

Culture, Investment Behaviour and Stock Market Volatility- A Markov Regime-Switching GJR-GARCH Approach

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This paper investigates culture's impacts upon investment behavior and stock market volatility. The aim is to identify how cultural dimensions influence investment behavior and affect stock market volatility. A Markov regime-switching GJR-GARCH model is estimated using Maximum Likelihood algorithm based on fifteen financial market indices ranging from July 5th 2006 to May 16th 2014 with daily frequencies; the volatility model evolves across two regimes in terms of low volatility state and high volatility state; the volatility dynamics switches between the two regimes according to a Markov transition probability matrix which is estimated using a multinomial regression upon cultural dimensions. The forecasting performances of the models are evaluated using root mean squared errors. Cultural dimensions' impacts upon the evolution dynamics of the autoregressive parameter, moving average parameter and the leverage effect parameter of the model are compared between high volatility state and low volatility state. This paper contributes to the literature by analysing triangular relationship between cultural dimensions, individual decision making and aggregate stock market volatilities. This paper not only gives portfolio managers insights into balancing risk and return in financial markets with different cultural characteristics, but also sheds light on policy makers' decision making in designing financial market rules which suit market participants from different cultural backgrounds. This paper concludes that cultural dimensions influence the transition probabilities between the low volatility state and the high volatility state, that cultural dimensions affects the sensitivity of stock market index volatility to volume volatility, and that cultural dimensions tend to generate more significant effects upon the GJR-GARCH model's parameters in the high volatility state than in low volatility state.