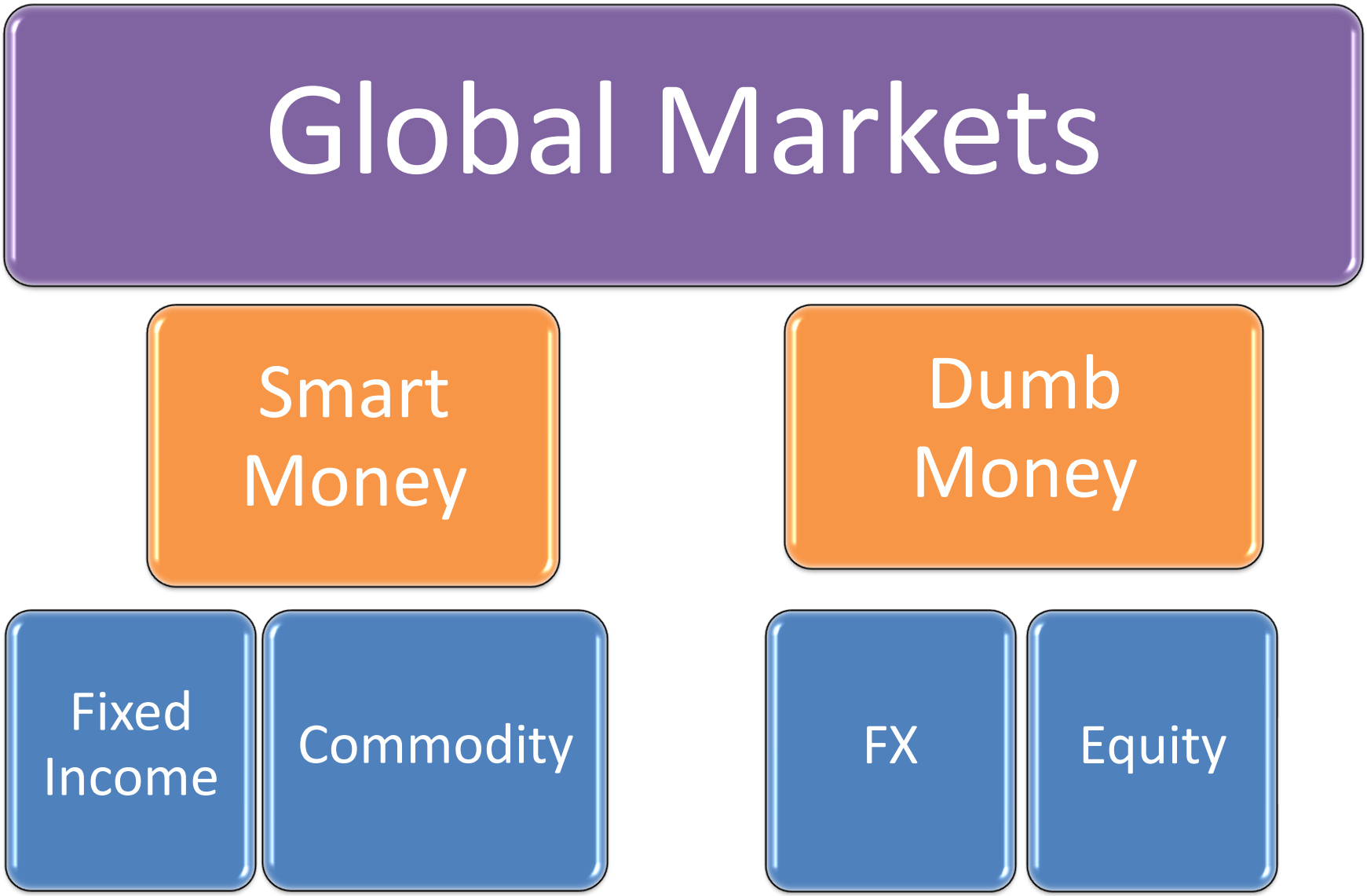
Understanding the Global Financial Markets

Trading Jargon

- Long vs short
- Bulls VS Bears
- Hawks VS Doves
- Risk On/ Risk Off

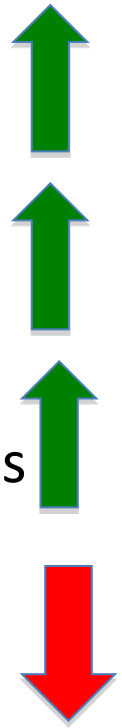
FTSE MIB, FTSE 100, DAX, CAC 40, S&P 500, NASDAQ 100, DJ INDUSTR AVERAGE, NIKKEI 255, S&P/ASX 100, SMI, IBEX35, BOVESPA, BUENOS AIRES MERVAL, IPC, MUMBAI SENSEX

- Short Squeeze.
- Bernanke Put
- Safe Haven/ Flight to quality

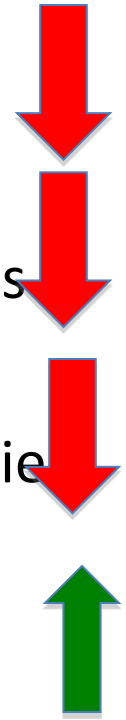

Global Markets
Smart Money
Dumb Money
Fixed Income
Commodity
FX
Equity

Simple Market Model

- Risk- ON
  - Equity
  - Bond Yields
  - Commodities
  - USD



- Risk- Off
  - Equity
  - Bond Yields
  - Commodities
  - USD



QUOTABLE QUOTES

- "Bulls make money, bears make money, pigs get slaughtered“

  Anon

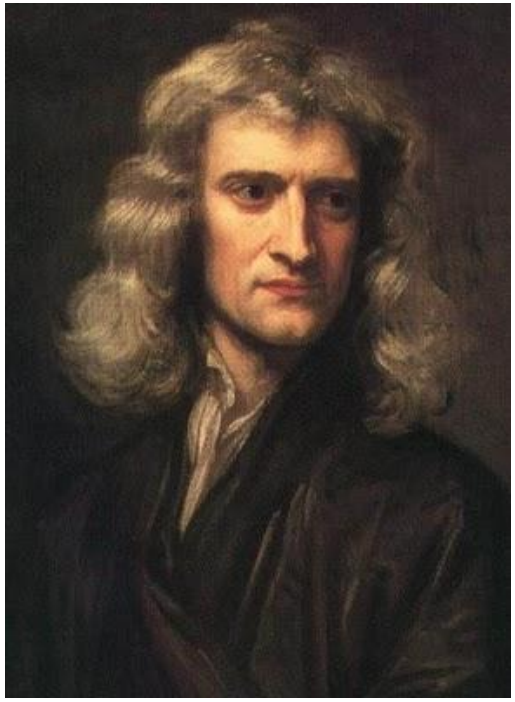
- “This is worse than a divorce. I lost half my wealth and I’ve still got my wife”

  Anonymous Trader on Financial Crisis.

Efficient market Hypothesis (EMH)

- An **efficient market** is one in which securities prices reflect all available information. This means that every security traded in the market is correctly valued given the available information.

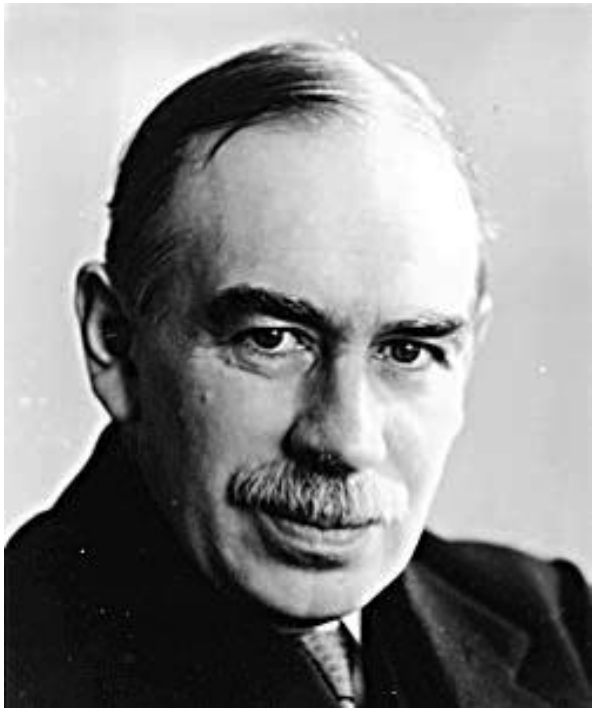
Are the markets really efficient?



" I can calculate the motion of heavenly bodies but not the madness of men "

Sir Isaac Newton

Are the markets really efficient?



“ The market can remain irrational

longer than you can remain solvent

“

John Maynard Keynes

Are the markets really efficient?

" The market was efficient , I'd be a beggar on the street with a tin cup"

Warren Buffett

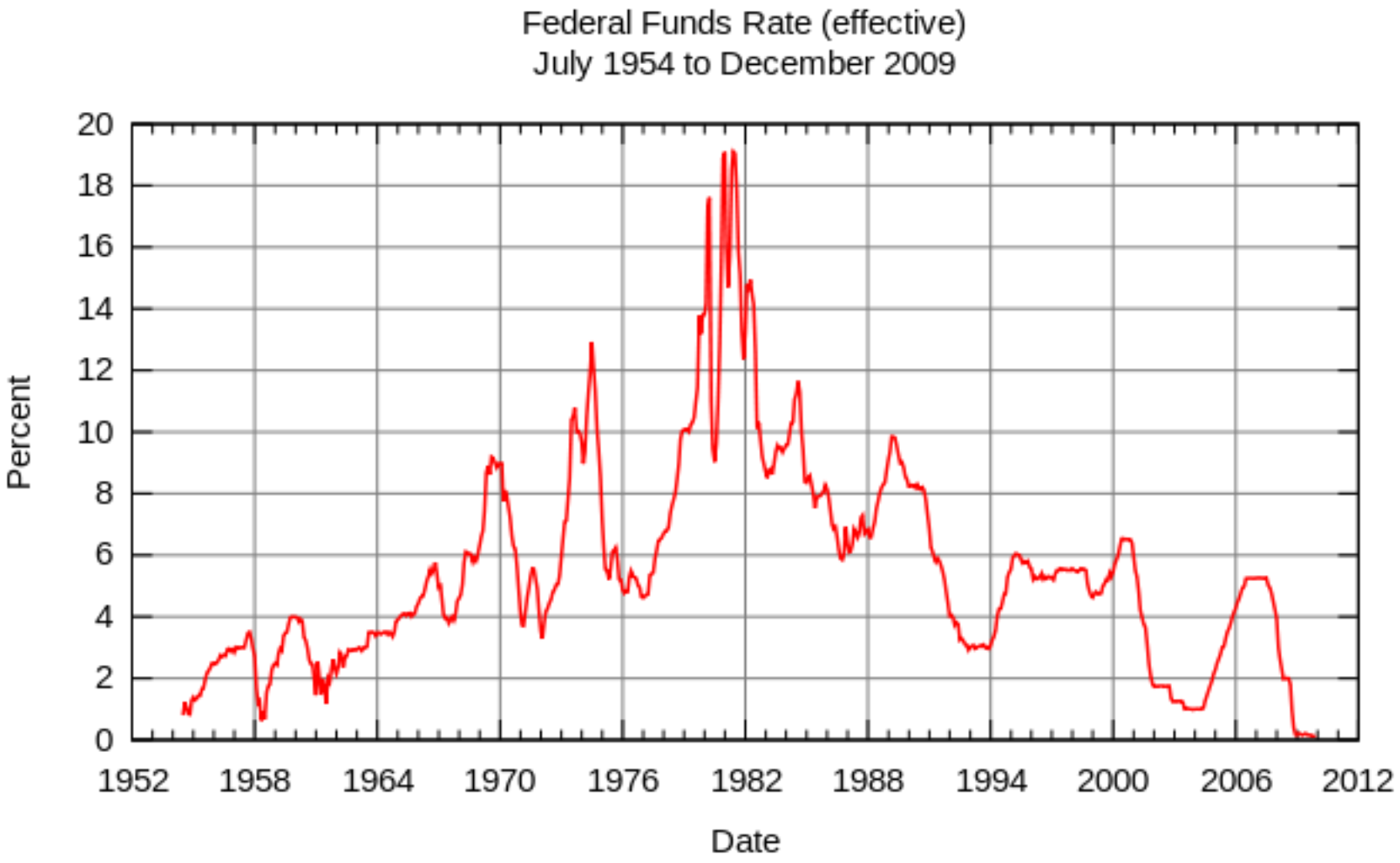
The FED

DON’T FIGHT THE FED

The Federal Reserve

- THE US Central Bank
- Founded in Dec 1913
- Helicopter BEN is now the Chairman
- Widely believed to be responsible for causing the great depression (1929-1944) and the global financial crisis (2007- 20XX)

Fed Funds Rate: US policy rate



Recent Financial Crises

- European Debt Crisis (2010 till ??)
- Global Financial crisis (2008 till ??)
  - Subprime/ Lehman Brothers
- Dotcom Bubbles(1995-2000)
- Asian Financial Crisis (1997-1998)

Subprime Crisis Explained in 5 mins

- Subprime BBC

- What exactly is subprime mortgage?

- Did Lehman Brothers cause the financial crisis?

Legacy of the market efficiency

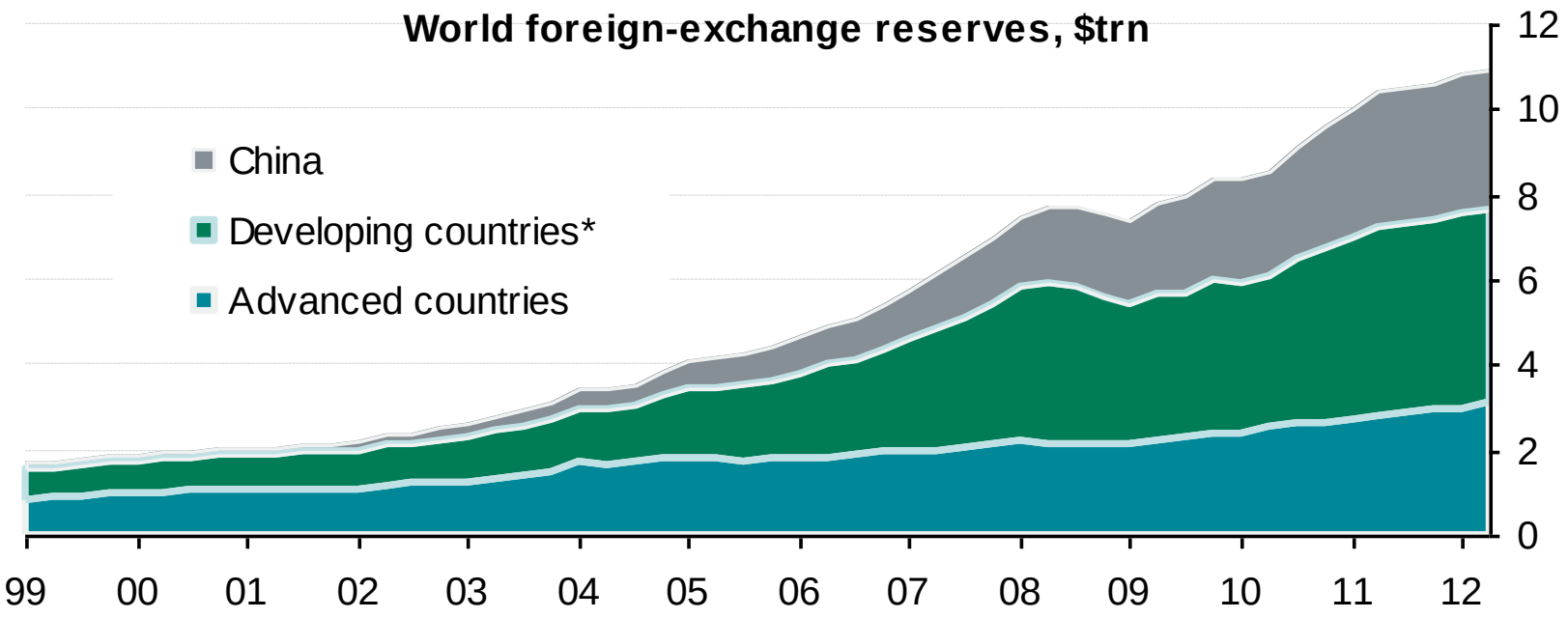
THE GLOBAL FINANCIAL CRISIS. (2007- 20XX)

THE GFC in a nutshell

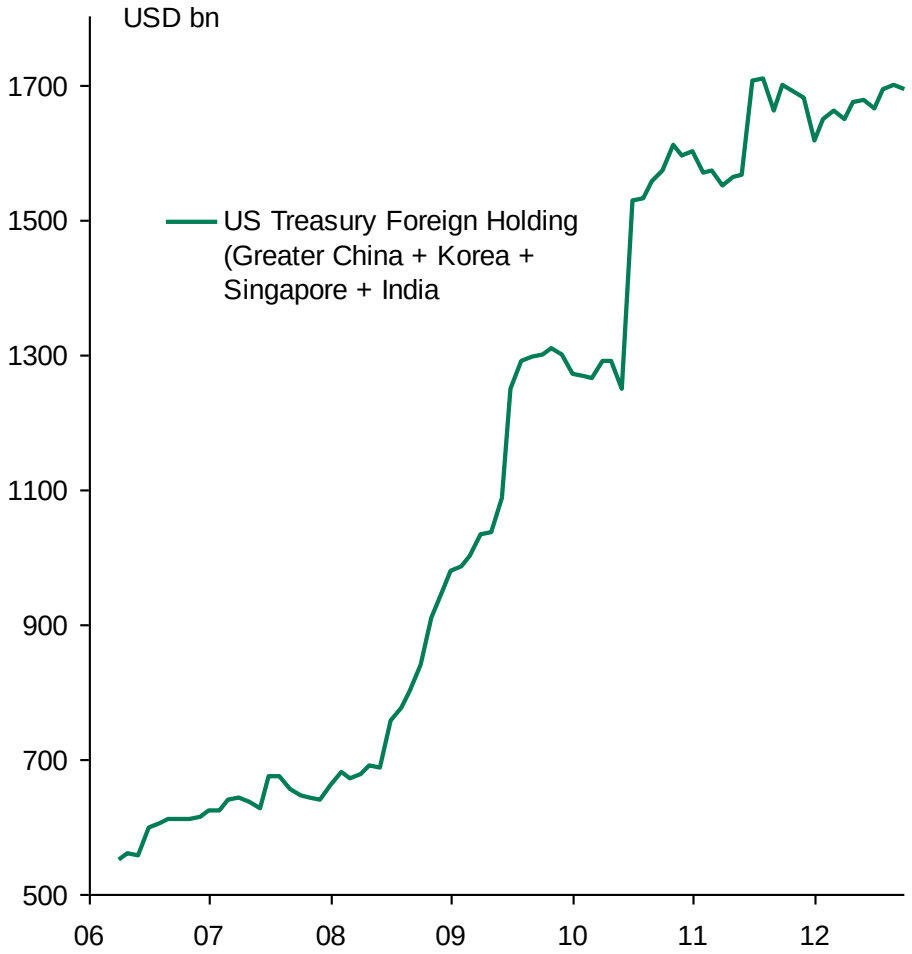
- Policy Rate remained too low for too long
  - This was called the Greenspan Put
  - Housing Boom and Credit Boom
  - lowering credit standards (NINJA)

  - Foreign Central Banks played a key role in keeping treasury yields down (why?)

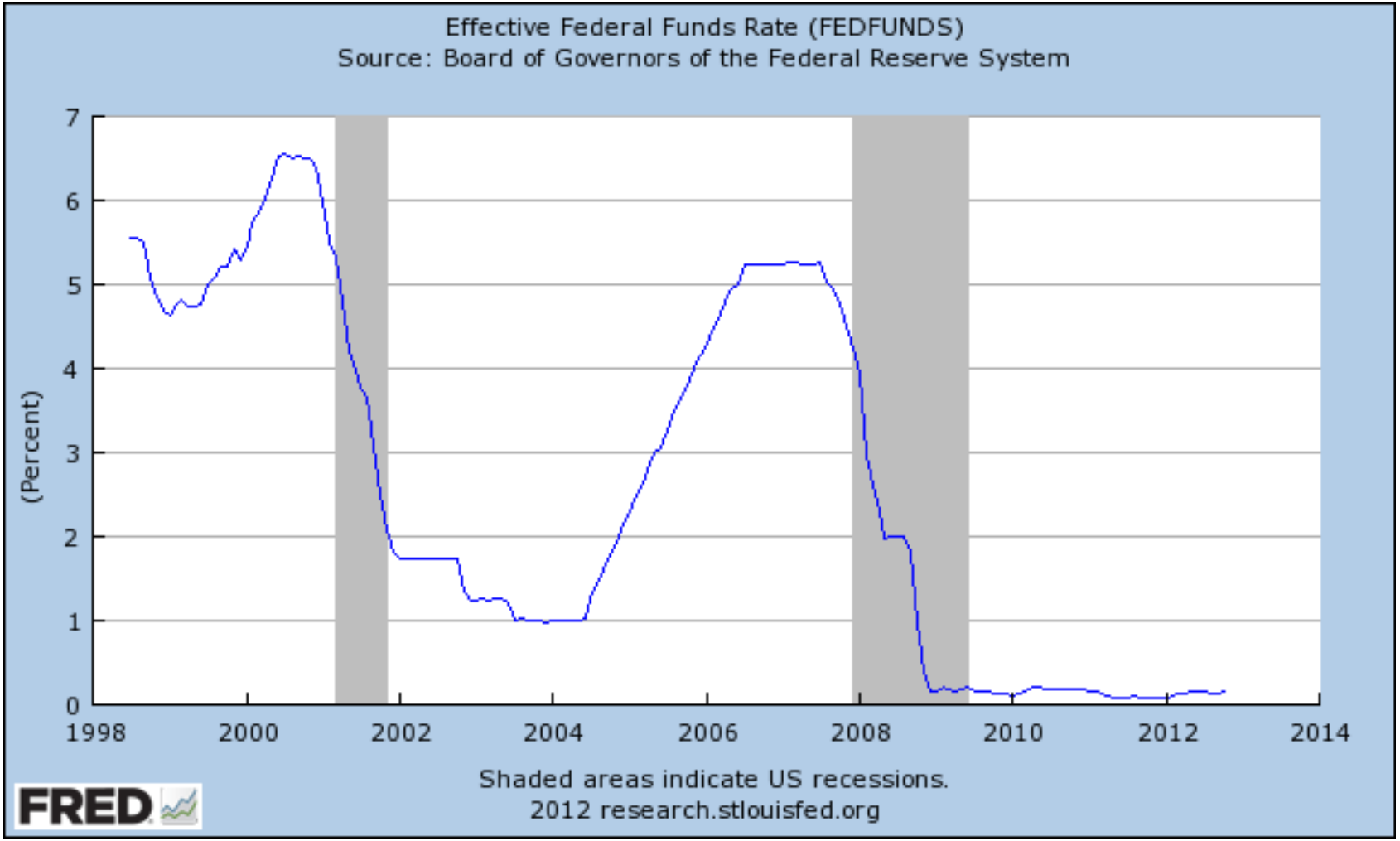
FOREIGN EXCHANGE RESERVES



The US relies on the kindness of strangers

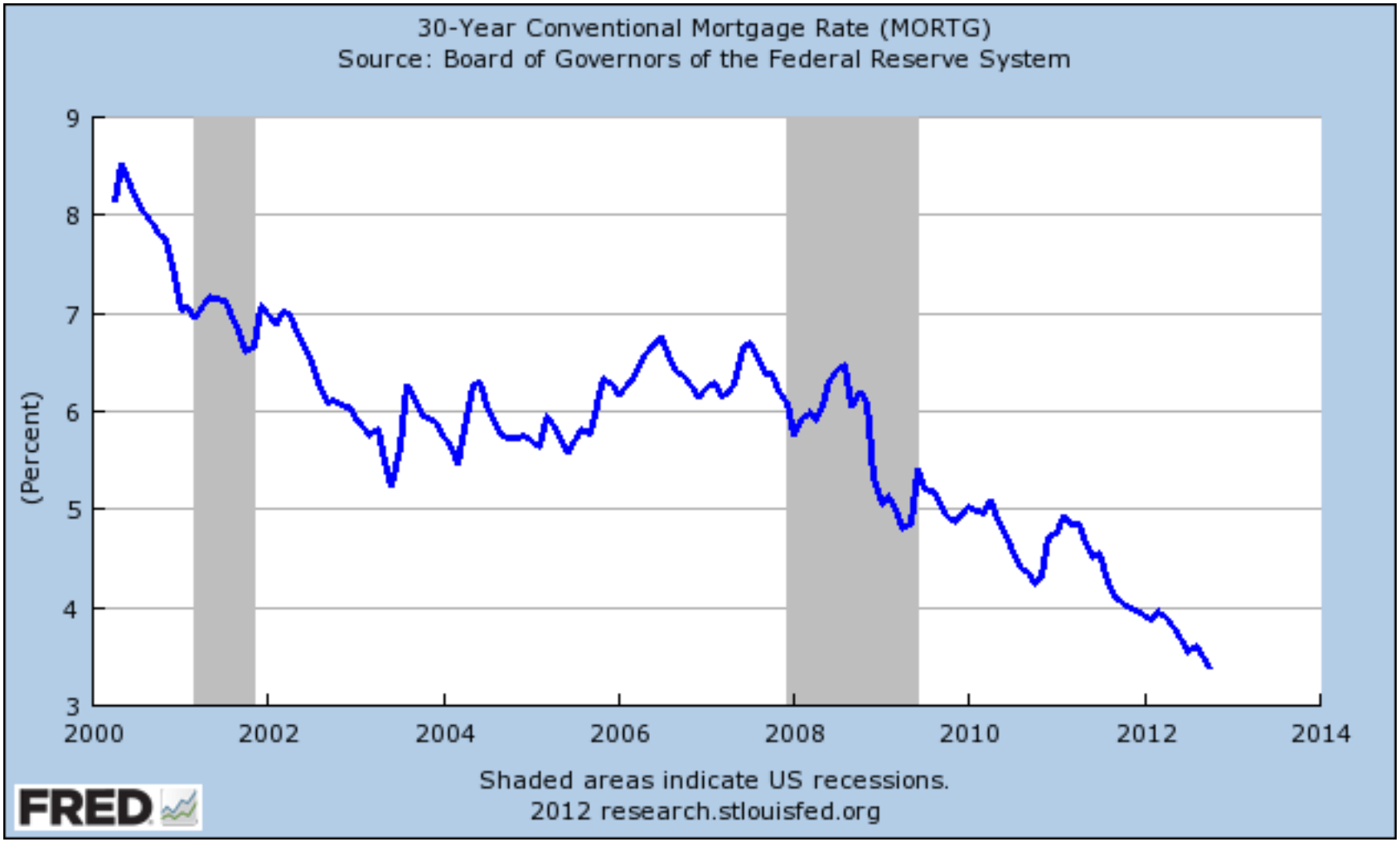


Policy Rate: too low for too long

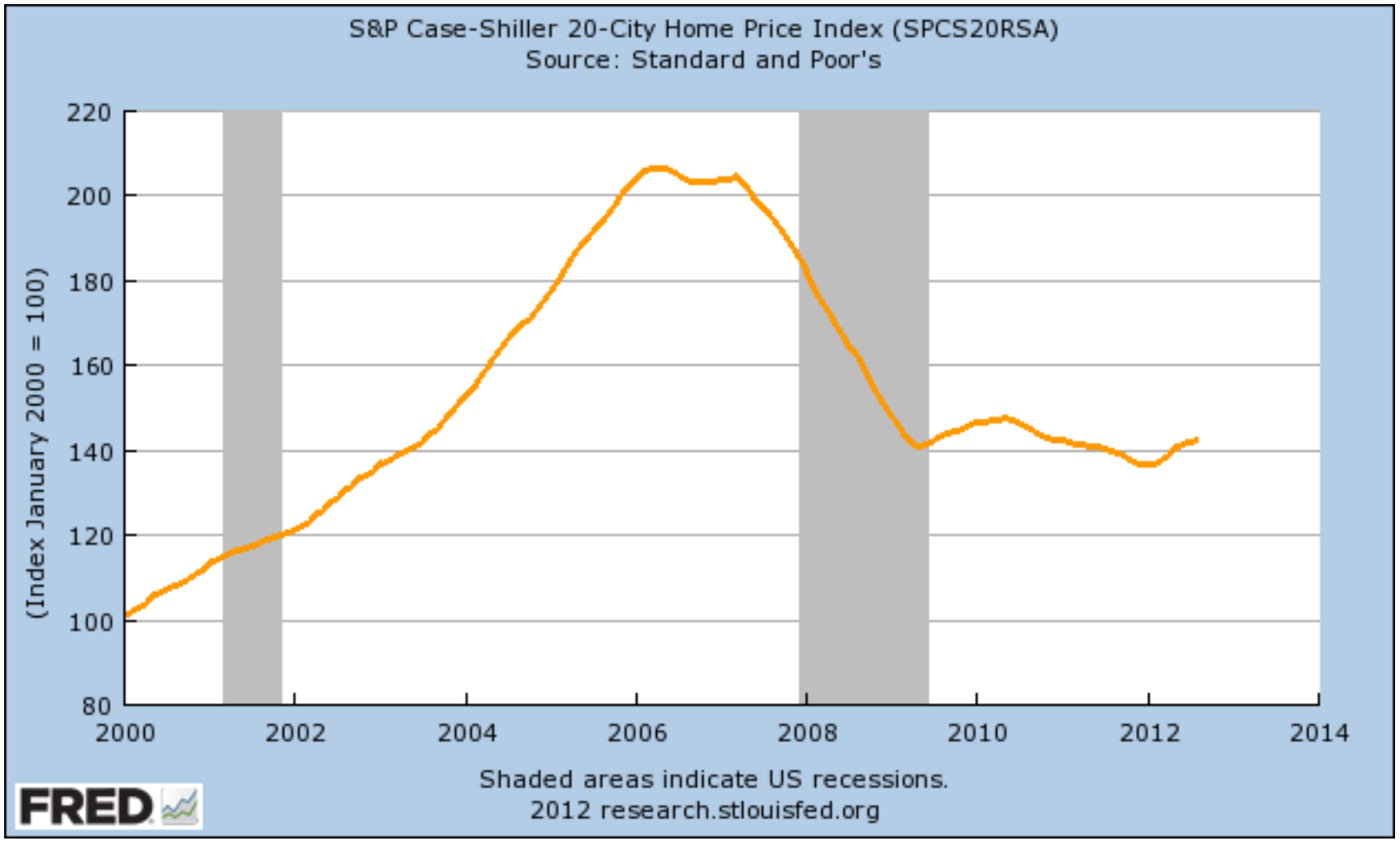


Always behind the curve

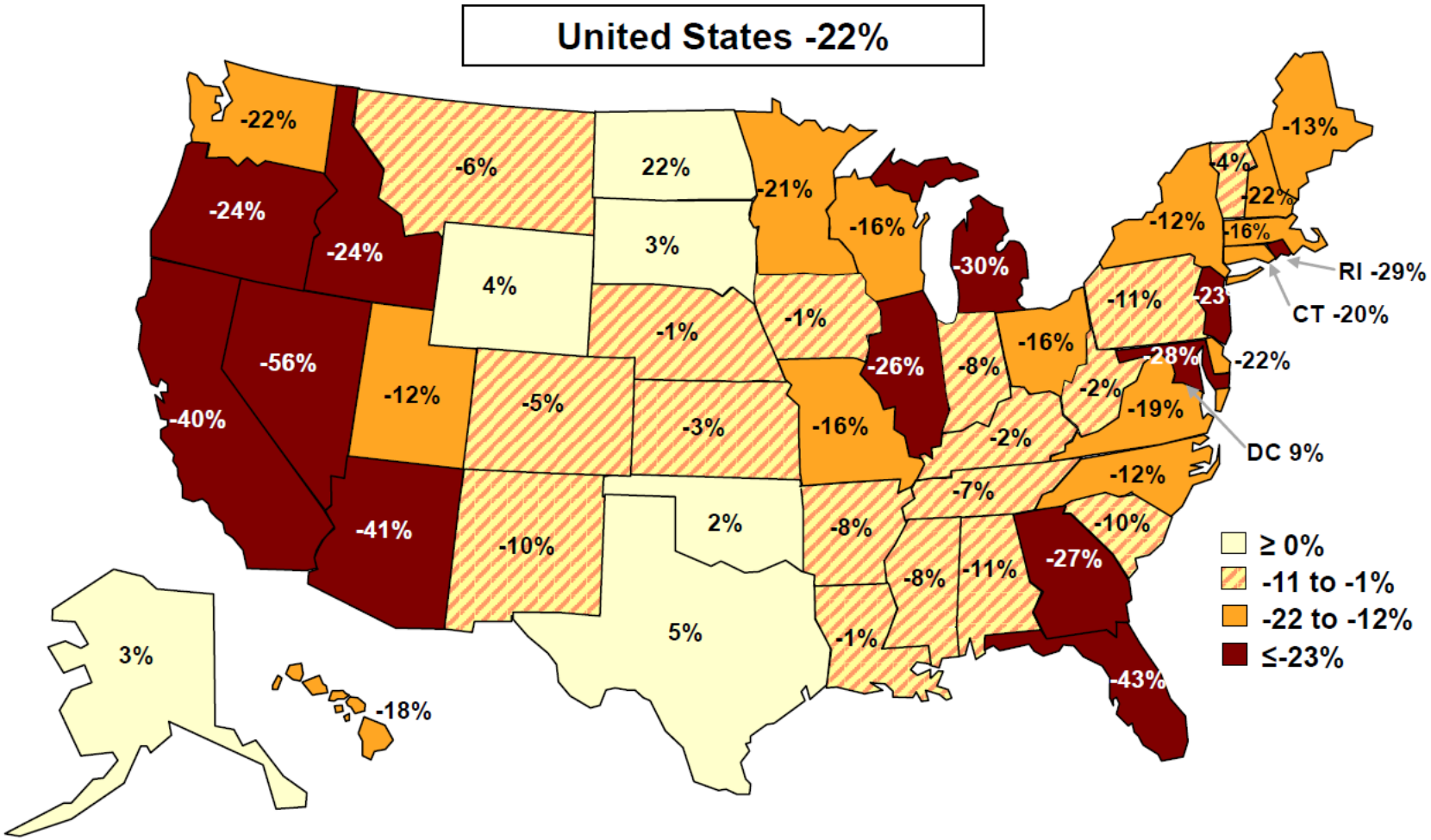
Fed-induced Mortgage Boom



House Prices: Boom and Bust



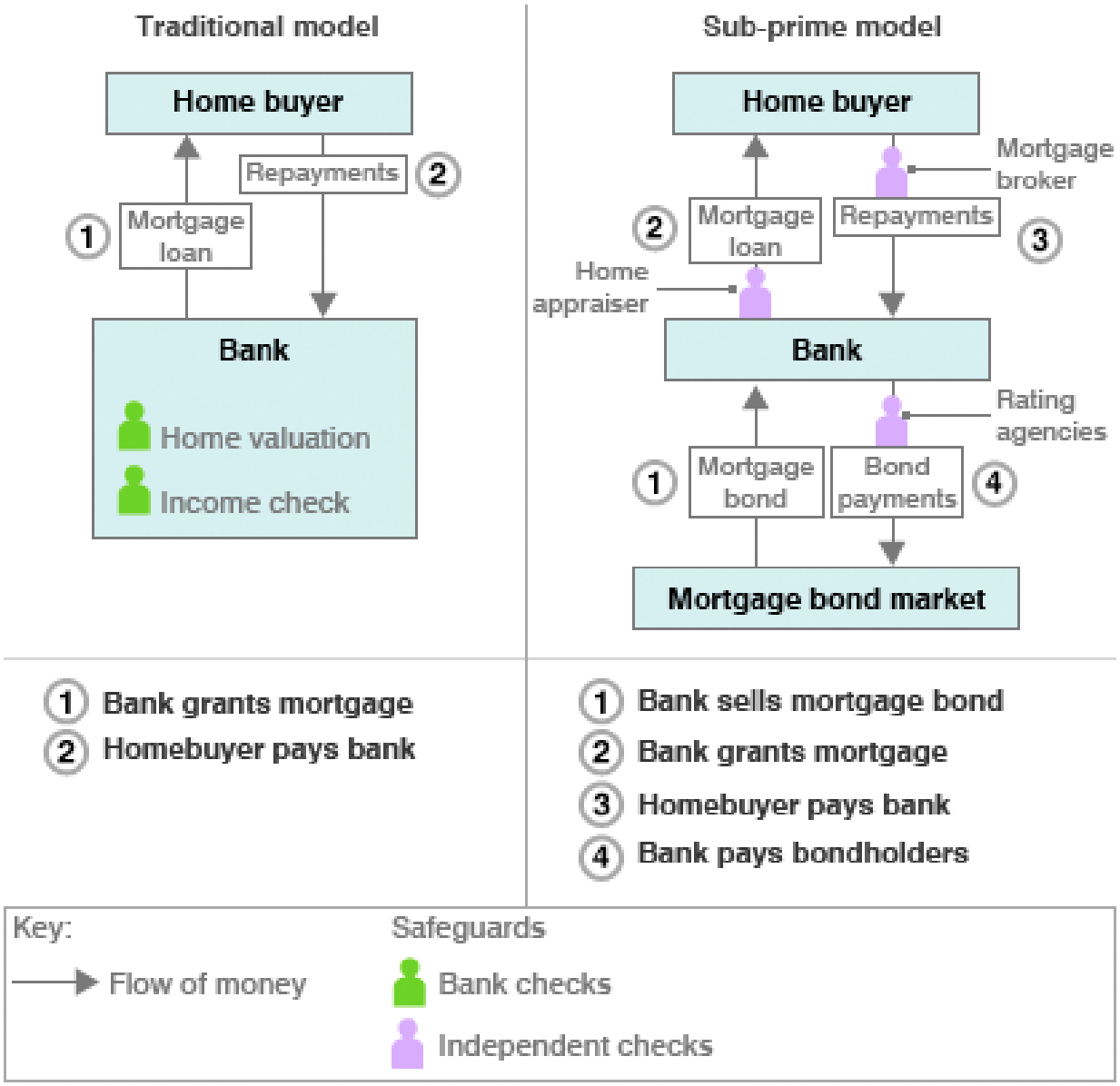
Home Price June2006- September2012



Prices have yet to recover to pre-crisis level

- Securitization
  - Banks can “outsource and sell risks” instead of holding the loans
  - Mortgage backed security

Securitisation

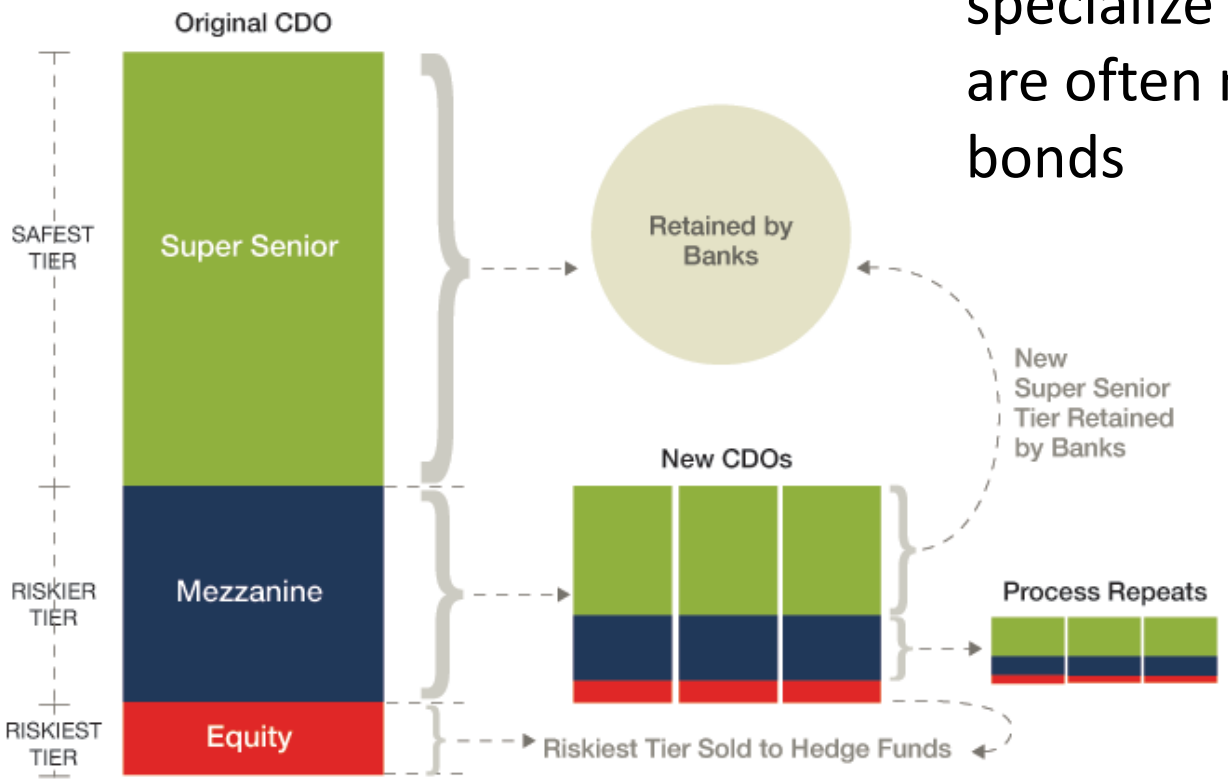


- Banks earned fees instead of interests on mortgages
- Therefore, no incentives to be thorough with applicants.
- Rating Agencies received fee for stamping approval seals on these “dodgy “ mortgages.
- None were held accountable for losses

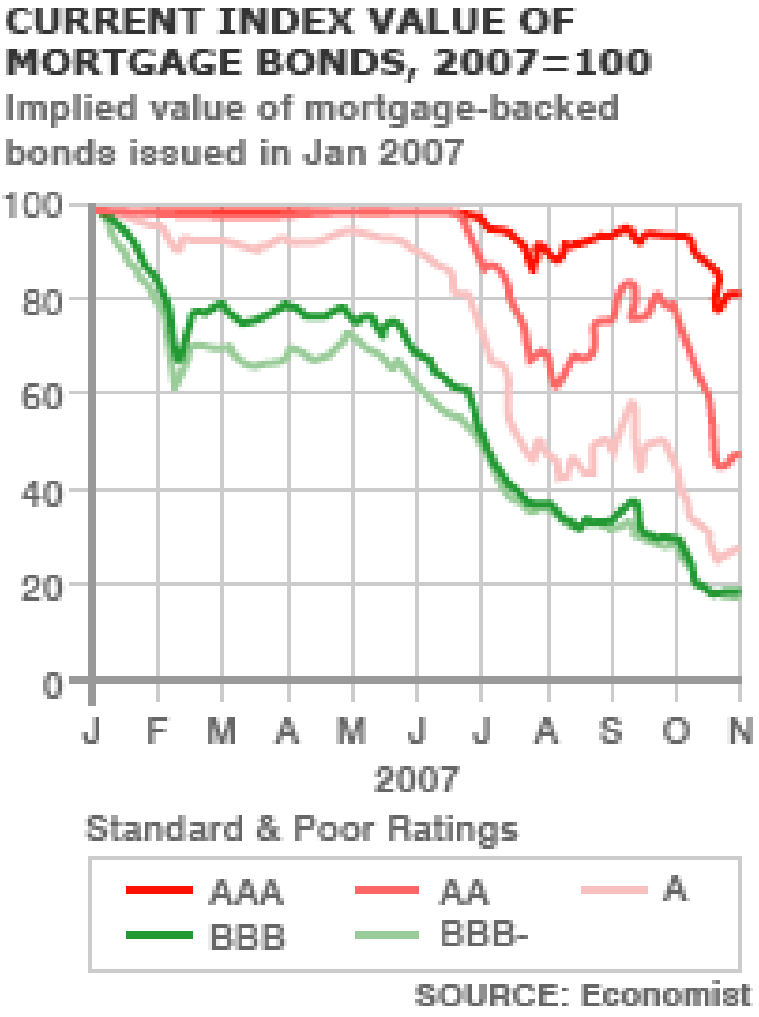
- CDO (Collateralized Debt Obligations)
  - Credit Rating Agency helped legitimize the “slicing and dicing”
  - Theoretically risks were spread as opposed to concentrated
  - Instead, risks were unidentified and widespread
- CDS (Credit Default Swaps) hedging
  - AIG collapse would have led to a complete meltdown
  - Financial Weapons of Mass Destruction
- Reckless Lending and Borrowing led to a credit crunch.

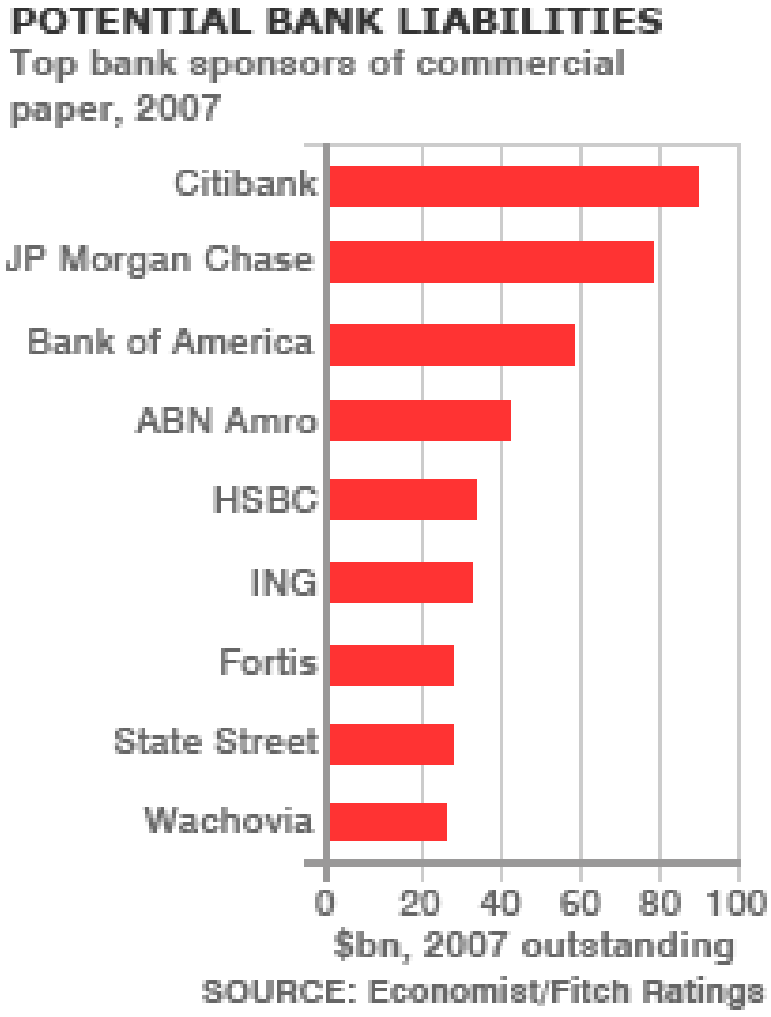
CDO- collateralized debt obligation

An investment-grade security backed by a pool of bonds, loans and other assets. CDOs do not specialize in one type of debt but are often non-mortgage loans or bonds



Bond market collapse





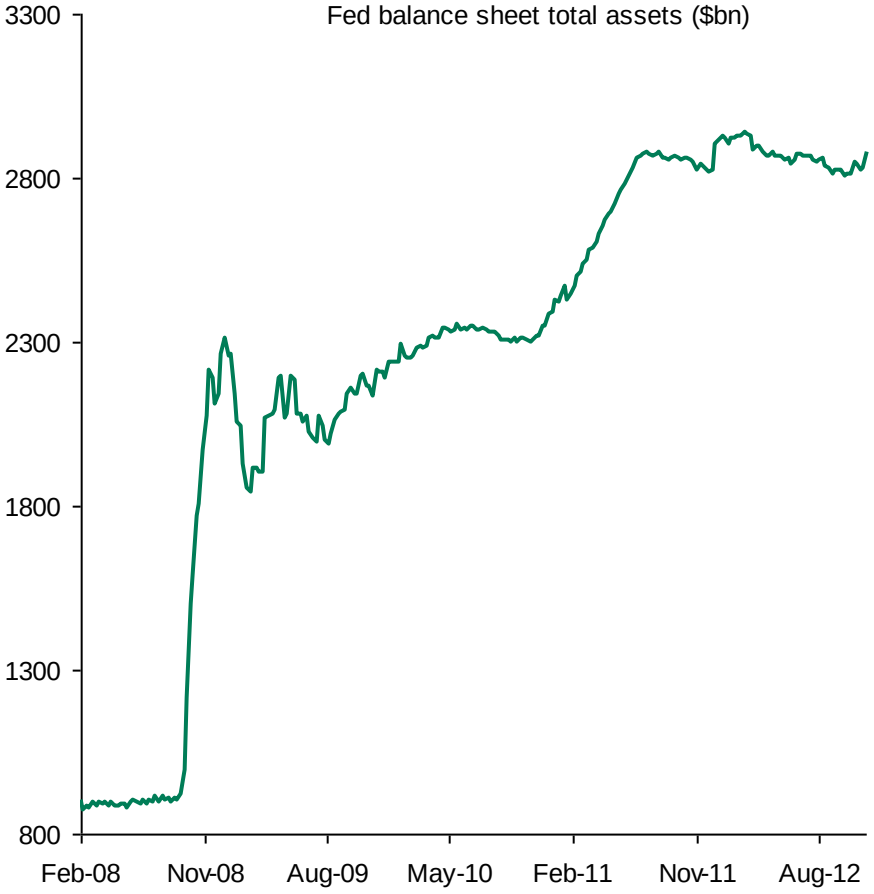

QUANTITATIVE EASING EXPLAINED:
1
2

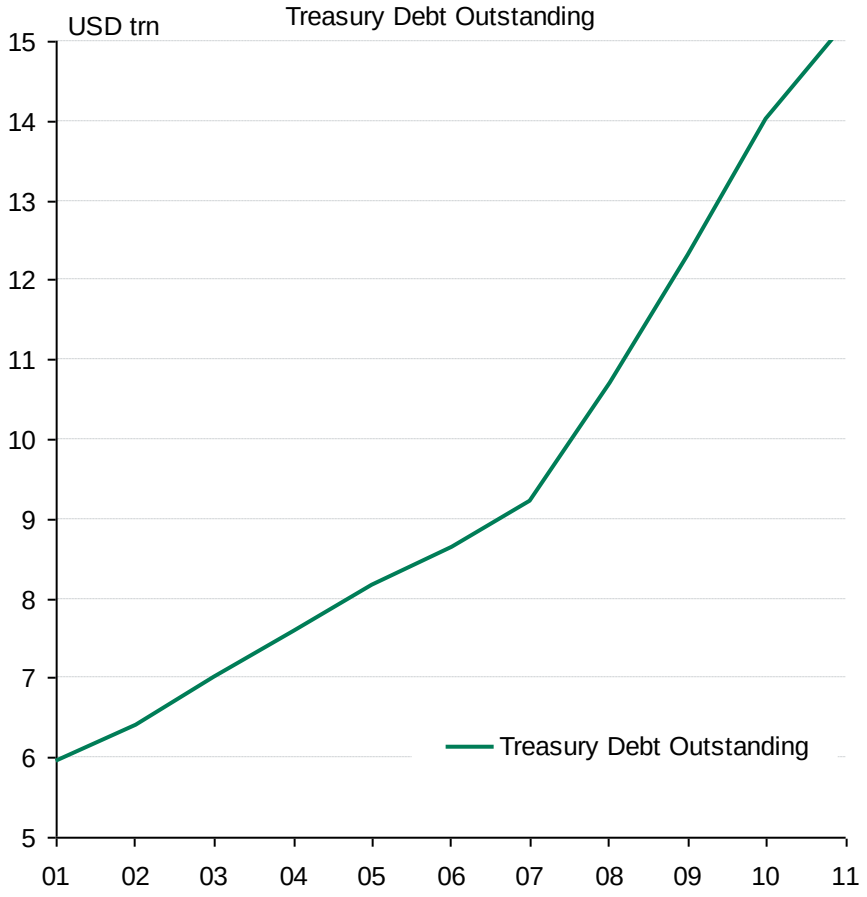
How did we get from “conventional” to “unconventional” ?

- The question is will the unconventional become conventional?
- The Bank of Japan has done quantitative easing for 17 times since 1990
- What separates conventional from unconventional?

- Conventional : interest rate policy
- Do banks follow the central bank rate announcement?
- Open Market Operations.
- Interest Rates went to practically zero (Pushing on a string) in the process of stimulating the economy
  - Bernanke Put (2008) , Greenspan Put (2000)
- Unconventional : Policy rate at zero or negative
- Quantitative Easing- Fed prints money to buy assets (Treasuries, MBS)
- Balance Sheet instrument (if in doubt, keep on buying)

Fiscal and Monetary Stimulus

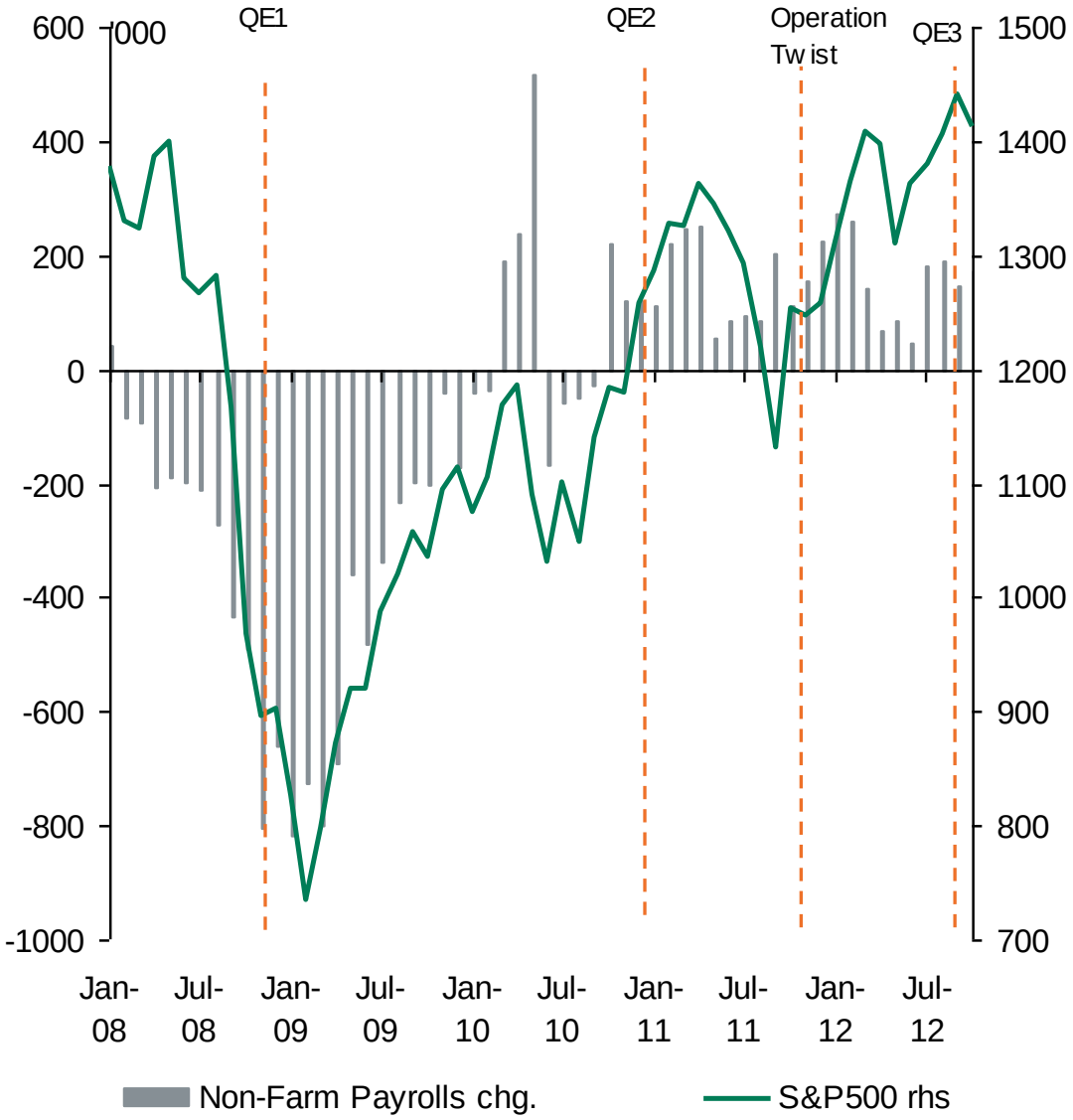




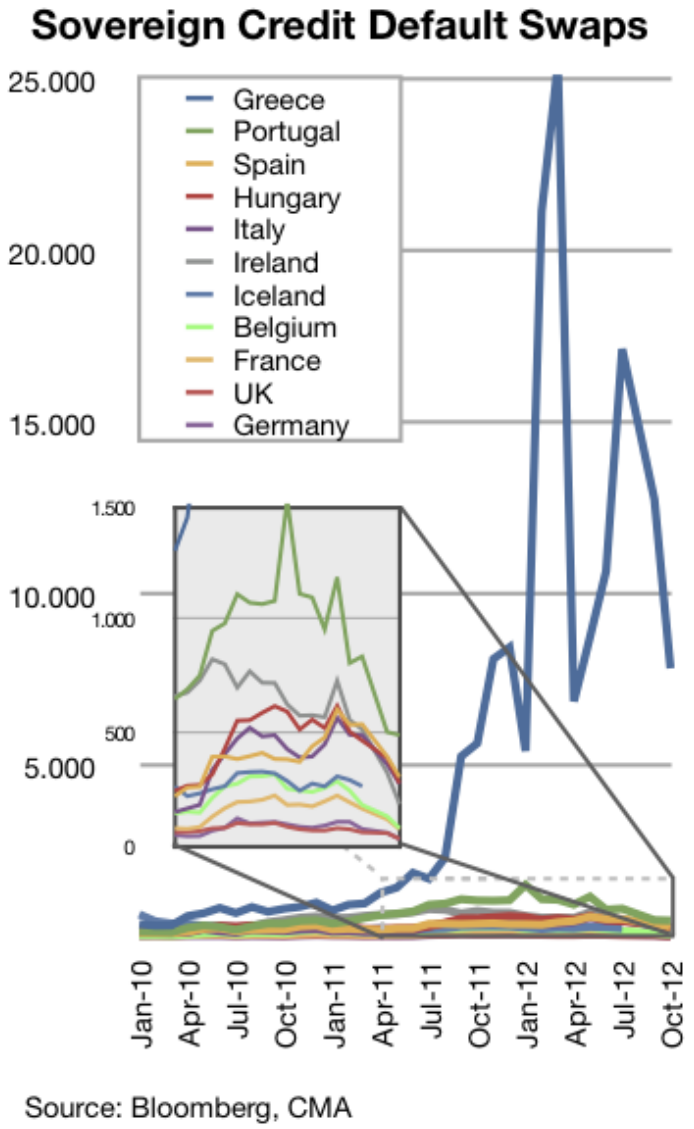
5 years on:
are we out of the woods yet?

- The FED has been pondering “Tapering”
- Why didn’t they pull the trigger last month?
- Are markets addicted to “free” money?
- Bad news is good news in the unconventional world !!!! (consider September employment report)

Markets love the QE



European Crisis



A **credit default swap** (**CDS**) is a financial swap agreement that the seller of the CDS will compensate the buyer in the event of a loan default or other credit event.

The buyer of the CDS makes a series of payments (the CDS "fee" or "spread") to the seller and, in exchange, receives a payoff if the loan defaults.

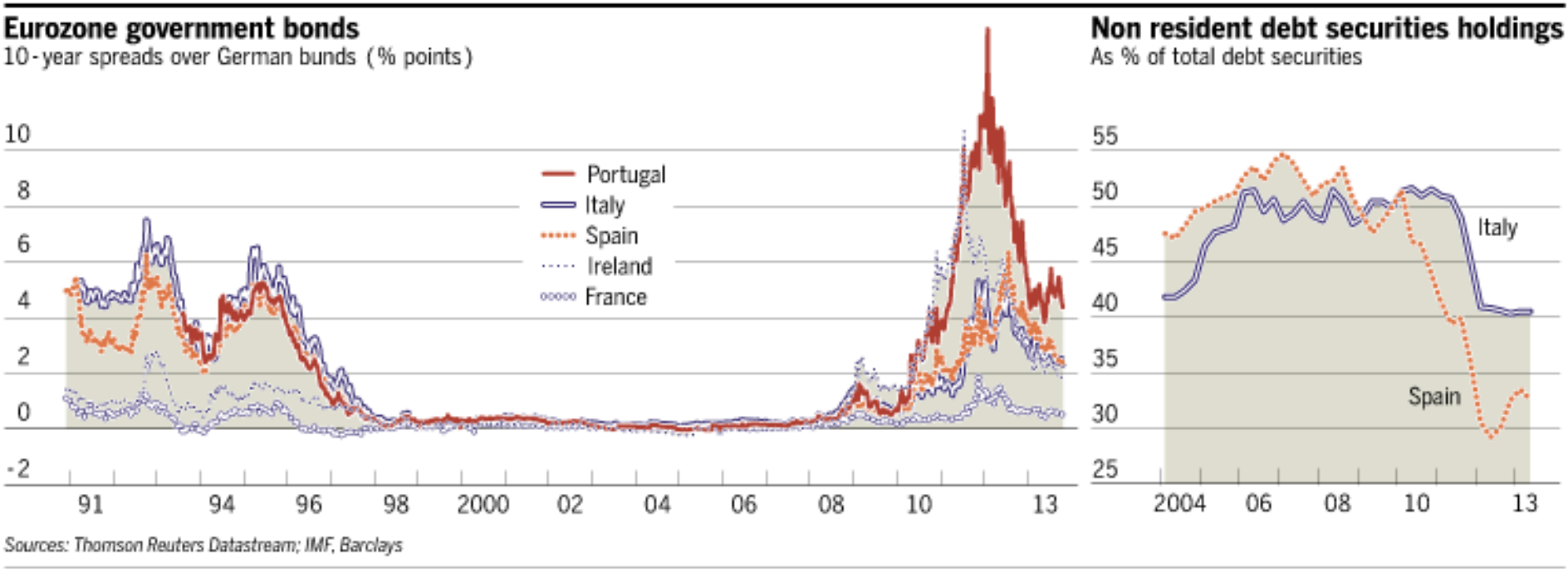
Endangered Currency

First Greece -- then Ireland, Italy, Spain and Portugal: The European common currency has come under pressure from large national debts and the effects of the global financial crisis, ultimately requiring a rescue package close to a trillion euros.

DPA

THE EURO CRISIS

Convergence No More

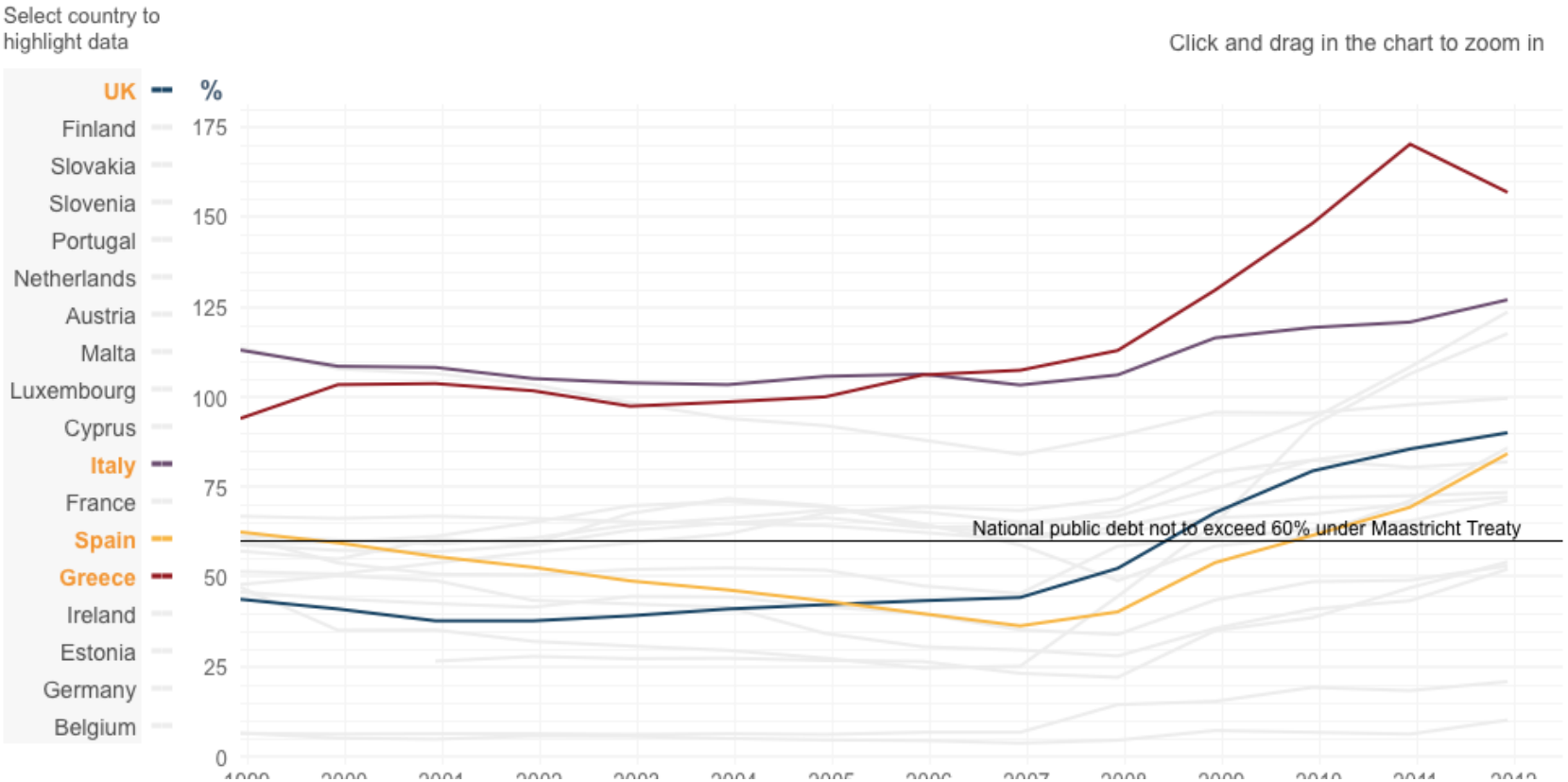


The euro's launch in 1999 was the biggest achievement in Europe's post second world war drive to bring together the region's economies. The impact on sovereign bond markets was dramatic. During the late 1990s yields converged as investors began to think in terms of a single eurozone market. The risks of a country defaulting, or exiting the eurozone, were ignored.

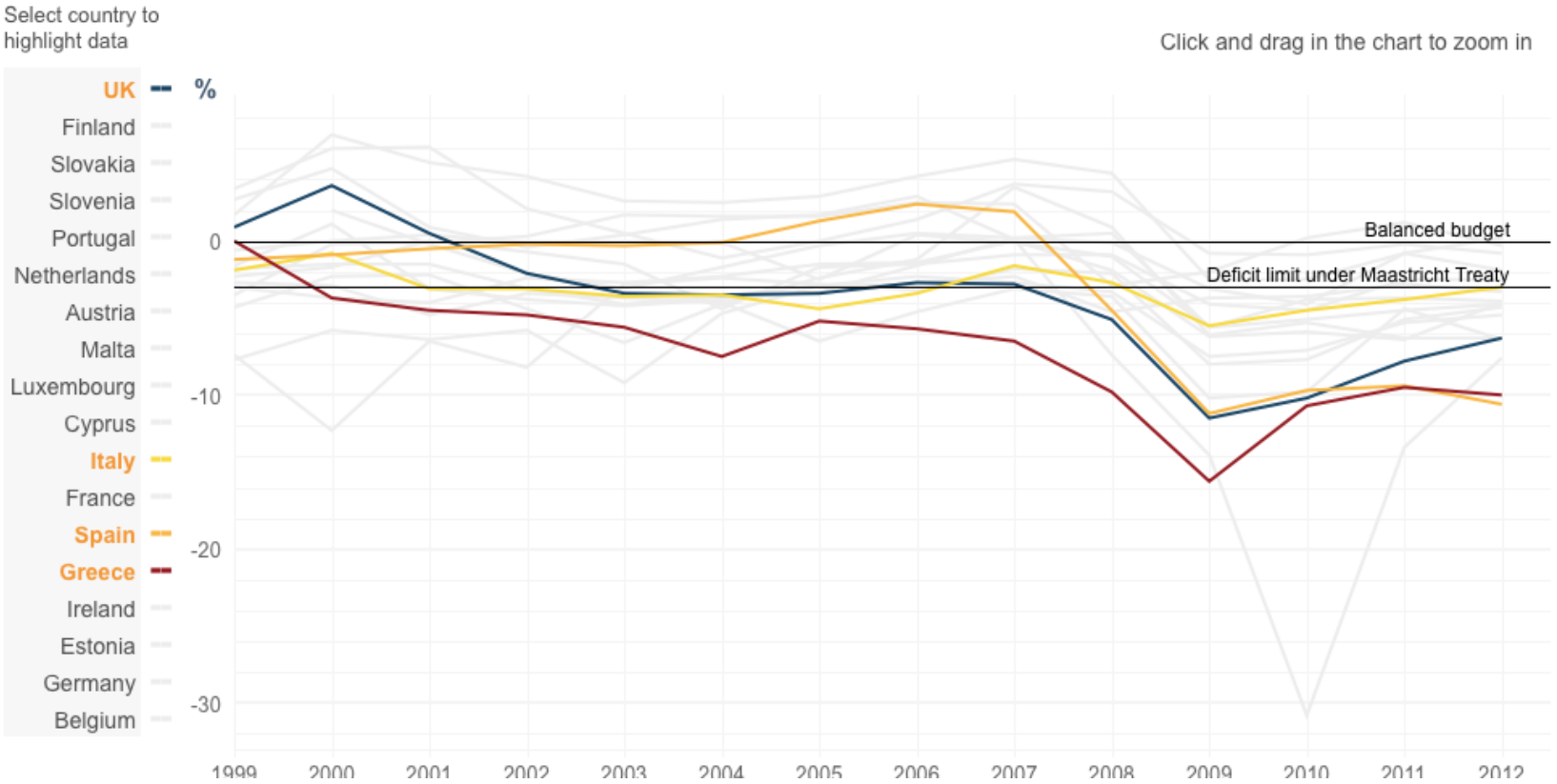
The complacent mood was shattered in 2009 when the escalating debt problems of Greece erupted into a crisis. Soaring "spreads" on the debt of governments in the eurozone "periphery" – southern Europe and Ireland – threatened the sustainability of public finances. They prompted sweeping changes by policy makers, including the launch of an emergency government bailout fund.

Stability and Growth Pact

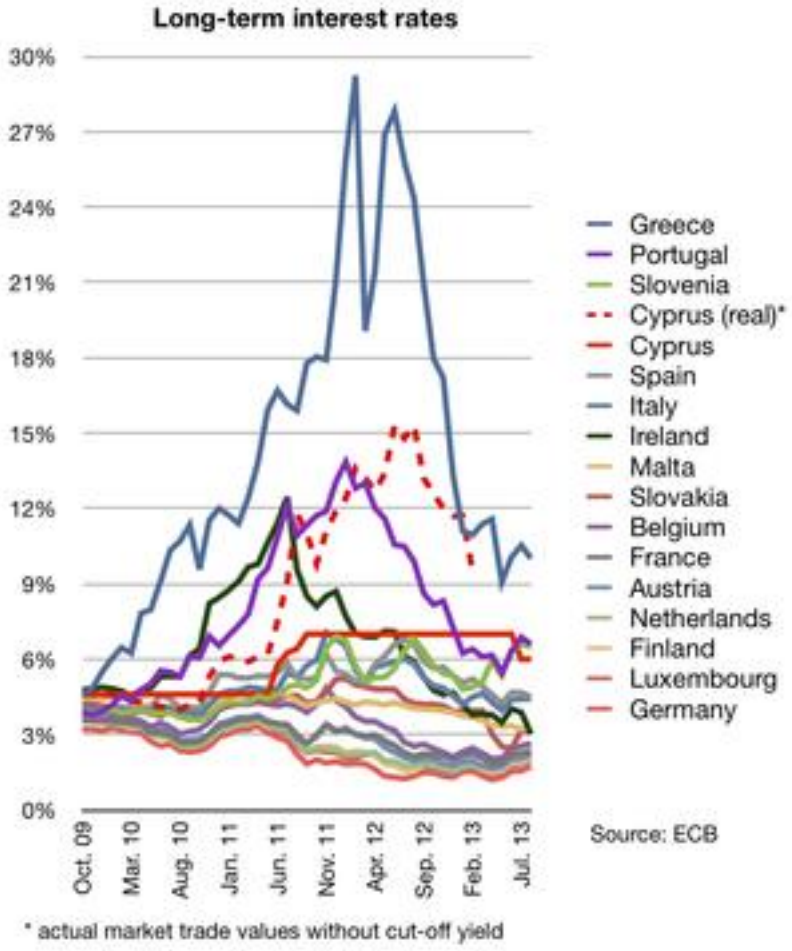
This chart shows debt as a proportion of GDP, which is the total amount a country's government (including local government) owes divided by the total amount produced by its economy in the year. Greece has been near the top of the debt league for some time. Portugal and Ireland have have also moved up the table for the past few years, in Ireland's case because of the enormous cost of rescuing its banks.

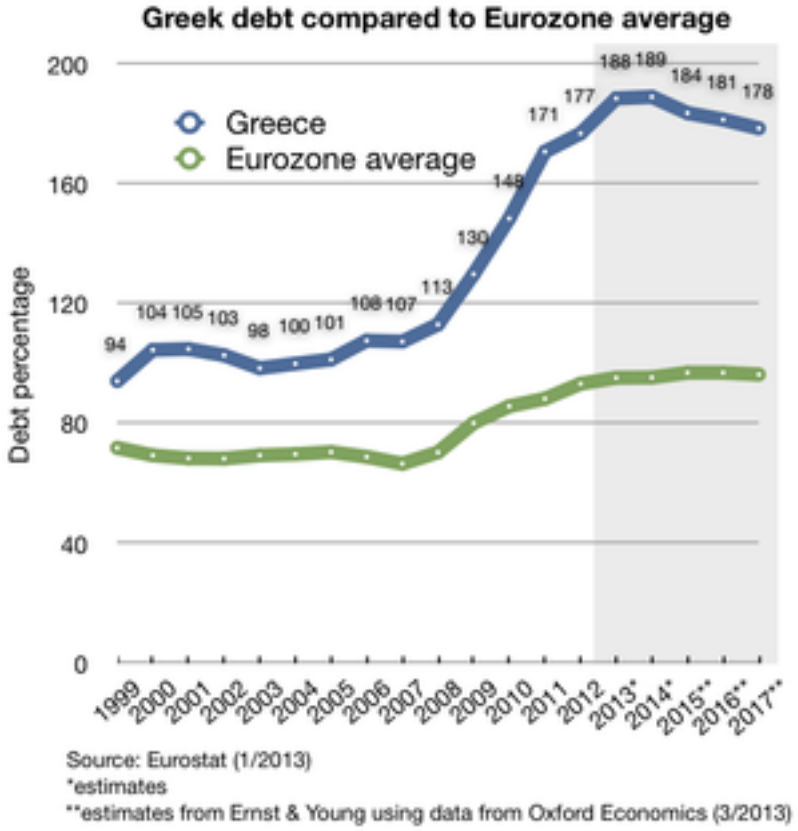


A government's deficit is the amount by which its total spending exceeds its tax revenues. The government typically borrows the difference, adding to its debt. Some governments manage to spend less than they earn, so that they run a positive surplus. This chart shows that surplus (a number above zero) or deficit (less than zero) as a proportion of GDP (the total value of goods and services produced by the economy each year).



Can a country go bust?





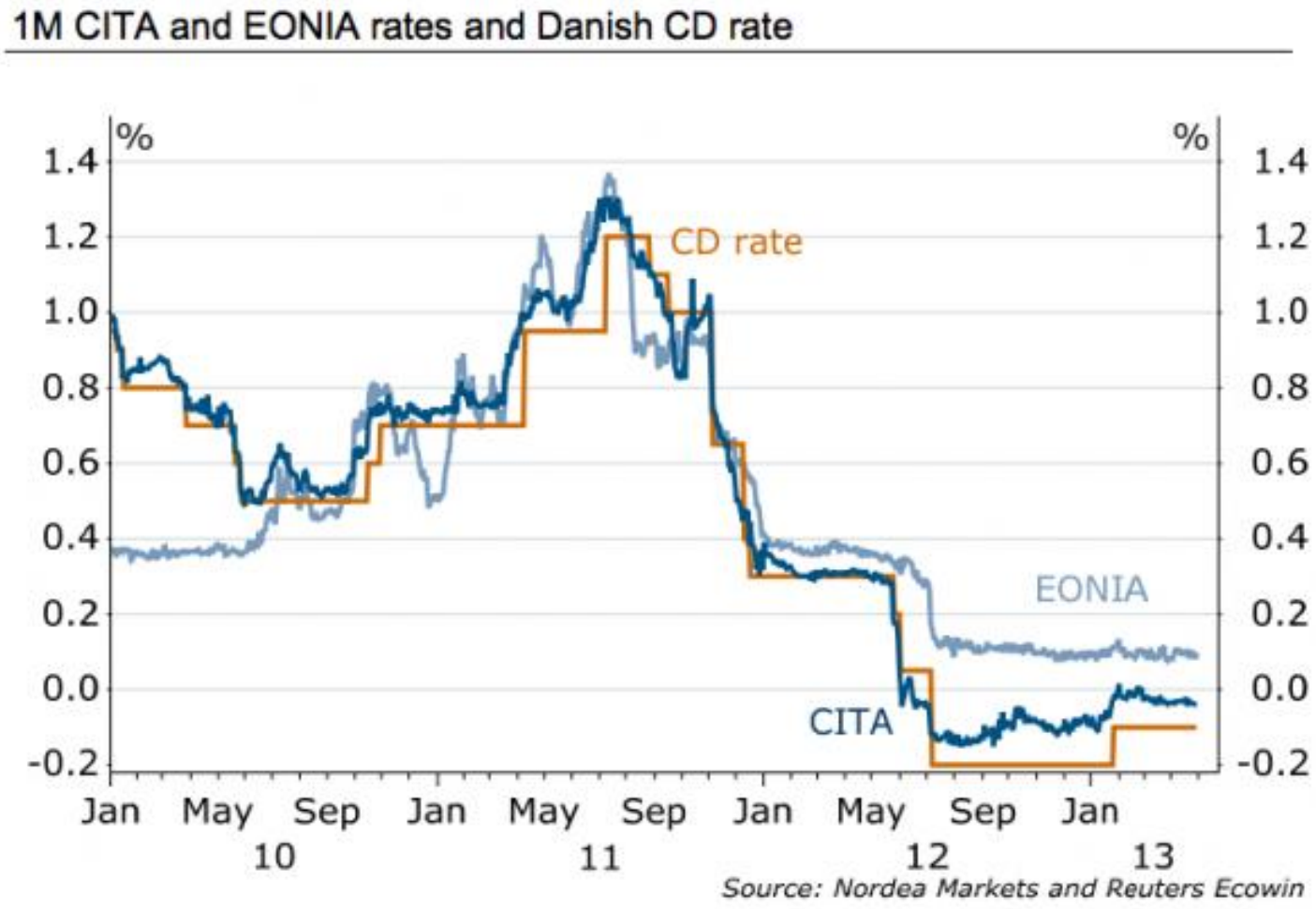
Austerity and Grexit

Couldn’t Greece go back to drachma

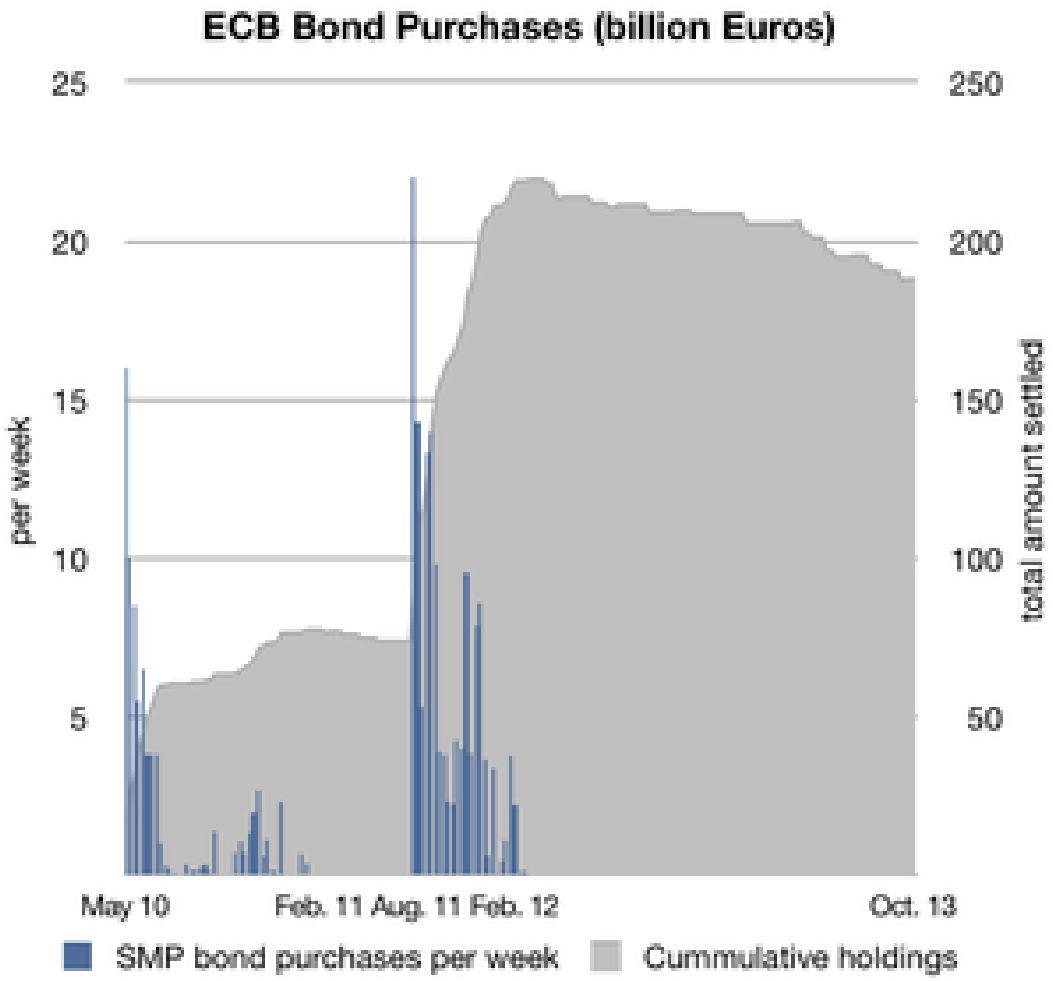
- Greek economy is small relative to the rest of the eurozone
- However, it could have set a precedent (Domino Effect)
- Greek Exit could lead to failures in banks in other EU countries (France, Germany, Italy)
- Very difficult in practice!!
- People simply moved money from Greek banks into German banks across the street ..


"PIIGS"
EURO
PORTUGAL
IRELAND
ITALY
GREECE
SPAIN
SUCK! SUCK!
SUCK! SUCK!

Please sir, anything but the euro



More Bonds anyone?



Why couldn’t they do QE and bail the greeks out?

- The Germans wouldn’t have it. (why)

- Bundesbank and the Weimar Republic

- ECB is not allowed to purchase bonds directly (Monetisation)

- Explicit Bailouts are not allowed in the EU constitution

Whatever it takes, even if it s a bluff

French Bank Experience

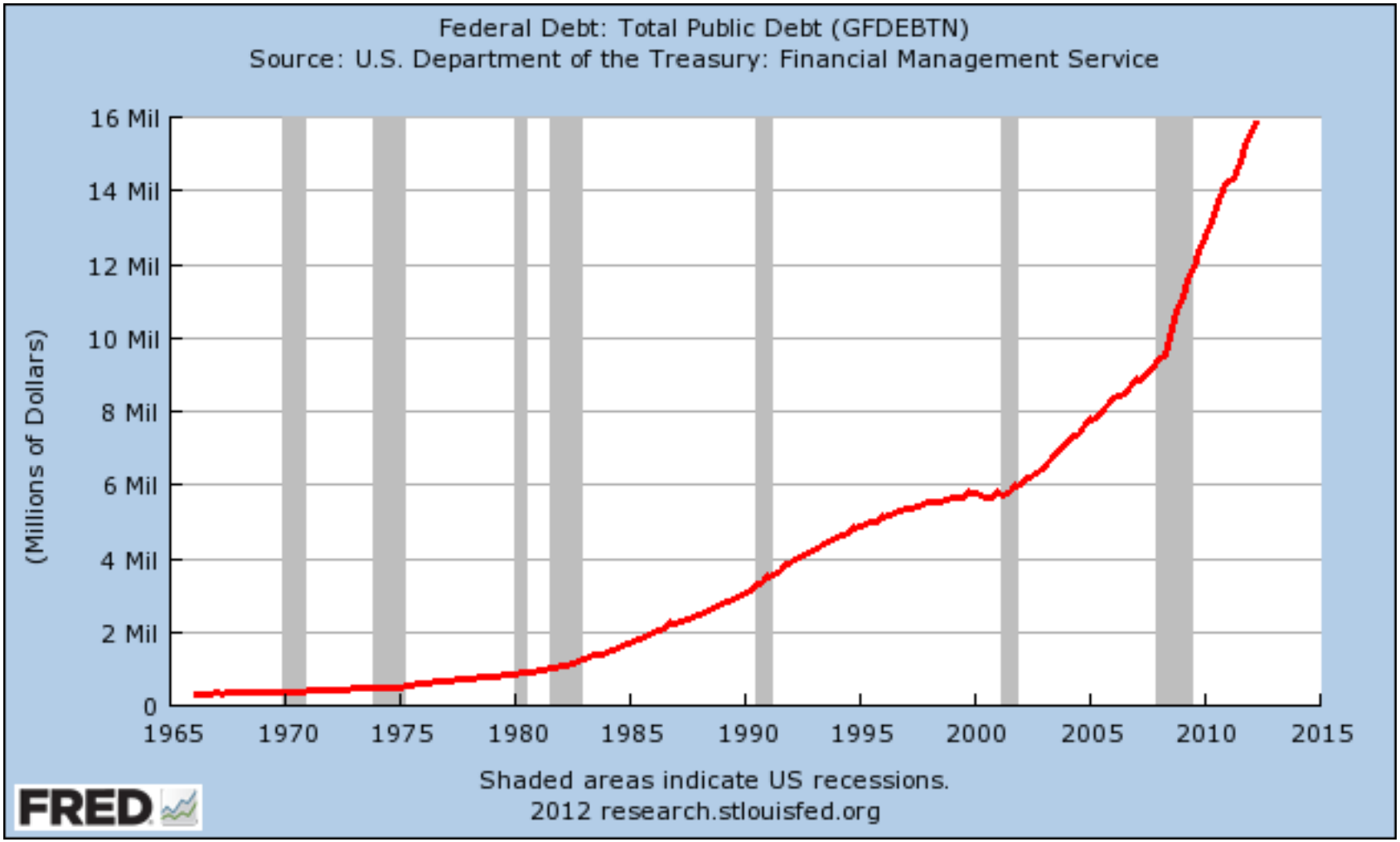
- Credit Agricole had trouble raising USD funding in 2011
- CA had to shut down many international branches including Thailand
- CA had to pay excessively high rates to obtain USD deposits
- SocGen and Hermes

Is the crisis …. over?

- So Far the markets believed the Draghi “whatever it takes”
- No one knows how it is going to pan out
- It ain’t over till the fat lady sings (not Merkel)
- Will the europeans stick to tough reforms?
  - (Hollande is currently highly unpopular in France 23% Approval rating)
- Watch the spreads (Spain-Germany, Italy- Germany)

Current market environment

Another Debt Ceiling will be reached soon (dec 12)



Debt Ceiling (again!!)

- US DEBT

October 9, 2013 9:12 am

Collateral crunch feared as T-bill yields leap

The flight from near-term bills could have major repercussions for key financing markets as Treasury collateral is widely used by central banks, sovereign wealth managers, banks, custodians and other investors for borrowing short-term cash and supporting derivatives positions and other types of trading.

The longer the stand-off in Washington continues, so the risk grows that certain Treasury securities start to be seen as too risky to take as collateral for the short-term loans that underpin this financing, via the vast "repo market".

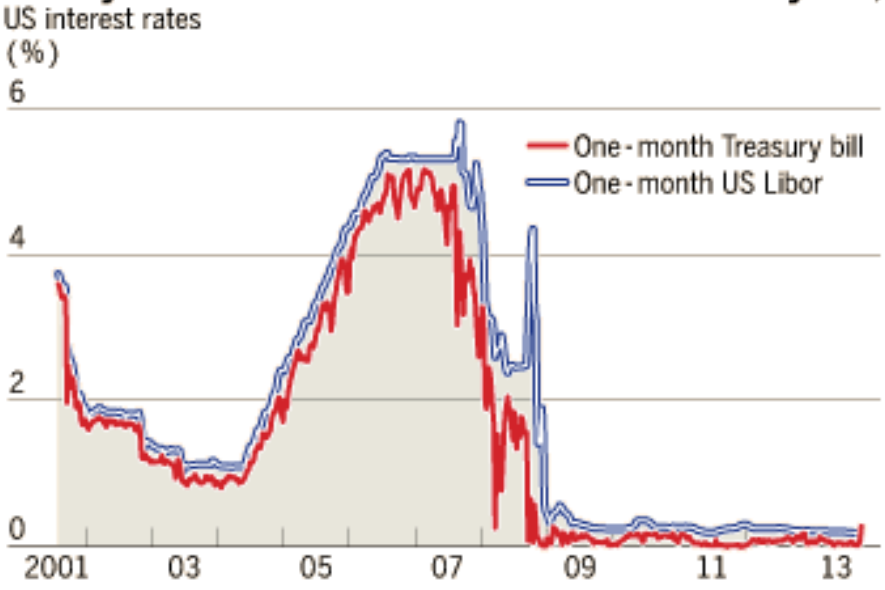
- If US creditworthiness becomes suspect, current uses of Treasury securities as collateral in the repo market may become impaired. The current debt ceiling impasse is evident in the repo futures market pricing. Disruptive interest rate dynamics could make it difficult for levered fixed-income investors to hold their positions. This creates potential for disorderly unwinding in a low liquidity environment.

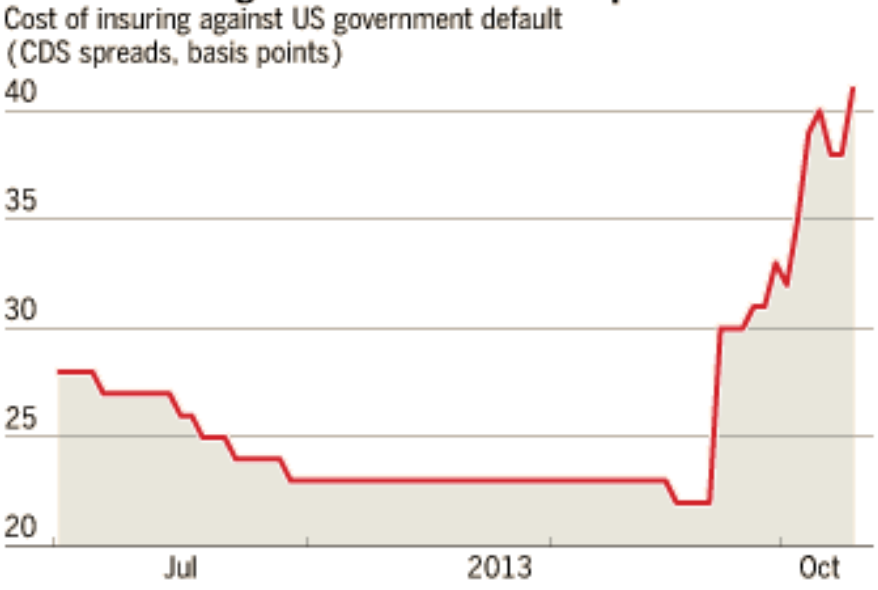
Burgeoning disruptions are already evident in a variety of technical financial markets. The yield on one-month T-bills has overtaken the one-month interbank lending rate, known as Libor, for the first time in a dozen years.

The curve in credit default swaps (CDS) on US debt has also inverted – indicating that purchasers of the derivatives are, in theory, pricing in a higher risk of default in the short term than in the longer term.

CDS on US government debt has doubled in the past month and trading volumes have jumped as a growing number of investors have bought the instruments, seeking protection against a potential default or making bets on subtle movements in the derivatives.

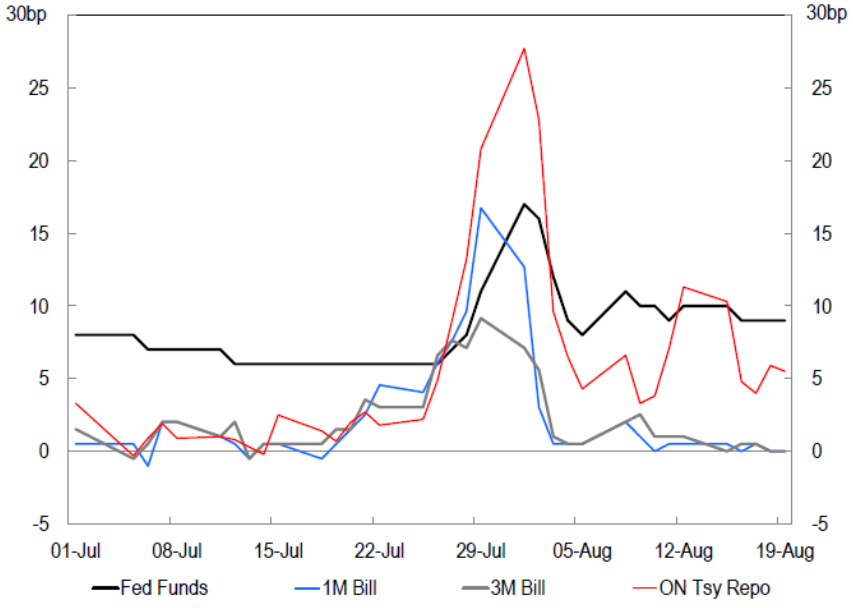
T-bill yields overtake Libor for first time in dozen years, while US sovereign CDS costs double in past month





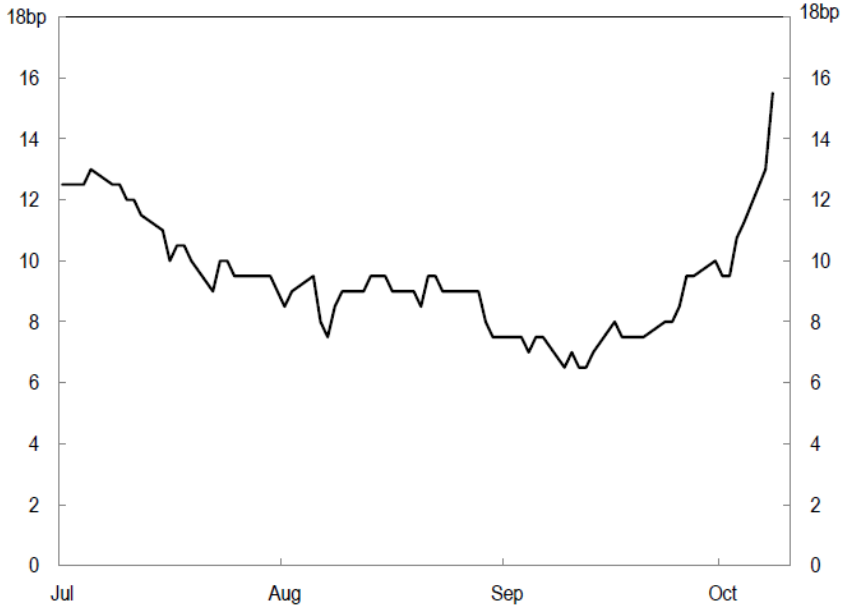
Sources: Thomson Reuters Datastream; Markit

Figure 2. Short-Term Interest Rate Reaction to Debt Ceiling Debate, 2011



Source: Bloomberg.

Figure 3. October Treasury Repo Futures Yield, Jul 13-8 Oct 13



Source: Bloomberg.

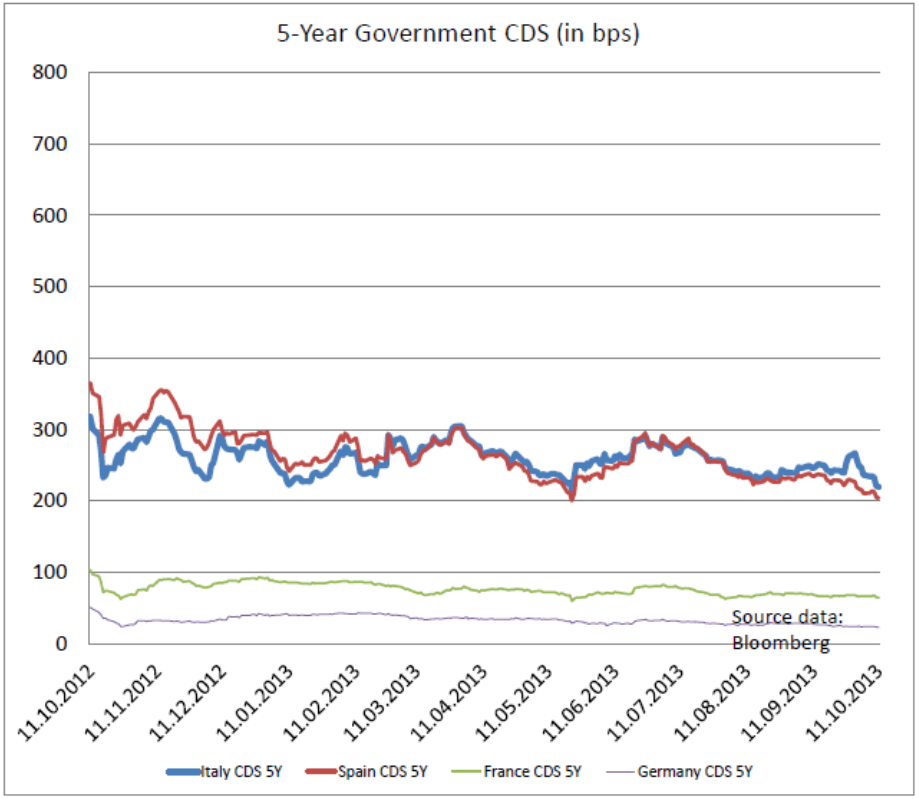
Repo- Repurchase Agreement

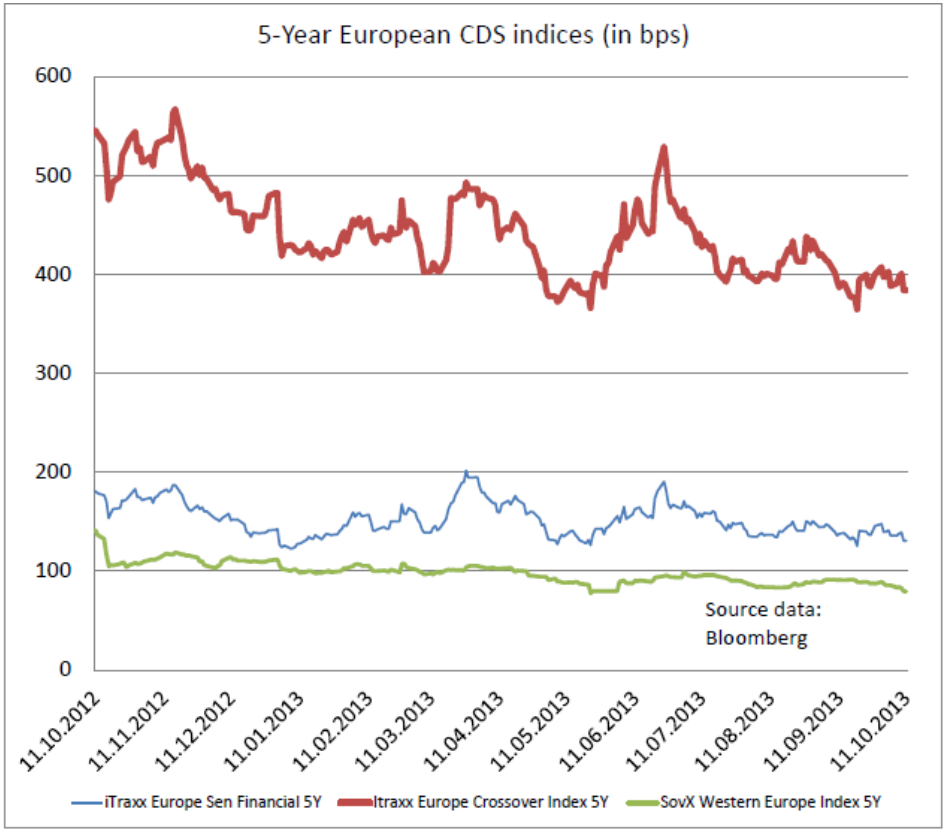
- Collateralised lending
- Repo Rate is normally lower than Libor. (why)
- Can repo rate be negative? Why
- Traders use repo to fund their positions.

CDS

- Credit Default Swap: cost of protection againt a credit event. (a bit like a car insurance, fire insurance)
- Single name CDS (e.g. Lehman Brothers)
- Index CDS: iTraxx (EU) and CDX (US)
- Ban on naked CDS (imagine buying a fire insurance on your neighbour’s house)

CDS


5-Year Government CDS (in bps)
800
700
600
500
400
300
200
100
0
11.10.2012
11.11.2012
11.12.2012
11.01.2013
11.02.2013
11.03.2013
11.04.2013
11.05.2013
11.06.2013
11.07.2013
11.08.2013
11.09.2013
11.10.2013
Source data:
Bloomberg
Italy CDS 5Y
Spain CDS 5Y
France CDS 5Y
Germany CDS 5Y


5-Year European CDS indices (in bps)
600
500
400
300
200
100
0
11.10.2012
11.11.2012
11.12.2012
11.01.2013
11.02.2013
11.03.2013
11.04.2013
11.05.2013
11.06.2013
11.07.2013
11.08.2013
11.09.2013
11.10.2013
Source data:
Bloomberg
iTraxx Europe Sen Financial 5Y
Itraxx Europe Crossover Index 5Y
SovX Western Europe Index 5Y

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

97) Settings | 99) Feedback | CDS Index Monitor

Data Range: Spread | 3 Months

Markit Indices	Spread	Change Spread	Basis	Roll	Low	Range (Avg / Now)	High	Avg	+/-	3M Chg
1) Americas										
10) CDX Investment Grade	78.95	+0.12	-3.8	8.8	69.9		84.8	78.6	+0.3	-2.8
11) CDX High Yield	105.21 *	-0.50	-0.5	1.3	103.4		106.8	105.2	+0.0	+0.9
12) MCDX	155.42	+0.00	N.A.	13.1	129.2		155.8	142.2	+13.2	+13.8
13) CDX Latin America		N.A.	N.A.	N.A.	N.A.		N.A.	N.A.	N.A.	N.A.
2) EMEA										
20) iTraxx Europe	94.74	-1.51	0.6	9.1	89.6		108.0	100.5	-5.8	-14.9
21) iTraxx HIVOL	148.41	-1.26	8.7	11.8	141.3		165.2	155.9	-7.5	-16.9
22) iTraxx Crossover	380.96	-4.29	11.8	53.7	367.3		439.8	405.9	-24.9	-61.8
23) iTraxx Sr Financial	129.54	-1.75	1.7	13.8	126.1		161.2	142.8	-13.3	-29.2
24) iTraxx Sub Financial	190.25	-2.97	-5.8	21.3	188.6		242.6	217.4	-27.1	-54.4
25) iTraxx Corp CEEMEA	260.48	N.A.	N.A.	22.1	245.4		307.4	273.1	-12.6	-26.5
26) iTraxx SOVX W Europe	84.35	-0.44	4.9	N.A.	83.7		99.3	90.6	-6.2	-12.6
27) iTraxx SOVX CEEMEA	227.12	N.A.	N.A.	2.7	213.3		231.4	221.5	+5.6	-5.3
3) Asia										
30) iTraxx Japan	93.66	-2.45	-5.5	11.9	78.1		102.8	94.4	-0.7	-9.8
31) iTraxx Asia Ex Japan IG	153.13	N.A.	13.8	32.9	119.3		169.6	145.8	+7.4	-6.7
32) iTraxx Australia	115.87	-4.30	4.2	9.7	104.4		129.5	120.1	-4.3	-20.3
Emerging Markets										
40) CDX Emerging Market	110.33 *	-0.06	2.7	-1.5	106.5		111.3	108.8	+1.6	+3.1

* These securities are price quoted

Last updated: October 15, 2013 5:47 pm

US Treasury bill demand slumps at auction

Demand for the sale of $35bn three-month bills that mature in January was 3.13 times, the lowest since July 2009

Bid-Cover Ratio

- Bond Auction!! (Italy and the political uncertainty) markets relieved after the bond market bought the bond enthusiastically
- Bid-Cover ratio as a guage of market sentiment

- Bid-Cover less than 1 is a failed auction. Why?

There was also some negative reaction in the markets to developments in Washington. One-month Treasury bills maturing on October 31 shot up 21 basis points to a new debt ceiling peak of 53 bps late on Tuesday, as investors grew alarmed by the lack of a deal.

"We are seeing a lack of liquidity in the bill market and that is exacerbating the move in yields," said John Brady, senior vice-president at RJ O'Brien. "People are stepping away from the market."

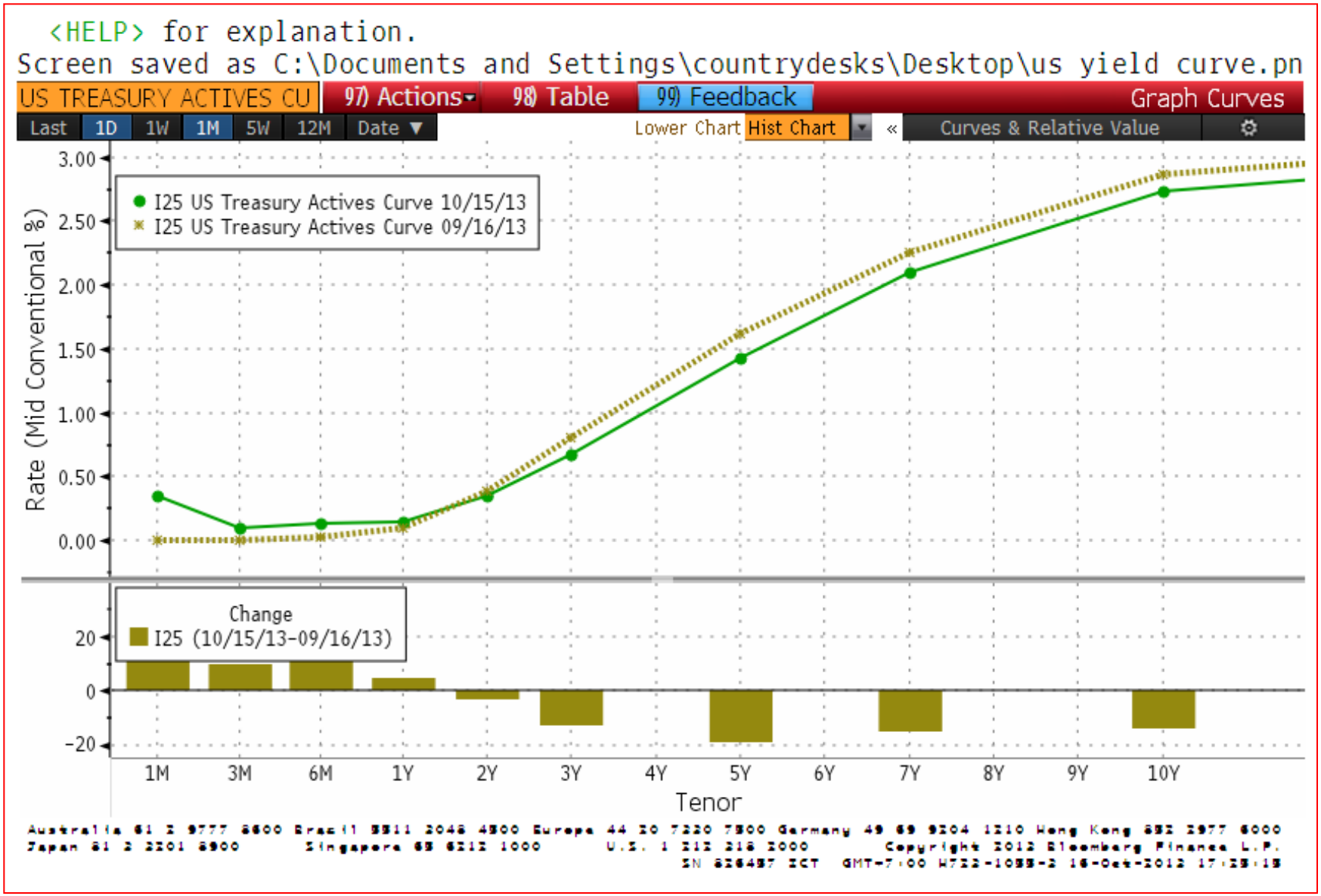
TRADING POST

Last updated: October 14, 2013 6:36 pm

Long-dated Treasuries unbowed by debt tensions

The volatility in stocks and T-bills is not being replicated in longer term US paper, however.

The US 10-year yield has been stuck between 2.6 per cent and 2.7 per cent for the past three weeks, even as fears about US creditworthiness – as measured by higher CDS spreads – have been building.


<HELP> for explanation.
Screen saved as C:\Documents and Settings\countrydesks\Desktop\us yield curve.pn
US TREASURY ACTIVES CU
97) Actions
98) Table
99) Feedback
Graph Curves
Last
1D
1W
1M
5W
12M
Date
Lower Chart
Hist Chart
Curves & Relative Value
I25 US Treasury Actives Curve 10/15/13
I25 US Treasury Actives Curve 09/16/13
Rate (Mid Conventional %)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
Change
I25 (10/15/13-09/16/13)
20
0
-20
1M
3M
6M
1Y
2Y
3Y
4Y
5Y
6Y
7Y
8Y
9Y
10Y
Tenor
Australia 61 2 9777 8600 Brazil 5511 2048 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 2012 Bloomberg Finance L.P.
SN 826457 EDT GMT-7:00 H722-1055-2 16-Oct-2012 17:28:15

<HELP> for explanation.

	BidPx / AskPx	AskYld	PxChg
31) 10/17/13	0.215 / 0.210	0.213	-0.105
32) 10/24/13	0.555 / 0.550	0.558	+0.090
33) 10/31/13	0.625 / 0.620	0.629	+0.090
34) 11/07/13	0.445 / 0.440	0.446	+0.100
35) WI 1MTH	0.375 / 0.370	0.375	+0.125
36) 1M ROLL	6.500 / -7.500		
37) 11/14/13	0.355 / 0.350	0.355	+0.090
38) 11/21/13	0.150 / 0.145	0.147	+0.035
39) 11/29/13	0.180 / 0.175	0.177	+0.005
40) 12/05/13	0.150 / 0.145	0.147	+0.025
41) 12/12/13	0.145 / 0.140	0.142	-0.010
42) 12/19/13	0.120 / 0.115	0.117	--
43) 12/26/13	0.140 / 0.135	0.137	--
44) 01/02/14	0.090 / 0.085	0.086	--
45) 01/09/14	0.090 / 0.085	0.086	-0.015
46) 01/16/14	0.145 / 0.135	0.137	+0.005
47) WI 3MTH	/		
48) 3M ROLL	/		
49) 01/23/14	0.105 / 0.100	0.101	+0.015

	BidPx / AskPx	AskYld	PxChg
50) 01/30/14	0.110 / 0.105	0.106	+0.015
51) 02/06/14	0.125 / 0.120	0.122	+0.005
52) 02/13/14	0.125 / 0.120	0.122	+0.015
53) 02/20/14	0.120 / 0.115	0.117	--
54) 02/27/14	0.125 / 0.115	0.117	+0.005
55) 03/06/14	0.120 / 0.115	0.117	-0.005
56) 03/13/14	0.120 / 0.115	0.117	--
57) 03/20/14	0.115 / 0.110	0.112	+0.010
58) 03/27/14	0.110 / 0.105	0.107	+0.010
59) 04/03/14	0.120 / 0.115	0.117	+0.005
60) 04/10/14	0.130 / 0.125	0.127	--
61) 04/17/14	0.160 / 0.155	0.157	+0.003
62) WI 6MTH	/		
63) 6M ROLL	/		
64) 05/01/14	0.110 / 0.105	0.107	+0.005
65) 05/29/14	0.110 / 0.105	0.107	--
66) 06/26/14	0.110 / 0.105	0.107	--
67) 07/24/14	0.120 / 0.115	0.117	+0.005
68) 08/21/14	0.130 / 0.125	0.127	+0.005

TIPS

Investors may be surprised to hear that concerns about excessively low inflation may be back on the Fed's radar screen. After all, breakeven inflation expectations in the bond market have been fairly stable at above 2 per cent. But the Fed leadership

Treasury Inflation protected Securities

- Nominal Bond Yield = TIPS yield + Breakeven inflation

- For example, if the current 10-year treasury note is yielding 3% and the current 10-year TIPS yield is 1%.

- Markets are implying that inflation expectations should be 2% on average for the next 10 years

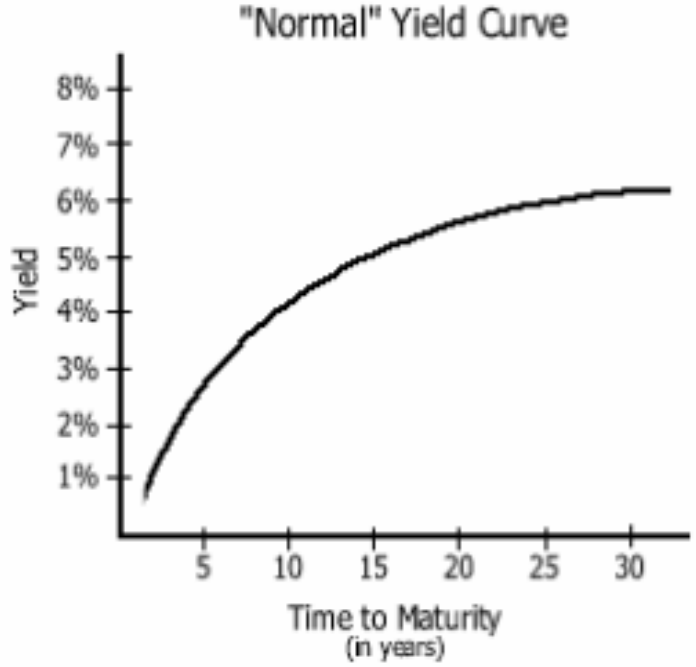
- Therefore, Breakeven inflation is 2%.

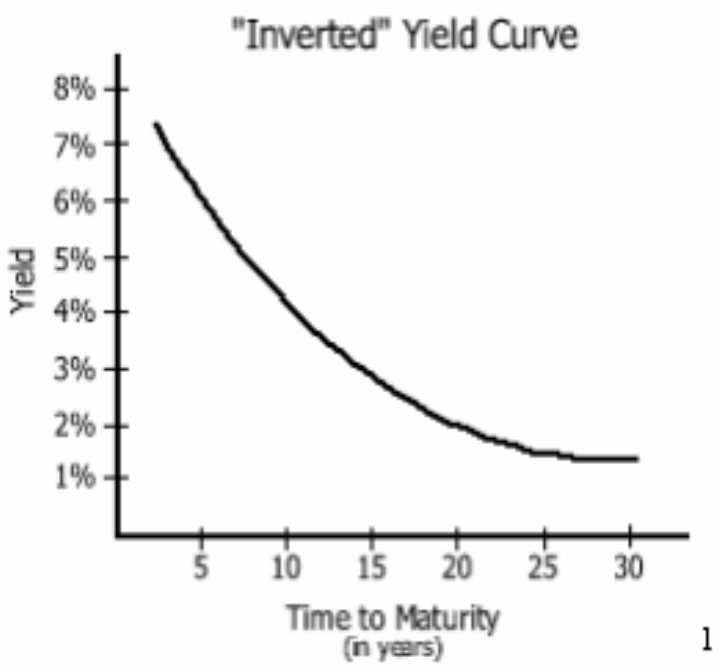
- TIPS investors will break even (not lose out) if inflation is 2% for the next 10 years.

- It can be used as a gauge for inflation expectations (market based as opposed to the survey based approach)

Term Structure of Interest rates

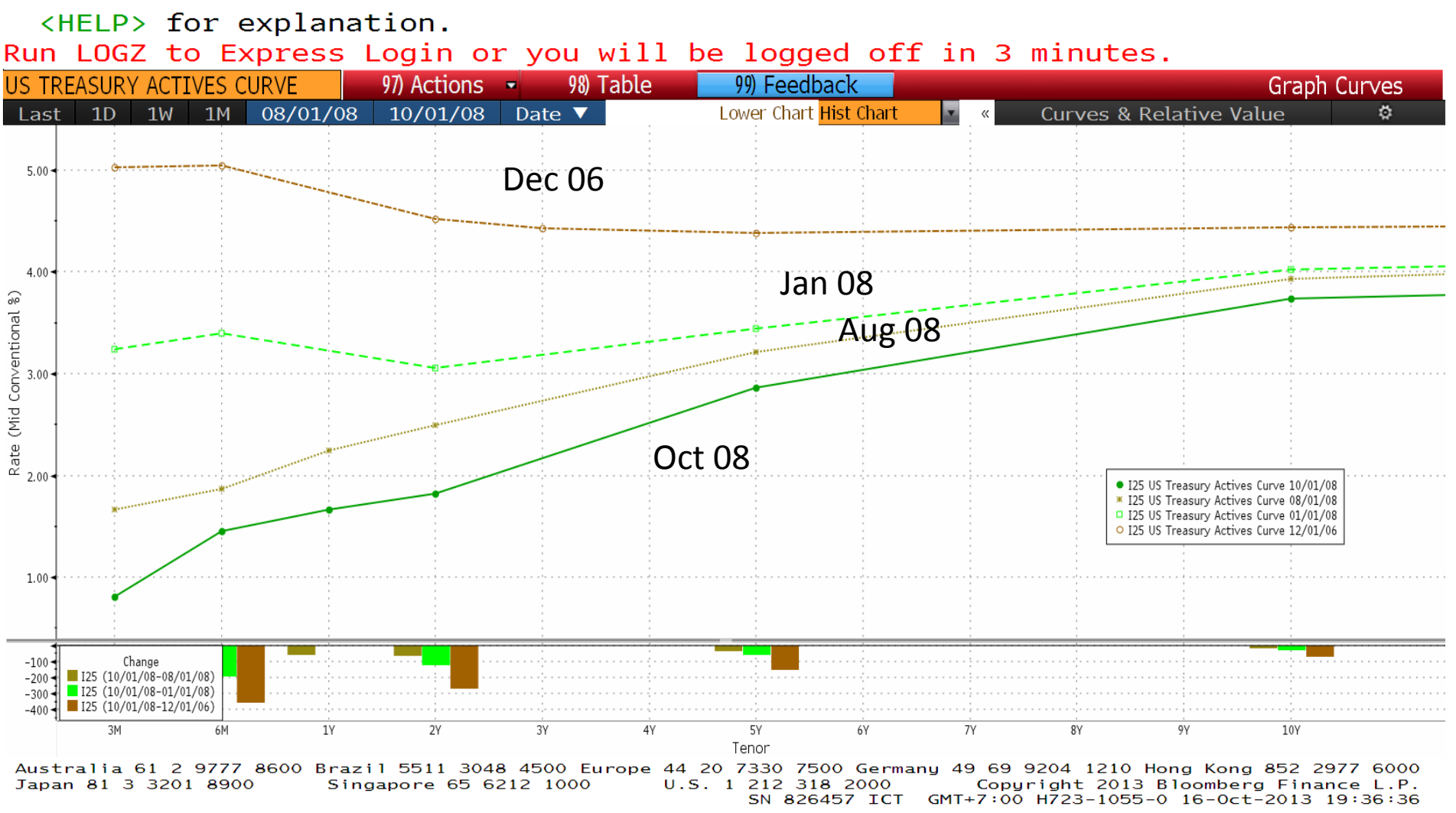
- Normal Yield Curve
- Inverted Yield curve: “ harbinger of an economic slowdown?





1

Yield Curve History



Operation Twist

<HELP> for explanation.
Screen saved as C:\Documents and Settings\countrydesks\Desktop\twist.png
US TREASURY ACTIVES CURVE 97) Actions 98) Table 99) Feedback Graph Curves
Last 1D 1W 1M 09/01/11 09/01/12 Date Lower Chart Hist Chart « Curves & Relative Value

I25 US Treasury Actives Curve 08/31/12
I25 US Treasury Actives Curve 09/01/11

Rate (Mid Conventional %)
2.00
1.50
1.00
0.50
0.00

Sep 11
Sep 12

1M 3M 6M 1Y 2Y 3Y 4Y 5Y 6Y 7Y 8Y 9Y 10Y
Tenor

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.
SN 826457 ICT GMT+7:00 H663-2151-0 17-Oct-2013 15:06:39

CRISIS INDICATOR

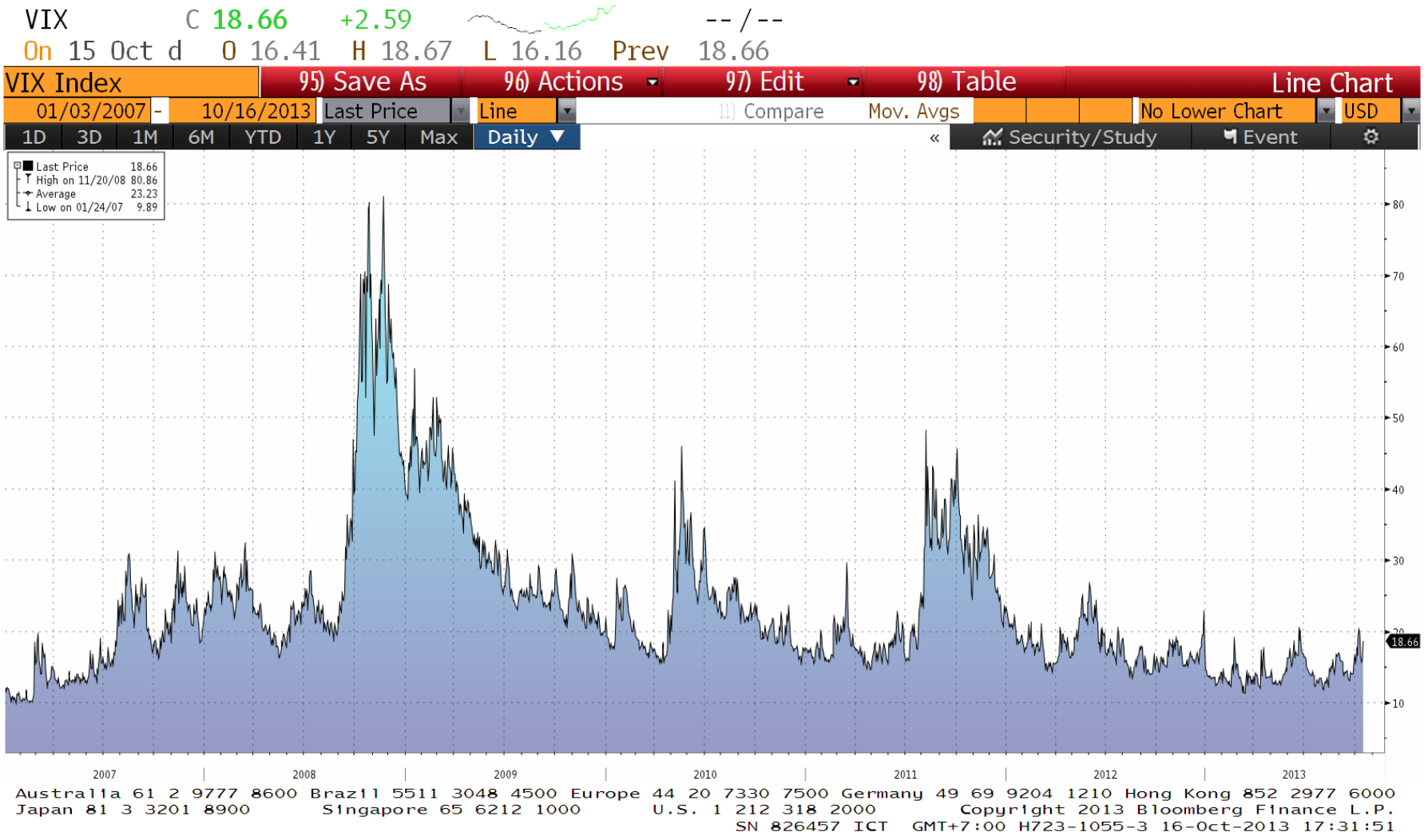
A measure of liquidity/ market dysfunction

- Bid-ask spread… a very important indicator

Yield Spreads

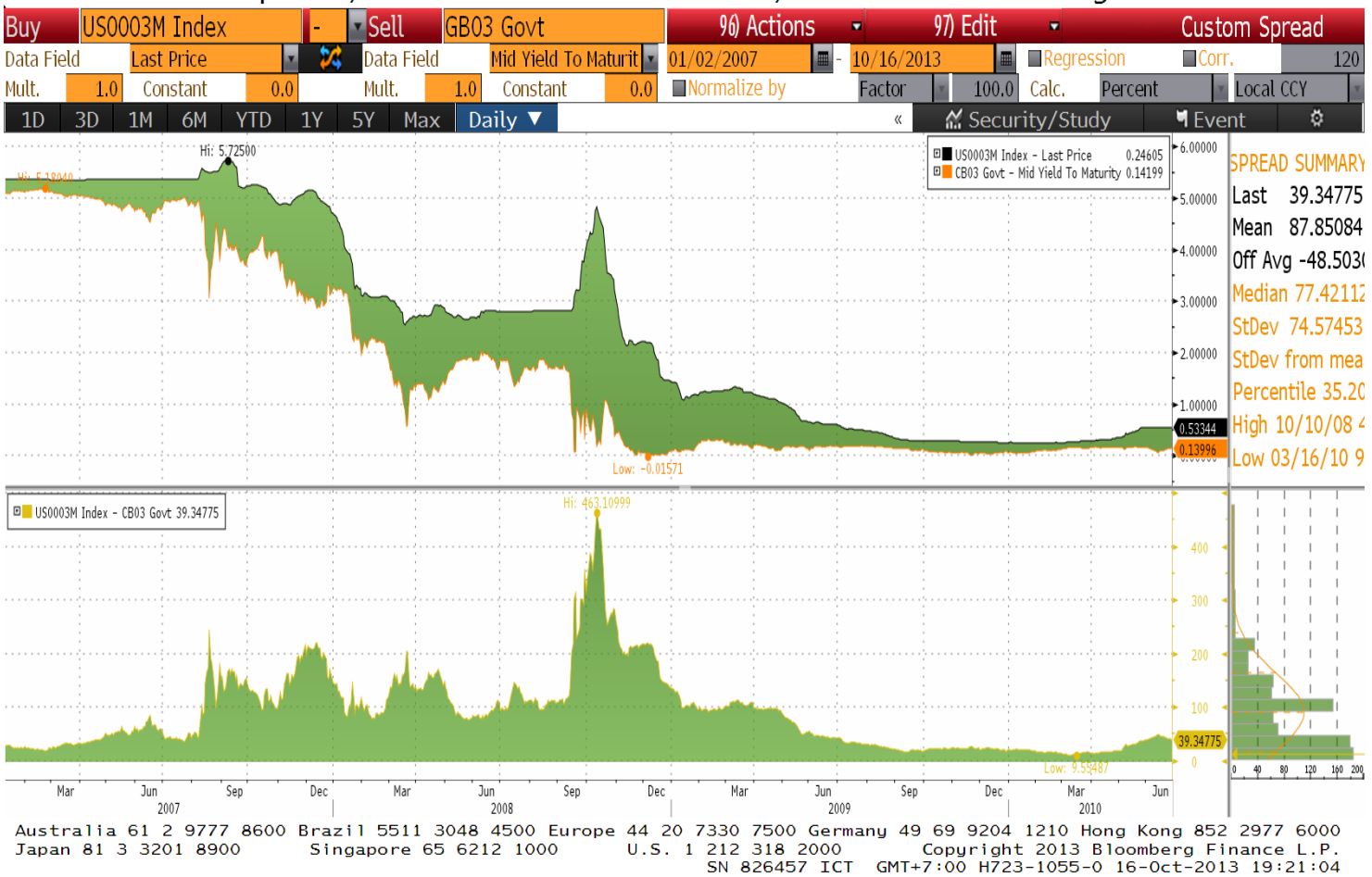
- Yield Spread between two securities (bonds)
- Represents credit risk, term premium
- TED spread

Nothing to fear but fear itself



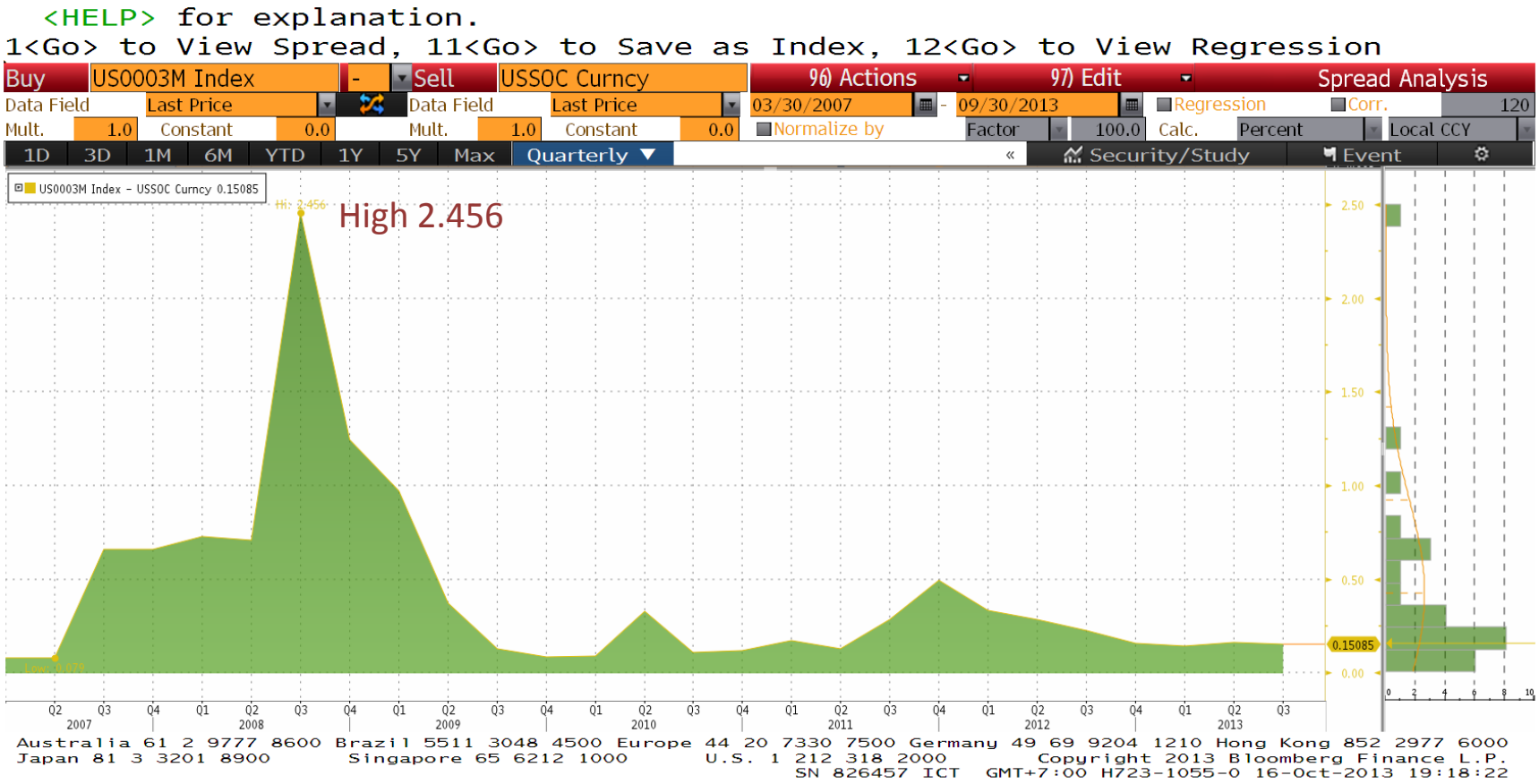
TED spread

<HELP> for explanation.
1<Go> to View Spread, 11<Go> to Save as Index, 12<Go> to View Regression



Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.
SN 826457 ICT GMT+7:00 H723-1055-0 16-Oct-2013 19:21:04

LIBOR-OIS


<HELP> for explanation.
1<Go> to View Spread, 11<Go> to Save as Index, 12<Go> to View Regression
Buy
US0003M Index
-
Sell
USSOC Curncy
96) Actions
97) Edit
Spread Analysis
Data Field
Last Price
Data Field
Last Price
03/30/2007
09/30/2013
Regression
Corr.
120
Mult.
1.0
Constant
0.0
Mult.
1.0
Constant
0.0
Normalize by
Factor
100.0
Calc.
Percent
Local CCY
1D
3D
1M
6M
YTD
1Y
5Y
Max
Quarterly
Security/Study
Event
US0003M Index - USSOC Curncy 0.15085
High 2.456
2.50
2.00
1.50
1.00
0.50
0.15085
0.00
Q2 2007
Q3
Q4
Q1 2008
Q2
Q3
Q4
Q1 2009
Q2
Q3
Q4
Q1 2010
Q2
Q3
Q4
Q1 2011
Q2
Q3
Q4
Q1 2012
Q2
Q3
Q4
Q1 2013
Q2
Q3
Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.
SN 826457 ICT GMT+7:00 H723-1055-0 16-Oct-2013 19:18:22

Short term bills at the center of the storm

	10-Oct-13	26-Sep-13	Change
	Level (% or points)		(bp or % change)
US T-bills			
T-Bill 31-Oct-13	0.33	0.03	29.9
T-Bill 07-Nov-13	0.27	0.02	25.6
T-Bill 09-Jan-14	0.04	0.00	4.6
Libor-OIS and swap spreads			
USD 3M Libor-OIS	13.5	15.1	-1.6
USD 1Y Libor-OIS	19.6	18.1	1.5
USD 2Y swap spread	12.6	13.1	-0.5
EUR 2Y swap spread	40.7	37.7	3.0
FX and cross currency basis			
EUR/USD FX	1.3521	1.3473	0.4%
USD/JPY FX	97.8	99.05	-1.3%
Trade weighted USD	69.03	69.04	0.0%
EUR/USD 1Y basis	-10.7	-9.6	-1.1

	10-Oct-13	26-Sep-13	Change
	Level (% or points)		(bp or % change)
Libor-OIS and swap spreads			
USD 3M Libor-OIS	13.5	15.1	-1.6
USD 1Y Libor-OIS	19.6	18.1	1.5
USD 2Y swap spread	12.6	13.1	-0.5
EUR 2Y swap spread	40.7	37.7	3.0
FX and cross currency basis			
EUR/USD FX	1.3521	1.3473	0.4%
USD/JPY FX	97.8	99.05	-1.3%
Trade weighted USD	69.03	69.04	0.0%
EUR/USD 1Y basis	-10.7	-9.6	-1.1
S&P 500	1656.4	1698.7	-2.5%
VIX	19.6	14.1	5.5
Eurostoxx 600	296.6	295.8	0.3%
Spain-Germany 10Y	250.4	251.2	-0.7
Gold	1299.5	1324.1	-1.9%

Source: Deutsche Bank

They are all swaps to me

- FX SWAPS
- Interest Rate Swaps (IRS)
- Cross Currency Swaps (CCS)

Forward Rate

- Forward Exchange Rate is not the market expectation of FX spot rate.

- Forward Rates are based on Interest Rate differentials

FX FORWARD AND SWAPS MARKET

FX deal

- Spot deal
  - Buy EURUSD outright
- Forward Deal
  - Sell EUR forward
- FX swaps deal
  - SellBuy EURUSD and BUYSell EURUSD on the forward leg

Swap Deal Terminology

- I sell buy Euros against USDs
  - I sell Euros on the near date
  - I buy Euros on the far date
- I buy/Sell USDs against EUR
  - I buy USD on the near date
  - I sell USD on the far date

Quoting the forward prices

- Our customer wants to buy USD 1,262,500 against EUR
- Spot EURUSD is 1.25
- Our customer requires delivery 360 days after spot date
- What is the Forward FX rate do we quote?

What do we know

- Spot FX rate 1.25
- 360day USD interest rate =1%
- 360 day EUR interest rate =2%

Cashflows are important

- Can we use the Forward rate equal to our spot rate?

- Why ? Or why not?

Determining the Forward Rate

- Banks do not need to predict the future spot FX rate to quote a forward rate

- Instead, banks can perfectly hedge their Forward FX exposures using deal structures executed at current market rates

  – In practice, banks use FX swaps to hedge their forward exposures

Links between interest rates and Forward rates

- As interest rates go up, forward rates goes down
  - In our example, try 360 day EUR rate to be 5%
  - Recalculate our Forward FX rate
- Forward rates and swap points
  - A more convenient way to quote a forward rates
  - Forward points or swap points are relatively stable compared with the spot FX

Example of swap points

Spot FX rate EUR1 = USD 1.25
EUR rates(all maturities)= 2%
USD rates (all maturities)= 1%

Days	Swap points
30	-10
90	-31
180	-62
360	-123

Forwards VS Non-Deliverable Forwards(NDFs)

- Regular FX outright forward transaction
  - Parties agree to exchange specified amounts of a pair of currencies at maturity
  - At maturity, each party makes a gross payment in the amounts originally agreed

Example market data at inception

Spot FX rate.	$1 = CNY 6.8
1 year Forward rate	$1= CNY 6.9
market data at maturity	
Spot FX rate	$1= CNY 6.6

NDFs

- Non-Deliverable forwards
  - Parties agree to exchange nominal amounts at maturity
  - At maturity, the debit party makes a net payment to the credit party in one currency only (eg USD) based on the spot rate at maturity

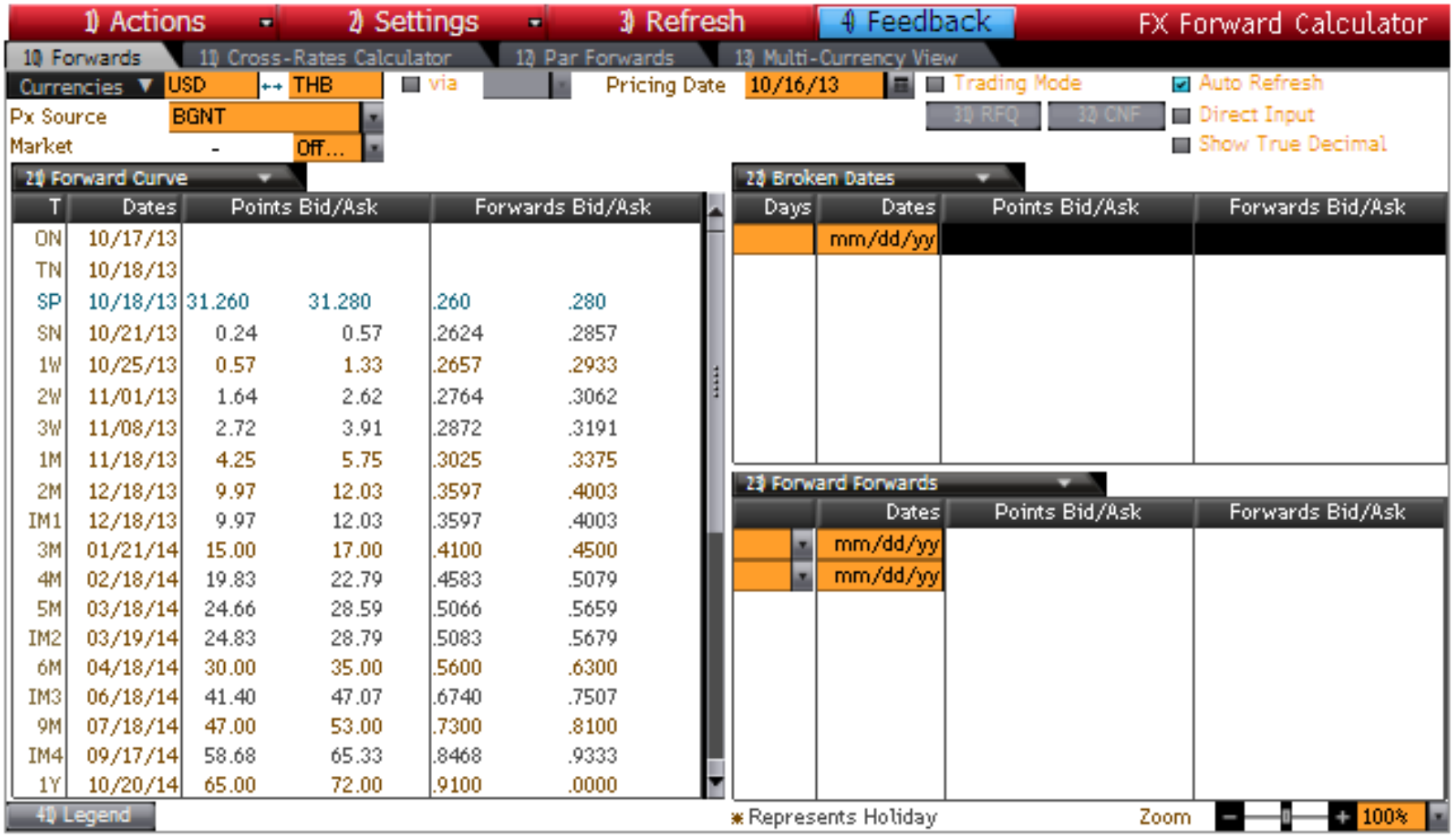
Features of Non-deliverable forwards

- Exchange controls make one currency not fully convertible

- Examples
  - BRL
  - CNY
  - IDR
  - KRW
  - MYR
  - TWD
  - RUB
  - PHP
  - INR

- Exposure for the settlement sum still exists

<HELP> for explanation.



FX Swaps do not affect FX spot rate while FX forward do ?

- Fx swaps are essentially collateralised lending/ borrowing
- FX forwards are the spot transaction which will take place some time in the future.
- In the market the forward trader will execute both forwards and Swaps transaction.
- Forward Rate= FX Swap Rate
- Forward points= swap points

Sell/Buy USDTHB

ตัวอย่าง การคำนวณสัญญา FX Swap

- วันที่ 1 มิ.ย. Bank ABC ทำธุรกรรม Sell/Buy Spot/6M FX Swap กับ Bank XYZ จำนวน $1 ล้าน USD
  - Spot Rate USD/THB = 34 บาท
  - 6M Forward USD/THB = 34.20 บาท
  - **Swap Point = Forward rate – Spot rate** = 0.20 บาท

ที่มา : เอกสารประกอบการสัมมนา Interest Rate Futures โดย TFEX และ จุฬาลงกรณ์มหาวิทยาลัย บรรยายโดย อ.รัฐชัย

การคำนวณค่า THBFIX

- Interest Rate Parity : ความแตกต่างระหว่าง Spot Rate และ Forward Rate สะท้อนความแตกต่างของอัตราดอกเบี้ยของ 2 สกุล

$$\frac{F_0^{B/\$}}{S_0^{B/\$}} = \frac{(1+i^{B} \times \frac{DAYS}{365})}{(1+i^{\$} \times \frac{DAYS}{360})}$$

- กลับสมการ ดังนั้นจะได้

$$i^{B} = \left[\left(\frac{F_0^{B/\$}}{S_0^{B/\$}} \times (1+i^{\$} \frac{DAYS}{360})\right) - 1\right] \times \frac{365}{DAYS}$$

ที่มา : เอกสารประกอบการสัมมนา Interest Rate Futures โดย TFEX และ จุฬาลงกรณ์มหาวิทยาลัย บรรยายโดย อ.รัฐชัย

สูตรการคำนวณค่า **THBFIX**

$$THBFIX = \left[\left(\frac{FWD}{SPOT} \right) \times \left(1 + SIBOR \times \frac{DAYS}{360} \right) - 1 \right] \times \frac{365}{DAYS}$$

โดยที่

- FWD คือ ค่าเฉลี่ยของ USD/THB Forward Exchange Rate
- SPOT คือ ค่าเฉลี่ยของ USD/THB Spot Exchange Rate
- SIBOR คือ ค่าเฉลี่ยของอัตราดอกเบี้ยเงิน USD จากตลาดเงินในสิงคโปร์
- DAYS คือ จำนวนวัน

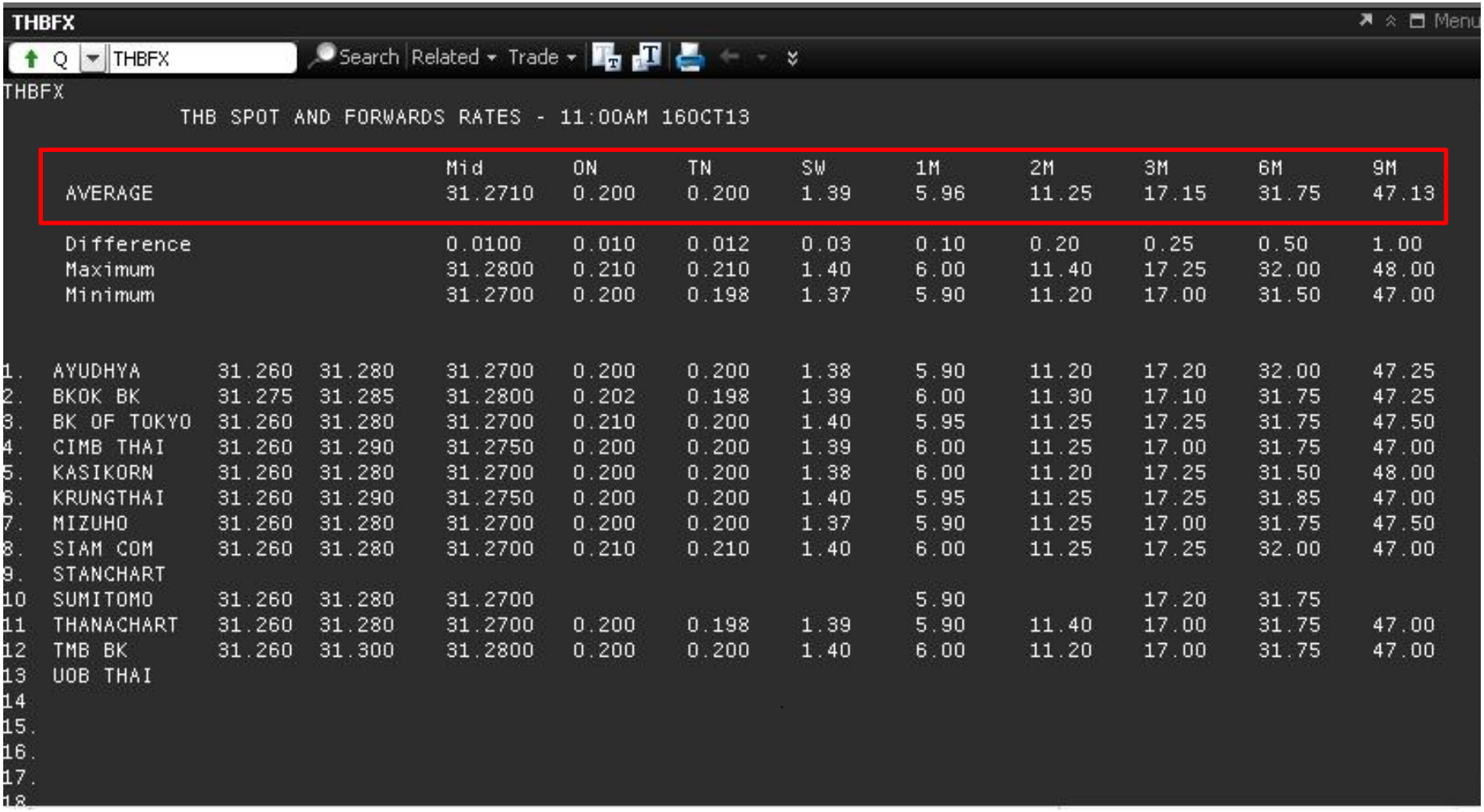
* เป็นตัวเลขที่เก็บระหว่าง เวลา 10.00-10.45 น. และช่วงอายุของทั้ง SIBOR และ FWD ต้องสอดคล้องกัน

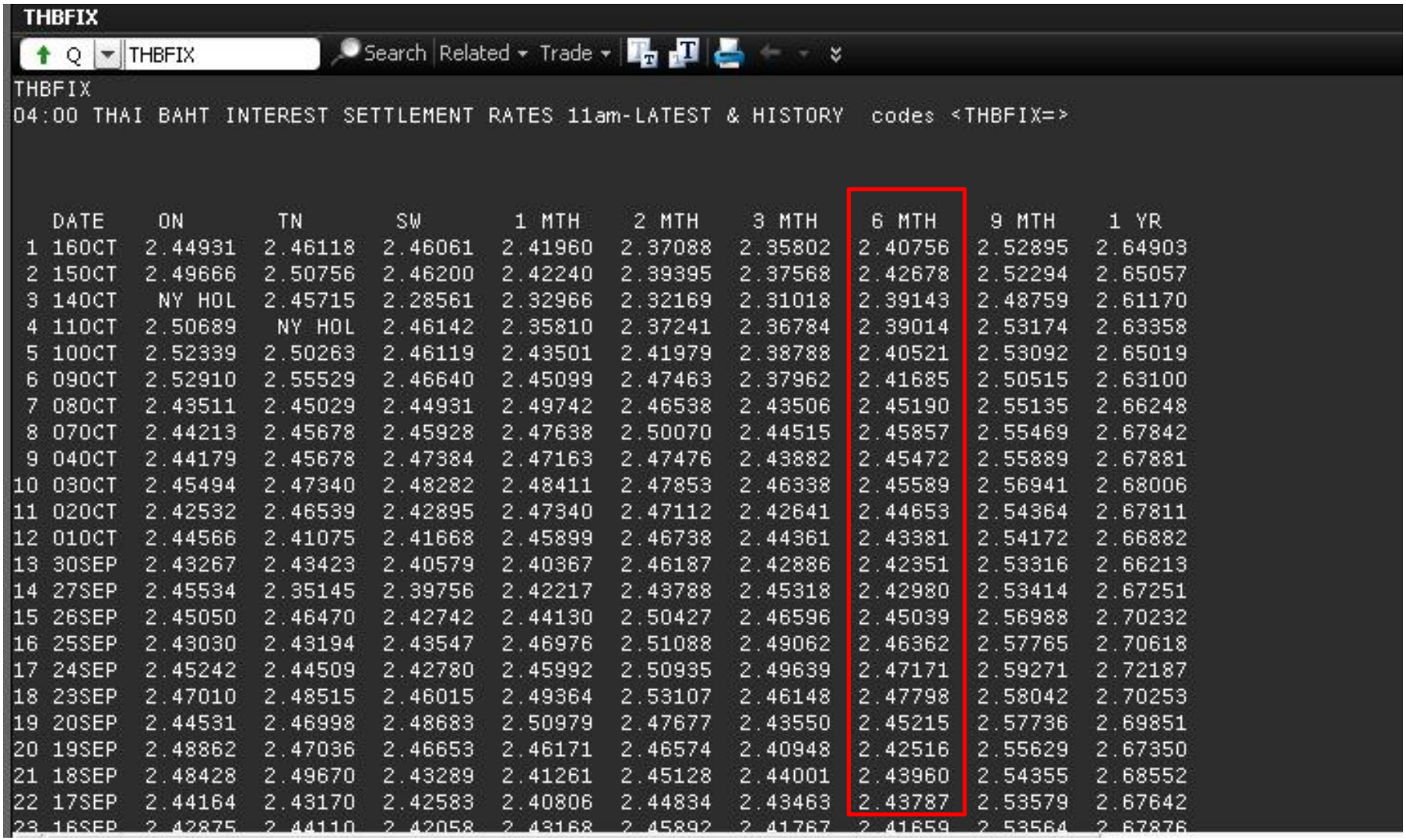
ที่มา : เอกสารประกอบการสัมมนา Interest Rate Futures โดย TFEX และ จุฬาลงกรณ์มหาวิทยาลัย บรรยายโดย อ.รัฐชัย

ตัวอย่าง การคำนวณค่า THBFIX

- หาค่า Implied Interest Rate ของ THB จากธุรกรรม Sell/Buy Spot/6M FX Swap
  - Spot Rate USD/THB = 34 บาท
  - 6M Forward USD/THB = 34.20 บาท
  - $-SIBOR 6M Interest Rate = 3.00% p.a.
- THBFIX = $\left[(34.20/34.00) \times (1+0.03 \times (183/360)) - 1 \right] \times 365/183$

  = 4.18% p.a.

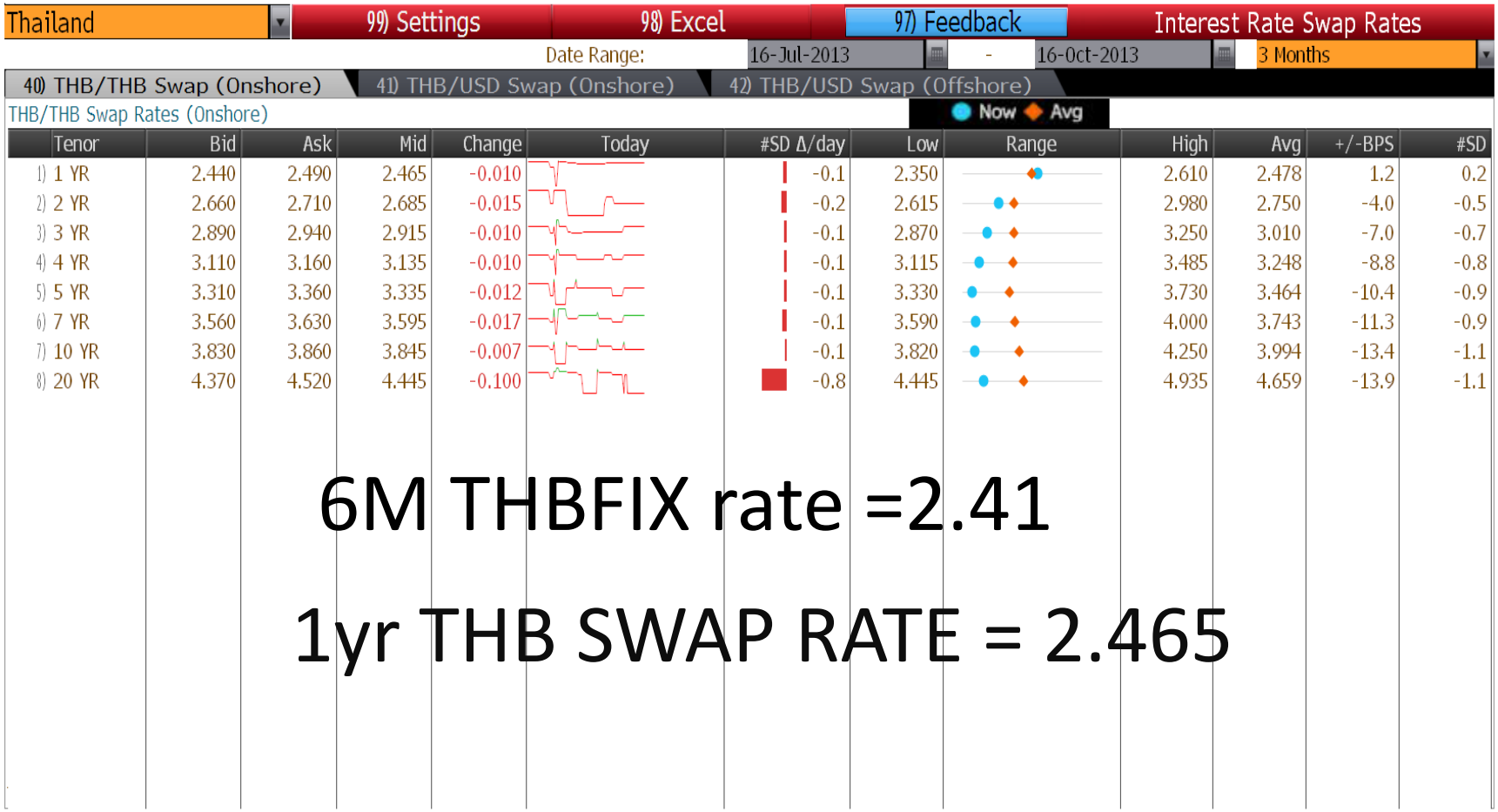

THBFX
Menu
Q
THBFX
Search
Related
Trade
THBFX
THB SPOT AND FORWARDS RATES - 11:00AM 16OCT13
Mid ON TN SW 1M 2M 3M 6M 9M
AVERAGE 31.2710 0.200 0.200 1.39 5.96 11.25 17.15 31.75 47.13
Difference 0.0100 0.010 0.012 0.03 0.10 0.20 0.25 0.50 1.00
Maximum 31.2800 0.210 0.210 1.40 6.00 11.40 17.25 32.00 48.00
Minimum 31.2700 0.200 0.198 1.37 5.90 11.20 17.00 31.50 47.00
1. AYUDHYA 31.260 31.280 31.2700 0.200 0.200 1.38 5.90 11.20 17.20 32.00 47.25
2. BKOK BK 31.275 31.285 31.2800 0.202 0.198 1.39 6.00 11.30 17.10 31.75 47.25
3. BK OF TOKYO 31.260 31.280 31.2700 0.210 0.200 1.40 5.95 11.25 17.25 31.75 47.50
4. CIMB THAI 31.260 31.290 31.2750 0.200 0.200 1.39 6.00 11.25 17.00 31.75 47.00
5. KASIKORN 31.260 31.280 31.2700 0.200 0.200 1.38 6.00 11.20 17.25 31.50 48.00
6. KRUNGTHAI 31.260 31.290 31.2750 0.200 0.200 1.40 5.95 11.25 17.25 31.85 47.00
7. MIZUHO 31.260 31.280 31.2700 0.200 0.200 1.37 5.90 11.25 17.00 31.75 47.50
8. SIAM COM 31.260 31.280 31.2700 0.210 0.210 1.40 6.00 11.25 17.25 32.00 47.00
9. STANCHART
10 SUMITOMO 31.260 31.280 31.2700 5.90 17.20 31.75
11 THANACHART 31.260 31.280 31.2700 0.200 0.198 1.39 5.90 11.40 17.00 31.75 47.00
12 TMB BK 31.260 31.300 31.2800 0.200 0.200 1.40 6.00 11.20 17.00 31.75 47.00
13 UOB THAI
14
15.
16.
17.
18.



	DATE	ON	TN	SW	1 MTH	2 MTH	3 MTH	6 MTH	9 MTH	1 YR
1	16OCT	2.44931	2.46118	2.46061	2.41960	2.37088	2.35802	2.40756	2.52895	2.64903
2	15OCT	2.49666	2.50756	2.46200	2.42240	2.39395	2.37568	2.42678	2.52294	2.65057
3	14OCT	NY HOL	2.45715	2.28561	2.32966	2.32169	2.31018	2.39143	2.48759	2.61170
4	11OCT	2.50689	NY HOL	2.46142	2.35810	2.37241	2.36784	2.39014	2.53174	2.63358
5	10OCT	2.52339	2.50263	2.46119	2.43501	2.41979	2.38788	2.40521	2.53092	2.65019
6	09OCT	2.52910	2.55529	2.46640	2.45099	2.47463	2.37962	2.41685	2.50515	2.63100
7	08OCT	2.43511	2.45029	2.44931	2.49742	2.46538	2.43506	2.45190	2.55135	2.66248
8	07OCT	2.44213	2.45678	2.45928	2.47638	2.50070	2.44515	2.45857	2.55469	2.67842
9	04OCT	2.44179	2.45678	2.47384	2.47163	2.47476	2.43882	2.45472	2.55889	2.67881
10	03OCT	2.45494	2.47340	2.48282	2.48411	2.47853	2.46338	2.45589	2.56941	2.68006
11	02OCT	2.42532	2.46539	2.42895	2.47340	2.47112	2.42641	2.44653	2.54364	2.67811
12	01OCT	2.44566	2.41075	2.41668	2.45899	2.46738	2.44361	2.43381	2.54172	2.66882
13	30SEP	2.43267	2.43423	2.40579	2.40367	2.46187	2.42886	2.42351	2.53316	2.66213
14	27SEP	2.45534	2.35145	2.39756	2.42217	2.43788	2.45318	2.42980	2.53414	2.67251
15	26SEP	2.45050	2.46470	2.42742	2.44130	2.50427	2.46596	2.45039	2.56988	2.70232
16	25SEP	2.43030	2.43194	2.43547	2.46976	2.51088	2.49062	2.46362	2.57765	2.70618
17	24SEP	2.45242	2.44509	2.42780	2.45992	2.50935	2.49639	2.47171	2.59271	2.72187
18	23SEP	2.47010	2.48515	2.46015	2.49364	2.53107	2.46148	2.47798	2.58042	2.70253
19	20SEP	2.44531	2.46998	2.48683	2.50979	2.47677	2.43550	2.45215	2.57736	2.69851
20	19SEP	2.48862	2.47036	2.46653	2.46171	2.46574	2.40948	2.42516	2.55629	2.67350
21	18SEP	2.48428	2.49670	2.43289	2.41261	2.45128	2.44001	2.43960	2.54355	2.68552
22	17SEP	2.44164	2.43170	2.42583	2.40806	2.44834	2.43463	2.43787	2.53579	2.67642
23	16SEP	2.42875	2.44110	2.42058	2.43168	2.45892	2.41767	2.41659	2.53564	2.67876

Interest Rate Swap THB

<HELP> for explanation.



6M THBFIX rate =2.41

1yr THB SWAP RATE = 2.465

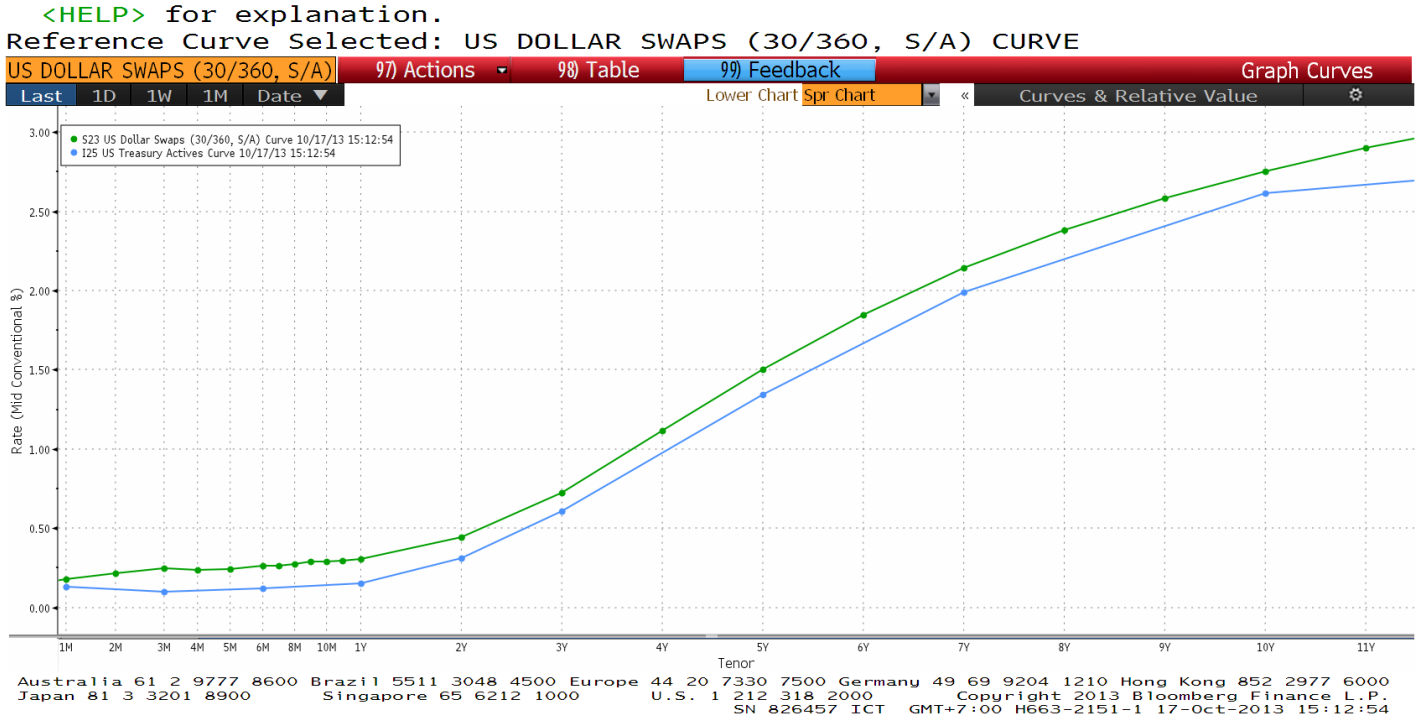
What do markets think about BOT policy rate path?

- Concept of implied forward rate

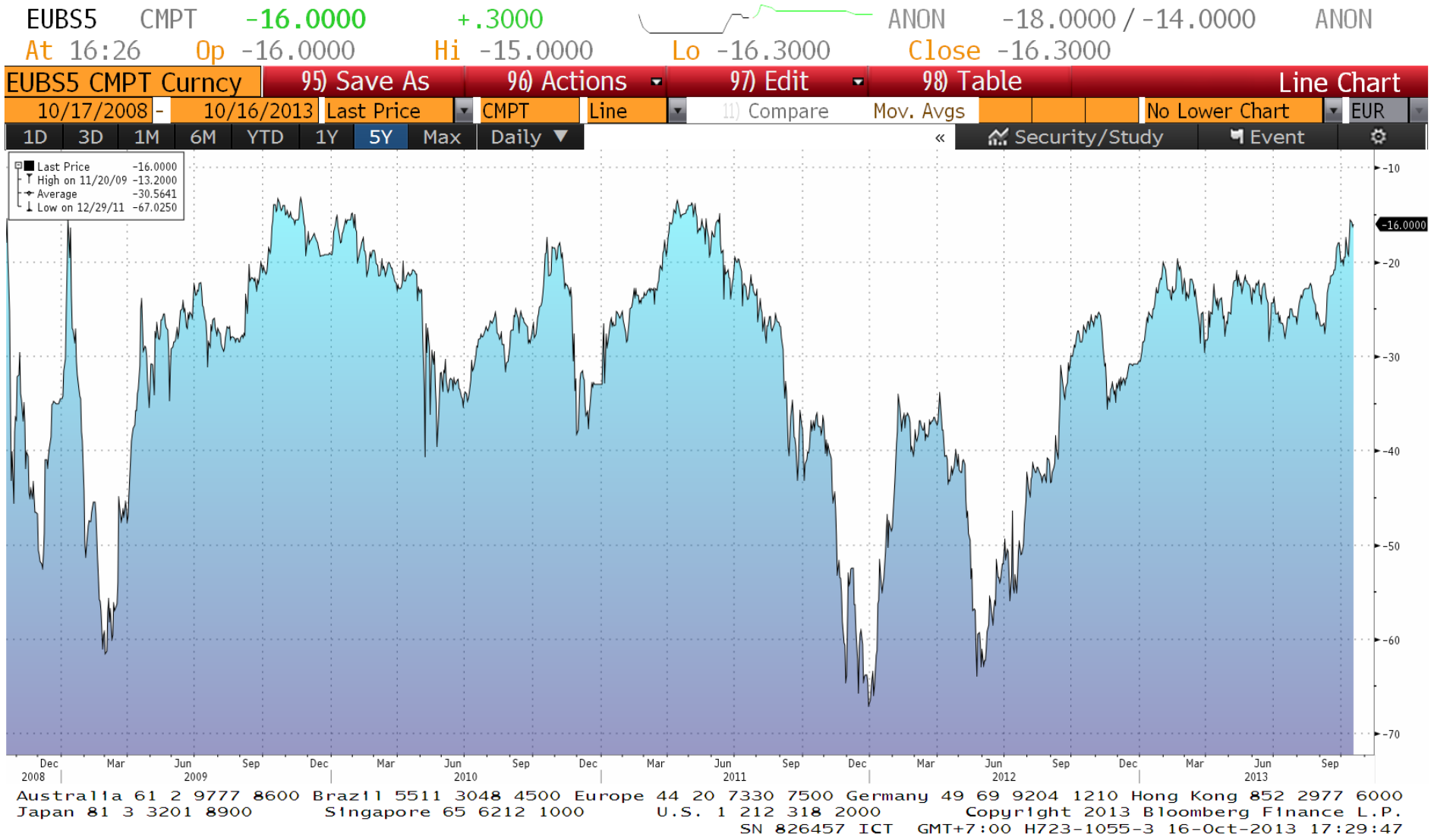
- Do not confuse forward rates with FX forward rates.

Interest Rate Swap

- Large corporate issuance normally leads to a lower swap rate ? *WHY*
- SWAP spread: the yield spread between the swap curve and the govie curve



EURO BASIS SWAP



To Taper or Not to Taper

Fat Tails and Volatility Smile

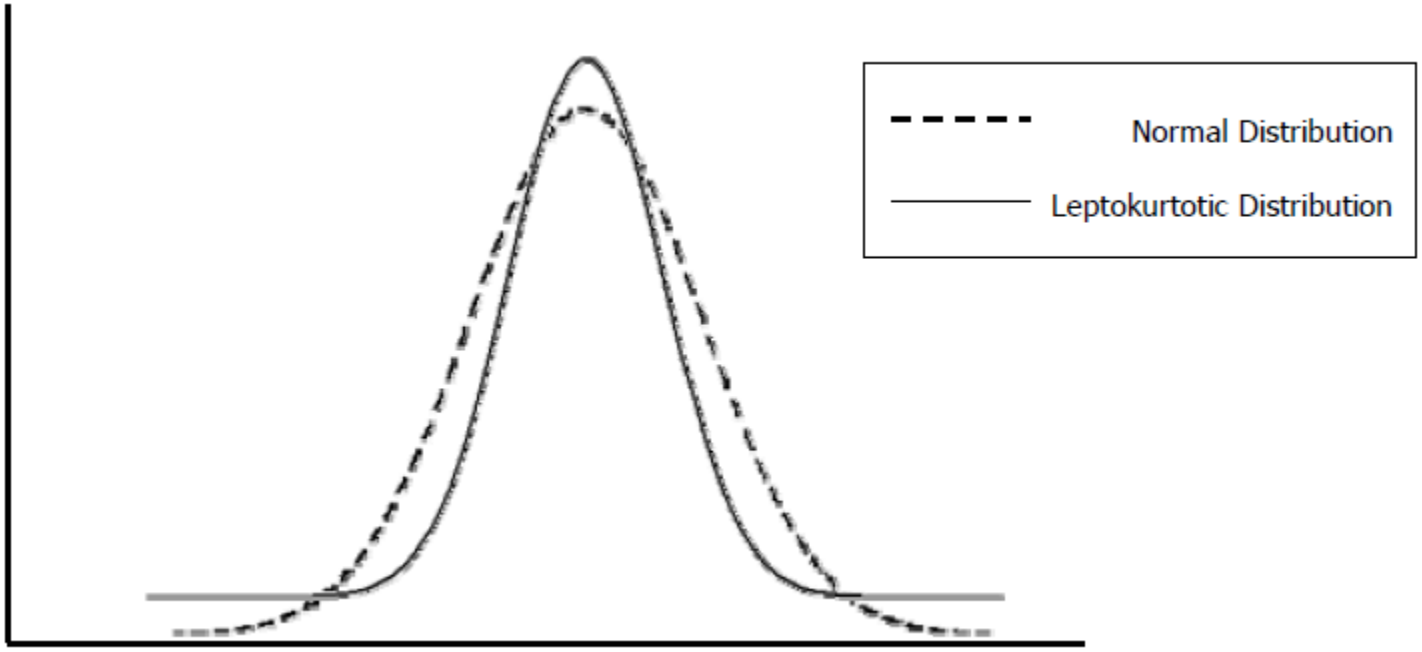


Figure 1: Normal Distribution vs. Leptokurtotic Distribution

Fat tails lead to investors buying OTM calls and puts
Therefore implied vols are higher for OTM than at strike

Food for thoughts

- Conventional to unconventional
- Macroprudential policies
- Inflation Targeting (how about asset prices)

Questions