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Dynamic linkages among equity markets in the Middle East and North African countries

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ABSTRACT

The relaxation of security laws and regulations in emerging markets in the Middle East and North Africa (MENA) provides abundant opportunities for foreign investors. These markets exhibit high-expected returns and substantial volatility. In this paper, we investigate the lead/lag relationship between the MENA countries and regions. We find no market causality or spillover from one country to another in the North Africa region. Our results for the Levant region reveal that there are linkages between stock markets in this region. The results for the Gulf Cooperation Council (GCC) region show that there is more interaction and linkage in the GCC region than in the North Africa and Levant regions. An unexpected result is that UAE's stock market leads all the markets in this region. Finally, we investigate linkages among the three regions. We find that GCC influences the other two regions.

1. Introduction

Economic integration among economies of the world has encouraged investors and academics to study the relationship among different financial markets. Globalization, driven by improved communications technology and international pressure to lower trade barriers, is likely to enhance international linkages between financial markets. While integration in financial markets provides advantages, potential pitfalls also result. The October 1987 crash of US financial markets led to gloom in financial markets around the world. In addition, the financial crisis in Thailand rapidly spread to Indonesia, Malaysia,

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the Philippines, and Korea in 1997. In mid-1997, the East Asian crisis became a worldwide financial and economic crisis, hitting developing economies.

Linkages among developed stock markets have been studied since the 1970s. Many researchers have investigated the short-term and long-term relationships among worldwide financial markets. The primary focus of the empirical research has been on relationships among the G-7 and other industrialized countries' financial markets. Swanson (1987) suggests that world stock markets are becoming more integrated. For developed countries this might be true. However, only a few studies have examined the relationship between the emerging financial markets in the Middle East and North Africa (MENA) region. This paper focuses on the extent of integration among stock markets in developing countries.

In recent years, new equity markets have emerged in Asia, Latin America, Europe, Africa and the Middle East. Some new markets that are open for foreign investors are located in the MENA, where many countries have recently been relaxing their security laws and regulations to attract foreign investors. The MENA countries have begun privatizing state-owned businesses and liberalizing laws regarding foreign ownership.

The specific focus of this paper is to investigate the relationship between stock market returns for twelve different countries' indices in the MENA region. The MENA countries have witnessed significant economic and financial development in the last decade, and despite the surge in empirical research, the MENA region, which is composed primarily of Arab League members, is barely investigated. In this study, we investigate the relationship between MENA market indices using daily returns for markets that have not been previously studied. The countries being studied are Bahrain, Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, Turkey and UAE. The results of this study should have important implications for investors and fund managers interested in international diversification.

This paper is organized as follows. Section 2 contains a review of the relevant literature. Section 3 discusses the data, and Section 4 presents the methodology and empirical results. Finally, Section 5 contains conclusions and discussion.

2. The literature review

Studies of world capital markets have typically focused on the merits of diversification, the lead relationship and comovement of equity prices among market indices. On that note, many studies have focused on the movement of world exchange indices during a worldwide financial crisis. Many researchers have investigated the relationship among worldwide financial markets. The primary focus of the empirical research has been relationships among the financial markets of industrialized countries. Most advanced economies deregulated their capital markets, removed barriers to international investment, and improved accessibility to information. Hamao et al. (1990) observed evidence of price volatility spillovers from New York to Tokyo, London to Tokyo, and New York to London, but no price volatility effects in other directions.

Emerging stock markets are characterized by high volatility. Simultaneously, global and local events can cause a major shift in emerging markets' volatility. The financial turmoil that struck Asia in 1997 was agent of both crisis and panic. Aggarwal et al. (1999) studied the kinds of events that cause large shifts in the volatility of emerging stock markets. The authors used an iterated cumulative sum of squares algorithm to identify the points of shocks and sudden changes in the variance of returns in each market and the duration of the shift. They found that most events tended to remain local. The events examined include the Mexican peso crisis, periods of hyperinflation in Latin America, the Marcos-Aquino conflict in the Philippines, and the stock market scandal in India. The October 1987 crash is the only global event during the period 1985–1995 that caused a significant jump in the volatility of several emerging stock markets. Sheng and Tu (2000) used cointegration and variance decomposition analysis to examine the linkages among the stock markets of 12 Asia-Pacific countries, before and during the period of the Asian financial crisis. The tests showed no cointegration relationship before the period of the financial crisis, and one cointegration relationship among the national stock indices during the period of the financial crisis. In addition, Granger's causality test suggested that US still Granger-causes some Asian countries during the period of crisis, reflecting the US market's persisting dominant role.