

Global Oil Market Outlook: Demand Issues



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Selected Topics

- Flying Blind
 - What am I commenting on ?
 - What do we know ?
 - What do we think we know ?
- Demand and Price Spikes
- Where fuel competition counts – the US and natural gas
- Where demand is robust – a look at the oil exporters
- Where demand is stagnant – the OECD in Europe and Asia
- Demographics, per capita income and transport fuel demand
- Back to basics and the EIA Outlook

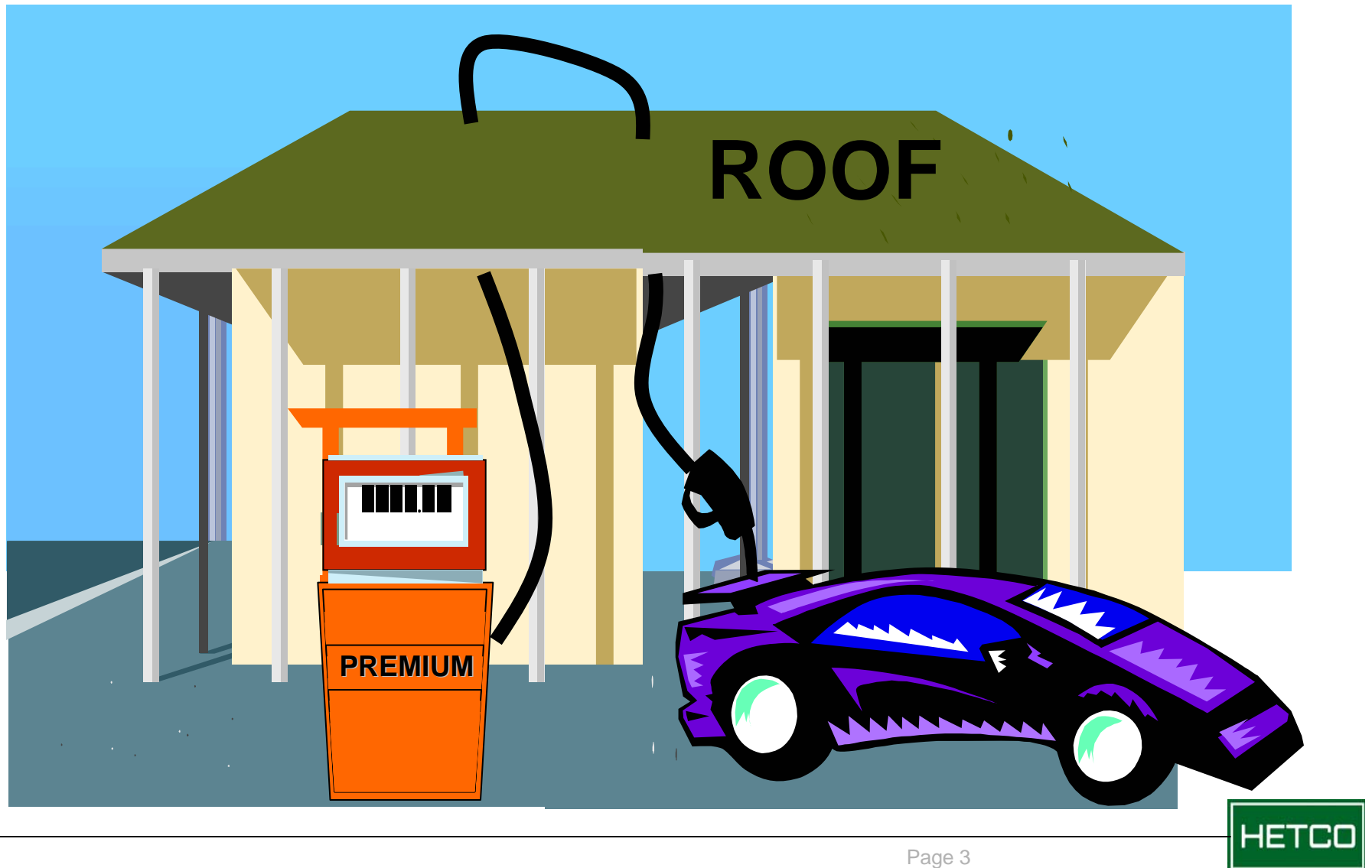
What do we know about demand?



IEA OMR 14 March 2006: “Global oil demand growth is revised down from 1.78 mb/d to 1.49 mb/d for 2006 due to persistently high oil product prices and increasing evidence of demand weakness in Southeast Asia. However, this still represents a recovery from growth of 1.02 mb/d in 2005, with both China and North America driving the rebound.”

- How does a major institution revise basic balances down by 16% within one month?
- How can SE Asia play so big a role (from trends of 6 months earlier)?
- Our views are colored by data from the US/OECD, but demand growth is coming from the non-OECD
- OPEC producers on a trend line of demand growth of 500-b/d – demand increases in tandem with oil prices
- Latin American, non-OECD Asia (excl. China), Russia demand rising by 400 (?)
- Add China at a modest 300-kb/d and the **non-OECD black hole might be 1.2-mmb/d of incremental demand growth**

We certainly know that the cost of gasoline is ... and



We seem to know, generally, what's driving demand?

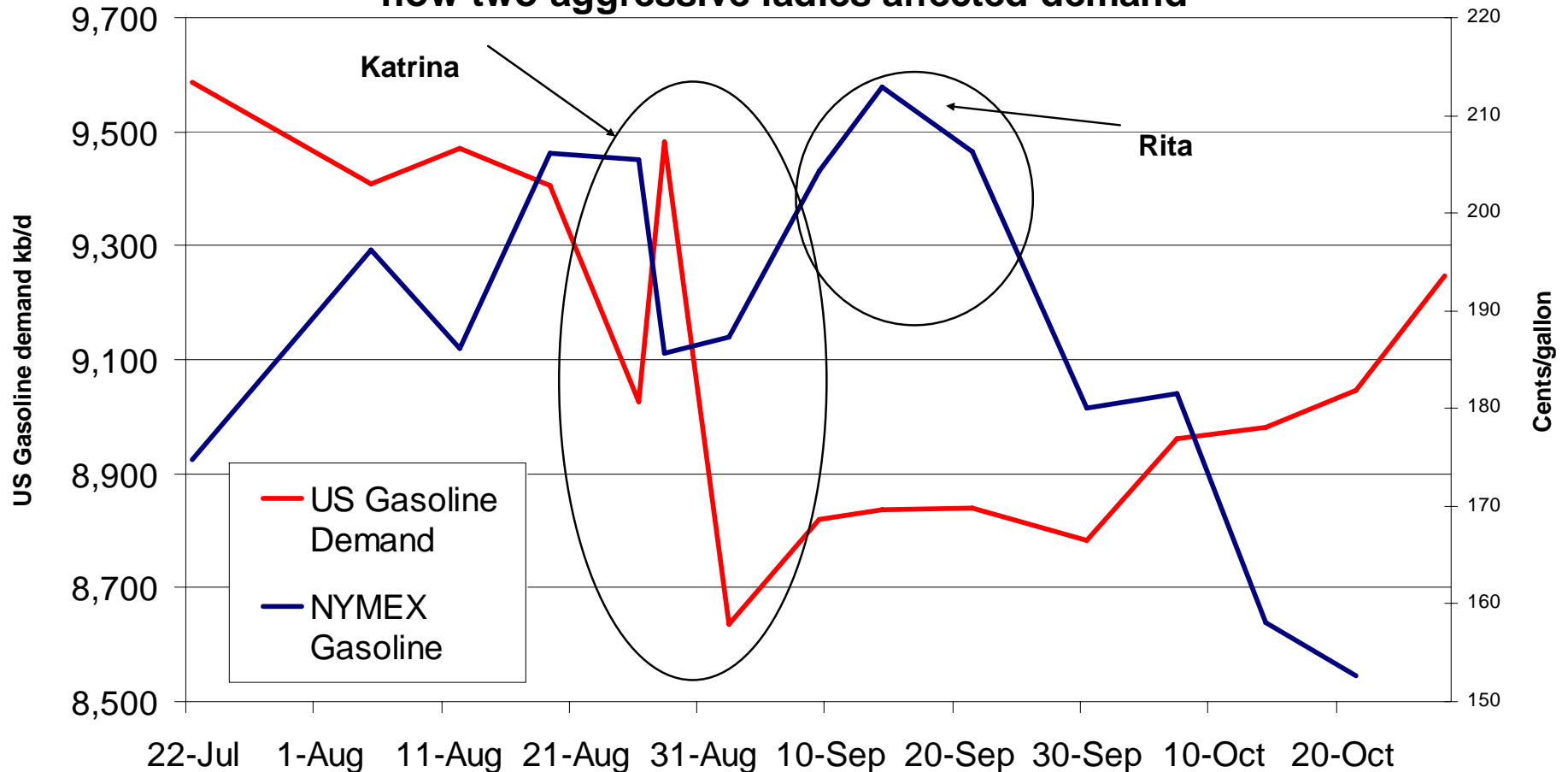
- Sustained world economic growth – Despite higher prices, IMF, World Bank revising upward 2006 global GDP growth from 4.3% to 4.8%
- Emerging markets oil demand rising by 2.8%-3.5% in 2006
- Chinese economic growth of ~9.5% in 2005, should remain over 8.5% at least until 2008 Olympics, translating into +500-kb/d per annum
- OPEC, other oil exporters continue their boom, with oil demand growing +500-kb/d
- US oil demand growth, after revisions, should see rises of over 200-kb/d, in gasoline and diesel in 2005, despite price spikes, hurricanes, continuing at a higher rate in 2006

We also know that the conventional wisdom about demand is clearly wrong

- The conventional wisdom (IMF/World Bank, DOE, OECD) tells us:
 - \$10 price rise, cuts OECD GDP by 0.4% for 2 years (US=0.3%, Europe=0.5%, Japan=0.4%)
 - \$10 price change, increases inflation by 0.5%, unemployment by 0.1% for 2 years
 - For emerging markets, \$10 price rise, creates 0.8% GDP loss in Asia, 1.6% in Latin America, 3% in Africa
 - \$150 oil would imply 4% decline in growth, 5% increase in inflation, 1% rise in unemployment
 - Net impact is a function largely of where oil exporters spend their additional revenues
- Recent review of demand elasticity for China argues that demand elasticity is 0.3 and that a full pass through of prices would reduce diesel demand to zero at \$75 a barrel – but is that right?

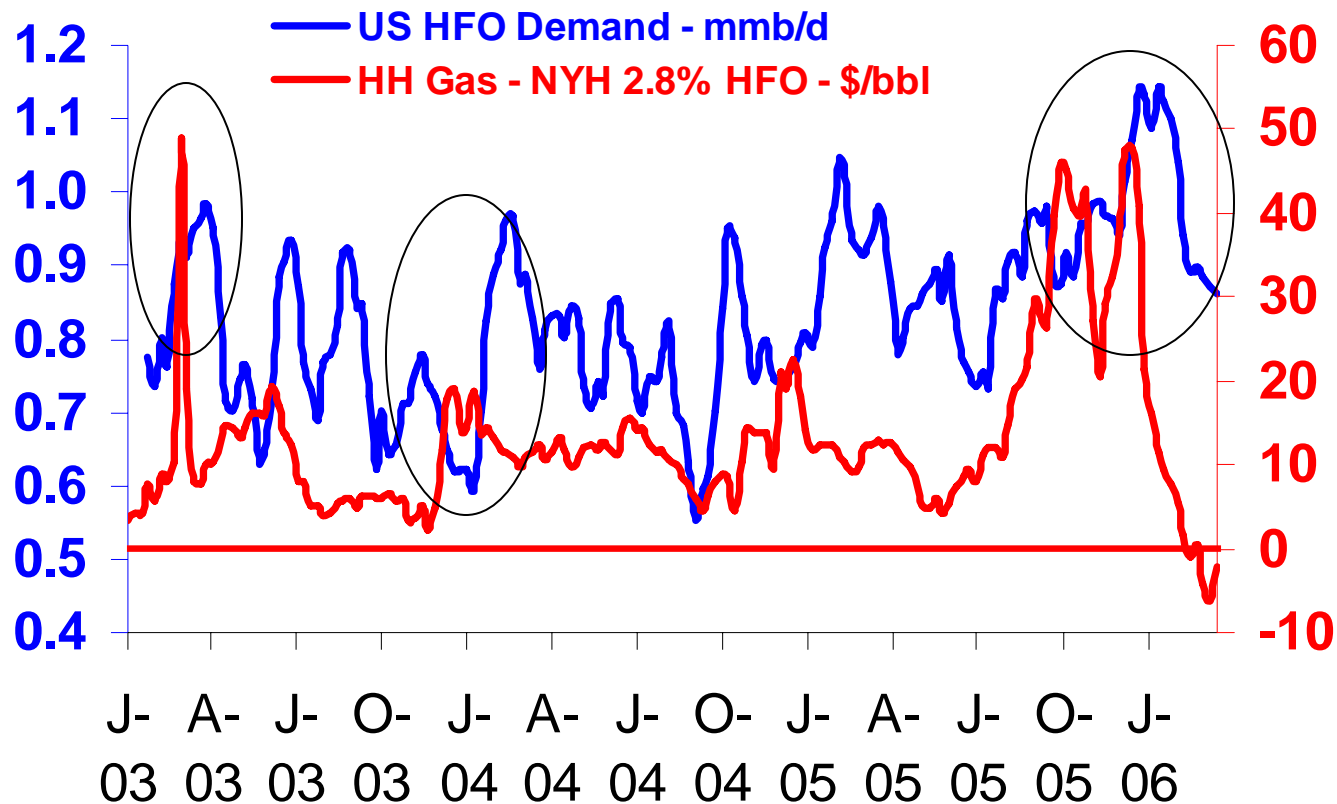
And we know that demand is price responsive – but it takes a price spike

Gasoline demand and NYMEX prices:
how two aggressive ladies affected demand



And when prices fall, “suspended” demand rebounds

Inter fuel competition also impacts demand – in US tight natural gas has affected HFO demand



Despite Environmental Issues Nat Gas spikes push HFO Demand Higher

Opec economies matter on the demand side

- A comprehensive forecast of demand has to take into account the set of countries with the fastest economic and demographic growth rates
- In 2003, Opec economies grew by 11.2%, in 2004 by 20%, with similar rates in 2005 and 2006
- This translated into demand growth of 350-kb/d for 2004, a number that probably reached 500-kb/d in 2005 and at least that amount in 2006, (eroding Opec spare capacity) (Opec stats)
- Middle East demand alone rose by 350-kb/d in 2004 (IEA stats), estimated at 290-kb/d 2005 and also 2006 – almost certainly understated for last year and this year

What is determining demand growth (besides price) in emerging markets?

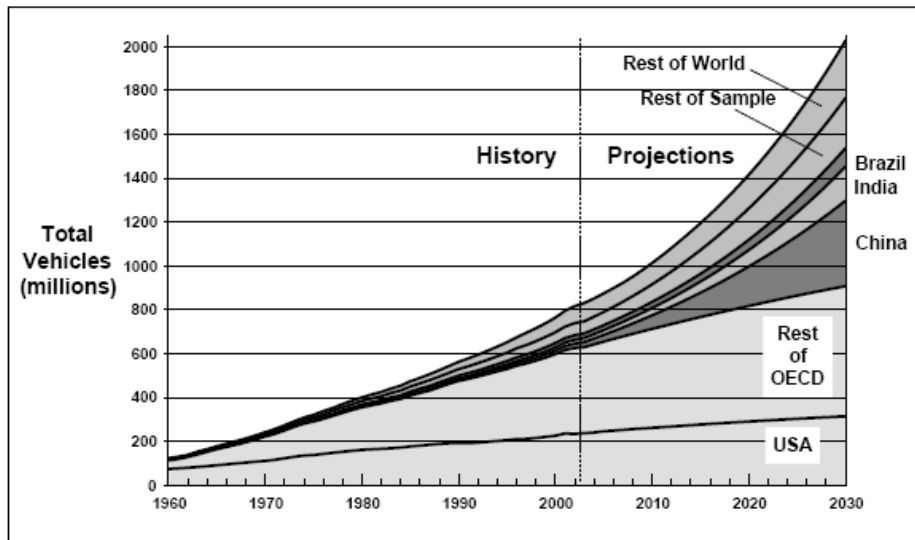
- ✓ Economic Growth
- ✓ Per Capital Income
- ✓ Demographic Growth
- ✓ Vehicle and driving demand
- ✓ Urbanization

But, at the extreme, rapid growth can accelerate demand for energy, bidding up prices: for China there appears to be a 1:1 relationship between demand for energy and economic growth until growth reaches ~ 5%, and then the ratio increases rapidly. . .for how long?

China poses severe difficulties in estimating demand

- Long run Chinese data seem about right – an average increase of 450-kb/d from 2000 through 2004 (BP *Statistical Review of World Energy*)
- But annual data are muddled by lack of transparency, especially on stocking/de-stocking
- Our tracking of Chinese demand show an increase of 750-kb/d in 2004 and 370-kb/d in 2005, net of stock changes
- Our tracking of Chinese data show an implied stock build in 2004 of 140-kb/d
- Our tracking of Chinese data for 2005 show an implied stock draw of 220-kb/d

Recent studies confirm the likely impact on transport fuels in emerging markets



- Dermot Gately et al project that the world's vehicle stock will more than double to 2-billion by 2030
- China alone is projected to see a 20x increase
- Historically, vehicle ownership – and use – grow twice as rapidly as per-capita income, as economies 'pass through' income levels of \$3,000- \$10,000 per capita

Back to basics and the EIA Outlook

- There's a great deal to discuss about weather and elasticities and their impact on demand
- Undoubtedly, if crude and product supply remained constrained, price will balance demand
- World oil demand is likely to rise, as per the EIA, by ~1.5-mmb/d for the next few years, or 3-mmb/d every two years, for the foreseeable future
- Emerging market demand growth, including China, India and oil exporters, will put a floor of 1.0- to 1.3-mmb/d per annum on demand growth, with FSU and OECD North America adding the rest
- This is in line with the EIA short term outlook

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