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Stock market co-movements: Islamic versus conventional equity indices with multi-timescales analysis

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ABSTRACT

This study examines market co-movements in Islamic and mainstream equity markets across different regions in order to discover contagion during 9 major crises and to measure integration between markets. Using wavelet decomposition to unveil the multi-horizon nature of co-movement, we find that the shocks were transmitted via excessive linkages, while the recent subprime crisis reveals fundamentals-based contagion. While Islamic markets show traces of reduced exposure to the recent crisis owing to low leverage effect, their less diversified portfolio nature increases vulnerability to other crises. We generally find incomplete market integration, with relatively higher fundamental integration for Islamic markets which may be attributable to their real sector allocation nature.

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1. Introduction

Many studies in the recent past have demonstrated the growing importance of stock market co-movements as an outcome of increased economic globalization. The reasons for co-movement of equity markets across geographical borders have been theoretically and empirically investigated and concluded to reflect either the level of integration or evidence of contagion.

In regards to financial contagion, evidence can be observed from the temporarily changing co-movement across different markets during crisis periods (Candelon et al., 2008; Chakrabarti and Roll, 2002; among others). With respect to transmission channels of contagion, there are two distinct theoretical camps: pure and fundamentals-based contagion (Dornbusch et al., 2002; Kaminsky and Reinhart, 2000). While the former is 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 by way of financial market integration and trade linkages or interdependence (Reinhart and Calvo, 1996; N'Diaye et al., 2010). An evaluation of the contagion effect is important since financial systems globally have experienced periodic occurrences of crises, causing a rapid spread of financial shocks from one country into other countries. Recently, the remarkable US-born subprime crisis of 2007–2009 considerably impacted markets all over the world, which raises critical questions concerning the stability of the global financial system.

A second strand of literature demonstrates that the phases of stock market integration can also be reflected through increased cross-country market co-movements (Goetzmann et al., 2005; Bekaert et al., 2005a,b; Bekaert and Harvey, 1995; Baele, 2005; and others). Studying a country's market integration with its trade partners and the world markets is essential, since it also reflects the development stage of the domestic stock market. Specifically, integration and trade play an essential role in boosting economic growth, improving factor productivity, reducing the cost of capital, promoting better corporate governance and increasing size and liquidity (Bekaert et al., 2005a,b; Rajan and Zingales, 2003; Gourinchas and Jeanne, 2006; and others).

Apart from the mainstream financial sector, our study attempts to identify the nature of co-movements in the context of Islamic equity markets. This is a major concern since the growing interest in Islamic finance globally has shifted the focus from a banking-based industry to capital market-based instruments. Theoretically, the issue of how Islamic equity markets differ noticeably from their conventional counterparts is mainly due to the role of *Shariah* (Islamic law) screening. The modern *Shariah* scholars have provided general rules to evaluate whether a particular firm is *halal* (lawful) or *haram* (unlawful) for investment (Derigs and Marzban, 2008). The *Shariah* rules do not allow businesses related to immoral activities (e.g. liquor, gambling, etc.), and the most distinct feature[i] of Islamic firms would be the limit of leverage using interest-based debt. The filtering criteria will consequently remove large non-compliant 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, lower leverage, smaller size of firms, and under-diversification of the market will be distinctive features of the Islamic equity market.

Our study investigates the nature of co-movement amongst the Islamic equity markets compared to their mainstream counterparts. We propose two main research questions in relation to the sources of market co-movement, namely, contagion and integration. First, we explore whether Islamic markets are more/less exposed to impacts from several major crises around the world. We further identify whether the exposure of Islamic markets is related to pure contagion (excessive) or fundamentals-based contagion. In this regard, the crisis impact is measured by the rise in co-movements and volatility during the crisis period. Secondly, we identify whether the degree of integration between Islamic markets is higher/lower as compared to that between their conventional counterparts. We analyze both short-term and long-term integration, since the former reflects integration at the microstructure level (i.e. cross-border trading and listing) whilst the latter represents more of a fundamental linkage between the economies.

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