



Credit Markets and Products

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The Credit Rating Agencies

The "Big Three" credit rating agencies control approximately 95% of the global ratings business.

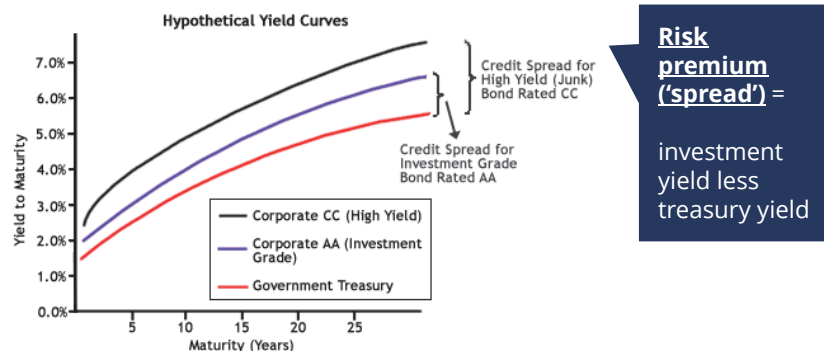
The "Big Three" credit rating agencies	
Standard & Poor (S&P)	
Moody's Investor Service	
Fitch Ratings	

Fitch	S&P	Moody's	Rating grade description (Moody's)		
AAA	AAA	Aaa	Investment grade	Minimal credit risk	
AA+	AA+	Aa1		Very low credit risk	
AA	AA	Aa2			
AA-	AA-	Aa3		Low credit risk	
A+	A+	A1			
A	A	A2			
A-	A-	A3	Investment grade	Moderate credit risk	
BBB+	BBB+	Baa1			
BBB	BBB	Baa2			
BBB-	BBB-	Baa3		Substantial credit risk	
BB+	BB+	Ba1	Speculative grade		
BB	BB	Ba2			
BB-	BB-	Ba3			
B+	B+	B1	High credit risk		
B	B	B2			
B-	B-	B3			
CCC+	CCC+	Caa1	Speculative grade	Very high credit risk	
CCC	CCC	Caa2			
CCC-	CCC-	Caa3			
CC	CC	Ca		In or near default, with possibility of recovery	
C	C				
DD	SD	C		In default, with little chance of recovery	
D	D				

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Credit Spreads

A Nominal Credit Spread is the difference in YTM between a non-treasury item and a treasury security of the same duration.



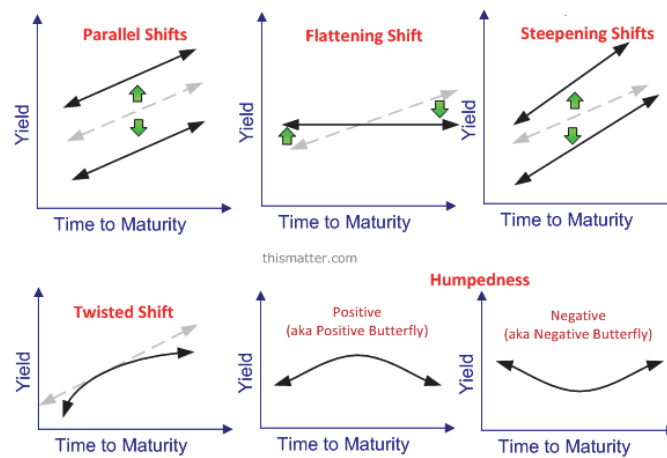
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Trading on Credit Spreads and Shifts

Expectation of creditworthiness of corporate bond	Spread	Trade: Treasury Bond	Trade: Corporate Bond	Trade: CDS
IMPROVES	Contract	Sell (?)	Buy	Sell CDS and receive premium
MAINTAINED	Unchanged	No trade	No trade	No trade
DETERIORATES	Widen	Buy (?)	Sell	Buy CDS and pay premium

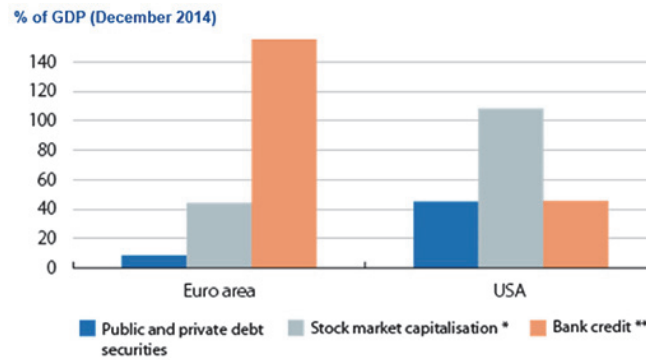
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Yield Curve Shifts



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European vs U.S. Markets



Notes: *Stock market capitalization of S&P 500 for the USA and of Eurostaxx 600 for the euro area.

**Includes bank loans to the public and private sector.

Source: "la Caixa" Research, based on data from Bloomberg, Sifma, the ECB and the Federal Reserve.

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US Debt Markets

The U.S. is the largest debt market globally representing around one third by total USD\$ value

Outstanding U.S. bond market debt	USD\$ (billions)	%
Treasury	13,954	35
Mortgage related	8,969	23
Corporate debt	8,631	22
Municipal	3,823	10
Federal Agency Securities	1,982	5
Asset-Backed	1,393	4
Money Markets	937	2
Total	39,689	100

Source: Securities Industry and Financial Markets Association (SIFMA) (Q1 2017)

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Specialist Bond Variations

Callable bonds

Can be redeemed by the issuer from the investor

Eurobonds

Denominated in currency other than home currency

Puttable bonds

Can be sold by the investor to the issuer

Samurai bonds

Yen-denominated, issued by non-Japanese Co.

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Callable (Redeemable) Bonds

Callable Bonds can be redeemed (bought) by the issuer before the maturity date, at a pre-defined price

Issuer has a call option on the bond

Investors are writing this call option so will require higher coupons

Issuer will call the bond if interest rates have come down and they can secure cheaper refinancing elsewhere

Investors do not get the same upside in callable bonds when interest rates are falling as they would to ordinary bonds

A callable bond always has a lower price than price of a straight bond

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Puttable Bonds

Puttable Bonds can be sold back by the investor to the issuer before the maturity date, at a pre-defined price



Investor has a put option on the bond



Investors own this put option so will require lower interest



Investors will sell the bond if interest rates rise sufficiently and they can find better yields elsewhere



A puttable bond always has higher price than price of a straight bond

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Other Specialist Bonds

Eurobonds	Samurai bonds
International Bonds	Yen denominated bonds
NOT denominated in the currency of the country where it is issued	Issued in Japan by non-Japanese companies
Named after the currency in which they are denominated e.g. Euroyen and Eurodollar	Subject to Japanese regulations
Traded in many countries - not just in Europe	Could provide issuer with lower funding costs OR serve as a hedge on the issuers overall currency exposure

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Contingent Convertible Bonds (CoCos)

Is a fixed-income instrument that is **convertible** into equity if a pre-specified trigger event occurs.

Recapitalises the bank in times of distress.

Trades at a **discount** vs straight bond.

Collectively known as 'trigger events'

Regulatory Capital Requirements as per the Bond documentation, e.g. Min Tier 1 or 2 Capital or CET 1 ratio

A **ratings downgrade**
e.g. (AAA→AA)

A **regulatory compliance breach** or penalty

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Typical IB Credit Markets Structure

Trading Desks: Agency flow transactions

IB DCM Market Groups:

Investment Grade Capital Markets
High-credit quality

Structured Finance
Securitisation

Leveraged Finance Capital Markets
High-yield

Emerging Markets Financing Group
Issuance & structured

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