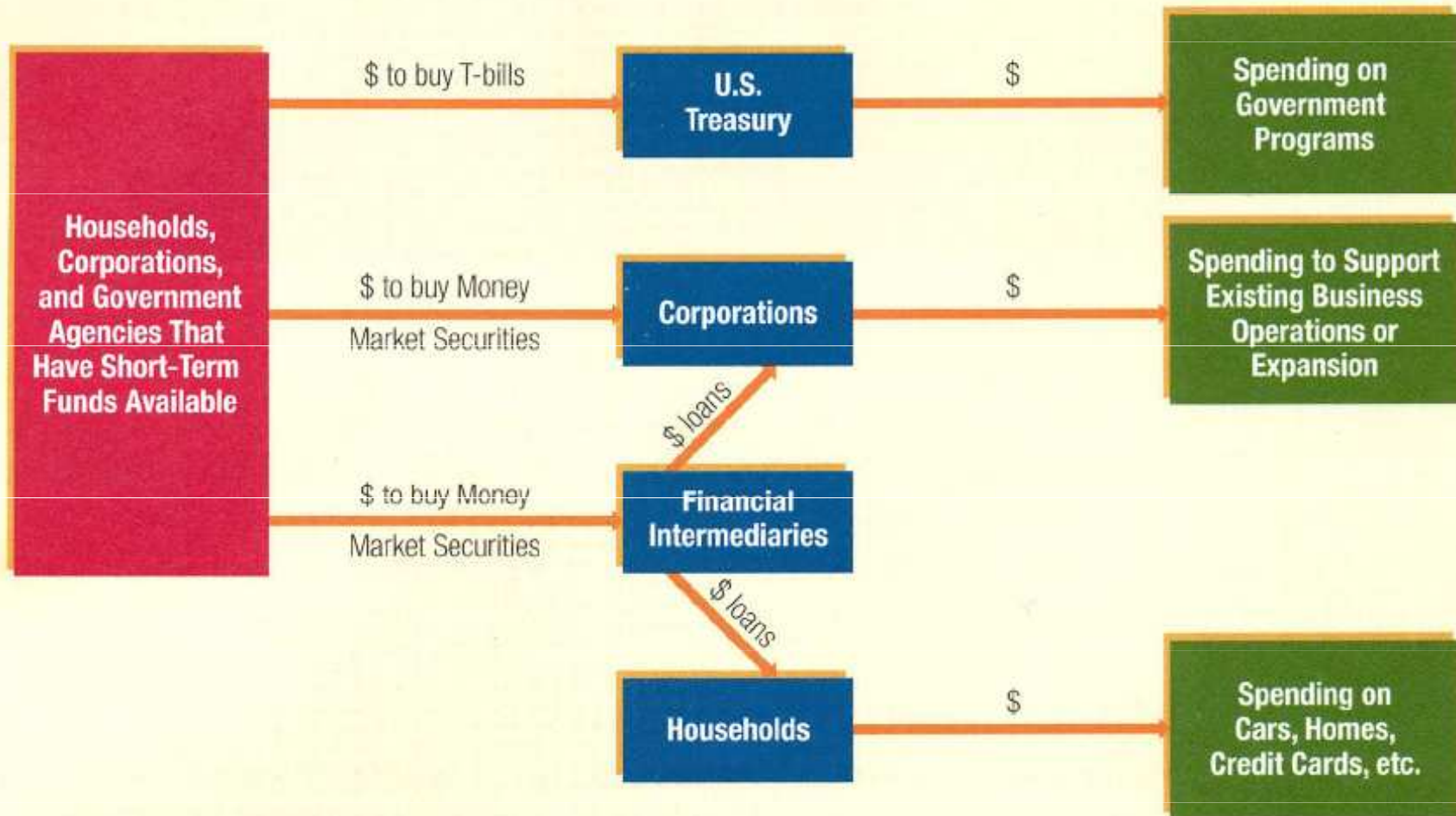

Money Markets

Money Markets

- ...to facilitate the transfer of short-term funds from individuals, corporation and governments
 - ...to maintain liquidity
-

Money Markets Securities

- ...debt securities with maturity of one year or less
 - ...issued in primary market to obtain short term financing
 - ...liquidity provides by secondary market
 - commonly purchase by households, corporations and government agencies
-



■ Source: Madura, J.: *Financial Markets and Institutions*, 9th Edition

Money Market Securities

- T-Bills
 - Commercial paper
 - Negotiable certificates of deposit
 - Repurchase agreements
 - Federal funds
 - Banker's acceptance
-

Treasury Bills (T-Bills)

- Issued to meet the short-term needs of government
- Typical
 - 4-week, 13-week, 26-week maturities on a weekly basis
- Periodically issued T-Bills
 - Cash management bills
- The par value (face value) was historically a minimum of \$10,000, but now \$1,000 and its multiples
- No pay any interest issue with discount from par value
 - Gain difference between par value and money paid
- Backed by federal government
 - Low default (credit) risk
- High level of liquidity
 - Secondary market and government security dealers

<HELP> for explanation.

<Search> 98 Export 99 Feedback 1-19 of 32 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) Exclude: Matured/Called 61) Column Settings

R	Name	Tick	Coupon	Maturity	Mty Type	Cou	Curr	Identifier	BB Rtg	Ask Px	Source	Type
		B										
1	United States Treasury Bill	B	N/A	02/05/2015	NORMAL	US	USD	912796DG1	NA	.0950	BGN	
2	United States Treasury Bill	B	N/A	01/08/2015	NORMAL	US	USD	912796DF3	NA	.0900	BGN	
3	United States Treasury Bill	B	N/A	12/11/2014	NORMAL	US	USD	912796DB2	NA	.0850	BGN	
4	United States Treasury Bill	B	N/A	11/13/2014	NORMAL	US	USD	912796CL1	NA	.0800	BGN	
5	United States Treasury Bill	B	N/A	10/16/2014	NORMAL	US	USD	912796CF4	NA	.0750	BGN	
6	United States Treasury Bill	B	N/A	09/18/2014	NORMAL	US	USD	912796CB3	NA	.0750	BGN	
7	United States Treasury Bill	B	N/A	08/28/2014	NORMAL	US	USD	912796DR7	NA	.0700	BGN	
8	United States Treasury Bill	B	N/A	08/21/2014	NORMAL	US	USD	912796BX6	NA	.0700	BGN	
9	United States Treasury Bill	B	N/A	08/14/2014	NORMAL	US	USD	912796DQ9	NA	.0650	BGN	
10	United States Treasury Bill	B	N/A	08/07/2014	NORMAL	US	USD	912796DL0	NA	.0550	BGN	
11	United States Treasury Bill	B	N/A	07/31/2014	NORMAL	US	USD	912796DK2	NA	.0450	BGN	
12	United States Treasury Bill	B	N/A	07/24/2014	NORMAL	US	USD	912796BT5	NA	.0500	BGN	
13	United States Treasury Bill	B	N/A	07/17/2014	NORMAL	US	USD	912796DJ5	NA	.0500	BGN	
14	United States Treasury Bill	B	N/A	07/10/2014	NORMAL	US	USD	912796DH9	NA	.0450	BGN	
15	United States Treasury Bill	B	N/A	07/03/2014	NORMAL	US	USD	912796DE6	NA	.0450	BGN	
16	United States Treasury Bill	B	N/A	06/26/2014	NORMAL	US	USD	912796BP3	NA	.0500	BGN	
17	United States Treasury Bill	B	N/A	06/19/2014	NORMAL	US	USD	912796DD8	NA	.0400	BGN	
18	United States Treasury Bill	B	N/A	06/12/2014	NORMAL	US	USD	912796DC0	NA	.0400	BGN	
19	United States Treasury Bill	B	N/A	06/05/2014	NORMAL	US	USD	912796DA4	NA	.0400	BGN	

Zoom 100%

B 0 08/14/14 ↑ 0.0650 -- 0.0700 / 0.0650 0.071 / 0.066 -- x --
 At 9:26 Op 0.0650 Hi 0.0650 Lo 0.0650 Prev 0.0650 BGN

B 0 08/14/14 Govt

Page 1/11 Description: Bond

95 Buy

96 Sell

97 Settings

21) Bond Description

22) Issuer Description

Pages	Issuer Information	Identifiers	
1) Bond Info	Name TREASURY BILL	ID Number 912796DQ9	
2) Addtl Info	Industry US GOVT NATIONAL	CUSIP 912796DQ9	
3) Covenants	Security Information		
4) Guarantors	Issue Date 02/13/14	ISIN US912796DQ92	
5) Bond Ratings	Interest Accrues	SEDOL 1 BJT3H56	
6) Identifiers	1st Coupon Date	BBGID BBG005ZCPVZ9	
7) Exchanges	Maturity Date 08/14/14	Issuance & Trading	
8) Inv Parties	Floater Formula N.A.	Disc @ Issue .1100	
9) Fees, Restrict	Workout Date	Risk Factor .446	
10) Schedules	Cpn Frequency Security Type USD	Amount Issued 42001 (MM)	
11) Coupons	Mty/Refund Type NORMAL Type NONE	Amount Outstanding 42001 (MM)	
Quick Links	Calc Type DISCOUNT	Minimum Piece 100	
32) ALLQ Pricing	Day Count ACT/360	Minimum Increment 100	
33) QRD Quote Recap	Market Sector US GOVT		
34) CACS Corp Action	Country US Currency USD		
35) CN Sec News	TENDERS ACCEPTED: \$42001MM.		
36) HDS Holders			
66) Send Bond			

B 0 08/21/14 ↓0.0650 -- 0.0750 / 0.0650 0.076 / 0.066 -- x --
 At 9:30 Op 0.0700 Hi 0.0700 Lo 0.0650 Prev 0.0650 BGN

B 0 08/21/14 Govt 92) Stop Monitoring 93) What's New All Quotes

09:30:43 Overlay Axes 95) Buy 96) Sell 97) Settings

Spreads vs

33) ALLQ 34) ALLX

PCS	Firm Name	Bid Px	Ask Px	Bid Yld	Ask Yld	BSz(MM)	ASz(MM)	Time
CBBT	FIT COMPOSITE	.0750 / .0650		.076 / .066			x	09:30
BVAL	BVAL (Score 10)	.0709 / .0672		.072 / .068			x	08:00
CATR	Credit Agricole	.0750 / .0650		.076 / .066		5 x 5		09:30
BGN	BLOOMBERG GEN	.0750 / .0650		.076 / .066			x	09:30
BBNY	BBVA Securities	.0750 / .0700		.076 / .071		10 x 10		09:29
CFNY	Cantor Fitzgeral	.0750 / .0650		.076 / .066		10 x 10		02:00
EDF	ED&F MAN	.0750 / .0650		.076 / .066		25 x 25		01:41
WUSC	WUNDERLICH SE	.0750 / .0650		.076 / .066		50 x 50		3/02
GXC	G X CLARKE	.0800 / .0675		.001 / .001		25.001 x 25.001		02/28
JCUT	Jefferies Trsy	.0730 / .0680		.074 / .068		10 x 10		02/28
NONY	Nomura UST & A	.0760 / .0660		.001 / .001		1 x 1		2/28
MZZH	Mizuho Securiti	.0710 / .0650		.071 / .066			x	02/28
GBAN	ICAP GBAN Trea	.0750 / .0650		.076 / .066			x	02/28
BBT3	CBBT - FUTURES	.0750 / .0700		.076 / .071			x	02/28
HSTS	HSBC Securities	.0690 / .0660		/			x	2/27

98) Filter and Pricing (PCS) Defaults

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 2014 Bloomberg Finance L.P.
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Treasury Bills (T-Bills)

- Investors in T-Bills
 - Depository institutions
 - Retain portfolio
 - Liquidity
 - Individuals
 - Liquidity
 - Money market funds
 - Corporation
 - Liquidity
-

Treasury Bills (T-Bills)

- Pricing T-Bills
 - Not pay interest
 - Priced at discount from their par value
 - Price that investor will pay depends on investor's required rate of return
 - Price = present value of the future cash flows to be received
 - Present value of par value (face value)
-

Pricing T-Bills

$$Y_T = \frac{SP - PP}{PP} \times \frac{365}{n}$$

$$\text{T-bill discount} = \frac{\text{Par} - PP}{\text{Par}} \times \frac{360}{n}$$

where

SP = selling price

PP = purchase price

n = number of days of the investment (holding period)

EXAMPLE

An investor purchases a T-bill with a six-month (182-day) maturity and \$10,000 par \$9,600. If this T-bill is held to maturity, its yield is

$$Y_T = \frac{\$10,000 - \$9,600}{\$9,600} \times \frac{365}{182} = 8.36\%$$

Treasury Bills (T-Bills)

- Treasury Bill Auctions
 - The primary market with T-Bills is organized as an auction
 - Competitively or noncompetitively (max. \$5 million per auction)
 - Individuals online bids www.treasurydirect.gov
 - Financial institutions online by Treasury Automated Auction Processing System TAAOSLink
 - Account with T-Bills
 - Electronic maintenance of T-Bills
-

Competitive Bidding

- Treasury bill auction (fill bids in amount determined by Treasury borrowing needs)
 - Bid process used to sell T-bills
 - Bids submitted to Federal Reserve banks by the deadline
 - Bid process
 - Accepts highest bids
 - Accepts bids until Treasury needs generated

Noncompetitive Bidding

- Treasury bill auction—noncompetitive bids (\$5 million limit)
 - ❑ May be used to make sure bid is accepted
 - ❑ Price is the weighted average of the accepted competitive bids
 - ❑ Investors do not know the price in advance so they submit check for full par value
 - ❑ After the auction, investor receives check from the Treasury covering the difference between par and the actual price

Treasury Bills (T-Bills)

- Estimating the Yield
 - Difference between the selling price and the purchase price
 - Estimating the T-bills discount
 - The percent discount of the purchase price from par value
 - For a newly issued T-Bills that will be held till maturity
 - T-Bill yield > T-Bill discount
-

Commercial paper

- Short-term debt instrument
 - 20 and 45 days
 - 1 day or 270 days (SEC, otherwise registered)
 - Alternative to bank loan
 - Dealer placed vs. directly placed
 - Used only by well-known and creditworthy firms
 - Unsecured
 - Minimum denominations of \$100,000
 - Typical denomination are in multiples of \$1 million
 - Not a secondary market or very limited
 - Sometime it is possible to sell the paper back to the dealer
 - In most cases hold till maturity
-

Commercial paper

■ Ratings

- ❑ Credit or default risk
- ❑ Indicator of a the potential risk of default
- ❑ Money market funds – top or second tire (5 % of assets) rating
- ❑ Junk commercial papers low or no rating

■ Credit risk during the Credit Crisis

- ❑ Historically the percentage of issues that have defaulted is very low
-

Commercial paper

- Placement

- Directly

- Dealers

- Transaction cost at 1/8 to 1 percentage of FV

- Backing Commercial Paper

- Backup lines of credit

- Bank line used if company loses credit rating

- Bank lends to pay off commercial paper

- Bank charges fees for guaranteed line of credit

Commercial paper

- Estimating of Yield
 - Do not pay interest
 - Priced at a discount
 - Yield slightly higher than the yield on T-Bills with same maturity
 - Credit risk
 - Less liquid
 - The nominal return
 - Difference between the price paid and the par value
-

Rating grades

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

<HELP> for explanation, <MENU> for similar functions.
 #GO to launch CRPR for Sovereign, Click ratings to view history

Global 1) Settings Sovereign Ratings

Foreign Currency
 Local Currency
 Ignore Watch
 Highlight changes within last 20 Business days

Country	Foreign Currency Long Term				Foreign Currency Short Term				Last Update mm/dd/yyyy
	Moody's	S&P	Fitch	R&I	Moody's	S&P	Fitch	R&I	
21) Macau	Aa2	NR	AA-	NR	NR	NR	F1+	NR	03/02/2014
22) United Kingdom	Aa1	AAAu	AA+	AAA	NR	A-1+u	F1+	NR	02/28/2014
23) Honduras	B3	B	NR	NR	NR	B	NR	NR	02/27/2014
24) China	Aa3	AA-	A+	A+	NR	A-1+	F1	a-1	02/26/2014
25) Jamaica	Caa3	B-	B-	NR	NR	B	B	NR	02/25/2014
26) Ukraine	Caa2	CCC	CCC	B- *-	NR	C	C	NR	02/24/2014
27) Spain	Baa2	BBB-	BBB	BBB	P-2	A-3	F2	NR	02/21/2014
28) Turkey	Baa3	BB+u	BBB-	BB+	NR	Bu	F3	NR	02/21/2014
29) Isle of Man	Aa1	NR	NR	NR	NR	NR	NR	NR	02/21/2014
30) Malaysia	A3	A-	A-	A	NR	A-2	F2	a-1	02/20/2014
31) Mozambique	B1	B	B+	NR	NR	B	B	NR	02/14/2014
32) Portugal	Ba3	BBu	BB+	BB+	NR	Bu	B	NR	02/05/2014
33) Mexico	A3	BBB+	BBB+	BBB+	WR	A-2	F2	NR	02/05/2014

Legend Up / Down / No Change / Initial / Affirmation (R&I Only)

10) Rating News (N)

11) Rabo Rates Morning Note: Ukraine - positive or negative for the periphery?	RAB	09:47
12) Moody's assigns provisional ratings to China Real Estate Asset Mortgages Limited	BMP	08:42
13) MORE: Macao's Rating Raised to Aa2 at Moody's; Outlook Stable	BFW	05:03
14) Macao's Rating Upgraded to Aa2, Outlook Stable, Moody's Says	BFW	04:59

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<HELP> for explanation.
 <Menu> to Close

Global 1) Settings Sovereign Ratings

Foreign Currency
 Local Currency
 Ignore Watch
 Highlight changes within last 20 Business days

Country	Mood	Rating	watch	Effective	Short Term	R&I	Last Update
21) Macau	Aa2						mm/dd/yyyy
22) United Kingdom	Aa1						
23) Honduras	B3	CCC		02/21/2014			
24) China	Aa3	CCC+		01/28/2014			
25) Jamaica	Caa3	B-		11/01/2013			
26) Ukraine	Caa2	B		12/07/2012			
27) Spain	Baa2	B+		07/29/2010			
28) Turkey	Baa3	B	++	07/22/2010			
29) Isle of Man	Aa1	B		05/17/2010			
30) Malaysia	A3	B-		03/11/2010			
31) Mozambique	B1	CCC+		02/25/2009			
32) Portugal	Ba3	B	*-	02/16/2009			
33) Mexico	A3	B		10/24/2008			
		B+	*-	10/15/2008			
		B+		06/12/2008			

Legend Up / Down /

10) Rating News (N)

- 11) Rabo Rates Morning Note
- 12) Moody's assigns provisio
- 13) MORE: Macao's Rating R
- 14) Macao's Rating Upgrade

Close

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 Europe 44 20 7330 7500
 Germany 49 69 9204 1210
 Hong Kong 852 2977 6000
 Japan 81 3 3201 8900
 Singapore 65 6212 1000
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<HELP> for explanation.

Global		1) Settings				Sovereign Ratings				
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Country	Foreign Currency Long Term				Foreign Currency Short Term				Last Update ↑ mm/dd/yyyy	
	Moody's	S&P	Fitch	R&I	Moody's	S&P	Fitch	R&I		
47) Venezuela	Caa1	B-	B+	NR	NR	B	B	NR	12/16/2013	
48) Democratic Republic	B3	B-	NR	NR	NR	B	NR	NR	12/13/2013	
49) Cape Verde	NR	B	B+	NR	NR	B	B	NR	12/13/2013	
50) Albania	B1	B	NR	NR	NR	B	NR	NR	12/06/2013	
51) Hungary	Ba1	BB	BB+	BBB-	NR	B	B	NR	12/02/2013	
52) Cyprus	(P)Caa3	B-	B-	NR	NP	B	B	NR	11/29/2013	
53) Netherlands	Aaa	AA+u	AAA	AAA	P-1	A-1+u	F1+	NR	11/29/2013	
54) Greece	Caa3	B-	B-	CC	NP	B	B	NR	11/29/2013	
55) Thailand	Baa1	BBB+	BBB+	BBB+	WR	A-2	F2	a-2	11/15/2013	
56) Egypt	Caa1	B-	B-	NR	NR	B	B	NR	11/15/2013	
57) France	Aa1	AAu	AA+	AAA	NR	A-1+u	F1+	NR	11/08/2013	
58) Lebanon	B1	B-	B	NR	NP	B	B	NR	11/01/2013	
59) Benin	NR	NR	WD	NR	NR	NR	WD	NR	11/01/2013	

Legend	Up	/	Down	/	No Change	/	Initial	/	Affirmation (R&I Only)
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10) Rating News (N)		
11)	Rabo Rates Morning Note: Ukraine - positive or negative for the periphery?	RAB 09:47
12)	Moody's assigns provisional ratings to China Real Estate Asset Mortgages Limited	BMP 08:42
13)	MORE: Macao's Rating Raised to Aa2 at Moody's; Outlook Stable	BFW 05:03
14)	Macao's Rating Upgraded to Aa2, Outlook Stable, Moody's Says	BFW 04:59

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<HELP> for explanation.
 <Menu> to Return, Enter #<Go> for Rating Profile

9) Company Tree Ratings

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Credit Rating Profile

Hellenic Republic

MOODY'S		13) STANDARD & POOR'S 	
1) Outlook	STABLE	14) Outlook	STABLE
2) CC LT Foreign Bank Depst	B3	15) Foreign Currency LT Debt	B-
3) CC LT Foreign Curr Debt	B3	16) Local Currency LT Debt	B-
4) CC ST Foreign Bank Depst	NP	17) Foreign Currency ST Debt	B
5) CC ST Foreign Curr Debt	NP	18) Local Currency ST Debt	B
6) Long Term Rating	Caa3		
7) LC Curr Issuer Rating	Caa3	FITCH	
8) FC Curr Issuer Rating	Caa3	19) Outlook	STABLE
9) Foreign Currency LT Debt	Caa3	20) LT FC Issuer Default	B-
10) Local Currency LT Debt	Caa3	21) LT LC Issuer Default	B-
11) Foreign Currency ST Debt	NP	22) Foreign Currency LT Debt	B-
12) Local Currency ST Debt	NP	23) Local Currency LT Debt	B-
		24) Foreign Currency ST Debt	B
		25) ST FC Issuer Default	B

<HELP> for explanation.
 <Menu> to Close

Global 1) Settings Sovereign Ratings

Foreign Currency
 Local Currency
 Ignore Watch
 Highlight changes within last 20 Business days

Country	Mood	Rating	watch	Effective	Short Term	R&I	Last Update
Greece							
43) Uganda	B1					NR	01/17/2014
44) Serbia	B1					NR	01/17/2014
45) Barbados	Ba3	B-		12/18/2012		NR	12/20/2013
46) Tunisia	Ba3	SD		12/05/2012		NR	12/18/2013
47) Venezuela	Caa1	CCC		05/02/2012		NR	12/16/2013
48) Democratic Republic	B3	SD		02/27/2012		NR	12/13/2013
49) Cape Verde	NR	CC		07/27/2011		NR	12/13/2013
50) Albania	B1	CCC		06/13/2011		NR	12/06/2013
51) Hungary	Ba1	B	*-	05/09/2011		NR	12/02/2013
52) Cyprus	(P)Ca	BB-	*-	03/29/2011		NR	11/29/2013
53) Netherlands	Aaa	BB+	*-	12/02/2010	+	NR	11/29/2013
54) Greece	Caa3	BB+		04/27/2010		NR	11/29/2013
55) Thailand	Baa1	BBB+		03/16/2010		a-2	11/15/2013
		BBB+	*-	12/16/2009			
		A-	*-	12/07/2009			

Legend Up / Down / No Change / Initial

10) Rating News (N)

- 11) Rabo Rates Morning Note
- 12) Moody's assigns provisio
- 13) MORE: Macao's Rating R
- 14) Macao's Rating Upgrade

Close

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<HELP> for explanation.

Global 1) Settings Sovereign Ratings
 Foreign Currency Local Currency Ignore Watch Highlight changes within last 20 Business days

Country	Foreign Currency Long Term				Foreign Currency Short Term				Last Update ↑
	Moody's	S&P	Fitch	R&I	Moody's	S&P	Fitch	R&I	
germany									mm/dd/yyyy
21) Germany	Aaa	AAAu	AAA	AAA	NR	A-1+u	F1+	NR	08/06/2013

Legend Up / Down / No Change / Initial / Affirmation (R&I Only)

10) Rating News (N)

- 11) Rabo Rates Morning Note: Ukraine - positive or negative for the periphery? RAB 09:47
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- 13) MORE: Macao's Rating Raised to Aa2 at Moody's; Outlook Stable BFW 05:03
- 14) Macao's Rating Upgraded to Aa2, Outlook Stable, Moody's Says BFW 04:59

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Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000
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<HELP> for explanation.
 <Menu> to Close

Global 1) Settings Sovereign Ratings

Foreign Currency
 Local Currency
 Ignore Watch
 Highlight changes within last 20 Business days

Country	Mood	S&P - Foreign Currency LT Debt	Short Term															
germany		Germany	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>itch</th> <th>R&I</th> <th>Last Update</th> </tr> </thead> <tbody> <tr> <td>1+</td> <td>NR</td> <td>08/06/2013</td> </tr> </tbody> </table>	itch	R&I	Last Update	1+	NR	08/06/2013									
itch	R&I	Last Update																
1+	NR	08/06/2013																
2) Germany	Aaa	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Rating</th> <th>watch</th> <th>Effective</th> </tr> </thead> <tbody> <tr> <td>AAAU</td> <td></td> <td>01/13/2012</td> </tr> <tr> <td>AAAU</td> <td>*-</td> <td>12/05/2011</td> </tr> <tr> <td>AAAU</td> <td></td> <td>02/17/2011</td> </tr> <tr> <td>AAA</td> <td></td> <td>08/17/1983</td> </tr> </tbody> </table>	Rating	watch	Effective	AAAU		01/13/2012	AAAU	*-	12/05/2011	AAAU		02/17/2011	AAA		08/17/1983	
Rating	watch	Effective																
AAAU		01/13/2012																
AAAU	*-	12/05/2011																
AAAU		02/17/2011																
AAA		08/17/1983																

Legend Up / Down /

10) Rating News (N)

1) Rabo Rates Morning Note	Legend Up / Down / No Change / Initial	RAB 09:47
2) Moody's assigns provisio		BMP 08:42
3) MORE: Macao's Rating R		SPW 05:03
4) Macao's Rating Upgrade		SPW 04:59

Close

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Negotiable Certificates of Deposit (NCDs)

- Issued by large commercial banks or depository institutions
 - Minimum denomination of \$100,000 but \$1 million more common
 - Purchased by nonfinancial corporations or money market funds
 - Maturity
 - Two week to one year
 - Secondary markets supported by dealers in security
-

Negotiable Certificates of Deposit (NCDs)

■ Placement

- ❑ Direct placement
- ❑ Use a correspondent institution specializing in placement
- ❑ Sell to securities dealers who resell
- ❑ Sell direct to investors at a higher price

■ Premium

- ❑ Rate above T-bill rate to compensate for lower liquidity and safety

■ Yield

- ❑ Return in the form of interest and difference between the price at which is redeemed (or sold in the secondary market) and the purchase price
-

Repurchase Agreements (Repos)

- Sell a security with the agreement to repurchase it at a specified date and price
 - Loan backed by securities
 - Government securities, commercial papers
 - Borrower defaults, lender has security
 - Maturity
 - From 1day to 15 days or 1, 3, 6 months
 - Reverse repo name for transaction from lender
 - Negotiated over telecommunications network
 - Dealers and brokers used or direct placement
 - No secondary market
-

Repurchase Agreements (Repos)

- Estimating the Yield
 - Difference between initial selling price and the agreed-on repurchase price, annualized with a 360-days year



<HELP> for explanation.

Corp **RRRA**

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REPO/REVERSE REPO ANALYSIS

Repo Type 1 REPO AS OF: 1/30/12 9:25 ISIN: US459200AG65
 IBM CORP IBM8 $\frac{3}{8}$ 11/01/19 141.800/141.800 (2.42/2.42) TRAC @ 1/27
 CUSIP: 459200AG6

SETTLEMENT DATE	2/ 2/12	RATE (360)	0.1000%	SPREAD	0.0000
	<SETTLEMENT PRICE>	<MARKET PRICE>	FIXED	TENOR	
PRICE	141.8000000	141.8000000	COLLATERAL	100.0000%	OF MONEY
YIELD	2.4236935	2.4236935	or HAIRCUT	100.0000%	OF MONEY
ACCRUED	2.1170139	2.1170139	YHOLD COLL/HAIRCUT	YBUMP DATES	
	FOR 91 DAYS.		ROUNDING 1	1 = NOT ROUNDED	
TOTAL	143.9170139	143.917014		2 = ROUND TO NEAREST 1/8	

FACE AMT M	1000	<OR>	SETTLEMENT MONEY	1439170.14
<OR> To solve for PRICE: Enter NUMBER OF BONDS, SETTLEMENT MONEY & COLLATERAL				
TERMINATION DATE	2/ 3/12	<OR>	TERM (IN DAYS)	1
ACCRUED	2.140278	FOR	91 DAYS.	OPEN TRADE N
				CALL OPTION NO

MONEY AT TERMINATION

WIRED AMOUNT	1,439,170.14
REPO INTEREST	4.00
TERMINATION MONEY	1,439,174.14

NOTES:

Federal Funds

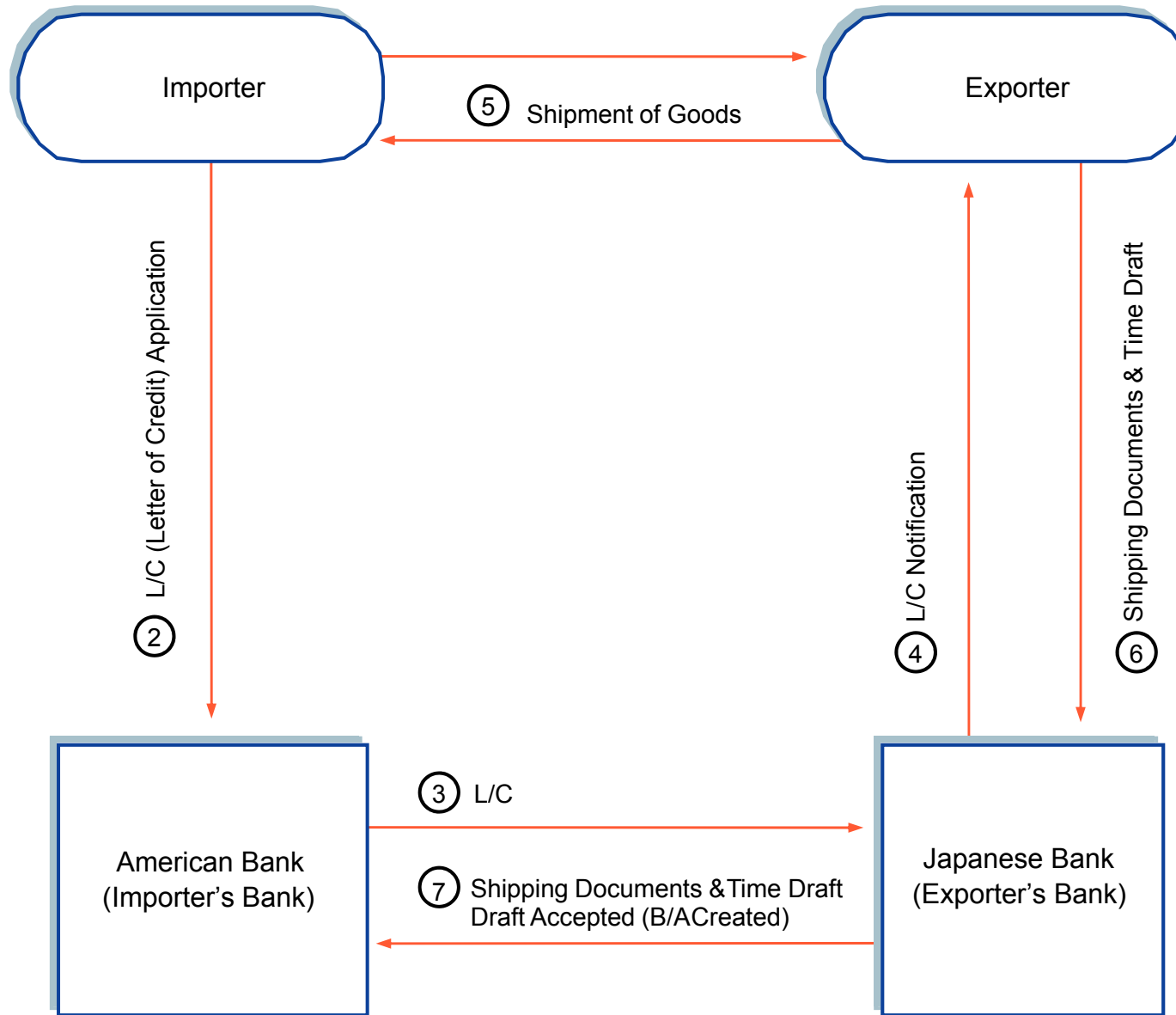
- Interbank lending and borrowing
 - Federal funds rate usually slightly higher than T-bill rate
 - Credit risk
 - Fed district bank debits and credits accounts for purchase (borrowing) and sale (lending)
 - Federal funds brokers may match up buyers and sellers using telecommunications network
 - Usually \$5 million or more
-

Banker's Acceptance

- A bank takes responsibility for a future payment
 - International trade transactions
 - Exporters send goods to a foreign destination and want payment assurance before sending
 - Bank acts as a guarantor
 - Bank stamps a time draft from the importer **ACCEPTED** and obligates the bank to make good on the payment at a specific time
 - The importer will pay the bank what is owed to the exporter along with a fee to the bank for guaranteeing the payment
 - Maturity
 - From 20 to 270 days
 - Active secondary market
-

Banker's Acceptance

- Exporter can hold until the date or sell before maturity
 - If sold to get the cash before maturity, price received is a discount from draft's total
 - Return is based on calculations for other discount securities
 - Similar to the commercial paper example
-



■ *Source: Madura, J.: Financial Markets and Institutions, 9th Edition*

Institutional Use of Money Markets

- Participants
 - Commercial banks
 - Finance, industrial, and service companies
 - Federal and state governments
 - Money market mutual funds
 - All other financial institutions (investing)
 - Short-term investing for income and liquidity
 - Short-term financing for short and permanent needs
 - Large transaction size and telecommunication network
-

SECURITIES	ISSUED BY	COMMON INVESTORS	COMMON MATURITIES	SECONDARY MARKET ACTIVITY
Treasury bills	Federal government	Households, firms, and financial institutions	13 weeks, 26 weeks, 1 year	High
Negotiable certificates of deposit (NCDs)	Large banks and savings institutions	Firms	2 weeks to 1 year	Moderate
Commercial paper	Bank holding companies, finance companies, and other companies	Firms	1 day to 270 days	Low
Banker's acceptances	Banks (exporting firms can sell the acceptances at a discount to obtain funds)	Firms	30 days to 270 days	High
Federal funds	Depository institutions	Depository institutions	1 day to 7 days	Nonexistent
Repurchase agreements	Firms and financial institutions	Firms and financial institutions	1 day to 15 days	Nonexistent

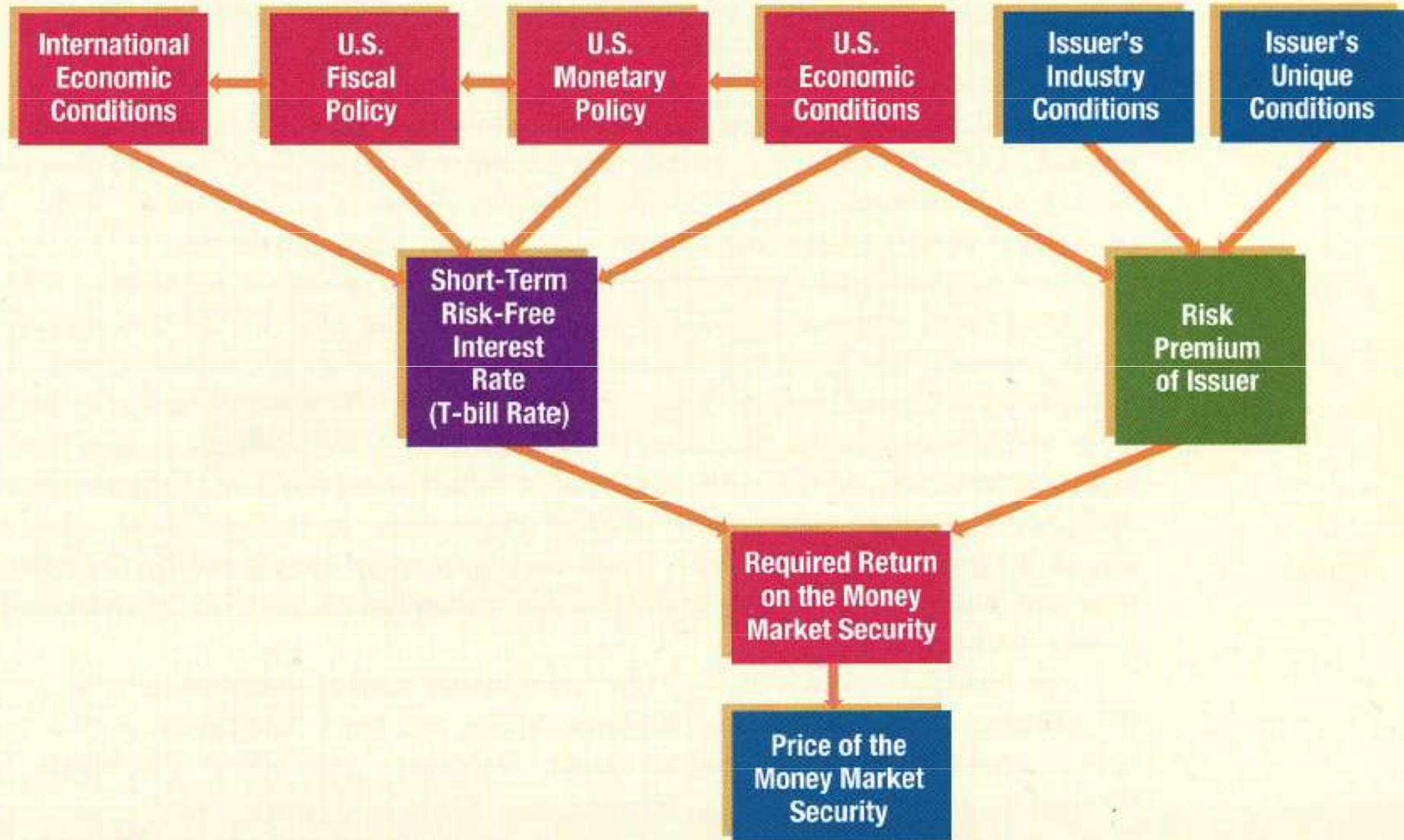
■ *Source: Madura, J.: Financial Markets and Institutions, 9th Edition*

TYPE OF FINANCIAL INSTITUTION	PARTICIPATION IN THE MONEY MARKETS
Commercial banks and savings institutions	<ul style="list-style-type: none"> • Bank holding companies issue commercial paper. • Some banks and savings institutions issue NCDs, borrow or lend funds in the federal funds market, engage in repurchase agreements, and purchase T-bills. • Commercial banks create banker's acceptances. • Commercial bank provide backup lines of credit to corporations that issue commercial paper.
Finance companies	<ul style="list-style-type: none"> • Issue large amounts of commercial paper.
Money market mutual funds	<ul style="list-style-type: none"> • Use proceeds from shares sold to invest in T-bills, commmercial paper, NCDs, repurchase agreements, and banker's acceptances.
Insurance companies	<ul style="list-style-type: none"> • May maintain a portion of their investment portfolio as money market securities for liquidity.
Pension funds	<ul style="list-style-type: none"> • May maintain a portion of their investment portfolio as money market securities that may be liquidated when portfolio managers desire to increase their investments in bonds or stocks.

■ *Source: Madura, J.: Financial Markets and Institutions, 9th Edition*

Valuation of Money Markets Securities

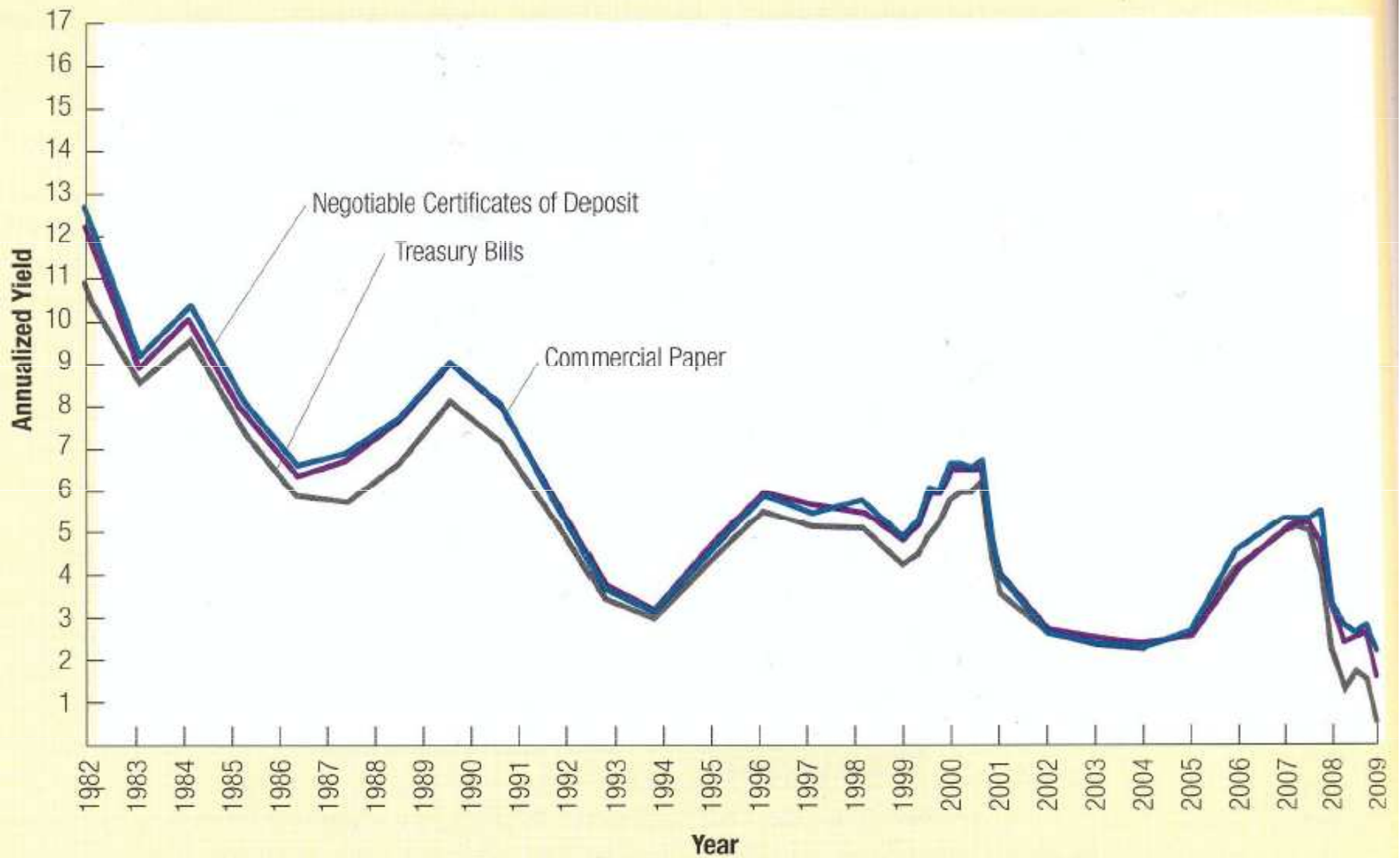
- Present value of future cash flows at maturity (zero coupon)
 - Value (price) inversely related to discount rate or yield
 - Money market security prices more stable than longer term bonds
 - Yields = risk-free rate + default risk premium
-



■ Source: Madura, J.: *Financial Markets and Institutions, 9th Edition*

Interest Rate Risk

- Risk Premium among Money Market Securities
 - T-Bills slightly lower yields than the other securities
 - Others offer compensation for credit risk
 - If short-term interest rates increase, the required rate of return on money market securities will increase
 - Prices of money market securities will decrease
 - Not so sensitive as bonds
 - Shorter term of maturity
-

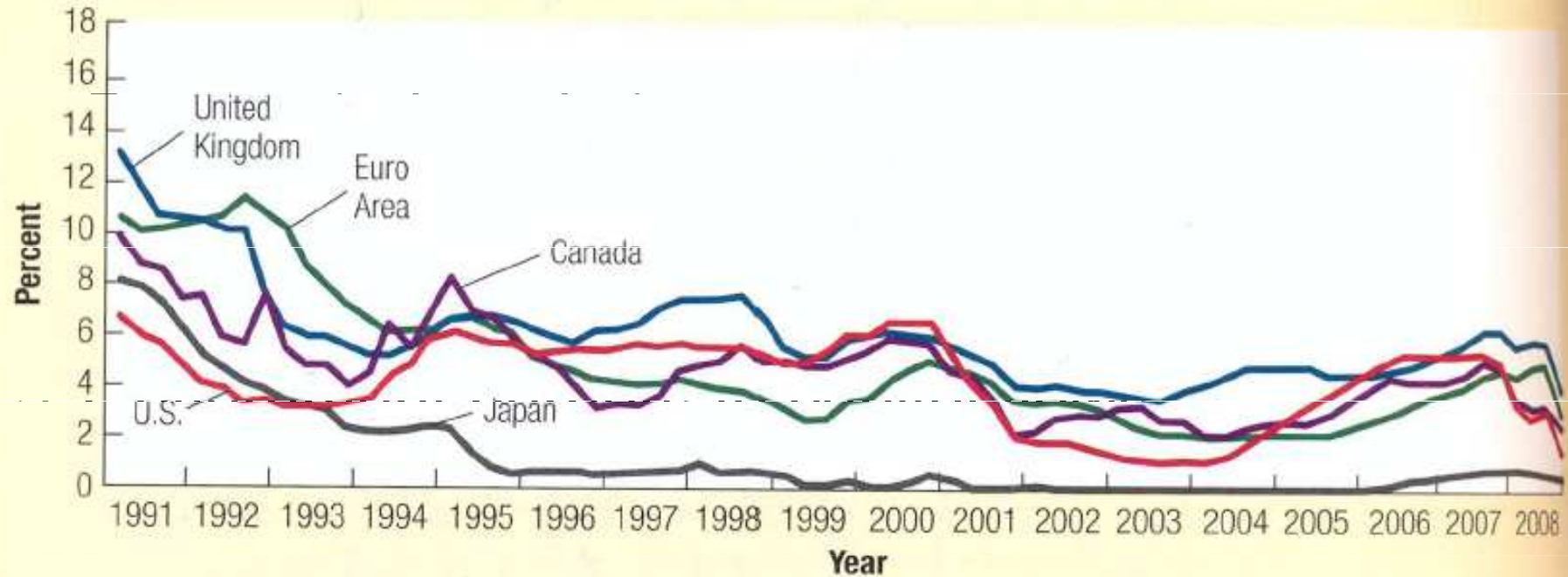


■ Source: Madura, J.: *Financial Markets and Institutions, 9th Edition*

Globalization of Money Markets

- Money market rates vary by country
 - Segmented markets
 - Tax differences
 - Estimated exchange rates
 - Government barriers to capital flows
 - Deregulation Improves Financial Integration
 - Capital Flows To Highest Rate of Return
-

Globalization of Money Markets



Source: Federal Reserve.

■ Source: Madura, J.: *Financial Markets and Institutions, 9th Edition*

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United States

97) Settings

99) Feedback

Government Monitor



Trading Mode

Historical Data Range

3 Months

Security		Bid	Ask	Yield	Chg	Yield	#SDΔ/day	Low	Range	High	Avg	#SD	RSI
Benchmarks													
T 0 3/4 02/16	2Y	99-28 3/4	/ 99-28+	0.305	-1.2		-0.3	0.285		0.429	0.344	-1.0	46.4
T 0 5/4 02/17	3Y	99-29+	/ 99-29 3/4	0.649	-1.9		-0.3	0.553		0.877	0.710	-0.9	45.1
T 1 1/2 02/19	5Y	100-03 3/4	/ 100-04	1.474	-2.8		-0.3	1.395		1.762	1.576	-1.0	46.5
T 2 02/28/21	7Y	99-13+	/ 99-14	2.087	-3.4		-0.3	2.057		2.451	2.242	-1.4	44.6
T 2 3/4 02/24	10Y	101-04+	/ 101-05	2.617	-3.0		-0.3	2.576		3.028	2.814	-1.7	39.4
T 3 5/4 02/44	30Y	101-05+	/ 101-06	3.560	-2.2		-0.2	3.531		3.968	3.774	-1.8	35.8
Curves													
2yr-5yr		116.5/	-117.0		-1.6		-0.2	111.1		136.5	123.4	-1.1	47.1
2yr-10yr		230.8/	-231.4		-1.9		-0.2	228.2		265.0	247.2	-1.7	37.8
2yr-30yr		325.1/	-325.6		-1.1		-0.1	323.7		361.4	343.1	-1.7	33.6
5yr-10yr		114.2/	-114.5		-0.2		0.0	114.1		139.5	124.0	-1.5	33.7
Butterflies													
2Y-5Y-10Y		-2.9/	2.0		-1.3		-0.1	-28.4		12.9	-1.0	+0.4	54.6
2Y-5Y-30Y		91.4/	-92.2		-2.0		-0.2	-134.5		-76.4	-96.8	+0.4	56.0
Inflation													
US B/E 10YR		2.177/	-2.195		+0.7		0.1	2.122		2.307	2.186	-0.2	54.1
TIIO 5/4 01/24	10Y	101-24+	/ 101-30 3/4	0.422	-3.7		-0.4	0.422		0.765	0.611	-2.1	39.0
CDS spread													
CDS EUR SR 5Y		24.0/	29.0		-0.5		-0.4	24.0		35.0	31.1	-4.9	51.6



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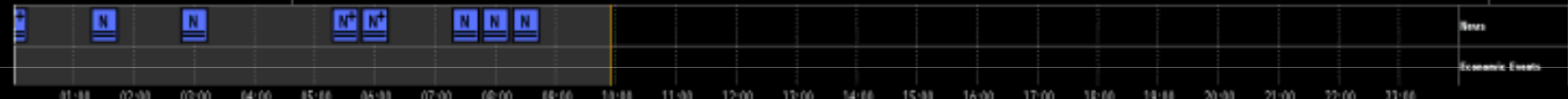
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Germany 97) Settings 99) Feedback Government Monitor

Trading Mode Historical Data Range 3 Months

Security	Bid	Ask	Yield	Chg	Yield	#SD\$/day	Low	Range	High	Avg	#SD	RSI
1) Benchmarks												
10) BK00 1/4 03/16	2Y	100.285/	100.290	0.106	-2.0	█ -0.4	0.065	←→	0.249	0.162	-1.0	51.7
11) OBL0 3/4 02/17	3Y	101.645/	101.655	0.191	-2.7	█ -0.5	0.165	←→	0.385	0.273	-1.5	48.8
12) OBL1 02/22/19	5Y	101.810/	101.820	0.627	-3.9	█ -0.4	0.586	←→	0.953	0.778	-1.5	46.7
13) DBR2 1/2 01/21	7Y	110.075/	110.085	0.967	-4.2	█ -0.3	0.936	←→	1.415	1.186	-1.5	43.7
14) DBR1 3/4 02/24	10Y	101.540/	101.560	1.579	-4.4	█ -0.4	1.561	←→	1.953	1.772	-1.9	42.6
15) DBR2 1/2 08/46	30Y	100.830/	100.925	2.457	-3.6	█ -0.4	2.447	←→	2.769	2.626	-1.8	42.1
2) Curves												
17) 2yr-5yr		51.6/	-52.0		-2.2	█ -0.4	50.2	←→	78.8	62.1	-1.7	43.2
18) 2yr-10yr		146.8/	-147.3		-2.5	█ -0.4	146.8	←→	179.2	161.4	-2.3	36.7
19) 2yr-30yr		234.9/	-235.6		-1.6	█ -0.3	234.9	←→	259.7	247.1	-2.3	34.9
20) 5yr-10yr		95.1/	-95.4		-0.5	█ -0.1	90.5	←→	105.9	99.6	-1.2	37.1
3) Butterflies												
22) 2Y-3Y-5Y		34.6/	-35.7		+0.3	█ 0.1	-50.6	←→	-34.1	-40.3	+1.1	53.6
23) 2Y-5Y-30Y		130.6/	-131.6		-2.1	█ -0.2	-140.2	←→	-105.1	-123.9	-0.8	49.4
4) Inflation												
25) DE B/E 10YR		1.324/	-1.335		-0.5	█ -0.1	1.309	←→	1.569	1.456	-1.7	37.8
26) DBR10.1 04/23	10Y	99.795/	99.900	0.111	-3.9	█ -0.5	0.111	←→	0.393	0.249	-1.8	42.9
5) CDS spread												
28) GERMAN CDS USD SR 5		23.3/	25.7		+0.2	█ 0.2	23.3	←→	27.2	25.5	-2.3	41.5



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Greece

97) Settings

99) Feedback

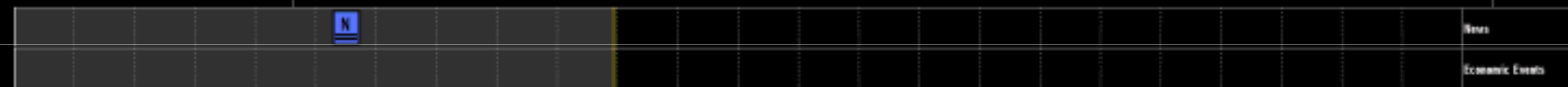
Government Monitor



Trading Mode

Historical Data Range 3 Months

Security	Bid/Ask	Yield	Chg	Yield	#SD/day	Low	Range	High	Avg	#SD	RSI
1) Benchmarks											
10) GGB2 02/24/2410	73.675/ 74.345	6.872	+2.9 ↑		0.1	6.843		8.705	7.938	-2.2	23.7
11) GGB2 02/24/2715	69.135/ 69.805	7.025	+0.3 ↑		0.0	7.022		8.935	8.212	-2.4	19.3
12) GGB2 02/24/3220	64.195/ 64.865	7.065	+3.3 ↑		0.1	7.032		8.811	8.144	-2.4	18.6
13) GGB2 02/24/37	61.460/ 62.135	6.995	+4.9 ↑		0.1	6.945		8.604	7.974	-2.3	18.5
14) GGB2 02/24/4230	60.420/ 61.120	6.846	+5.0 ↑		0.1	6.796		8.335	7.736	-2.1	18.8
2) Curves											
16) 10yr-15yr	4.0/ -25.2		-2.6 ↓		-0.3	4.0		60.8	43.0	-4.3	48.0
17) 10yr-30yr	-13.9/ -5.1		+2.0 ↓		0.2	-28.4		17.8	-7.0	-0.5	63.1
18) 15yr-30yr	-27.7/ 10.1		+4.7 ↓		0.6	-49.5		-14.8	-34.4	+0.9	69.9
3) Butterflies											
20) 10Y-15Y-30Y	-53.0/ 14.1		-7.4 ↑		-0.7	21.5		93.4	44.4	+0.8	36.6
5) CDS spread											
22) GREECE CDS USD S	18.5/ 18.5		+1.2 —		0.6	17.3		25.0	21.3	-1.3	42.6



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GT10 Govt 95) Save As 96) Actions 97) Edit 98) Table Yield Chart
03/30/1962 - 03/03/2014 Ask YTM 1) Compare Mov. Avgs No Lower Chart USD
1D 3D 1M 6M YTD 1Y 5Y Max Quarterly Security/Study Event

GT10 Govt - Ask Yield To Maturity 2.617
High on 09/30/81 15.840
Average 6.518
Low on 09/28/12 1.634



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GTGRD10YR Corp 95 Save As 96 Actions 97 Edit 98 Table Yield Chart
07/31/1997 - 03/03/2014 Ask YTM Line 11) Compare Mov. Avgs No Lower Char EUR
1D 3D 1M 6M YTD 1Y 5Y Max Monthly Security/Study Event



1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
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Globalization of Money Markets

- Eurodollar deposits and Euronotes
 - Dollar deposits in banks outside the U.S.
 - Increased because of international trade growth and U.S. trade deficits over time
 - No reserve requirements at banks outside U.S.
 - Eurodollar Loans
 - Channel funds to other multinationals that need short-term financing
 - Euro-commercial paper
-

International Interbank Market

- The rate for a loan from bank to another
LIBOR (London Interbank Offered Rate)
 - Performance of Foreign Money Market Securities
 - Effective yield
 - Yield adjusted for the exchange rate
 - 1. yield earned on the money market security in the foreign currency
 - 2. the exchange rate effect
-

Globalization of Money Markets

- Performance of international securities
- Yield for an international investment

$$Y_f = \frac{SP_f - PP_f}{PP_f}$$

Y_f = Foreign investment's yield

SP_f = Investment's foreign currency selling price

PP_f = Investment's foreign currency purchase

Globalization of Money Markets

- The exchange rate effect ($\% \Delta S$) measures the percentage change in the spot during the investment period

$$Y_e = (1 + Y_f) \times (1 + \% \Delta S) - 1$$

- $\% \Delta S$ measures the expected percent change in the currency
 - Currency appreciated, $\% \Delta S$ is positive and adds to net yield
 - Currency depreciated, $\% \Delta S$ is negative and reduces net yield

Summary

- Surplus units channel investments to securities issued by deficit units
 - Debt securities markets
 - Money Market
 - Capital Market
 - Money market securities
 - Short-term
 - High quality
 - Very good liquidity
-