

Research Topic: The Feasibility of Developing Weather Derivatives Contracts in Agricultural and Fishery Insurance in Taiwan

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Abstract:

The objective of this research was to study the development of agricultural and fishery insurance in Taiwan and overseas, the design of major foreign exchanges' weather derivatives products, and the demand for such derivatives in Taiwanese market, and then to evaluate the feasibility of developing its own weather derivatives contracts and to propose specifications for such contracts.

The study showed that the main role of weather derivatives is to enable property insurance companies and reinsurance companies to manage risk. The success factors of weather derivatives contracts included the willingness, the capabilities, and the limitations of property insurers to use the products, and whether the market can attract enough speculators, have enough market makers and participants to create liquidity. The proposed contract specifications drew on temperature and rainfall contracts designed by the CME, the world's principal issuer of weather derivatives. The contract specifications included baseline temperature recommendations and the methodologies for corresponding indexes, as well as tick recommendations and the corresponding calculations.

The study offered four recommendations: 1) the legislation of agricultural insurance to alleviate the fiscal burden on the central government and assist Taiwan's farmers and fishermen in distributing their risk from natural disasters; 2) prior to commercializing weather derivatives, TAIFEX should assess the feasibility of delivering weather data by Central Weather Bureau to TAIFEX to compile, calculate, and disclose weather index; 3) the government and the industry continue to carry out market education and promotions to make the users be familiar with weather products, and then introduce weather futures or options products that meet the needs of farmers and fishermen; and 4) according to Articles 146 and 147 of the Insurance Act, it allows property insurance companies to use weather derivatives to hedge provided that they apply to and obtain the Insurance Bureau's permission.