

Commodities – Key Investment Considerations

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Introduction

- **Introducing S&P's background**
 - Provider of financial information and benchmarks
 - This presentation will be approached mainly from an equity perspective
 - My Focus is primarily on Oil and some other hard commodities
- **What are commodities? Key characteristics and considerations**
- **Investing in commodities**
 - Alternatives
 - Suitable valuation methodologies for equities
- **Case Study: S&P's Oil & Gas Outlook**

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What are Commodities? Key Characteristics & Considerations

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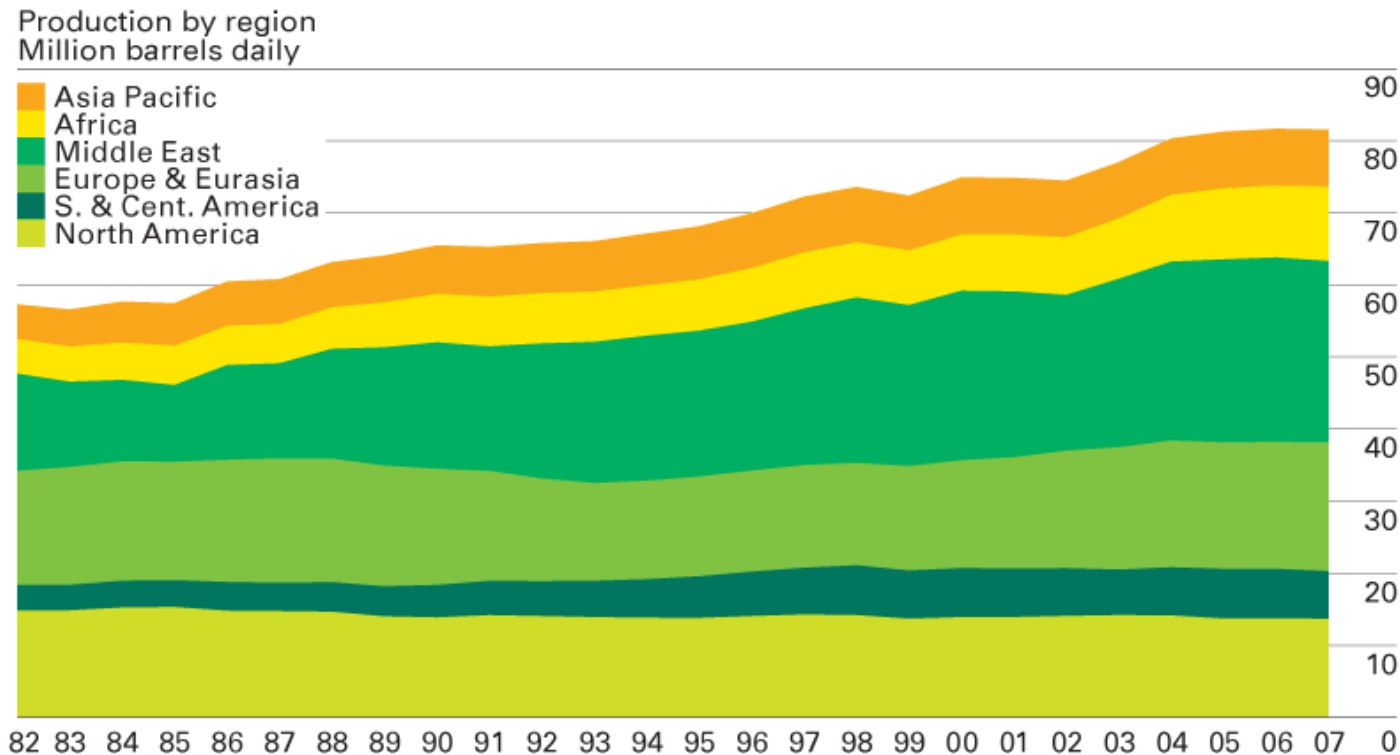
Characteristics of Commodities

- **Generic with minimal product differentiation**
- **Priced and used globally, primarily as raw materials**
- **Sensitive to economic cycles**
- **Subject to long-term trends**
- **Industry structure either oligopolistic or fragmented**
- **Examples:**
 - Energy: Oil, Coal, Natural Gas
 - Base Metals: Aluminum, Copper, Steel
 - Precious Metals: Gold, Silver, Platinum
 - Commodity Chemicals: Petrochemicals
 - Forest Products: Paper, Timber
 - Soft Commodities: Agricultural products

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Energy: Oil is Produced Globally

- Products are largely generic – slight quality differentiation
- And can generally be transported easily
- **NOT RENEWABLE**



World oil production fell by 130,000b/d in 2007. OPEC production cuts led to a decline of 350,000b/d. OECD production dropped again, driven by declines in Mexico and Norway of more than 200,000b/d each. Former Soviet Union production rose by nearly 500,000b/d as both Russian and Azerbaijani output rose by at least 200,000b/d.

Source: BP

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Energy: Varied Uses

- **Oil is used in:**

- Transportation
 - 98% of world's transportation is fueled by oil
 - 70% of a barrel of oil becomes gasoline
- Packaging
- Chemicals
- Medicines
- Fertilizers
- Fabrics
- Plastics
- Candles

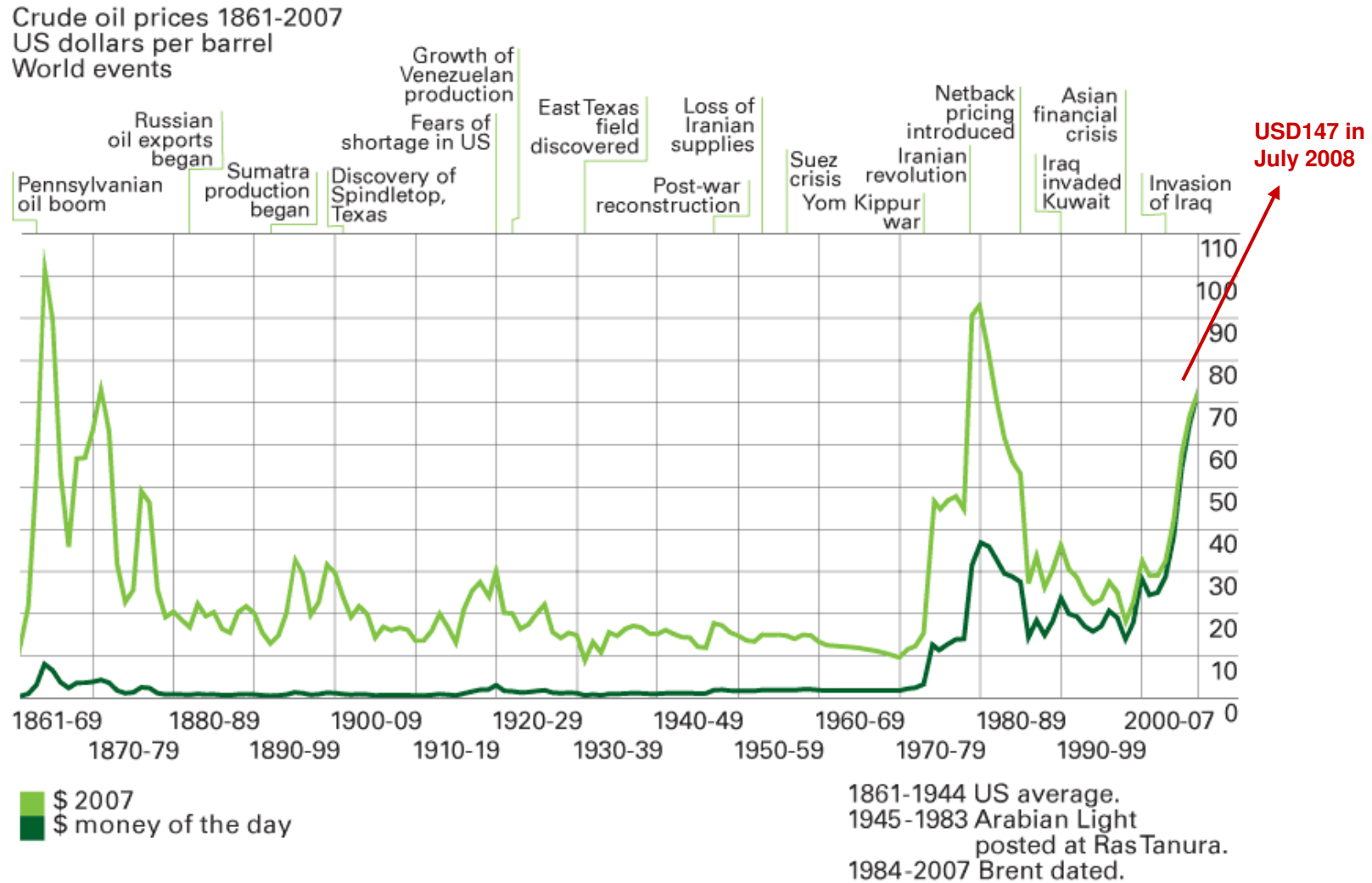
Chemical by-products

Economic Sensitivity

- **Utilization kicked off with the industrial revolution and with the development of processes to refine oil into the various products**
- **Cost efficient (still): cheaper than a cup of coffee, much greater utility**

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Energy: Increasing Supply Risks Sends Prices Higher



Source: BP

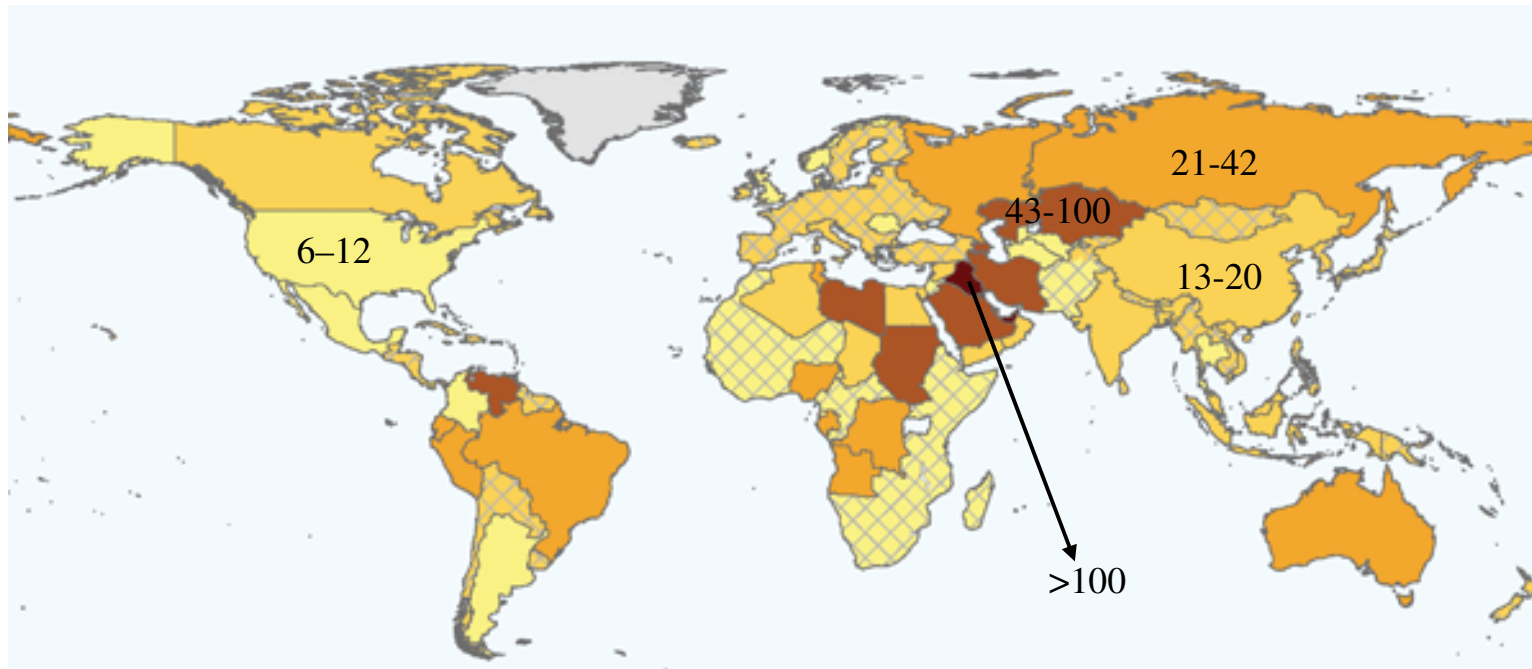
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Energy: Reserves appear finite

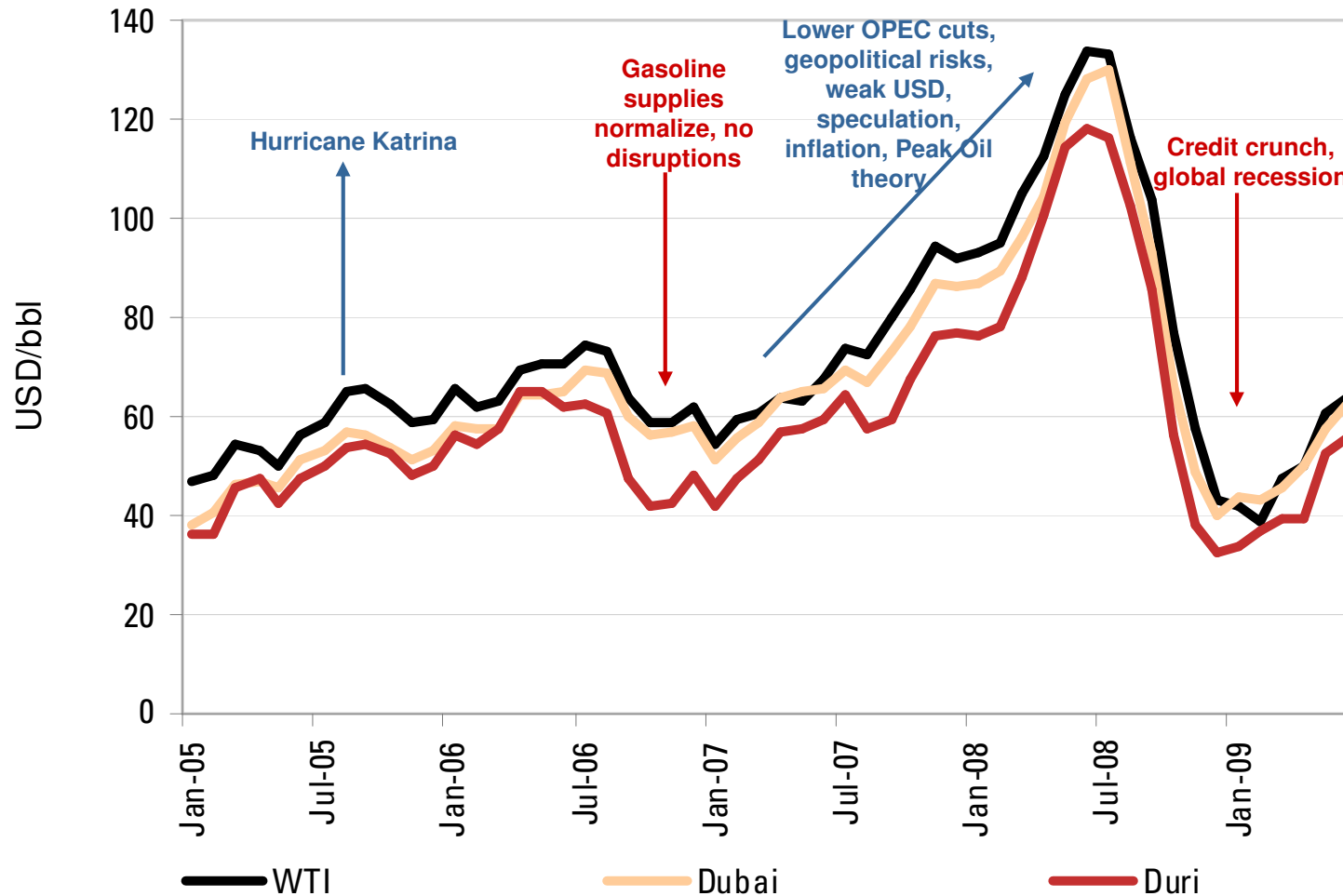
Map of oil consumption to reserves (years)



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Energy: More recent oil price history



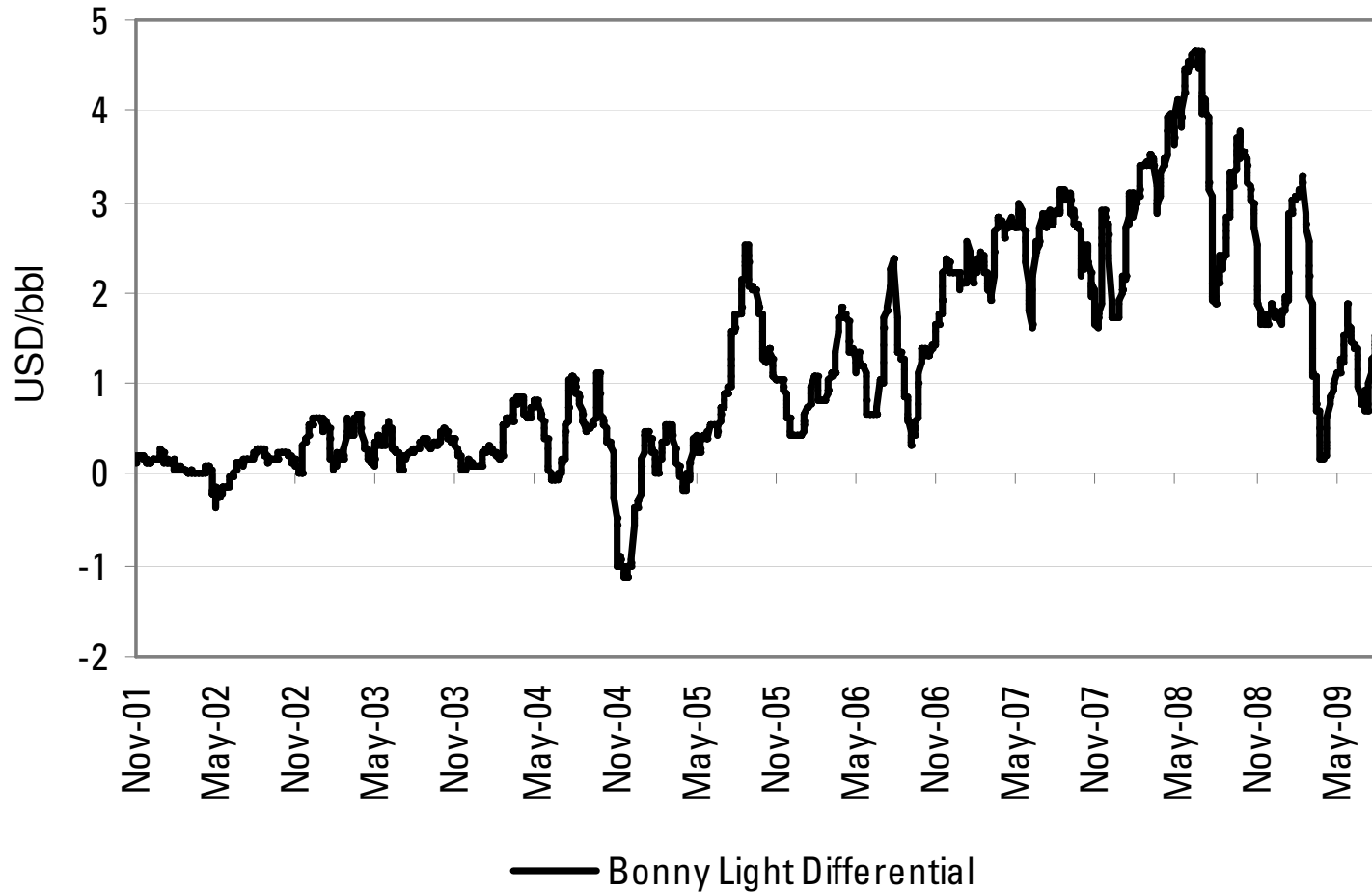
Source: Platts

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Energy: Geopolitical Risks - Nigeria



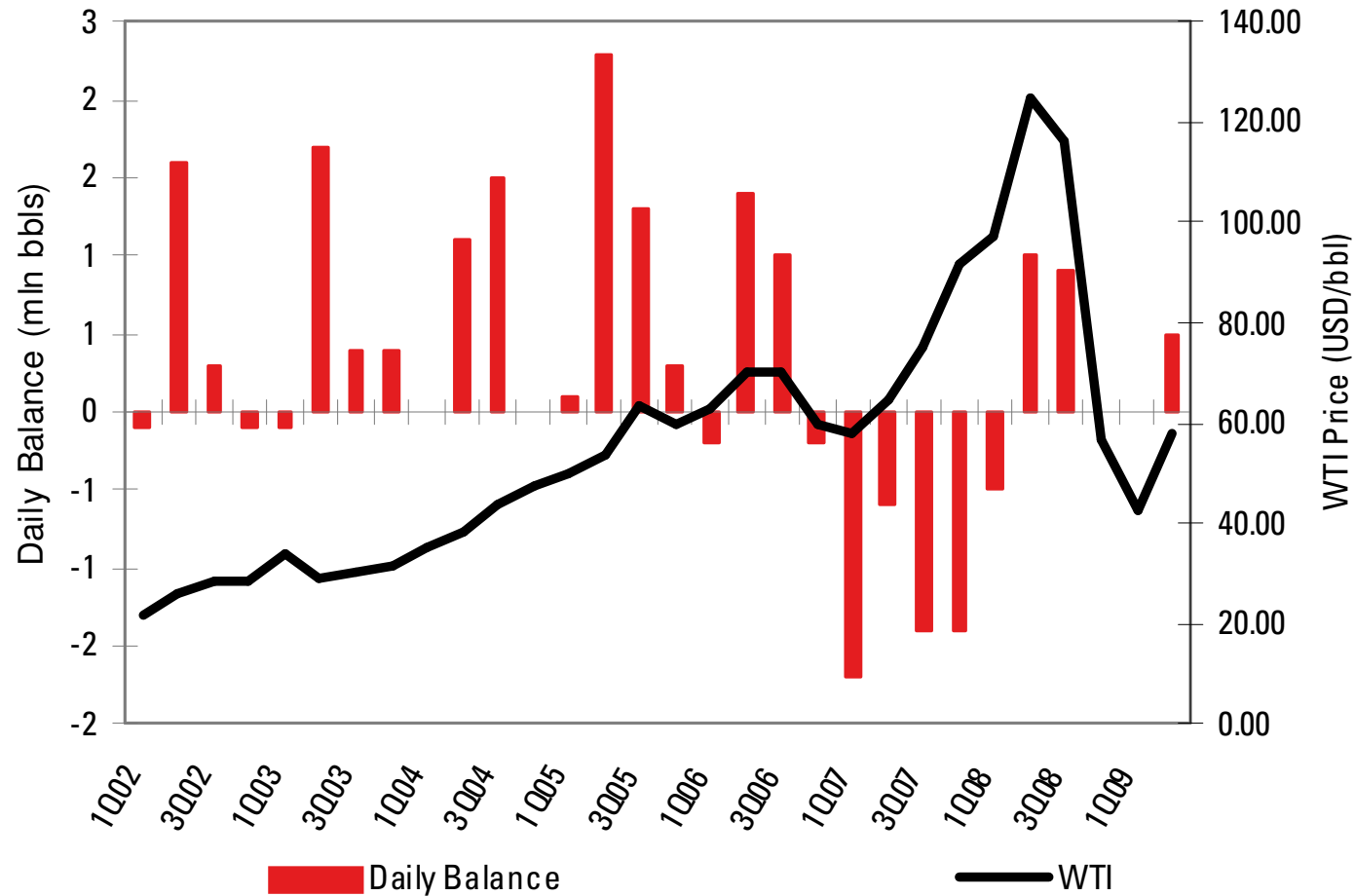
Source: Platts

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Energy: 1H08 oil price jump came on low inventories



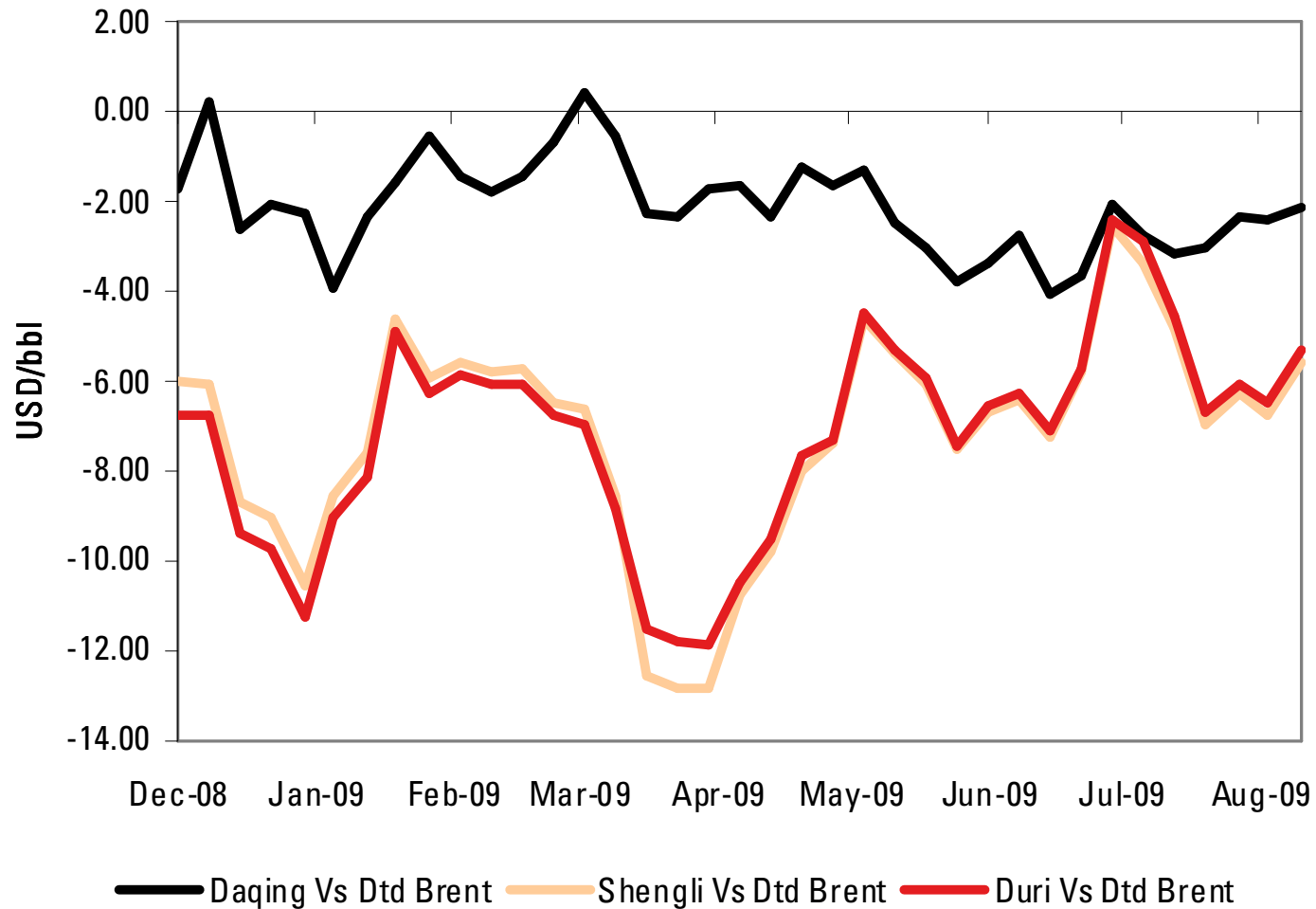
Source: OPEC, CEIC, Platts

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Energy: Price Spreads Between Sweet and Sour Crude



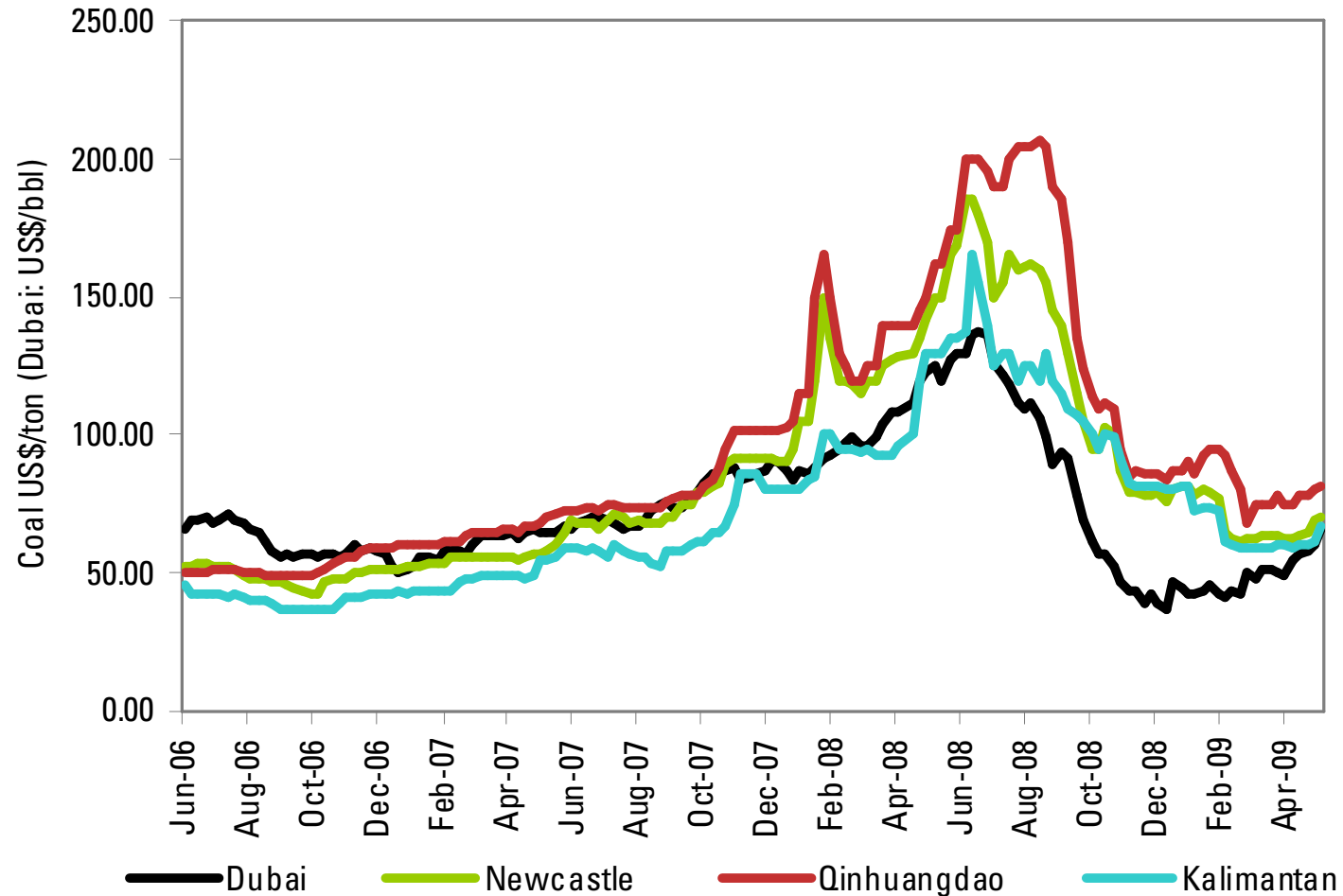
Source: Platts

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Energy: Coal Prices differentiated by heat rates



Source: Platts

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Energy, Metals, Chemicals: Reasons for recent price rises

- **Supply cuts**
 - OPEC relatively successful
- **Equity markets rebound – increased confidence**
- **Inventory restocking**
- **Stimulus spending, improving manufacturing demand**
- **Weaker USD**

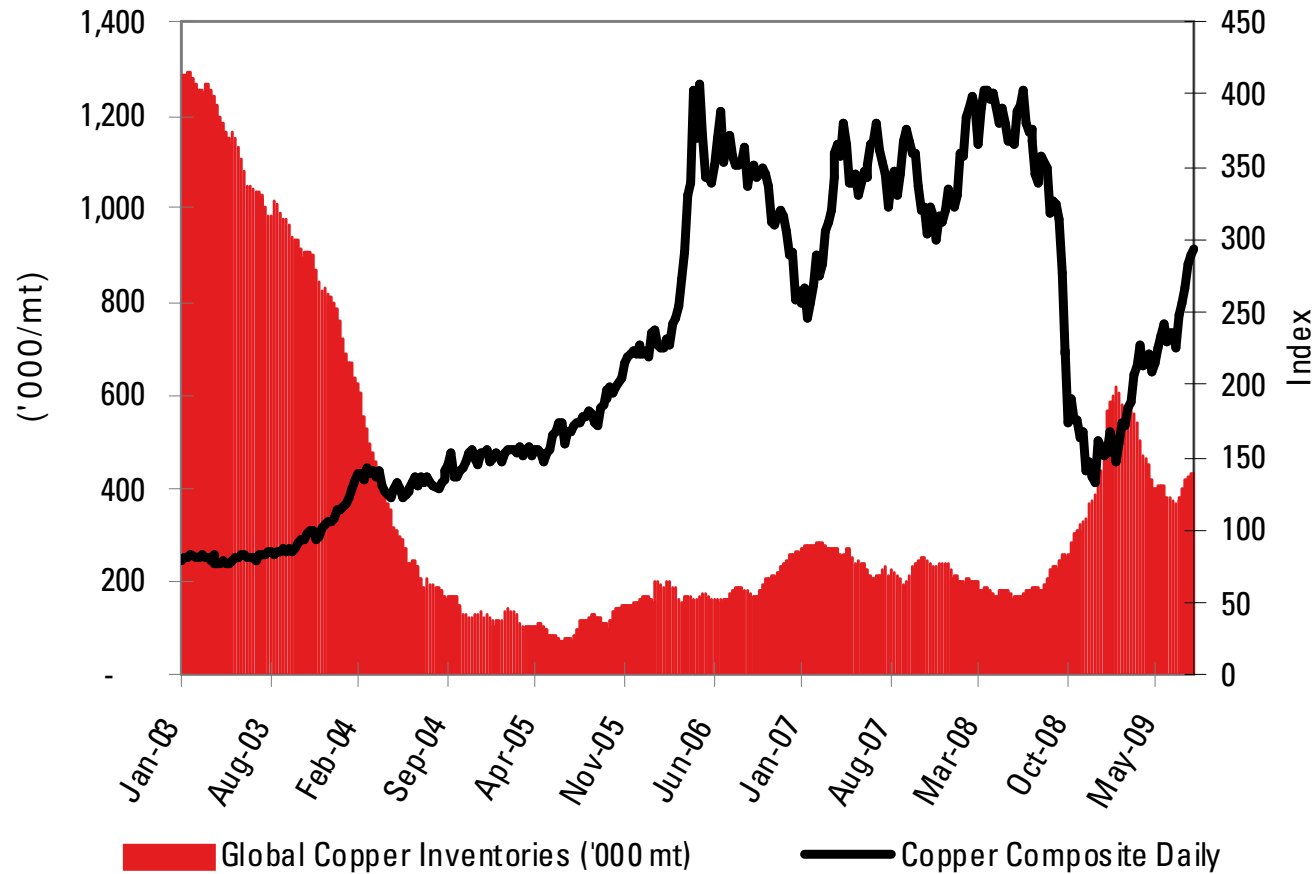
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Base Metals: Inventory is a Factor

- **Copper**, Aluminum, Steel outlook is sensitive to inventory levels

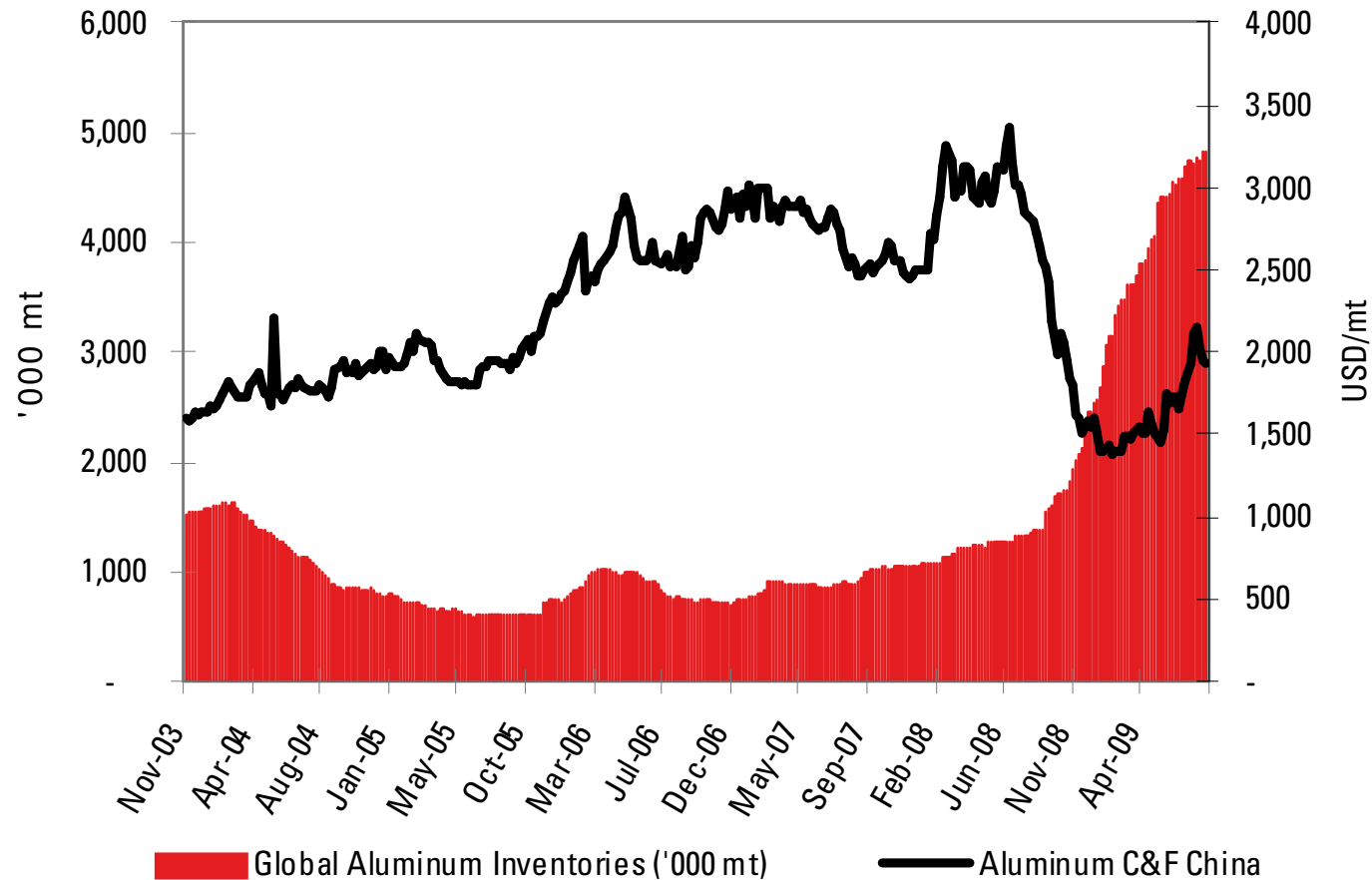


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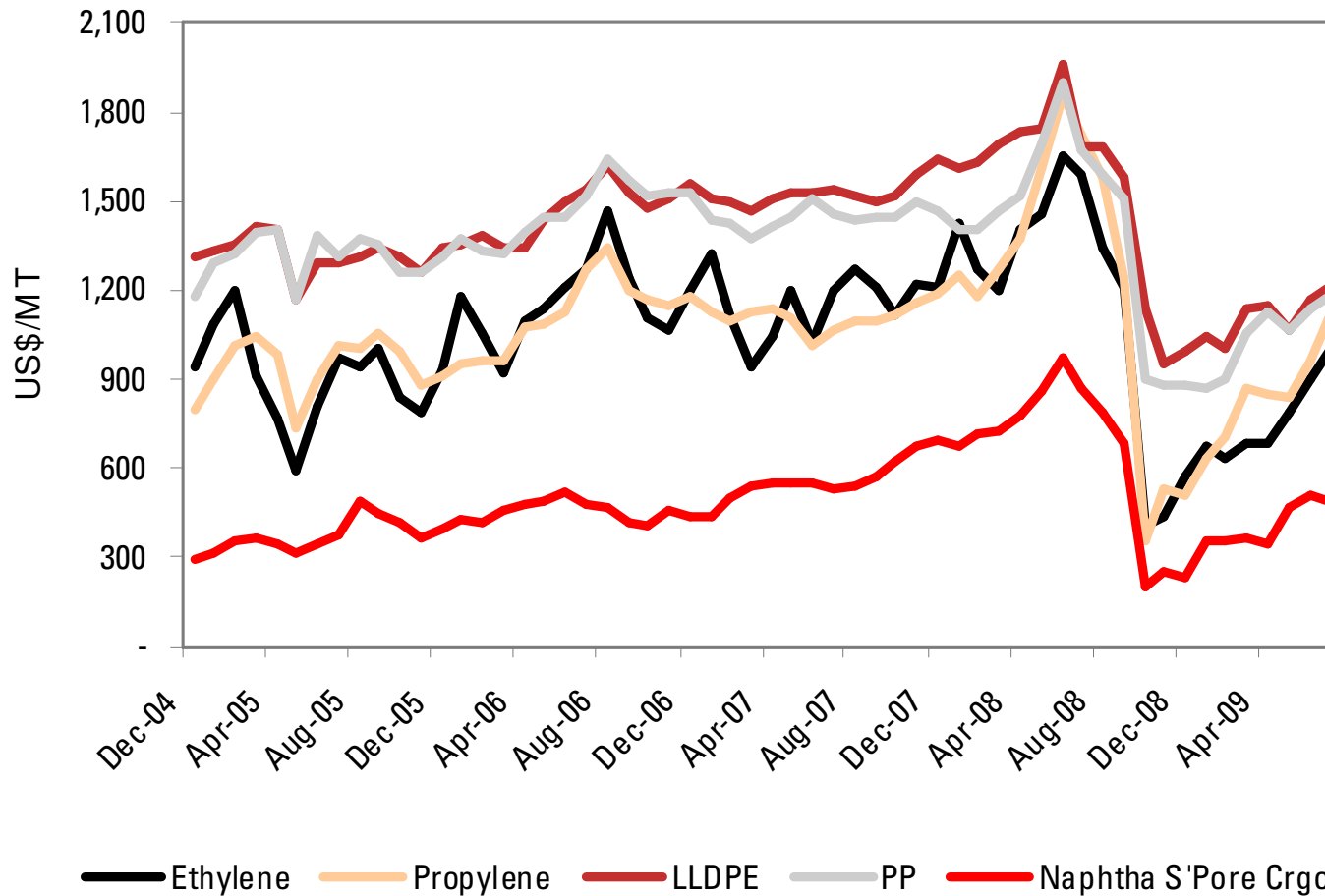
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Chemicals: Specific Supply Factors

- Petrochemical prices rebounded on supply cuts, spread to raw material (naphtha) widens

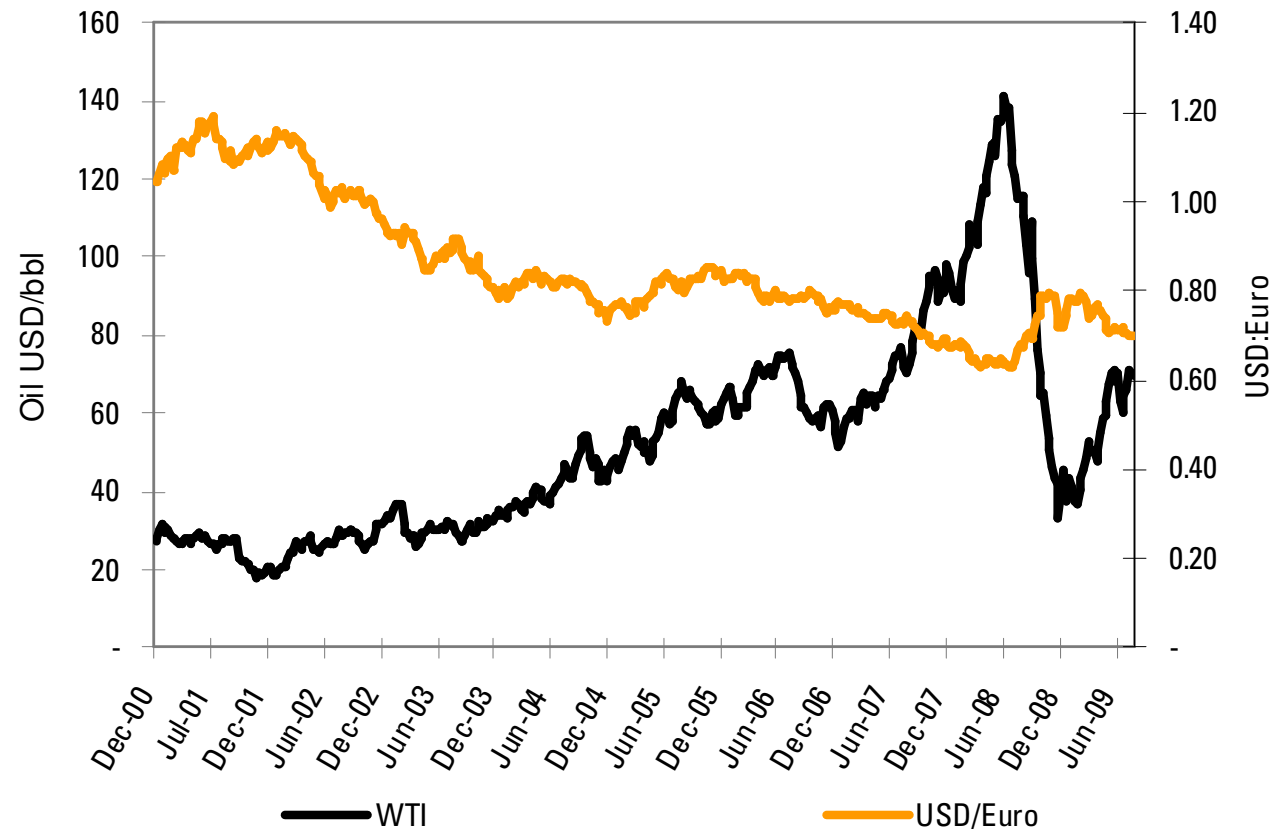


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Commodities: USD direction a factor?

- Some relationship but difficult to pinpoint as a significant stand-alone factor

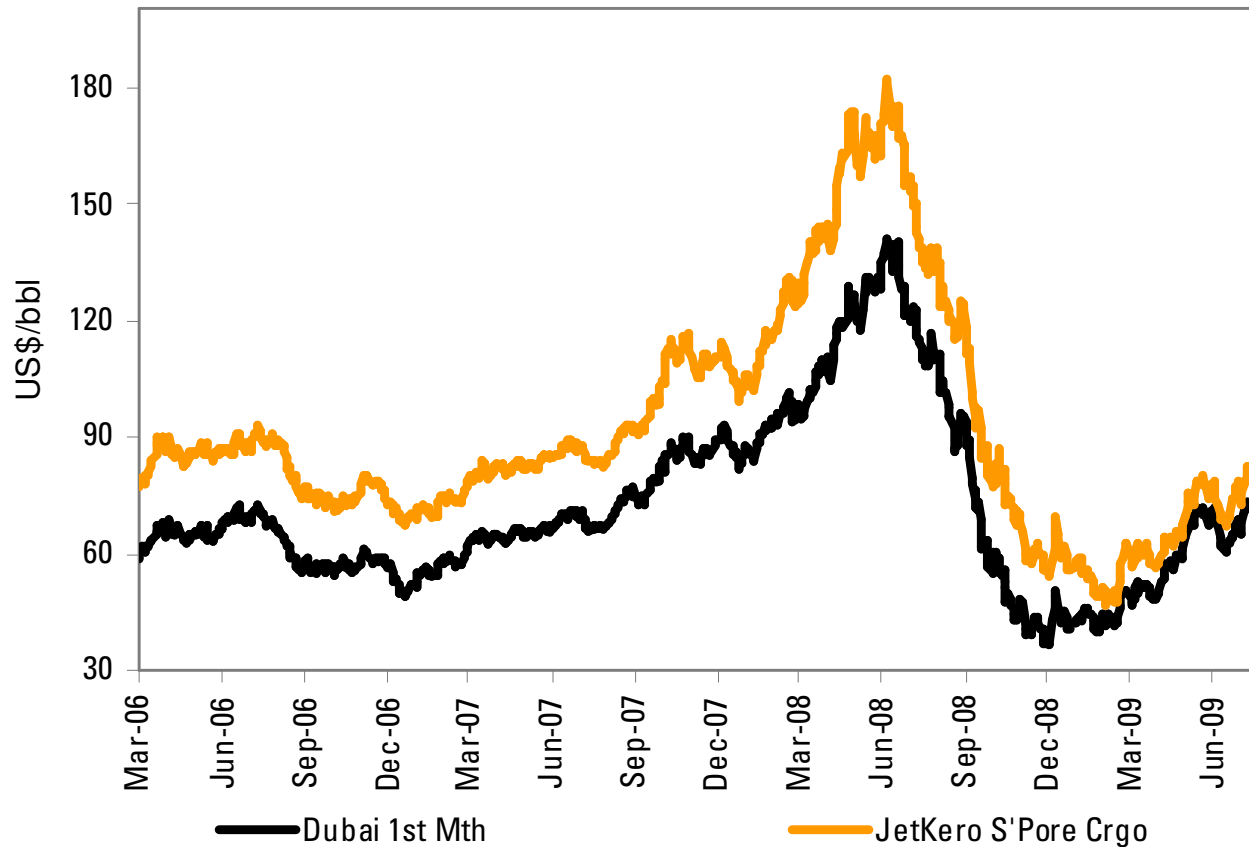


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Refined Products: Lagging on Weak Demand Factors

- Jet fuel demand weakness due to travel cuts, swine flu
- Prices may lag underlying raw crude oil costs

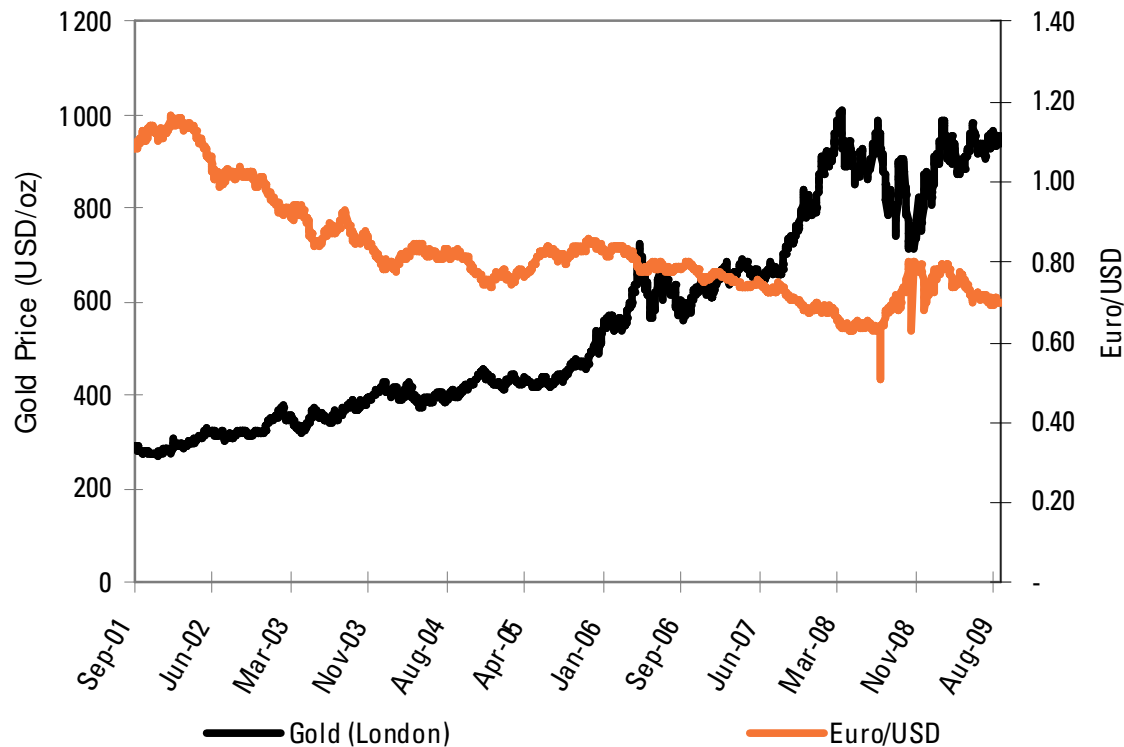


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Gold: Safe Haven Features

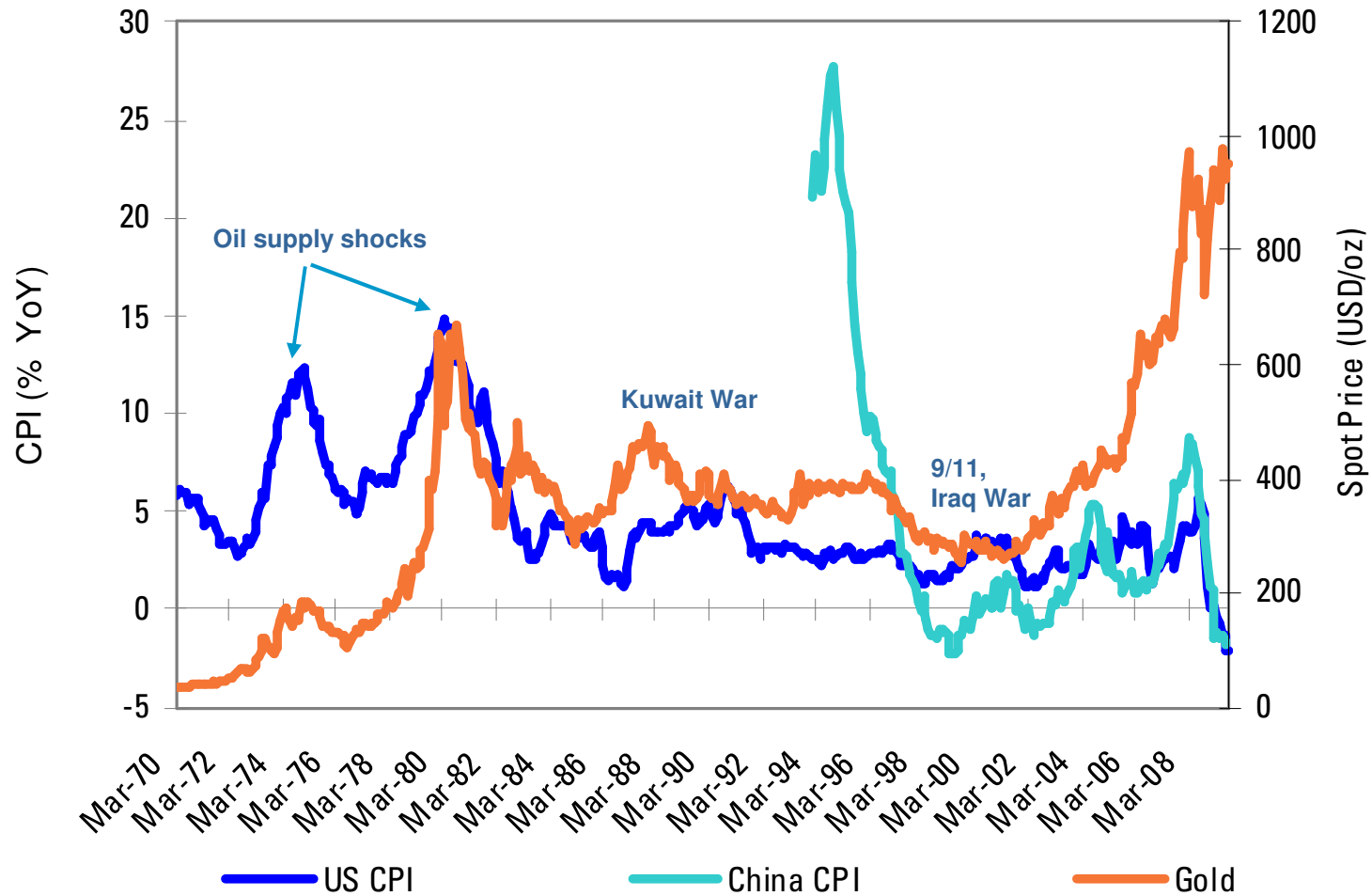
- While gold (& other precious metals) are also non-renewable resources, a large portion of gold is held by central banks and investors and not used
 - Defensive characteristics as a safe haven against USD



Source: Platts

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Gold: Inflation Hedge



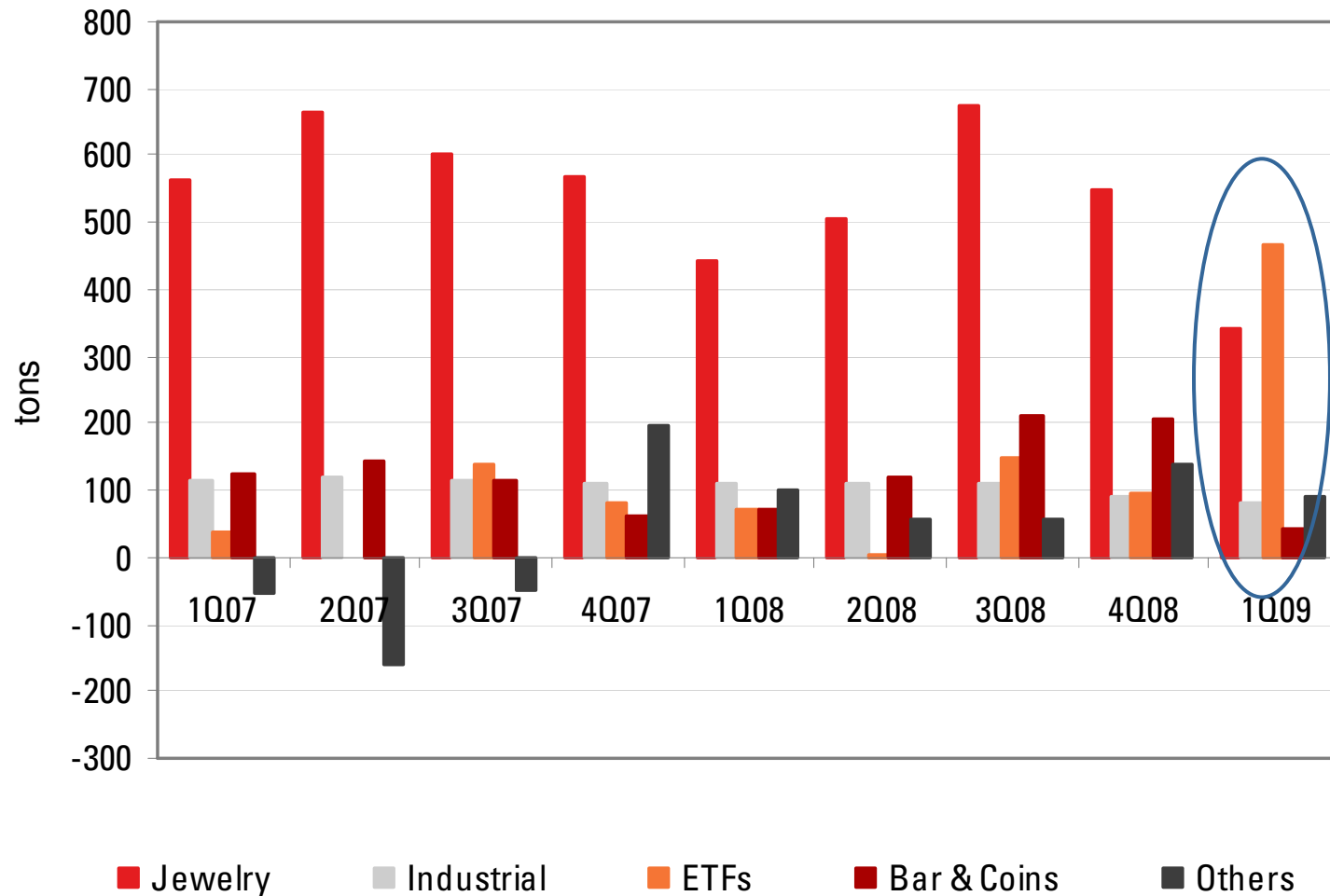
Source: Bloomberg

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Gold Demand – Physical and Investment



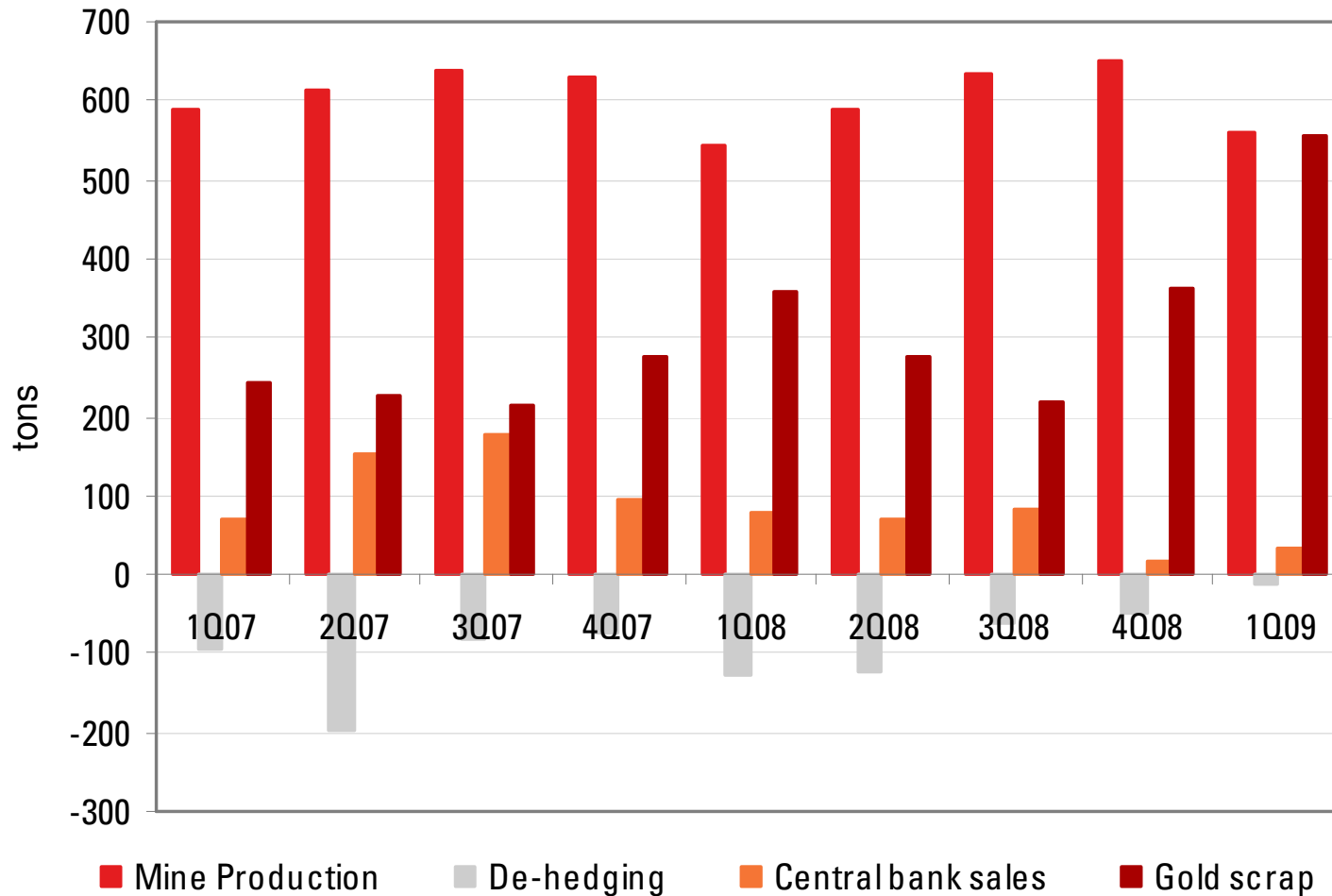
Source: World Gold Council

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Gold Supply – Central Bank Overhang?



Source: World Gold Council

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Precious Metals: Silver, Platinum are less defensive

- Because silver and platinum feature less as safe havens, they may not share gold's defensive qualities



Source: Bloomberg

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Summary: Key Characteristics & Considerations

- **Global production and sales, minimal differentiation, means a need to consider global demand & supply balances**
- **Relatively lengthy investment cycles leads to greater economic sensitivity**
- **Short term considerations include inventory levels, new capacity, specific demand factors**
- **Mid-Long term considerations include renewability, technology developments, global demographics, government policy**

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Investing in Commodities

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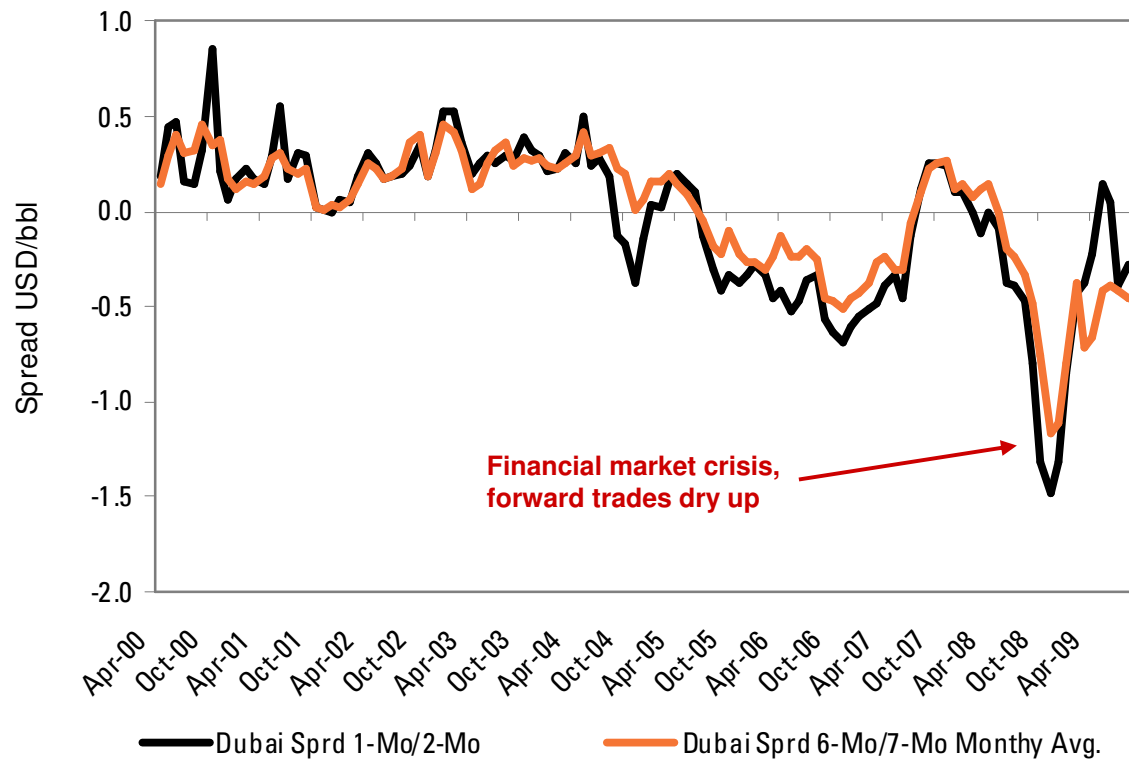
Investing in Commodities – what are the options

- **Commodities**
 - Futures contracts
 - Volatile
 - Requires relatively sizable minimum
- **Precious Metals**
 - Coins, bars
 - Bank certificates
- **ETFs and Commodity Funds**
 - More easily accessible
 - May be quoted but not a company, should mirror more closely the underlying commodity prices
 - Offers diversification
 - Funds may have high upfront fees, management bias
 - Tracking errors
- **Equities: quoted commodity companies**
 - Indirect access to commodity prices, exposure to equity swings
 - Need to analyze company

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Futures: Contango vs. Backwardation

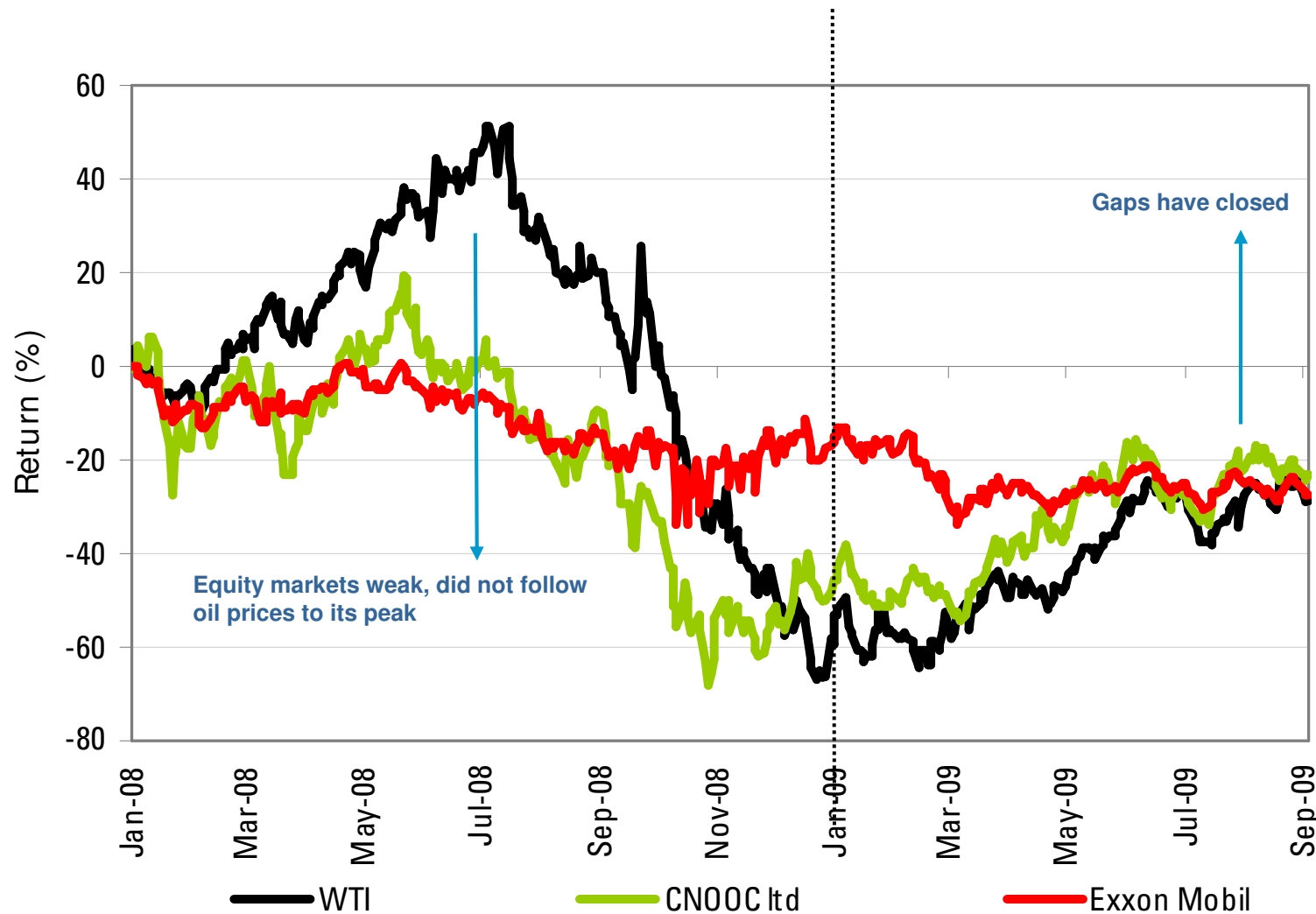
- Contango means that future prices of a commodity are higher than spot price – incentive to store (also a potential for immediate supply); also implies peak oil theory
- Backwardation means spot price is higher than futures price – incentive to sell on spot (potential shortage of immediate supply)



Source: Platts

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Commodity vs. Equity: WTI vs. Share Prices



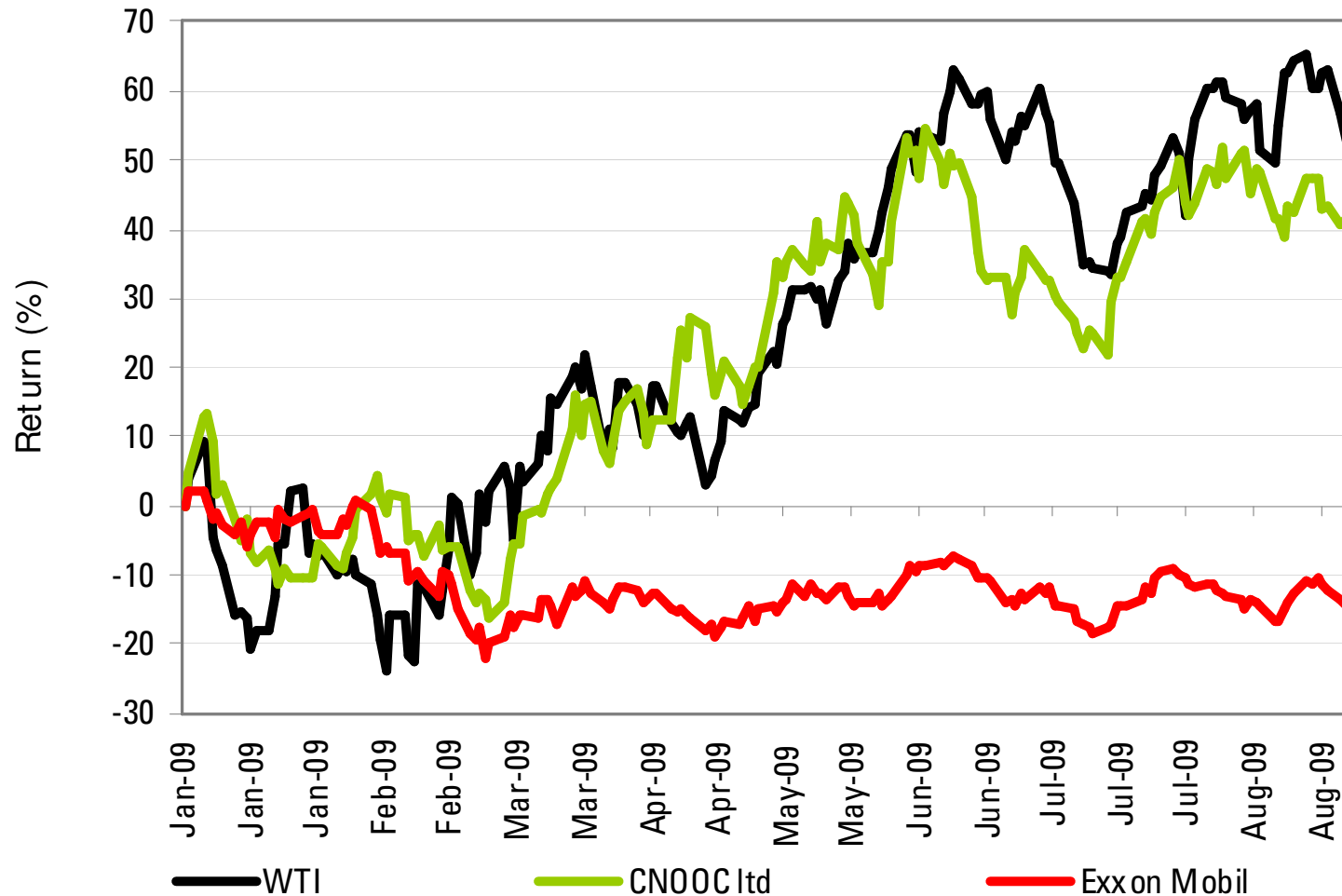
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Commodity vs. Equity: Recent WTI vs. Shares Prices



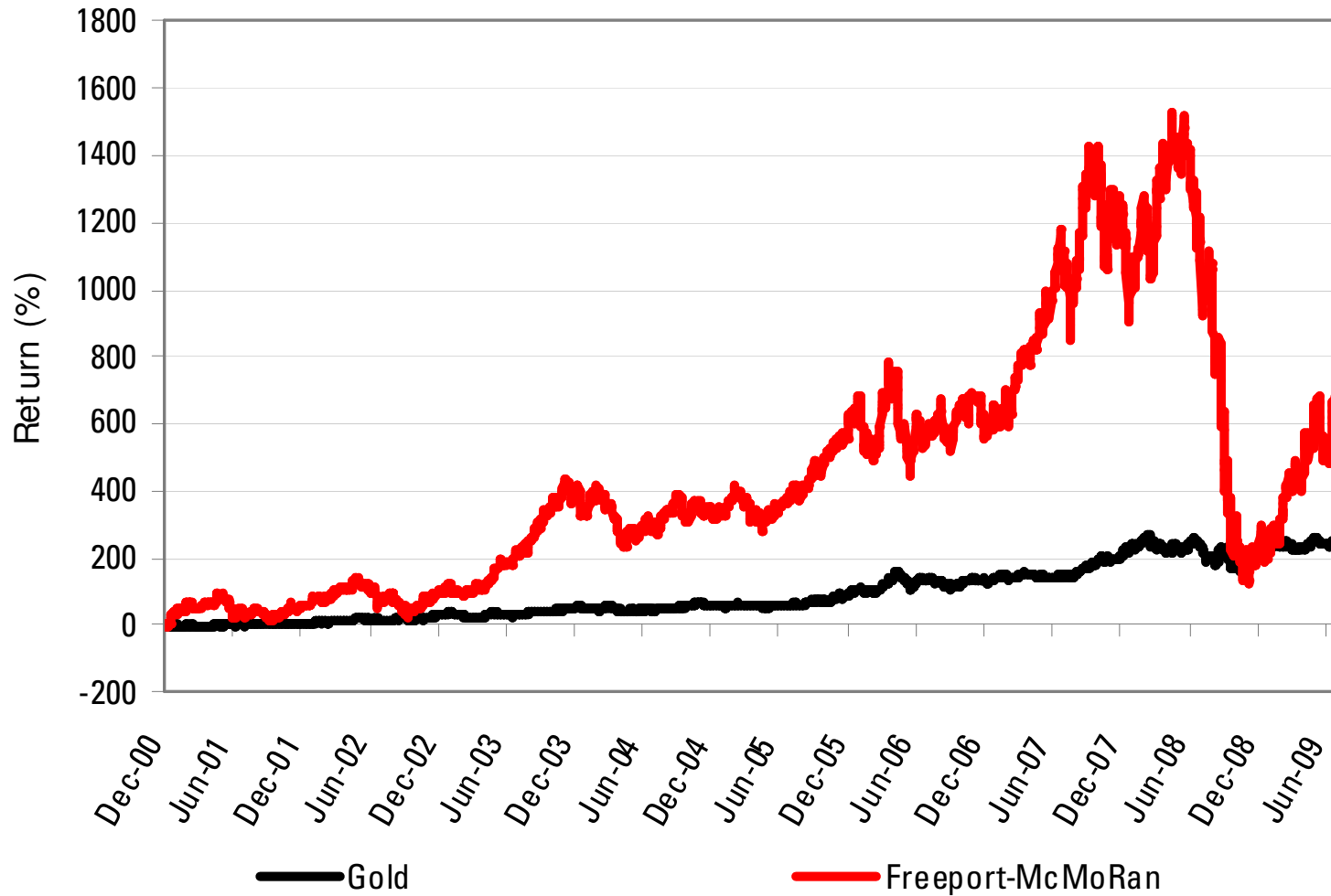
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Commodity vs. Equity: Gold vs. Freeport-McMoRan



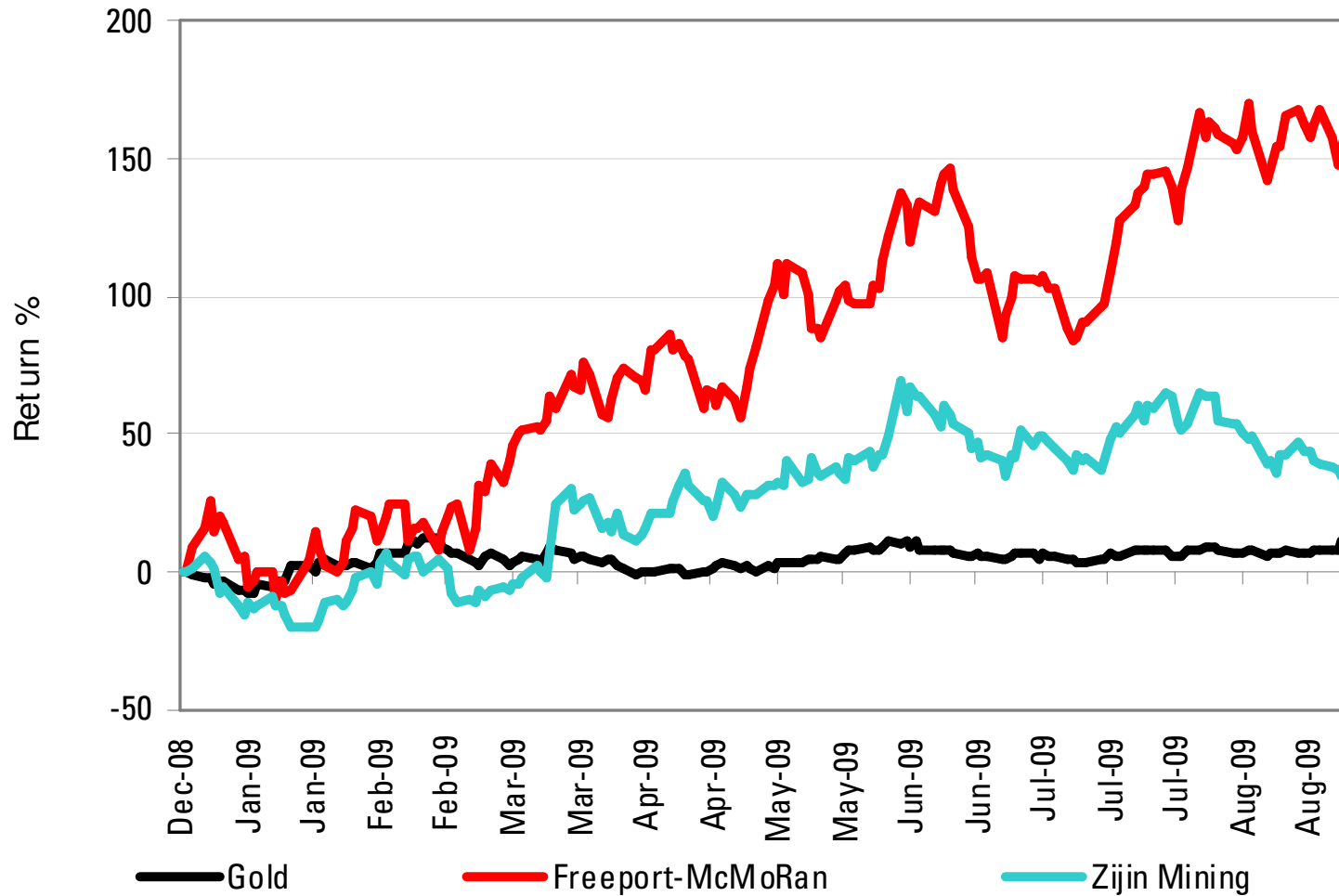
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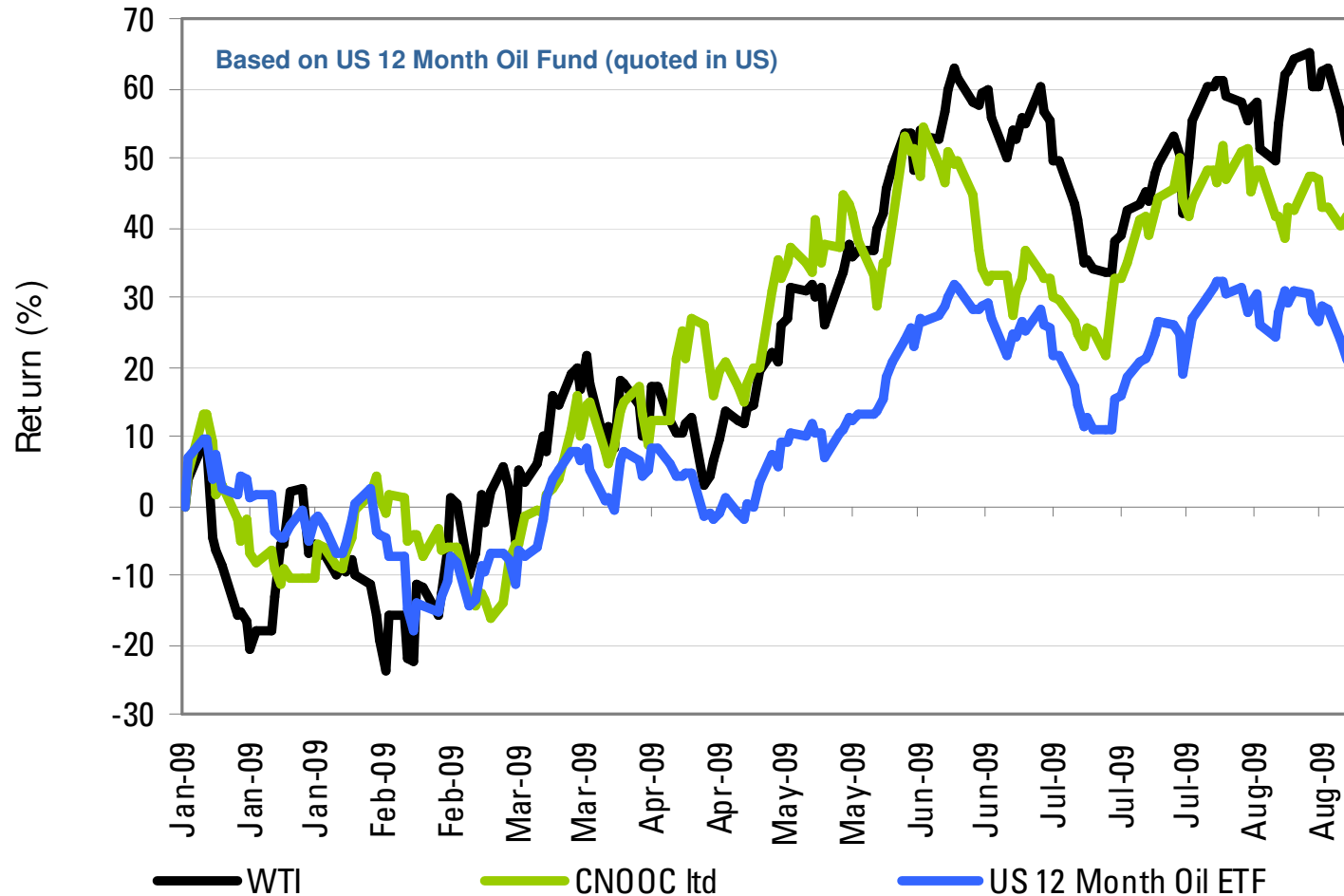
Commodity vs. Equity: Gold vs. Freeport-McMoRan, Zijin



Source: Bloomberg

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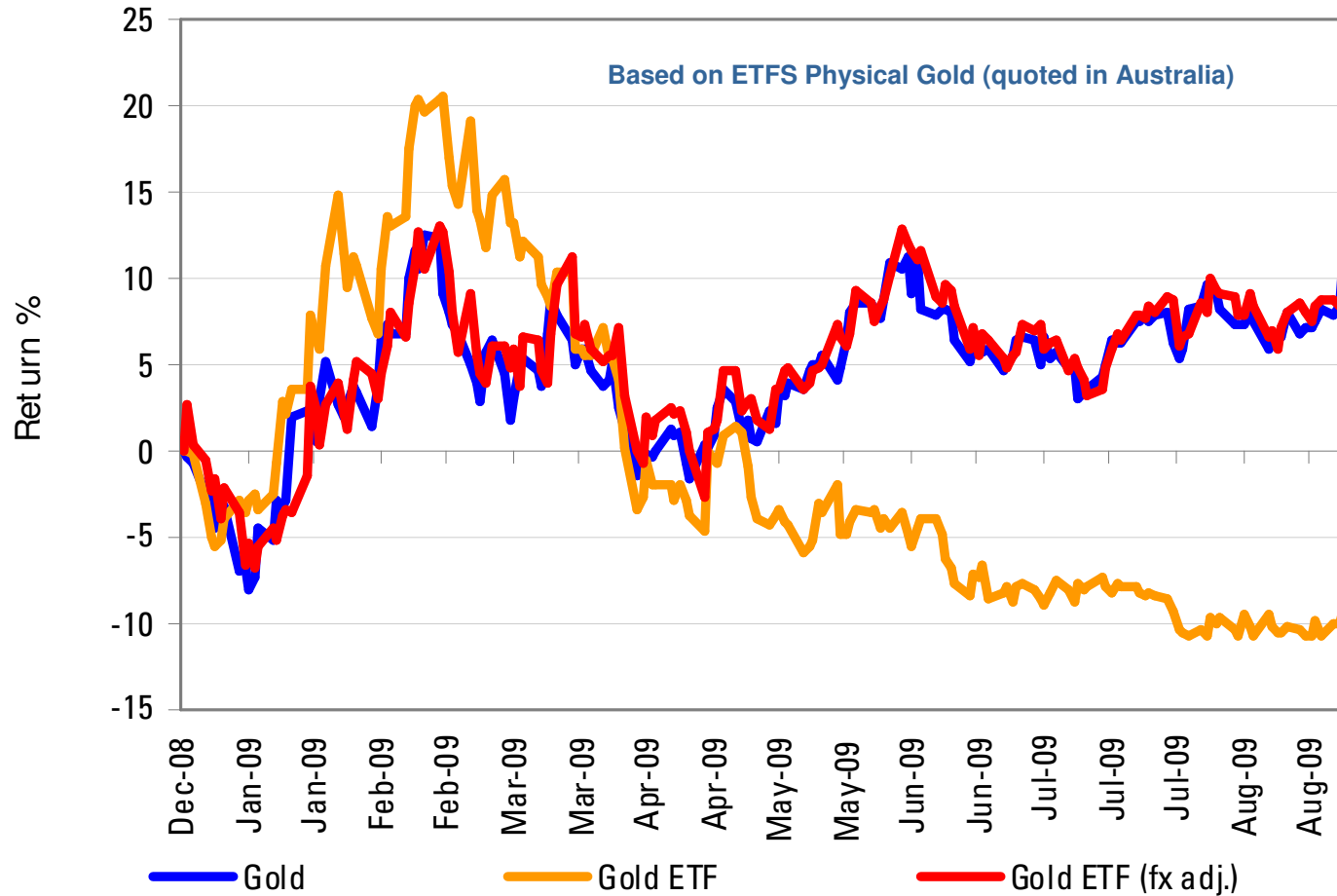
Commodity vs. Equity vs. ETF: Oil



Source: Bloomberg

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Commodity vs. ETF: Gold



Source: Bloomberg

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Commodity Stocks: Considerations

- **Determine company with most appropriate exposure**
 - Upstream
 - Downstream or integrated
- **Gold Stocks may be more volatile than gold price**
 - Hence, not an appropriate substitute for gold's defensive attributes
- **Analysis of company's value is still required**
- **Movement will be subject to equity market fluctuations**

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How to Analyze a Commodity Company

- **Establish the outlook for the commodity: Macro, supply vs. demand factors**
- **Review company specific factors: operational and financial (eg. reserves, output growth strategy, debt level, etc.)**
 - Self reliant
 - Feedstock flexible (in the case of downstream producers)
- **Examine the financial statements**
 - Operational efficiency
 - Cash flow vs. earnings

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Commodity Stocks: Suitable Valuation Methods

- **Reserves**

- Accepted audits of reserves (eg. P1, P2 for oil)
- Likely replacement ratio
- Comparative Ratio: Market Cap to Reserve

- **Discounted cash flow value**

- Current and future cash flow streams
- Note that valuations are more often inaccurate than not due to the difficulty in forecasting commodity prices

- **Relative value**

- Market ratios (PER, P/BV, ROE, Div Yield)
- Peer group ratios (EV/EBITDA, PER, P/BV, ROE)
- Recent M&A values

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Case Study: S&P's Oil & Gas Outlook

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Start with Recent Developments

- **Current environment:**

- Fall in global energy demand
- >50% YoY decline in crude oil prices plunged beginning in the latter half of 2008
- OPEC and others cut supply but not enough to offset lower global demand
- Oil company budgets were cut, and it became difficult to expand oil and gas production

- **Impact of current trends on future supply:**

- Pessimistic about future supply trends – exerts upward pressure on oil prices

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Look at Demand Potential

- **Demand – who is buying, the macro growth**
 - Use of oil is sensitive to economic growth;
 - Slow US recovery
 - Growth to come from emerging markets
 - Rebound in China demand
 - 2009 global economy to contract -2.6%; rebounding 1.9% in 2010
- **Statistics may be obtained from a variety of sources, including research firms such as IHS Global Insight, government agencies such as the US EIA, the Paris-based International Energy Agency (IEA), and trade organizations such as the American Petroleum Institute (API).**

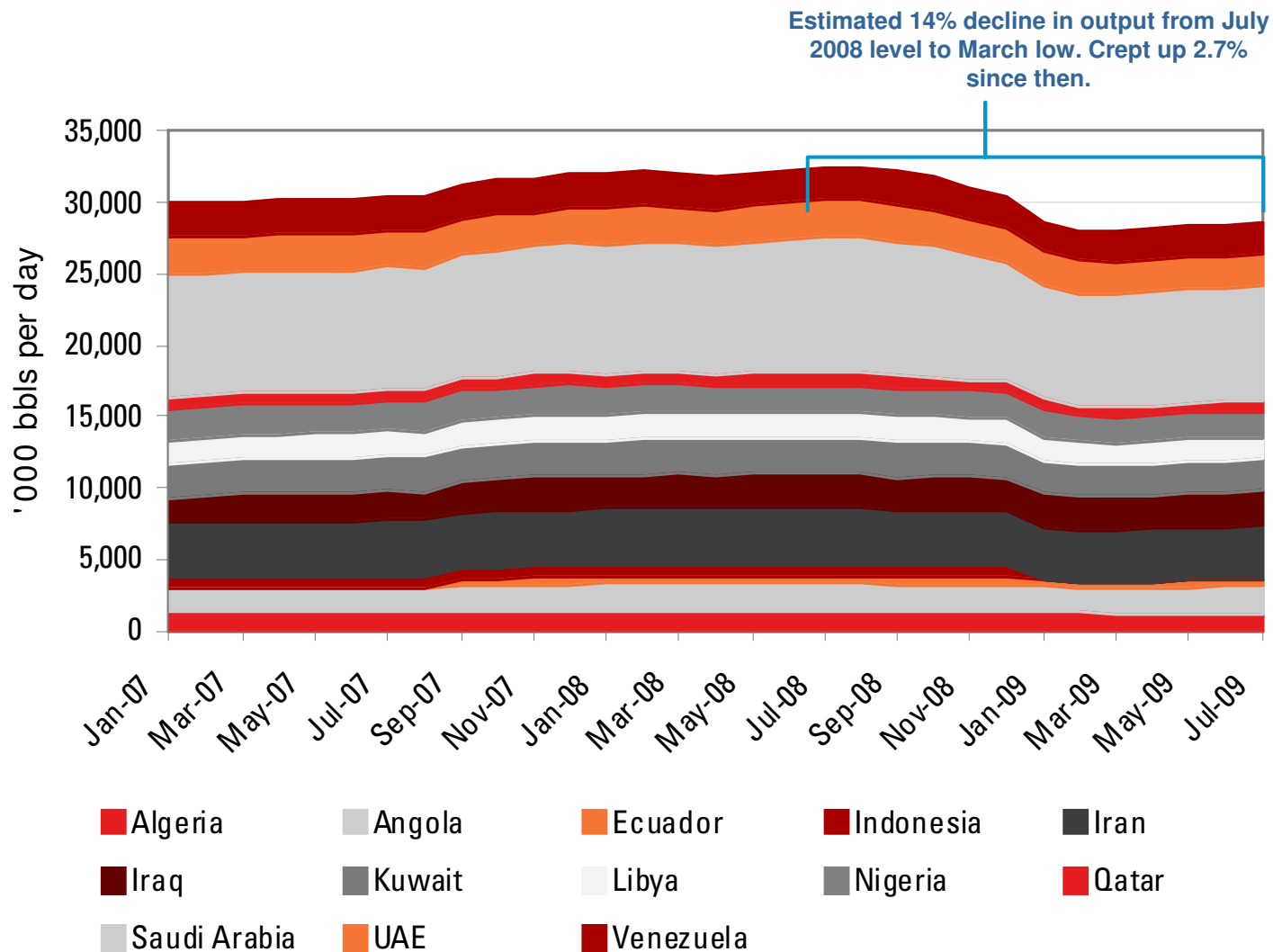
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Look at Supply Situation

- **Monitor inventory levels**
 - Reflects immediately available supplies
 - Greater than normal inventory level means a likely cap to upward price pressure
 - Look at the inventory levels of downstream products
- **Can mothballed capacity be brought on easily?**
- **Crude oil inventories are at higher levels relative to year ago:**
 - For the week ended July 10, 2009, US crude oil inventories climbed to 344.1 million barrels, above 5-year range and 47.6 mln bbls above 2008 level.
 - US EIA estimates that there were 22.9 days of cover for US crude oil during the week, compared with 19.3 days for the same week last year.

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OPEC may start raising output

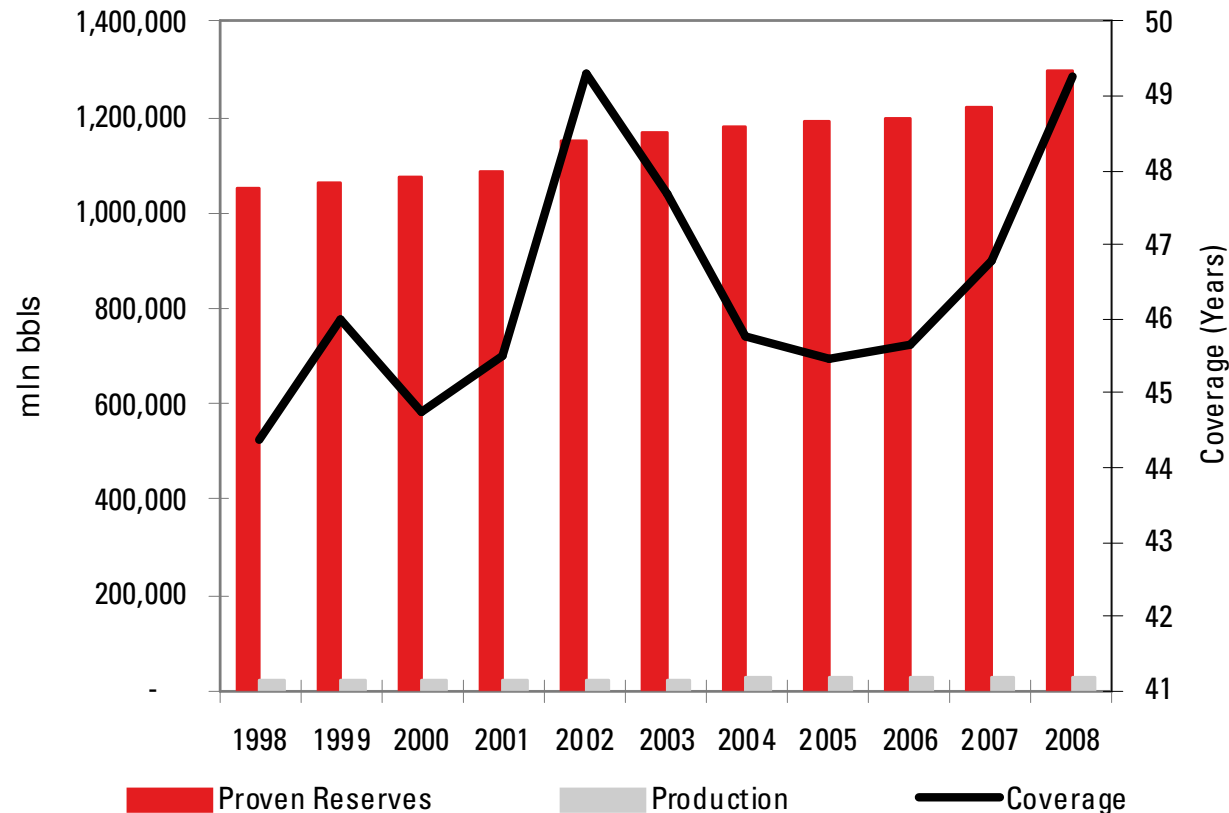


Source: OPEC, CEIC

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Supply Situation – Recent History

- Proven reserves grew at 2.1% CAGR (1998-2008)
- Production grew at 1.0% CAGR

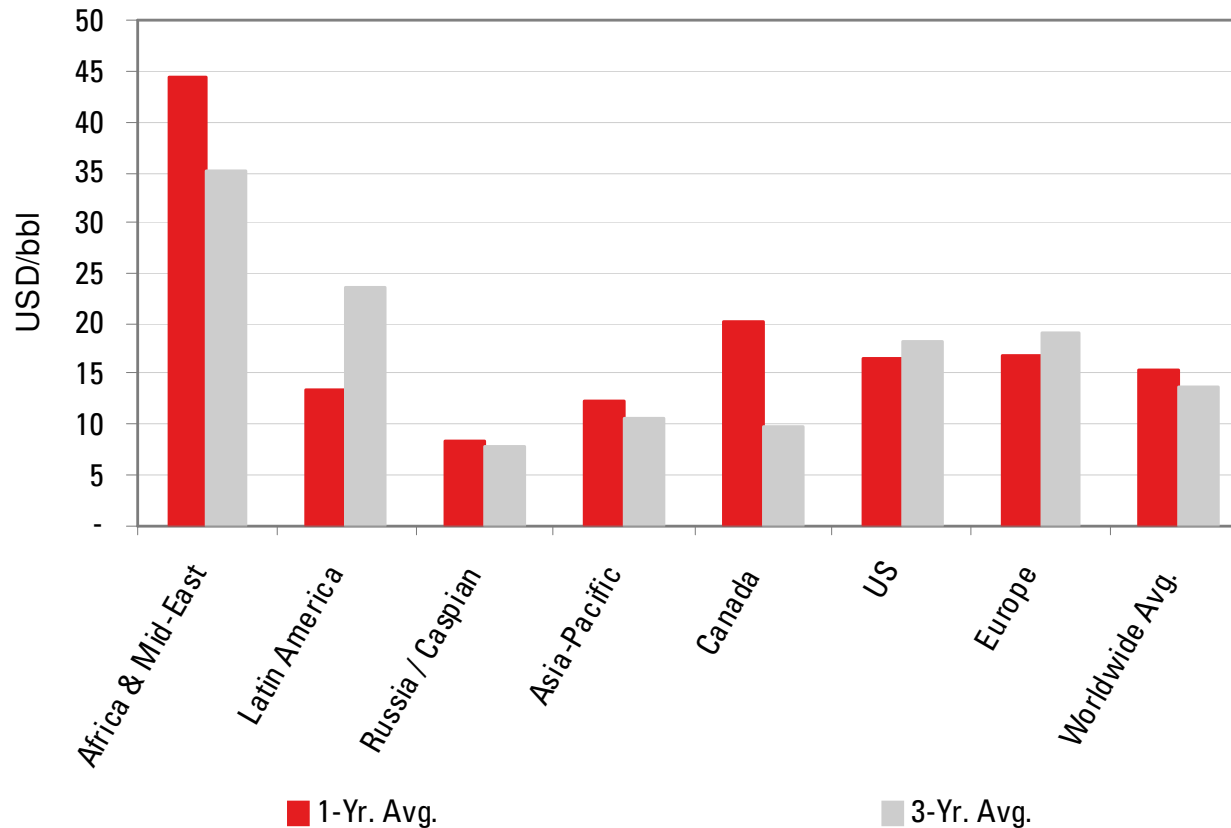


Source: OPEC, CEIC

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Supply Trend – Production Costs are Rising

- New discoveries are in harder to reach areas, deeper depths
- Average of 5-7 years for new discoveries to come into production



Source: IHS Herold, S&P Equity Research

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Outlook is for Slow Recovery in Prices

- **Sluggish price rise due to (1) slow demand recovery and (2) excess capacity**
- **Price support to come from reduced development activity that may hinder mid-term supply growth**
- **Equilibrium level of USD70-USD75/bbl**
- **Other factors/risks:**
 - Geopolitical risks
 - Speculation regulation
 - Weather

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Summary – Key Takeaways

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Key Takeways

- **Commodities are global products**
- **Pricing determination is key so the macroeconomic outlook, supply and demand are main factors**
- **Investing in commodities can be through physical holdings, equities or futures**
- **The choice of particular instrument may depend on individual risk appetite, budget, access**
- **Equities will need to be analyzed and valued**
 - Standard valuation methods are used

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