



Contents lists available at ScienceDirect

# Research in International Business and Finance

journal homepage: [www.elsevier.com/locate/ribaf](http://www.elsevier.com/locate/ribaf)

## Stock market comovements around the Global Financial Crisis: Evidence from the UK, BRICS and MIST markets



Larisa Yarovaya\*, Marco Chi Keung Lau

Faculty of Business and Law, Newcastle Business School, Northumbria University Newcastle, City Campus East 1, CCE1-242, Newcastle Upon Tyne NE1 8ST, UK

### ARTICLE INFO

#### Article history:

Received 2 October 2015  
 Received in revised form 10 January 2016  
 Accepted 27 January 2016  
 Available online 2 February 2016

#### JEL classification:

G1  
 F3

#### Keywords:

International portfolio diversification  
 Cointegration analysis with breaks  
 BRICS  
 MIST  
 Asymmetric response

### ABSTRACT

This paper analyses stock market co-movements around recent crises and explores the international portfolio diversification benefits available for UK investors holding a portfolio in the BRICS and MIST emerging markets. The application of conventional and regime-switch cointegration techniques suggests an absence of diversification benefits. Further evidence from application of a multivariate time-varying asymmetric model (i.e. AG-DCC) suggests that conditional correlation among the stock markets exhibits higher dependency when it is driven by negative shocks to the market. The asymmetric causality test provides supporting evidence of the decoupling hypothesis. The results indicate that the Chinese stock market is the most attractive option for the UK investor.

© 2016 Elsevier B.V. All rights reserved.

## 1. Introduction

In the last decade, the global economy has faced the challenge of increased contagion across developed and emerging markets during a period of financial turmoil. This has made the analysis of global stock market linkages one of the key areas for financial and economic research. The transmission of shocks from developed to emerging stock markets has promoted discussion among financial regulators and academics on the role of emerging markets in maintaining macroeconomic stability. The increase in co-movements between emerging and developed stock markets after the shock generated by the crisis has been reported by many authors and supports the contagion hypothesis (e.g., Aloui, 2011; Karanasos et al., 2014). Alternatively, the decoupling hypothesis suggests that emerging markets were less affected by the crisis, and thus strong reverse direction of spillovers, i.e. from emerging to developed markets, became evident after the crisis (e.g. Kenourgios et al., 2013; Bekiros, 2014). The interconnectedness across developed and emerging markets before and after crisis shock requires further attention due to the changing role of emerging markets in the world economy.

As a consequence of the Global Financial Crisis (GFC) the G8 was replaced by the G20 resulting in significant changes in global economic governance. Taking advantage of the growing population, and a cheaper labour force, the largest emerging

\* Corresponding author.

E-mail addresses: [larisa.yarovaya@northumbria.ac.uk](mailto:larisa.yarovaya@northumbria.ac.uk) (L. Yarovaya), [chi.lau@northumbria.ac.uk](mailto:chi.lau@northumbria.ac.uk) (M.C.K. Lau).

countries such as Brazil, Russia, China, India and South Africa (BRICS), as well as, Mexico, Indonesia, South Korea and Turkey (MIST), all actively participated in world trade and were able to build strong economic linkages with industrialised economies. These changes in the economic landscape affected the risk–return characteristics of internationally diversified portfolios and diversification benefits available on global markets. On the one hand, the financial integration of emerging markets into the global economy limits the benefits of international portfolio diversification available to UK investors due to the increased correlation between emerging and developed markets.<sup>1</sup> On the other hand, globalisation makes emerging countries more transparent and forces multinational corporations based in the emerging markets to accept the world's best practices of corporate governance and so decreasing the risk for investors in emerging economies.

This paper examines the stock markets linkages between the UK and BRICS and MIST around the time of the world financial crisis, and includes both the GFC and the Eurozone Debt Crisis (EDC) episodes. The work is original and differs from existing literature in several ways. Firstly, it sheds light on channels of international information transmission between the UK and both BRICS and MIST emerging markets, providing evidence of diversification benefits available in emerging markets from the viewpoint of the UK investor. Secondly, the paper analyses the transmission of both positive and negative shocks across target markets in regard to endogenously identified structural breaks, i.e. moments when selected markets were the most affected by the recent crisis episodes. Thirdly, the inclusion of both BRICS and MIST in one empirical study gives a new insight into the decoupling hypothesis.

## 2. Background literature

### 2.1. Review of the literature and methods

The increased role of emerging markets in the global economy facilitated the research on contagion across emerging stock markets. The term “contagion” is actively used in literature; however its definition varies from study to study. The notable paper by [Forbes and Rigobon \(2002\)](#) provides a narrow definition of contagion effect as the increase in spillovers between different markets after a crisis shock occurs in one of the markets. In another words, the volatility shock in one market can cause a contagion effect and spillover of volatility to another market. The change in correlation between markets is defined as interconnectedness. In this paper we use a narrow definition of contagion, i.e. the increase in stock market co-movements after the crisis shock occurred on one of the markets, rather than changes in macroeconomic fundamentals.

Despite the fact that the existing empirical literature on contagion is already rich, new methodological developments are constantly expanding empirical evidence. Numerous methods have been employed to investigate interlinkages between emerging and developed stock markets. One of the well-known approaches to test series on cointegration is to test them for a unit root using the residual-based augmented Dickey–Fuller test (ADF) ([Engle and Granger, 1987](#)), and Johansen cointegration ([Johansen, 1988](#)). These tests on long-run cointegration have been employed by many researchers and in recent papers these methods are often used together with more sophisticated techniques due to the fact that this approach does not consider the possible time-varying nature of correlations and structural shifts in the data generating process (e.g. [Lucey and Voronkova, 2008](#); [Kenourgios and Samitas, 2011](#)). Alternatively, [Gregory and Hansen \(1996\)](#) suggested a cointegration test which allows one regime switch which is determined endogenously (e.g. [Voronkova, 2004](#)). This method has been further extended by [Hatemi-J \(2008\)](#) who proposed a method to test cointegration taking into account two possible regime shifts.

A frequently employed technique to test causality between markets is the linear Granger Causality test introduced by [Granger \(1969\)](#), which became popular due to its simplicity, but with the ability to capture short-term causal linkages across markets. [Mukherjee and Mishra \(2010\)](#), examine stock market integration and volatility spillover among the Indian and 12 other Asian markets. They use a conventional GARCH (1,1) model and found evidence of bi-directional flow of information between the Indian and other Asian markets. [Mobarek and Fiorante \(2014\)](#) use several statistical tests and found evidence of weak-form market efficiency for the markets of Brazil, Russia, India and China (BRIC).

However, the financial time-series have many nonlinear features which could not be captured by the standard Granger causality test (e.g. [Bekiros, 2014](#)). Additionally, studies that employed the Granger causality test failed to consider the causal impact of positive and negative shocks. Therefore, more recent studies have employed techniques allowing asymmetry in causality testing (e.g. [Hatemi-J, 2012](#)).

Another well-established statistical problem is the presence of autoregressive conditional heteroskedasticity which can impact on linear test statistics. This led to a rise in popularity of the ARCH model by [Engle \(1982\)](#), and its generalisation by [Bollerslev \(1986\)](#), in studies on international information transmission. There are several multivariate extensions of the univariate GARCH model, such as MGARCH, VEC and BEKK models. [Engle \(2002\)](#) introduces the dynamic conditional correlation (DCC) estimator which has several advantages over those multivariate GARCH models. The first advantage is that it can be applied to the large correlation matrices, which was inconvenient under the multivariate GARCH models because of the large number of parameters to be estimated. The number of parameters in the DCC model is not dependent on the

<sup>1</sup> [Markowitz \(1952\)](#) formulated the portfolio problem as a choice of the mean and variance of a portfolio of assets. In the context of the Markowitz portfolio theory, investors should optimise the weights of assets in a portfolio in regard to expected rates of return and volatility. The comovements of assets entail possibility to construct the portfolio with desirable rates of return and lower volatility rather than any individual security which justifies the necessity of diversification. Thus, to decrease risk of the portfolio investors have to combine assets with negative or low correlation with each other.

Download English Version:

<https://daneshyari.com/en/article/1003088>

Download Persian Version:

<https://daneshyari.com/article/1003088>

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