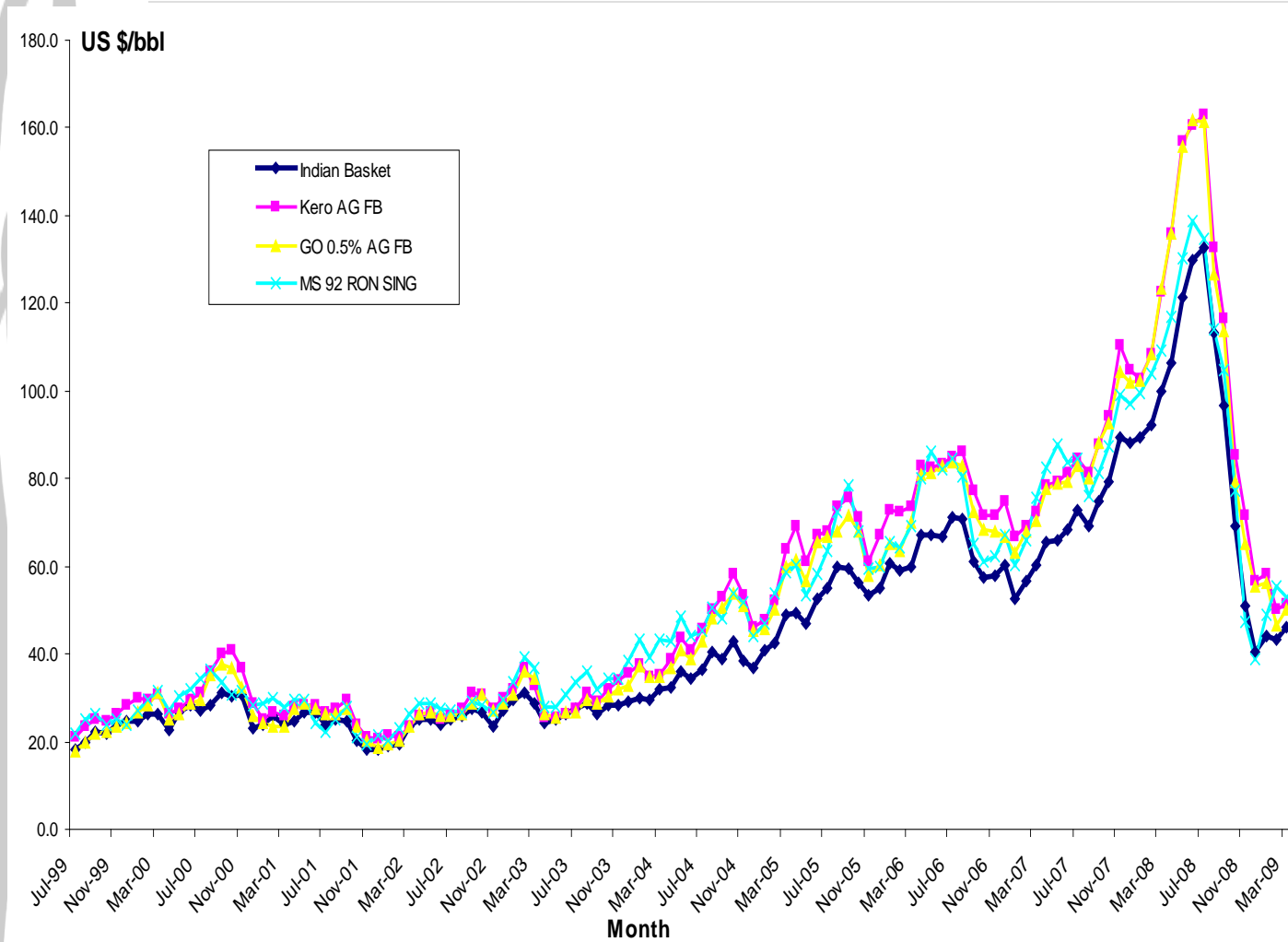


Global Economic Downturn and the Hydrocarbon Story



Sunjoy Joshi

November 2009





The Scale and breadth of the Energy Challenge is enormous - far greater than many people realize (IEA WEO 2009)

- ❖ Fossil fuels dominate the energy basket till 2030
- ❖ Capital investment required: \$ 26 trillion
- ❖ Low carbon growth scenario adds another \$ 10.6 trillion
 - ❖ *India requires \$ 1.2 trillion*
- ❖ Investment cut backs following fall in Global energy demand in 2008-09
- ❖ Constrained capacity growth in both fossil fuels and clean energy
- ❖ Natural gas may play a key role in any policy option
 - ❖ *India and China may see the most rapid rate of increase*

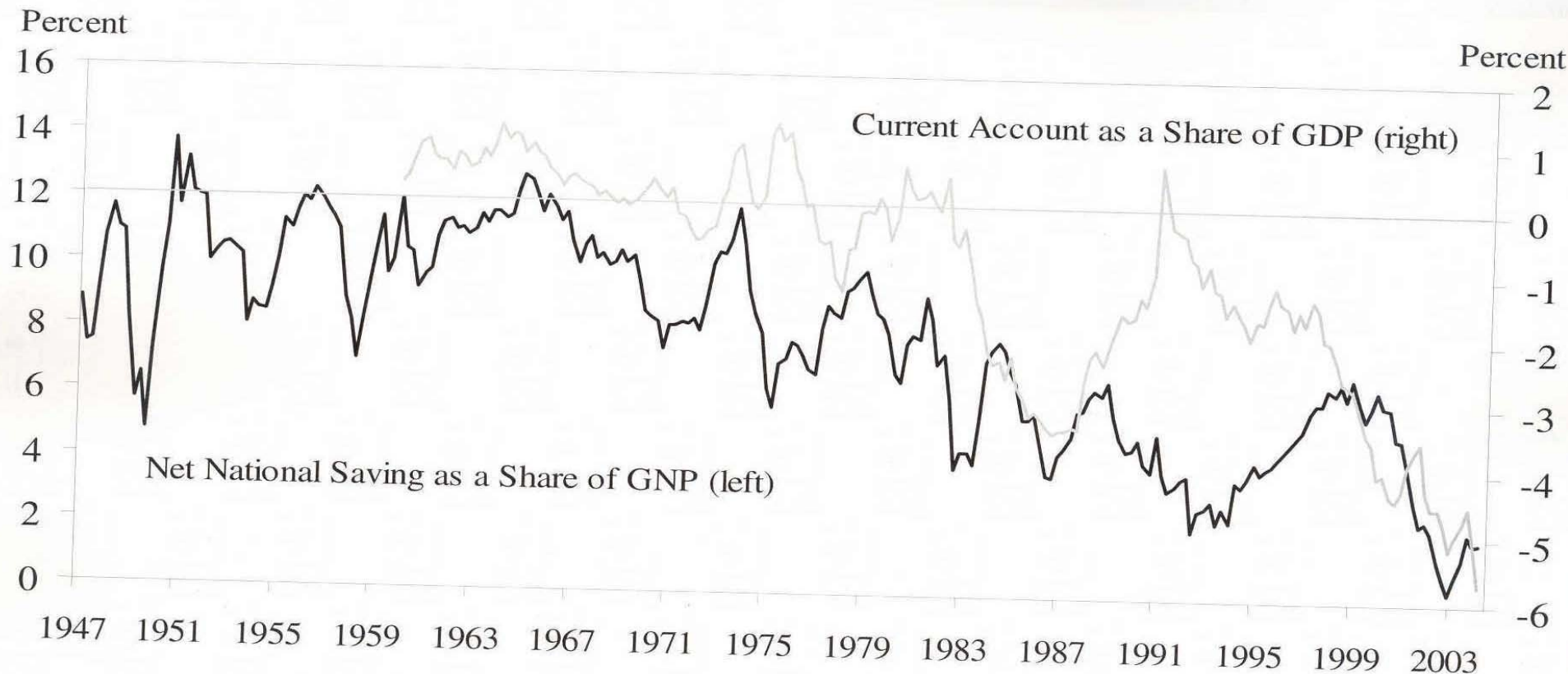
Should demand return \$ 148 oil may actually look cheap





America's Biggest Problem

Living Beyond Our Means

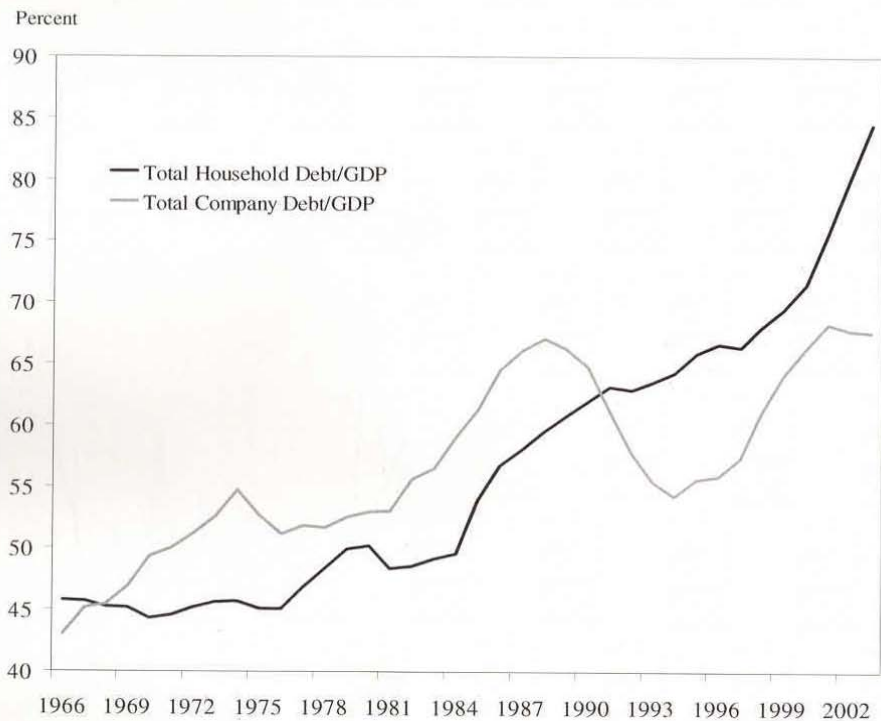


Source: Bureau of Economic Analysis, Morgan Stanley Research



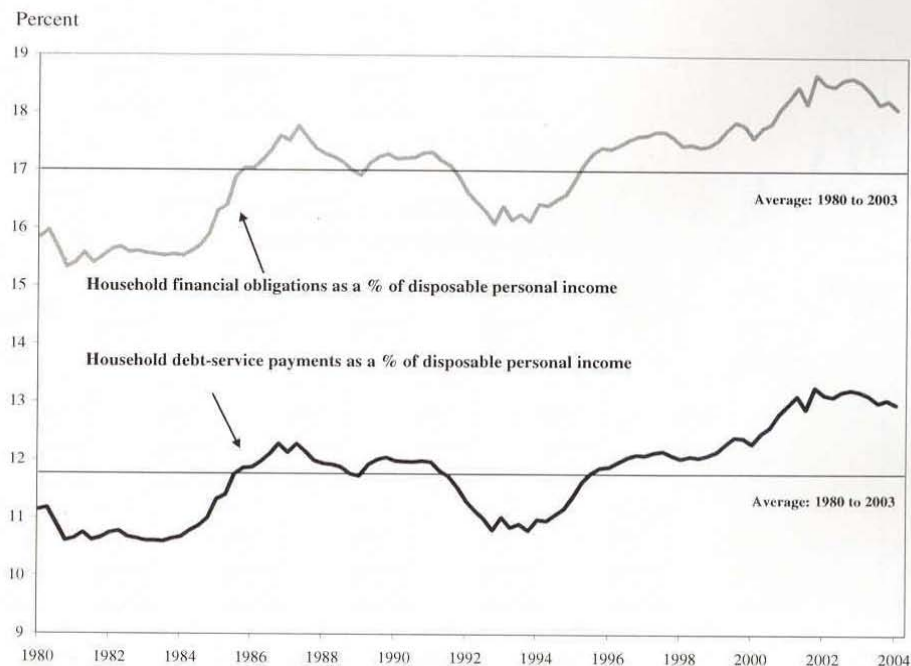
America's Worst Addiction

Increasing Debt Loads



Source: Bureau of Economic Analysis, Federal Reserve

Debt Service Remains High



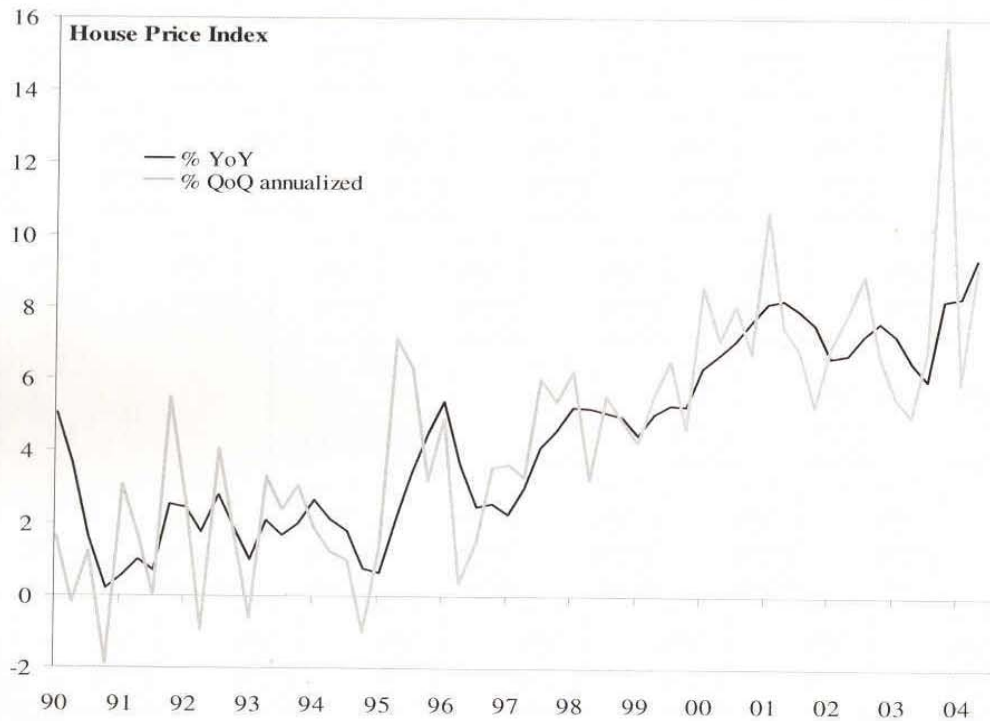
*The financial obligations ratio is a broader measure than the debt service ratio. It includes automobile lease payments, rental payments on tenant-occupied property, homeowners' insurance and property tax payments.

Source: Federal Reserve



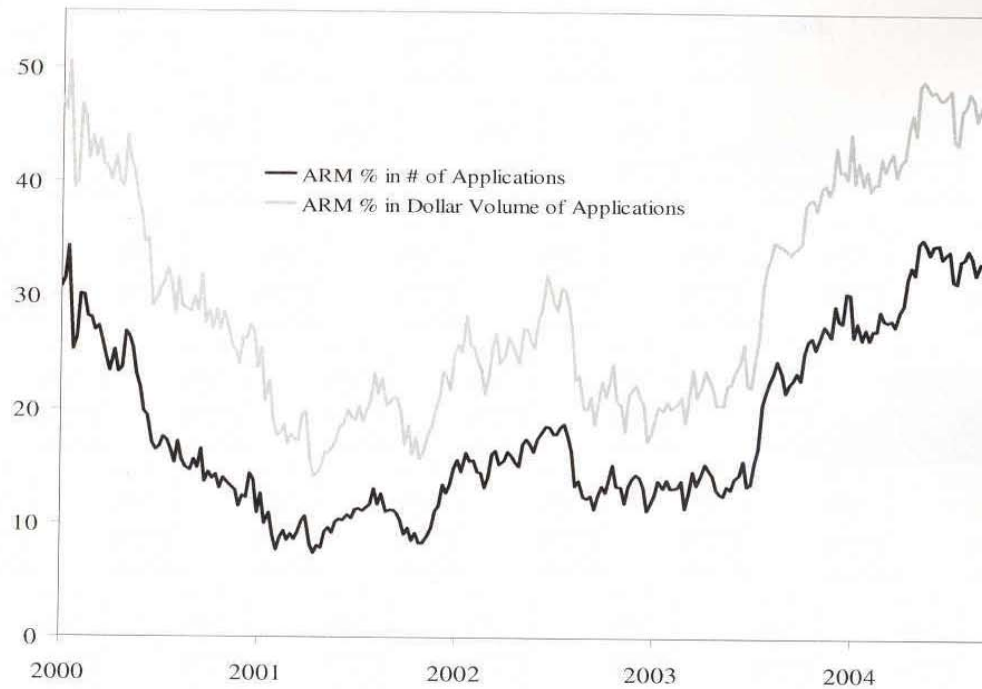
Housing: Truth or Consequences?

US Property Price Bubble?



Source: Office of Federal Housing Enterprise Oversight

Consumer Use of ARMs Increasing



Source: Mortgage Bankers' Association



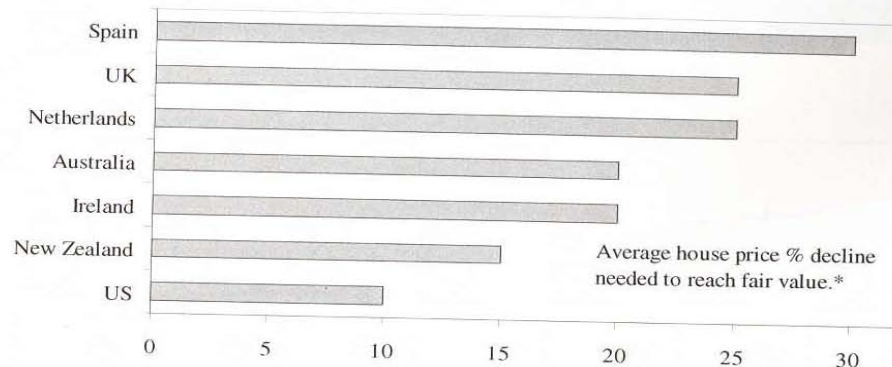
Global Property Bubble?

State of Play in World Housing Markets

Bubbles	Bubble Watch	No Bubble	
Australia	US	Japan	
UK	Canada	Euroland	
China	France	Germany	
Korea	Sweden	ASEAN	
Spain	Italy	India	
Netherlands	Hong Kong	Latin America	
South Africa	Thailand		
	Russia		
	Argentina		
Share of World GDP	25%	40%	35%

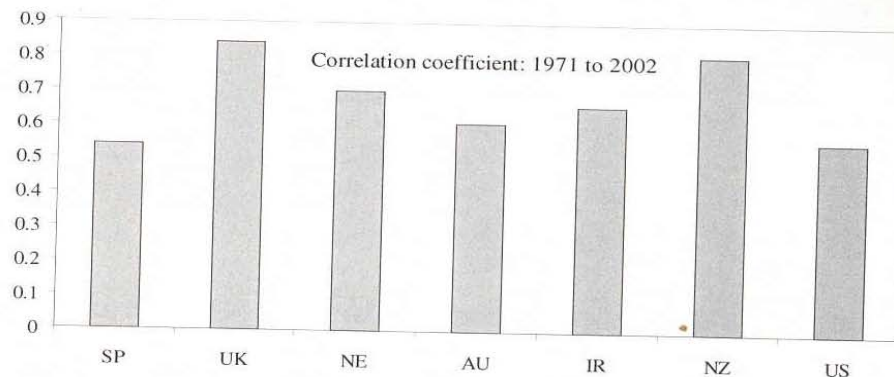
Source: Morgan Stanley Research, OECD, BIS

Housing Over-Valuations



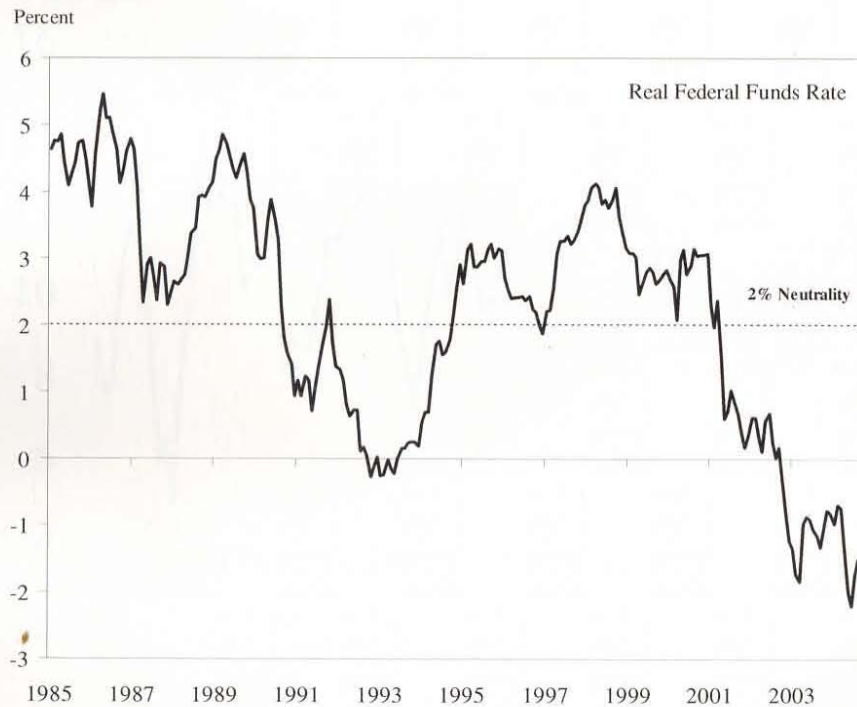
* % fall required over four years to bring housing P/E ratio back to long-term average (1975-2003).

Correlation of Private Consumption Growth with Real House Price Changes



The US on Steroids

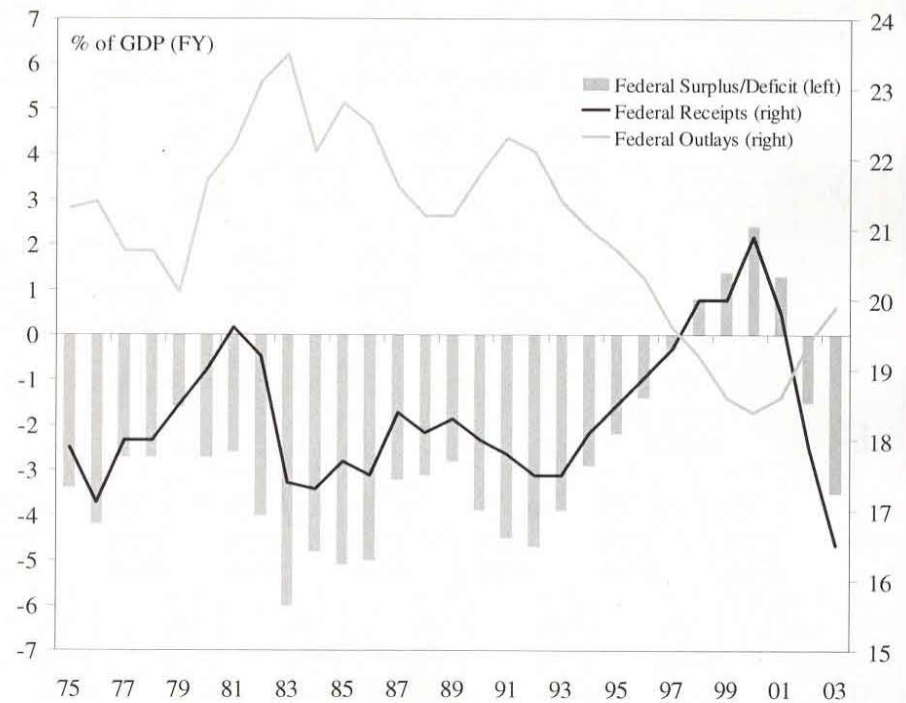
Extraordinary Monetary Stimulus



* Real federal funds rate is the nominal rate less the 12-month trailing change in headline CPI.

Source: Federal Reserve, Bureau of Labor Statistics

Extraordinary Fiscal Stimulus



Source: Office of Management and Budget

How “un-foreseen” was the economic crisis?

Equity Research

Global

Economics Report

Morgan Stanley Research

Global Investment Research

Global Rebalancing: Now or Never?

September 2004

Stephen S. Roach, Chief Economist

Stephen.Roach@morganstanley.com

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Please see important disclosures starting on page 22.

Sunjoy Joshi

ORF Center for Resources Management



Prescience or Hindsight: Any lessons learnt?

**No one wanted to break up the party
while it lasted**



Post crisis

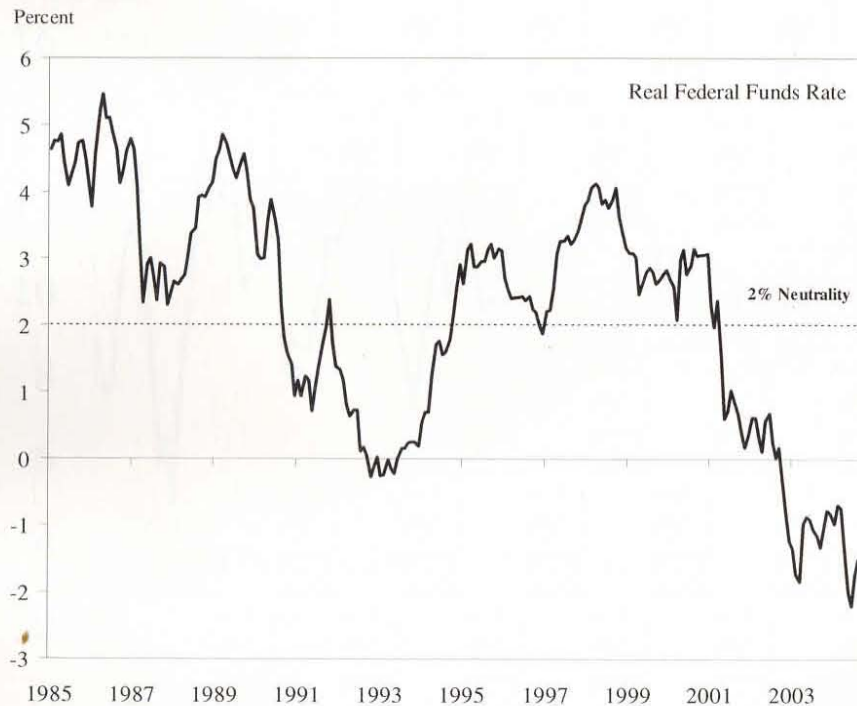
Is the champagne being uncorked a bit too soon?

- ❖ Morgan Stanley could not save itself
- ❖ Nor could the world avoid the slowdown
- ❖ Responses set off their own tsunamis
- ❖ uncharted economic waters
- ❖ reactive policy making



The US on Steroids

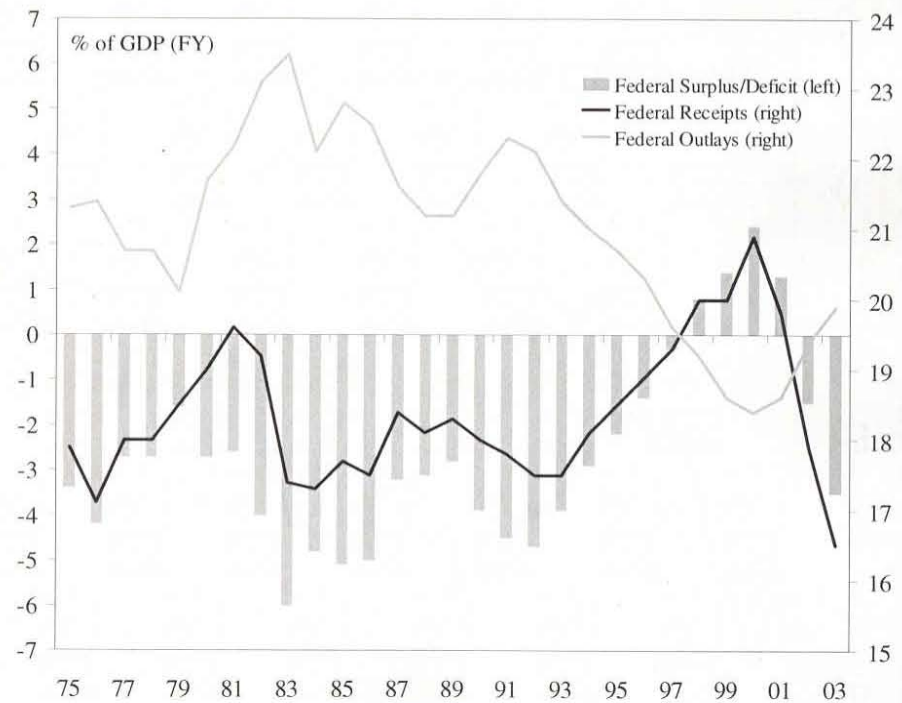
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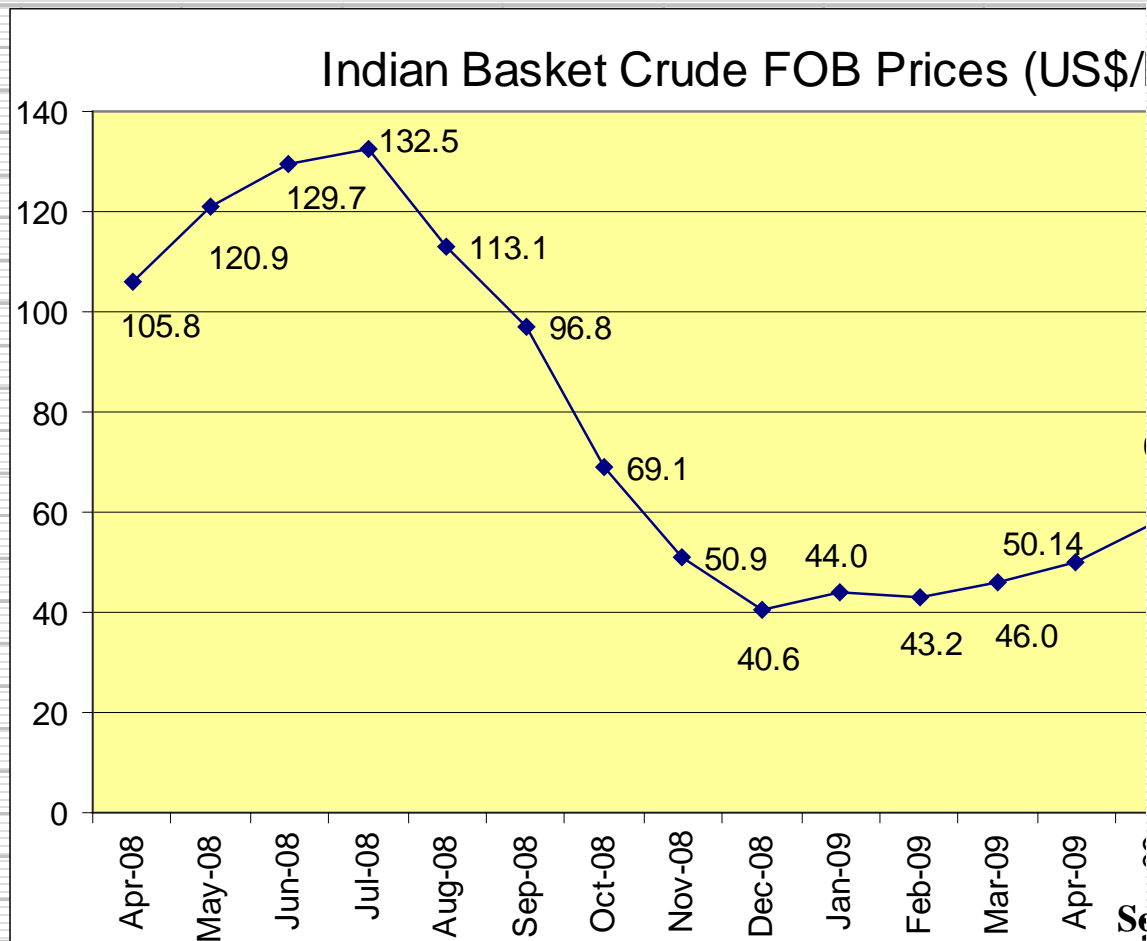
Nov 2009: Oil on the Boil again

- ❖ As oil climbs back to the 80 dollar mark we are back to explanations:
 - ❖ *credit crisis*
 - ❖ *stimulation packages*
 - ❖ *inflationary effects of quantitative easing*
 - ❖ *record budget and trade deficits*
 - ❖ *uncertain prognostics for the dollar?*
 - ❖ *Commodity bubbles*
 - ❖ *lack of investment*
 - ❖ *Fear of future supply crunch as projects to produce costly oil are delayed or shutdown altogether*



Indian Crude Basket : 2008 - 2009

	\$/B
Apr-08	105.8
May-08	120.9
Jun-08	129.7
Jul-08	132.5
Aug-08	113.1
Sep-08	96.8
Oct-08	69.1
Nov-08	50.9
Dec-08	40.6
Jan-09	44.0
Feb-09	43.2
Mar-09	46.0
Apr-09	50.14
May-09	58
Jun-09	69.12
Jul-09	64.83
Aug-09	71.98
Sep-09	67.7

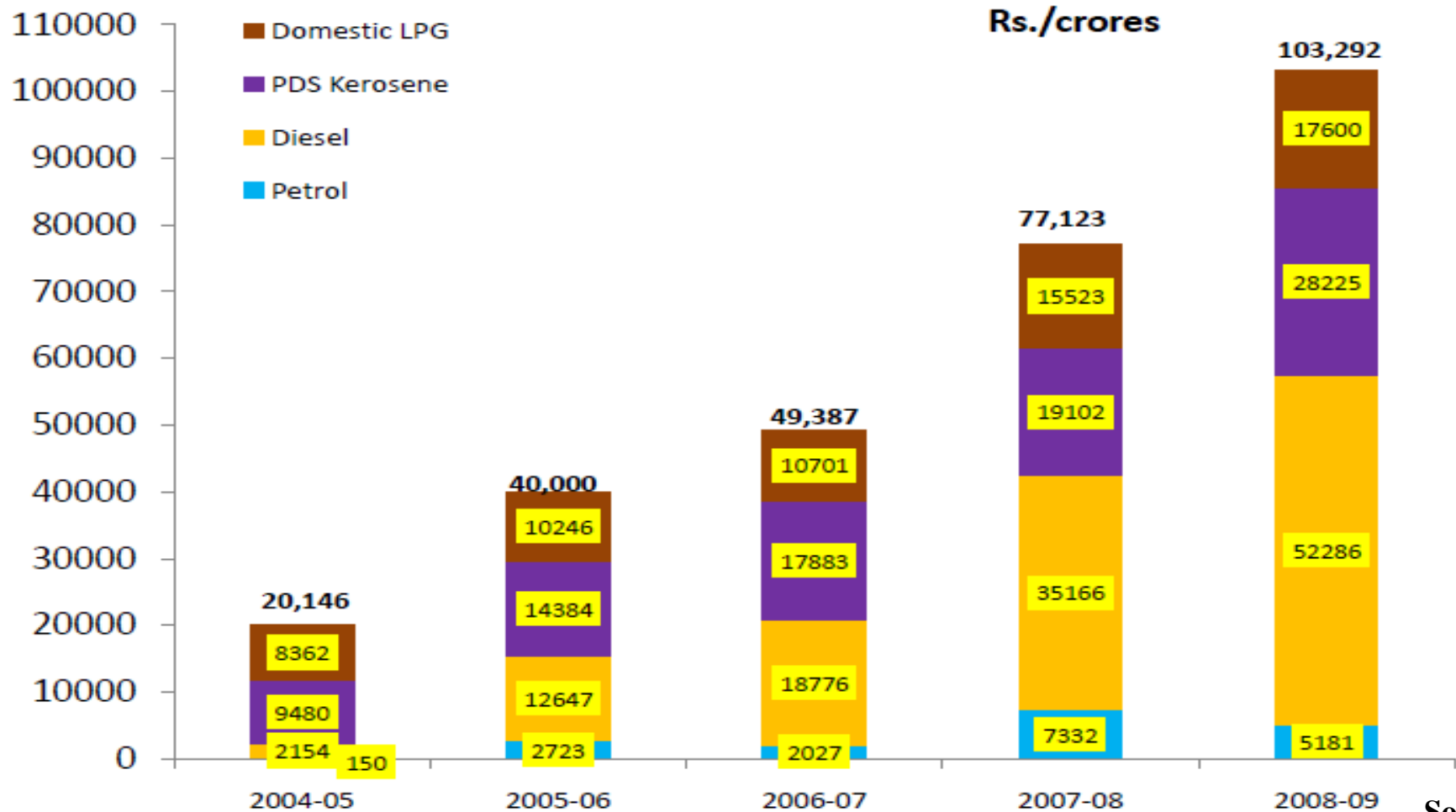


Source: PPAC

The “unforeseen” global economic downturn
 Followed by an equally surprise “recovery”



Under Recoveries in Sensitive Petroleum Products:

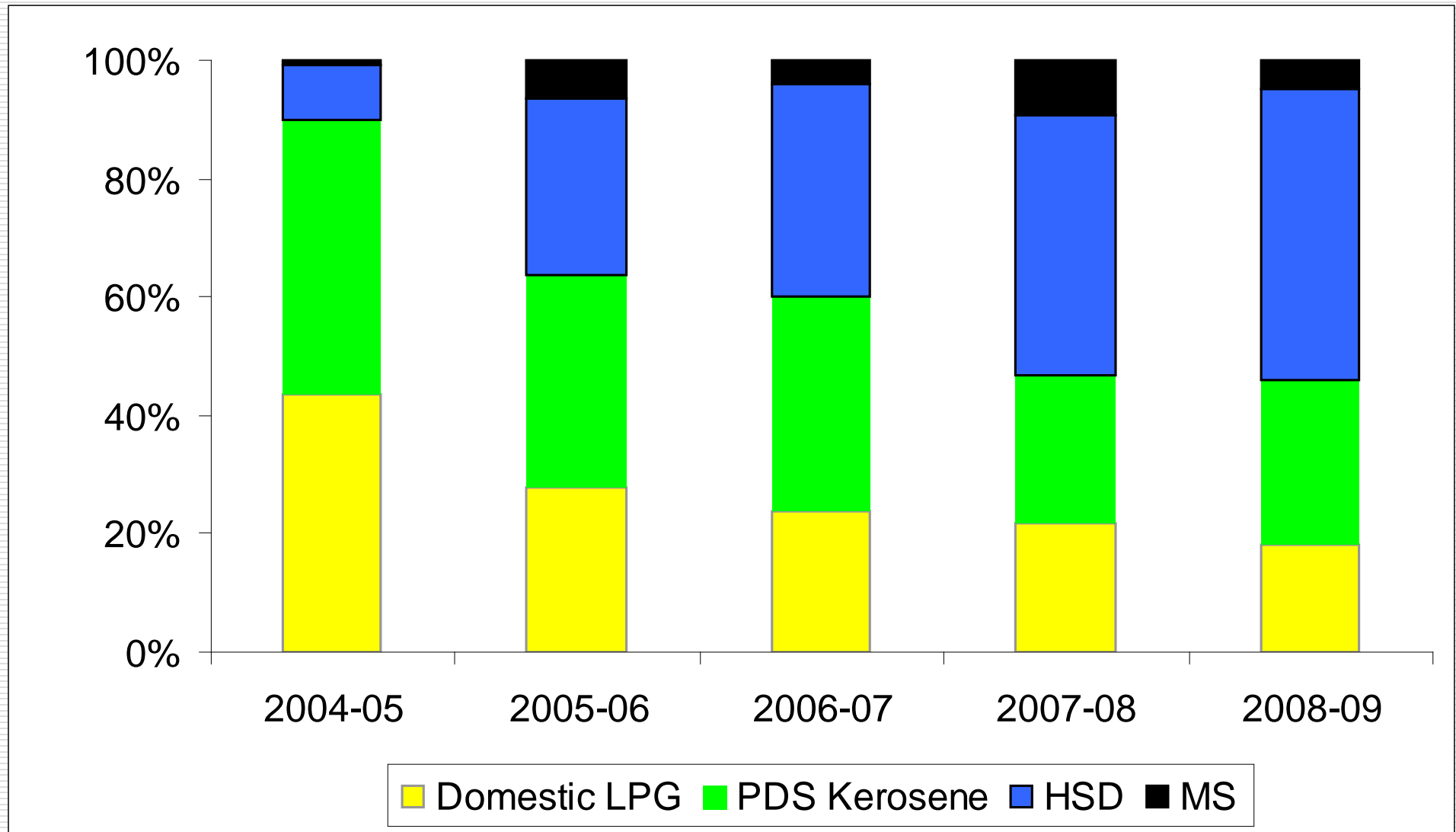


Source: PPAC

Under-Recoveries have been growing in line with international prices.



Changing Subsidy Share of Products





Deconstructing the reform mandate: 1990s

The foreign exchange crisis and the inability to attract or pay for either technology or investments forced the first wave of privatization of producing assets in 1990s

“In making their recommendations, the Committee *may have due regard to the assurances given to multilateral agencies* regarding the introduction of market related prices of petroleum products and natural gas... The recommended gas prices may also take into account the production sharing contracts signed with private sector developers of oil/gas fields *and should in general be such as to attract investment in the production, transportation and distribution of natural gas*”

TOR Shankar Committee Jan 1995



Issues for 2030

❖ How to sustain at least 8% growth?

- ❖ Precarious domestic resources: high import dependence
- ❖ Shift to infrastructure and manufacturing over services for future growth
- ❖ Increased urbanization

❖ How to offset CO₂ emissions?

- ❖ Power sector emissions slated to rise 2.5 times to 1.8 GT
- ❖ Transport sector emissions to rise 4.5 times from 117 to 510 MMT (WEO estimates)

❖ India's position vis-à-vis climate change treaties will be tempered by

- ❖ its ability to buy fossil fuels in world markets
- ❖ cost-effectiveness and timescale of adoption of alternate technologies globally.

Increasing resource constraints in a globalized world driven by CC





India's Achilles Heel: Coal and power 2030

- ❖ 300 GW capacity at 85% PLF requires **1.5 GT**
 - ❖ implies growth @ 43 MT/year in domestic coal
 - ❖ 2-3 times growth in handling and transport capacities
- ❖ Domestic Production grew at **18 MMT/year in last 5 years**
 - ❖ **Coal reserves limit the growth of coal fired generation beyond 2030**
- ❖ If production grows at 20 MMT/year
 - ❖ 400 MT of coal imports as against 30 in 2007
 - ❖ **800 MMT** : Total global coal exported in 2007 (of which 25% was coking coal)
- ❖ Recent growth in global coal exports : 50 MMT/year

Climate change mitigation pressures threaten to change the playing field even more dramatically for coal





Challenges: The road ahead

- High import dependence mandates progressive integration of energy markets with world markets
- Yet measures blind to long term and cyclical volatility are bound to cause more pain than gain
- cycles never co-terminus with the tenure of Governments
- Volatile energy prices will force energy subsidies which
 - need to be streamlined and better targeted
 - Cannot afford unintended consequences
 - better targeted
- Accelerated investments in production, infrastructure and R & D
- predictable and stable policy regime for new as well as conventional sources
- Greater independent regulatory control with insulation from executive expediency

The biggest threat to energy security stems from policy uncertainty





Summing up

- ❖ the current development based on fossil fuels is a no options strategy
- ❖ It can be a *reasonable tactical* strategy provided
 - ❖ *Aggressively pursue energy efficiency*
 - ❖ *Paradigm shift in coal policy : production handling, transport and use*
 - ❖ *Planned transition to low carbon-energy systems*
 - ❖ Distributed generation based on both gas and renewables
 - ❖ Appraise all conventional as well as unconventional gas resources
 - ❖ Unconventional gas: the possible game changer
- ❖ R & D to make renewables cost-effective
- ❖ Incentives for the development of a smart green grid

Huge potential for reducing the intensity of both energy use as well as emissions in the conventional sector





Thank you ...

