



Introduction to Interest Rate Trading

Andrew Wilkinson



Risk Disclosure

Futures are not suitable for all investors. The amount you may lose may be greater than your initial investment. Before trading futures, please read the CFTC Risk Disclosure. For a copy, call (203) 618-5800.

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Global Depression

- ❑ Central banks around the world are/have slashed the price of money to the bare bone
- ❑ As of 2009 official interest rates around the world are tending towards zero
- ❑ Governments are fighting most severe economic contraction since 1930's
- ❑ Deflation is the buzzword rather than 'inflation'
- ❑ This adds a twist to interest rate trading



Monetary Policy

- Central banks set monetary policy
 - Includes level of interest rates
 - Provision of liquidity
 - Money supply
- The outright benchmark or key rate is important
- So too is the yield curve



Factors Influencing Monetary Policy

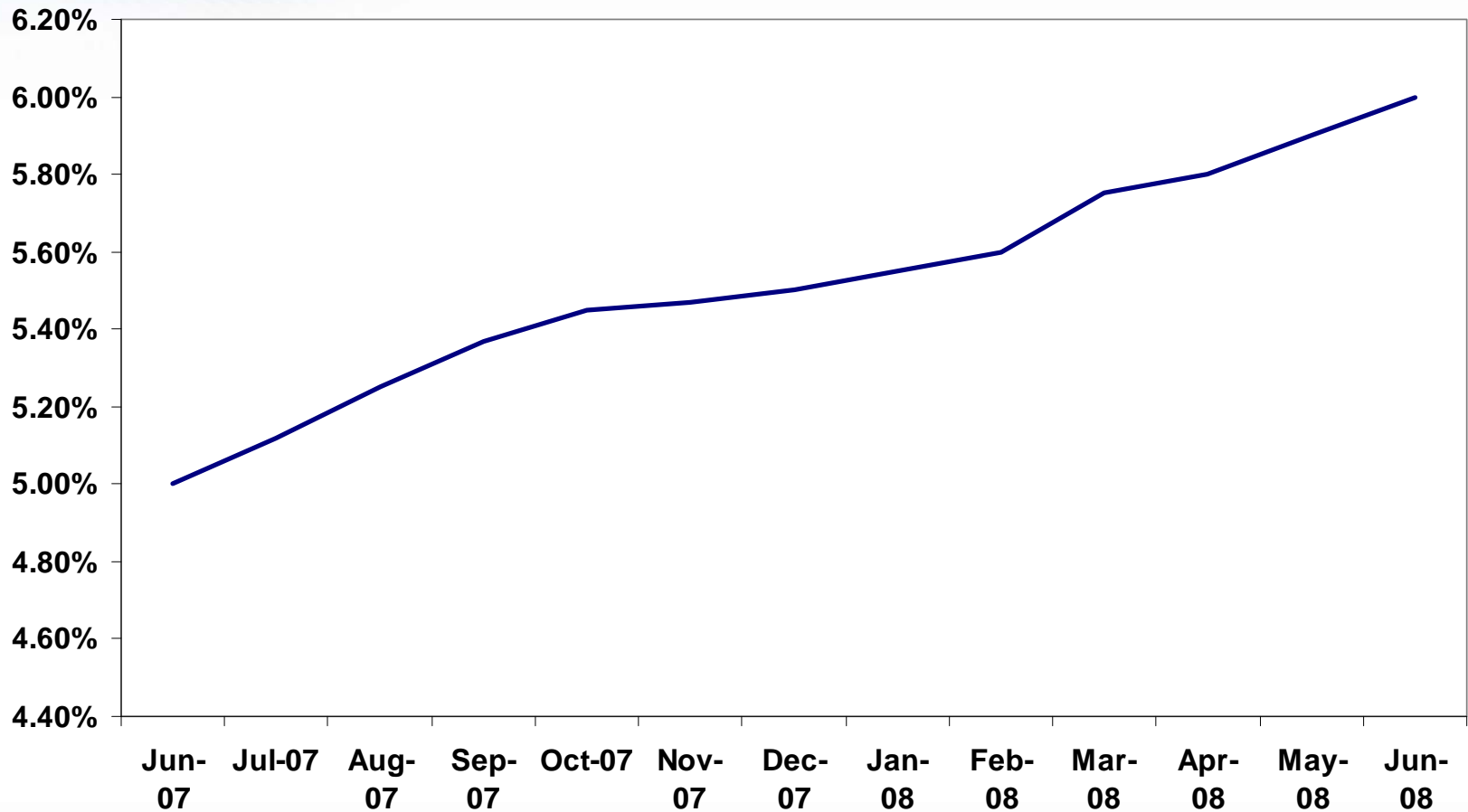
- Growth
- Inflation
- Employment
- Retail Sales
- Housing market
- Business and consumer confidence
- Exchange rate
- For a full discussion see *“Introduction to FX”*



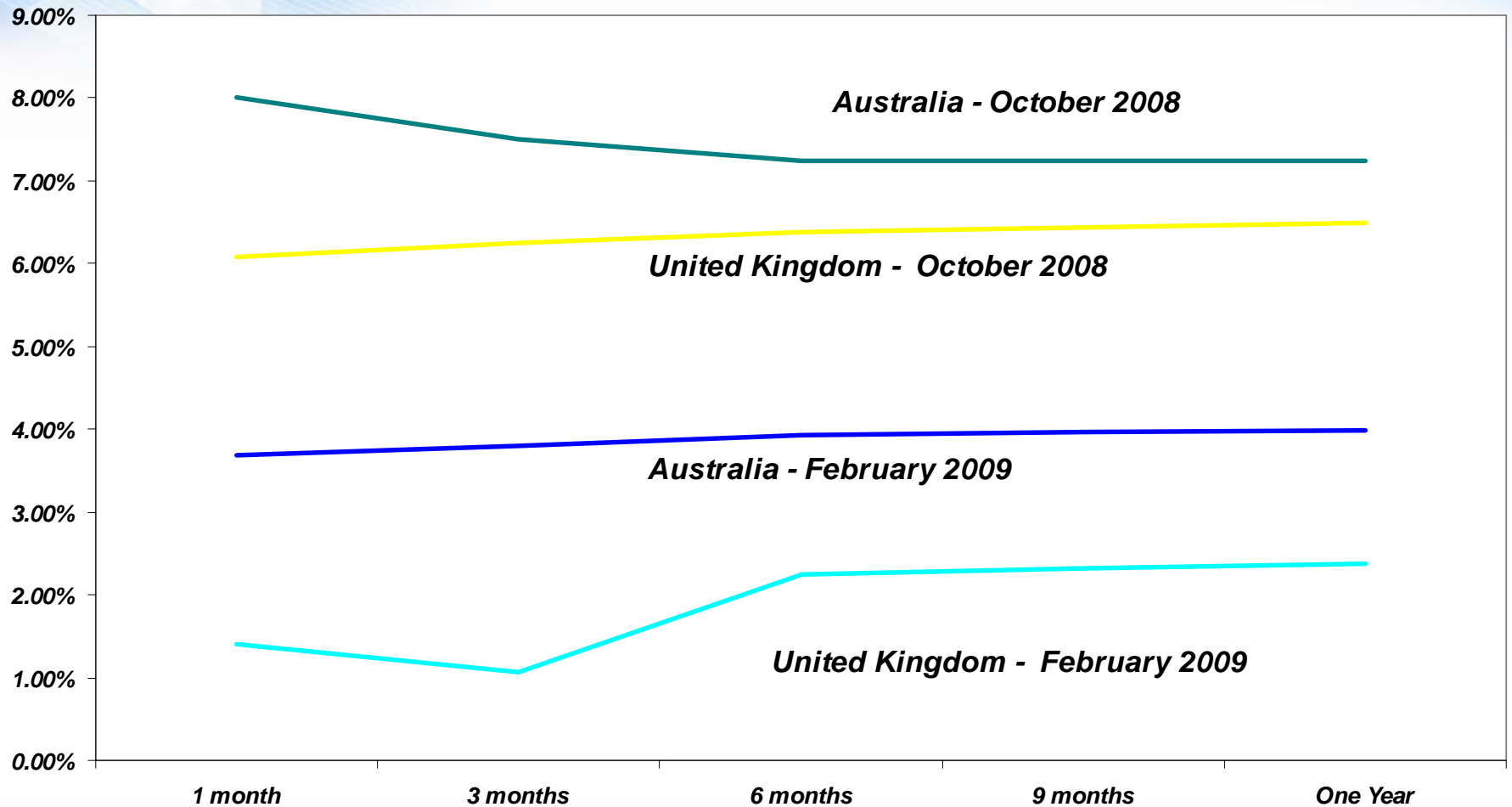
The Yield Curve

- ❑ The shape depicting the time horizon of money
- ❑ Key to understanding this is that interest rates are market determined – outside of central bank
- ❑ Look at the price of money from one-to-12 months
- ❑ Yield curve can be positive or negative

A Normal Yield Curve



The State of Global Rates





Short & Long Term Rates

- ❑ Short end of the curve out to two years
- ❑ Long term rates would be two-to-30 years
- ❑ Short term price of money is found at banks in cash deposit rates, CD rates etc.
- ❑ Long term rates are synonymous with five-plus year auto loans, mortgages etc. and priced off government debt prices



What Instruments Reflect Interest Rates?

- “Investors” use cash yields, CDs, notes and bonds as safe places for keeping liquid funds
- “Speculators” look at the price of money differently
- Short-term interest rate futures (three month duration)
- Two, five and 10-year notes
 - Cash
 - Futures
- Options on the above



Corporate and Government Bonds

- ❑ Both issue debt to raise money
- ❑ Bonds may carry a fixed coupon
- ❑ Prices will change to reflect changes in market yields
- ❑ Interactive Brokers now offers bond trading to customers
 - NYSE Arca Bonds
 - Timber Hill Auto-Ex Bonds
 - Tradeweb
 - Valubond



Corporate Bonds

- Corporates are riskier than government bonds
- Trade at a “spread” above treasury securities
- Spreads may be affected by debt-rating changes



Products and Trading

- Each country (economic area) has its own short term rate of interest
- Of interest to us is the price of money and its relationship with current futures pricing
- We are also interested in the relationship between one price-point on the chart and other price points on the chart
- We are interested in the relationship over time between one market and another



Summary

- Money market rates versus central bank policy
- Intra-market spreads
- Inter-market spreads
- AT ALL TIMES: Shape of the curve



United States

Symbol

- | | | |
|---|----|-------------------------------|
| <input type="checkbox"/> 3 month eurodollar | GE | <input type="checkbox"/> CME |
| <input type="checkbox"/> 2 year note | ZT | <input type="checkbox"/> CBOT |
| <input type="checkbox"/> 5 year note | ZF | <input type="checkbox"/> CBOT |
| <input type="checkbox"/> 10 year note | ZN | <input type="checkbox"/> CBOT |



United Kingdom

Symbol

- 3 mth short sterling L
- Long gilt R

- London International Financial Futures & Options Exchange
- LIFFE



European Currency

Symbol

- | | | |
|--|-----|--------------------------------|
| <input type="checkbox"/> 3 mth Euribor | EU3 | <input type="checkbox"/> LIFFE |
| <input type="checkbox"/> Euro Schatz (2yr) | GBS | <input type="checkbox"/> EUREX |
| <input type="checkbox"/> Euro BOBL (5yr) | GBM | <input type="checkbox"/> EUREX |
| <input type="checkbox"/> Euro Bund (10yr) | GBL | <input type="checkbox"/> EUREX |



Canada

Symbol

- 3 mth BA's BAX
- Cad 10yr Govt Bond CGB

- Montreal Exchange



Australia

Symbol

- 90-day bills IR
- Aus10yr Govt Bond XT

- Sydney Futures Exchange



Short Term Interest Rate Futures

- A contract settled against a benchmark rate (LIBOR)
- London Interbank Offered Rate
- A contract covers a nominal \$1 million (approx in others)
- Represents the price of 3-month money
- Proxy for current national benchmark rate
- Futures represent traders best estimates of where 3-month money will be across a time horizon
- Predictions of futures pricing are what makes for a moving market



Short Term Interest Rate Futures

- ❑ Price is quoted as 100.00 minus the rate of interest
- ❑ A fed funds rate of 4.25% implies a futures price of:
 - $100.00 - 4.25 = 95.75$
- ❑ A fed funds rate of 0.25% implies a futures price of:
 - $100.00 - 0.25 = 99.75$
- ❑ So interest rate futures BUYERS are bulls and want rates to fall
- ❑ Futures SELLERS are bears and expect interest rates to rise



Short Term Interest Rate Futures

Contract Months

- **Current Year**

- **June '09**
- **September '09**
- **Dec '09**
- **March '10**

- **Settlement is usually third Wednesday of expiring month**

- **Next Year (2010)**

- **June '10**
- **September '10**
- **Dec '10**
- **March '11**

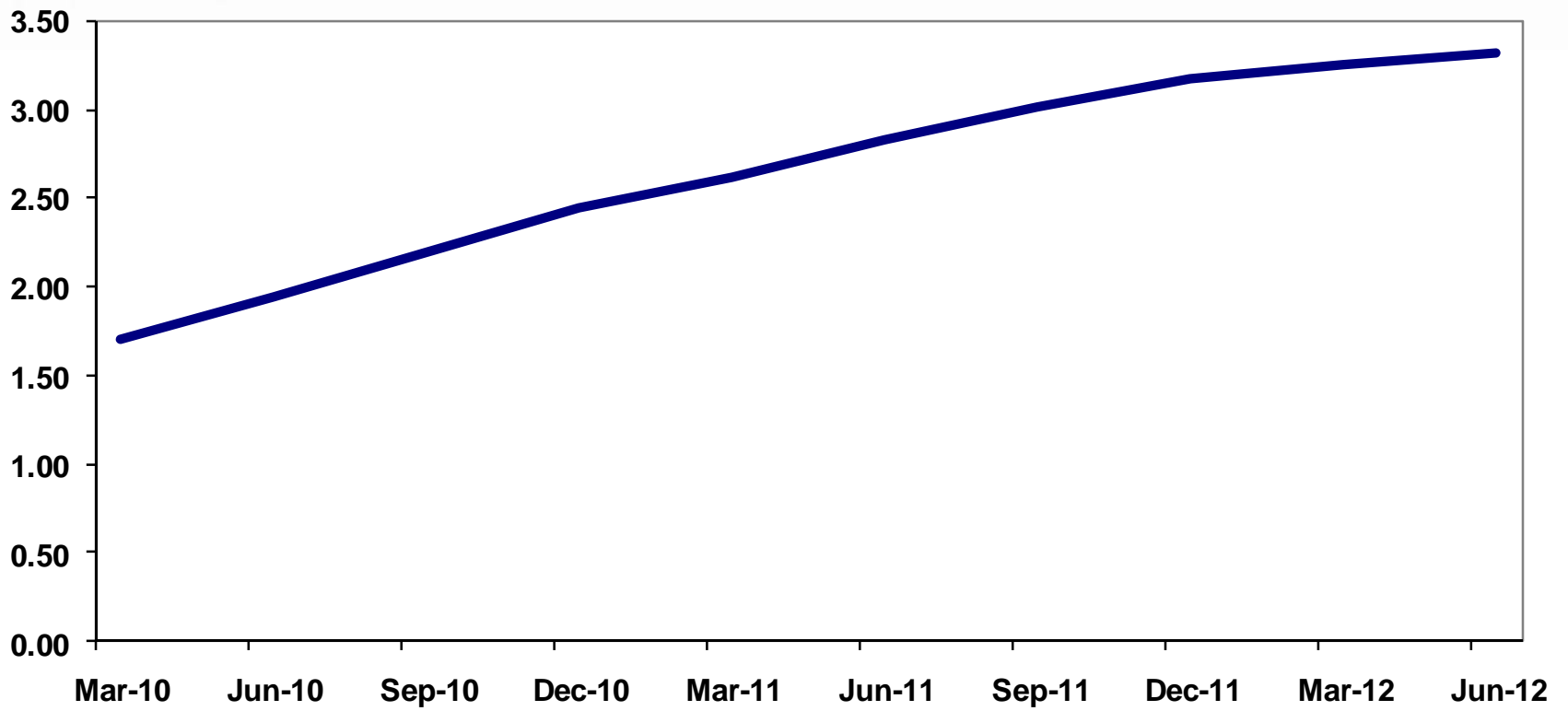
- **Following Year (2011)**

- **June '11**
- **September '11**
- **Dec '11**
- **March '12**

Current Futures Strips

	Euro\$	Sterling	Euro		100 Euro\$	Sterling	Euro	
Jun-09	98.73	98.45	98.33		Jun-09	1.27	1.55	1.67
Sep-09	98.64	98.40	98.30		Sep-09	1.36	1.60	1.70
Dec-09	98.45	98.21	98.15		Dec-09	1.55	1.79	1.85
Mar-10	98.29	98.06	98.00		Mar-10	1.71	1.94	2.00
Jun-10	98.05	97.85	97.79		Jun-10	1.95	2.15	2.21
Sep-10	97.81	97.61	97.59		Sep-10	2.19	2.39	2.41
Dec-10	97.55	97.31	97.33		Dec-10	2.45	2.69	2.67
Mar-11	97.38	97.07	97.19		Mar-11	2.62	2.93	2.81
Jun-11	97.18	96.82	96.99		Jun-11	2.82	3.18	3.01
Sep-11	97.01	96.57	96.83		Sep-11	2.99	3.43	3.17

Euro\$ Yield Curve





Eurodollars

- ❑ December 2009 eurodollar future = **98.45**
- ❑ Implies 3-month LIBOR will be **1.55%** in December
- ❑ Q> What would one do if you believed the Fed would RAISE interest rates by a half percent before then?



Eurodollars

- ❑ A> You'd sell a December **2009** eurodollar future at **98.45** in the expectation that it would trade towards **97.95**
- ❑ Current 3-month rate of **1.55% up to 2.05%**
- ❑ 100.00 minus **2.05% = 97.95**
- ❑ The **2500 multiplier** times the **increment** of 0.005 yields a tick value of $\$12.5$
- ❑ Value of this movement would be $\$12.50 * 100 = \$1,250$



Eurodollars

- ❑ Conversely, if your expectation cash rates to fall by $\frac{1}{2}$ point by year end
- ❑ BUY **December '09** eurodollar future
- ❑ From **98.45** the three month contract should rise to around **98.95** (since 100.00 minus $1.05 = 98.95$)



Eurodollar Summary

- ❑ Interest rate markets are very active and react to daily data
- ❑ Don't think that since official rates may only change several times per year that no action exists!
- ❑ More than anything, remember that here we are trading:
 - Expectations
 - Perceptions
 - Sometimes, one step away from reality
- ❑ A good trader will piece it all together and be ahead of the curve



Eurodollar Spread Trading

- ❑ A single eurodollar contract is one piece of the jigsaw
- ❑ Represents just one point in time
- ❑ Yield curves shift up or down
 - Outright directional movement
- ❑ They also behave like a piece of elastic
 - Relative movement
- ❑ Let's consider the relationship between two points in time
 - December 2009 future
 - December 2010 future



Eurodollar Spreads

- ❑ December 2009 future = 98.45 (1.55%)
- ❑ December 2010 future = 97.55 (2.45%)
- ❑ At present, spread widening (curve is positive)
- ❑ But the history reveals vastly different picture
- ❑ Two aspects to this type of trade:
 - Forces the trader to watch the yield curve
 - Requires some relative out performance and therefore precision
- ❑ Long versus short combination also requires less margin



Eurodollar Spreads

- ❑ Spread loosely defined is the current best guess of what shape the yield curve will have between two future timeframes (future versus future)
- ❑ Concept: Use “buy” and “sell” to refer to the furthest contract
- ❑ Order:
 - Sell spread (buy near contract) and (sell far contract)
 - Buy spread (sell near contract) and (buy far contract)
- ❑ Spread **seller** looks for out performance of front month relative to far month – curve steepening trade
- ❑ Spread **buyer** looks for out performance of far month relative to front month - curve flattening trade

One year Eurodollar yield curve spread





Eurodollar Spreads

- ❑ Consider a yield curve across Dec '09 and Dec '10 contracts priced at 98.45 (1.55%) and 97.55 (2.45%)
- ❑ The SPREAD is 0.90 or 90 basis points - positive
- ❑ Trader expects no **more** rate cuts but sees cash lower
- ❑ Followed by **more** aggressive rate rising cycle than the market
- ❑ Sees Dec '09 rising to 99.25 (0.75%)
- ❑ Sees Dec '10 falling to 97.25 (2.75%)
- ❑ If he's right the curve will move to a more positive 200bps



Eurodollar Spreads

- ❑ Trader ***sells*** the spread at 90 basis points
- ❑ Buy Dec '09 @ 98.45
- ❑ Sell Dec '10 @ 97.55
- ❑ Let's assume cash rates ease allowing the Dec '09 future to rise to 99.25 (cash falls to 0.75%)
- ❑ Market anticipates no more and begins to price in higher rates sending Dec '10 future down to 97.25 (2.75%)
- ❑ Trader ***buys*** the spread at 200 basis points



Eurodollar Spreads

- ❑ Profit and loss on trade
- ❑ Trade closed at +2.00 (99.25 minus 97.25)
- ❑ Long Dec '09 @ 98.45
- ❑ Close long @ 99.25 = $+0.80/0.005 * \$12.5 = \$2,000$
- ❑ Short Dec '09 @ 97.55
- ❑ Buy back short @ 97.25 = $+0.30/0.005 * \$12.5 = \750
- ❑ Total gain = $\$2,000 + \$750 = \$2,750$



Inter-Market Spreads

- In review: buy/sell eurodollar futures hoping to profit from anticipating interest rate market developments
- Trading the yield curve
- Position spread trades to benefit from anticipated curve movements over time (intra-market spreads)
- But how to trade American interest rate expectations versus rate expectations in any other country?
- Inter-Market spreads!



Inter-Market Spreads

- ❑ Theory is similar to intra-market spreads
- ❑ Buy one currency curve and sell another
- ❑ Why?
 - Anticipate market specific development in one nation
 - Expect excessive change in inflation profile
 - Notice a central bank in/out of control
 - Currency related strengthening/weakening impact economy hard



Inter-Market Spreads

- ❑ Example: U.S. versus U.K.
- ❑ Trader expecting British rates to follow U.S. rates lower
- ❑ Global interest rates trending to zero – each nation has the same problems
- ❑ Expecting the spread or yield curves to converge
- ❑ Following chart shows monitoring curves side-by-side

Inter-Market Spreads





Inter-Market Spreads

- ❑ As we move into 2009 what could the trader do?
- ❑ If he expects economic weakness
 - Sell US and buy UK rates (convergence)
- ❑ If global recovery expected
 - Buy US and sell UK (divergence)
- ❑ Note that even with a recovery, the latter trade still predicts under performance of UK rates even if US rates start to rise



Bond Trading

- Same principles apply to government debt trading
- Very liquid markets
- Outright trading and directional trading
- Spread trading
- Can be divorced from CB policy
- Common trades tend to focus on
 - 10 year note futures e.g. buy US and sell German – same maturity
 - Buy German 2 year and sell Australian 10 year – different maturity



Locating Ticker Symbols on the Website

- Look up icon on TWS toolbar
- Product listing under website
 - Futures



Conclusions

- Money markets actually more integral to investing than the stock markets
- Plenty to keep your eye on if you want to venture into interest rate trading



Questions?

Recommended Reading

**Trading STIR Futures: An Introduction to Short-Term Interest Rate Futures
by Stephen Aikin**