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Stock Prices and Crude Oil Shocks: The Case of GCC Countries

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Qatar and other Middle Eastern countries stock market are influenced by oil prices. The goal of this paper is to compare how stock prices in the GCC are affected by shocks in oil prices and comparing the results with other stock markets in other oil exporting countries. The relationship between oil and stock prices has been analyzed extensively in the recent literature. This paper aims to shed light on the volatility spillover dynamics running from the oil market into stock markets volatility for eight selected Middle East/African frontier markets. Middle East countries account for 31% of all crude oil production, while approximately 69% of all crude oil is produced by only ten countries. The methodology adopted in this paper is based on the VAR-GARCH approach of Engle and Kroner (1995), which allows to test for the presence of volatility spillover in both directions (i.e., from oil prices to stock prices as well as in the opposite direction). We use weekly data for GCC stock markets, plus three frontier stock markets (Algeria, Morocco and Namibia), WTI oil prices and stock prices were sourced by the U.S. Energy Information Administration and Bloomberg, respectively. Weekly indices, Wednesday to Wednesday, were preferred in order to overcome the different stock markets days closure across the eight countries considered in this study. We define weekly returns as logarithmic differences of oil and stock prices. Following Caporale et al. (2006) and Al-Maadid et al. (2016), we use a multivariate GARCH-BEKK model to test for volatility spillover by placing restrictions on the relevant parameters. We consider the following two null hypotheses: i) Tests of no stock price volatility spillover to oil price volatility (H_0 : Stock \rightarrow Oil : $a_{21}=g_{21}=0$) and ii) Tests of no oil price volatility spillover to stock price volatility (H_0 : Oil \rightarrow Stock: $a_{12}=g_{12}=0$). The results indicate that there is volatility spillover from oil prices volatility into stock market returns volatility. There is evidence of significant conditional volatility spillover, measured by g_{12} , running from oil towards UAE (0.130), Qatar (0.134) and Oman (0.259). These results are consistent with other findings which show significant volatility spillovers between oil and stock markets in the GCC region. However volatility spillover from stock market returns volatility into oil prices volatility.

The conclusion of this paper helps with moving to a more diversified and knowledge based economy because it identifies the effects of oil prices volatility on stock markets volatility for eight oil exporter countries (GCC and non

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GCC counties). By using weekly data for the 2004–2015 period and using Wednesday to Wednesday weekly prices to overcome the different weekend effect, and by using the US stock market because it is a proxy for the business cycle and an international stock market, we model the relationship between oil and stock prices using a multivariate GARCH-BEKK model. We find evidence of co-movement between oil and stock markets, especially in the GCC region, whereas results for volatility spillovers are quite mixed. Consequently, general policies aimed at stabilizing stock prices in oil exporting countries should be formulated by diversification. The specific linkages between different markets need to be taken into account in order to devise appropriate policy measures.