

GLOBAL ADVISORS (JERSEY) LIMITED
PROFESSIONAL ASSET MANAGEMENT IN COMMODITIES

AN OVERVIEW OF COMMODITIES AND
COMMODITIES TRADING
22nd of February, 2012



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Russell Newton (Biography):

- ❑ Co-founder and Head of Research of Global Advisors (Jersey) Ltd
- ❑ In charge of Global Advisors' team of quantitative analysts
- ❑ 25 years of commodity trading experience
- ❑ Traded for some of the industry's top-tier companies (Shell, Phibro, Rheinoel and J.P. Morgan)
- ❑ Trading career began at Shell
- ❑ Global Commodities Strategist at JP Morgan, this post covered the Base metals, Precious metals and Energy sectors. Responsibilities included:
 - The development and execution of new derivative trade structures
 - Market analysis (economic, fundamental, statistical and technical)
 - Market modelling and technical trading system design
- ❑ Co-founded Global Advisors in 1999



Global Advisors (Jersey) Limited

- ❑ Founded in 1999 by Russell Newton and Daniel Masters
- ❑ Investment approach – Systematic & Discretionary
- ❑ Sole focus on commodities
- ❑ Flagship program – Global Commodity Systematic (“GCS”)
- ❑ Program inception date – July 2005
- ❑ Trades Long/Short in 35-40 commodity instruments
- ❑ The program uses a number of different quantitative approaches including breakout following and fundamental relative value

Compared to many other commodity products, the GCS program has:

- Low Volatility
- Low Commission drag
- Low Leverage



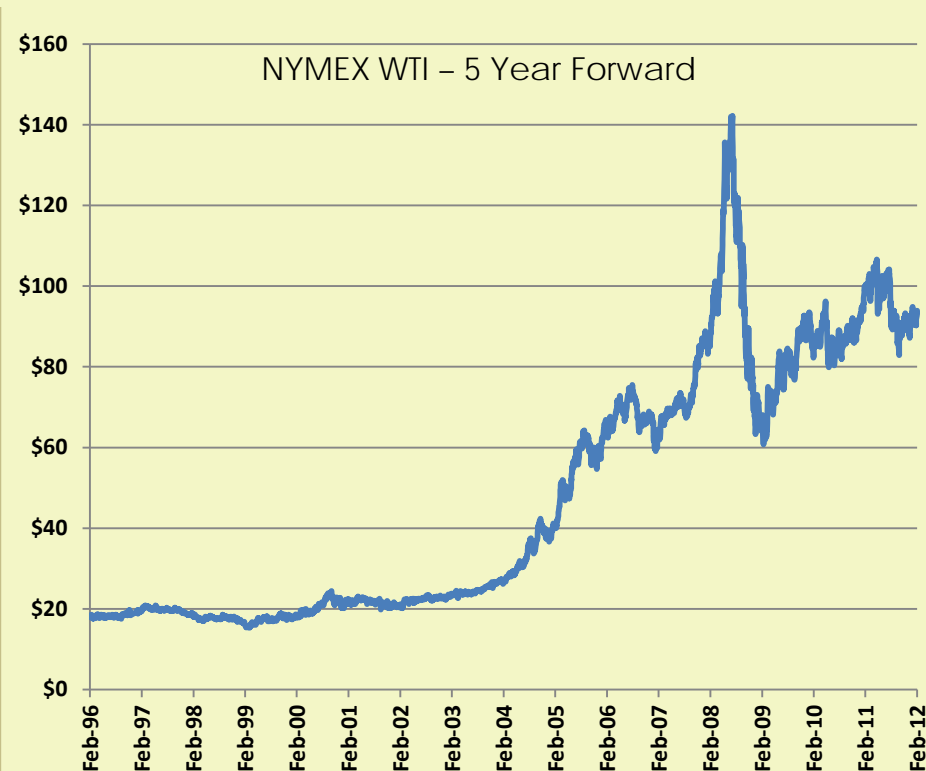
Commodities Really Are Different

- ❑ Commodities produce no income – so there is no ‘fair value’ beyond supply/demand balance.
- ❑ Over time, innovation has tended to lower the cost of commodities in real terms.
- ❑ Commodities are less forward-looking than financial assets.
- ❑ Commodity markets are small relative to securities markets.
- ❑ Commodities have more volatile term structure than financial assets.



Commodities Produce No Income

- ❑ In financial markets, an income stream (dividends, earnings, coupons etc) can be Present-Valued to produce a notional fair value for the asset. No analogous computation can be done in commodities, so how do we assign fair value?
- ❑ Some managers use marginal cost of production, but this is flawed because the supply & demand curves respond differently over time to changes in price.
- ❑ Complex supply/demand models can help, but have in recent years been 'run over' by massive capital flows.
- ❑ Long-dated forwards used to believe in mean-reversion: not any more.



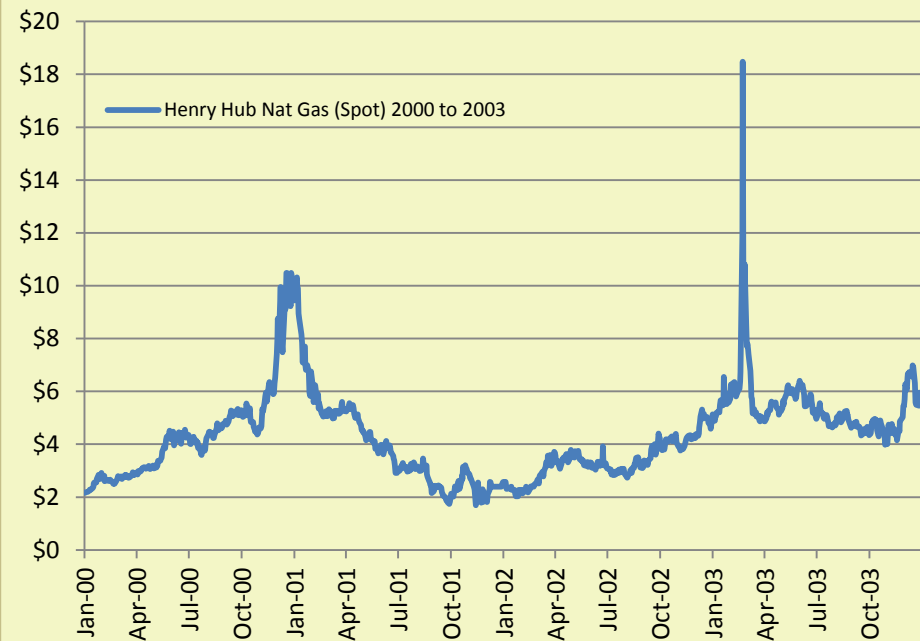


Real Commodity Prices Generally Fall Over Time

But Spikes Can Be Severe

- ❑ In the short-term, the supply curves for most commodities are fixed: rarely can additional production be brought on-stream in response to higher demand (or higher prices).
- ❑ Because generally only the demand curve can shift in the short-term, price-spikes can sometimes be very severe in order to destroy demand quickly and re-balance the market.
- ❑ The chart shows Henry Hub natural gas prices spiking in 2000 & 2003 as cold weather in the northwest & mid-west drove up demand in a pipeline and inventory-constrained system.

Natural Gas



Source: Thomson Reuters



Commodities Are Less Forward-Looking.....

.....Respond to Current Fundamentals

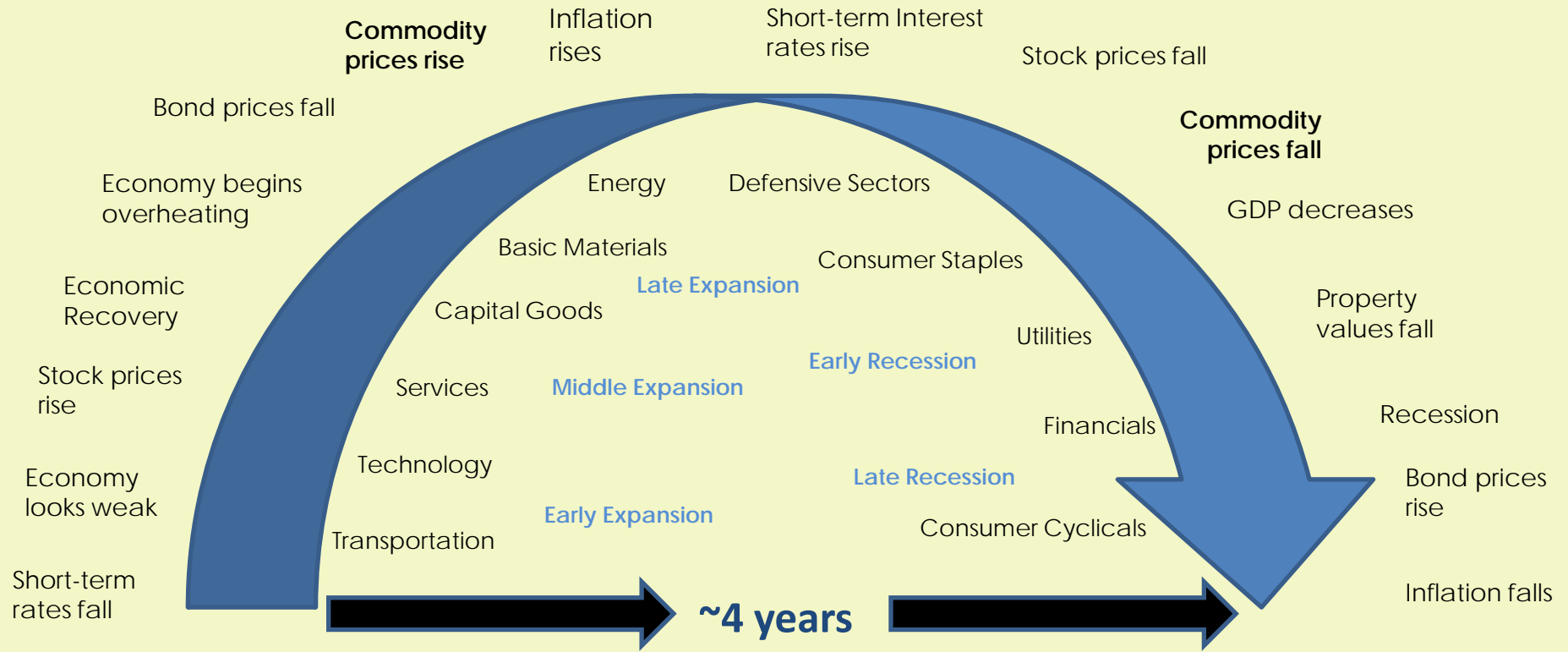
	Commodity Futures	Equities	Bonds	Inflation
Early Expansion	25.15%	68.05%	35.55%	10.65%
Late expansion	36.41%	33.25%	15.05%	14.66%
Early Recession	3.65%	-6.94%	-1.76%	3.66%
Late Recession	-4.51%	-1.45%	11.63%	2.94%
Expansion	70.72%	123.93%	55.94%	26.88%
Recession	-1.03%	-8.29%	9.67%	6.71%
Whole Cycle	68.97%	105.36%	71.02%	35.39%

- ❑ Looking at the period 1970-2001, there are five business cycles defined by the NBER
- ❑ Bonds & equities do best in early expansion as they 'look forward' to continued economic growth
- ❑ Commodities do better in late expansion as they are more tied to the current fundamentals, and supply constraints start to bite



Commodities Are Less Forward-Looking.....

.....The 5 Business Cycles





Commodities Markets Are Small

A Few Dollars Go A Long Way

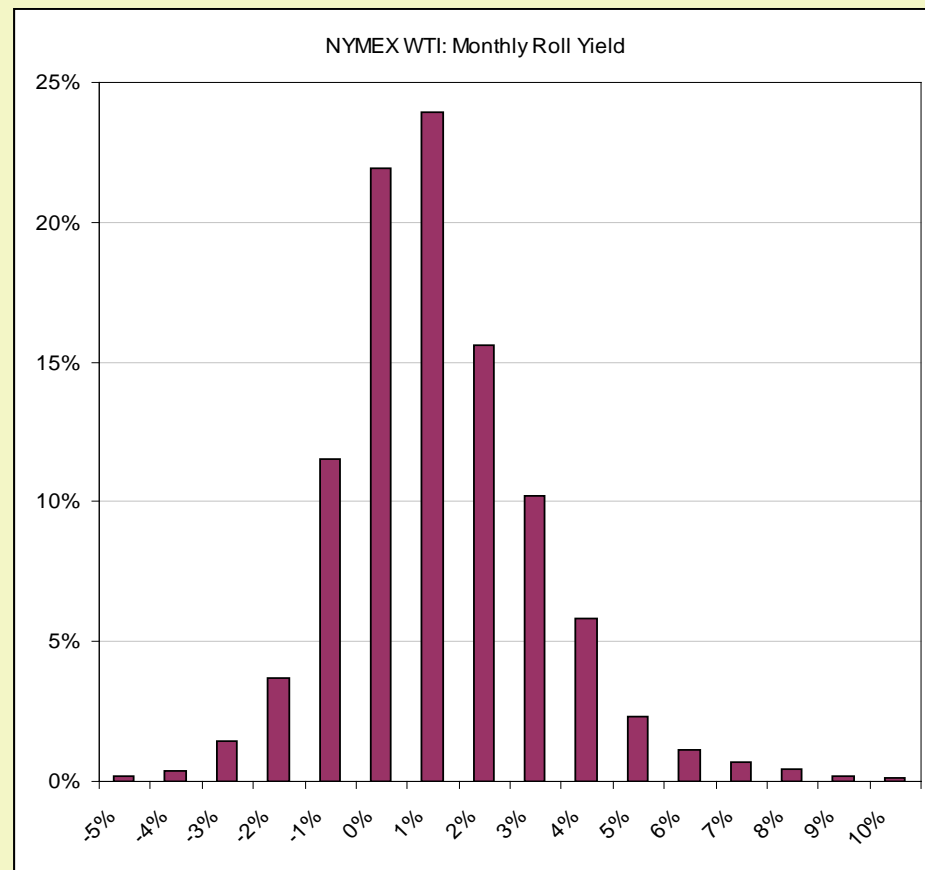
- ❑ From 2002 to the peak of the commodities rally in 2008, it has been estimated that between \$150bn & \$200bn has flowed into commodity markets, mainly through long-only products such as GSCI Total Return Swaps & Exchange-Traded Funds.
- ❑ Looking at Copper, for example, the composite index weight is 3%-4%. So using \$150-\$200bn total in-flow range → \$4.5bn - \$8bn 'invested' in copper. At \$8000/mt this equates to 0.5-1.0 million tonnes of metal: of the same order as the world's entire commercial inventory.
- ❑ So perhaps it is not surprising that commodity prices rose so much during that period.



Commodity Term Structure Is Volatile

Creates More Risk/Opportunity

- ❑ Over the past 25 years, the one-month roll yield for the first nearby NYMEX WTI contract has varied from -15% to +17% (although 94% of the time it is +/- 4%)
- ❑ Commodity term structure is influenced not just by fundamental factors such as inventories, but also by considerations such as passive investment (through the monthly rolls)



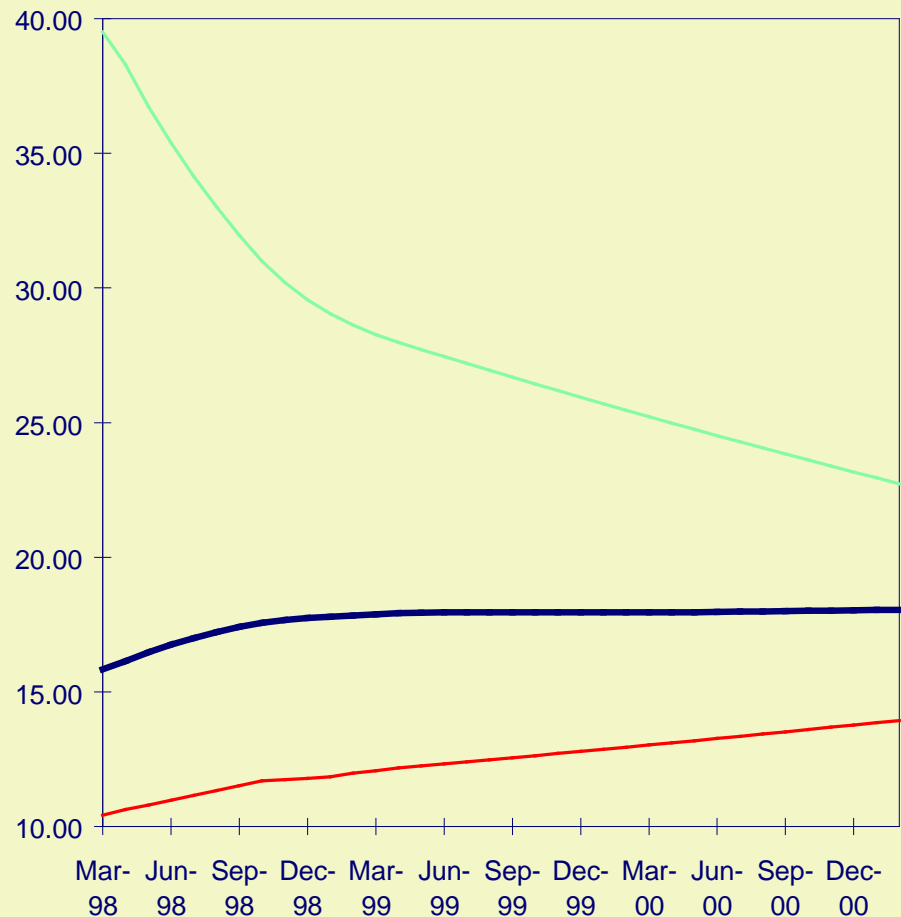


Backwardation & Contango

Commodity markets tend to be quite strongly mean-reverting

Tightness in prompt supply may be anticipated to relax later; this often leads to buyers being prepared to pay a premium for prompt barrels, pushing the forward curve into an 'inverse' or 'backwardation. This 'convenience yield' has no theoretical limit: buyers will bid the market up until their marginal utility is zero

Similarly, in an over-supplied market, prompt supplies will need to be discounted, leading to a 'carry' or 'contango' market. Whilst storage is available, contango is limited to the total cost of carry (i.e. cost of money+storage etc)





Capital Flows Have Been a Major Driver of Prices

Commodities Are An "Asset Class" Now

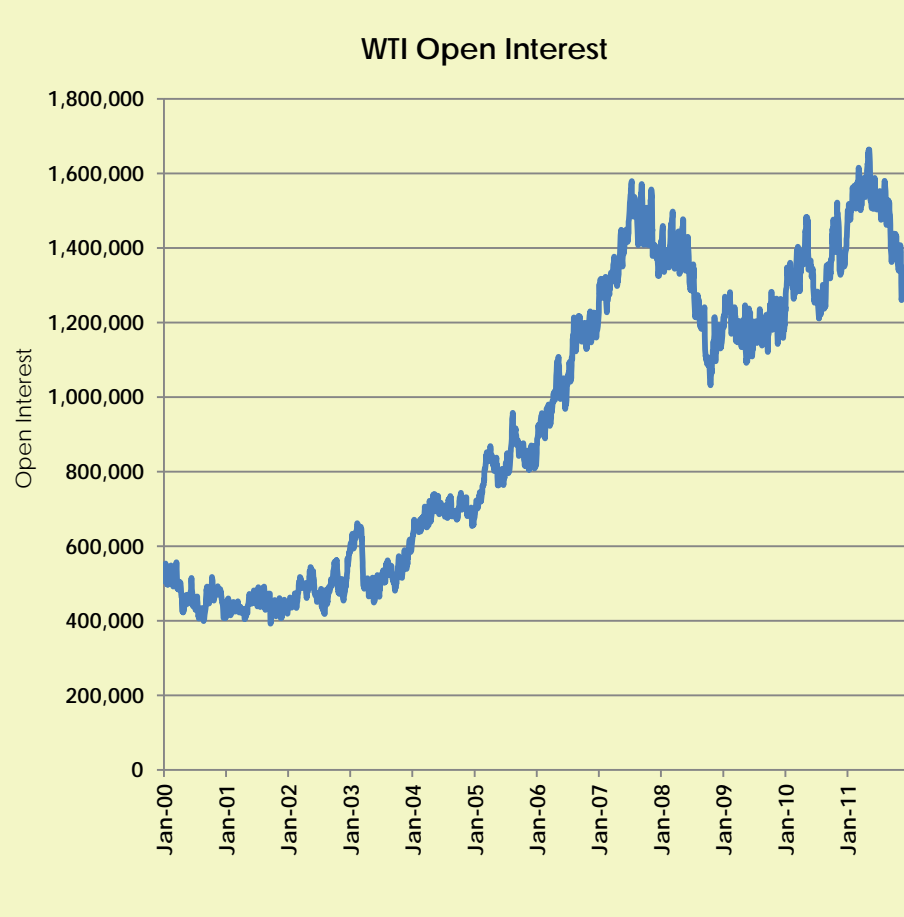
Commodity	Investment Increase (2002-06 \$bn)	Inventory	Investment Increase / Inventory Value
Energy	75.7	1030 mn bbl	113%
Copper	5.0	0.42 mn tonne	147%
Aluminium	3.9	3.05 mn tonne	45%
Wheat	4.3	1.25 bn bu	67%
Corn	3.6	4.97 bn bu	20%
Soybeans	1.9	0.97 bn bu	27%
Cattle	3.7	97 mn head	4%

- Since 2002, substantial capital has flowed into commodity markets as they have become recognized by institutions as an investable asset class.
- Analysis supports the idea that commodities that have received the largest passive capital allocations relative to their underlying market size have risen most.
- We are seeing sector rotation within commodities from long-only players – from initial investments in energy & base metals, towards agricultural markets.



Open Interest in Commodities Has Risen

Is the Commodity Play "Crowded"



- ❑ From 2002 to 2008, open interest in most commodity markets mushroomed: NYMEX WTI positions quadrupled in four years.
- ❑ There are many more active participants in commodity markets than there were in the past.
- ❑ Yet, commodity markets do not 'feel' substantially more liquid than they did five to ten years ago. Perhaps, as with the internet bubble in 2000, a distinction should be made between the total 'market capitalisation' and the 'free float'?
- ❑ If so much of the new participation is indeed passive long-only money, downside volatility must be a significant risk.



A Feel for the Numbers

WTI Open Interest:	~ 1,500mn bbl
Daily Turnover of WTI:	~ 600mn bbl
Global Crude Supply:	~ 87mn b/d
US Imports:	~ 10mn b/d
ULCC Capacity:	~ 3mn bbl

Ten Largest Oil Producers (2011, mn bbl/day)

Russia	10.1
Saudi Arabia	9.8
United States	9.1
Iran	4.2
China	3.9
Canada	3.3
Mexico	3.0
UAE	2.7
Brazil	2.5
Kuwait	2.4

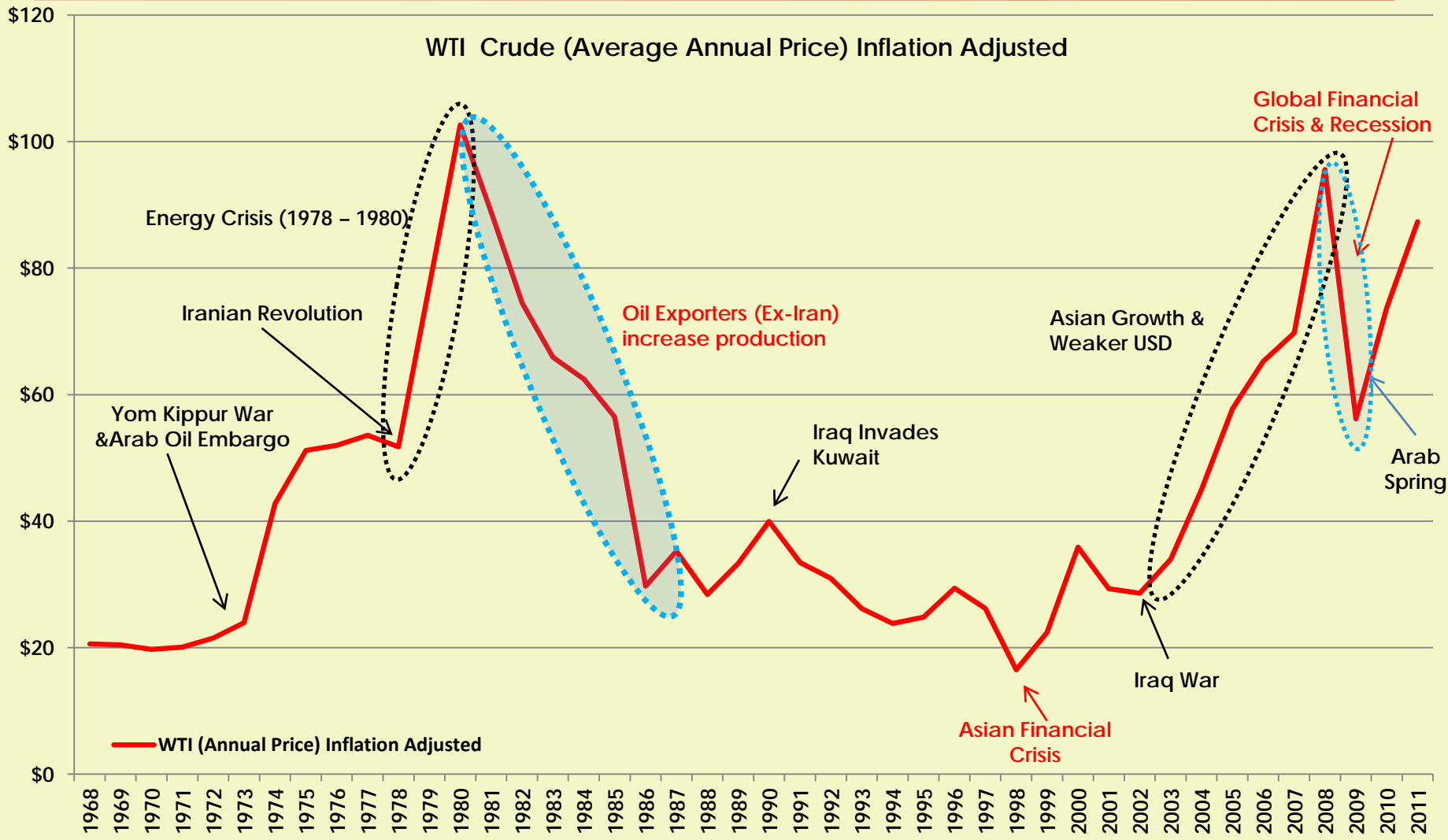


Global Oil Consumption





Other Factors which can affect Prices





Global Supply/Demand

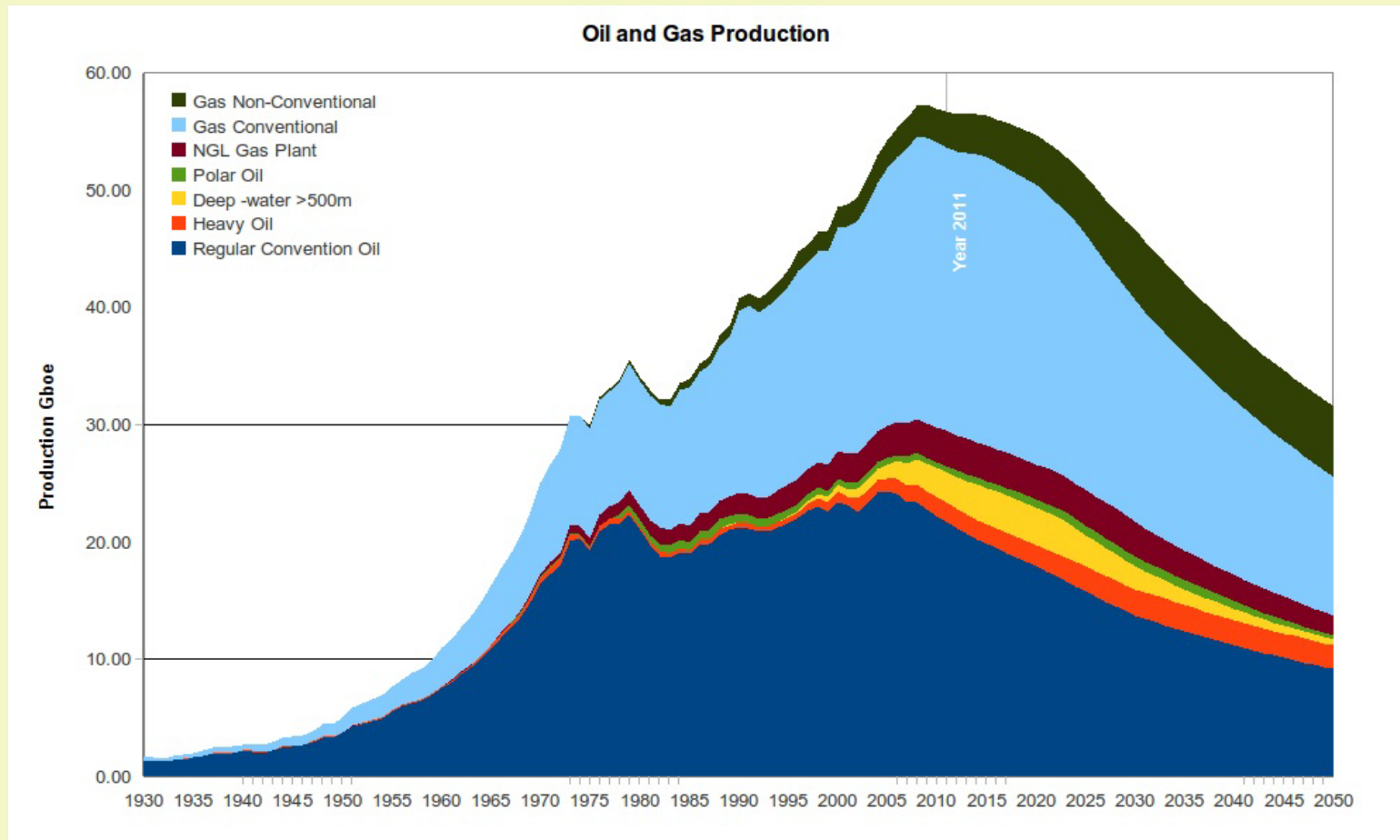
Million barrels/day	Region	1999	2011
<u>Demand</u>	North America	24.1	23.65
	Europe & FSU	19.8	19.51
	Asia-Pacific	20.9	28.35
	Others	12.1	17.22
	Total	76.9	88.73
<u>Supply</u>	OPEC*	28.9	35.7
	Non-OPEC	45.4	52.2
	Total	74.3	87.9

Source: IEA, EIA & GNI



Peak Oil (i)

We are nearing the peak of conventional energy production. This is having a profound impact on term structure of energy markets.

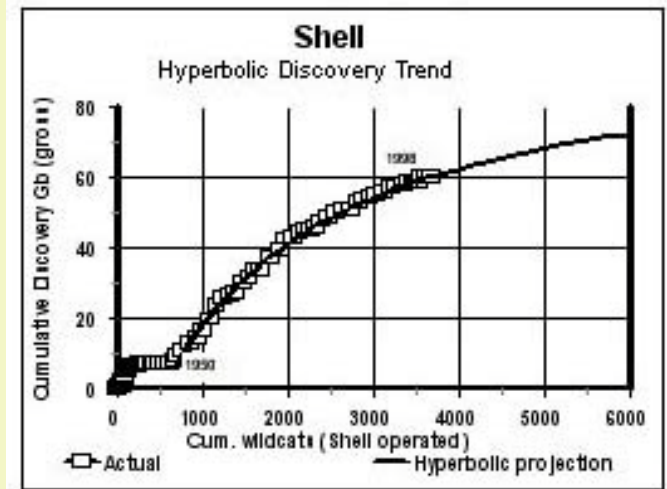
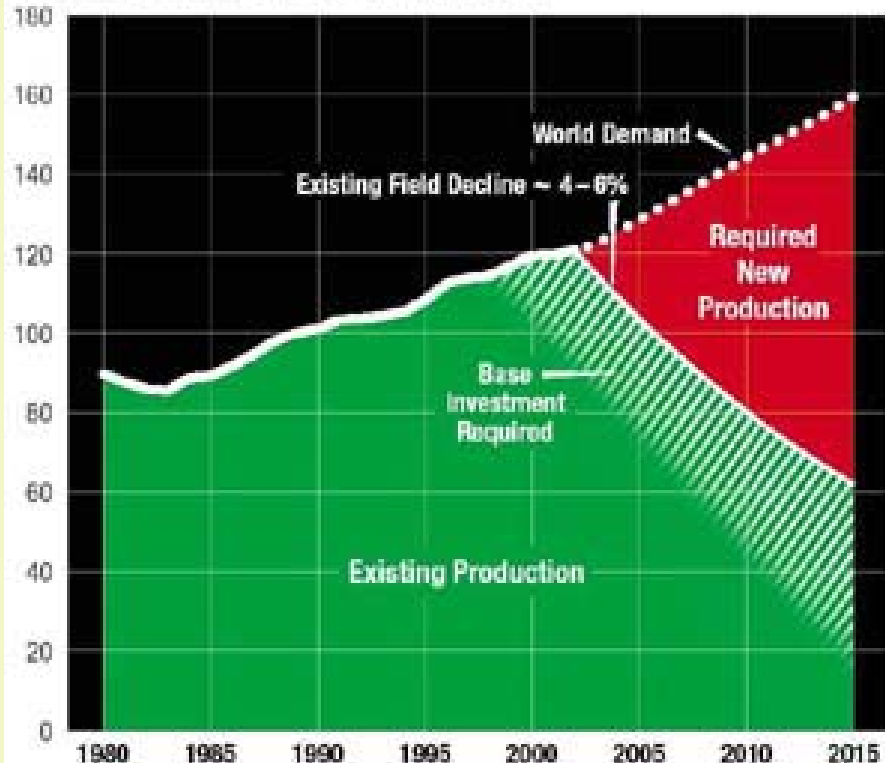




Peak Oil (ii)

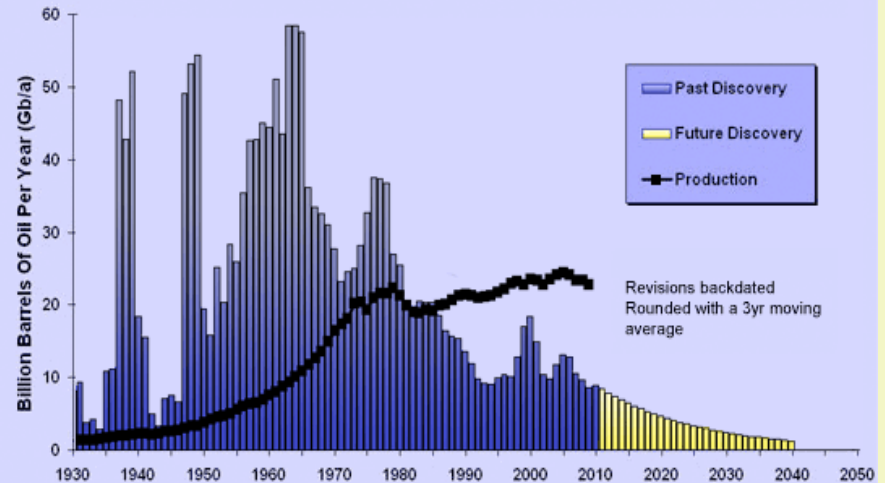
Supplying Oil and Gas Demand Will Require Major Investment

Millions of Barrels per Day of Oil Equivalent (MBOOE)



THE GROWING GAP

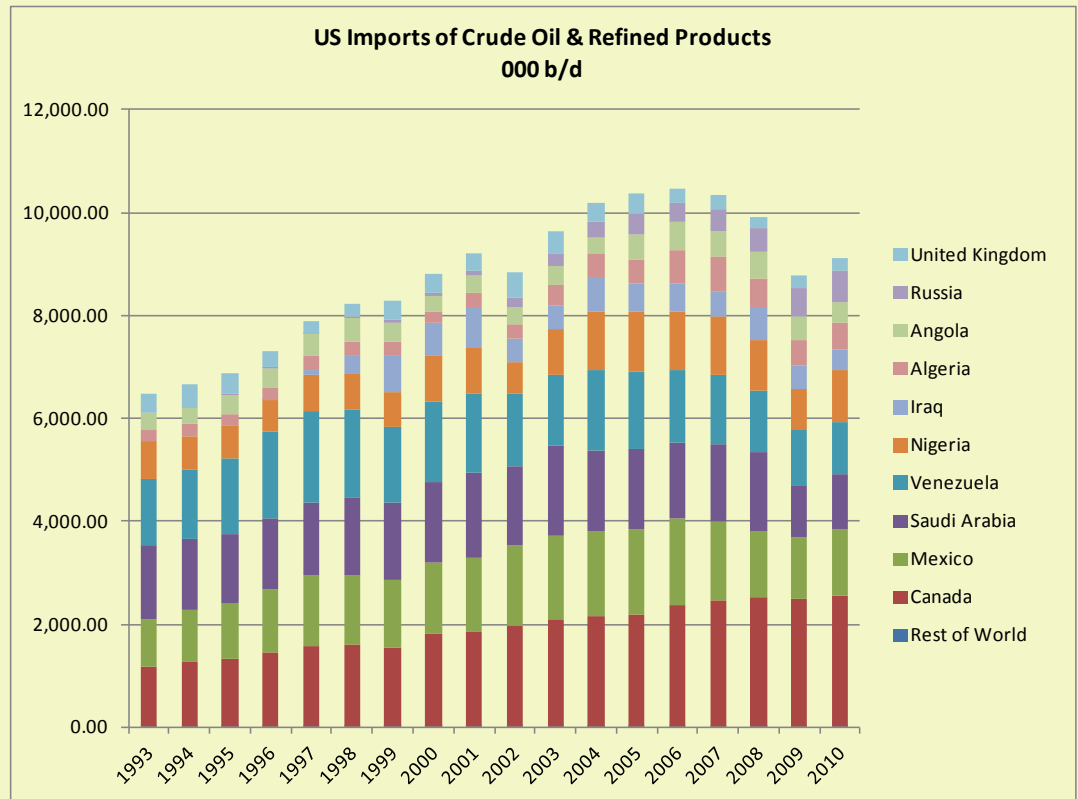
Regular Conventional Oil: Discovery & Production





Why is the U.S. So Important?

- ❑ US demand averaged 19mn b/d during 2010 - 21% of total world demand.
- ❑ Of this, around 10mn b/d is imported: -
 - *Latin America* 30%
 - *Canada* 21%
 - *Africa* 19%
 - *Middle East* 15%
 - *Europe/FSU* 12%
 - *Other* 3%
- ❑ Since 2006-07, US imports have been falling, partly in response to weaker economic conditions and partly because US domestic production has started to rise again.



US Crude Oil Imports & Each Country's % Share



Shale Gas

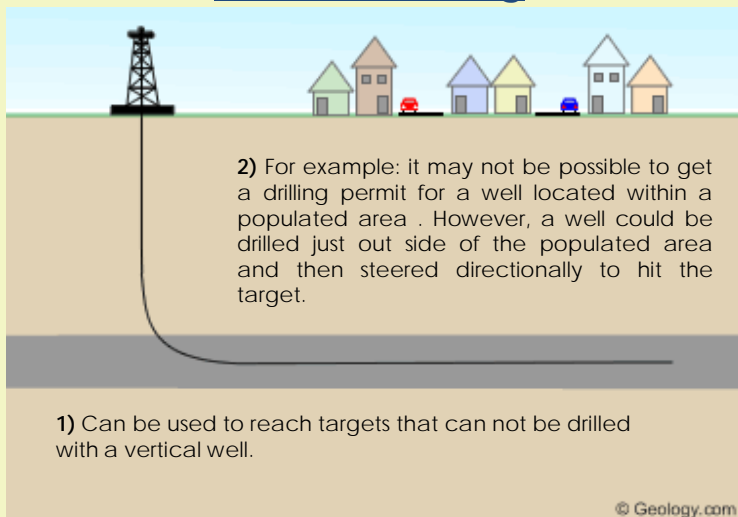
What is it?

Natural Gas that is trapped within shale formations. Shale is a fine-grained sedimentary rock that forms from the compaction of silt and clay-size mineral particles that we commonly call "mud". Black organic shales are the source rock for many of the world's most important oil and natural gas deposits.

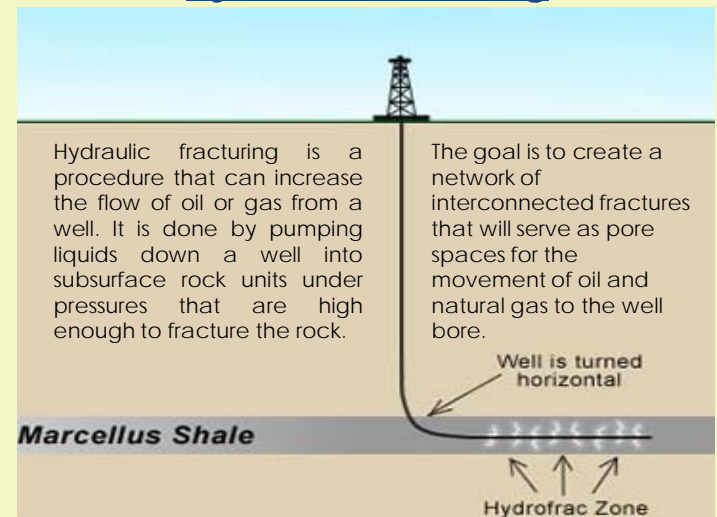
How is it produced?

Using a combination of horizontal drilling and hydraulic fracturing, shale gas is accessible in large volumes.

Horizontal Drilling

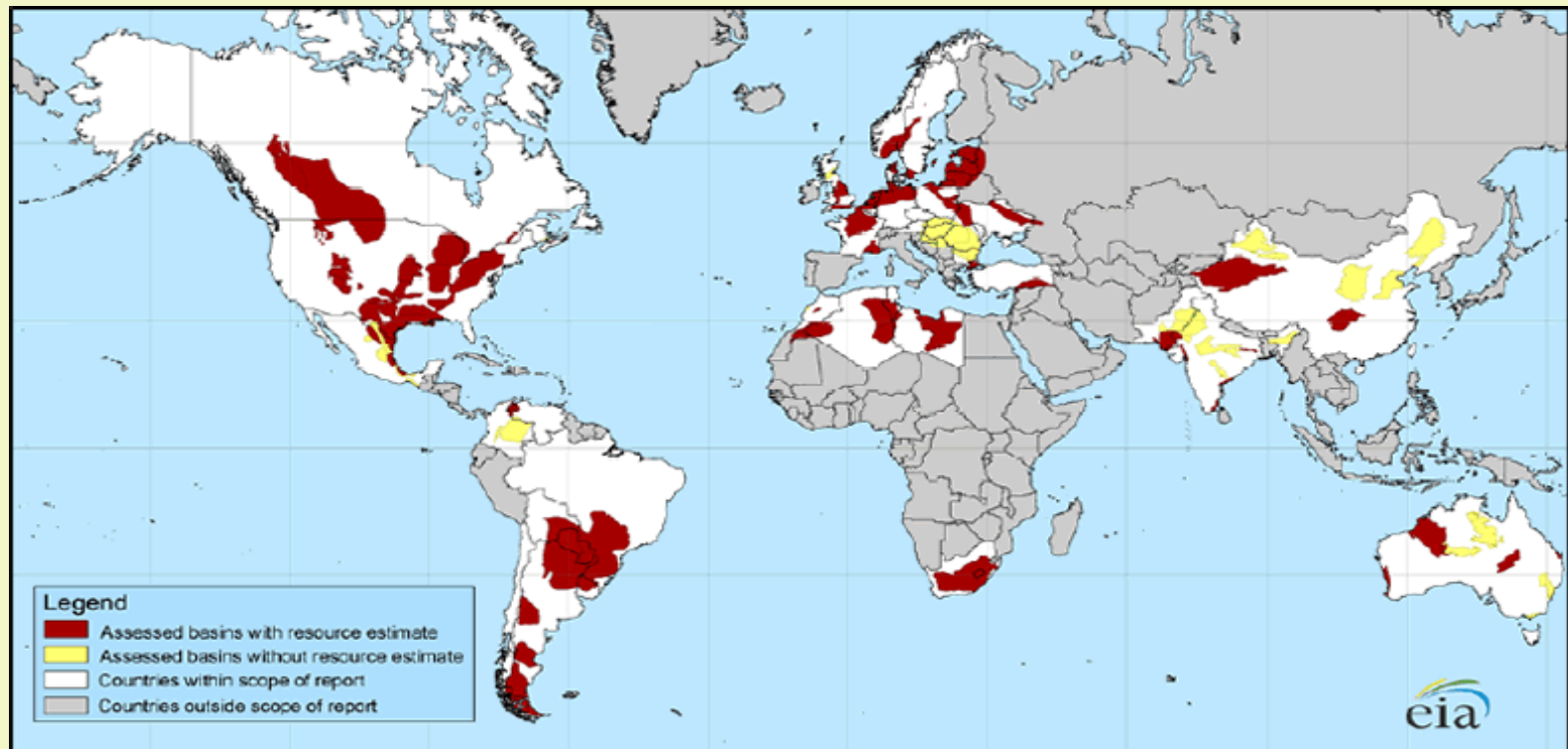


Hydraulic Fracturing



Shale Gas – Why is it important?

- ❑ Using the 2009 rate of U.S. Consumption, it is estimated that there is enough for another 110 years of use!
- ❑ The U.S. and other more politically stable countries have abundant shale gas resources.



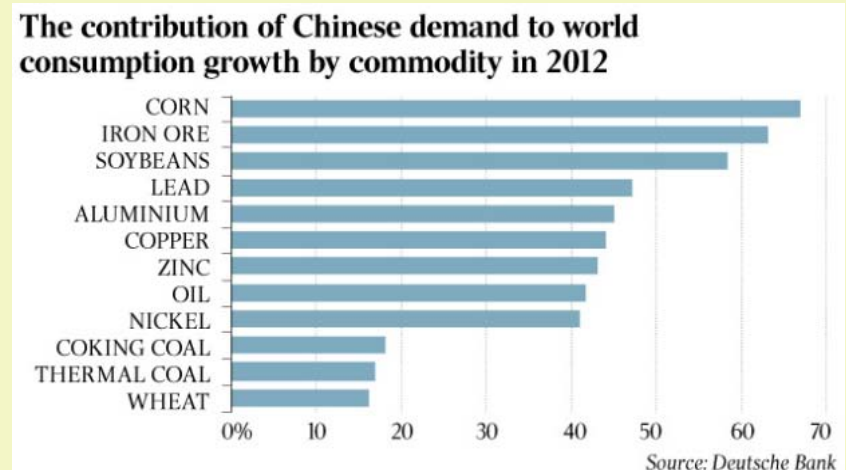
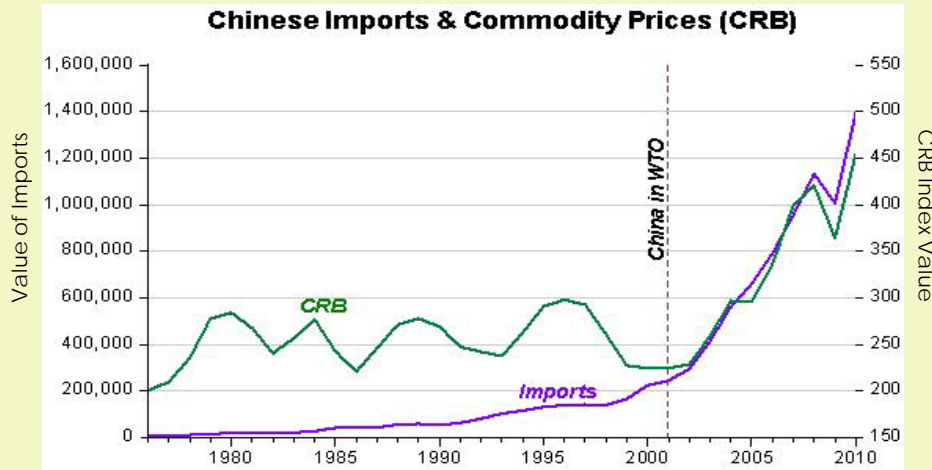


Are We Seeing a Shift From West to East?



Commodities Markets – Growth in Demand & Price

Emerging economies are having an impact on commodity consumption and price



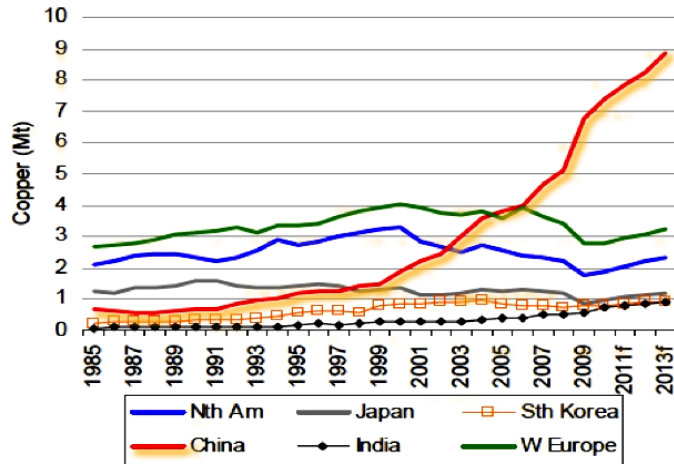
There are also more ways than ever to invest in commodities:

- **ETFs** – index (e.g. PowerShares DB Commodity Index Tracking ETF) or more commodity specific (e.g. SPDR – Gold, USO – Oil).
- **Equities** – (Energy stocks – Shell/BP, mining companies – Rio Tinto/Vedanta, etc).
- **Passive investment** - Long only indices such as Goldman Sachs Commodity Index ("GSCI").
- **Active investment** – such as hedge funds. Ability to take long/short positions in the market.



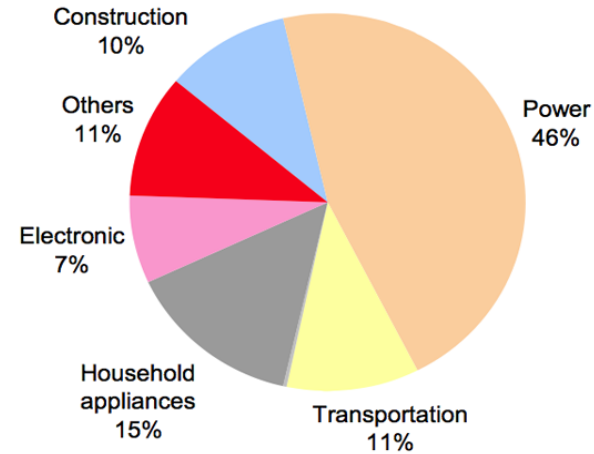
Chinese Copper Demand and Price Impact

Copper consumption by major regions



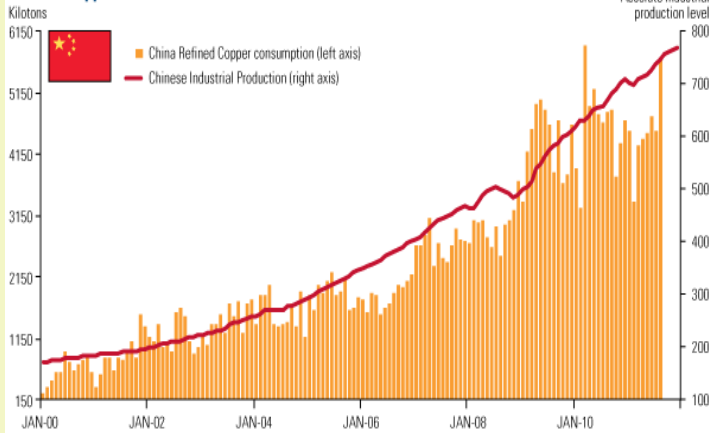
Source: Credit Suisse and Brook Hunt

Structure Chart of China Copper Consumption

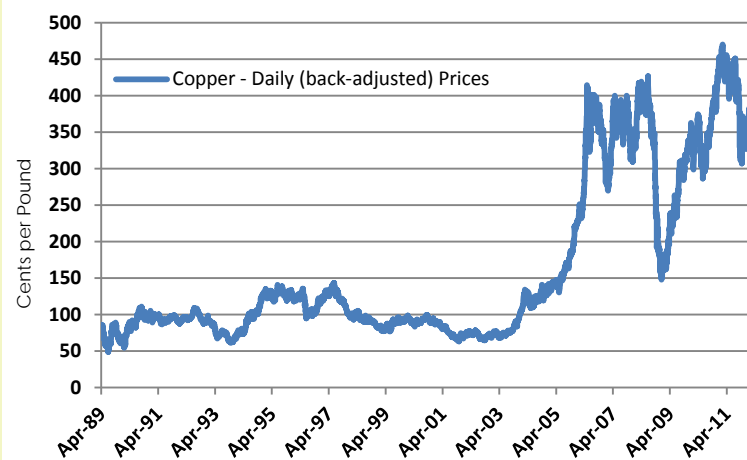


Source: Shanghai Metals Market

Chinese Copper Demand Correlates with Industrial Production



Source: Thompson Reuters, WBMS

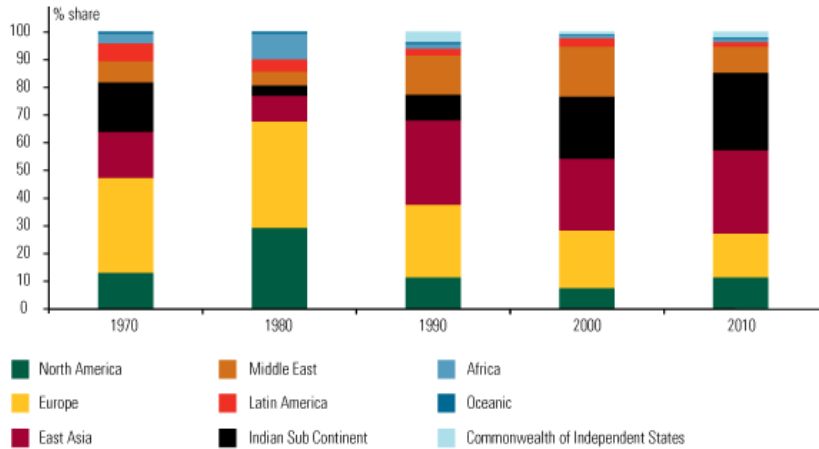




Gold Demand and Price Impact

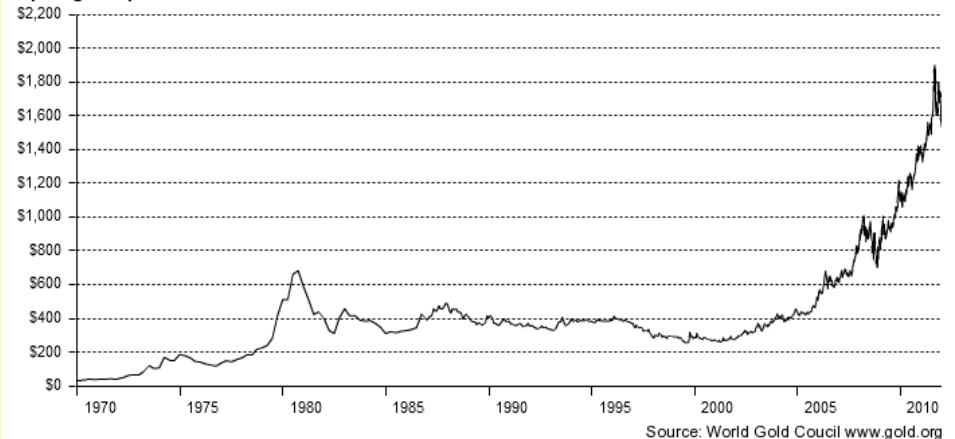
Gold Demand Shifts from the West to the East Over Past 40 Years

Distribution of demand by region



Source: Bloomberg, LBMA, Thomson Reuters GFMS, World Gold Council

Spot gold price in USD



Source: World Gold Council www.gold.org

Currencies: USD

Weight: oz

Demand from China and India far outweighs that from Europe & North America.

- o Safe Haven status during economic uncertainty
- o Gold used to celebrate special occasions in China and India
- o Symbol of wealth
- o Many emerging market Central Banks still underweight gold relative to FX

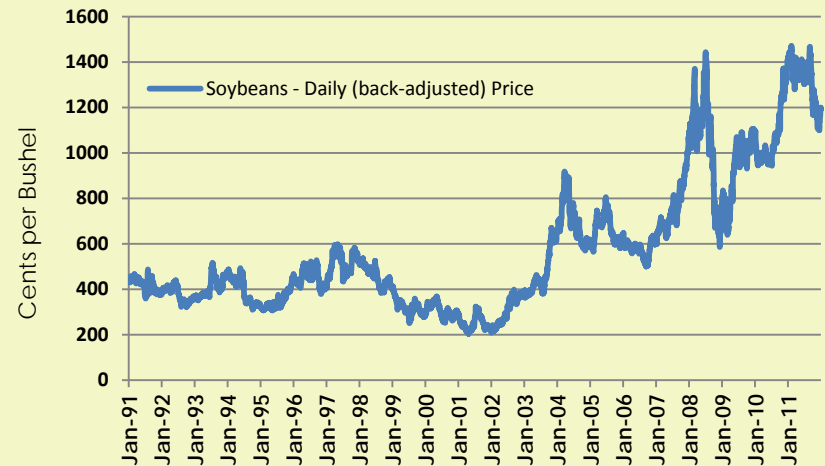
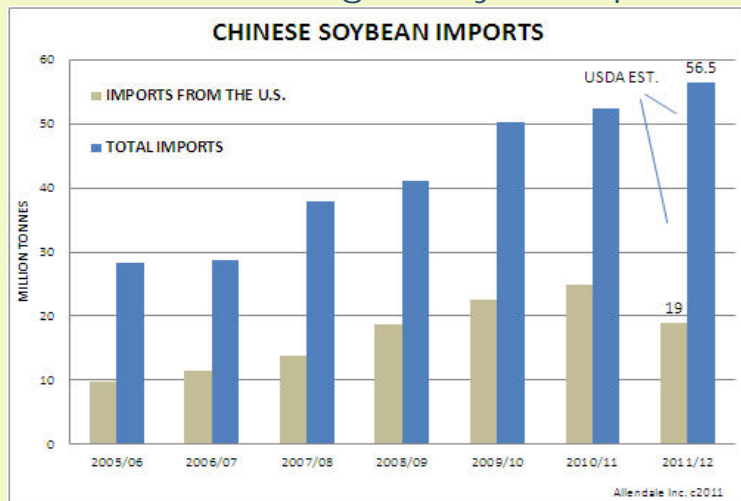


Soybeans and The Demand from China

Demand for soybeans from China has led to the erosion of stockpiles and higher prices.

Many Chinese have adopted a more Westernised diet, this has resulted in:

- o Meat consumption more than doubling over the last 20 years
- o More demand for cattle and pigs (and less so for poultry)
- o Increase demand for livestock means increased demand for livestock feed
- o However, U.S. Farmers have cut back on soybean planting in favour of corn. The U.S. Is the world's largest soybean producer and exporter



According to Wells Fargo in the U.S., China is building a livestock and meat industry in five years that took the U.S. fifty years to build.



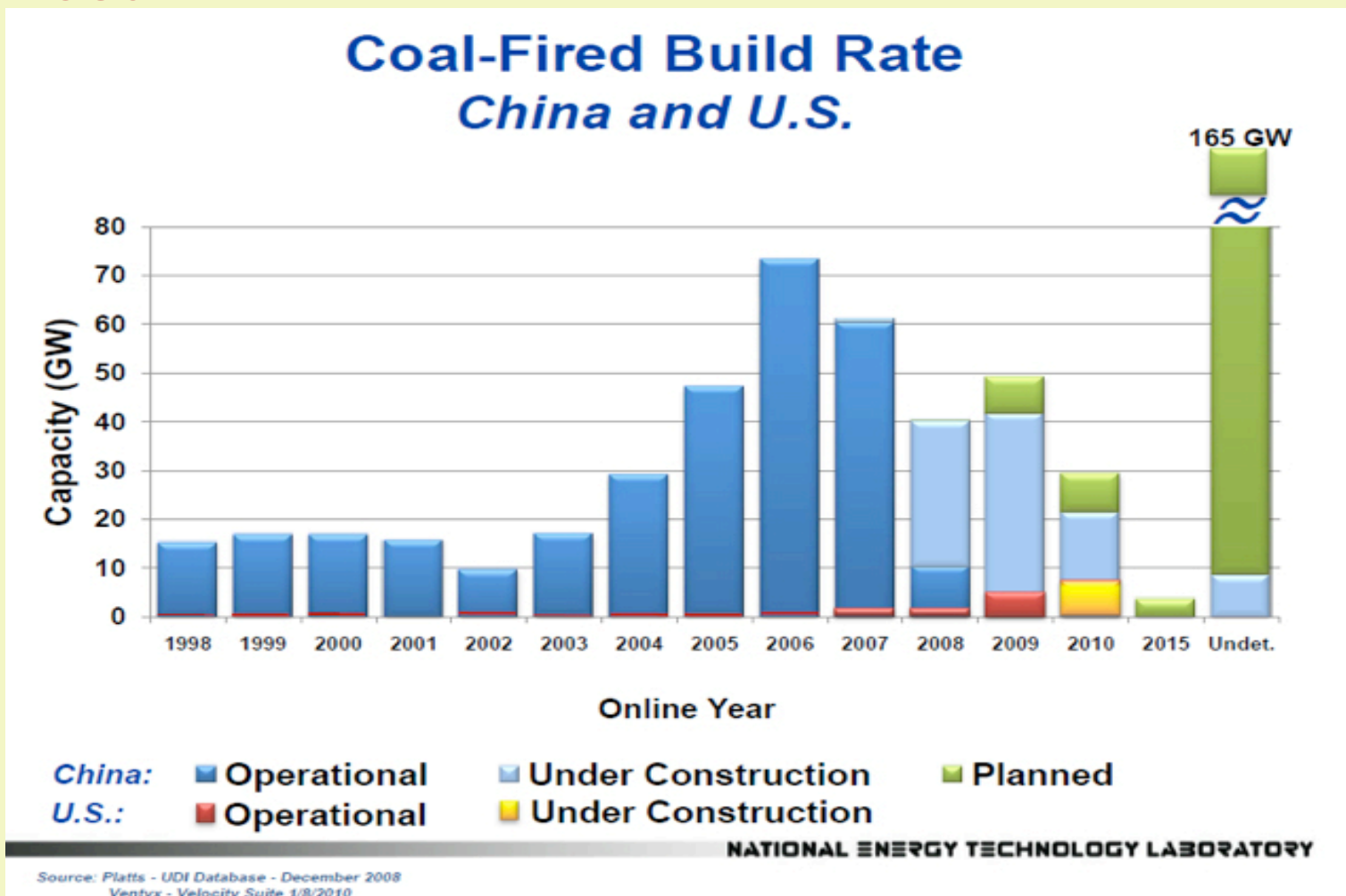
Coal Power

- ❑ World coal-fired power plant capacity will grow from 1,759,000 MW in 2010 to 2,384,000 MW in 2020.
- ❑ Coal-fired power in Asia will rise to 1,464,000 MW in 2020 up from 918,000 MW this year.
- ❑ Coal-fired power in India will rise from 95,000 MW to 294,000 MW over the next 11 years (a 300% rise).
- ❑ The US presently operates coal-fired power plants at a much lower efficiency than those in Europe.
- ❑ Many of the new Chinese power plants are highly efficient.
 - A number of small old power plants have been replaced.
 - However, within the last decade China has increased capacity from less than 50 per cent to more than 200 percent of the US capacity.



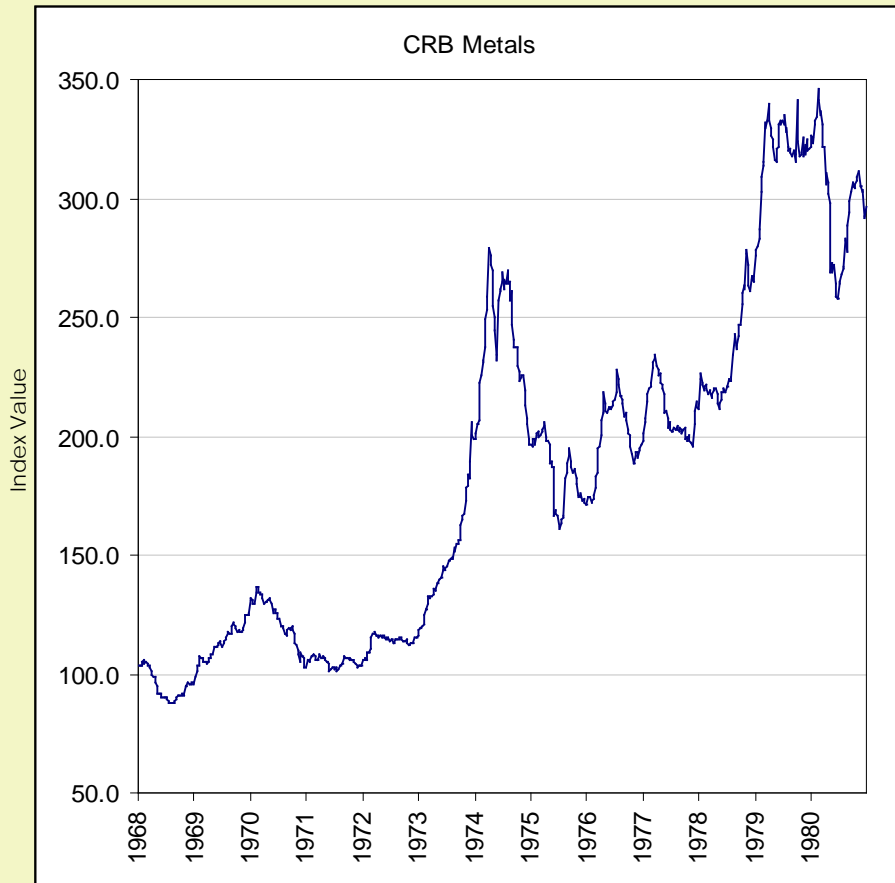
Coal-Fired Power Stations – Build Rate

China v The U.S.





Conclusion. The End is Not Nigh



- ❑ Between 1968 & 1980, the CRB Metals sub-index gained 250%.
- ❑ The 1970s was the last time we have seen non-commodity professionals participate in commodity markets. This time around, levels of participation are much higher – hence the price gains have been even larger.
- ❑ Flows into ETFs are strongly momentum-driven: many commodity ETFs are amongst the best performers on rolling 12-month basis, so will see more in-flows.
- ❑ Continued in-flows will be associated with increasing volatility.



Q&A

Any Questions?



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