ARTICLE IN PRESS

IIMB Management Review (2016) xx, 1–13

available at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/iimb

Foreign institutional investments in India: An empirical analysis of dynamic interactions with stock market return and volatility

Vaishali S. Dhingra [a,*], **Shailesh Gandhi** [b], **Hemantkumar P. Bulsara** [c]

[a] *Applied Mathematics and Humanities Department, Sardar Vallabhbhai National Institute of Technology, Surat 395007, Gujarat, India*
[b] *Finance & Accounting, Indian Institute of Management, Ahmedabad, Gujarat 380015, India*
[c] *Economics & Management, Applied Mathematics and Humanities Department, Sardar Vallabhbhai National Institute of Technology, Surat 395007, Gujarat, India*

Received 9 May 2014; revised 29 June 2015; accepted 5 October 2016; available online

JEL CLASSIFICATION
C580
G230

KEYWORDS
Foreign institutional investments;
Feedback trading;
Indian capital market;
Impulse response function;
TARCH;
Vector autoregression

Abstract This paper investigates interactions of foreign institutional investments with market returns and market volatility in India using both static and dynamic models based on daily data. The findings of both models show foreign investors as positive feedback traders while investing in the Indian market, and as negative feedback traders during their withdrawal. Using the impulse response functions based on vector autoregression, we find strong evidence that foreign institutional investments destabilise the market, particularly with selling activities, as they significantly increase the volatility.

India's emergence as an economic force is a recent development. Foreign investment is one of the primary factors for its augmented growth. A look at stock indices since 2006 shows that the market appreciates when Foreign Institutional Investments (FIIs) are highest and depreciates when FIIs are missing in action. For instance, during 2008, the market fell almost 50 percent due to the global financial meltdown, eroding the gains of 2007. FIIs have dominated Indian equities ever since the markets were opened up in 1993. Positive fundamentals accompanied by fast growing markets have made India an alluring destination for FIIs in Asia. FIIs have affected the economy positively in terms of capital market reforms, increased liquidity and depth. At the

* Corresponding author.
E-mail address: vaishalidhingra1@gmail.com (V.S. Dhingra).

http://dx.doi.org/10.1016/j.iimb.2016.10.001

same time it needs to be seriously considered that FIIs give leverage to the market, causing it to lose control and put the small investors at potential disadvantages. Huge funds of FIIs into the country also create a lot of demand for rupee, which results into the increased inflation and causes appreciation of the domestic currency. This further creates problems related to exports and makes them less lucrative. These complications create the need to understand the dynamics of FIIs.

This research paper empirically investigates the dynamic interactions of FIIs with the stock market (Nifty) returns and its volatility. The study uses the daily data for FIIs and Nifty from January 2004 to September 2012. The results support the feedback trading behaviour of FIIs. They are return chasers as they follow changes in Nifty returns. Further, FIIs affect the volatility of Nifty returns and have destabilising effects, causing upheaval in the Indian capital market.

Introduction

Foreign investment flows to the Indian capital market have surged after the global financial crisis due to continuous stimulus measures from the US Federal Reserve in the form of quantitative easing. India has witnessed the highest inflow of foreign institutional investments (FIIs) in 2010 and 2012 in the aftermath of the opening of the liquidity taps, which did not happen during 2006 or 2007 (the boom years). During November 2013, Nifty climbed over the level of 6415.25, when FIIs purchased more than US$51.67 million of Indian stocks in just three months.[1] When Ben Bernanke, the chairman of the Federal Reserve of the USA, triggered hints about the cutbacks in monthly bond purchase during first week of January, the market drifted below 6000 level on the ground and FIIs started liquidating long positions and created short positions of over US$16.67 million in the Futures & Options market.[2]

Along with some of the Emerging Market Economies (EMEs) like Brazil, China and Korea, India witnessed a preponderance of portfolio flows due to liberal investment regimes, rapid growth of economy, and strong macro-economic fundamentals. According to a survey conducted by the Japan Bank of International Corporation (JBIC), India has been ranked as the most preferred destination for future investments, with Indonesia and China at second and third ranks respectively.[3] The rapid increase in global liquidity and the large scale net portfolio flows to emerging countries have raised serious concerns in the recipient countries about the adverse effects. These include the danger of overheating, inflationary pressure on consumer and asset prices, exchange rate appreciation pressures, and risk of financial instability. Foreign institutional investors commenced investing in India in 1990, and since then they have been dogged by the perception that one day they will leave the country in search of newer emerging markets. It became a matter of concern in policy making circles, in particular because of the upward pressure on real exchange rates and monetary aggregates that made portfolio inflows potentially as destabilising as outflows (Calvo, Leiderman, & Reinhart, 1993). This perception turned into panic during 2008–2009 when FIIs withdrew US$142,635 million. The FIIs behaved like a flock of geese, which flee at the sound of the first gun shot. In much of the literature, international capital flows are portrayed as the main culprit (Calvo, 1998; Stiglitz, 1999; Taylor & Sarno, 1997), as sudden reversal of such flows potentially destabilises the financial market in the recipient country and spreads through contagion effect and spillovers to other countries. There seems to be consensus amongst market experts and academicians that capital inflow in the form of FIIs is temporary and short lived, and does not indicate the financial strength of any economy.[4] Another concern of the capital market authority (Security and Exchange Board of India) has been the substantial decline in domestic investments by home country corporations and individual investors since 2007–2008.

Given this background the study focuses on relationships between foreign institutional investment flows and domestic (Indian) equity returns and volatility in India. It deals with two questions: (1) Do foreign investors pursue feedback trading strategies? (2) Do FIIs adversely affect the performance of the Indian capital market in terms of volatility? While several studies have been carried out to understand the behaviour of foreign portfolio flows towards emerging markets, to the best of our knowledge, this paper is the first in-depth study attempting to explain such a relationship of FIIs with both capital market returns and volatility in India. Further, it also determines and delineates the effects of futures trading activities of FIIs on the Indian capital market along with their gross trading activities (cash plus derivatives). Another contribution of this study stems from the data, as it uses longitudinal data on a daily basis from January 2004 to September 2012, which has been bifurcated into six types of flows (series).

[1] Bureau, ET. Busting myths: Why it makes little sense to worry over FII selling. *The Economic Times*. Retrieved from http://articles.economictimes.indiatimes.com/2013-11-26/news/44486803_1_net-sellers-fiis-indian-stocks.

[2] Baruah, Biswajit. FIIs start building shorts, sell longs in futures. *The Economic Times*. Retrieved from http://articles.economictimes.indiatimes.com/2014-01-09/news/46029966_1_long-positions-bank-nifty-nifty-futures.

[3] Bureau, The Hindu Business Line. Japanese manufacturers rank India as most preferred investment destination. Retrieved from http://www.thehindubusinessline.com/economy/japanese-manufacturers-rank-india-as-most-preferred-investment-destination/article6793679.ece.

[4] See, for instance, G. A. Calvo (1998), Dornbusch and Werner (1994) and Dornbusch, Goldfajn, Valdés, Edwards, and Bruno (1995).

Please cite this article in press as: Vaishali S. Dhingra, Shailesh Gandhi, Hemantkumar P. Bulsara, Foreign institutional investments in India: An empirical analysis of dynamic interactions with stock market return and volatility, IIMB Management Review (2016), doi: 10.1016/j.iimb.2016.10.001