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Crises and contagion in Asia Pacific — Islamic v/s conventional markets

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ABSTRACT

This study attempts to investigate market co-movements in Islamic and mainstream equity markets across US and Asia Pacific. The objective is to understand the behavior of contagion across multiple crises in the last decade and a half. Taking a lead from theory, of pure and fundamental contagion, we employ wavelet decomposition to unveil the multi-horizon nature of co-movement. Our findings support the popular belief, that the majority of the global shocks since 1996 were transmitted via excessive linkages from US to Asia Pacific, while the recent subprime crisis reveals a fundamental based contagion. In terms of the real sector grounded Islamic markets, they tend to show traces of reduced exposure in some crises owing to low leverage effect, while the less diversified portfolio nature increases vulnerability in other crises. The findings tend to provide an empirical ground for the argument of Islamic equities and their composition, as a possible buffer to financial crises.

1. Introduction

Numerous studies in the recent past have showed the increasing critical role of stock exchange co-movement, as an outcome of the enhanced economic globalization. The evolving nature of co-movement of stock markets across boundaries have been hypothetically and empirically examined and concluded to reflect either the level of integration or the proof of contagion.

In regard to financial contagion, the proof might be seen from the evolution of co-movement temporarily across diverse markets amid crisis periods (Candelon et al., 2008; Chakrabarti and Roll, 2002; and so on). Concerning transmission channel of contagion, there are two different theoretical arguments; the pure and fundamentals-based contagion (Dornbusch et al., 2002; Kaminsky and Reinhart, 2000). While the former is

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defined as an excessive transmission of shocks beyond any idiosyncratic disturbances and fundamental linkages (Forbes and Rigobon, 2002; Bae et al., 2002; Eichengreen et al., 1996), the latter is transmitted through financial market integration and fundamental linkages (Reinhart and Calvo, 1996; N'Diaye et al., 2010). Investigation of the contagion impact is of paramount importance since financial markets, internationally have encountered periodic crises, causing a rapid spread of financial shocks in one country into other countries. The recent US born subprime crisis of 2007–09 considerably affected the markets everywhere throughout the world, which brings in question the financial solidness of the global financial landscape.

Hypothetically, the issue of how Islamic equities value markets recognizably vary from their conventional counterparts is essential because of the Shari'ah (Islamic law) screening[1]. The Shari'ah screening process has given general tenets to assess regarding whether a specific firm is halal (legitimate) or haram (unlawful) for venture (Derigs and Marzban, 2008). The Shariah standards don't permit organizations identified with indecent exercises (e.g. alcohol, betting, and so forth.), and the most unique feature of Islamic firms would be the cutoff of debt component in the firm. The filtration process consequently removes the extensive debt based firms from the pool of investable equities, leaving the remaining Shariah compliant investable universe to become smaller and portray more volatile returns (Hussein and Omran, 2005). In other words, the lower leverage, smaller size of firms, and under-diversification of the market, will be the distinctive feature of Islamic equity market. In regards to exploring the Islamic stocks behaving differently Ashraf and Mohammad (2014), argue that Islamic stocks, perform better than conventional indices. They conclude that any excess performance from Islamic investments stems from the systematic risk that each investment assumes with respect to their benchmark during market downturns.

Our study focuses on investigating whether Islamic equity market is more/less exposed to the effects of financial contagion in the Asia pacific region. We further distinguish whether the exposures of Islamic equities are identified with pure contagion or fundamental based contagion. In this respect, the crisis impact is measured by an increase in co-movement and volatility amid the crisis periods. This study further develops on the work of Dewandaru et al. (2014) who studied 16 crises across multiple regions and found that the shocks were transmitted via excessive linkages, while the recent subprime crisis reveals fundamentals-based contagion. Furthering this research, this study delves deeper into the Asia Pacific region focusing on contagion around Asian specific crises, in respect to the structure of the economies.

For the initially highlighted objective, Islamic equities are hypothetically less susceptible to any shock since they exhibit lower leverage effects, attributable to the screening criteria with respects to the upper limit of interest-based debt. Nonetheless, a lower number of constituent stocks, altogether with high concentration on a few sectors, may lead to an amplified effect of crisis due to less diversification effect.

This study utilizes the sample of the regional Asia pacific market and implores the contagion effect with respect to the US market. The sample set contains daily prices from 1996 to 2014, primarily to capture effects of major crises around the world in the last two decades. Our study is unique in terms of methodology in relation to the earlier studies, since we stress on the multi-horizon nature of co-movement. We perform multi-timescale analysis utilizing wavelet decompositions to decompose observed series on scale-by-scale premise. The decomposition method can capture both time n and frequency domain at the same time. This provides the study to capture both higher and lower frequencies. The concept is similar to prior studies by Bodart and Candelon (2009) and Orlov (2009) that investigated contagion by associating high and low frequencies with contagion and interdependence.

As per author's knowledge, there is no existing literature, which has delved deeper into the time and frequency scale simultaneously to study comparative contagion effect, for both conventional equity market and its Islamic counterpart in the Asia pacific region. This study is further unique in its methodology of identifying pure or fundamental based contagion, spanning various global financial events which shocked equity markets all over.

There are primary two strands of literature ascribed to this field, with firstly discusses the theoretical underpinnings on financial contagion and interdependence, along with some empirical findings of contagion effects. The second is to present some established methods of measuring contagion.

[1] (i) A company's debt financing is not more than 33% of its capital, (ii) interest-related income of a company is not more than 10% of its total income, and (iii) the composition of account receivables and liquid assets (cash at banks and marketable securities) compared to total assets is minimum at 51% while a few cite 33% as an acceptable ratio.