

Volatility Spillover Among BIST Sector Indices, SP500 Index and USD/TRY Exchange Rate: Stochastic Volatility Modelling

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Abstract

It is very essential to investigate the volatility spillover among financial instruments for portfolio risk management, portfolio allocation and asset pricing. There is large number of studies investigating volatility spillover among different financial instruments based on well-known multivariate ARCH/GARCH models and stochastic volatility modelling. This study aims to analyze this issue for BIST Sector Indices, SP500 Index and USD/TRY Exchange Rate using stochastic volatility modelling and weekly data over 2012-2022. The preliminary results based on Dynamic Conditional Correlation-Stochastic Volatility Model show that over the whole period, there is evidence of volatility clustering and interactions. Findings indicate volatility spillover from BIST Service Index, BIST Financial Index, and BIST Industry Index to US dollar. One reason for this result may be the short-term foreign capital flows (foreign portfolio investments). However, results show the absence of any interaction effect between BIST Technology Index and US dollar. For the interaction between BIST sector indices and SP500 Index, volatility transmission is found from SP500 Index to BIST Service Index, BIST Financial Index, however, results cannot show any evidence of interaction between SP500 Index and BIST Industry Index (BIST Technology Index). The sample period was planned to be split into two in order to understand the effect of Covid-19 pandemic on the volatility interactions.

Keywords: Volatility Transmission, Stochastic Volatility Modelling, BIST Sector Indices

JEL Codes: G11, G15, C32