

Accepted Manuscript

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PII: S0140-9883(17)30380-8
DOI: [doi:10.1016/j.eneco.2017.11.001](https://doi.org/10.1016/j.eneco.2017.11.001)
Reference: ENEECO 3812

To appear in:

Received date: 24 March 2017
Revised date: 4 October 2017
Accepted date: 2 November 2017

Please cite this article as: Dayong Zhang, Min Shi, Xunpeng Shi , Oil indexation, market fundamentals, and natural gas prices: An investigation of the Asian premium in natural gas trade. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. *Eneeco*(2017), doi:[10.1016/j.eneco.2017.11.001](https://doi.org/10.1016/j.eneco.2017.11.001)

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**Oil indexation, market fundamentals, and natural gas prices: An
investigation of the Asian premium in natural gas trade**

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Abstract

A heated debate has arisen over whether the Asian premium (i.e., higher prices in Asia than elsewhere) in natural gas trade is due to price discrimination or market fundamentals. Determining the origin of this premium can help to guide the gas industries and policy makers in Asia, especially when the traditional oil-indexed price mechanism fades away. Using a new systemic time-series approach, this paper explores the extent to which oil prices and market fundamentals contribute to variations in gas prices in Japan, the United States, and Germany. We find clear cross-country differences and time-varying patterns. Gas prices are much less affected by supply and demand factors than oil prices in Japan and Germany, whereas these factors are more important than oil prices in the US market, which has a pricing hub. Through rolling-windows and subsample analysis, we discover that oil prices were important in Japan and Germany, but the level of importance has declined significantly in recent years, though the contribution of fundamentals does not change much. The results show that Asian gas prices are determined more by oil prices than by the market fundamentals; thus the Asian premium is more likely due to this oil indexed pricing mechanism, rather than market fundamentals. This suggests that developing Asia's benchmark prices (through trading hubs) with a better reflection of regional specific fundamentals can lead to a more efficient allocation of gas resources.

JEL: Q31, Q41

Keywords: Asian premium; gas price; oil indexation; systemic approach; variance decomposition

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