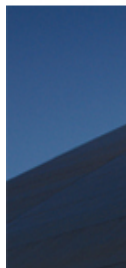


# Dark Markets and Oil Prices

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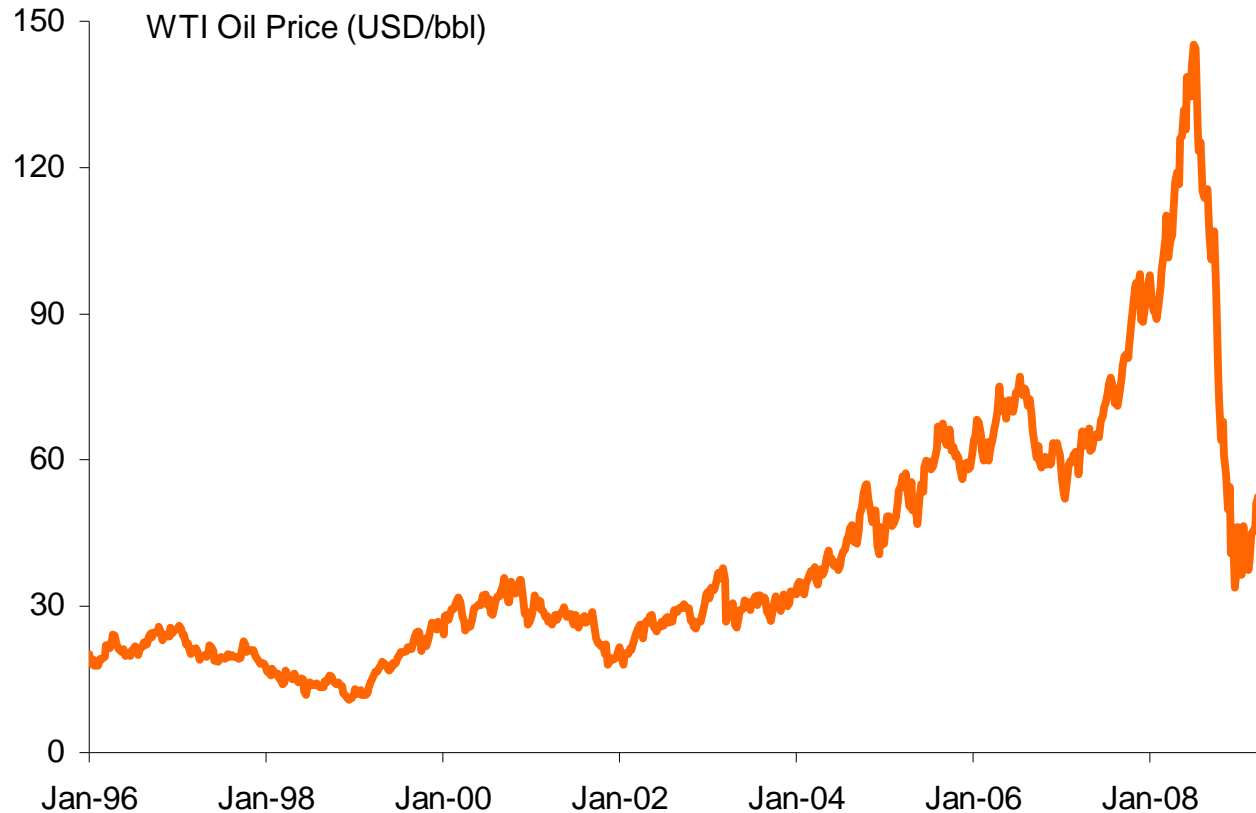
All prices are those current at the end of the previous trading session unless otherwise indicated. Prices are sourced from local exchanges via Reuters, Bloomberg and other vendors. Data is sourced from Deutsche Bank and subject companies.

DISCLOSURES AND ANALYST CERTIFICATIONS ARE LOCATED IN APPENDIX 1.

A Passion to Perform.

# Oil Prices Spiked

WTI oil prices rose sharply from early 2007 and then collapsed



Source: Nymex, Deutsche Bank

# Somebody Must Be Blamed

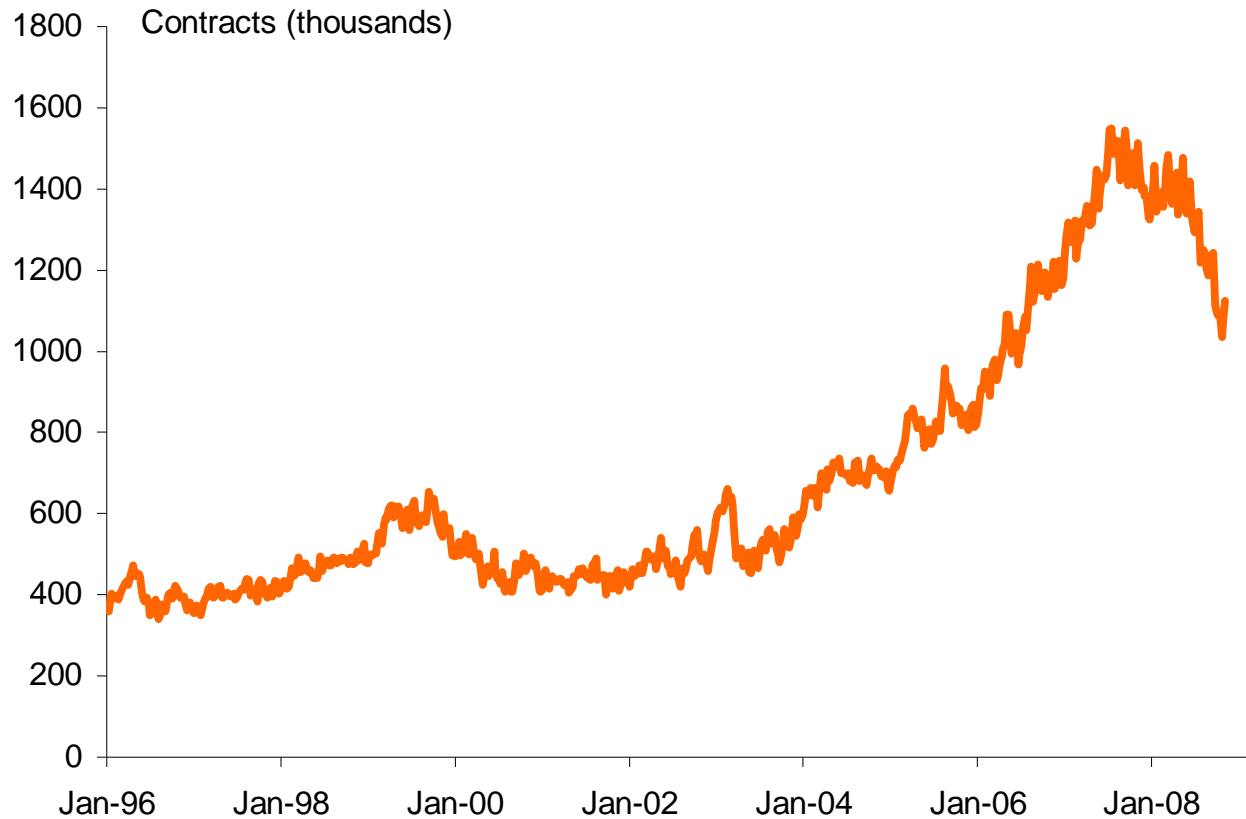
## The Dark Markets



# Speculation?

## Open interest in the Nymex crude oil contract

This shape looks a lot like the oil price graph.



Source: CFTC, Deutsche Bank

# But Was It Really All Speculators?

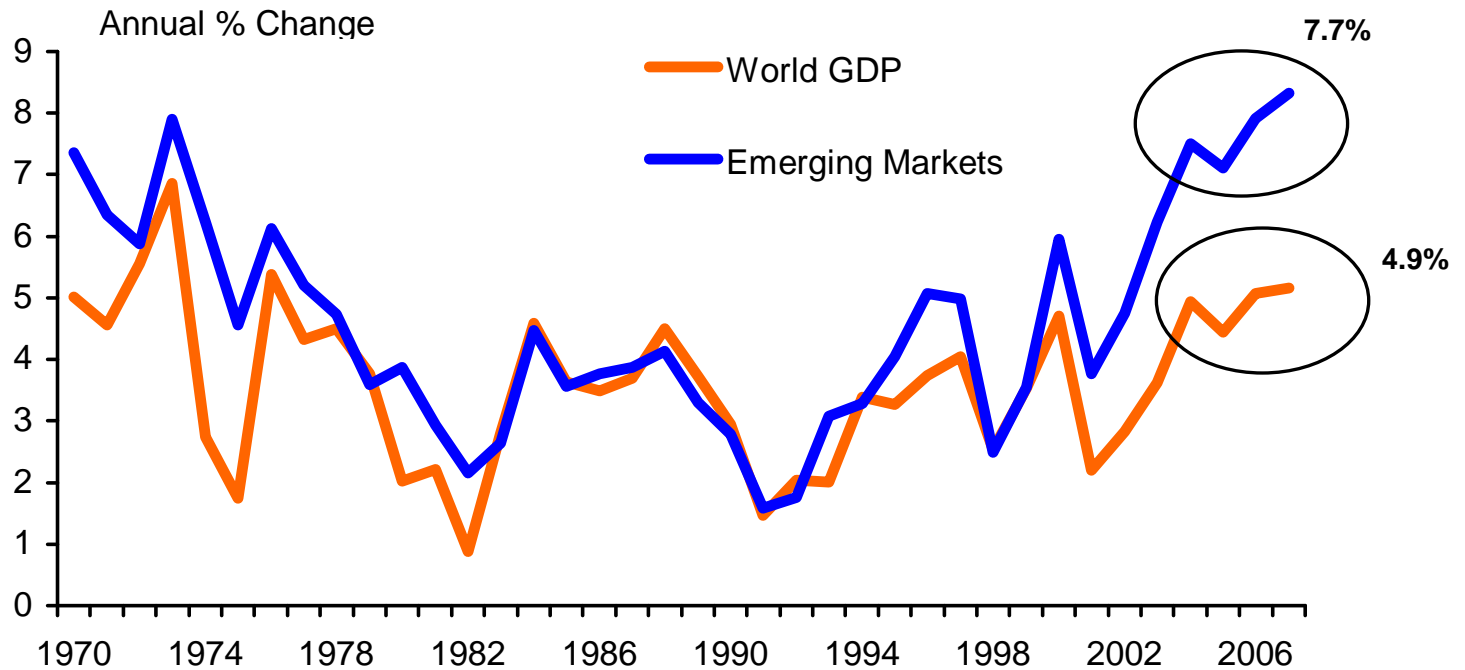
What other forces were at work in the oil price run-up?



# Global GDP Growth Went Ballistic

Strongest economic growth since the 1973 oil spike

The incredibly strong global economic growth from 2004 through 2007 drove the demand for all commodities upward, including oil.



Source: International Monetary Fund, January-2009

Deutsche Bank

# Demand Got Too High and It Wasn't Just Oil

## Baltic Dry Freight Index

The Baltic Freight Index has been a useful barometer for global growth cycles.

What about the role played by consumption subsidies in Asia and the Middle East?

And what about Strategic Reserve purchases?



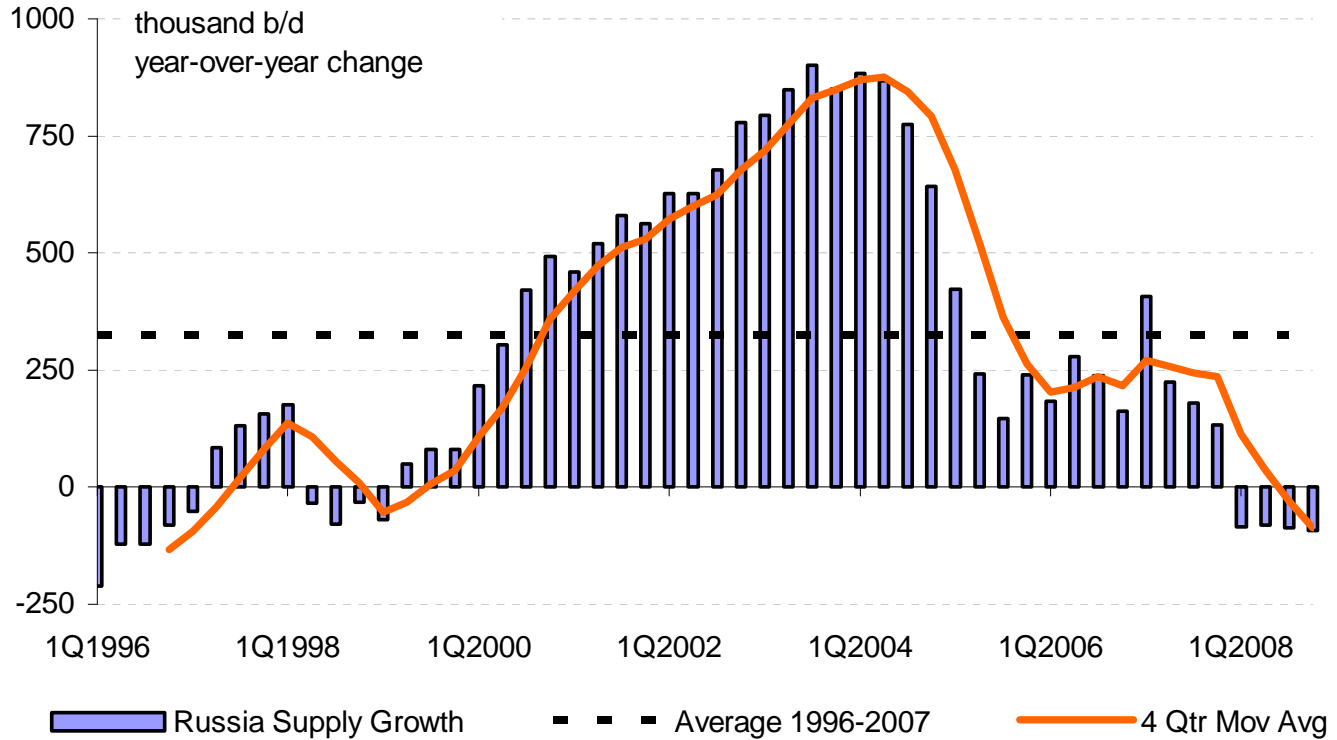
Source: Reuters, Deutsche Bank

# Supply Growth Got Too Low

## Russian Oil Production Growth

Pres. Putin's policies in his first term worked but in his second term were a disaster for oil output.

Venezuela  
Nigeria  
Iran  
Iraq  
Mexico  
North Sea



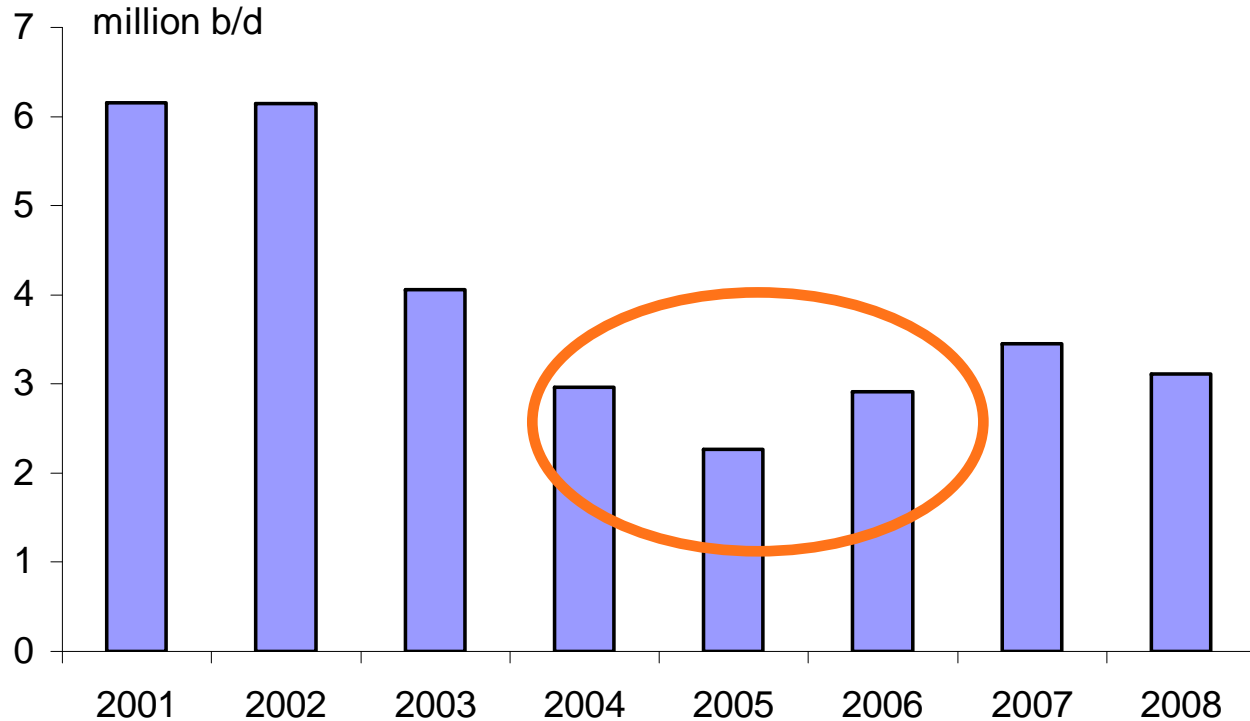
Source: IEA, Deutsche Bank



# OPEC Spare Production Got Too Low

As OPEC cuts quotas, spare capacity increases

The lack of spare OPEC production capacity played a strong role in the run-up in oil prices in 2003-08; this is reversing in 2009-10.

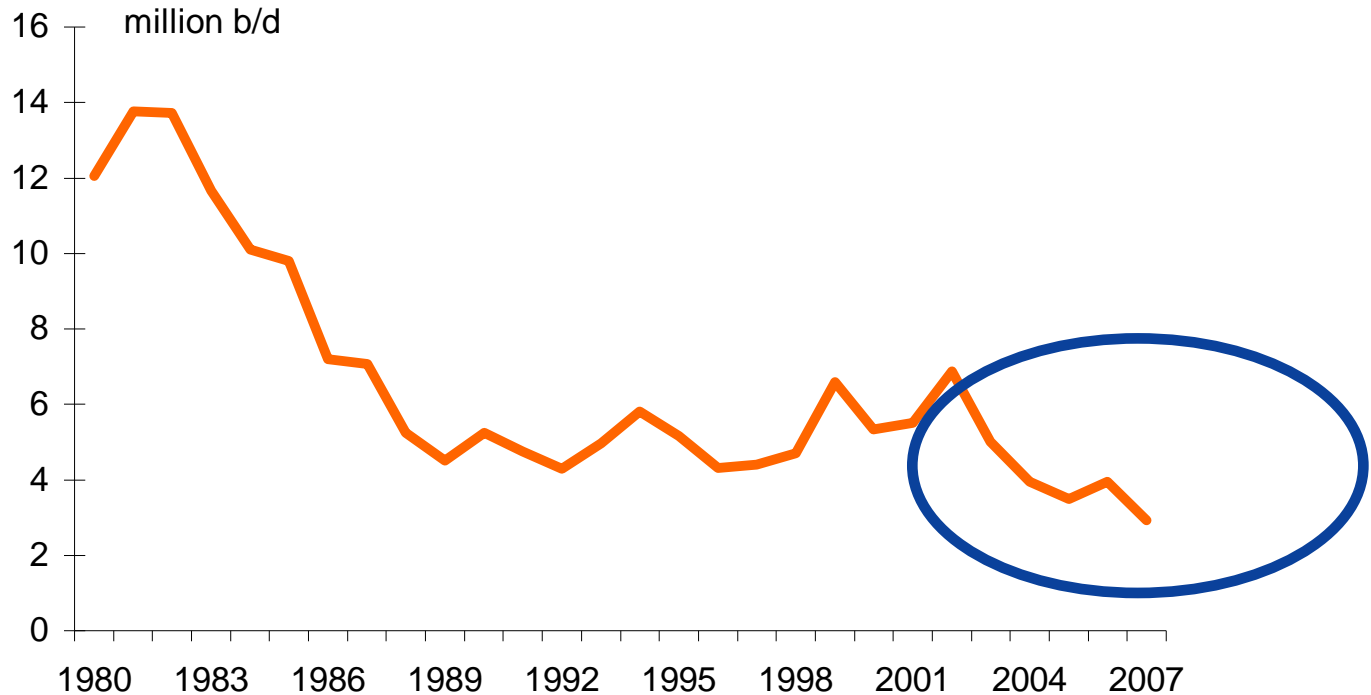


Source: IEA, Deutsche Bank

# Spare Refinery Capacity Got Too Low

Ability to refine high sulfur crude oil was exhausted

The lack of spare refining capacity played a strong role in the run-up in oil prices in 2007-08; this is reversing in 2009-10.

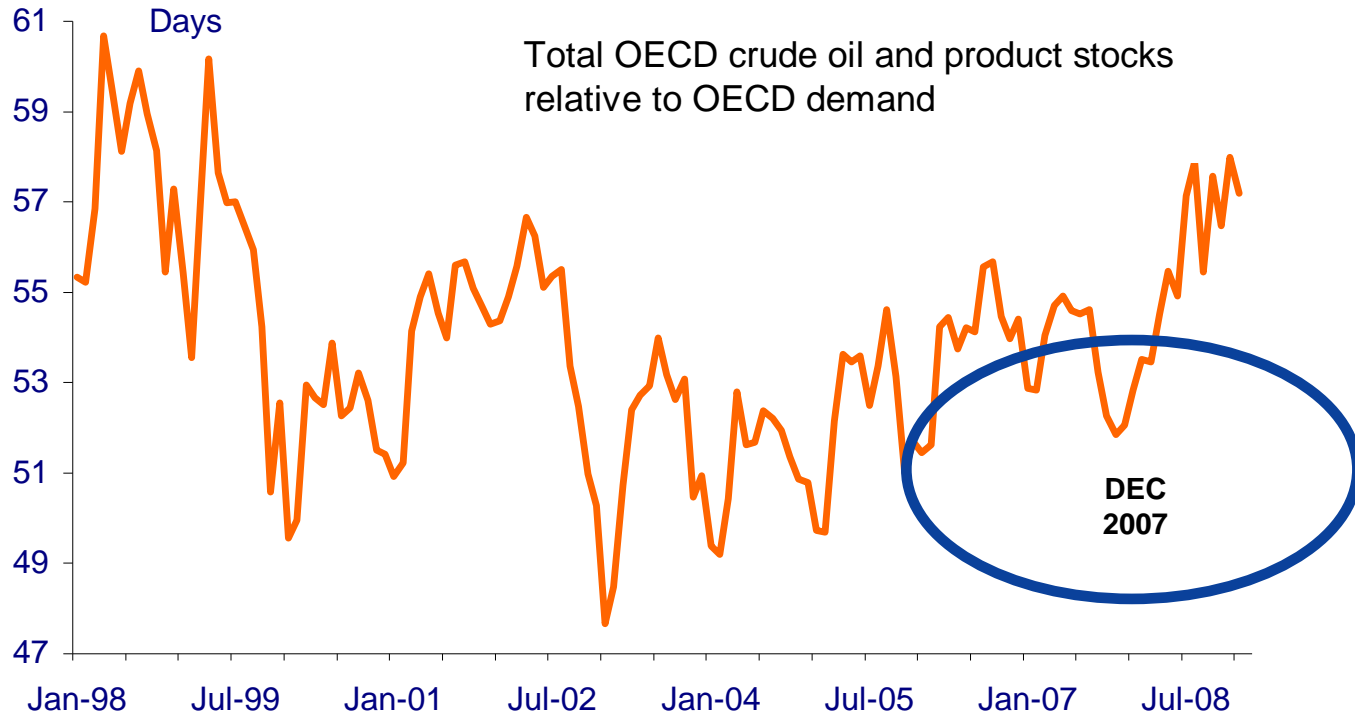


Source: BP Statistical Review, Deutsche Bank

# OECD Inventories Got Too Low

## Days forward cover of OECD crude and product stocks

A sign of weakness in the oil markets giving way to a more neutral stance.



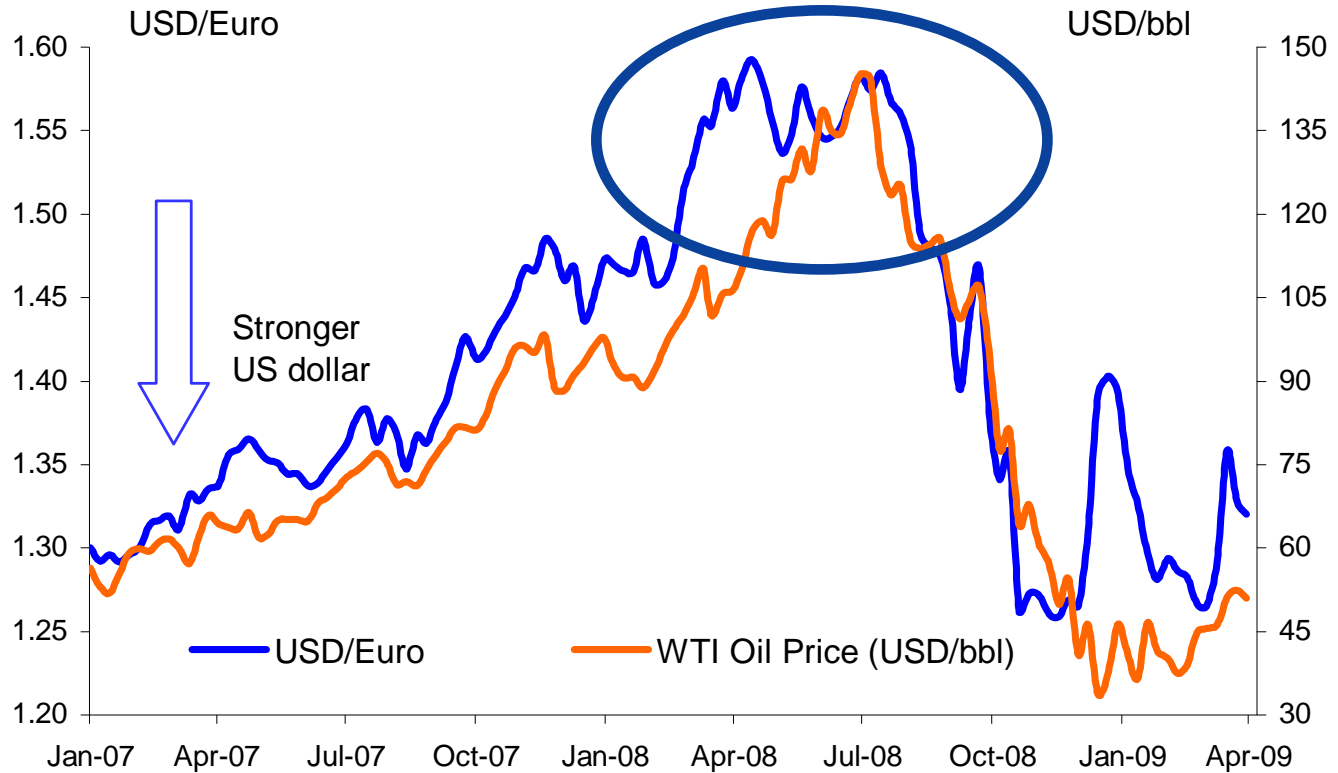
Source: IEA, DB Global Markets Research

# The Dollar Got Too Low

What is the shifting dollar doing to commodities and oil?

The dollar-oil regression is not perfect, but traders like it...

...and a study by the IMF says that gold and oil are sensitive to movements in the dollar.



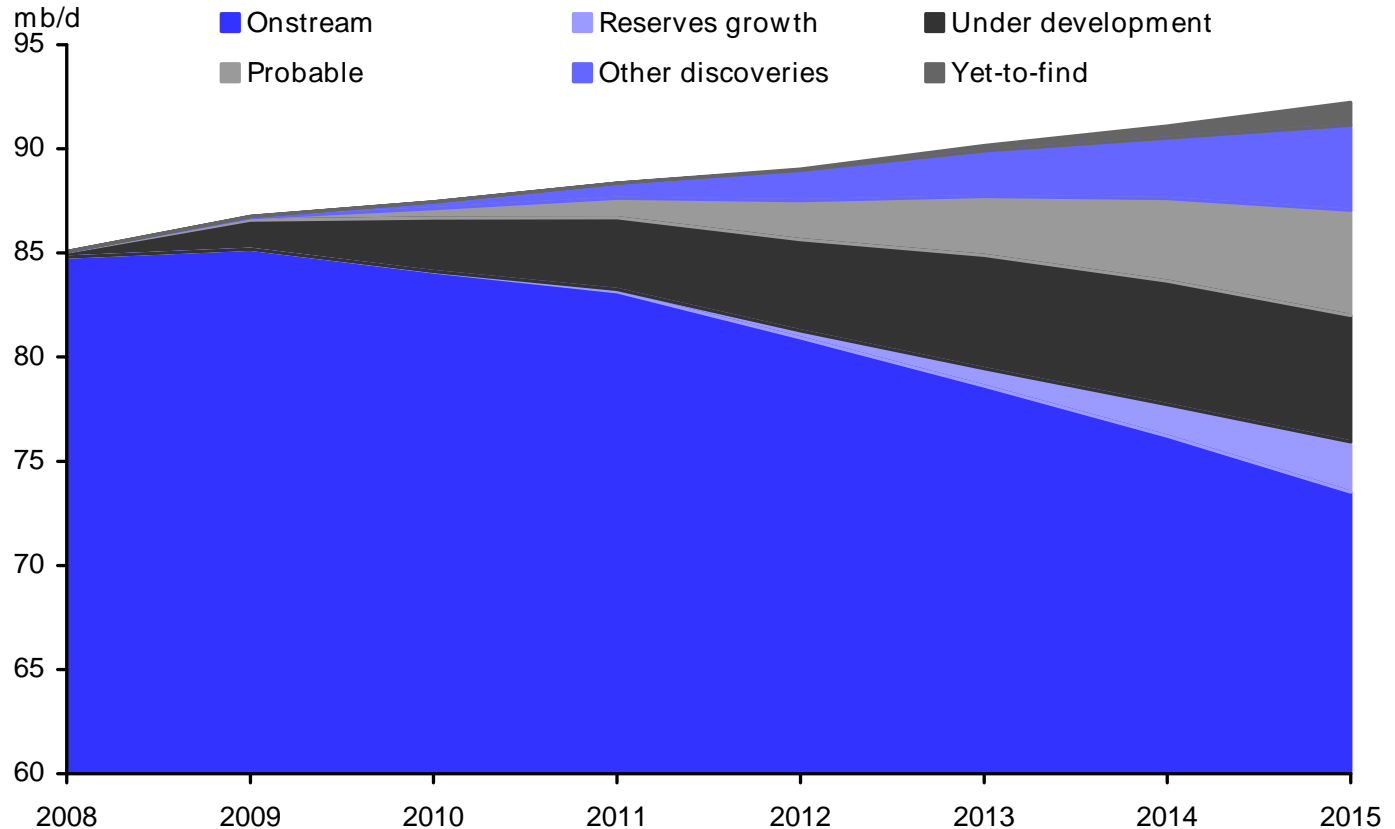
Source: Nymex, Bloomberg, DB Global Markets Research

# Declines Curves Got Too High

New developments are required for sustenance

Running hard to stay in place.

Estimates for global oil production suggest that, absent investment, today's global oil production base of 84mb/d will decline to near 75mb/d by 2015.



Source: Wood Mackenzie,  
DB Global Markets Research

# What Else?

Speculation may have played some role

- **Geologic Limitations**
- **Low Elasticities**
- **Time Delays**
- **Monopoly Pricing**
- **Scarcity Rent**

Source: James D. Hamilton, Understanding Crude Oil Prices, Energy Journal Vol 30, No 2, 2009

# Why Do We Blame Speculators?

Because it's fun to point fingers

...a more satisfying “sound-byte” than the complicated answer that involves a review of a large number of social and economic forces with inherent data limitations



# Adam Sieminski

Chief Energy Economist for Deutsche Bank, working with the Bank's global commodities research and trading units.

Drawing on extensive industry, government and academic sources, Mr. Sieminski forecasts energy market trends and writes on a variety of topics involving energy economics, climate change, politics and commodity prices. From 1998 to 2005 he served as the energy strategist for Deutsche Bank's global oil & gas equity team. Mr. Sieminski was the senior energy analyst for NatWest Securities in the US during 1988-1997, covering the major US international integrated oil companies. He received both his undergraduate degree in Civil Engineering and a masters in Public Administration from Cornell University.

He has been president of the US Association for Energy Economics and the National Association of Petroleum Investment Analysts. He is a member of the US National Petroleum Council, an advisory group to the US Secretary of Energy, and helped author the NPC's Global Oil and Gas Study: *The Hard Truths*. He also acts as a senior advisor for the Center for Strategic and International Studies in Washington and is an advisory board member of the Global Energy and Environment Initiative at Johns Hopkins / SAIS. He is a member of the London, New York and Washington investment professional societies, and holds the Chartered Financial Analyst (CFA) designation.





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