The Dynamic Interrelationship between European Stock Markets

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ABSTRACT

The purpose of this paper is to examine the impacts of 2008 global financial crisis and 2010 European sovereign debt crisis on the stocks of France, England, Germany, Spain, Greece and Italy. Daily stock price data are obtained from Yahoo Finance. The range of data is from January 2, 2006 to July 31, 2012, which is divided into three stages to explore: pre-global financial crisis, during-global financial crisis, and after-European sovereign debt crisis. We use unit root test, Johansen cointegration test, vector error correction model (VECM), Granger causality tests, impulse response function, and variance decomposition to analyze the dynamic relationship of European stock prices during 2008 Global Financial Crisis and 2010 European Sovereign Debt Crisis periods. The empirical results indicate as follows: First of all, the unit root test finds that all variables are not stationary, but I(1) time series. The Johansen test indicates the six European stock markets exist in cointegration relationship. It ’ s more obvious between during-global financial crisis and after-European sovereign debt crisis periods. Therefore, it isn ’ t effective to diversify and reduce risk for investors. Second, the Granger causality test finds feedback relationship rises during during-global financial crisis and decreases on the stage of after-European sovereign debt crisis periods. Therefore, investors should pay more attention to the basic economics of each country while investing the European stock markets. Thirdly, the impulse response analysis shows that England plays a dominate role in European stock markets but the influence is decreasing after European sovereign debt crisis. Finally, the variance decomposition test indicates that the six European stock markets are heavily impacted by themselves in the short term, but are distinctly impacted by England in long term. Especially, England has less influence on European stock markets after European sovereign debt crisis but euro zone's members have rising influence with each other. As a result, England has more influence over others. Generally, contagion effect exists in the European stock markets. Thus, investors need to consider financial impacts in European neighboring countries to avoid the uncertainty in investment.

Keywords : global financial crisis、European sovereign debt crisis、interrelationship、contagion effect

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