

Testing the Weak-Form of Efficient Market Hypothesis and the Day of the Week effects in Saudi Stock Market: Linear Approach

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Abstract

The aim of this paper is twofold: first, it investigates the existence of the random walk hypothesis (RWH) by testing the weak-form efficiency in the returns of one of the largest stock markets in the Middle East and North Africa; the Saudi Stock Exchange (SSE), using set of highly regarded linear serial dependence tests. Second, it investigates the existence of the day of the week effects. From the literature of linearity, three standard tests have been used in this study include; the parametric Autocorrelation Function (ACF) and Ljung-Box Q statistic tests, and the nonparametric runs test. The purpose of choosing these tests is due to their reputation and extensive used in the literature of market efficiency. The study employs Unit root tests (ADF, PP, and KPSS) to examine stationary in the data series. The study sample consists of individual stocks, sectoral index and the aggregate index as follows; Tadawul All-Shares Index (TASI) from 31 December 1999 to 1 January 2010 with a total of 2661 daily observations, the daily closing of Saudi Tadawul Banks and financial services (TDWBANK) from 19 April 2007 to 1 January 2010 with a total of 707 daily observations, the daily closing adjusted price of Saudi Arabia Basic Industries (SABIC) from 13 April 2000 to 1 January 2010 with a total of 2537 daily observations, the daily closing adjusted price of Saudi Telecommunication Company (STC) from 3 October 2005 to 1 January 2010 with a total of 1110 daily observations, the daily closing adjusted price of Savola Group from 4 July 2003 to 1 January 2010 with a total of 1696 daily observations. The purpose of selecting this data structure is to investigate Samuelson's dictum (1998) that the efficient markets hypothesis works much better for individual stocks than it does for the aggregate stock market index. The results indicate that the Saudi Stock Exchange (SSE) returns exhibit significant linear serial dependence. The hypothesis of market efficiency has been strongly rejected based on the results from the linearity tests. Thus, a conclusion has been reached that the Saudi stock market is inefficient in the weak-form of the Efficient Market Hypothesis (EMH). The results also show evidence of day of the week effects in Saudi Market. Nonetheless, the Saudi stock market needs to be studied further with different sample, time series, and other tests to verify market efficiency and day of the week effects.

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NB: References will be included in the full paper