Petroleum Refining Issues

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OUTLINE

- **Consumer Concerns**
  - **Gasoline price**
  - **Gasoline price**
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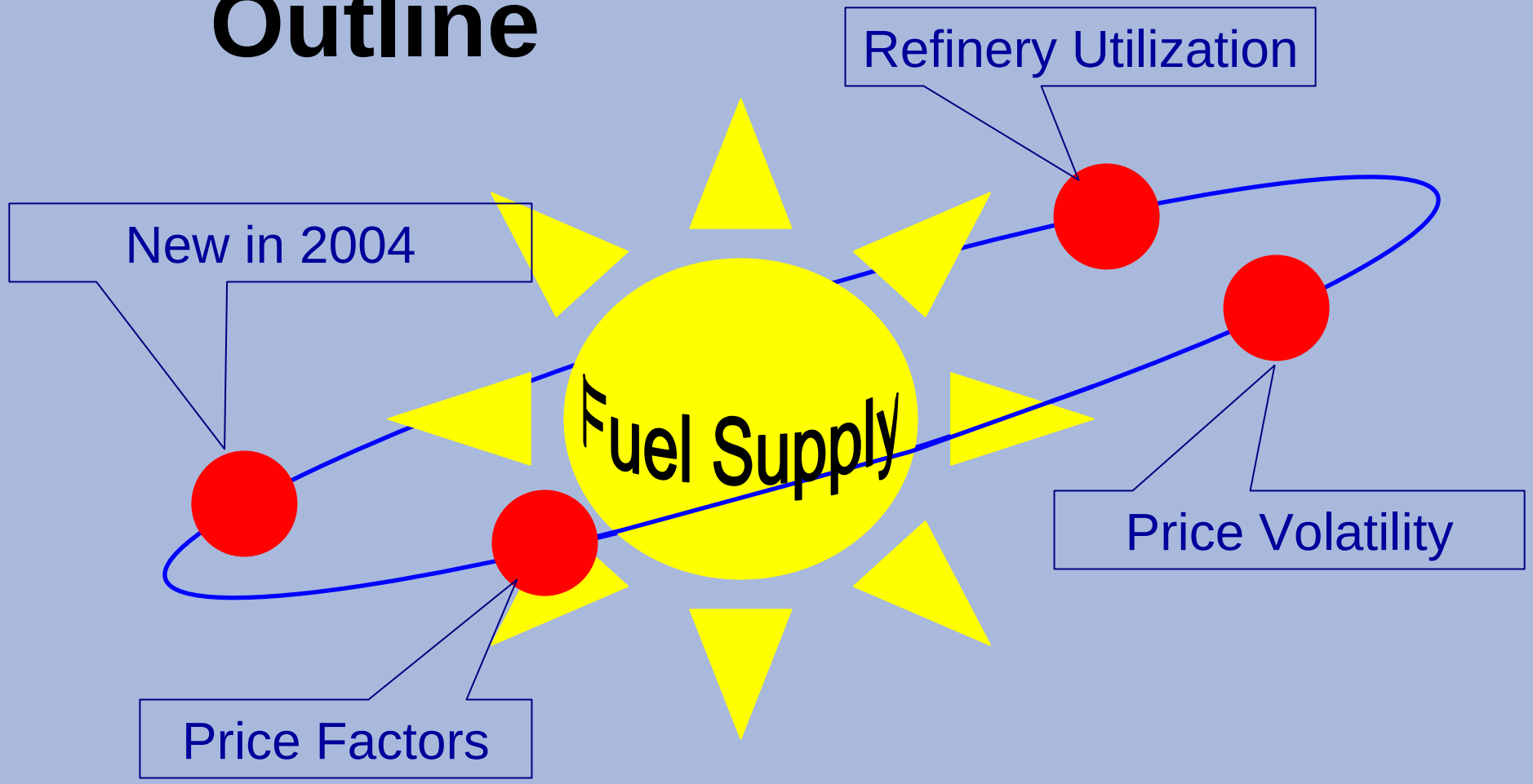
Outline

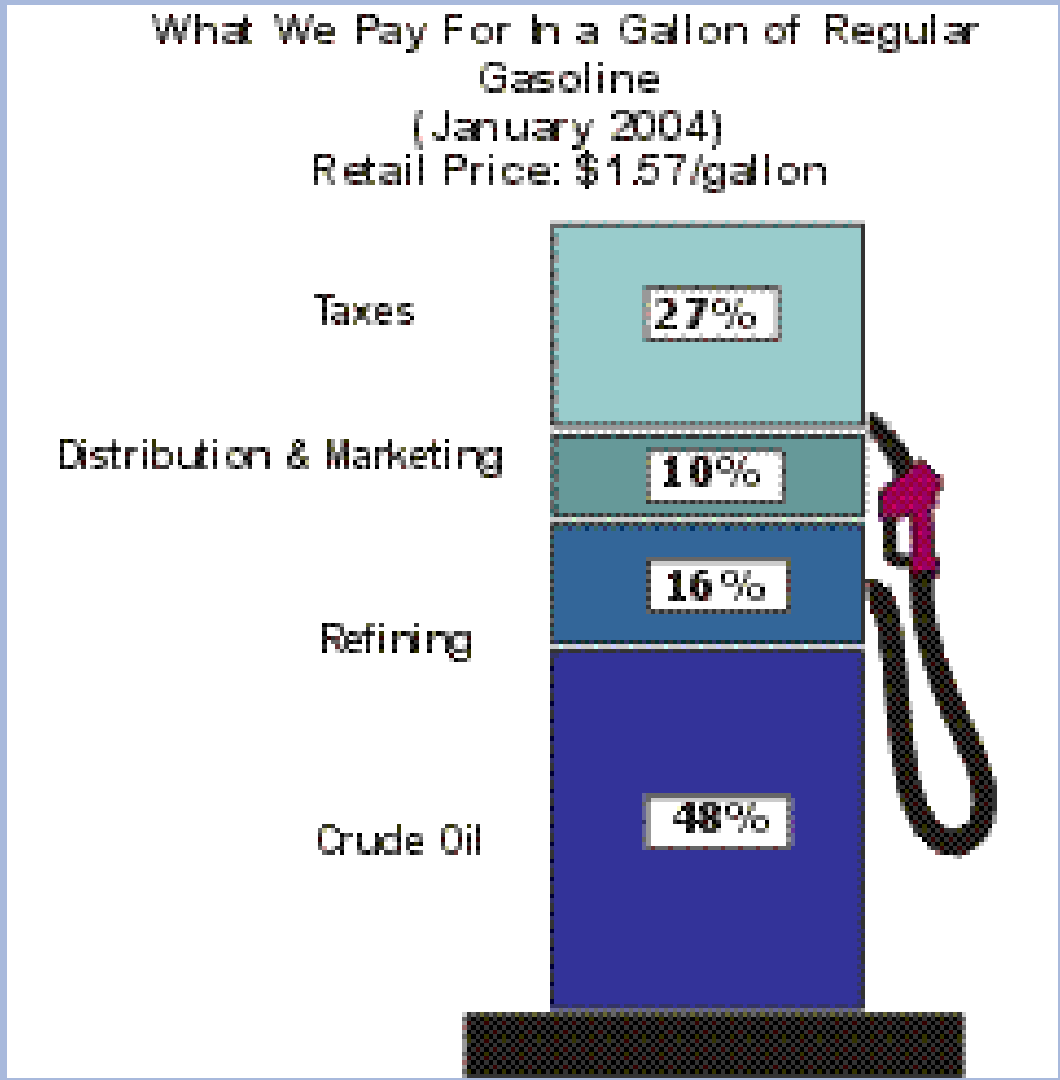

Refinery Utilization
New in 2004
Fuel Supply
Price Volatility
Price Factors

Outlook for Summer 2004

- **Knowable factors that affect fuels' supply/demand balance**
- **Unpredictable**
  - **Refining/Distribution Disruptions**
  - **US Consumer Demand**

Gasoline Price Factors

- **Price of Crude Oil**
- **Gasoline Sulfur Phase-down**
- **MTBE Bans**
- **Additional RFG Volume**


What We Pay For In a Gallon of Regular Gasoline
(January 2004)
Retail Price: $1.57/gallon
Taxes
27%
Distribution & Marketing
10%
Refining
16%
Crude Oil
48%

GASOLINE SULFUR PHASE-DOWN

- Phase-in of new federal standards began on January 1, 2004
- Most refineries and importers will comply by 2006
- Rocky Mt.-area refineries will comply by 2007
- Small refineries will comply in 2008

GASOLINE SULFUR PHASE-DOWN

- **Refineries and importers will have to meet:**
  - **Annual average standard (30 ppm sulfur); and**
  - **Per gallon cap (80 ppm sulfur) standard**

GASOLINE SULFUR - RETAIL

Effective date	Cap (ppm)
March 1, 2004	378
March 1, 2005	326
March 1, 2006	95

Note: retail sulfur can be higher if small refinery or GPA gasoline is present

GASOLINE SULFUR PHASE-DOWN

- **For refineries:**
  - **Additional processing step(s)**
  - **Capital investment**
  - **Downgrade of some blendstocks**
- **Result: Upward pressure on fuel prices**

MTBE BANS

- **MTBE bans were effective Jan 1, 2004 for CA, CT and NY.**
- **CAA requires oxygenate in federal RFG so these states must blend ethanol.**

MTBE BANS

- **For Refineries:**
  - **Production of a new blendstock for blending with ethanol;**
  - **Lower vapor pressure; and**
  - **Additional segregation and transportation costs.**
- **Result: Upward pressure on fuel prices**

ADDITIONAL RFG VOLUME

- **These areas will require federal RFG:**
  - **Baton Rouge: June 23, 2004**
  - **Atlanta: January 1, 2005**
- **This summer: Atlanta (45 counties) gasoline will have a 95 ppm sulfur cap at retail**

ADDITIONAL RFG VOLUME

- **For Refineries:**
  - **More stringent fuel properties;**
  - **Lower vapor pressure; and**
  - **Additional segregation and transportation costs.**
- **Result: Upward pressure on fuel prices**

Gasoline Price Factors

- **Gasoline sulfur phase-down is gradual and is just starting in 2004**
- **MTBE bans have limited geographical implementation**
- **New RFG/low-sulfur areas have limited geographical implementation**
- **Crude oil price changes predominate**

PRICE VOLATILITY

- **Temporary Supply/Demand Imbalances**
  - **Weather**
  - **Refinery production disruptions**
  - **Distribution system disruptions**
  - **International events**

PRICE VOLATILITY

- **Prices are often more volatile if an affected area has a unique fuel formulation.**
- **This is commonly referred to as a 'boutique fuel'.**
  - **Limited geographical area**
  - **Not interchangeable with other fuels**

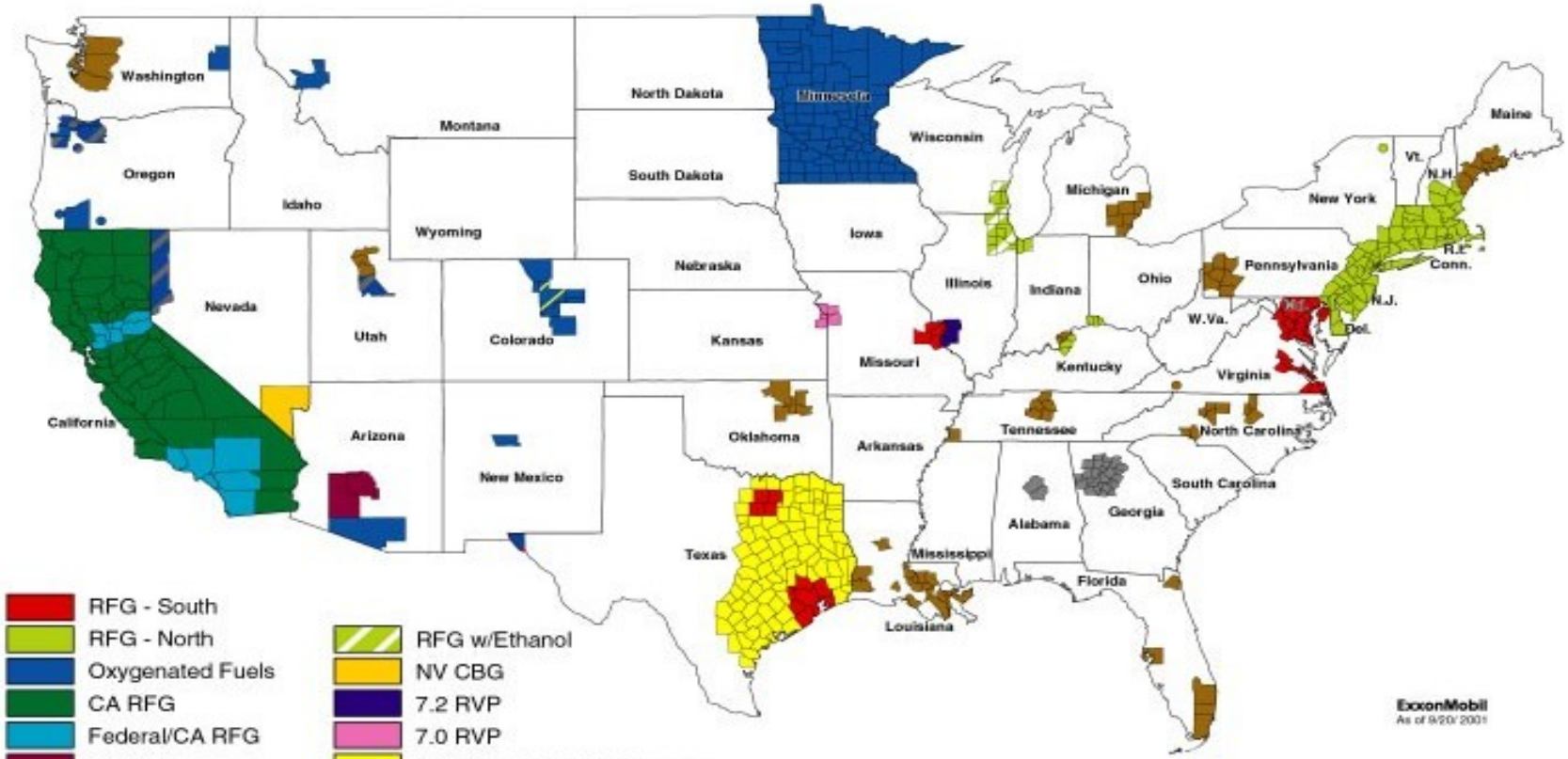
PRICE VOLATILITY

- **Boutique fuels are now the root of all evil**
  - **“300 separate jurisdictions with their own rules” – Senator Kerry**
  - **“110-plus different fuel types” – Senator Bingaman**
  - **Must be bad if it needs a word from the French to describe it**

BOUTIQUE FUELS

- **Actually…**
- **‘Boutique’ fuels**
  - **Approximately sixteen distinct fuels**
  - **Each available in three grades**
  - **Many jurisdictions use the same fuel**
- **The number of fuels being produced in the US is more like 50.**

U.S. Gasoline Requirements



This map is not intended to provide legal advice or to be used as guidance for state and/or federal fuel requirements, including but not limited to oxy fuel or RFG compliance requirements. ExxonMobil makes no representations or warranties, express or otherwise, as to the accuracy or completeness of this map.

K.W. Gardner

Why So Many Boutique Fuels?

- **Local areas have different air quality needs.**
- **A local fuel is a compromise between environmental and economic considerations.**
- **Often supported by refiners**
  - **Lowers or avoids investment costs**
  - **Lower consumer costs *overall***

BOUTIQUE FUELS

- **Actually…**
- **These ‘boutique’ fuels have been in use for several years.**
- **Boutique fuels do contribute to *episodic* price volatility.**
- **Why are they a problem now?**

SPRING 2004

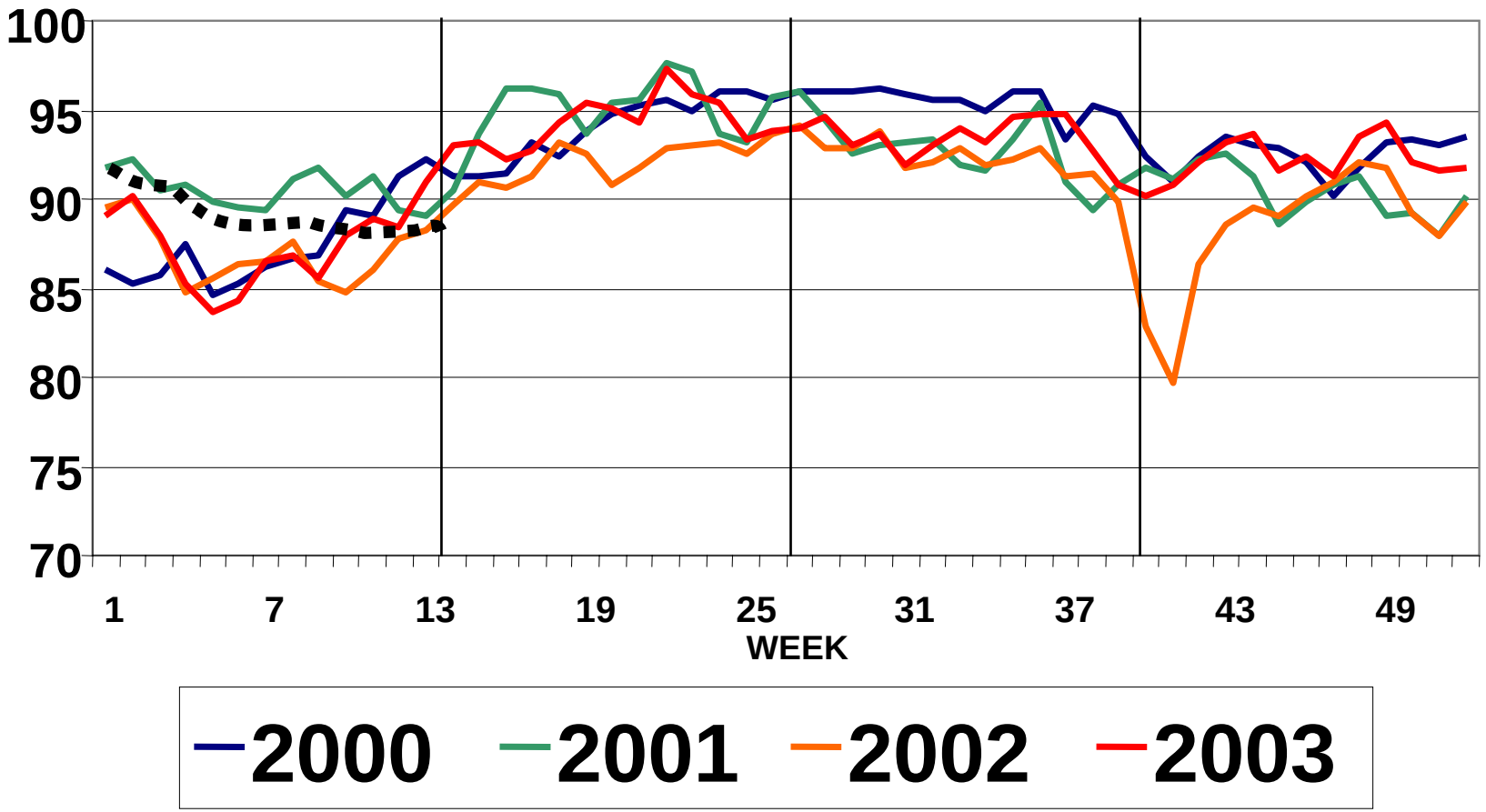
This spring the problem with gasoline (fuel) prices is…

- ❑ **Price Volatility**
- ~~❑~~ **Price is "too high"**
  - ✓ **Crude oil price**
  - ✓ **Low inventories**
  - ✓ **Additional refining costs**

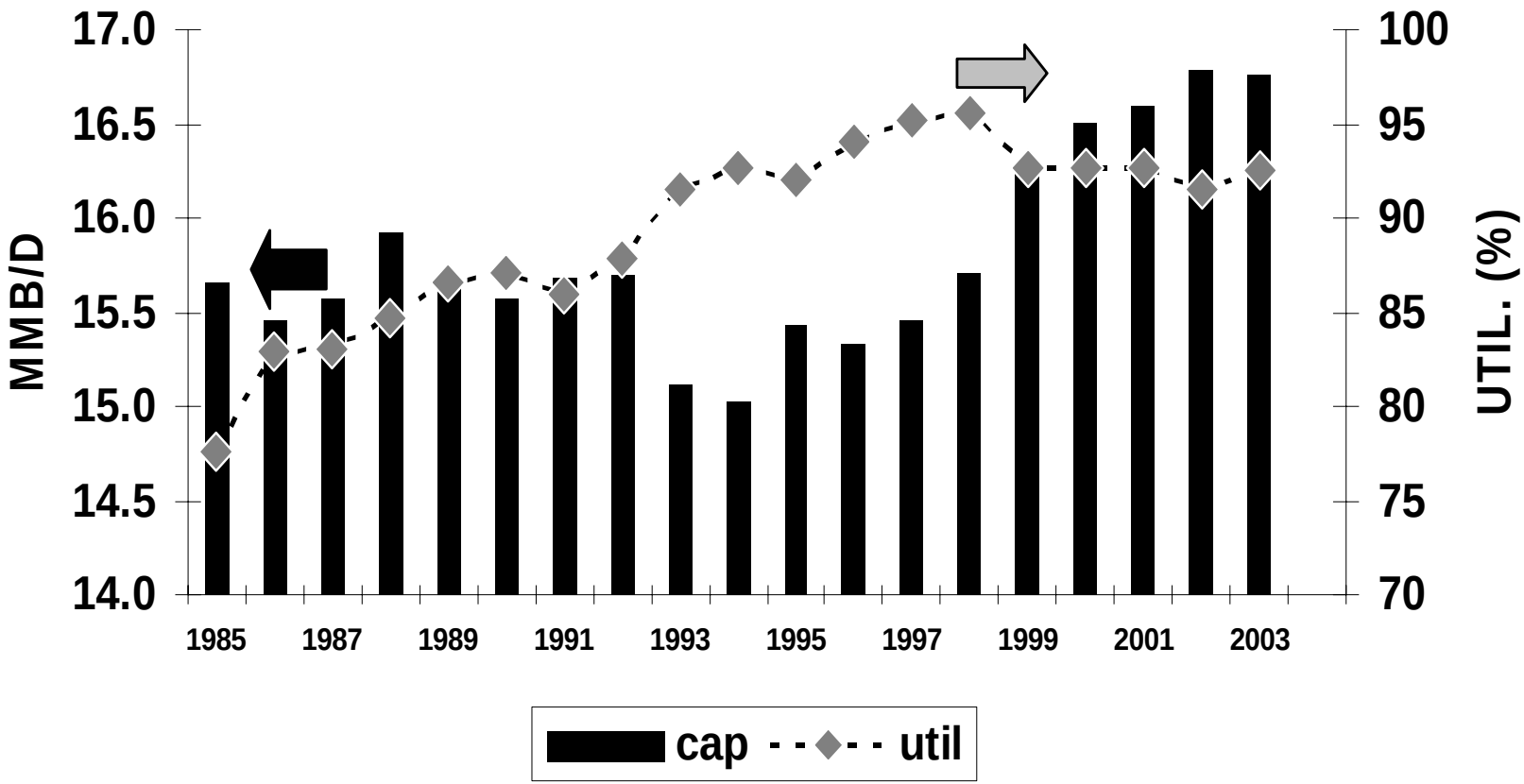
Refinery Utilization

- **Cyclical Utilization**
  - **Major Refinery Turnarounds**
  - **Minor Refinery Turnarounds**

REFINERY UTILIZATION (%)



REFINERY CAPACITY AND UTILIZATION



Conclusions

- **The refining industry is operating at maximum capacity.**
- **Transportation fuel prices will track crude oil costs.**
- **Except for ‘memorable’ unpredictable events.**

Conclusions

- **Boutique fuels are not today's problem.**
  - **They do add complexity to the refining and distribution system.**
  - **They may contribute to the effects of unpredictable events.**

Conclusions

- **Future years - The refining industry will continue to cope with significant capital investment requirements to comply with future regulations**
  - **Could contribute to “steeper” capacity utilization cycles.**
  - **Will put downward pressure on fuel supplies.**

NPRA

2004 GASOLINE SULFUR STANDARDS

Category	Annual avg. (ppm)	Cap (ppm)
Small refinery	30-300	300-450
GPA refinery	150	300
Others	120	300

IMPACT OF DIESEL

- **If ULSD is produced in 2006, some refineries can comply with the interim gasoline sulfur standards for a few more years.**
- **GPA: two year (2007-2008) extension**
- **Small refinery: three year (2008-2010) extension**

OUTLINE

- **Price Factors**
- **New Developments for 2004**
- **Price Volatility**
- **Refinery Utilization**