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## **Editorial**

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### **Shuming Bai**

Energy is vital to virtually every aspect of a modern economy and for sustaining life. Petroleum consumption constitutes more than 95% of all the energy use for transportation in the USA and 62% elsewhere in the world in 2013.<sup>1</sup> In the recent years the USA has been experiencing an energy renaissance driven by the shale energy boom unlocked with horizontal drilling and hydraulic fracturing technology. The shale revolution in oil and gas production has fuelled economic growth and job creation. Stocks in energy sector that are participating in the energy renaissance seem to perform better than other industries as illustrated in one of the papers in this special issue. However, there has been high volatility in the energy industry over the past few years, especially with regard to energy prices, which affect the bottom line and survival of energy businesses. The key factors that drive energy price volatility are structural and are likely to have a long-term impact, as expounded in one of the manuscripts in this special issue as well. With the high volatility in energy prices, understanding price compositions for both conventional and unconventional oil as well as managing the sources of risk are of great interest to both energy users and producers. In recent years, a growing number of companies besides energy firms are paying more attention and allocating more resources to risk management programmes designed to hedge financial risks such as market price risk, credit default risk, and other operational risks. These related topics are incorporated in this special issue on energy hedging and risk management.

Each of the papers in this special issue has a common theme of risk management. They address different types of risk, especially energy market risk, credit risk, and operational risk and how risks affect the performance of firms and industry. The research by Pennywell, Chow, and Javine compares the stock returns on firms in the energy sector versus other industries using Pitman Closeness Criterion and find that stock return models are sensitive to the energy industry. Bai's study examines the core components of energy market price risk, the determinants of crude oil price, by employing the extended commodity storage model and concludes that it is the fundamental supply-storage-demand factors that are significant and making the short-run adjustments towards the long-run equilibrium versus the gold-stock-currency factors as reported in prior studies. The manuscript by Harouaka elucidates what is unconventional oil and explains how it affects oil resource evaluation and pricing. Credit risk in the emerging market of China is explored applying the theory of two-sided markets in Ding's paper and the manuscript draws the inference that the cross network externality of the price structure in China is appropriate. Lin, Zhang, and Zhang investigate how Big Four firms are not equal at managing operational risks in the derivative market utilizing a novel measure and show

how appropriate risk management improves firms' performance. In summary, the common theme of risk management across energy and other industries manifestoes the importance and usefulness of appropriate risk management strategies that mitigate risks and improve corporate operations.

**Note**

1 Sources: [www.eia.gov](http://www.eia.gov) and [www.iea.org](http://www.iea.org)