



Stock market efficiency: A comparative analysis of Islamic and conventional stock markets

Sajid Ali ^a, Syed Jawad Hussain Shahzad ^{b,*}, Naveed Raza ^c,
Khamis Hamed Al-Yahyaee ^d

^a Department of Management Sciences, Bahria University, Islamabad, Pakistan

^b Montpellier Business School, Montpellier, France

^c COMSATS Institute of Information Technology, Islamabad, Pakistan

^d Department of Economics and Finance, College of Economics and Political Science, Sultan Qaboos University, Muscat, Oman

HIGHLIGHTS

- MF-DFA is used to examine weak form stock market efficiency.
- Developed, BRICS emerging and Islamic countries stock markets are analyzed.
- Efficiency ranking is compared across Islamic and conventional counterparts.
- Turkish stock market is most efficient Islamic stock market, while Pakistan's is the least efficient.
- Islamic stock markets are mostly more efficient than their conventional counterparts.
- Islamic stock markets are new, they nonetheless maintain robust governance and disclosure mechanisms.

ARTICLE INFO

Article history:

Received 9 October 2017

Received in revised form 17 January 2018

Available online 3 March 2018

JEL classification:

G1

G14

G17

Keywords:

Efficiency

Stock markets

Islamic stocks

MF-DFA

Global financial crisis

ABSTRACT

In this paper, we examine the comparative efficiency of 12 Islamic and conventional stock markets counterparts using multifractal de-trended fluctuation analysis (MF-DFA). The full sample results indicate that developed markets are relatively more efficient, followed by the BRICS' stock markets. The comparative efficiency analysis shows that almost all the Islamic stock markets excluding Russia, Jordan and Pakistan are more efficient than their conventional counterparts. Implying that Islamic stock markets are new, however the peculiar nature, shari'ah compliant laws and good governance and disclosure mechanisms make them more efficient. Further, our results indicate that the Islamic stock markets' adjustment to speculative activity is, in fact, higher than their conventional counterparts. The findings of the study may help regulators and policy makers to reduce economic distortions through more effective resource allocation.

© 2018 Elsevier B.V. All rights reserved.

1. Introduction

The efficient market hypothesis¹ (EMH) has received a great deal of recognition in the literature as a theoretical device, which furthers understanding and promotion of quality financial markets. Different studies have looked to better

* Corresponding author.

E-mail addresses: sajid.mahr@gmail.com (S. Ali), j.syed@montpellier-bs.com (S.J.H. Shahzad), naveedrazza@gmail.com (N. Raza), yahyai@squ.edu.om (K.H. Al-Yahyaee).

¹ For details, see [1,2].

understand and examine the efficient market hypothesis through incorporating available information regarding stock prices. The movements of stock prices (or any financial/economic series) are commonly described as the 'random walk'. These movements of stock prices (i.e., random walk) are hard to predict as they change without any pattern or limits over the long run. Moreover, future stock returns cannot be predicted on the basis of historical price information if the stock prices follow a random walk. On the other hand, if a random walk is not followed, the stock prices would track a trend over time which can help in predicting future returns by extrapolating historical prices. Therefore, a market is said to be in a weak form of efficiency if all the past information contained in stock price movements is fully reflected in the current stock prices [1]. Confirmation of the efficient market hypothesis has been considered a sufficient condition for a long time; however, the rejection of the random walk hypothesis does not necessarily support an inference that stock price information or stock markets are inefficient.

Stock prices follow a random walk with either a positive or a zero drift as implied by the EMH. Efficient resource allocation in an economy is impacted by an inefficient stock market because the effect of new information on the stock prices is likely to be understated or overstated [3]. Post EMH, researchers have claimed that it is Utopian and unrealistic to expect a completely efficient market; however, current studies, for example, Zunino et al. [4] and Wang et al. [5], have shown that the stock markets are indeed evolving and becoming more efficient with the passage of time.

Furthermore, the concept of achieving pure market efficiency has been a subject of academic and professional debate for years due to several reasons. Firstly, it is expected that risk-weighted returns would be greater in inefficient stock markets. Thus, an examination of stock market efficiency is vital for individual² and institutional investors in both the private and public sectors. A thorough knowledge and understanding of the EMH concept is critical for corporate managers because the actual and perceived value of companies is determined by their decisions and actions. For equity market supervisors and operators, EMH is imperative as it helps decision-making in the development of equity markets. Lastly, the efficient market hypothesis is an important underlying assumption in numerous financial models. Hence, from the perspective of investors, regulators, and policy makers, the examination of EMH (i.e., whether stock prices follow a random walk or a mean reverting process) is crucial.

However, little scholarly attention has been paid to testing the EMH in Islamic stock markets. This is surprising given that Islamic stock markets are a significant new phenomenon in the world financial system, underlined by the fact the Islamic financial sector has experienced a growth rate of 15%–20% per annum over the last five years [7]. It is also expected that the risk–return profile of Islamic and conventional products (i.e., stocks) is different because of the unique characteristics of Islamic stocks such as ethical investing, ratio screening, low tolerance towards interest based leverage and limit to the intensively structured financial products such as derivatives [8]. The screening criteria of the Islamic stock indices such as debt to equity ratio (not more than 33%) limits the inclusion of industrial sectors engaged in prohibited activities (trade in alcohol, gambling etc.) and the inclusion of financial sectors (Islamic banking, modarba, musharika businesses) that only facilitate the supportive activities. Therefore, the performances of the Islamic and conventional stock markets are not theoretically expected to be similar, a conclusion that has been documented by recent studies. For example, Beck et al. [9] concluded that conventional banks are more efficient compared to their Islamic counterparts. They are outperformed, however, by Islamic banks in terms of capitalization, asset quality and intermediation. Likewise, Ho et al. [10] confirmed that conventional stock indices are outperformed by the Islamic stock indices over time. Saeed and Izzeldin [11] proved that Islamic banks' efficiency and default risk association differs in comparison to conventional banks. These findings reiterate the necessity to comparatively investigate the efficiency of Islamic and conventional stock markets.

This study contributes to the existing literature by employing a cutting-edge method of de-trended fluctuation analysis (DFA) derived from econophysics to measure the degree of stock market efficiency. Previous studies, for example, Cajueiro and Tabak [12–14] and Di Matteo et al. [15,16], have employed monofractal techniques to rank and compare the efficiency of stock markets. However, a plethora of research argues that the time series data of financial markets exhibit multifractal behavior. Therefore, a monofractal method with a single scaling exponent is inappropriate since it may provide spurious findings ([17–20], among others).

It is also worth mentioning that the multifractal nature of the time series³ is attributable to the fat-tailed probability distributions of variations, different long-range temporal correlations, for small and large fluctuations, or both [22]. In view of this aspect, econophysics approaches are well known for their ability to analyze stock markets' weak-form efficiency. Another important feature of this approach is that it considers the presence of long-range memory (multifractality) in non-stationary time series. Multifractal de-trended fluctuation analysis (MF-DFA) can also be used to examine financial market efficiency, the level of persistency, and long-range dependence. The method provides the flexibility to avoid misjudgments of correlation and to estimate the long-range correlation behavior of nonstationary time series [23]. Moreover, econophysics approaches give more accurate findings as compared to rescaled range analysis (R/S), which is prone to non-stationarity and short-term auto-correlation issues of the time series, and is therefore likely to provide spurious results of long memory parameters [24]. The MF-DFA approach is robust against these issues and may accurately detect the long-range auto-correlations in financial markets.

² Before the latest developments of the EMH concept, the individual investors may not be able to obtain the optimal benefits as a result of high information costs, transactions costs, agency costs and other real-world frictions. However, the most recent expressions of the EMH thus allow a role for individual investors in the market who may profit from their comparative advantages including specialized knowledge, lower trading costs, low agency costs or management fees and a financing structure [6].

³ For further details, see [21].

Download English Version:

<https://daneshyari.com/en/article/7375356>

Download Persian Version:

<https://daneshyari.com/article/7375356>

[Daneshyari.com](https://daneshyari.com)