CDIAC

CALIFORNIA DEBT AND INVESTMENT ADVISORY COMMISSION

THE PUBLIC INVESTMENT PORTFOLIO:

MAKING SENSE OF CORPORATE NOTES AND BONDS

- For technical issues, contact GoToWebinar (GoToMeeting) at 1-800-263-6317 or http://support.citrixonline.com/gotomeeting/
- Presentation slides are available to download at http://www.treasurer.ca.gov/cdiac/webinars/2015/portfolio/description.asp
- Local Agency Investment Guidelines: Update for 2015 http://www.treasurer.ca.gov/cdiac/laig/guideline.pdf
- Live captioning is available at www.streamtext.net/text.aspx?event=CDIAC

August 19, 2015 10:00 AM – 11:45 AM

CDIAC

CALIFORNIA DEBT AND INVESTMENT ADVISORY COMMISSION

THE PUBLIC INVESTMENT PORTFOLIO:

MAKING SENSE OF CORPORATE NOTES AND BONDS

MARTIN CASSELL, CFA

CHIEF EXECUTIVE OFFICER AND CHIEF INVESTMENT OFFICER, CHANDLER ASSET MANAGEMENT

WILLIAM DENNEHY II, CFA

SENIOR VICE PRESIDENT AND PORTFOLIO MANAGER, CHANDLER ASSET MANAGEMENT

GARRET SLOAN

FIXED-INCOME STRATEGIST, WELLS FARGO SECURITIES

August 19, 2015 10:00 AM – 11:45 AM

Disclaimer

The information presented in this webinar series is intended to assist public investment professionals. The content presented is informational and does not constitute investment advice or the recommendation to invest in any or all of the investment instruments discussed. When choosing an investment instrument for a public portfolio, the whole portfolio, investment policy, suitability, financial needs of the public agency and any associated risks should be considered. In addition, the information in each webinar is set to reflect the period in time in which it is presented and any changes that may affect any of the instruments discussed, such as legislation, reform or market conditions, or that may alter the relevancy of any of these webinars, will not be reflective in the post archival recordings. In such instances, viewers should be advised to use the information only as a reference as no updates to the recordings will be made. Please consult the California Debt and Investment Advisory Commission's publication *Local Agency Investment Guidelines* for any interpretive updates.

INTRODUCTION

Benefits Provided by Corporate Notes

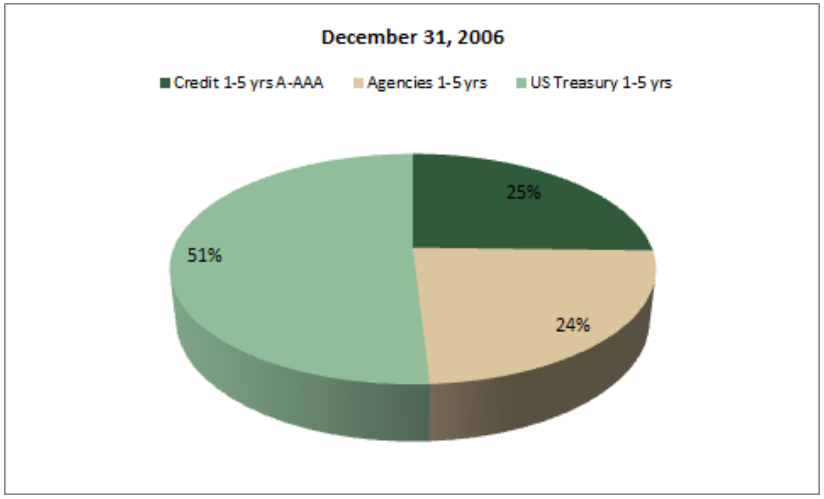
- Safety
  - Corporate notes have seniority in the capital structure
  - A diversified mix of corporate notes helps mitigate issuer risk and credit risk
- Liquidity
  - Corporate notes have a wide maturity range to help meet cash flow requirements
  - Corporate notes have an active secondary market
- Return
  - Corporate notes generally have attractive yields and returns over time relative to Treasury and Agency securities

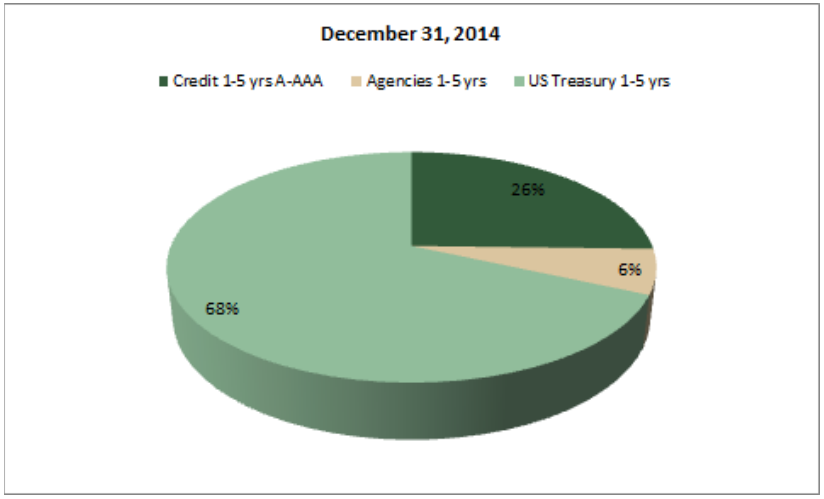
Corporate Notes As An Alternative to Agencies

CALIFORNIA DEBT AND INVESTMENT ADVISORY COMMISSION

Pre-Crisis Agency Sector was larger and more attractively priced

Post-Crisis Agency Sector has contracted and valuation is less attractive

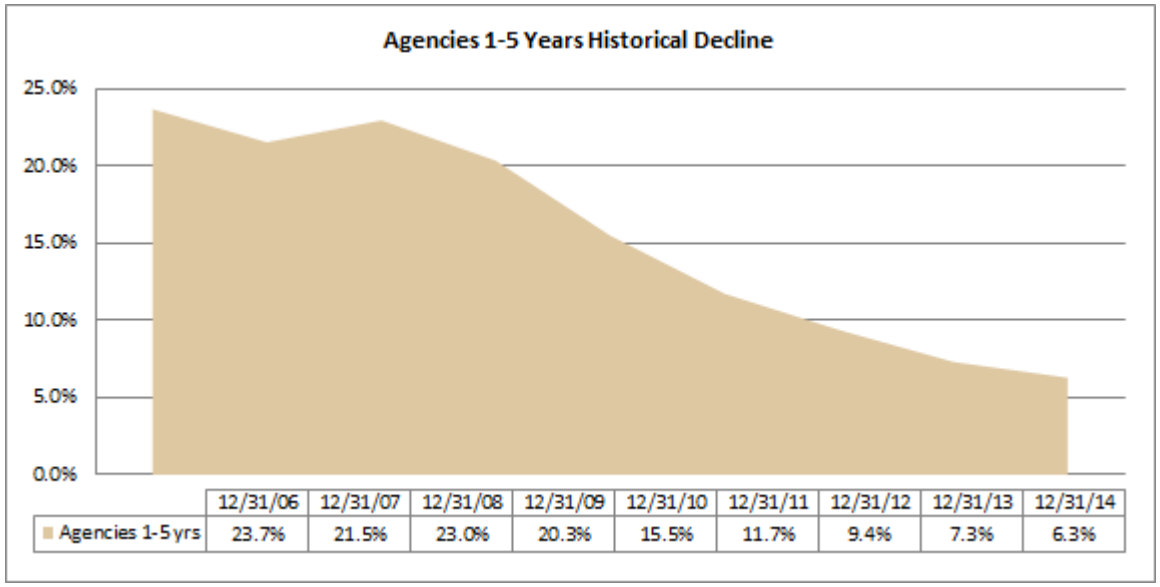




Source: Bank of America Merrill Lynch Indices

The Agency Sector Continues to Contract

Fannie Mae and Freddie Mac have been mandated to contract as part of the financial bailout

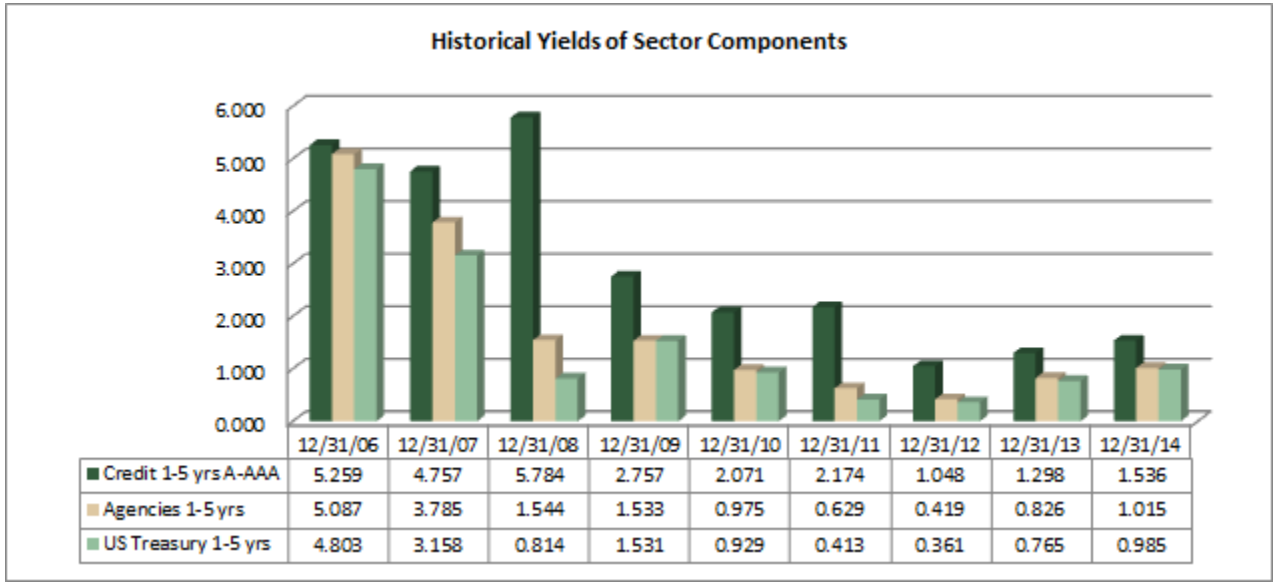


	12/31/06	12/31/07	12/31/08	12/31/09	12/31/10	12/31/11	12/31/12	12/31/13	12/31/14
Agencies 1-5 yrs	23.7%	21.5%	23.0%	20.3%	15.5%	11.7%	9.4%	7.3%	6.3%

Source: Bank of America Merrill Lynch Indices

Adding Value With Corporate Notes

Spread and yield narrowing between the Treasury and Agency sector has investors seeking additional ways to invest consistent with safety, liquidity, and yield



	12/31/06	12/31/07	12/31/08	12/31/09	12/31/10	12/31/11	12/31/12	12/31/13	12/31/14
Credit 1-5 yrs A-AAA	5.259	4.757	5.784	2.757	2.071	2.174	1.048	1.298	1.536
Agencies 1-5 yrs	5.087	3.785	1.544	1.533	0.975	0.629	0.419	0.826	1.015
US Treasury 1-5 yrs	4.803	3.158	0.814	1.531	0.929	0.413	0.361	0.765	0.985

Source: Bank of America Merrill Lynch Indices

Section 1

What are corporate notes and bonds, medium-term notes and the differences beyond the definition?

What is a Corporate Bond?

A corporate bond is a debt security issued by a corporation

- Two Primary Types of Capital
  - Debt
    - Security representing a contractual loan with a stated interest rate and fixed payment due dates of interest and principal
    - Claim on assets is senior to equity holders
    - Asymmetric risk for investors
  - Equity
    - Security representing ownership interest in a company
    - Claim on assets is subordinate to debt holders
    - Upside unlimited and downside is zero

Corporate Bonds: *The Basics*

- **PURPOSE:** Corporate bonds are issued by corporations for a variety of purposes including purchasing new equipment, investing in research and development, stock buybacks, paying shareholder dividends, refinancing debt and financing mergers and acquisitions

- **CREDIT RATING:** Corporate bonds can be described as either investment grade (high grade) or non-investment grade (high yield or junk), as determined by the bond's associated credit rating

- **CASH FLOW:** Corporate bonds pay back principal at maturity (a.k.a. bullet security) and periodic interest (typically semi-annually) specified at initial pricing

Source: Wells Fargo Securities, Bloomberg

Corporate Bond Sectors

- Corporate bond issuers can be split into various sectors. The current Global Industry Classification Standards (GICS) classifications include:
  - Telecommunications
  - Consumer discretionary (Autos, Consumer Durables, Media, Retail)
  - Consumer staples (Food, Beverage, Household, Staples Retailing)
  - Energy
  - Financials (Banks, Diversified Financials, Insurance, Real Estate)
  - Healthcare (Equipment, Pharmaceuticals, Biotech, Life Sciences)
  - Industrials (Capital Goods, Comm & Prof. Services, Transportation)
  - Materials
  - Information Technology (Software, Hardware, Semiconductors)
  - Utilities

Source: Wells Fargo Securities, S&P, Dow Jones, MSCI

Corporate Bond Registrations

- Corporations are subject to the Securities Act of 1933 when issuing public securities. However, certain securities can be exempt from registration under 144A/Reg S

- Securities Act of 1933
  - Requirement that an issuer provide the SEC and potential investors with all relevant information pertaining to an offering through a prospectus and registration statement
- 144(a)
  - Allows for the resale of securities without the registration requirements of the Securities Act of 1933 to qualified institutional buyers ("QIBs") ONLY
    - A QIB is an investor (not an individual) that owns and invests, on a discretionary basis, at least $100 million in securities; for a broker-dealer the threshold is $10 million
- Reg S
  - Allows for the sale of securities without the registration requirements of the Securities Act of 1933 to international buyers

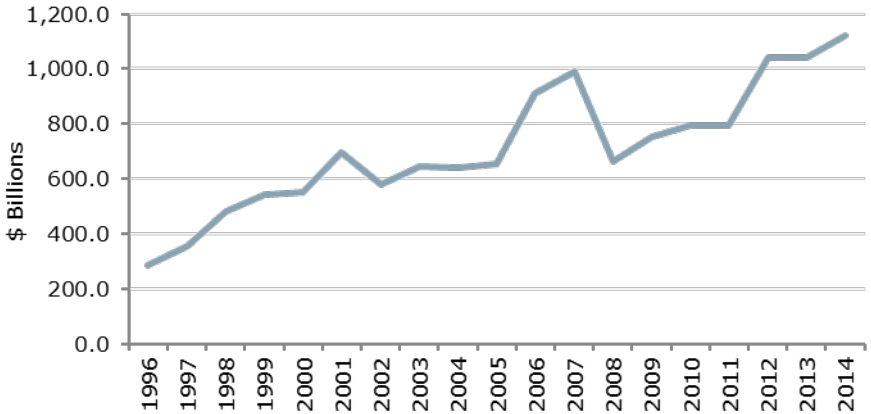
Source: Wells Fargo Securities, Investopedia

Corporate Bond: Issuance Trends

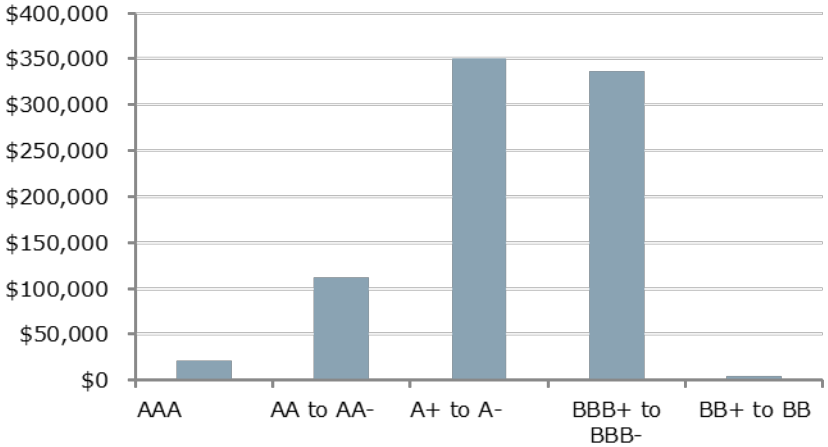
CALIFORNIA DEBT AND INVESTMENT ADVISORY COMMISSION

- New issuance in credit markets has reached historical levels as firms have capitalized on the low interest rate environment.
- According to data as of August 7, 2015, corporate bond issuance YTD totaled $1.05 trillion, a $105 billion increase over 2014.

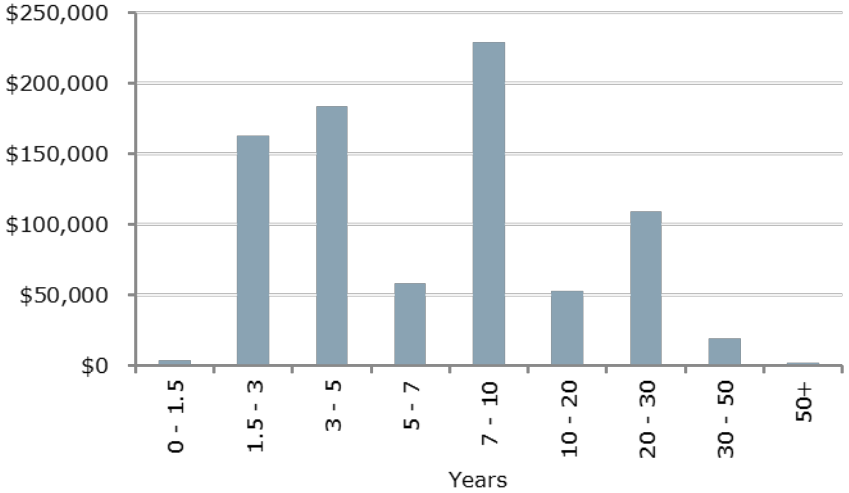
Corporate Bond Issuance



Corporate Bond Issuance by Rating (2015 YTD)



Corporate Bond Issuance by Tenor (2015 YTD)



Source: Wells Fargo Securities, SIFMA, data as of June 2015

Largest Corporate Bond Offerings

verizon wireless
$49 Billion
Baa1 / BBB+ / A-

Verizon Wireless

September 2013

- Proceeds used to finance acquisition of its wireless unit from Vodafone
- Offering was issued with the following maturities:
  - 3Year, 5Year, 7Year, 10Year, 20Year and 30Year

Actavis
Baa3 / BBB- / BBB-

Actavis PLC

March 2015

- Proceeds used to finance acquisition of Botox maker Allergan Inc.
- Offering was issued with the following maturities:
  - 1Year, 2Year, 3Year, 5Year, 7Year, 10Year, 20Year, and 30Year

$ at&t n
Baa1 / BBB+ / A-

AT&T

April 2015

- Proceeds used to finance purchase of DirecTV
- Offering was issued with the following maturities:
  - 5Year, 7Year, 10Year, 20Year and 30Year

Source: Wells Fargo Securities, Bloomberg

Primary versus Secondary

Primary

- When bonds are initially offered to the public, they are brought to market via a syndicate process
- An issuer chooses a broker-dealer to price and offer its bonds to the public
- Orders are received by those investors who express interest in purchasing the bonds and the broker-dealer will then allocate bonds to investors accordingly
  - Investors that are fully allocated receive the number of bonds requested
  - Investors that are partially allocated receive only a portion of the bonds requested
  - Investors that are unallocated do not receive any of the bonds requested

Secondary

- After bonds have been publicly issued, they then trade in the secondary market
- Liquidity for a corporation's bonds can be determined by:
  1. How often the bonds trade in the secondary market
  2. The bid/ask spread
  3. The deal size and type of investor (s) who hold the security
  4. How many bonds trade in the market at any given time

Source: Wells Fargo Securities

Coupon Structure

- Corporate bonds can be issued as either fixed, floating or zero coupon. The structure refers to the coupon payment.

Fixed

- A fixed-rate coupon bond pays a consistent interest payment at a specified interval over the life of the bond.
  - Coupon payments are usually paid on a semi-annual basis

Floating

- A floating-rate bond pays a variable interest payment at a specified interval over the life of the corporate bond. This variable interest payment will consist of an underlying benchmark plus a spread.
  - Investment grade corporate bonds typically reset at 3-month intervals, but may reset monthly, semi-annually or annually

Zero Coupon

- A zero coupon bond does not pay any interest over the life of the bond. Instead, with this structure, the investor receives all owed principal plus accrued interest at the bond's final maturity.

Source: Wells Fargo Securities

Issuance Types: *Features*

- Corporate bonds can be issued in a variety of sub-types beyond traditional categories.

Commercial Paper

- Commercial paper is a negotiable, short-term promissory note issued for a specific amount and matures on a specific date. CP is flexible and can be issued with maturities ranging from 1 day to 397 days.
  - CP is generally issued as a zero coupon security (discount security)

Commercial paper offerings are subject to investor qualification

Convertible Bond

- Convertible bonds can be converted into a predetermined amount of the company's equity after a specific point in time (the bond's call date). This option can be exercised by the bond holder or the issuer, depending on the conversion structure

Yankee Bond

- A bond that is issued by a foreign issuer in the U.S. market, denominated in U.S. dollars. Often issued as 144(a) and/or Regulation S private placements.

Source: Wells Fargo Securities

*For a thorough discussion on Commercial Paper, please refer to Wells Fargo's Commercial Paper 101

Issuance Types: *Support*

- A consideration for corporate investors is where a particular bond structure ranks in terms of its claims on a company's assets. This ranking determines which investors get paid first in the event of default.

Secured / Covered (Senior)

- Secured bonds, otherwise known as **covered** or **collateralized** bonds, are backed by specific pledged assets such as a specific piece of real estate, equipment or guarantee which can be sold to pay the bond's principal and interest should the company be unable to pay bond holders

Unsecured (Senior)

- Unsecured bonds are not secured by collateral but are instead backed by the promise to pay and the general credit worthiness of the company

Subordinated (Junior)

- A type of unsecured debt that is paid only after higher-ranking debt's are paid

Source: Wells Fargo Securities

Issuance Types: *Call Options*

- There are three major types of call options that exist in bonds. None of the options are mandatory, but give either the issuer or investor the "**right**" to redeem bonds prior to maturity.

Callable

- A bond can have a call option associated with either one future date or a series of whereby the issuer can **call** the bonds away from investors. The call date is typically associated with a predetermined call price that the issuer must pay to call
- An issuer will exercise a call for many reasons including, but not limited to:
  - Economic reasons (i.e. if call price at the call date is lower than the current market price)
  - To remove restrictive bond covenants
  - Debt can be reissued at lower all in cost (lower rates)

Puttable

- Bonds may also have a puttable feature allowing the investor to redeem their bonds prior to maturity, demanding repayment of principal, at one specific date or at periodic time intervals
- An issuer may exercise this puttable feature if rates rise shortly after the initial purchase of a fixed-rate bond to achieve a higher return
- Puttable options are more prevalent in floating-rate bonds versus fixed-rate bonds

Make-Whole Call

- A make-whole call option is specific to corporate bonds. A corporate bond can be issued with a make-whole call which gives the issuer the option to redeem the bonds prior to maturity based on a spread over the appropriate treasury rate

Source: Wells Fargo Securities

Issuance Types: *Make Whole Call Options*

- Corporate bonds can be issued with **make-whole calls** which give the issuer flexibility to call a bond prior to maturity.

Make-Whole Call

- A make-whole call is usually set at a spread over a Treasury rate. The issuer must pay the price implied by this spread over the appropriate treasury rate, making the investor "whole", in order to redeem the bonds
- Make-whole calls make economic sense to an issuer if the treasury spread results in a bond price that is lower than the current market price. This situation would be beneficial to the issuer and would be an "in-the-money" option for the issuer, but disadvantageous to the investor.

In The Money

- If the credit spread over the associated treasury leads to a market price that is below the current market price, then the option is in the money and the make-whole call can potentially be exercised and hence the bond called away from the investor

Out of the Money

- If the credit spread over the associated treasury leads to a market price that is above the current market price, then the option is out of the money and the make-whole call will not be exercised for economic reasons. The bond will continue to be available for the investor to either hold or trade.

Source: Wells Fargo Securities

Corporate Bond Ratings

CALIFORNIA DEBT AND INVESTMENT ADVISORY COMMISSION

- There are both long and short-term bond ratings
- Investment-grade bonds are rated Baa3/BBB- or better, whereas non-investment grade bonds are rated Ba1/BB+ or lower
- Short-term investment-grade bonds are rated P-3/A-3/F3 or better

Long-Term Bond Ratings

	Moodys	S&P	Fitch
Investment Grade	Aaa	AAA	AAA
	Aa	AA	AA
	A	A	A
	Baa	BBB	BBB
Non-Investment Grade	Ba	BB	BB
	B	B	B
	Caa	CCC	CCC
	Ca	CC	CC
	C	C	C

Short-Term Bond Ratings

	Moodys	S&P*	Fitch*
Investment Grade	P-1	A-1	F1
	P-2	A-2	F2
	P-3	A-3	F3
	NP	B	B

Source: Wells Fargo Securities, Moody's, Standard & Poor's, Fitch
*S&P & Fitch rating scales continue. S&P: B, C, D / Fitch: B, C

Corporate Bond Ratings

- Numbers 1-3 or + / - may accompany a bond to denote its relative riskiness within a rating category, with 1 / + as a better rating than a 2 or 3 / -.

Rating Watch

- A rating *watch* indicates a heightened probability of a rating change and the likely direction of such a change, defined as
  - Positive
  - Negative
  - Evolving
- A rating watch is typically event-driven and generally resolved over a relatively short period of time
- A rating watch may also exist to communicate implications for certain events should they occur, or otherwise known as triggering events (i.e. shareholder or regulatory approval)
- A rating change may not always be precipitated by a rating watch change

Rating Outlook

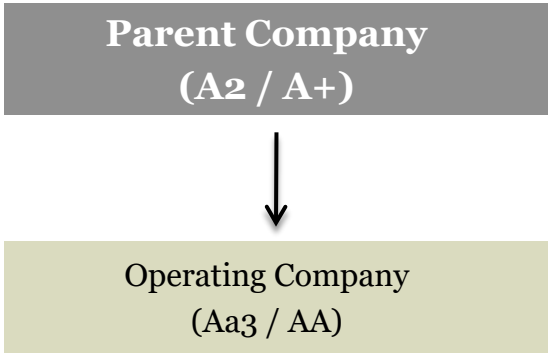
- A rating *outlook* indicates the direction that a rating is likely to move over a one to two-year period and reflects trends that have not yet triggered a rating action, but that may do so if the trend continues
- Outlooks can be defined as
  - Stable
  - Positive
  - Negative
- Outlooks are associated with long-term ratings
- An outlook change does not necessarily mean that a bond rating will change nor does a stable outlook mean that the rating will not change

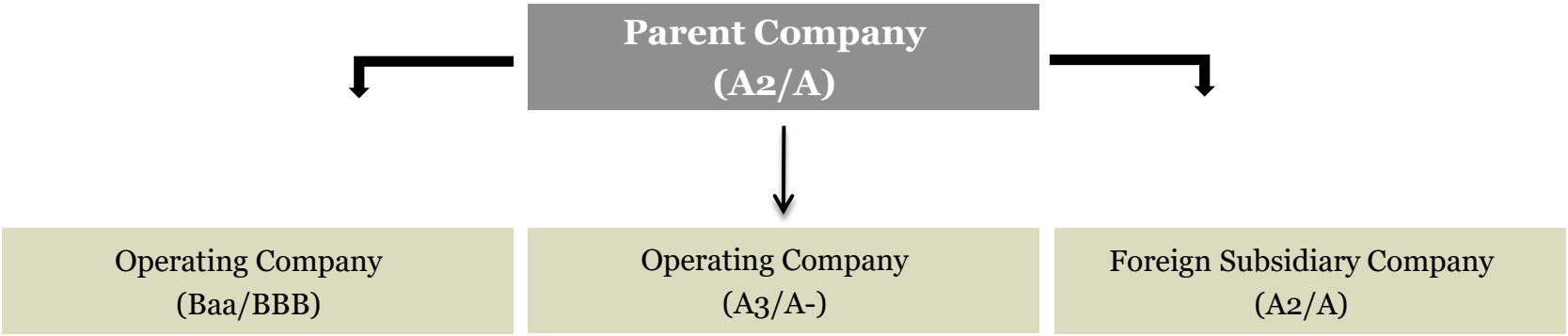
Source: Wells Fargo Securities, Moody's, Standard & Poor's, Fitch

Corporate Bond Ratings

- A parent company /subsidiary relationship can take on multiple structures as demonstrated in the figures. A parent can have one or multiple operating companies associated with it in addition to varying percentages of ownership.

- Parent companies and their operating companies/subsidiaries can have different ratings depending on a variety of factors, including:
  - Access to liquidity (i.e. Central Banks)
  - Leverage
  - Tax advantages (operations in multiple countries)
  - Cross Guarantees / Support Agreements
  - Industry Outlook





Source: Wells Fargo Securities, Moody's, Standard & Poor's, Fitch, DBRS

Section 2

Maturities, yield and duration risk of corporates.

Maturity, Yield, and Duration Risk of Corporates

- Most fixed rate bonds pay interest semiannually and at maturity
  - Interest on corporate bonds is based on a year of 360 days made up of twelve 30 day months
  - The corporate calendar day count convention is referred to as 30/360
- In general, the longer the maturity, the higher the additional spread over a similar maturity treasury
- In general, the lower the quality of the issuer, the higher the spread over a similar maturity treasury

Corporate Bond Terminology

Issuer	A corporation or legal entity that issues securities. The fundamentals and credit quality of an issuer will have an impact on bond ratings and valuation.
Ticker	A symbol representing a particular security. Investors typically consolidate tickers when considering maximum exposure to a particular issuer.
Coupon	The interest rate stated on a bond at issuance. Higher coupon notes trade at a higher spread in the secondary market, all else the same.
Maturity	The length of time that a security remains outstanding. The longer the maturity, the higher the spread, all else the same.
Tenor	The amount of time left on the bond contract. Investors should consider the debt maturity distribution of each issuer.
Option-adjusted spread (OAS)	The spread over the Treasury yield curve that equates the present value of a bond's cash flows to its market price. It is a measure of a bond's additional return over the return of a comparable Treasury bond, net of the cost of any embedded options. A higher relative OAS may signal that a security is undervalued, while a lower relative OAS may signal that a security is overvalued.
New Issue Spread	New issues are typically offered at a higher spread than similar securities in the secondary market, depending on the market environment. Frequency of issuance does not necessarily lead to higher spreads.
Yield to Worst at New Issue Price	The yield earned on a bond, depending on prevailing market rates.
Treasury Benchmark	Government bond yields are used for comparison, in order to evaluate relative valuation.
Duration	The sensitivity of a bond price to a change in interest rates. Lower coupon bonds will have a higher duration, all else the same.
Amount Issued	Smaller size deals may clear the new issue market at spreads tighter than they should due to supply/demand imbalances
Moody's	An NRSRO (Nationally recognized statistical rating organization)
Standard & Poor's	An NRSRO (Nationally recognized statistical rating organization)
Fitch	An NRSRO (Nationally recognized statistical rating organization)

Relative Valuation of Corporate Bonds

Maturity, Yields, and Risk affect bond pricing

- Credit quality and bond maturity should be considered when analyzing relative valuation
- Upward sloping credit curves depict the additional yield an investor can earn for owning a bond with a longer maturity
- Investors may also earn an additional yield spread for owning a note with lower credit quality

John Deere Capital Corp vs CVS Health Corp

Comparing Investment Grade Corporate Bonds

- John Deere (DE) is a higher-quality issuer than CVS Health (CVS). DE is rated A2/A while CVS is rated Baa1/BBB+
- Investors may earn a higher spread for owning CVS vs. DE
- Investors may earn a higher spread for owning a 5-year bond of a particular issuer vs. a 3-year bond

Maturity, Duration and Yield of Corporates

DE1.6 7/13/18 Corp DES
JOHN DEERE CAP DE 1.6 07/13/18 100.025/100.025 (1.591/1.591) TRAC

DE 1.6 07/13/18 Corp | Page 1/11 | Description: Bond

94) Notes | 95) Buy | 96) Sell | 97) Settings

21) Bond Description | 22) Issuer Description

Pages
1) Bond Info
2) Addtl Info
3) Covenants
4) Guarantors
5) Bond Ratings
6) Identifiers
7) Exchanges
8) Inv Parties
9) Fees, Restrict
10) Schedules
11) Coupons

Quick Links
32) ALLQ Pricing
33) QRD Quote Reca
34) TDH Trade Hist
35) CAC Corp Action
36) CF Prospectus
37) CN Sec News
38) HDS Holders
39) VPR Underly Info

66) Send Bond

Issuer Information

Name	JOHN DEERE CAPITAL CORP
Industry	Machinery Manufacturing

Security Information

Mkt Iss	Domestic MTN		
Country	US	Currency	USD
Rank	Sr Unsecured	Series	MTN
Coupon	1.6	Type	Fixed
Cpn Freq	S/A		
Day Cnt	30/360	Iss Price	99.96200
Maturity	07/13/2018		
BULLET			
Iss Sprd	68.00bp vs T 0 7/8 07/15/18		
Calc Type	(1)STREET CONVENTION		
Announcement Date			07/09/2015
Interest Accrual Date			07/14/2015
1st Settle Date			07/14/2015
1st Coupon Date			01/13/2016

Identifiers

ID Number	AF2387013
CUSIP	24422ESX8
ISIN	US24422ESX84

Bond Ratings

Moody's	A2
S&P	A
Composite	A

Issuance & Trading

Amt Issued/Outstanding	
USD	500,000.00 (M) /
USD	500,000.00 (M)
Min Piece/Increment	
	1,000.00 / 1,000.00
Par Amount	1,000.00
Book Runner	GS,JPM,MUFG
Reporting	TRACE

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 725586 PDT GMT-7:00 G660-3645-0 31-Jul-2015 12:25:22

Maturity, Duration and Yield of Corporates

DE2.375 7/14/20 Corp DES
JOHN DEERE CAP DE 2 3/8 07/14/20 100.503/100.503 (2.267/2.267) TRAC

DE 2 3/8 07/14/20 Corp — Page 1/11 Description: Bond

94) Notes | 95) Buy | 96) Sell | 97) Settings

21) Bond Description | 22) Issuer Description

Pages
1) Bond Info
2) Addtl Info
3) Covenants
4) Guarantors
5) Bond Ratings
6) Identifiers
7) Exchanges
8) Inv Parties
9) Fees, Restrict
10) Schedules
11) Coupons

Quick Links
32) ALLQ Pricing
33) QRD Quote Reca
34) TDH Trade Hist
35) CAC Corp Action
36) CF Prospectus
37) CN Sec News
38) HDS Holders
39) VPR Underly Info

66) Send Bond

Issuer Information

Name	JOHN DEERE CAPITAL CORP
Industry	Machinery Manufacturing

Security Information

Mkt Iss	Domestic MTN		
Country	US	Currency	USD
Rank	Sr Unsecured	Series	MTN
Coupon	2.375	Type	Fixed
Cpn Freq	S/A		
Day Cnt	30/360	Iss Price	99.91600
Maturity	07/14/2020		
BULLET			
Iss Sprd	83.00bp vs T 1 5/8 06/30/20		
Calc Type	(1)STREET CONVENTION		
Announcement Date			07/09/2015
Interest Accrual Date			07/14/2015
1st Settle Date			07/14/2015
1st Coupon Date			01/14/2016

Identifiers

ID Number	AF2392260
CUSIP	24422ESY6
ISIN	US24422ESY67

Bond Ratings

Moody's	A2
S&P	A
Composite	A

Issuance & Trading

Amt Issued/Outstanding	
USD	500,000.00 (M) /
USD	500,000.00 (M)
Min Piece/Increment	
	1,000.00 / 1,000.00
Par Amount	1,000.00
Book Runner	GS,JPM,MUFG
Reporting	TRACE

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 725586 PDT GMT-7:00 G660-3645-1 31-Jul-2015 12:25:06

Maturity, Duration and Yield of Corporates

DE 1.6 07/13/18 $ ↑100.025 +.031 60.7 bp vs T 0.875 07/15/2018
At 7:56d Vol 500.0M Op 100.025 Hi 100.025 Lo 100.025 Yld 1.591 TRAC

DE 1.6 07/13/18 Corp — Yield and Spread Analysis

95) Buy 96) Sell 97) Settings

1) Yield & Spread 2) Graphs 3) Pricing 4) Description 5) Custom

DE 1.6 07/13/18 (24422ESX8)

Spread	68 bp	vs	3y T 0 7/8 07/15/18	
Price	99.962		99.828806	
Yield	1.613044	Wst	0.933000	S/A
Wkout	07/13/2018 @ 100.00		Yld 6 6	
Settle	07/14/15		07/10/15	
Trade	07/09/15	Retro (Using input price)		

Risk

	Workout	OAS
Mod Dur / Dur	2.915	2.931
Risk	2.914	2.930
Convexity	0.100	0.101
DV 01 on 1MM	291	293
Benchmark Risk	2.949	2.979
Risk Hedge	988 M	984 M
Proceeds Hedge	1,001 M	

Spreads

11) G-Sprd	64.7
12) I-Sprd	41.9
13) Basis	-14.2
14) Z-Sprd	42.4
15) ASW	41.5
16) OAS	64.7
17) TED	-41.3

Yield Calculations

Street Convention	1.613045
Equiv 1 /Yr	1.619549
Mmkt (Act/ 360)	
True Yield	1.613009
Current Yield	1.601

Invoice

Face	1,000 M
Principal	999,620.00
Accrued (0 Days)	0.00
Total (USD)	999,620.00

After Tax (Inc 43.400 % CG 23.800 %) 0.915501

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 725586 PDT GMT-7:00 G660-3645-0 31-Jul-2015 12:35:16

Maturity, Duration and Yield of Corporates

DE 2 3/8 07/14/20 $ ↑100.503 +.699 72.6 bp vs T 1.625 06/30/2020
At 8:06d Vol 660.0M Op 100.401 Hi 100.503 Lo 100.401 Yld 2.267 TRAC

DE 2 3/8 07/14/20 Corp — Yield and Spread Analysis

95) Buy 96) Sell 97) Settings

1) Yield & Spread 2) Graphs 3) Pricing 4) Description 5) Custom

DE 2 3/8 07/14/20 (24422ESY6)

Spread	83 bp	vs	5y T 1 5/8 06/30/20	
Price	99.91565		100.295366	
Yield	2.393000	Wst	1.563000	S/A
Wkout	07/14/2020 @	100.00	Yld	6 6
Settle	07/14/15		07/10/15	
Trade	07/09/15	Retro (Using input price)		

Risk

	Workout	OAS
Mod Dur / Dur	4.688	4.748
Risk	4.684	4.744
Convexity	0.250	0.256
DV 01 on 1MM	468	474
Benchmark Risk	4.775	4.837
Risk Hedge	981 M	981 M
Proceeds Hedge	996 M	

Spreads

11) G-Sprd	79.9
12) I-Sprd	66.7
13) Basis	-20.4
14) Z-Sprd	67.6
15) ASW	65.6
16) OAS	81.5
17) TED	-63.9

Yield Calculations

Street Convention	2.393000
Equiv 1 /Yr	2.407316
Mmkt (Act/ 360)	
True Yield	2.392874
Current Yield	2.377

Invoice

Face	1,000 M
Principal	999,156.50
Accrued (0 Days)	0.00
Total (USD)	999,156.50

After Tax (Inc 43.400 % CG 23.800 %) 1.357862

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 725586 PDT GMT-7:00 G660-3645-1 31-Jul-2015 12:35:21

Maturity, Duration and Yield of Corporates

Credit Curve is upward sloping with an additional 15 basis points in spread for purchasing a five year note versus a three year note

Issuer	John Deere Capital Corp	John Deere Capital Corp
Ticker	DE	DE
Coupon	1.600	2.375
Maturity	07/13/18	07/14/20
Tenor	3 year	5 Year
New Issue Spread	68	83
YTW at New Issue Price	1.61%	2.39%
Treasury Benchmark	0.875 7/15/18	1.625 6/30/20
Duration	2.93	4.75
Amount Issued	500mm	500mm
Moody's	A2	A2
S&P	A	A
Fitch	NA	NA

Maturity, Duration and Yield of Corporates

CVS1.90 7/20/18 Corp DES
CVS HEALTH CORP CVS 1.9 07/20/18 100.436/100.436 (1.748/1.748) TRAC

CVS 1.9 07/20/18 Corp | Page 1/11 | Description: Bond

94) Notes | 95) Buy | 96) Sell | 97) Settings

21) Bond Description | 22) Issuer Description

Pages
1) Bond Info
2) Addtl Info
3) Covenants
4) Guarantors
5) Bond Ratings
6) Identifiers
7) Exchanges
8) Inv Parties
9) Fees, Restrict
10) Schedules
11) Coupons

Quick Links
32) ALLQ Pricing
33) QRD Quote Reca
34) TDH Trade Hist
35) CAC Corp Action
36) CF Prospectus
37) CN Sec News
38) HDS Holders
39) VPR Underly Info

66) Send Bond

Issuer Information

Name	CVS HEALTH CORP
Industry	Supermarkets & Pharmacies

Security Information

Mkt Iss	Global		
Country	US	Currency	USD
Rank	Sr Unsecured	Series	
Coupon	1.9	Type	Fixed
Cpn Freq	S/A		
Day Cnt	30/360	Iss Price	99.93000
Maturity	07/20/2018		

MAKE WHOLE @15 until 07/20/18/BULLET

Iss Sprd 85.00bp vs T 0 7/8 07/15/18

Calc Type (1)STREET CONVENTION

Announcement Date	07/13/2015
Interest Accrual Date	07/20/2015
1st Settle Date	07/20/2015
1st Coupon Date	01/20/2016

Identifiers

ID Number	AF2627020
CUSIP	126650CH1
ISIN	US126650CH13

Bond Ratings

Moody's	Baa1
S&P	BBB+
Composite	BBB+

Issuance & Trading

Amt Issued/Outstanding
USD 2,250,000.00 (M) /
USD 2,250,000.00 (M)

Min Piece/Increment
2,000.00 / 1,000.00

Par Amount	1,000.00
Book Runner	JOINT LEADS
Reporting	TRACE

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 725586 PDT GMT-7:00 G660-3645-0 31-Jul-2015 13:42:08

Maturity, Duration and Yield of Corporates

CVS2.80 7/20/20 Corp DES
CVS HEALTH CORP CVS 2.8 07/20/20 101.053/101.053 (2.569/2.569) TRAC

CVS 2.8 07/20/20 Corp — Page 1/11 Description: Bond

94) Notes | 95) Buy | 96) Sell | 97) Settings

21) Bond Description | 22) Issuer Description

Pages
1) Bond Info
2) Addtl Info
3) Covenants
4) Guarantors
5) Bond Ratings
6) Identifiers
7) Exchanges
8) Inv Parties
9) Fees, Restrict
10) Schedules
11) Coupons

Quick Links
32) ALLQ Pricing
33) QRD Quote Reca
34) TDH Trade Hist
35) CAC Corp Action
36) CF Prospectus
37) CN Sec News
38) HDS Holders
39) VPR Underly Info

66) Send Bond

Issuer Information

Name	CVS HEALTH CORP
Industry	Supermarkets & Pharmacies

Security Information

Mkt Iss	Global		
Country	US	Currency	USD
Rank	Sr Unsecured	Series	
Coupon	2.8	Type	Fixed
Cpn Freq	S/A		
Day Cnt	30/360	Iss Price	99.92600
Maturity	07/20/2020		

MAKE WHOLE @20 until 06/20/20/ CALL 06/20...

Iss Sprd 110.00bp vs T 1 5/8 06/30/20

Calc Type (1)STREET CONVENTION

Announcement Date	07/13/2015
Interest Accrual Date	07/20/2015
1st Settle Date	07/20/2015
1st Coupon Date	01/20/2016

Identifiers

ID Number	AF2637961
CUSIP	126650CJ7
ISIN	US126650CJ78

Bond Ratings

Moody's	Baa1
S&P	BBB+
Composite	BBB+

Issuance & Trading

Amt Issued/Outstanding
USD 2,750,000.00 (M) /
USD 2,750,000.00 (M)

Min Piece/Increment
2,000.00 / 1,000.00

Par Amount	1,000.00
Book Runner	JOINT LEADS
Reporting	TRACE

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 725586 PDT GMT-7:00 G660-3645-1 31-Jul-2015 13:42:34

Maturity, Duration and Yield of Corporates

CVS 1.9 07/20/18 $ ↑100.499 +.244 73.9 bp vs T 0.875 07/15/2018
At 9:41d Vol 8.8MM Op 100.449 Hi 100.636 Lo 100.420 Yld 1.726 TRAC

CVS 1.9 07/20/18 Corp — Yield and Spread Analysis

95) Buy 96) Sell 97) Settings

1) Yield & Spread 2) Graphs 3) Pricing 4) Description 5) Custom

CVS 1.9 07/20/18 (126650CH1)

Spread	85.01 bp vs	3y T 0 7/8 07/15/18	
Price	99.93	99.414062	
Yield	1.924125 Wst	1.074000 S/A	
Wkout	07/20/2018 @ 100.00	Yld 6 6	
Settle	07/20/15	07/14/15	
Trade	07/13/15	Retro (Using input price)	

Risk

	Workout	OAS
Mod Dur / Dur	2.902	2.920
Risk	2.900	2.918
Convexity	0.100	0.101
DV 01 on 1MM	290	292
Benchmark Risk	2.934	2.955
Risk Hedge	988 M	987 M
Proceeds Hedge	1,005 M	

Spreads

11) G-Sprd	84.6
12) I-Sprd	63.3
13) Basis	-40.0
14) Z-Sprd	63.3
15) ASW	61.9
16) OAS	85.1
17) TED	-61.9

Yield Calculations

Street Convention	1.924125
Equiv 1 /Yr	1.933381
Mmkt (Act/ 360)	
True Yield	1.924092
Current Yield	1.901

Invoice

Face	1,000 M
Principal	999,300.00
Accrued (0 Days)	0.00
Total (USD)	999,300.00

After Tax (Inc 43.400 % CG 23.800 %) 1.093704

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 725586 PDT GMT-7:00 G660-3645-0 31-Jul-2015 13:50:08

Maturity, Duration and Yield of Corporates

CVS 2.8 07/20/20 $ ↑101.053 +.462 102.9 bp vs T 1.625 06/30/2020
At 9:39d Vol 18.2MM Op 100.415 Hi 101.053 Lo 100.415 Yld 2.569 TRAC

CVS 2.8 07/20/20 Corp — Yield and Spread Analysis

95) Buy 96) Sell 97) Settings

1) Yield & Spread 2) Graphs 3) Pricing 4) Description 5) Custom 6) Calls

CVS 2.8 07/20/20 (126650CJ7)

Spread	110 bp	vs	5y T 1 5/8 06/30/20	
Price	99.926		99.568819	
Yield	2.815970	Wst	1.715970	S/A
Wkout	07/20/2020 @	100.00	Yld	6 6
Settle	07/20/15		07/14/15	
Trade	07/13/15	Retro (Using input price)		

Risk

	Workout	OAS
Mod Dur / Dur	4.635	4.686
Risk	4.632	4.683
Convexity	0.246	0.211
DV 01 on 1MM	463	468
Benchmark Risk	4.725	4.790
Risk Hedge	980 M	978 M
Proceeds Hedge	1,003 M	

Spreads	
11) G-Sprd	108.7
12) I-Sprd	97.0
13) Basis	-64.6
14) Z-Sprd	97.9
15) ASW	94.9
16) OAS	111.0
17) TED	-94.3

Yield Calculations	
Street Convention	2.815970
Equiv 1 /Yr	2.835794
Mmkt (Act/ 360)	
True Yield	2.815821
Current Yield	2.802

Invoice	
Face	1,000 M
Principal	999,260.00
Accrued (0 Days)	0.00
Total (USD)	999,260.00

After Tax (Inc 43.400 % CG 23.800 %) 1.596860

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 725586 PDT GMT-7:00 G660-3645-1 31-Jul-2015 13:59:09

Maturity, Duration and Yield of Corporates

Issuers with lower credit quality typically have a steeper spread curve. In this case CVS 3s/5s curve is 25 basis points versus 15 basis points for John Deere Capital Corp

Issuer	CVS Health Corp	CVS Health Corp
Ticker	CVS	CVS
Coupon	1.900	2.800
Maturity	07/20/18	07/20/20
Tenor	3 year	5 year
New Issue Spread	85	110
YTW at New Issue Price	1.92%	2.82%
Treasury Benchmark	0.875 7/15/18	1.625 6/30/20
Duration	2.92	4.69
Amount Issued	2,250mm	2,750mm
Moody's	Baa1	Baa1
S&P	BBB+	BBB+
Fitch	NA	NA

Maturity, Duration and Yield of Corporates

CVS cleared the market 17 basis points wider compared to John Deere at the three year maturity point and 27 basis points wider at the five year maturity point

Issuer	John Deere Capital Corp	CVS Health Corp	John Deere Capital Corp	CVS Health Corp
Ticker	DE	CVS	DE	CVVS
Coupon	1.600	1.900	2.375	2.800
Maturity	07/13/18	07/20/18	07/14/20	07/20/20
Tenor	3 year	3 year	5 year	5 year
New Issue Spread	68	85	83	110
YTW at New Issue Price	1.61%	1.92%	2.39%	2.82%
Treasury Benchmark	0.875 7/15/18	0.875 7/15/18	1.625 6/30/20	1.625 6/30/20
Duration	2.93	2.92	4.75	4.69
Amount Issued	500mm	2,250mm	500mm	2,750mm
Moody's	A2	Baa1	A2	Baa1
S&P	A	BBB+	A	BBB+
Fitch	NA	NA	NA	NA

Section 3

Credit criteria for public investments in corporates.

Selected State Requirements for Corporates

State	Credit Quality	Maturity
Oregon	In State: A/A, A-2/P-2 Out of State: Aa/AA, A-1, P-1	18 months
Utah	A-rated by at least 2 agencies	Fixed: 15 months Float: 3 years
Ohio	Rated in one of the two highest categories by at least two ratings agencies	2 years
Illinois	Rated in one of the three highest ratings categories by at least two rating agencies	180 days
Colorado	Not rated below Aa3/AA- by any rating agency	3 years
California	A or higher by at least one rating agency	5 years

Section 4

Government Code 53601(k) regarding issuer restrictions and rating requirements.

Government Code 53601(k) – issuer restrictions and rating requirements

Eligible investments are determined by California State Code

Medium Term Notes
All corporates and depository institution debt securities with a maximum remaining maturity of five years or less
Issued by corporations organized and operating within the United States or by depository institutions licensed by the United States or any state operating within the United States
Notes eligible for investment under this subdivision shall be rated "A" or better by an NRSRO
Instruments authorized by this section shall not exceed 30% of the agency's moneys that may be invested pursuant to this section

Refer to CDIAC Issue Brief on Foreign Issuers:
http://www.treasurer.ca.gov/cdiac/reports/53601k.pdf

California Code 53601(k) – issuer restrictions and rating requirements

California Code only stipulates an "A" or better rating from a NRSRO. The three primary NRSRO's are listed; others also qualify to meet the requirement

Standard & Poor's	Moody's	Fitch
AAA	Aaa	AAA
AA+	Aa1	AA+
AA	Aa2	AA
AA-	Aa3	AA-
A+	A1	A+
A	A2	A
A-	A3	A-
BBB+	Baa1	BBB+
BBB	Baa2	BBB
BBB-	Baa3	BBB-
BB+	Ba1	BB+
BB	Ba2	BB
BB-	Ba3	BB-
B+	B1	B+
B	B2	B
B-	B3	B-
CCC+	Caa1	CCC
CCC	Caa2	DDD
CCC-	Caa3	DD
	Ca	D
	C	

California Code 53601(k) – issuer restrictions and rating requirements

CALIFORNIA DEBT AND INVESTMENT ADVISORY COMMISSION

NRSROs define the eligible investment set but best practices to have an internal process to determine appropriate corporate notes based on risk tolerance of organization

- Rating requirements based on time of purchase
- Split rated securities are allowed but arguably outside of the spirit of the requirement
- Code is silent on the requirements of an agency if a security is downgraded
- 144a securities inconsistent with California Code
- Refer to CDIAC Issue Brief http://www.treasurer.ca.gov/cdiac/issuebriefs/201307.pdf

California Code 53601(k) – issuer restrictions and rating requirements

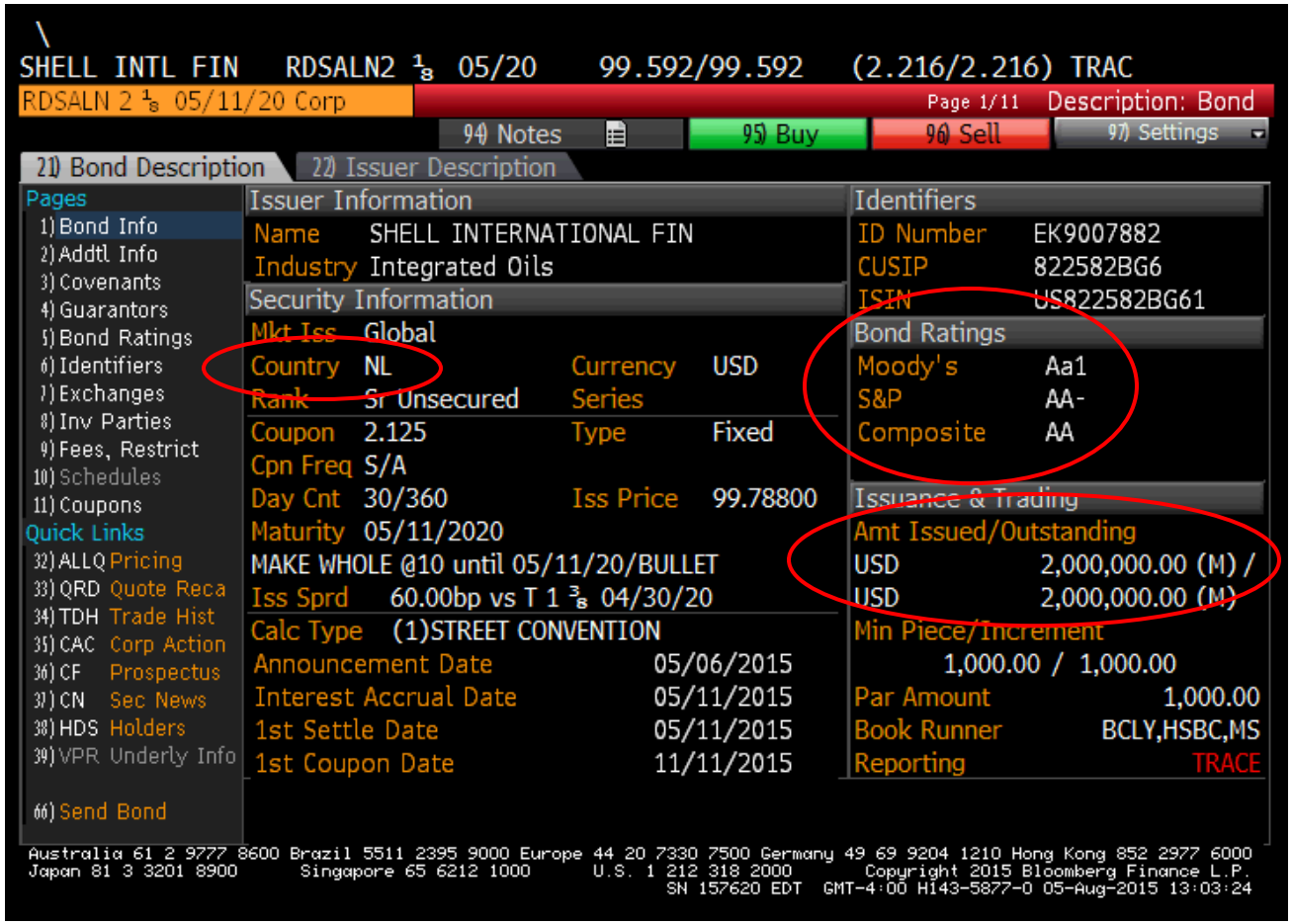
Private Placement securities are inconsistent with California Code

- 144a securities are not registered with the SEC
- Not subject to same disclosure requirements as registered securities
- The SEC rule limits who can buy private placement securities to certain Qualified Institutional Buyers (QIBs)

California Code 53601(k) – issuer restrictions and rating requirements

CALIFORNIA DEBT AND INVESTMENT ADVISORY COMMISSION

RDSALN 2.125 5/11/20 – A high quality issuer but isn't consistent with California Code because the country of incorporation is the Netherlands (NL)



California Code 53601(k) – issuer requirements and rating requirements

CALIFORNIA DEBT AND INVESTMENT ADVISORY COMMISSION

PEP 1.85 4/30/20 – Highly Rated, U.S. Domiciled, Medium-Term Bond (Fundamentals, Event Risk, and Relative Valuation should be considered)

DES
PEPSICO INC PEP1.85 04/30/20 98.182/98.182 (2.258/2.258) TRAC
PEP 1.85 04/30/20 Corp Page 1/11 Description: Bond
94) Notes 95) Buy 96) Sell 97) Settings
21) Bond Description 22) Issuer Description

Pages
1) Bond Info
2) Addtl Info
3) Covenants
4) Guarantors
5) Bond Ratings
6) Identifiers
7) Exchanges
8) Inv Parties
9) Fees, Restrict
10) Schedules
11) Coupons
Quick Links
32) ALLQ Pricing
33) QRD Quote Reca
34) TDH Trade Hist
35) CAC Corp Action
36) CF Prospectus
37) CN Sec News
38) HDS Holders
39) VPR Underly Info
66) Send Bond

Issuer Information
Name PEPSICO INC
Industry Food & Beverage

Security Information
Mkt Iss Global
Country US Currency USD
Rank Sr Unsecured Series
Coupon 1.85 Type Fixed
Cpn Freq S/A
Day Cnt 30/360 NON-EOM Iss Price 99.94300
Maturity 04/30/2020
MAKE WHOLE @10 until 03/30/20/ CALL 03/30/2...
Iss Sprd 52.00bp vs T 1 3/8 03/31/20
Calc Type (1)STREET CONVENTION
Announcement Date 04/27/2015
Interest Accrual Date 04/30/2015
1st Settle Date 04/30/2015
1st Coupon Date 10/30/2015

Identifiers
ID Number EK8837743
CUSIP 713448CS5
ISIN US713448CS53

Bond Ratings
Moody's A1
S&P A
Fitch A
Composite A

Issuance & Trading
Amt Issued/Outstanding
USD 750,000.00 (M) /
USD 750,000.00 (M)
Min Piece/Increment
2,000.00 / 1,000.00
Par Amount 1,000.00
Book Runner CITI,MLPFS,MS
Reporting TRACE

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 157620 EDT GMT-4:00 H143-5877-0 05-Aug-2015 13:09:58

Section 5

How investing in corporates addresses the need for safety, liquidity and yield in the public investment portfolio.

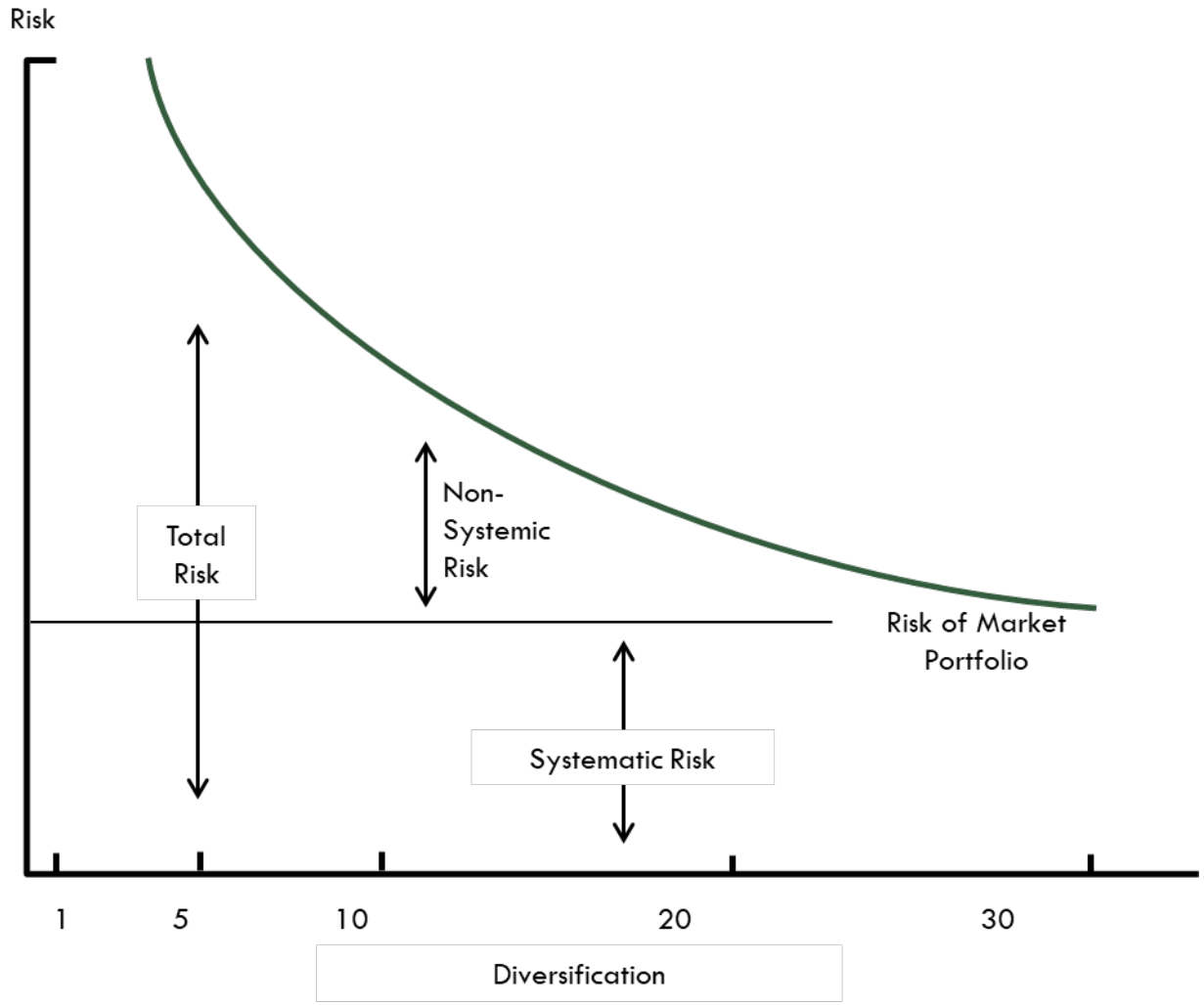
Diversification

Diversification may provide additional safety, liquidity, and yield

- A diversified portfolio is one that holds a variety of securities with different characteristics
- Diversification can reduce risk, but cannot eliminate risk
- Diversification can reduce volatility
- The idea of diversification is to create a portfolio with the best combination of risk and expected return

Diversification

Total risk is comprised of market risk and issuer-specific risk. As portfolio diversification increases, total risk declines



Diversification

Diversification can help to reduce issuer-specific risk

- Systematic or market risk cannot be diversified
  - Market risk impacts all securities
- Idiosyncratic risk can be diversified
  - Asset type
  - Industry
  - Issuer

Diversification

A well diversified portfolio has the potential to provide a greater level of safety and reduce the volatility of returns

Section 6

The analysis required prior to investing in corporates.

Corporate Bond Analysis: Credit Outlook

- While both top-down and bottom-up approaches have a similar goal, their methodologies are markedly different

Top Down	Bottom Up
Macroeconomic	Cashflow, EBITDA, Debt, etc.
Geopolitical Landscape	Revenue / Earnings Growth Expectations
Sector/Industry Outlook	Peer Analysis Within Sector
Ratings Categories	Sub / Senior / Guarantees
Maturity/Liquidity Profile	Outlook for Industry

Relative Value

Source: Wells Fargo Securities

Credit Research & Analysis

- Thorough research and analysis of corporate issuers and industry fundamentals can also help to mitigate risk
- Issuers should be monitored to help anticipate changes in credit quality
- Credit ratios help determine credit quality
- Credit ratios can be evaluated in the context of historical trends and relative to industry peers

Issuer Specific Research & Analysis

- There are a variety of useful topics to explore when analyzing corporate bond issues

Earnings	Current and historical earnings to evaluate trends Compare to peers
Sales/Revenue	Current and historical sales growth to evaluate trends Compare to peers Are sales cyclical? What point in growth cycle are sales?
Balance Sheet	Analyzing a company's balance sheet varies depending on industry as certain line items may or may not exist for the particular industry i.e. physical stores to measure sales per square foot
Cash Flow Analysis	Assessing cash inflows and outflows Are there unexpected or sudden cash outflows? What is the company's main source of cash inflow? Is it sales? Or is it debt issuance?

Source: Wells Fargo Securities

Issuer Specific Research & Analysis

- There are a variety of useful topics to explore when analyzing corporate bond issues

Ratio Analysis	There are various ratios that can used to assess a company's value as well as its efficiency of operations, etc.
Management & Corporate Governance	Important to pay attention to the "make-up" of management (i.e. How long have professionals been in management/leadership role? Have there been any recent changes to the "make-up"?) Read management presentations/letters What kind of checks and balances are in place?
Equity Analysis	Analysis to determine a company's value. Through determining a company's value, an investor can assess if the current offered equity price is properly valued - If the company is overvalued, its debt / equity ratio may be overly optimistic
Bond Covenants	How restrictive are covenants? What type of covenants exist? Is the company at risk for breaching a covenant? - Generally bonds have few covenants, but loans and revolving lines of credit, which are valuable sources of capital have covenants which, if breached, would have an influence on corporate bonds

Source: Wells Fargo Securities

Issuer Specific Research & Analysis

CALIFORNIA DEBT AND INVESTMENT ADVISORY COMMISSION

- There are a variety of useful topics to explore when analyzing corporate bond issues

NRSRO Ratings	• Nationally recognized statistical rating organizations – NRSROs. Ratings from NRSROs can help assess the credit worthiness of an investment, however ratings should not be the only determinant to assess value in a corporate bond • For a list of NRSROs, visit the Office of Credit Ratings on the SEC website at http://www.sec.gov/ocr
Capital Structure	• What does the company's capital structure (how it finances itself) look like? • What are the main sources of financing?
Liquidity	• Does the company have access to cash or assets which can be converted to cash relatively quickly? • How much liquidity does the company current have relative to its amount of liabilities? • How does the company's liquidity compare to industry standards (peers)?
Event Risk	• There are situations that can negatively affect a company, these situations are referred to as Event Risk. • These situations can refer to actual events such as a terrorist attack or corporate takeover (i.e. merger & acquisition) or potential events that can affect a company's rating or liquidity (i.e. if certain covenants are breached)

Source: Wells Fargo Securities, U.S. Securities and Exchange Commission

Ratio Analysis

Interest Coverage

- **Used to determine how easily a company can pay interest on outstanding debt**

$$= \frac{EBIT}{Interest\ Expense}$$

Total Debt/Capital

- Measures a company's financial leverage

$$= \frac{Debt}{Shareholders\ Equity + Debt}$$

Return on Equity

- The amount of net income returned as a percentage of shareholders equity

$$= \frac{Net\ Income}{Shareholders\ Equity}$$

Free Cash Flow/Debt

- Debt coverage ratio – estimates the amount of time it would take to repay debt if all FCF was devoted to debt repayment

$$= \frac{Free\ Cash\ Flow}{Debt}$$

Debt/EBITDA

- **Measures a company's ability to pay off its incurred debt**

$$= \frac{Debt}{EBITDA}$$

Debt/Equity

- **Measures a company's financial leverage**

$$= \frac{Total\ Liabilities}{Shareholders\ Equity}$$

Short-term Debt/Total Debt

- **Measures a company's reliance on short-term debt**

$$= \frac{Short - term\ Debt < 1YR}{Total\ Debt}$$

Source: Wells Fargo Securities

Ratio Analysis

Asset Turnover	Accounts Receivable Turnover	Days Sales in Inventory	Working Capital Ratio
▪ Measures a company's ability to generate sales from its assets	▪ Measures how many times a business can turn its accounts receivable into cash during a period	▪ Measures the number of days it will take a company to sell all of its inventory	▪ Also called the current ratio or liquidity ratio. Measures a company's ability to pay off its current liabilities with current assets
$= \frac{Net\ Sales}{Avg\ Total\ Assets}$	$= \frac{Net\ Credit\ Sales}{Avg\ Accounts\ Receivable}$	$= \frac{Ending\ inventory}{Cost\ of\ Good\ Sold} \times 365$	$= \frac{Current\ Assets}{Current\ Liabilities}$

- Ratio analysis can be compared across peers to determine a company's relative strengths and weaknesses as well as to gauge the value of the various calculated ratios
- Ratio analysis is more useful when compared across a timeframe rather than just using a specific point in time. Through comparing values over time, one can gather intelligence on a company's current performance

Source: Wells Fargo Securities

Section 7

Types of risks associated with corporates and comparison to other asset classes.

Investment Benefits and Considerations

Benefits

- Diversification
  - The universe of available corporate bonds is vast, encompassing different sectors of the economy as well as a range of investment objectives (interest rate, maturity, etc), for short-term investors, diversification away from financial risk is very important
- Steady income
  - Most fixed income corporate bond securities pay interest semi-annually, allowing for a steady income stream to the investor
- Attractive yields
  - Corporate bonds offer a higher yield than similar-maturity government bonds
- Liquidity
  - The market is very large and secondary trading is quite active.

Considerations

- Economic/Market risk
  - Market and economic dynamics can affect new corporate bond issuance as well as trading spreads
- Credit risk
  - Measured by the likelihood of default . This risk is calculated in both the bond rating as well as the spread over the appropriate treasury rate
- Interest rate risk
  - Fluctuations in interest rates can cause movements in the price and subsequently, the bonds yield and return, if sold before maturity
- Liquidity risk
  - Liquidity can fluctuate based on an individual issuer dynamics. An investor should not not rely on dealer liquidity as a backstop
- Call risk
  - Some corporate bonds are issued with a make-whole call which gives the issuer the option to call a bond prior to maturity.
- Inflation risk
  - As inflation fluctuates, so will an investor's real return

Source: Wells Fargo Securities

Investment Benefits and Considerations

Credit Risk	▫ Each corporation operates in a unique manner therefore factors that affect credit risk, which include default and rating changes, can vary
Event Risk	▫ Each corporation is subject to both industry and company specific situations that may cause adverse changes to the company's financial strength
Liquidity Risk	▫ Liquidity risk will vary from company to company as well as across the various maturities available from a specific company
Call Risk	▫ Call risk can vary dramatically from company to company as well as within a corporation, as there may be economic and non-economic reasons for a company to call bonds away at any time

Source: Wells Fargo Securities

Managing Risk

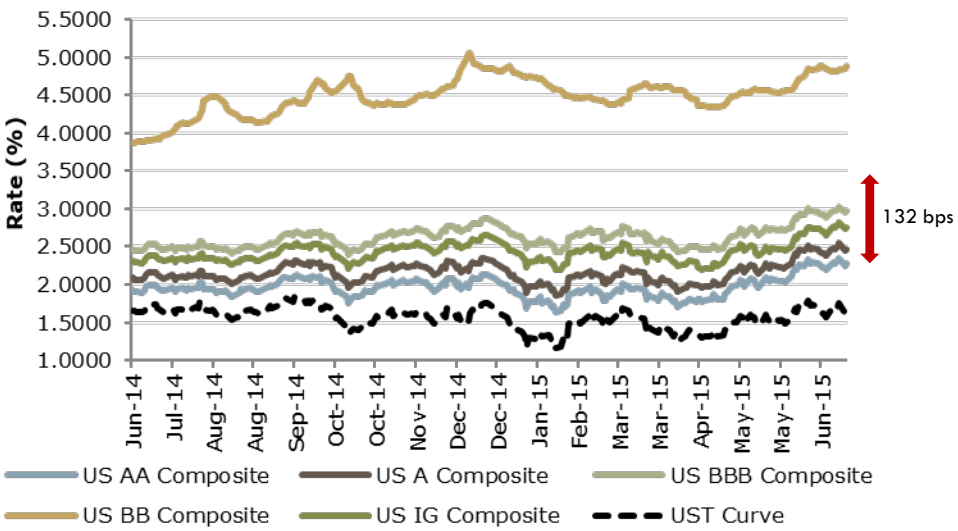
- Investors can manage and/or reduce risk in a variety of ways:
  - Diversification
    - Industries/Sectors
    - Issuers
    - Maturities
  - Credit research and analysis
    - There are a variety of resources for investors to acquire knowledge of a corporation and its debt such as rating agency reports, credit analyst reports, etc
  - Credit monitoring
    - Ongoing monitoring of corporate bonds to analyze rating changes, spread changes as well as current news, will help investors manage risk

Source: Wells Fargo Securities

Corporate Bond Spread Indications

CALIFORNIA DEBT AND INVESTMENT ADVISORY COMMISSION

Corporate Rate Comparison – 5 Years



Current Rates (%)	
AA	2.2740
A	2.4700
BBB	2.9660
BB	4.8850
IG	2.7490
UST	1.6479

Spreads	
AA / BB	261.1 bps
AA / BBB	69.2 bps
AA / UST	62.61 bps
A / UST	82.21 bps
BBB / UST	131.81 bps

Data as of June 30, 2015
Source: Wells Fargo Securities, Bloomberg

Monitoring Corporate Issuers

Issuers should be monitored on a daily basis to help anticipate changes in credit quality

- Key Aspects of Credit Research:
  - Quarterly and Annual Earnings, Revenues, Cash Flows
  - Credit ratios over time and relative to peers
  - Bond Covenants and Changes to Issuer's Capital Structure
  - Equity Performance
  - Event Risk
  - NRSRO Ratings Changes
  - Industry Trends and Economic Cycles
  - Overall news flow (issuer-specific, industry, and economic)

Resources

- There are a variety of sources in which to obtain information for analyzing corporate bonds, including:
  - SEC filings
  - Press releases
  - Credit research reports
  - Equity research reports
  - Bloomberg
  - News publications, ie. Wall Street Journal, Financial Times, Reuters
  - Management presentations
  - Investor/analyst meetings

Source: Wells Fargo Securities

Key Terms

Collateral - Assets pledged by a borrower to secure repayment of a loan or bond.

Coupon – A bond's stated interest rate.

Default – A borrower's failure to make timely payments of interest and principal when due or to meet other requirements related to the bonds.

Face Value – The value that appears on the front, or face, of a bond, which represents the amount the issuer promises to repay at maturity. Also known as par or principal amount.

Interest – Compensation paid or to be paid for the use of money, generally expressed as an annual percentage rate. The rate may be constant over the life of the bond (fixed-rate), or may change from time to time by reference to an index (floating-rate).

Liquidity – Capacity of a market to absorb a reasonable level of buying/selling without significant movements in the price.

Maturity – The date when the principal amount of a bond becomes due and payable.

Security – Collateral pledged by a bond issuer (debtor) to an investor (lender) to secure repayment of the loan.

Volatility – The propensity of a security's price to rise or fall.

Source: Wells Fargo Securities

Wells Fargo Disclaimer

This publication is intended for institutional accounts only (as defined in FINRA Rule 4512), please do not forward.

Strategist Commentary is a product of Wells Fargo Securities Fixed Income Sales and Trading and is not a product of Wells Fargo Securities, LLC's Research, Economics and Strategy. The views expressed herein might differ from those of Research, Economics and Strategy.

Important Information for Non-U.S. Recipients

This report is prepared by Wells Fargo Securities, LLC in accordance with U.S. law and applicable rules and regulations for use by institutional investors. The securities and related financial instruments described herein may not be eligible for sale in all jurisdictions or to certain categories of investors. This report is not intended for, and should not be relied upon, by retail investors. Please consult your Investment Representative for additional information. U.S. residents are directed to wellsfargo.com for investment and related services.

Important Information for Australian Recipients

Wells Fargo Securities, LLC is exempt from the requirements to hold an Australian financial services license in respect of the financial services it provides to wholesale clients in Australia. Wells Fargo Securities LLC is a U.S. broker dealer registered with the U.S. Securities and Exchange Commission and a member of FINRA and SIPC. Wells Fargo Securities, LLC is regulated under U.S. laws which differ from Australian laws. Any offer or documentation provided to you by Wells Fargo Securities, LLC in the course of providing the financial services will be prepared in accordance with the laws of the United States and not Australian laws.

Important Disclosures Relating to Conflicts of Interest and Potential Conflicts of Interest

Wells Fargo Securities, LLC may sell or buy the subject securities to/from customers on a principal basis. Wells Fargo Securities, LLC has or may have proprietary positions in the securities mentioned herein. The trading desk has or may have proprietary positions in the securities mentioned herein. The author's compensation is based on, among other things, Wells Fargo Securities, LLC's overall performance, the profitability of Wells Fargo Securities, LLC's Markets Division and the profitability of the trading desk.

This report is for your information only and is not an offer to sell or a solicitation of an offer to buy the securities or instruments named or described in this report. Interested parties are advised to contact the entity with which they deal, or the entity that provided this report to them, if they desire further information. The information in this report has been obtained or derived from sources believed by Wells Fargo Securities, LLC to be reliable, but Wells Fargo Securities, LLC does not represent that this information is accurate or complete. Any opinions or estimates contained in this report represent the judgment of Wells Fargo Securities, LLC at this time and are subject to change without notice. Wells Fargo Securities, LLC and its affiliates may from time to time provide advice with respect to, acquire, hold or sell a position in, the securities or instruments named or described in this report.

About Wells Fargo Securities

Wells Fargo Securities is the trade name for the capital markets and investment banking services of Wells Fargo & Company and its subsidiaries, including but not limited to Wells Fargo Securities, LLC, a member of NYSE, FINRA, NFA and SIPC, Wells Fargo Prime Services, LLC, a member of FINRA, NFA and SIPC, and Wells Fargo Bank, N.A. Wells Fargo Securities, LLC and Wells Fargo Prime Services, LLC are distinct entities from affiliated banks and thrifts.

Copyright© 2015 Wells Fargo & Company

SECURITIES: NOT FDIC:-INSURED/NOT BANK-GUARANTEED/MAY LOSE VALUE

Source: Wells Fargo Securities

QUESTIONS

Public Investment Webinar Series: The Public Investment Portfolio

CALIFORNIA DEBT AND INVESTMENT ADVISORY COMMISSION

Webinar 4:	Money Markets Part 2: CDs, Deposit Placement Services and Collateralized Bank Deposits	Postponed to September 9
Webinar 6:	Asset-Backed Securities, Mortgage-Backed Securities and Collateralized Mortgage Obligations	September 2
Webinar 7:	Mutual Funds, Money Market Mutual Funds and Local Government Pooled Investments	September 16

For more information or to register, go to
http://www.treasurer.ca.gov/cdiac/webinars/2015/portfolio/description.asp

Thank you for your participation.

A Certificate of Attendance will be emailed to you within a week.