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Risk spillovers and hedging effectiveness between major commodities, and Islamic and conventional GCC banks

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A B S T R A C T

This paper examines the dynamic risk spillovers and hedging effectiveness between two important commodity markets (oil and gold) and both the Islamic and conventional bank stock indices for five GCC countries (Bahrain, Kuwait, Qatar, Saudi Arabia and UAE), using the DECO-FIGARCH model and the spillover index of Diebold and Yilmaz (2012, 2014). The results of the DECO-FIGARCH model show evidence of a weak average conditional correlation between all the GCC bank stock indices and the two commodity markets. Moreover, we find significant risk spillovers between these Islamic and conventional GCC bank stock indices and the commodity markets. The spillovers rise considerably during the 2008–2009 global financial crisis and the 2014–2015 oil price collapse periods. Further, oil, gold, and the conventional bank stock indexes of Saudi Arabia, Kuwait and Qatar are net contributors of volatility spillovers to the other markets, while all the Islamic bank indexes and the conventional bank indexes of UAE and Bahrain are net recipients of volatility spillovers. Finally, we show evidence asserting that including gold and oil in a GCC portfolio offers better but different diversification benefits and hedging effectiveness for the GCC banks.

1. Introduction

The risk spillover analysis is an important tool for controlling and managing bank risks. Significant efforts have been dedicated to the understanding of excessive risk in financial systems and identification of policies that may reduce such risk, particularly following the 2007–2008 global financial crisis (e.g., the Lehman brother collapse on September 15, 2008). The global financial crisis (GFC) of 2008–09 has changed the global financial landscape. Indeed, the GFC have amplified the shocks and transmitted them from one market to other markets and then involved the whole global financial system. The information set (including extreme movements or major events) for one bank may have a substantial predictive power

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of other banks and other markets (e.g., foreign exchange markets, stock markets and commodity markets). In addition to market fundamentals, many plausible causes or events may justify the presence of risk spillovers between banks or markets including contagion, investor sentiments and reaction to news among others. Thus, determining the sources and recipients of risk spillovers is important for financial sectors and markets.

The presence of risk spillovers between international financial markets has motived individual and institutional investors to find new hedges and new havens to protect their investments. The Islamic finance industry is considered one of the new havens which is reflected by the phenomenal growth of this industry during the last decade, particularly in the wake of the GFC. The industry has grown in depth and breaths and offers alternative interesting instruments, which make it a modern and viable financial system. The Islamic banking is the largest sector of the Islamic finance industry and has assets in most countries of the world. The Islamic banking follows the Shariah-compliance principles which screen investments for Islamic finance. In contrast to conventional finance, Islamic banking is strictly prohibited from carrying out business activities such as those that involve gambling, firearms, alcohol, speculation and interest-gaining. The banking Shariah compliance is also based on risk-sharing and not debt accumulation.

Participation in Islamic banking assets has also increased despite the major turbulences in the last few years. The core participating countries include Bahrain, Qatar, Indonesia, Saudi Arabia, Malaysia, United Arab Emirates, Turkey, Kuwait and Pakistan, whose combined assets reached 93% of total banking industry assets, exceeding US$920 billion in 2015. An important subset of those countries, known as QISMUT which includes Qatar, Indonesia, Saudi Arabia, Malaysia, UAE and Turkey, has a market share standing at 80% of the international banking assets. The Islamic banking industry in the Middle Eastern countries, particularly that in the Gulf Cooperation Council (GCC), has grown more rapidly than their conventional counterparts in those regions. Based on recent banking sector asset projections, five countries including Saudi Arabia, Qatar, Pakistan, UAE and Turkey, are identified to be the key players by 2020 on the accounts of "average annual growth rate" and banking sector assets. In terms of banking participation, Saudi Arabia, Kuwait, Bahrain and Qatar will be the major players in terms of having the highest banking market shares by 2020.[1]

We note that the risk spillovers are more visible during financial turmoil periods which increase asset volatility. In fact, during the two recent crisis periods, the cross-market linkages among international financial markets and between financial and oil markets have increased, particularly following the 2008–2009 GFC and the 2010–2012 European sovereign debt crisis (ESDC). The "flight-to-quality" phenomenon has attracted the attention of individual investors, institutional investors (e.g., banks) which are primarily interested in financial safety, and policymakers alike. In the flight-to-quality literature, numerous studies view gold as a good refuge asset (i.e., a strong hedge and a good safe haven asset) in equity and bond markets (Baur and Lucey, 2010; Baur and McDermott, 2010, among others).

Gold is an important asset for GCC banks for cultural, financial and geopolitical reasons. Culturally, there is an obsession with gold in regions that populate the people and businesses of the Orient including India, China and the GCC areas. Moreover, financial reasons motivate us to include gold in our analysis because this shiny metal is used to hedge against unanticipated fluctuations and excessive variations in oil prices, stock markets, interest rates and foreign exchange markets (Allayannis and Ofek, 2001). Finally, the GCC banks are located in a region plagued with high geopolitical risks and riven with regional wars. Thus, the yellow metal should provide financial stability to both Islamic and conventional GCC banks. The association between gold and the safe haven property is also important for those banks to maintain liquidity, credit risk management and portfolio risk assessment. For the GCC central banks, gold reserves are also a store of value, a way of fostering domestic currencies which are pegged to the dollar, and a guarantee of payments to depositors.

On the other hand, the oil market has experienced strong instability during the last ten years. More explicitly, the oil price exceeded US$145/barrel in summer 2008 and then plunged to less than US$30/barrel in mid-January 2016 (see Energy Information Administration website). This instability has affected financial sectors especially those of the oil-rich Gulf countries during the previous boom and bust oil cycles. Oil price shocks influenced the GCC bank profitability through oil income (e.g., lending to the private sector), increased business activity and enhanced excess liquidity in the banking system.

Motivated by those considerations, it is important for us to analyze the risk spillovers between the Islamic and conventional GCC bank stock indices in Bahrain, Kuwait, Qatar, Saudi Arabia and UAE and two strategic commodity markets including the gold and oil markets. We have constructed those Islamic and conventional indices from individual bank stock prices for each GCC country to achieve this objective.

This study aims to explore the directional and net spillovers among the gold and the West Texas Intermediate (WTI) oil with both the Islamic and conventional bank indices for the five GCC countries (Bahrain, Kuwait, Qatar, Saudi Arabia and UAE) over the period June 1, 2006 to September 19, 2016. Further, we conduct portfolio risk management by quantifying the Islamic and conventional GCC optimal portfolios' weights, hedge ratios and hedging effectiveness for those GCC markets. The choice of the Islamic GCC banks is motivated by the large size of their assets and their important growth during the last few years, in addition to their risk exposure and business models which are compliant with the Shariah rules that govern the GCC economies. Regarding the commodity markets, gold is widely known as a refuge asset and oil is selected because the GCC countries (except Bahrain) are heavily oil dependent as indicated earlier.

[1] http://www.ey.com/Publication/vwLUAssets/ey-world-islamic-banking-competitiveness-report-2016/$FILE/ey-world-islamic-banking-competitiveness-report-2016.pdf.