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Characteristics of permanent and transitory returns in oil-sensitive emerging stock markets: The case of GCC countries

Shawkat Hammoudeh [a,1], Kyongwook Choi [b,*]

[a] *Lebow College of Business, Drexel University, 3200 Market Street, Philadelphia, PA 19104, United States*
[b] *Department of Economics, Ohio University, 333 Bentley Annex, Athens, OH 45701, United States*

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Abstract

The estimates suggest that for both return components there exists a statistically significant high volatility regime for all the Gulf Cooperation Council (GCC) stock markets and the oil market. On the other hand, the results for the low volatility state of both components are mixed. The individual GCC markets vary in terms of sensitivity to volatility and its duration; with Saudi Arabia and Oman having the highest overall return volatility. All the GCC markets are much less volatile than that of the more open, crisis-ridden, oil-exporting Mexico. All GCC returns move in the same direction, whether in terms of total return, fundamentals or fads under both volatility regimes. The correlations between themselves and with Mexico, the oil price and the Morgan Stanley Capital International Index (MSCI) returns are weak compared to the correlations among stock returns of Germany, Japan UK and the US [Bhar, R., Hamori, S., 2004. Empirical characteristics of the permanent and transitory components of stock returns: analysis in a Markov-switching heteroscedasticity framework. Economics Letters 82, 157–165]. Mexico has considerably higher correlation with both MSCI and the oil price than all the GCC countries.
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* Corresponding author. Tel.: +1 740 593 2051; fax: +1 740 593 0181.
E-mail addresses: Hammousm@drexel.edu (S. Hammoudeh), choi@ohio.edu (K. Choi).
[1] Tel.: +1 215 895 6673; fax: +1 215 895 697.

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1. Introduction

Fads or speculative attacks are short-lived phenomena that affect the world's stock and oil markets such as the 1982 Kuwait market crash, the 1987 US market crash, the 1994 Mexican crisis and the 1998 oil market collapse, among others. In these crashes or crises the markets experience a large drop in stock or oil prices and a dramatic jump in volatility. The fads or attacks can be caused by noisy traders who under price misperceptions bid stock or oil prices away from the fundamentals, leading to underpricing (De Long et al., 1990). Although the fad volatility usually reverts to normal levels quickly, this transitory volatility can cause tremendous damage to wealth and social well-being, as happened in the crashes and crises noted above. Therefore, it is important to consider an economic variable such as a stock and/or an oil return in terms of its permanent (or fundamental) component, and its transitory (or fad) component in order to determine the volatility and the expected volatility durability of the fad relative to that of the fundamental.

The recent literature has studied the decomposition of the stock return within the state-space framework while allowing for volatility transition between regimes for the return itself and for each of its components. Several authors have proposed different methods of decomposing a time series into permanent and transitory components. Nelsson and Plosser (1982) matched a model consisting of transitory and permanent components to an autocorrelation function to determine the relative sizes of these two components. Watson (1986) and Clark (1987) used the conventional unobserved component model (without Markov-switching) to decompose GNP into these two constituents. Campbell and Mankiw (1987), employing an ARMA representation of a time series, estimated the impact of a shock on long-run forecasts to weigh up the relative importance of the two components. More recent methods examined the decomposition by focusing on the existence of mean reversion in stock returns. Fama and French (1988) used an autoregressive test and found mixed results on the existence of mean reversion in the transitory and permanent components. Kim and Kim (1996) and Kim and Nelson (1999) examined the relative importance of the two components within the framework of the state-space model with Markov-switching heteroskedasticity. Bhar and Hamori (2004) applied the Kim and Kim (1996) model to some of the OECD countries.[1]

Most of the research on volatility switching has focused on the stock markets of the developed countries. To our knowledge, this line of research has not been applied to many developing countries including the increasingly important stock markets of the Gulf Cooperation Council (GCC) which includes Bahrain, Kuwait, Qatar, Oman, Saudi Arabia and United Arab Emirates (UAE).[2] Recent research on the GCC markets has used the error-correction model to examine co-movements and interactions of the stock returns (Hammoudeh and Elesia, 2004), and the standard GARCH model to analyze return volatility (Malik and Hammoudeh, 2006). However, no attempt has been made to examine the relative volatility and regime switching of the permanent and transitory components of the total returns of these oil-based emerging markets such as the GCC and Mexican markets. This study will use the empirical model of Kim and Kim (1996) and Bhar and Hamori (2004) to examine the volatility of the decomposed stock returns of the GCC returns and compare it to that of Mexico.

[1] Other studies, which use the state-space model with a Markov regime-switching process to model volatility and shifts in return regimes but without using the component decomposition, include Hamilton and Susmel (1994), McCarthy and Najand (1995), Chu et al. (1996), Schaller and van Norden (1997), among others. For earlier research, see Hamilton (1989), Turner et al. (1989) and Glosten et al. (1993).

[2] Qatar is not included because its stock market was established in 1997, which does not provide an appropriately long time series. Qatar had 30 companies listed and an index return equal to 64.53% in 2004.

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