

Abstract

In this thesis, we examine the volatility spillovers and its response asymmetry due to negative or positive shocks with the use of volatility spillover indices proposed by Baruník et al. (2013). This novel methodology extends the original spillover index framework introduced by Diebold & Yilmaz (2009) by utilizing the non-parametric measures of volatility based on the high frequency data, the realized variance and realized semivariances. Our analysis is performed on two datasets, the first one covering the selected Central and Eastern European stock market indices of the Czech Republic, Hungary and Poland, and the second one extending the original sample by the inclusion of the German DAX index that represents the mature European stock markets. The data employed in our study spans from January 2, 2008 to November 30, 2010, thus covers the period of the recent global financial crisis, from its outbreak to the early recovery phases. In the static analysis, we find the Czech stock market to transmit the highest amount of volatility shocks to the other markets what might be attributed to the potential role of the Czech market as a channel of volatility shocks transmission among the included and non-included stock markets. Furthermore, the results of dynamic analysis reveal the presence of asymmetry in the volatility spillovers due to negative and positive shocks to returns. We find that, on average, the contribution of negative shocks to volatility spillovers is higher compared with the positive ones. In addition, the development pattern of the volatility spillover indices is found to coincide with the main crisis events and to reflect the economic and financial situation on the markets.