Petroleum: Keeping Pace with a Rapidly Changing Sector

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The surveys the market loves to hate

Oil analysts of all stripes spend an inordinate amount of time poring over, forecasting, second-guessing EIA oil data – most of all WPSR (the ‘weeklies’)

• US still accounts for nearly ¼ of global oil market, > 60% of the OECD gasoline market

• EIA data peerless in scope, detail, timeliness

• Global price impact, beyond the US market

• Easy target
‘Reasons’ to pick on EIA data

1. **Parochialism.** The market is changing. Non-OECD demand is catching up with OECD. The US is less relevant. What about China and India?

2. **Near-sightedness.** The market is globalizing. The US is increasingly dependent on product imports. Product markets ignore borders. Over-emphasis on US framework gives a distorted view not only of the global market, but of the US market itself.

3. **Rigidity.** Environmental standards are tightening. Product definitions are changing. EIA survey categories are rigid, definitional changes distort historical comparisons.

4. **Irrelevance.** Funds. Inflation. Currency depreciation. Diminishing impact of ‘fundamentals’ (as captured in data) on price formation: price/fundamental ‘disconnect’

5. **Unreliability.** Revisions, inconsistencies between data sets.
In fact, eroding US market share cuts both ways...

- In some ways, the globalization of oil markets makes US data **more** relevant, not less (when the US sneezes, the world catches a cold)

- The slide in US market share is **gradual and uneven** across the demand barrel (dieselization of the European car fleet actually increases US gasoline market share)

- Oil market’s expansion, increasing complexity **boost demand for detailed statistics** – there is no substitute for EIA data
US import dependency: crude v. products (EIA data)
US product import dependency (EIA data)

**US gasoline import dependency**
Weekly product imports as % of deliveries
(4-week rolling average)

**US jet fuel import dependency**
Weekly jet fuel imports as % of deliveries
(4-week rolling average)

**US RFO import dependency**
Weekly product imports as % of deliveries
(4-week rolling average)

**US "other oil" import dependency**
Weekly product imports as % of deliveries
(4-week rolling average)
European product import dependency also on the rise...

- Europe has become structurally short jet fuel and distillates
- Europe is structurally long gasoline – a ‘by-product’ of European refining
- Europe depends on the US to dispose of excess gasoline production
- The global distillate market is increasingly interdependent – lately global distillate demand has pulled US exports
Atlantic co-dependency: EIA data shed light on Europe

- Recent surge in US gasoline stocks shut outlet for excess US gasoline production
- ‘Discretionary’ European refinery run cuts
- Curtailed Euro. refining activity tightens Atlantic Basin distillate supply
- ‘Abnormal’ Atlantic arbitrage open from the US to Europe
- Counter-seasonal strength in US heating oil crackspreads
Changing emission standards distort year/year comparisons…

- Tighter sulfur standards mean re-labeling of off-road diesel
- Shifting product categories partly account for divergence in high-sulfur (‘heating oil’), low-sulfur (‘diesel’) distillate stock movements
- More than semantics to rapidly accelerating 2008 high sulfur stock draws
- Definitional changes upset the analytical routine, but identifying products by quality rather than end-use makes sense
... as do changes in regulatory standards

- May 2006 phase-out of gasoline oxygenate MTBE: upheaval in gasoline logistics, blending, storage and terminology
- Divergence in finished, unfinished gasoline inventory movements
- The end of RFG storage
Beyond the headline figure: defining gasoline production

US Weekly Gasoline Output
Net of Blending Component Imports

Source: US DOE

US Weekly Gasoline Output
Net of Blend. Comp. Imports and Stock Changes

Source: US DOE
Apparent inconsistencies between data sets?

US Ethanol Demand
EIA Monthly Energy Review

US Ethanol Demand
EIA Petroleum Navigator Database
Mapping ethanol’s market penetration

US Monthly Gasoline Production from Refiners & Blending Terminals

US Padd 1 Monthly Gasoline Production from Refiners & Blending Terminals

US Padd 5 Monthly Gasoline Production from Refiners & Blending Terminals

US Padd 2 Monthly Gasoline Production from Refiners & Blending Terminals
# Ethanol penetration: PADD 1 (East Coast)

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Interfuel comparisons: natural gas penetration

PADD 1A Residential Annual Fuel Consumption: Heating Oil v. Natural Gas

PADD 1B Residential Annual Fuel Consumption: Heating Oil v. Natural Gas

PADD 2 Residential Annual Fuel Consumption: Heating Oil v. Natural Gas
Stock/price ‘disconnect’: data reveal shifting market dynamics

Apparent stock/price disconnect shows shifting market conditions which the data help reveal.

Weekly NYMEX WTI price v. industry US crude inventories
Bloomberg, US DOE

'000s barrels

$/barrel


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Oil and the dollar: less than meets the eye

Oil Prices and Currency Fluctuations:

Dollar Index v. NYMEX WTI

Oil Prices and Currency Fluctuations:

O$ Index

WTI

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Oil as currency hedge

Oil & the Dollar: Spurious Correlation?

NYMEX WTI
Dollar Index

$/bbl

In conclusion…

• Knowledge is a voyage from error to error, not truth to truth – the quest for perfect data will always be elusive

• Data users must understand their inherent limitations and move beyond headline figures to uncover hidden data narratives

• Apparent ‘problems’ with the data are pregnant with meaning. Less facts than challenges

• Value of the data depends on how they are used

• EIA remains the golden standard of data timeliness and detail…

• …but ultimately data depend on input. Corporate reporting a casualty of cost cutting and industry consolidation. Companies must reprioritize reporting and upgrade their systems
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