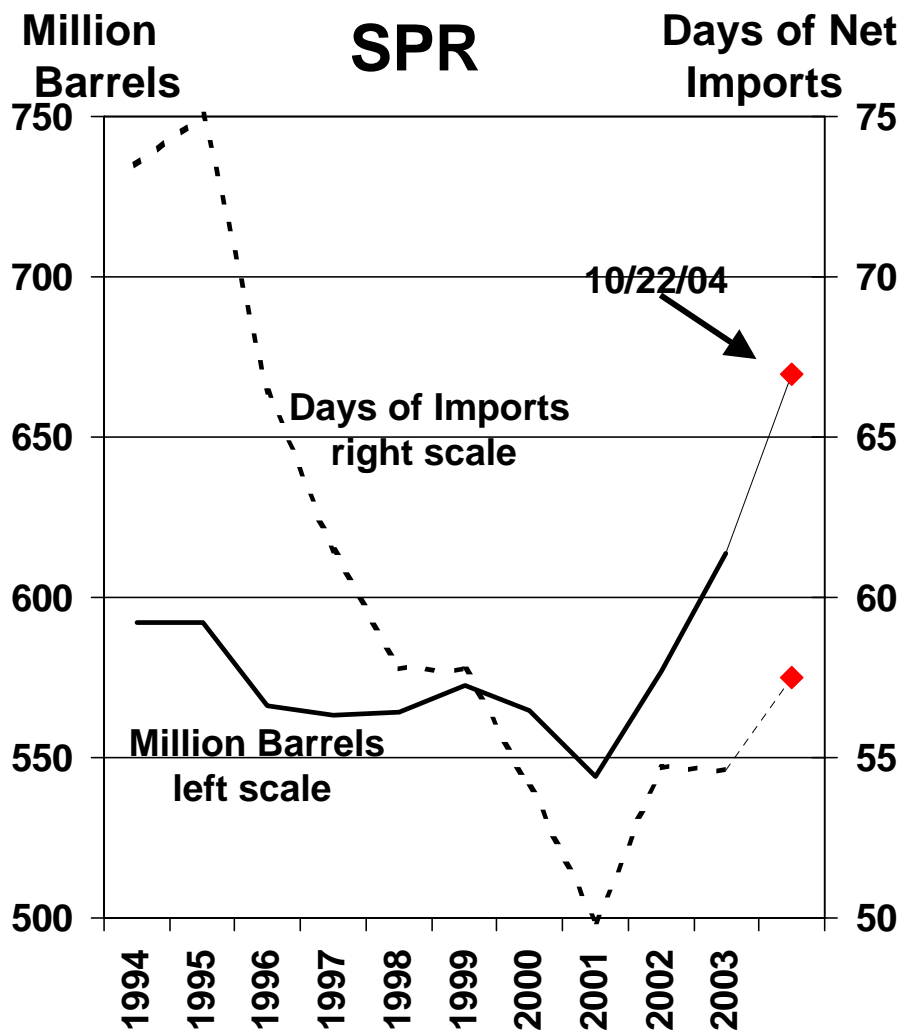


Using the SPR: Issues & Lessons From Recent History

- **Major Price Run-Ups from 1990 to the Present**
- **Links to OPEC Production Developments**
- **Use and Non-Use of the SPR At Such Times**
- **Private Costs of Price Insurance**
- **Implications for Future SPR Use**

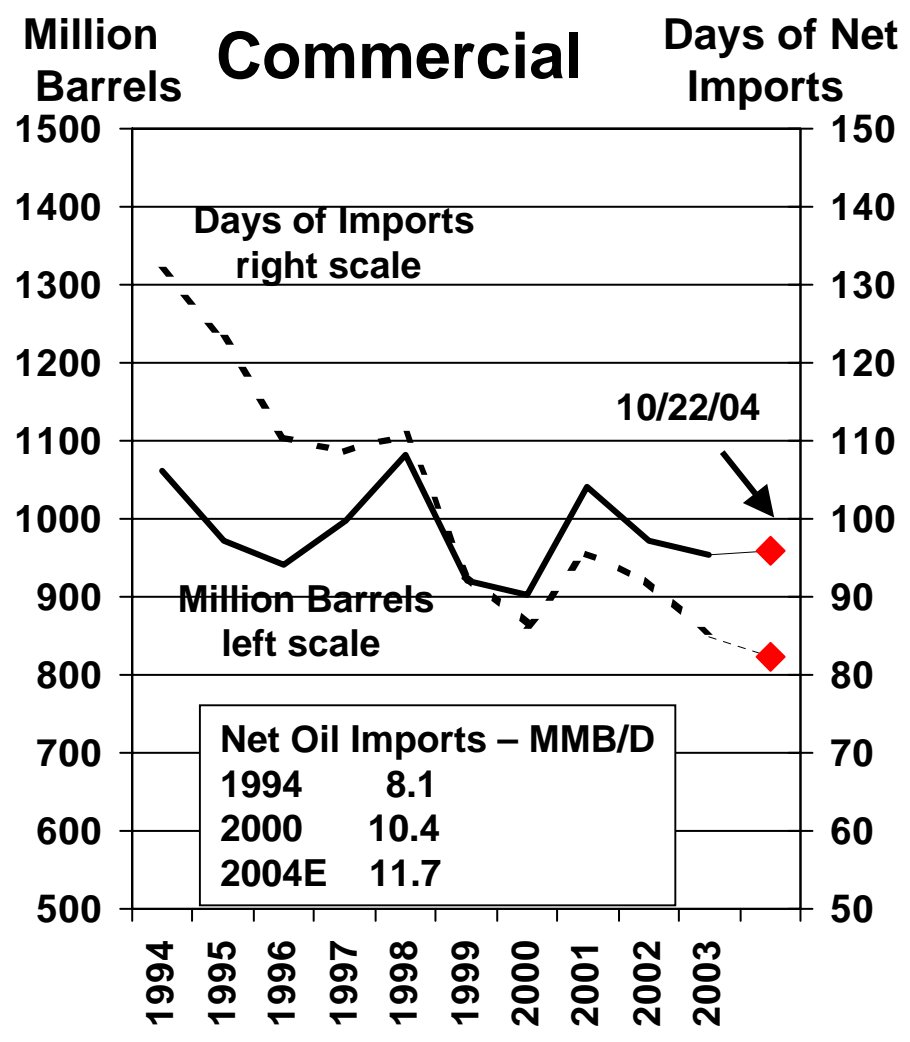
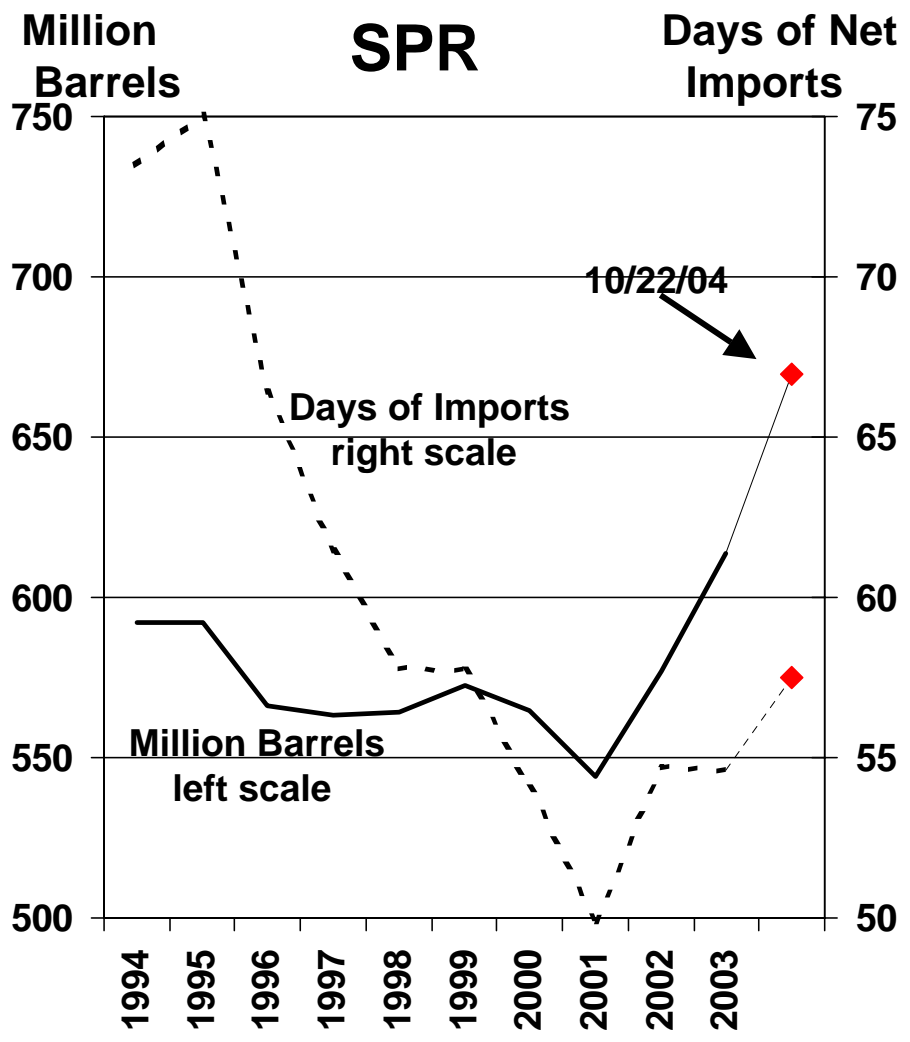
Trends in the Size of US Petroleum Inventories

Million Barrels and Days of Net Oil Imports



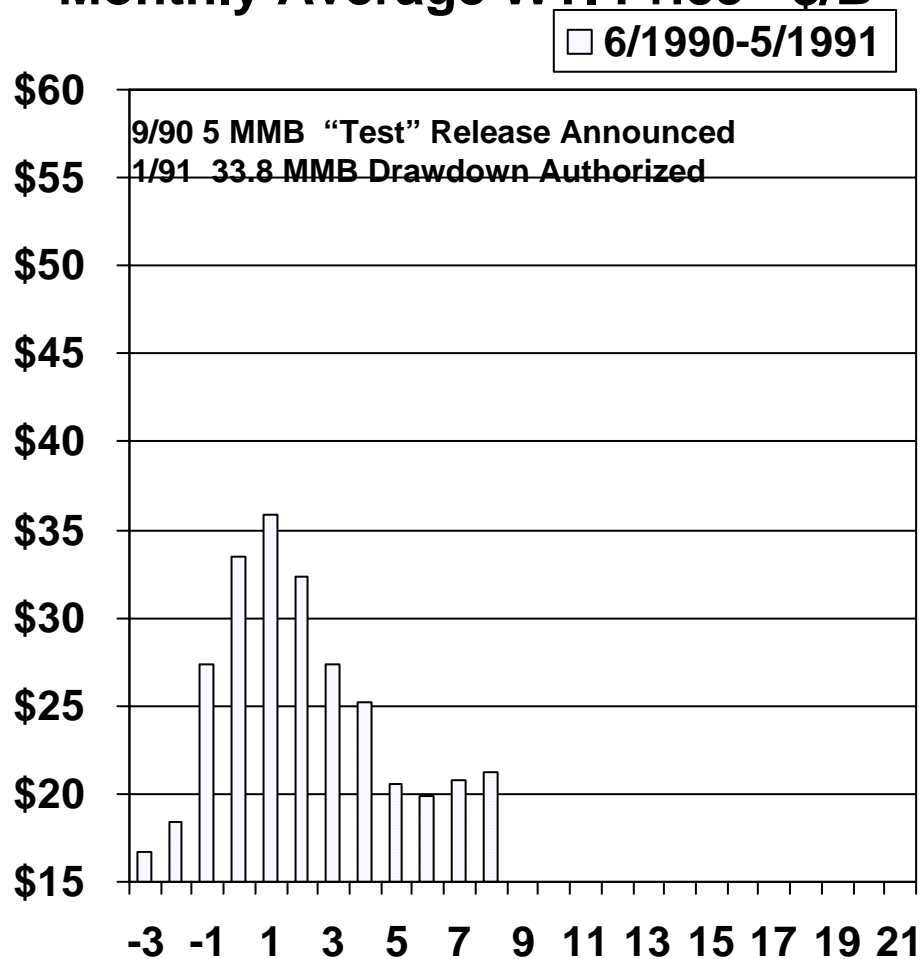
Trends in the Size of US Petroleum Inventories

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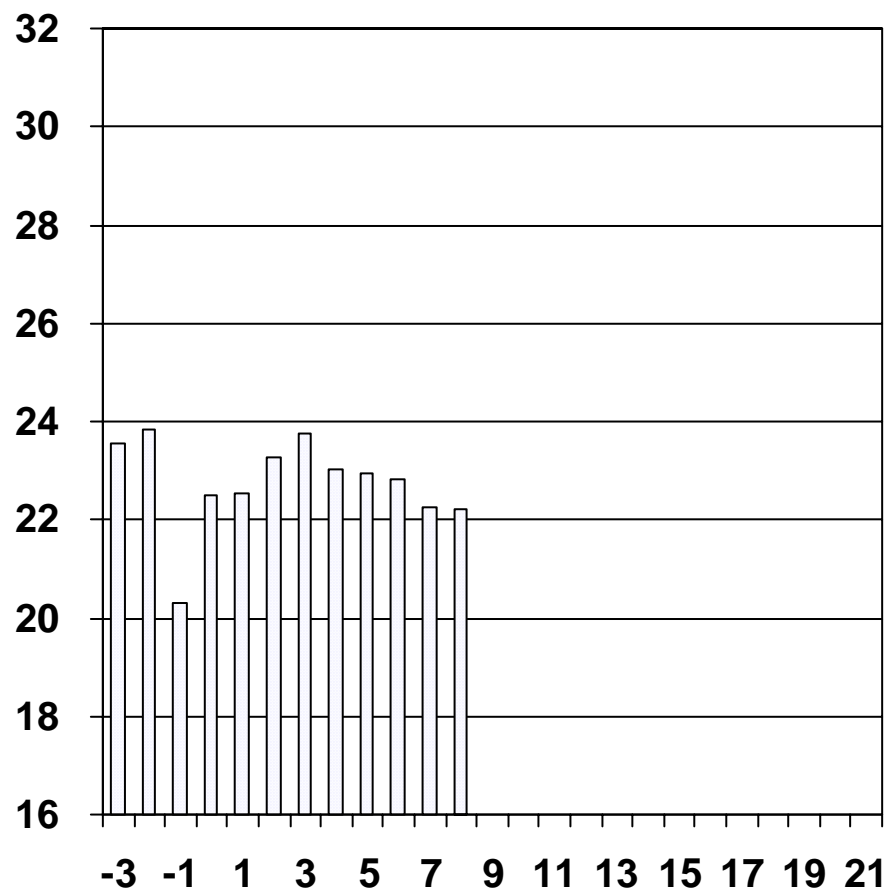


Oil Price Run-ups and OPEC Production When WTI Prices Move Above \$30/Barrel

Monthly Average WTI Price - \$/B



OPEC Crude Production – MMB/D



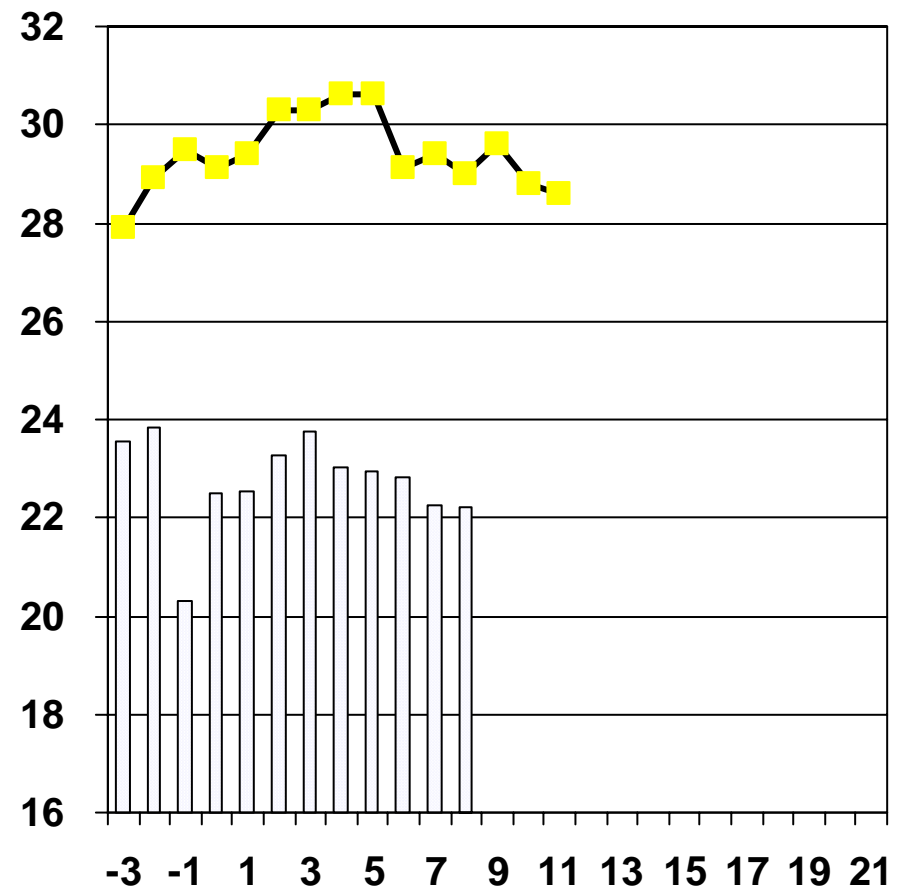
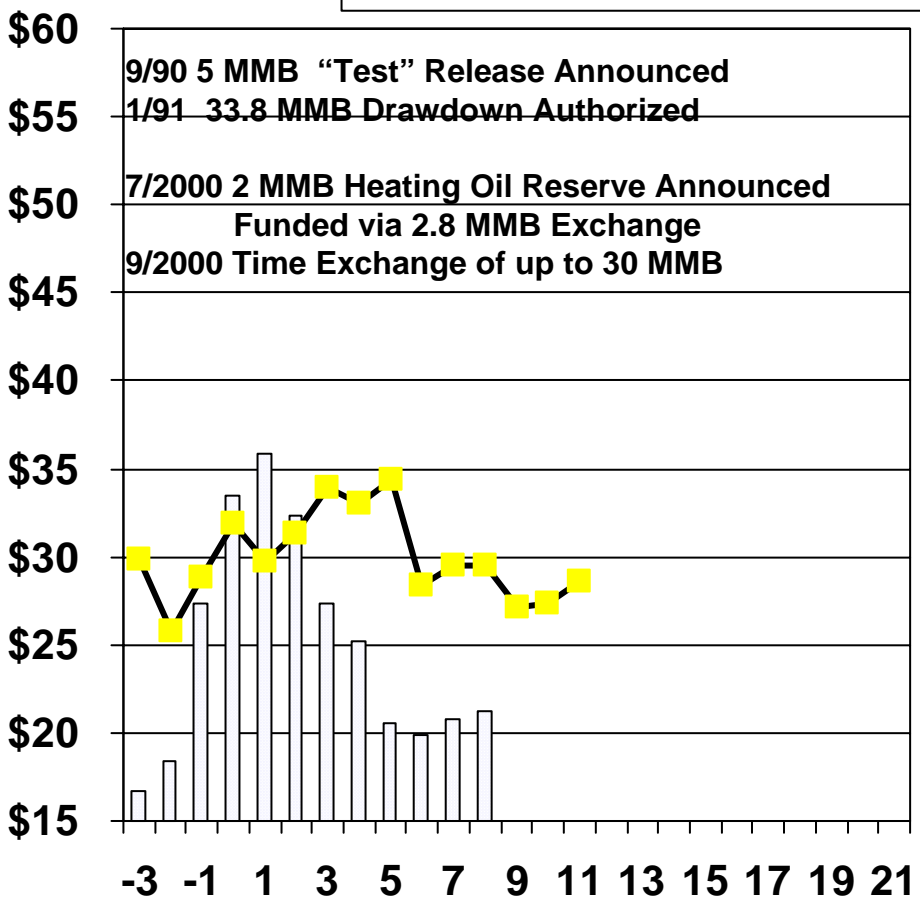
Months Before and After Exceeding \$30/Barrel

Oil Price Run-ups and OPEC Production When WTI Prices Move Above \$30/Barrel

Monthly Average WTI Price - \$/B

OPEC Crude Production – MMB/D

□ 6/1990-5/1991 ■ 3/2000-5/2001



Months Before and After Exceeding \$30/Barrel

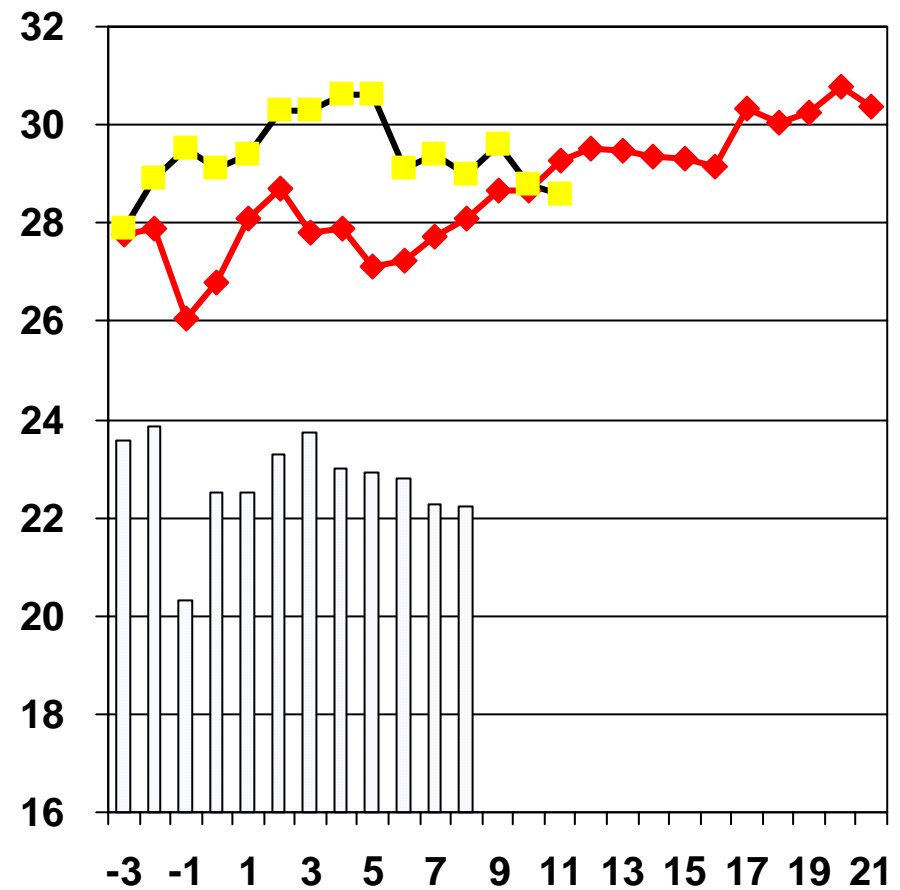
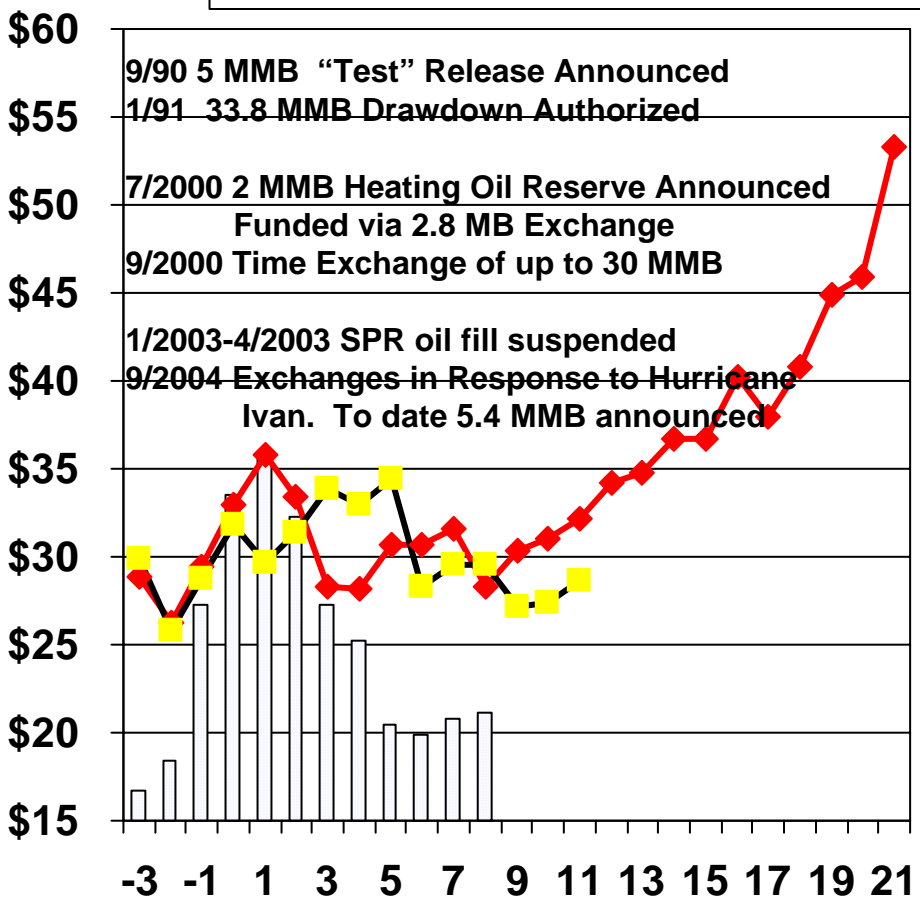
Oil Price Run-ups and OPEC Production When WTI Prices Move Above \$30/Barrel

Monthly Average WTI Price - \$/B

OPEC Crude Production – MMB/D

6/1990-5/1991

 10/2002-
 3/2000-5/2001



Months Before and After Exceeding \$30/Barrel

Trends in Selected OPEC Member Oil Production – MB/D

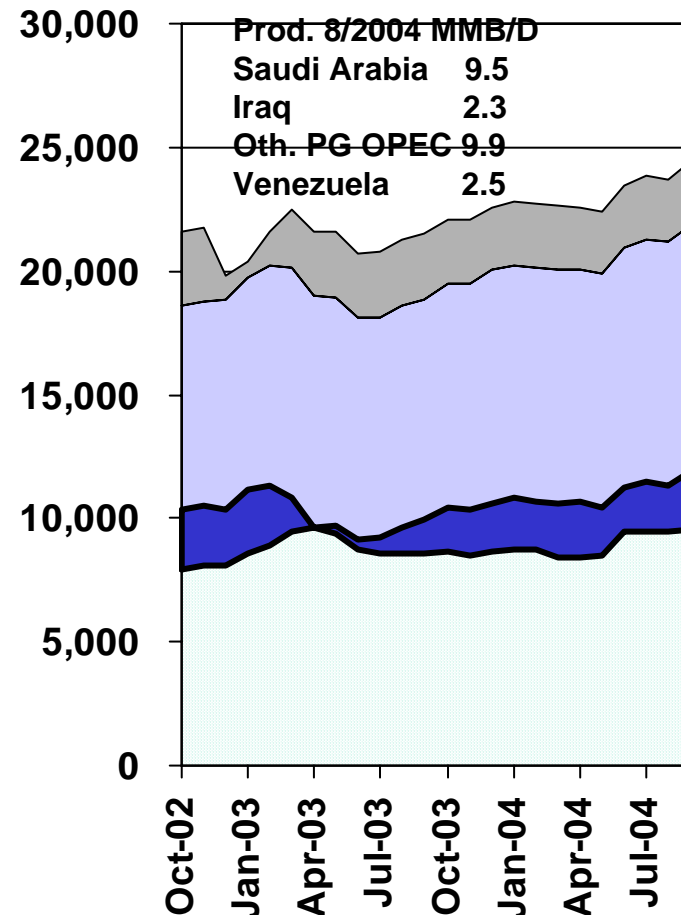
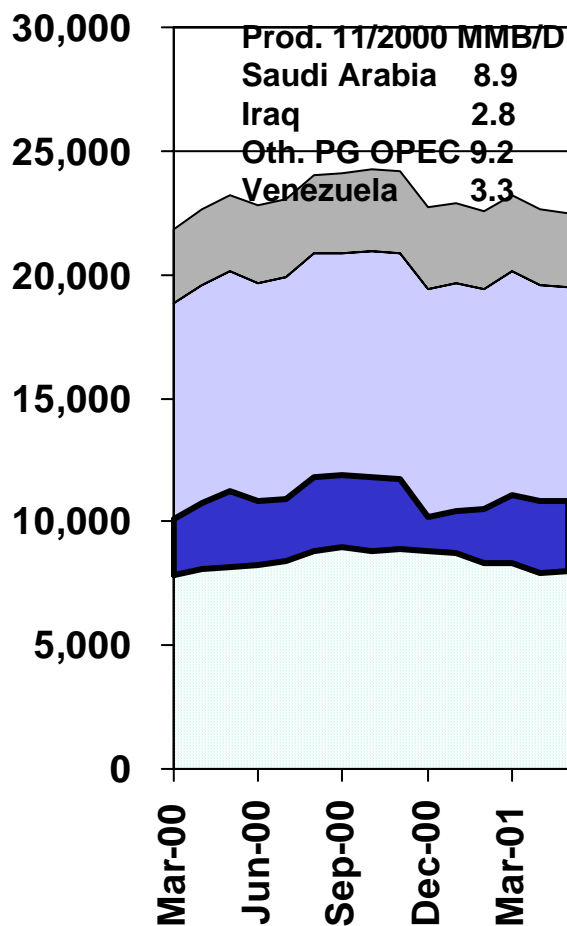
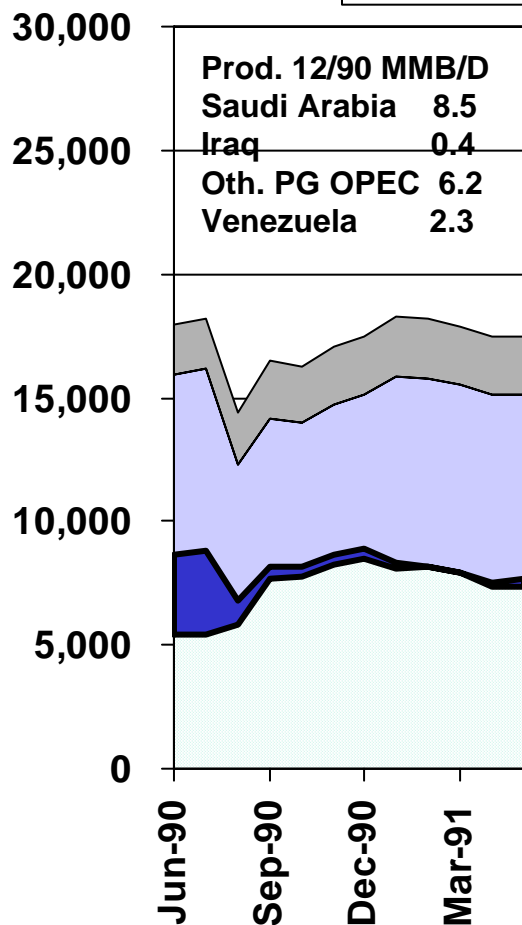
Selected Time Periods

6/1990 – 5/1991

3/2000 – 5/2001

10/2002 - Latest

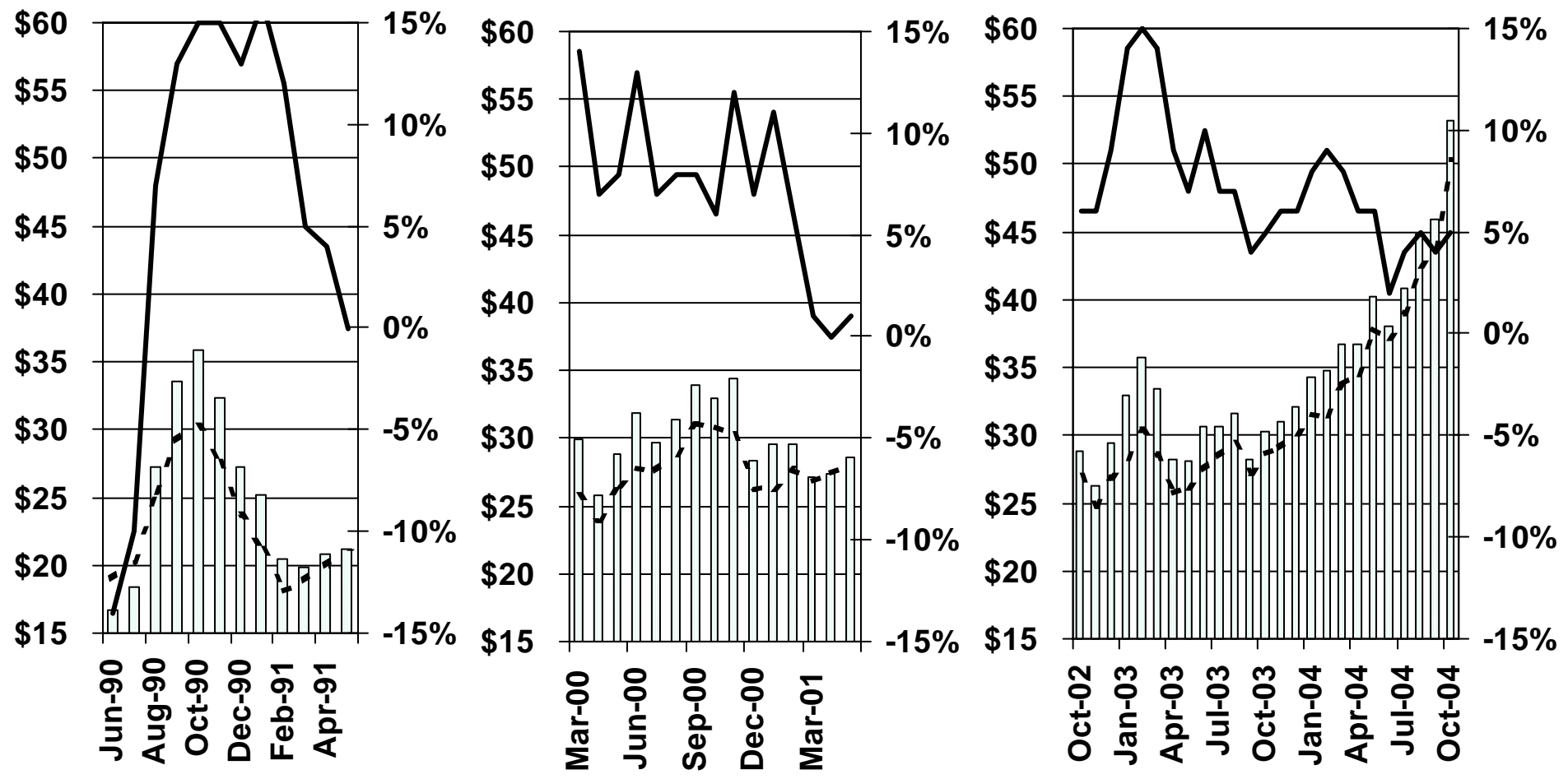
Saudi Arabia
 Iraq
 Other PG OPEC
 Venezuela



Oil Prices: The Future vs. the Present - \$/Barrel

Spot vs. 6 Month Forward WTI Prices, Selected Periods

spot
 6 month ahead
 % diff. Spot vs. Future (Right Axis)



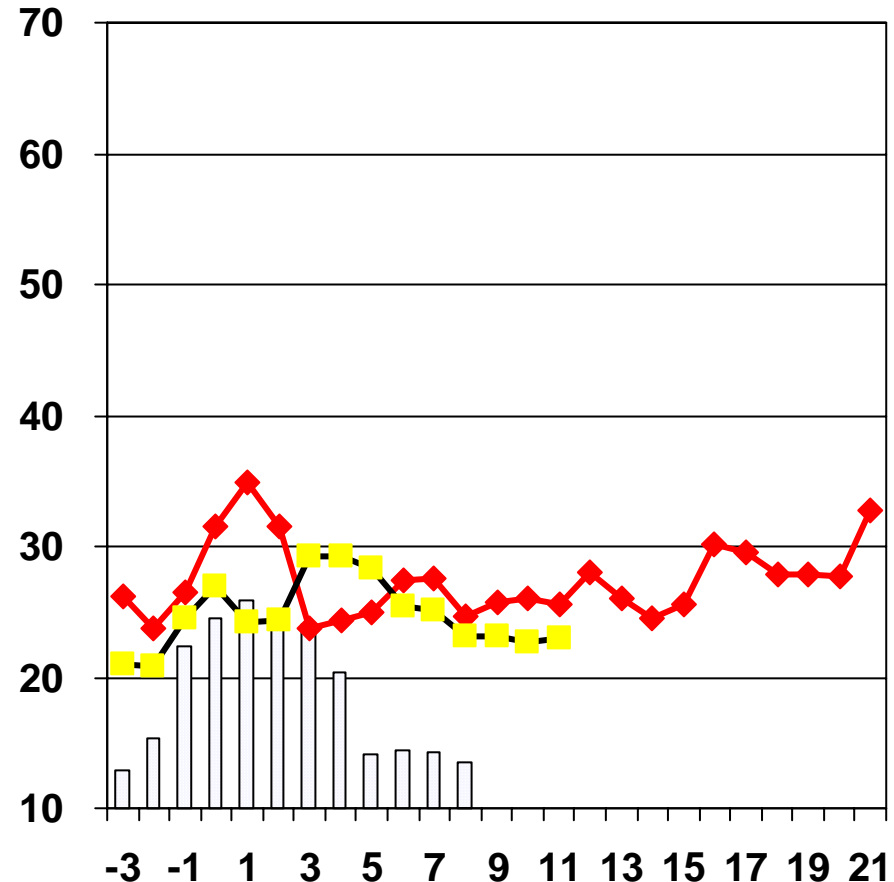
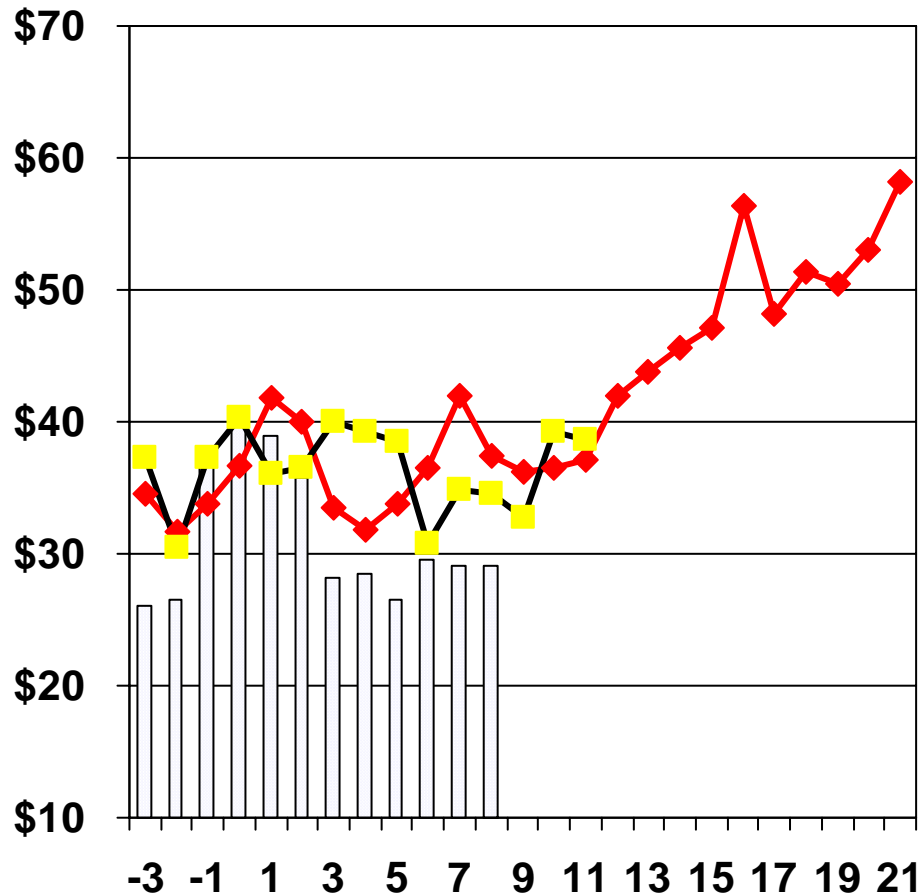
Spot Gasoline and 1% Fuel Oil Prices - \$/Barrel

When WTI Prices Move Above \$30/Barrel, Monthly Averages

NYH Regular Unleaded

NYH 1% Fuel Oil

□ 6/1990-5/2001
◆ 10/2002-
■ 3/2000-5/2001



Months Before and After the Price Run-up

Price Insurance Costs: Selected Call Option Premiums For Strike Prices $\approx 10\%$ above Futures Prices

Nov. 1 Traded Prices as % of Futures Contract Prices for:
Jan. 2005 March 2005

WTI Crude Oil	2.6% (\$50)*	6% (\$49)*
Heating Oil	3.5%	5.9%
Unleaded Gasoline	3.2%	5.1%
Copper	1.6%	3.8%
Corn	NA	1.4%
Euro/\$ Exchange Rate	0.1%	0.2%
Natural Gas	6.3%	9%

*Figures in parenthesis are the associated futures contract prices.

Using the SPR: Edging Toward Guidelines

- **High Price Alone Not Enough**

If due to “Fundamentals,” let market work, consumers pay up

- **Backwardation Signals Market Need for Crude Now**

Severe backwardation most timely signal of need to act

- **Let OPEC Go First--If it Can**

At this time, they are doing so. In near term, can't do much more
Critical role of the Persian Gulf, especially Saudi Arabia

- **Somewhat More Activist Role May be Reasonable**

Via exchanges, even “tests” when markets under severe short-term stress

- **But Save Big Draw-Downs for the Big Disruptions**