sinking funds
    - To help ensure the commitment to spread payment problems over several years
  - Subordination of future debt
    - Factor that determine bond safety is total outstanding debt of the issuer
  - Dividend restrictions
  - Collateral
-

---

# Default Risk and Yield

- Yield to maturity and expected yield
    - Maximum possible yield vs. yield with possibility of default
  - Default premiums
    - To compensate for the possibility of default
    - Yields compared to ratings
    - Yield spreads over business cycles
-

CIT 6 04/01/36 \$ ↑94.000 -3.000 285.8 bp vs T 2.875 05/15/2043

As of 30 Oct Vol 5.0M Op 94.000 Hi 94.000 Lo 94.000 Yld 6.512 TRAC

CIT 6 04/01/36 Co 95 Save As 96 Actions 97 Edit 98 Table Line Chart

11/13/2009 - 11/13/2013 Mid YTM TRAC Line 1) Compare Mov. Avgs Volume USD

1D 3D 1M 6M YTD 1Y 5Y Max Daily Security/Study Event



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# Figure 14.11 Yields on Long-Term Bonds, 1954 – 2006

