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**Topic of Research:** Volatility Spillovers and Contagion from Developed to Emerging Stock Markets.

**Keywords:** Financial Crisis, Volatility Spillover, Financial Contagion, Portfolio Diversification, Equity Markets.

### **Findings**

Present research attempted to examine the volatility spillovers from developed markets in the direction of developing economies for an extended period. The empirical analysis also expands to the propagation of cross-market financial contagion to understand the transmission mechanism. The financial crises included in the study are Global Financial Crisis 2007, Greece Sovereign Debt Crisis 2009, Russian Financial Crisis 2014-15, Turkey Currency and Debt Crisis 2018 and COVID-19 pandemic 2020.

The review of major papers published suggests an adequate gap for taking up research in the new direction. Most of the studies are limited to a small number of markets. The impact of developed markets on developing markets is mainly subjected to examining major stock exchanges, such as U.S, U.K and Japan. Majority of studies have investigated the contagious impact of the subprime crisis and the euro zone crisis only. Specific regions are examined for volatility and contagion whereas broad geographical region studies are scarce. The literature search suggested that contagious effects are only probed from crisis country to the rest of the national capital markets, but the role of major developed markets in the transmission of financial disturbances is yet to be found out. Studies on newer crisis, such as COVID-19 pandemic, are only restricted to developed markets, whereas its effect on developing markets is not explored.

The study incorporates twenty-four stock markets from the major geographical regions, namely the Asia Pacific, Africa& Middle East, South America, North America, and Europe. Augmented Dickey fuller test, Phillips and Perron test, Markov regime switching model, BEKK GARCH model and DCC-GARCH model are employed in the study using the R software along with Regression analysis of Times Series software (RATS).

There are several findings based on the results of BEKK GARCH model. The developed markets that cause both short- run and long-run spillovers in the developing markets are as follows. In the Asia region, only Sweden leads to long-run and short-run volatility spillovers. Europe region receives short-run and long-run spillovers from Japan and Germany. In the Africa & Middle East region, U.S. and equity index of U.K. are responsible for volatility spillovers of long-run and short-run. In the South America region, no developed equity market induces both spillovers. On careful examination of spillovers originating in the U.S, it can be said shocks from U.S. affect all the selected equity

indices from Asia, Europe and Africa & Middle East region as from South America, Mexico and Brazil are not impacted.

The statistical technique of the regime- switching model displays two regimes across all financial crisis periods.

DCC-GARCH results reveal that in subprime crisis, the region with maximum contagion pairs is Europe and the least are in South America; therefore, investors could diversify their risk in the South America region. The Greece crisis reported the maximum effect of contagion in South America region, whereas Africa secured the lowest financial turmoil effects. Russia crisis showed Asia and Africa and Middle East region are affected with the same margin. Turkey's currency and debt crisis recorded maximum reach in the Europe region and least in Africa & the Middle East. COVID-19 financial crisis impacted Europe region the most and Asia provides diversification opportunities.

We observe that although the selected developed markets bring contagious effects to four major geographical regions following the crises, there is no noticeable pattern in the entire five crises.