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Dynamic dependence of the global Islamic equity index with global conventional equity market indices and risk factors

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ABSTRACT

Past studies have shown considerable differences between equity markets in conventional and Islamic financial systems, in terms of financial products and principles. Using a copula approach, this study shows that the global Islamic equity market index (represented by the Dow Jones Islamic Market Index) exhibits significant dependence with three major global conventional equity indices (Asia, Europe, and United States) and the global factors (oil prices, stock market implied volatility (VIX), the U.S. 10-year Treasury bond interest rate, and the 10-year European Monetary Union government bond index) which are common to the world financial system and pertinent to contagion risks in the case of financial crises. Moreover, this dependence varies over time for all cases except the S&P 500 index and is also asymmetric between bear and bull markets in some cases. Our findings thus suggest that the Sharia-compliance rules are not restrictive enough to make the global Islamic equity market index very different from the conventional indices. In addition, the decoupling hypothesis of the Islamic equity universe from the conventional financial system is not well supported by our empirical evidence.

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1. Introduction

The last few years witnessed a tremendous growth in the Islamic finance industry, particularly in Middle Eastern and Southeast Asian countries, which has been reinforced in the wake of the 2008–2009 global financial crisis (GFC). The total amount of the Islamic finance assets under management was estimated at US$1.6 trillion at the end of 2012 and US$1.8 trillion at the end of 2013, and would reach US$2.1 trillion at the end of 2014. These assets are predicted to reach US$6.5 trillion by 2020.[1] The global emerging sukuk (Islamic bond) market was expected to reach US$131.2 billion. At the end of 2012, the size of the Islamic banking assets, which are the main driving force of the global Islamic finance industry, reached US$1.27 trillion. Moreover, the Islamic funds' asset allocations are composed of 46.9% equities, 22.2% money markets, 11.8% mixed assets and 9.0% real estate.

This new and innovative financial industry is viewed as an alternative way of financial intermediation in the world. As the statistics explain, the Islamic hedge funds and sukuks are the principal Islamic finance assets in this new financial system. From a comparative point of view, Islamic investing differs from conventional investing because Muslims are prohibited to receive and pay interest, to invest in certain companies such as alcohol producers and to engage in speculation. They invest in the stock market through Islamic equity funds which are the Islamic counterparts to the conventional mutual funds.

Investments in Islamic hedge funds and sukuk instruments are Sharia-compliant and are considered in line with the socially responsible and ethical investments. Sharia compliance requires that Islamic equity finance follows two sets of screens. The first set removes any companies with involvement in alcohol, tobacco, pork-related products, gambling, entertainment, weapons, and conventional financial services. The second set of screens utilizes financial ratios to remove companies based on high debt and interest income levels. This Sharia-based principle restricts speculative financial transactions such as financial derivatives which have no underlying real transactions like futures and options, government debt issues with a fixed coupon rate, and hedging by forward sale, interest-rate swaps and any other transactions involving items that are not physically in the ownership of the seller (e.g., short sales).

Given the Islamic finance peculiarities discussed above, studies on Islamic finance have gained ground recently, in particular following the occurrence of the global financial crisis. They mainly address the differences in risk and return characteristics between the Islamic investment and the conventional ones (e.g., Abdullah et al., 2007; Hayat and Kraussl, 2011; Milly and Sultan, 2012). The growing demand for Islamic investment products (i.e., Islamic stock market indices, Islamic bonds (sukuks), exchange-traded Islamic funds, Islamic insurance (takaful), and the launch of the Islamic interbank benchmark rate (IIBR), among others) is seen as strong evidence of growing popularity of Islamic finance, especially after the recent global financial market turmoil. Specifically, the dependence structure between the Islamic stock indices and those of the conventional stock markets with the presence of major risk factors is not well understood, particularly during bull and bear market periods.

The main motivation for this strong interest arises from the perception that the Islamic finance system may provide a cushion against the increasing risk and instability in the conventional financial markets and because it complies with Sharia's principles. Moreover, there is strong motivation for certain investors to use faith in investing. Thus, the issue of whether the Islamic equity market index may be considered immune against unexpected changes in the global conventional indices and the risk factors remains still highly debatable with no prevailing general consensus. The intention of this study is to present a clearer and more homogeneous picture of the dependence structure for these global indices and influential risk factors, using updated data including the recent tumultuous period in the world's financial markets (GFC and Eurozone debt crisis) as well as a robust methodology based on dynamic copula-based GARCH models. These considerations motivate our study.

This study also deals with the issues of whether the Islamic equity market index couples or decouples from the conventional financial system and the relationship with global risk factors by considering mutual dependence in both the center and the tails (extremes) of the return distributions. We adopt a copula approach that offers a great flexibility in separating the marginal distributions from the dependence structure and in modeling these distributions independently with the aim of providing information on average dependence as well as on the probability that two variables jointly experience extreme upwards or downwards movements. Both

[1] These numbers come from various sources including Bloomberg and Kuwait Finance House Research Ltd.