OPPORTUNITIES IN CHAOS

Interdependence-based Solutions for the Petroleum Industry of the 21st Century

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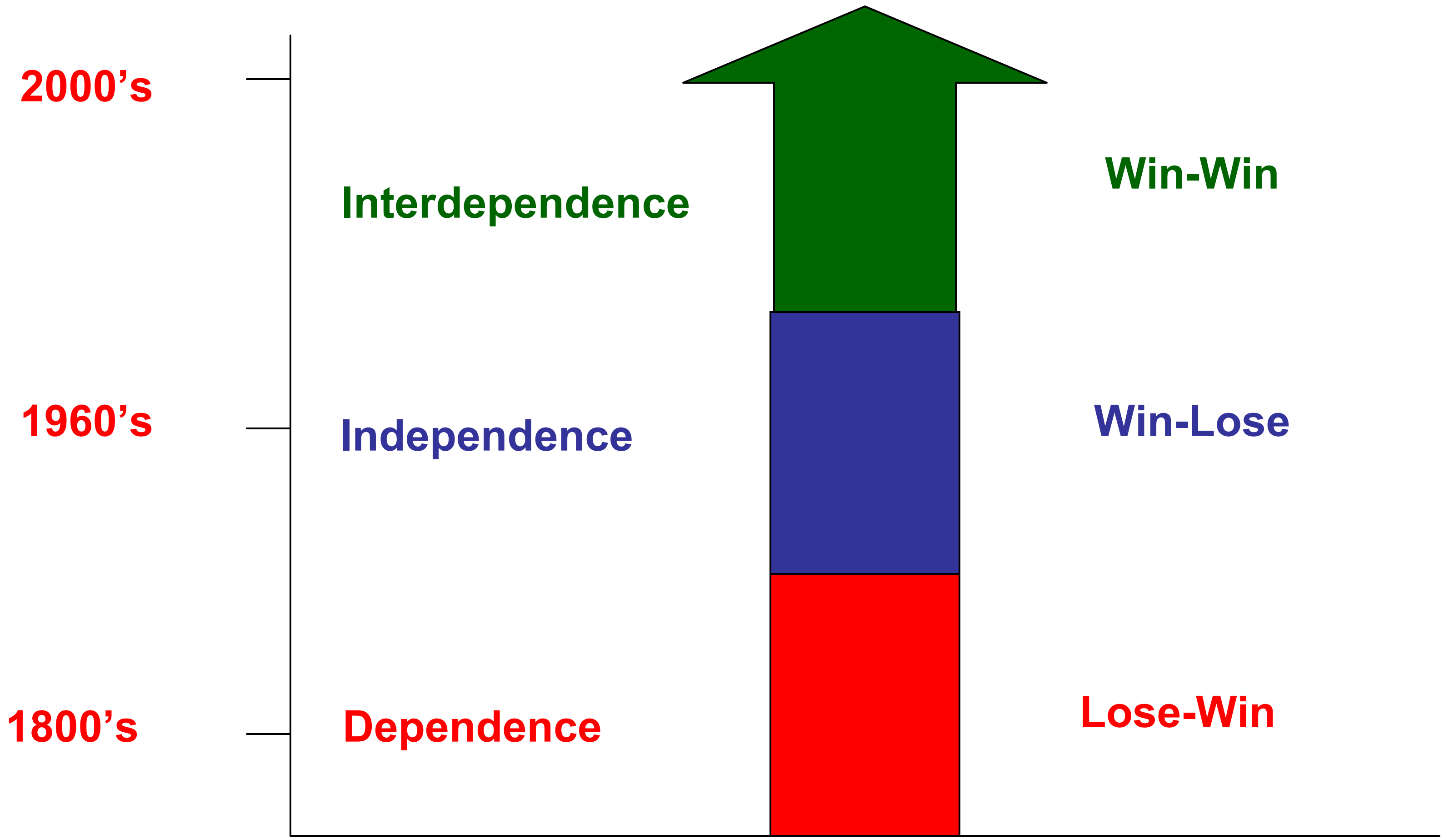
The Scale of Maturity



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The Factors

There are reasons for the rise…

- Imbalance between Demand and Supply
- The decline in the value of the US dollar
- Artificial restraints to prevent inflation impact over the years
- The rapid growth of Energy Funds of all sizes
- Political unrest in countries with the most supplies
- Lack of cooperation between Consumers & Suppliers
- Imbalanced regulations for protecting the environment
- Energy consumption habits of populations around the world
- The practices of IOCs/NOCs in developing new petroleum resources

The Factors

Imbalance between Demand and Supply

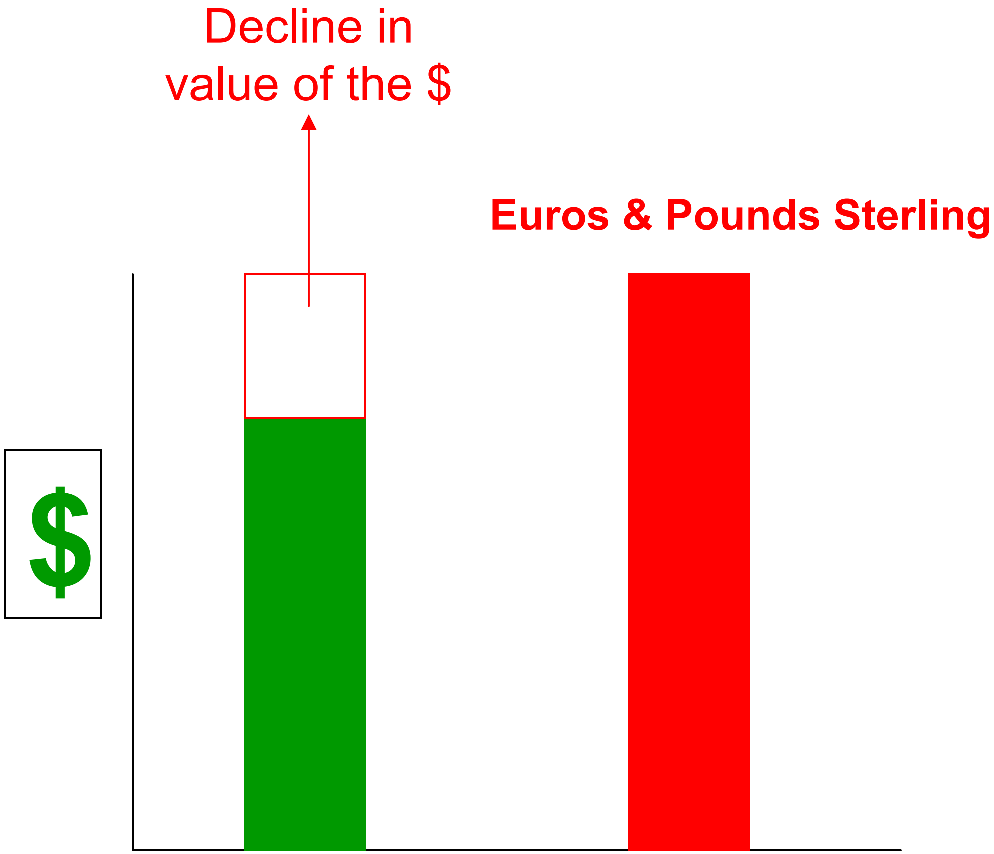
- Growth in demand significantly larger than expected
- Primary supply is declining
- Residual supply is limited
- Perceptions of Speculators
- Hoarding

The Factors

The Decline in the Value of the US Dollar

- High rate of decline in the value of the US$
    - Well over 20% decline (against major currencies)
- A barrel of oil is priced in terms of US$
    - The value it returns to its seller declines accordingly
- The purchase power of the exporting countries
    - Declines in line with the US$ decline
    - Requires remedial actions to remedy situation
- Balancing impact: those w/stronger currencies
    - Such as the European Union countries
    - But not the US

The Value of Pricing Currency



The Factors

Limiting Inflation Impact Over the Years

- The price of crude was not allowed to grow in line with:
    - Natural economic inflation
    - The inflationary rise in the cost of:
        - Finding, developing and producing oil
        - Transporting and marketing
        - Manufacturing and distribution
- The price control practices (by consumers/producers)
    - were all artificially imposed on the market

The Factors

The Rapid Growth of Energy Funds of All Sizes

- Declining interest income from the debt side of investing
- Volatile equity markets creating limited opportunities
- Perceived structural changes in the petroleum markets that:
    - **Among the financial investment houses**
    - **would create a long term imbalance between supply and demand**
    - **would ensure the continued growth well beyond current highs**
    - **would last for a long period of time**
- The need for new hedging platforms by other industries
- The resultant Energy Funds transact enormous speculation

The Factors

Political Unrest in Countries with the Most Supplies

- In major supplier countries
  - Nigeria, Venezuela, Iraq
  - Saudi Arabia, Russia, Iran, etc.
- Some real and some only perceived
  - Either way, it creates anxiety
  - Either way, there is a risk associated with the anxiety
- The nature of the unrest, real and perceived, is long term
- Supplies at risk (real/perceived) are hard to replace from anywhere else

The Factors

Lack of Cooperation between Consumers & Suppliers

- Consumer countries taxation of petroleum products
- Consumption habits of importing countries
- Regulations that advocates everything against oil
- The promotion of misaligned political agendas
- Mutual trust is in short supply and declining
- Each side is committed to misaligned solutions

The Factors

Imbalanced Regulations for Protecting the Environment

- Regulations developed by environmentalists in a vacuum
- Little, if any, input from:
    - economists
    - energy specialists
    - industrialists
- Regulations that adversely impact the petroleum/energy industry
- Regulations that do not effectively protect the environment
- Regulations that are politically inspired rather than objectively developed
- Regulations that impede needed investment in the petroleum industry

The Factors

World Populations' Energy Consumption Habits

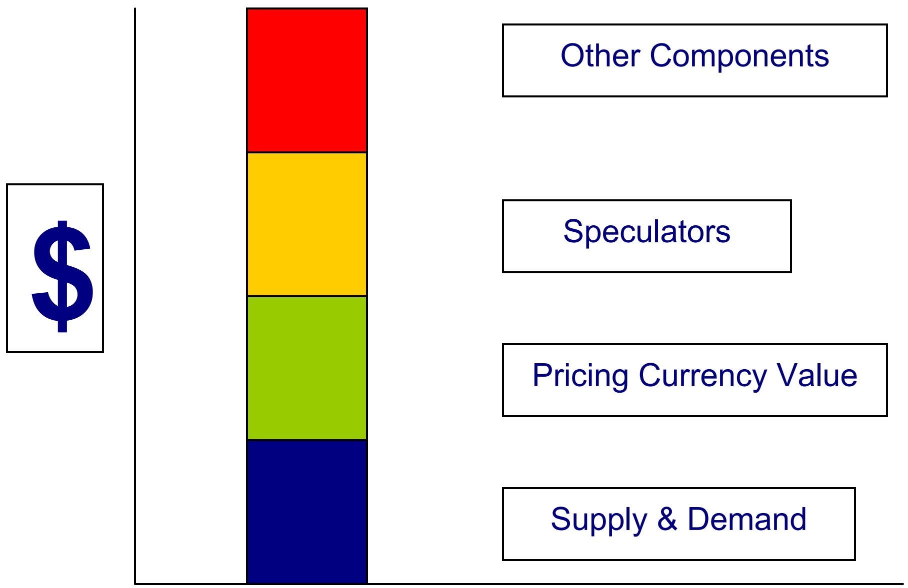
- Inefficient transportation vehicles and commuting habits
  - Larger and heavier vehicles are increasing
  - Fuel efficiency of these vehicles is marginal
  - Higher frequency of short trips
  - Longer distances to commute to and from work
- New increments of demand are from energy intensive economies

The Factors

IOCs and NOCs practices to develop new petroleum resources

- May be efficient, but not effective
- Extremely conservative in pursuit of opportunities
- Risk averse attitude is dominant in an industry that thrives on risk tolerance
- Facilities and competencies are not properly aligned with the rapidly growing heavier crude supplier (extra heavy < API 27)
- Practices of holding investments in the past decades are delaying the arrival of new crude to the market now

The Price of a Barrel of Crude Oil



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The Factors

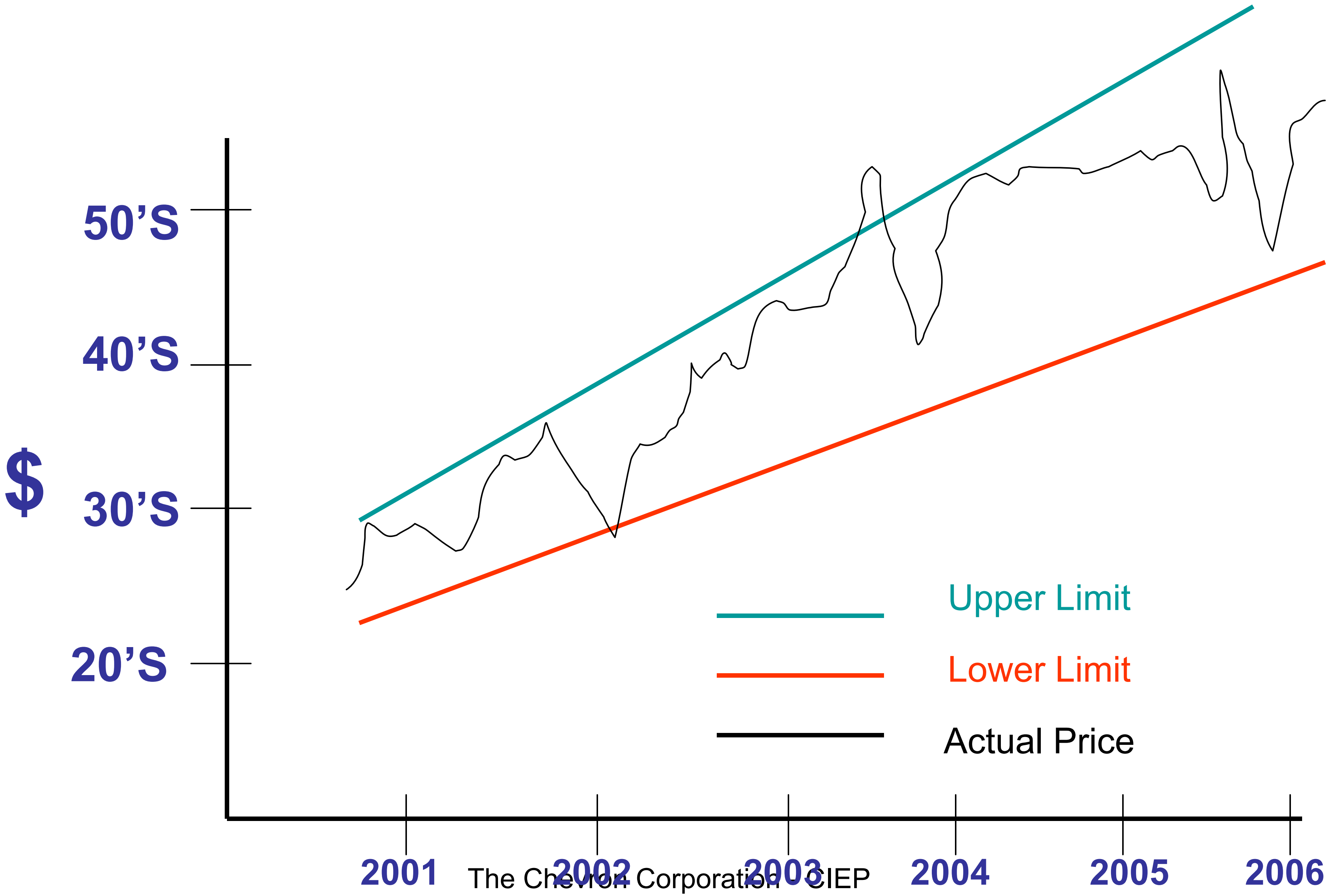
1974	1987	2005
$14.00	$26.40	$63.53
	$18.00	$43.32

On inflationary basis alone, at 5% per year, WTI should be at US$63.53 per barrel, without accounting for any other element of price variations

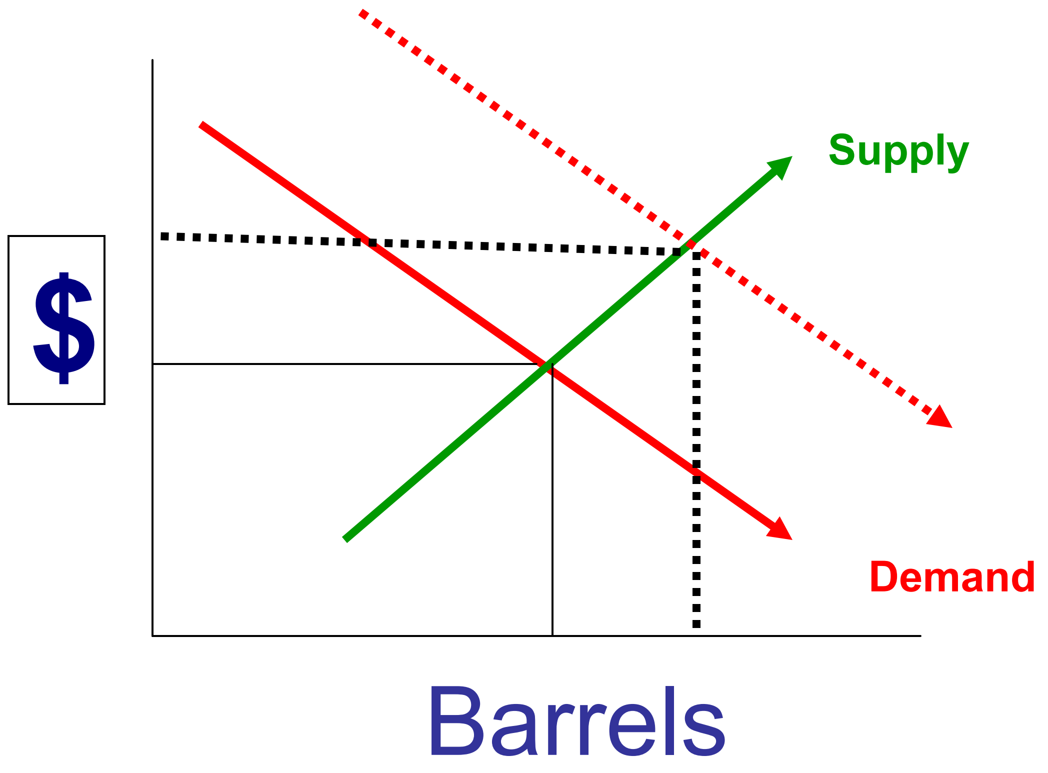
How long is it going to stay high?

- The root causes include many of a long term nature
- All scientific evidence leads to the belief that demand is rapidly rising, while the right supplies are rapidly declining
- To change the new realities takes a long time at best
- The new floor for crude oil prices is here to stay
- No one has ever dealt with a market of perceived shortages, only speculated ones – Lack of knowledge creates anxieties
- Anxieties contribute to higher prices

What Signs of Structural Changes?



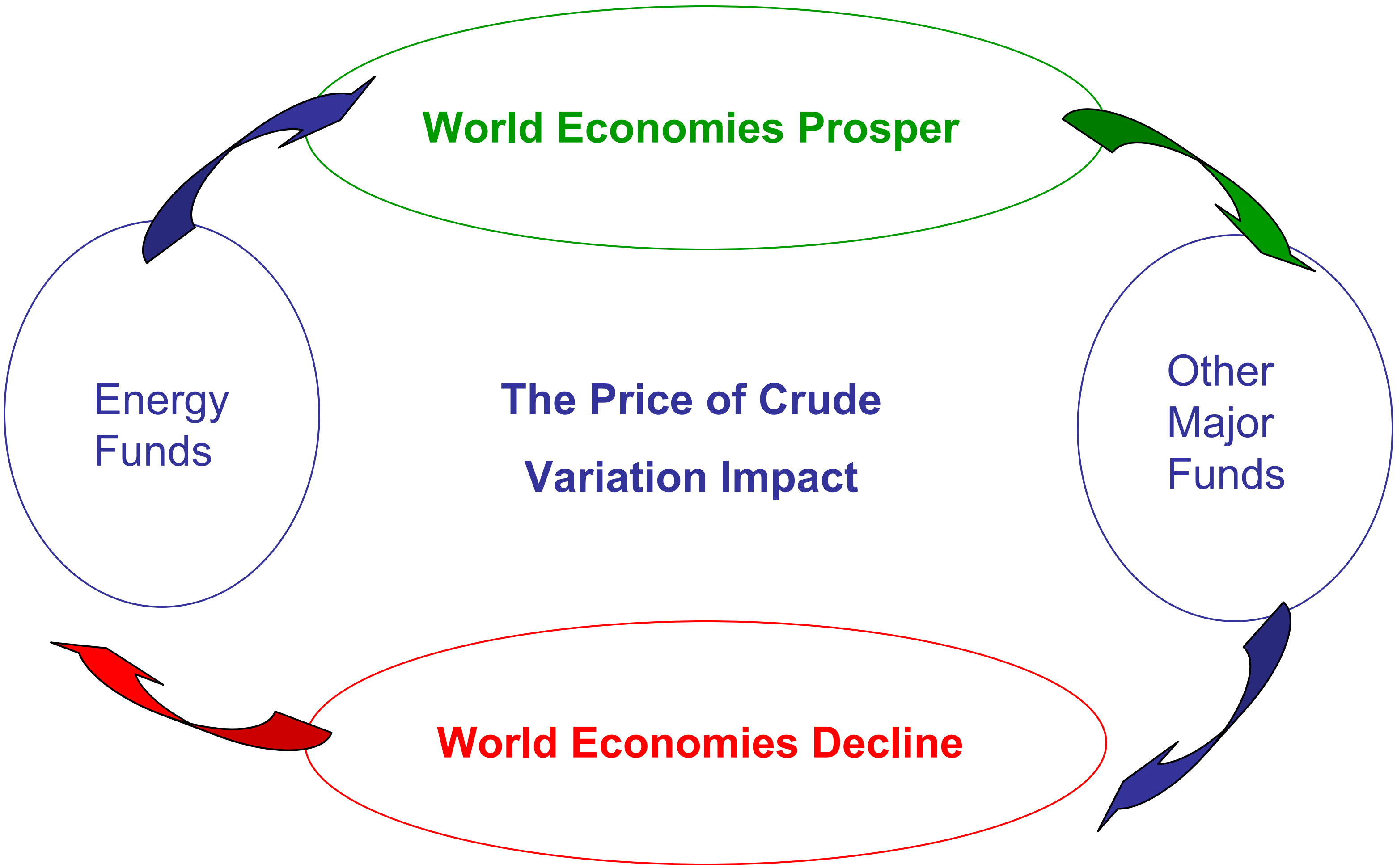
Supply & Demand
Realties and Perceptions



Speculators

- **The Energy Funds**
  - Growing in popularity as investment vehicles
  - Significant players in the market with significant influence
- **The Other Major Funds**
  - Utilize the petroleum market as a hedging tool
  - Play the debt/equity market and the commodities markets
  - Create value as capital migrates throughout the markets
- **The State of Other Investment Vehicles**
  - Other debt/equity markets volatility
  - Comparison of returns favors the Energy Funds
- **The Loop of Variations**

The Loop of Variations



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The Implications

- The markets are rapidly approaching a state of chaos
- IOC's access to oil and gas reserves is rapidly decreasing
- NOC's access to market infrastructure throughout the value chain is rapidly decreasing
- No single country or block of countries is capable of avoiding this chaos on their own
- No single company or alliance of companies is capable of avoiding this chaos on their own
- Surviving the chaos is possible with the right methods and tools

The Opportunities

- Reduction/elimination of petroleum market volatility
- Enhanced security of supplies and market access
- Increased revenues for exporting countries
- Increased net earnings for IOC's
- Integration throughout the value chain
- Creative mergers and acquisitions
- Creative Strategic Alliance Design
- Monetization of Extra Heavy Crude (API 17-25 degrees)
- Monetization of Non-conventional Crude (less than API 17 degrees)
- Development and monetization of other alternative energy sources
- Opportunities to eliminate the energy market perceptions that contribute to volatility through transparency and cooperation among the entire pool of stakeholders
- Opportunities to improve the energy industry image among the general public consumers

A Suggested Approach