CHAPTER III

INTERNATIONAL TREND IN FII FLOWS

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Chapter III

International Trend in FII Flows

3.1 Introduction

This chapter analyses the international trend in Foreign Institutional Investment (FII) / Foreign Portfolio Investment (FPI) flows and the role of such flows in volatility spillover and contagion. FPI assets in equity of all the countries taken together have shown a consistent up rise, without any major year-on-year fall, except in the period of global economic crisis during 2007-08, which observed a decline of about 43%. From USD 5,198,729 million at the end of 2001, FPI assets have climbed to USD 22,074,395 million at the end of 2014 [ref. Figure 3.1 below]. In spite of the annual growth rate fluctuating widely [ref. Figure 3.2], it shows a robust compounded annual growth rate of 11.77 percent per annum. Two successive negative growth rates have never been observed during these years.

Figure 3.1

International Portfolio Investment in Equity Securities: Globally (USD, Millions)

Data Source: World Bank
Despite the above depicted growth in international portfolio investment in equity securities globally, country wise distribution of FPI assets and liabilities (equity) vary widely, with a disproportionate concentration of both in developed economies. Sections 3.2 and 3.3 discuss in detail the distribution and growth of FPI assets and liabilities (equity) across the largest source and destination economies.

### 3.2 FPI Assets (Equity) Across Countries

FPI in equity from United States of America has always led the pack, and at the end of 2014 it stood at USD 6,736,063 million, i.e, 30.52 percent of all the countries’ FPI assets taken together [ref. Figure 3.3 below]. United Kingdom and Luxembourg come distant second and third with 7.92 percent and 7.10 percent respectively. While Japan with 5.39 percent, and Hong Kong with 3.37 percent are the two Asian participants, no emerging economy fares among the top ten. The largest holder of FPI in equity assets among the emerging economies is South Africa, with a meagre share of 0.67 percent. Figure 3.3 also depicts that the
distribution of international portfolio investment assets is predominantly skewed in favour of a few developed economies.

**Figure 3.3**

![Pie chart showing international equity portfolio investment country-wise assets (Year-end: 2014)](chart)

**Data Source: International Monetary Fund**

Although the percentage share of the top investor countries did not fluctuate heavily (Figure 3.5), the disparity among the amounts (in USD) of FPI holdings in equity (Figure 3.4) has been widening almost consistently indicating a growing vulnerability of global equity markets to the domestic economic problems of a handful of developed economies, especially of USA. Disproportionately high asset holdings by FIIs from a small number of countries make stock or debt market of an economy susceptible to contagion. During subprime crisis in USA, many countries experienced a huge flight out of American FPIs to meet obligations at home (USA), which destabilised equity and debt markets worldwide. Whereas the percentage share of USA in global FPI in equity assets has only marginally fallen between 2001 (31.02%) and 2014 (30.52%), the gap between holdings (in USD, million) of it and the second placed UK, whose share has fallen from 10.74% in 2001 to 7.92% in 2014, has more than quadrupled during this time. China, Japan, Ireland and a few countries outside the top
ten holders like Norway, Singapore and Republic of Korea have substantially increased their percentage shareholding during this period, but it remains far from significant in reducing the skewed distribution of global FPI in equity assets. This may have played a definitive role in contagion of market turmoil in USA grappling over the stock markets across the globe a number of times.

**Figure 3.4**

![International Equity Portfolio Investment Asset of Top Ten (as on end of 2014) Countries (2001-2014)](image)

*Data Source: International Monetary Fund*

**Figure 3.5**

![FPI Assets of Top Ten (as on end of 2014) Countries as a % of World Total (2001-2014)](image)

*Data Source: International Monetary Fund*
3.3 FPI Liabilities (Equity) Across Countries

The lion’s share of the international portfolio investments goes to a handful of developed economies, as evident from the country wise portfolio investment liability data [ref. Figure 3.6]. In hosting FPI in equity, the top three ranks are held by United States, Luxembourg and United Kingdom. But here the disparity is less, with United States, Luxembourg and United Kingdom sharing 18.45 percent, 9.87 percent and 8.80 percent of total global FPI liabilities (equity) respectively. In spite of a surge in international portfolio investments in equity between 2001 and 2014 (ref. Figure 3.7), barring the period of crisis during 2007-08, share of United States steadily declined from 19.78 percent at the end of 2001 to 13.99 percent at the end of 2007 (ref. Figure 3.8). This may be indicative of international equity investors’ collective perception about creation of a valuation bubble and increasing probability of a recessionary situation in the United States, which may have led towards reduction of weight of equity assets of the country in their portfolios. The tides turned from 2008 when the equity valuations had already plunged to fundamentally rational levels, and by the end of 2014 total FPI in equity in United States has gone up to USD 4,071,784 million. UK’s share in global FPI liabilities (equity) has fallen consistently from 13.72 percent at the end of 2001 to 8.80 percent at the end of 2014. This may be attributed to lower expected stock market return due to stagnated economic growth of the country. Mean annual return on S&P Global Equity Index for UK was only 3.21% between 2001 and 2014, which is considerably lower than that of eight of the top ten countries hosting FPI in equity. The country attracting highest amount of FPI in equity in the entire Europe is Luxembourg. It was comparatively less affected by the financial crisis of 2007-08 due to the high level of productivity of its manufacturing industry, and the stability of its financial sector with less exposure to bad loans. Its recovery from the crisis also was stronger than the European average. FPI in equity in Luxembourg steadily increased except a brief fall in 2008 [ref. Figure 3.7]. Its share of FPI liabilities in
equity rose from 7.31 percent at the end of 2001 to 9.87 percent at the end of 2014 [ref. Figure 3.8].

**Figure 3.6**

*International Equity Portfolio Investment Country Wise Liabilities (Year-end: 2014)*

- United States: 18.45%
- Luxembourg: 9.87%
- United Kingdom: 8.80%
- Cayman Islands: 7.97%
- Japan: 5.41%
- Ireland: 4.96%
- France: 4.31%
- Germany: 4.04%
- Switzerland: 3.70%
- China, P.R.: Mainland: 2.73%
- Other: 29.77%

*Data Source: International Monetary Fund*

**Figure 3.7**

*International Equity Portfolio Investment Liabilities of Top Ten (as on end of 2014) Countries (2001-2014)*

*Data Source: International Monetary Fund*
China is the sole representative of the emerging markets in the list of top ten countries having FPI liabilities. From a meagre USD 13,307 million at the end of 2001, the total FPI in equity in China has climbed up to USD 603,206 million by the end of 2014 [ref. Figure 3.7]. During this period, its share in global FPI liabilities (equity) has multiplied more than ten times from 0.26 percent to 2.73 percent (ref. Figure 3.8 above) with a compounded annual growth rate (CAGR) of 34.1 percent. Cayman Islands, which is a tax haven and a major supplier of cross-border financial services, but not considered a developed market or an emerging market, starting with a meagre share of 1.88% at the end of 2001, showed a robust CAGR of 24.88 percent to host 7.97% of global FPI liabilities (equity) at the end of 2014 [ref. Figure 3.8].

As a group, the G7 economies hosted highest total FPI in equity amounting to USD 2,952,935 million at the end of 2001, which surged to USD 9,831,450 by the end of the year 2014 (ref. Figure 3.9) with the biggest fall of 41.6 percent during the year 2008 (ref. Figure
3.10). The gap with other groups of economies expanded almost consistently. The G7-Major Advanced Economies, Advanced Economies of Euro Area and Other Advanced Economies had a CAGR of 9.69 percent, 11.65 percent and 11.81% respectively between 2001 and 2014. Emerging Economies of Asia leapt ahead of other emerging economies in attracting FPI in equities. From a meagre USD 107,857 at the end of 2001, a CAGR of 22.48 percent helped it reach USD 15,04,870 by the end of 2014 (ref. Figure 3.11). During 2014, growth in FPI liabilities slowed down in the G7-Major Advanced Economies and the Advanced Economies of Euro Area, whereas Other Advanced Economies, Emerging Economies of Americas and Emerging Economies of Europe, Middle East & Africa witnessed a negative growth (ref. Figures 3.10 and 3.12). Emerging Economies of Asia, backed by strong fundamentals, scored a staggering growth rate of 15.07 percent during the same year.

Figure 3.9

International Equity Portfolio Investment Liabilities of Advanced Economies (2001-2014)

Data Source: International Monetary Fund
**Figure 3.10**

% change (Year on Year) in International Equity Portfolio
Investment Liabilities: Advanced Economies (2001-2014)

*Data Source: International Monetary Fund*

**Figure 3.11**

International Equity Portfolio Investment Liabilities
of Emerging Economies (2001-2014)

*Data Source: International Monetary Fund*
3.4 Evidences of Diversification Benefit From FPI

Stock market returns from all of the top ten countries holding FPI assets show correlation coefficients significantly lower than one with the stock market returns abroad [ref. Figure 3.13], which is more prominent in case of correlation coefficients with stock market returns of the emerging economies. The correlation coefficient between domestic stock market returns and that of the developed economies (between 1991 and 2014) were 0.57, 0.71, 0.80 and 0.46 respectively for US, UK, Luxembourg and Japan, whereas the same between domestic stock market returns and that of the emerging economies were 0.35, 0.48, 0.79 and 0.44 respectively [ref. Figure 3.13]. These relatively low correlation coefficients indicate a significant potential reduction in risk from holding an internationally diversified portfolio of stocks. Similarly, most of the other high FPI holding economies’ stock market returns have a
correlation coefficient significantly less than unity with other developed economies, and even less with the emerging economies. This substantiates the logic behind huge foreign equity holdings by firms of these countries.

**Figure 3.13**

![Correlation Between Stock Market Returns of Top Ten Economies (By Size of FPI Holdings) and Developed & Emerging Economies (1991-2014)](data:image/png;base64,iVBORw0KGgoAAAANSUhEUgAAAAEAAABRAAQABAQAAAABJRU5ErkJggg==)

*Data Source: International Monetary Fund*

### 3.5 Cross Investments and FPI Concentration

Large amount of cross investments are observed for the top FPI asset holding countries. Also, over two third of total global FPI assets in equity are invested in developed countries in spite of much lower correlation coefficients existing between returns from their stock markets and those from the stock markets of the emerging economies. Seven countries, which fare among first ten in both the FPI Assets and Liabilities lists, together held 62.76 percent of global FPI assets and 55.83 percent of the global FPI liabilities at the end of 2014. This phenomenon is
intriguing because GDP growth rates and average stock market returns are much higher in the emerging economies than those in developed economies. The probable answer may be the fact that higher returns of the emerging markets [ref. Figure 3.14] are associated with significantly higher risk than that in developed markets [ref. Figure 3.16]. Also, return distributions of most of the emerging economies’ stock markets are positively skewed and show excess negative kurtosis, whereas return distributions of most of the developed markets exhibit negative skewness and positive excess kurtosis. A non-symmetrical or skewed distribution is seen when one side of the distribution does not mirror the other. Distributions of investment returns can be positively or negatively skewed. A positively skewed return distribution (i.e., mode < median < mean) implies frequent small losses and a few extreme gains. A negatively skewed return distribution (i.e., mode > median > mean) implies frequent small gains and a few extreme losses. Kurtosis refers to the degree of peak in a distribution. A positive excess kurtosis or a leptokurtic distribution is more peaked than the normal distribution, has fatter tails and implies that there are lower probabilities of extreme outcomes compared to a normal distribution. On the other hand, a negative excess kurtosis or platykurtic distribution is flatter than normal distribution and indicates higher probabilities of extreme outcomes. Negative skewness and positive excess kurtosis of the return distributions from stock markets of most of the developed countries signify greater stability of return and lower risk of extreme outcomes. On the contrary, positive skewness and negative excess kurtosis of return distributions from most of the emerging economies indicate high risk of extreme loss. Between 1991 and 2014, the average returns from the stock markets of emerging economies of North and South America (15.50%), Europe, Middle East & Africa (13.23%) and Asia (13.12%) were much above those from G7-Major Advanced Economies (7.28%), Advanced Economies of Euro Area (4.52%) and Other Advanced Economies(10.86%) as depicted in Figure 3.14. Stock markets of all of the top FPI (equity)
recipient countries exhibit significantly lower return than the average returns of all the three groups of emerging economies [ref. Figures 3.14 and 3.15]. But the higher returns of the emerging economies come with significantly higher standard deviation than the top FPI (equity) recipient countries [Figures 3.16 and 3.17]. Average skewness of equity returns from all the three groups of the advanced economies are negative [Figure 3.18], which implies that the number of years with returns higher than the mean return is greater than the number of years with returns lower than the mean return. Whereas the returns from all the three groups of emerging economies exhibit positive skewness (i.e., mode < median < mean) implying that the number of years with returns lower than the mean return is greater than the number of years with returns higher than the mean return. Stock market returns from most of the top FPI (Equity) recipient countries show negative skewness [ref. Figure 3.19] which is also observed in the histograms of their return distributions (Annexure A, page 64-66).

**Figure 3.14**

![Average Return (% per annum) on S&P Global Equity Indices (1991-2014)](image)

*Data Source: International Monetary Fund*
Figure 3.15

Average Return (% per annum on S&P Global Equity Indices in Top FPI (Equity) Recipient Countries (1991-2014)

Data Source: International Monetary Fund; S&P Global Equity Indices are unavailable for the Cayman Islands.

Figure 3.16


Data Source: International Monetary Fund
Figure 3.17


Data Source: International Monetary Fund

Figure 3.18

Skewness in Return (on S&P Global Equity Indices) Distributions (1991-2014)

Data Source: International Monetary Fund
Equity markets of all the three groups of advanced economies show positive excess kurtosis in their return distributions (Figure 3.20) signifying little chance of extreme return outcomes. G7-Major Advanced Economies have the most negative skewness (-0.44) [ref. Figure 3.18] and the highest excess kurtosis (0.51) [ref. Figure 3.20], rendering them as attractive yet safest of all the groups for international equity investments which explains the high concentration of FPI liabilities in these countries. Emerging economies of the Americas and Europe, Middle East and Africa show negative excess kurtosis implying high risk of extreme loss, the later having the highest risk (-0.81). Emerging economies of Asia (excluding the Middle East) show marginally positive kurtosis (0.05) signifying that it is the safest group of emerging economies for international equity investments. Stock market returns from most of the top FPI (Equity) recipient countries exhibit positive or marginally negative kurtosis (Figure 3.21).
Figure 3.20

Kurtosis in Return (on S&P Global Equity Indices) Distributions (1991-2014)

Data Source: International Monetary Fund

Figure 3.21


Data Source: International Monetary Fund
Also, the relatively smaller size of the capital markets [ref. Figure 3.22] makes many of the emerging economies prone to extreme price movements and liquidity risk. Squaring off a position at times may face significant adverse price movements. Investments in emerging nations are also marred with political risk manifested by unstable government and political system, threat of exchange controls, abolishment of non-resident convertibility, partial or complete ban on repatriation of profit and free remittance of funds, blocked funds, risk of nationalization of businesses and loss of property rights. Presence of such risk factors makes the international portfolio investors limit their investments in emerging markets.

Figure 3.22

Equity Market Capitalisation of listed domestic companies of Top FPI (Equity) Recipients and Emerging Economies (Year-end: 2014)

Data Source: World Bank
3.6 Summary

Total FPI in equity assets worldwide has grown at a compounded annual growth rate of 11.77 percent between 2001 and 2014. In spite of the growth rate year-on-year varying widely, for most of the years it has shown a positive streak, which was once broken by a significant fall during the financial crisis of 2007-08. Only a handful of developed countries led by USA have consistently dominated in terms of volume of FPI in equity assets, as also liabilities. Huge amounts of cross investments are observed between these countries giving an impression of overlooking the potential diversification benefits and growth opportunities offered by the emerging economies. But a close scan of equity market returns in the emerging economies and comparison of the same with those in developed markets indicate that this phenomenon is due to high probability of extreme loss in the equity markets of the emerging economies. This is also a reason of the emerging economies’ need to create more conducive environment to attract FPIs. The next chapter, therefore, elaborates India’s regulatory framework and periodic modifications therein in pursuit of attracting high volume of FPI, albeit in a controlled manner.
Annexure A

Distributions of Returns on S&P Global Equity Indices of Top FPI (Equity) Liability Holding Countries (1991-2014)

United States

Luxembourg

United Kingdom
Distributions of Returns on S&P Global Equity Indices of Top FPI (Equity) Liability Holding Countries (1991-2014)

Japan

Ireland

France

Histogram

Kernel
Annexure A (continued)

Distributions of Returns on S&P Global Equity Indices
of Top FPI (Equity) Liability Holding Countries
(1991-2014)

Germany

![Histogram and Density of Germany Returns]

Switzerland

![Histogram and Density of Switzerland Returns]

China

![Histogram and Density of China Returns]

Data Source: International Monetary Fund;