



Competition, pricing, and trade in international gas & LNG markets

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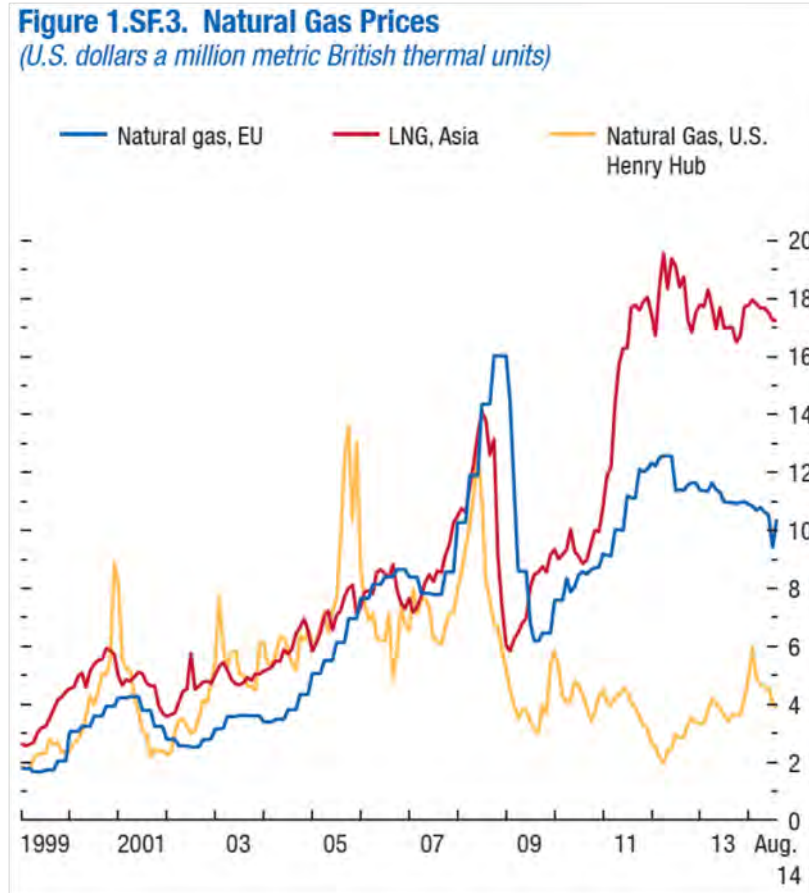
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Overview of this talk

Understanding global gas prices & LNG trade

- ① Global gas & LNG prices are the result of imperfect competition
- ② LNG shipping constraints create further limits to price arbitrage
- ③ A more “liquid” LNG market may, in parts, be bad for security of supply

Global gas prices have diverged – irrationally?



10 years ago: Single global gas price due to LNG trade?

2010s: LNG exporters failing to arbitrage prices?

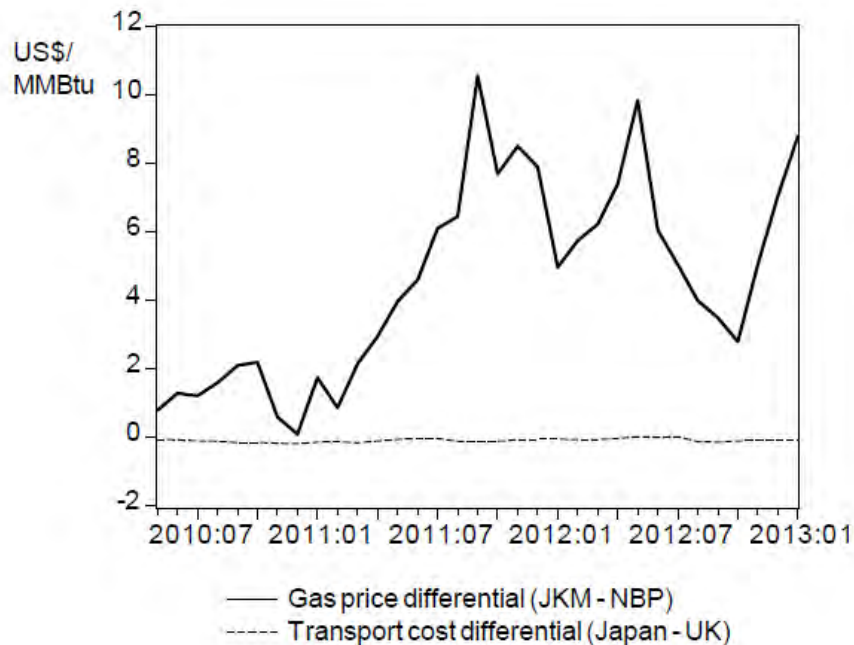
- **Qatar:** “Forgone profit” up to US\$100 million per day?
 - Estimates for short-term sales to UK vs Japan during 2011

Source: IMF World Economic Outlook (October 2014)

Imperfect competition explains gas prices

A competitive model fails to explain gas prices...

Key prediction: Netbacks equal across export markets



Source: Ritz, R.A. (September 2014, *Energy Economics*)

... exporter market power rationalizes prices & trade

Exporters with market power recognize impact on prices

- Price sensitivities of demand vary across regional markets

BUT

Market power *not* always bad: raises investment incentives

- Static vs dynamic perspective

LNG shipping creates limits to arbitrage

“Entry barriers to LNG trading are surprisingly high – new entrants ... must have access to cargoes, but the market's liquidity is typically held captive by the LNG liquefaction owners/upstream suppliers”

“Traders must also have access to shipping, via owned vessels or the charter market.”

Key role of shipping in the LNG value chain

- ① Centre of vertically integrated ownership structure
- ② Does exporter market power raise transport distances?
- ③ Optimal timing & risk profile of shipping investments

Source: JP Morgan Cazenove – Global LNG (January 2012)

High UK LNG imports projected for 2020s

Figure 123
Annual supply pattern in No Progression

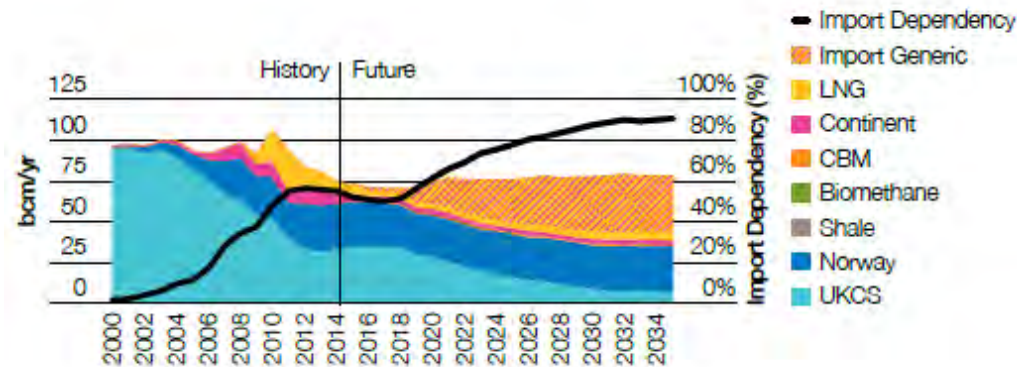
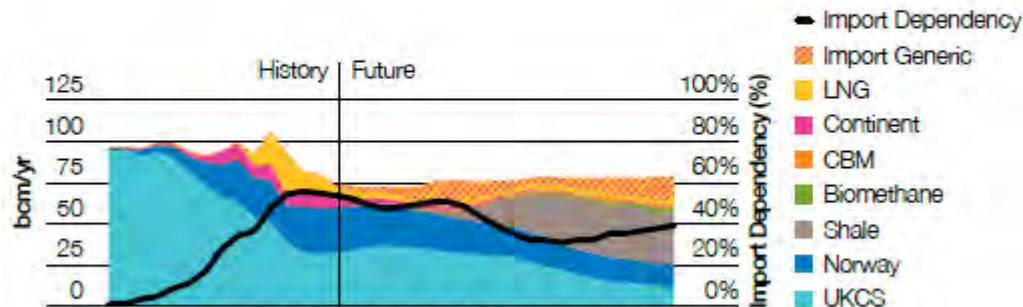


Figure 124
Annual supply pattern in Low Carbon Life



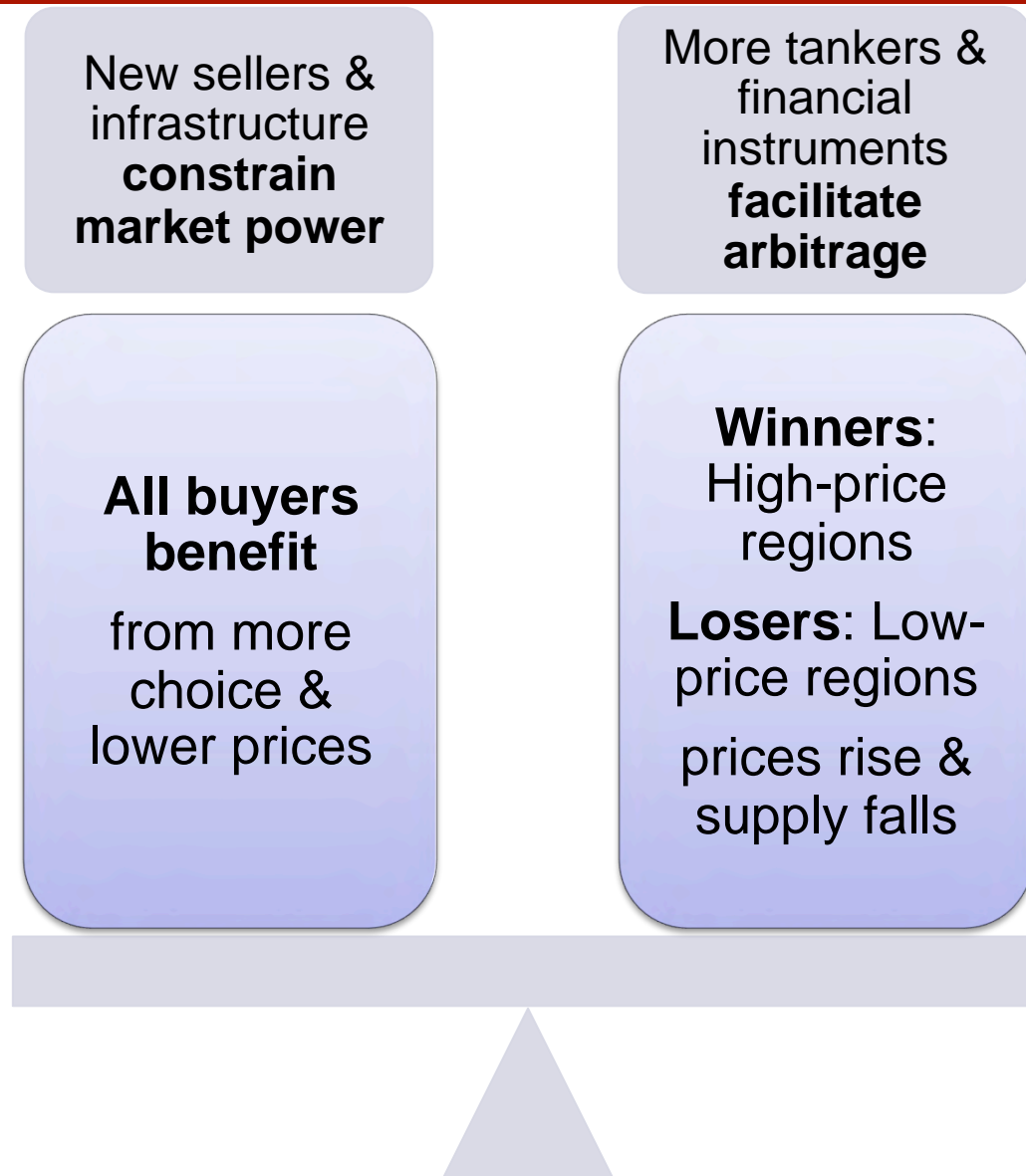
Large-scale new entry
across LNG value chain



Fewer concerns about
security of supply?

Source: National Grid UK Future Energy Scenarios (July 2014)

More “liquid” LNG market – two-edged sword?



References

Thank you for listening!

Feedback welcome:
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References

- Ritz, R.A. (2014), “Price discrimination and limits to arbitrage: An analysis of global LNG markets”, *Energy Economics* 45, September 2014, pp. 324–332
- Ritz, R.A. (2014), “A strategic perspective on competition in international gas markets”, EPRG Working Paper, in preparation for December 2014