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On the dynamic links between commodities and Islamic equity

Ruslan Nagayev [a], Mustafa Disli [b], Koen Inghelbrecht [c], Adam Ng [a,d,*]

[a] International Centre for Education in Islamic Finance (INCEIF), Malaysia
[b] Department of General Economics, Ghent University, Belgium
[c] Department of Financial Economics, Ghent University, Belgium
[d] Oxford Centre for Islamic Studies and Global Economic Governance Programme, University of Oxford, UK

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ABSTRACT

This paper investigates whether commodities offer potential diversification benefits for Islamic equity index investors in light of possible financialization of commodity markets. Using MGARCH-DCC and Wavelet Coherence analyses, our findings reveal that correlations between commodity markets and the Dow Jones Islamic Market World Index are time-varying and highly volatile throughout the January 1999–April 2015 period. A substantial and persistent increase was observed in the return correlations between commodities and Islamic equity at the onset of the 2008 financial crisis. However, trends in the recent two years suggest that this association is heading towards its pre-crisis levels, offering again diversification benefits for Islamic equity holders. These benefits vary across different commodities in various time scales. Overall, gold, natural gas, soft commodities, grains and livestock are better portfolio diversifiers than oil and other metals. Relative to medium-to-long term investors, short-term investors (less than 32 days horizon) gained better diversification benefits in most commodities during bullish, bearish and market recovery periods. These findings have implications for investors who are heterogeneous in risk tolerance and time preference as well as for policymakers who are concerned with market stability.

1. Introduction

Have commodities and equity become a “financialized market of one”? Is such oneness persistent? Do diversification benefits still exist? Evidence behind these enquiries offers important insights for policymakers, governments, traders and investors, and constitutes the main motivation for this paper. To assess the viability of commodities as an alternative asset class for Islamic equity investors, we present evidence on the extent to which returns in commodities and Islamic equity markets move in sync in both time and frequency domains. Our findings reveal that, throughout the January 1999–April 2015 period, correlations between commodities and Islamic equity were highly volatile and time sensitive.[1] While there had been a minimal correlation between commodities and Islamic equity prior to 2008, the relationship has strengthened since 2008, possibly attributed to the anomaly arising from the global financial crisis. Trends in the recent two years, however, suggest that the links between commodities and Islamic equity are heading towards their pre-crisis equilibrium, offering again potential diversification opportunities for investors. Divergence in correlations reveals that the behaviour of commodities is heterogeneous with varying potential for diversification. Overall, gold, natural gas, soft commodities, grains and livestock are better portfolio diversifiers than oil and other metals. Relative to medium-to-long term investors, short-term investors (less than 32 days horizon)

* Corresponding author at: International Centre for Education in Islamic Finance (INCEIF), Lorong Universiti A, 59100 Kuala Lumpur, Malaysia. Tel.: +60 3 7651 4000.
E-mail addresses: ruslan.nagayev@outlook.com (R. Nagayev), mustafa.disli@ugent.be (M. Disli), koen.inghelbrecht@ugent.be (K. Inghelbrecht), adam@inceif.org (A. Ng).

[1] The extended period of study until April 2015 allows for the capturing of information from recent events such as the dramatic drop in oil prices, the “peaking” possibility of the commodity super-cycle, the recovery of the US economy, the greater economic uncertainty in the Eurozone and China's economic growth trajectory, the heightened geopolitical risks in the Middle East, the growth of socially responsible investments, including Islamic finance, the tighter financial regulation and the higher bank capital requirements.

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gained better diversification benefits in most commodities during bullish, bearish and market recovery periods.

Tightened correlations and heightened asset volatilities suggest that commodities and equity tend to move towards a "market of one" during global economic downturns. For Islamic equity investors, this implies that diversification benefits may not be as strong when it is needed the most. In most cases, such "oneness" is persistent in the medium-to-long-term. However, evidence of financialization of commodity markets in the short run remains equivocal as inferred from our analysis. Against this backdrop, our findings contribute to two strands of research: the possible existence of financialization for policy and commercial considerations in different market conditions, and the potential benefits of investment diversification across different time scales.

From a traditional perspective, commodity and equity markets are inversely related and, therefore, commodities are considered to be good portfolio diversifiers (Kang, 2012). However, the increased financialization of commodity markets and the impact of financial factors on commodity price volatility have contested this interpretation.[2] With exchange-traded derivatives on commodity markets being 20 to 30 times larger than physical production and with massive speculations on temporary price movements, the real markets are now transformed into financial markets driven by market sentiments rather than fundamentals (Domanski and Heath, 2007; Silvennoinen and Thorp, 2013). Therefore, the ensuing short-term commodity price movements cannot be fully explained by the supply and demand of commodity users (United Nations, 2012).[3] Contemporary trends in commodity markets have cast scepticism on the diversification benefits of commodity investments. An increasing correlation across equity and commodity returns would discourage investors from choosing commodities as a refuge during periods of stress in traditional asset markets. If more investors are including commodities in their portfolios, bad news in one market, as a result of a growing set of common state variables driving stochastic discount factors, may cause liquidation across several markets (Kyle and Xiong, 2001). This will generate more variation in correlation and volatility, and minimize diversification benefits for both equity and commodity portfolio managers (Kyle and Xiong, 2001; Silvennoinen and Thorp, 2013). On the other hand, studies have postulated that "real economy" factors such as the increasing demand from large developing countries and regular supply shocks are key to explaining commodity price volatility, and that the underlying factors that influence commodity prices are distinct from those that affect the value of stocks and bonds (Daskalaki and Skiadopoulos, 2011; Geman and Kharoubi, 2008).[4] Understanding the dynamic link between commodities and equities is, therefore, important.

To date, studies on the link between commodities and equities have mainly focused on mainstream conventional equity indices such as the US S&P 500 and Dow Jones global equity indices. With the launch of Islamic equity indices, Islamic funds and global sukuk in several markets since the 1990s, Islamic finance industry has been fast emerging as a viable market offering alternative asset classes. Although the industry has a small share of global financial market with a total asset size of US$ 2 trillion in 2014, it is set to grow 15–20% annually in many of its core markets and is expected to expand the international reach of issuers and investors. Growing demands from a significant, and relatively unbanked, Muslim population (23.4% of global population in 2010) as well as faith-based and socially responsible investors have been key growth drivers of the Islamic finance industry.[5] Within the Islamic asset allocation universe, equity funds represent one-third of Islamic funds worldwide. Islamic equity indices have proven to be valuable to Islamic fund managers, who have benefited from standardized screening methodologies and the growing number of Shari'ah-compliant securities, as well as to those investors searching for portfolio diversification and ethical investment opportunities (Islamic Financial Services Board, 2014). The screening excludes businesses engaged in immoral activities (e.g., weapons, gambling) and firms that exceed a given limit of leverage and interest-bearing investments. As a result, large non-compliant firms are typically excluded from the pool of investable assets. This restricts the Shari'ah compliant investable universe such that the portfolio exhibits more volatile returns due to under-diversification, composition of smaller firms, and sector concentration (Hussein and Omran, 2005).[6] Yet, some studies have shown that levered firms tend to exhibit an inverse relationship between current returns and stock volatility (Black, 1976; Christie, 1982). In particular, the low leverage and asset-backed nature of Islamic equities imply that real and financial sectors are closely linked, and that exposure to volatility spillovers are limited (Majdoub and Mansour, 2014). Hence, the viability of Islamic equity as a diversifier to the conventional equity portion of the portfolio has been put under scrutiny in previous literature.[7]

Limited investment opportunities in the Islamic market render the commodities market a natural complement to Islamic investment. Tangible and spot commodities meet the requirements of non-interest-bearing transactions and ethical screening. Our study contributes to the literature by focusing on the time-varying relationship between commodities and Shari'ah-compliant equities.[8] We examine whether Islamic investors could retain the opportunity to reap diversification benefits by incorporating various types of commodities into their equity portfolios across short, medium and long term horizons in different market

[2] Financialization of commodity refers to "a situation in which the price of an individual commodity is not only determined by its primary supply and demand, but also by several financial factors and investors' behaviour in derivative markets" (Creti et al., 2013, p. 17). United Nations Conference on Trade and Development (UNCTAD) defines the term "financialization of commodity trading" as referring to "the increasing role of financial motives, financial markets and financial actors in the operation of commodity markets" (United Nations, 2011). Financial contracts on commodities have been present since the 18th century in the rice market in Japan (Kolb and Overdahl, 2007). See Creti and Nguyen (2015) for other perspectives of financialization of the commodity markets.

[3] Price volatility has been attributed to greater market participation by financial investors who tend to trade in various markets. This phenomenon led the UNCTAD to call for an urgent global policy response to prevent recurrent price instability in the financial markets, rather than in the physical markets (United Nations, 2012).

[4] Global economic growth especially in emerging market economies (notably India and China) has been the main driver of growing demand for commodities. These economies have witnessed progressing urbanization, increasing industrialization, changes in consumption behaviour, growing populations and higher income growth in the recent decade. From the supply side, there have been low investments in commodity production and infrastructure projects for a long period due to low commodity prices in the 1990s and moderate global demand growth. Adverse weather conditions, geopolitical uncertainties, export restrictions, and subsidies have contributed to supply shocks (G20 Study Group on Commodities, 2011).

[5] Other factors that have contributed to the growth of Islamic finance industry include the increased investments in public infrastructure projects, strong economic growth in countries where the industry exists and the abundance of petrodollar liquidity. The risk-sharing characteristics and the prohibition of speculation in Islamic finance offer a value proposition that promotes financial stability and healthy levels of social capital, which appeals to policymakers, regulators and investors (Askari et al., 2011; Ng et al., 2015).

[6] As of March 2015, the Dow Jones Islamic Market World Index has only 2590 components compared to the global universe of 7257 components in the Dow Jones Global Index. Islamic equity indices are typically growth and small-cap focused, while conventional indices are value and mid-cap oriented (Girard and Hassan, 2008). The effect of small firms and sector concentration on performance is debatable. Hussein and Omran (2005) argue that basic materials, consumer cyclicals, industrial, telecommunication industries and small firms are the driving forces in the positive abnormal returns of Islamic index.

[7] Concerning the mainstream conventional financial market, studies on global stock return co-movements and time-varying world market integration have been, inter alia, conducted by Bekaert and Harvey (1995); Bekaert et al. (2009) and Baele et al. (2010).

[8] There are several core Islamic finance markets in Organization of Islamic Cooperation (OIC) member countries. Energy, food and agriculture sectors are the top sector clusters within the 57 OIC member countries that provide the best opportunities for sector investment strategy. The US$ 1.3 trillion energy sector exports in 2013 accounted for 43% of global exports while food and agriculture exports amounted to 8% of the world's total. The rise in infrastructure spending and industrial growth in some OIC markets (with more than US$ 2 trillion planned projects) also provides positive investment opportunities to the metal sector (Thomson Reuters and DinarStandard, 2015).