Research Topic: TAIEX Futures and TAIEX Options: Their Impact on Price Discovery, on the Volatility of the Taiwan Stock Exchange Capitalization Weighted Stock Index, and on Mutual Fund Performance

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Abstract:

The objective of this study was to investigate whether the introduction of TAIEX Futures and TAIEX Options strengthen the futures market's structure and stability, or reduced the cash market's volatility, and to examine the futures market's hedging and trading capabilities based on mutual funds' use of TAIEX Futures and Options.

The study showed that the cash and futures markets are highly correlated. Futures prices led the Taiwan Stock Exchange Capitalization Weighted Stock Index (TAIEX), and the TAIEX and TAIEX Options affected each other. As for volatility, both in ordinary times and in a major economic event (e.g. the US subprime mortgage crisis, the Fukushima Daiichi nuclear crisis, the US credit-rating downgrade, and mainland Chinese stock market turbulence), the implied spot price of options calculated using put-call parity showed the highest volatility. The spot price had the next highest volatility, followed by futures prices. The study further showed that the cash-market index has become less volatile in response to unexpected market upsets since the introduction of TAIEX Futures and Options, indicating that investors are using futures and options to hedge, and as a result, the market volatility become stabilized.

With regard to the impact of TAIEX Futures and Options on stabilizing mutual fund performance and profits, the study found when the market's excess returns (monthly) were in the -8% to -10% range, the returns for futures trust funds were relatively higher; when the market's excess returns (monthly) were less than -7%, the monthly and annual standard deviations of futures trust funds were lower than those of domestic equity funds; and when the market experienced a negative event, futures trust funds showed a significant change in exposure to option-based risk factors, with a strategic shift from at-the-money calls to shorts, compared to ordinary mutual funds. The above demonstrated that mutual funds use futures to stabilize performance and returns in periods when the market's outlook was negative.