USING METEOROLOGICAL DERIVATIVES FOR WEATHER RISK MANAGEMENT IN AGRICULTURE. THEORETICAL APPROACH

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Abstract
The aim of this paper is to explore weather risk management by application of weather derivatives in agriculture and rate the hedging performance. Meteorological elements highly affect the agriculture sector by influencing the yield of many crops. Weather indices depending on temperature, rainfall and wind speed. The price of hedging is determined by using the Burn analysis applied to the index modeling method. By appliying the weather derivatives in weather risk management we can reduced the yield volatility in agriculture. As the study of Štulec (2017) showed, weather has had a growing impact on the global economy evolution in the last decades, approximately 80% of the world economy is directly or indirectly influenced to the weather. Leggio (2007) states that companies use weather derivatives to stimulate sales and diversify investment portfolios. Contracts with meteorological derivatives make profit depending on the weather (Alexandridis and Zapranis, 2013a). The assets of these contracts are represented by weather indices because the weather is not a physical asset that can be traded.
Keywords: burn analysis, hedging efficiency, long call strategy, weather option, weather risk management.
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