Global Trends In Energy Markets

Craig Pirrong
Bauer College of Business
University of Houston

A Dangerous Mission

- Making forecasts about energy markets is a dangerous mission
- A lot more are wrong than are right-and often way wrong
- Consider the US gas market from 2006 to the present. 2006 Conventional wisdom of looming shortages proved spectacularly wrong
- But I'll give it a shot, hoping either I'm right or your memories are short

Various Cuts

- Gas/Oil/Coal/Power
- Supply/demand
- Upstream/Midstream/Downstream
- Geographical
- Won't have time to examine all these cuts
- I'll focus on gas and oil, and make some comments about related markets (coal and power)

Gas: Where the Revolution Began

- The transformation of the gas market post-2006 is a truly remarkable story
- In 2006, the question was where would the US get its gas?: In 2013 the question is where is all that US gas going to go?
- The history is pretty well known: what does the future hold?

Can the Revolution Be Exported?

- The US experience resulted from the confluence of technology, geology, infrastructure, geography, and the legal system
- Technology is exportable, though geology is less favorable in many regions (China: water, jumbled geology)
- Even where geology and geography and infrastructure may be favorable (e.g., Poland and Ukraine) politics and legal system are impediments

Investment Implications

- Regulation/gov't (climate change, nuke shutdowns) bullish for gas demand
- Bringing gas to market is infrastructure intensive: LNG, pipelines: midstream opportunities
- Gas consuming industries (e.g., petrochemicals) esp. those proximate to gas supplies major beneficiaries
- Bearish for coal, but some upside for NA coal export infrastructure (rail, ports, shipping)

Oil: The Revolution Continues

- Revitalization of US/NA oil production is even more remarkable, in many ways, than the revolution in gas
- Technology dynamic and completion costs declining
- Again, questions about whether revolutionary technology can be exported due to geological and legal/political issues
- Biggest open question: longevity of fracked wells

Oil: Investment Implications

- Some of new US production out-of-position relative to infrastructure. This has proved beneficial for rail, tank car builders
- Price relations (Brent-WTI) suggest Midcon infrastructure bottleneck is largely gone: if Keystone II is built, more Midcon infrastructure needed
- US refining
- Negative for those developing high cost resources (e.g., Russian Arctic)

STREETWISEPROFESSOR.COM CRAIG PIRRONG

Keystone II: Truly a Keystone

- What happens to Keystone II will have ramifications throughout NA oil markets
- Oil sands producers (Suncore, Syncrude, Shell)
- Rail is a substitute, but more costly: lower derived demand for oilsands
- Pacific pipeline problematic for political reasons (BC is not cartoon)

Truly a Keystone (con't)

- Keystone II approval would be a positive for US Gulf refiners, esp. in the Gulf and Midcon
- Keystone II approval would also require additional Midcon infrastructure (pipelines, storage)
- Impacts on refiners (Gulf vs. Midcon) depends on lag between completion of Keystone II and development of complementary infrastructure to the Gulf

Political Risk

- Political risk is endemic in oil markets, but we usually think of it in places like Nigeria and Russia
- Political risk is arguably the biggest issue in NA energy right now, especially with Keystone, both in the US and Canada: rail too (Quebec tragedy)
- US political situation borders on the chaotic. Will Obama feel obliged to go with his base, which hates Keystone, or to reach out to the rest of the country?

Oil: Other Supply Considerations

- Middle East always the source of uncertainty: tail risk to the upside (price)
- Revitalization of Mexico: substantial potential for another supply increase
- Venezuela: bad situation likely to get worse

Oil: Demand Considerations

- Moribund demand growth in US and Europe and Japan: all (esp. Europe and Japan) have considerable risks to the downside
- China the big wildcard
- The government recognizes the need to transition to a less resource-intensive growth model, but has lapsed back into throwing credit at traditional consuming industries whenever growth stutters
- Financial system fragile and incredibly opaque: non-trivial risk of a crisis

Renewables

- Economics of renewables highly dubious
- Power: diffuse and unpredictable
  - Appalling European experience (Energiewende)
- Natural gas boom undermines economics further
- Liquid fuels: High cost, blend wall
- Extraordinarily dependent on subsidies, and hence politics

Some Investment Takeaways

- Substantial technological dynamism upstream creates value downstream and midstream
- Look for infrastructure bottlenecks that will develop due to upstream shocks
- Indirect/cross market effects: gas supply boom implications for power, coal export infrastructure
- Energy relentlessly political: a major source of risk for energy investments

Investment Alternatives

- Are you taking a view on output or technology?: Investments in companies or sectors
  - Investments in complementary assets often the most effective, e.g., investing in midstream or service companies
- Are you taking a view on price? Investments in sectors, or alternative investments

STREETWISEPROFESSOR.COM CRAIG PIRRONG