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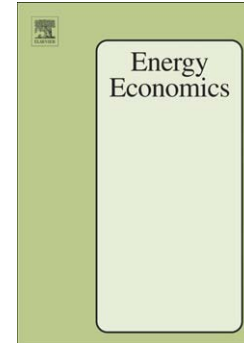
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Abstract

In this paper we study implied and realized volatility for the Nordic power forward market. We create an implied volatility index with a fixed time to maturity. This index is compared to a realized volatility time series calculated from high-frequency data. The results show that the implied volatility has a positive bias against the realized volatility measure indicating that there is a risk premium imposed by option traders. The results are consistent with previous research in other markets.

1 Introduction

Understanding and managing risk is crucial for all participants involved in financial transactions. In order to price assets, hedge production, or hedge financial positions, the risk characteristics need to be understood. Electricity is different from other commodities in that there is yet to exist a technology that lets us economically store electricity. Therefore, mismatches in electricity demand and generation must be covered immediately, resulting in short spikes or troughs in prices and transient periods of high volatility. The non-storability of electricity makes understanding risks more important, but also increases complexity. Financially settled forwards and options on these forwards help participants manage risks. These contracts also create the opportunity of designing models that describe and predict the market's expectation of volatility.

Volatility, as implied from option prices, is a commonly used measure of the market's expectation of future risk and it has been extensively studied, particularly for equities. Previous research shows that implied volatility (IV)-indices provide better forecasts for volatility than traditional time series methods such as GARCH (Martens and Zein, 2004). Christensen and Prabhala (1998) show this for the VIX index for S&P500 volatility and Haugom et al. (2014a)

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