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Foreign Portfolio Investment Flows to India: Determinants and Analysis

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Summary. — This paper analyzes the macroeconomic determinants of portfolio flows to India and finds that lower exchange rate volatility and greater risk diversification opportunities are conducive to portfolio flows. However, higher equity returns of other emerging markets discourage these flows. Other conventional determinants of portfolio flows are domestic equity performance, exchange rate, interest rate differential and domestic output growth. An analysis of disaggregated portfolio flows shows that determinants of FIIs are similar to aggregate portfolio flows, while ADR/GDRs are significantly influenced only by domestic equity returns, exchange rate, domestic output growth, and foreign output growth.

Key words — FPI, FII, ADR/GDRs, ARDL model

1. INTRODUCTION

According to international finance theory, foreign portfolio investment (FPI) flows are an inevitable outcome of investors wanting to invest across countries in order to diversify the risk of their portfolio and achieve higher returns. Some of the studies that have documented the benefits of diversification across countries include Grubel (1968), Levy and Sarnat (1970), Solnik (1974a), Grauer and Hakansson (1987), Harvey (1991), and De Santis and Gerard (1997). From the point of view of the host country, especially the developing countries, portfolio flows are considered to play a pivotal role in bridging the saving–investment gap and providing the much needed foreign exchange to finance current account deficit. The developing countries across the globe have been making conscious efforts to attract foreign financial capital which provides an impetus to economic growth and financial market development in the host country. Dell'Ariccia *et al.* (2008) and Obstfeld (2009) review the literature related to the benefits of financial flows from the host country perspective.

The growing removal of restrictions on the trading of international financial assets has led to a surge in the flow of financial capital across the globe in the past two decades. The investment by foreign investors is mainly geared toward the fast growing developing economies, including India, which provide profitable investment opportunities. Table 1 indicates that portfolio equity flows to developing countries increased five times from US $ 14 billion in 2000 to US $67 billion in 2005 and almost nine times to US$ 128 billion in 2010. Of all the developing countries the major recipients of portfolio equity flows have been China, Brazil, India, Russia, and South Africa out of which China, India, and Brazil account for almost 70% of the total portfolio equity flows to all developing countries (Figure 1).

Notwithstanding the beneficial impacts of portfolio flows to the investor as well as to the host country, these flows have also been a source of concern. The foreign investor has to take into consideration country and currency risk in addition to other factors compared to investing in the home country. From the host country perspective, portfolio flows are prone to reversals and volatility. This is evident from the historical and recent financial crises that have brought into focus the fact that these flows can expose the countries to new macroeconomic challenges.

India has not remained untouched by the developments in the global financial markets due to greater linkages of the Indian markets with the international markets. During the Asian crisis as well as during the recent sub-prime crisis, overall balance of payments deteriorated due to massive reversal of portfolio flows. Table 1 indicates that in 2008, portfolio equity flows to the Indian economy faced the sharpest reversal followed by the largest bounce back in 2009 compared to other developing countries. In 2010, while flows to other economies declined or increased marginally, portfolio equity flows to India increased by almost 90% compared to 2009, which indicates the confidence of the investor in the Indian economy that can be attributed to strong domestic fundamentals.

In the recent uncertain global scenario, it is important to understand the factors that drive portfolio flows, to facilitate efficient management of these flows in order to avoid any imbalances arising out of large inflows beyond the absorptive capacity of the economy or sudden reversal of financial capital leading to a situation of capital crunch.

The literature that analyzes the determinants of portfolio flows to developing countries has debated on the relative significance of domestic and external factors. Studies by Calvo, Leiderman, and Reinhart (1993, 1996), Taylor and Sarno (1997), Fernaindez-Arias (1996) and Kim (2000), Byrne and Fiess (2011) have emphasized that global factors like decline in interest rates and slowdown in growth of industrialized countries, have pushed capital to developing economies. On the other hand Bohn and Tesar (1996), The World Bank (1997), Mody, Taylor, and Kim (2001) and Felices and Orskaug (2008), find that domestic factors like equity index, sufficient availability of domestic reserves, and country creditworthiness have attracted portfolio flows to developing

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Table 1. *Portfolio Equity Flows to Developing Countries (US $ Billion)*

Years	All Developing Countries	China	Brazil	South Africa	Russian Federation	India	Mexico	Thailand
2000	13.95	6.91	3.07	4.17	0.15	2.48	0.45	0.90
2001	5.60	0.80	2.50	−1.00	0.50	2.90	0.20	0.40
2002	5.80	2.20	2.00	−0.40	2.60	1.00	−0.10	0.50
2003	24.30	7.70	3.00	0.70	0.40	8.20	−0.10	1.80
2004	39.90	10.90	2.10	6.70	0.20	9.10	−2.50	1.30
2005	67.47	20.35	6.45	7.23	−0.10	12.15	3.35	5.12
2006	107.70	42.86	7.72	14.96	6.48	9.51	2.80	5.24
2007	132.95	18.51	26.22	8.67	18.67	32.86	−0.48	4.27
2008	−53.36	8.72	−7.56	−4.71	−15.00	−15.03	−3.50	−3.80
2009	108.75	28.16	37.07	9.36	3.37	21.11	4.17	1.33
2010	128.41	31.36	37.68	5.83	−4.80	39.97	0.64	3.43

Source: Global Development Finance, various issues.

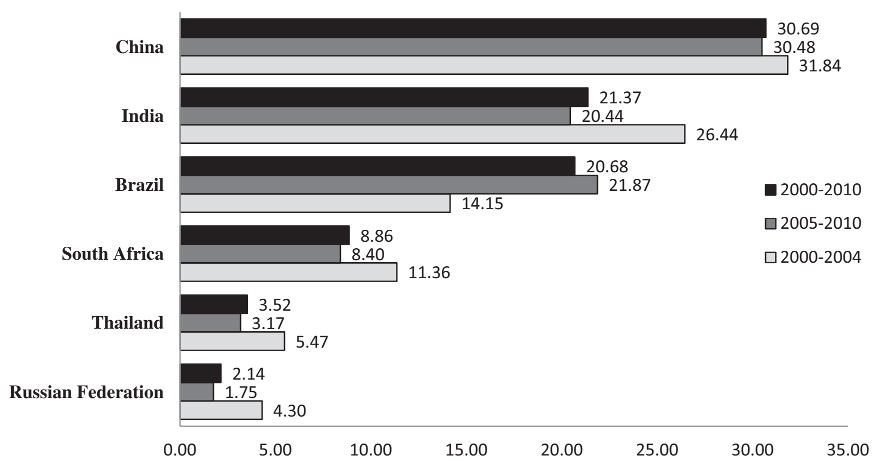

Figure 1. *Share of portfolio equity flows in total flows to all developing countries (percentages). Source: Calculations based on data from various issues of Global Development Finance.*

countries. Another set of studies in literature advocate complimentarity between domestic and external factors. These include Chuhan, Claessens, and Mamingi (1993), Montiel and Reinhart (1999) and De Vita and Kyaw (2007) among others.

To explore further, this study examines the macroeconomic determinants of portfolio flows to India. The determinants of disaggregated components of portfolio flows i.e., Foreign Institutional Investment flows (FII) and American/Global Depository Receipts (ADR/GDR) are also analyzed, in order to assess whether different components of portfolio flows are driven by similar or different factors.

This paper makes an important contribution to the literature. Firstly, most of the literature that analyzes the determinants of portfolio flows has concentrated on the FII component only. ADR/GDR flows have not received much attention despite the fact that it has increasingly being used to raise foreign capital. This study will examine the macroeconomic determinants of not only FII but also ADR/GDR flows to India in order to fulfill the existing gap in the literature.

Furthermore, this study examines a wider set of potential determinants of FII flows to India compared to other studies pertaining to the Indian economy such as Chakrabarti (2001), Kaur and Dhillon (2010), Kumar (2011), Srinivasan and Kalaivani (2013). While the study by Gordon and Gupta (2003) includes a wide range of determinants of portfolio flows, the Ordinary Least Squares (OLS) methodology is used that may yield biased and inconsistent estimates if the regressors are endogenous. This study follows the Autoregressive Distributed Lag (ARDL) approach to cointegration for estimating the long-run coefficients which overcomes such problems. The long-run coefficients are unbiased and the *t*-tests are also valid, even if the regressors included in the specification are endogenous (Harris & Sollis, 2003).

The following section discusses the trends along with the policy reforms related to portfolio flows in India. Section 3 describes the potential factors that drive portfolio flows. Section 4 discusses the empirical model, data, and methodology, used for estimation. Section 5 discusses the econometric results and Section 6 concludes.

2. TRENDS IN PORTFOLIO FLOWS AND POLICY REFORMS

In 1992, the Indian government allowed FIIs to invest in the financial markets which required registration of FIIs with the Securities and Exchange Board of India (SEBI). SEBI prescribes certain norms which are to be followed by the FIIs for registration that includes compliance with Foreign Exchange Management Act 1999 for which they need permission from Reserve Bank of India (RBI) and payment of registration fees. Overtime, the regulatory measures of SEBI have become liberal, which mainly included procedural relaxations related to entry and exit of FIIs, raising the ceilings on