DETERMINANTS OF FOREIGN PORTFOLIO INVESTMENT IN INDIA

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Abstract
   This study focused on Determinants of Foreign Portfolio Investment in India. Portfolio investment is basically confined to the secondary market. The benefit from these flows has to penetrate to the real economy via the stock market activity. Not much impact was found in the primary market. Among the capital market variables FPI's impact was mostly felt in the volatility and market capitalization of the two major stock exchanges in India – BSE &NSE. Also the benefit of FPI has not trickled down much into the real variables as the mainstream model predicts. Hence careful planning and policy formulation is needed to avoid sudden capital flight as well as for optimum utilization of this much debated "Hot Money".
   Keywords: *Foreign Portfolio Investment, Bombay Stock Exchange, National Stock Exchange, Foreign Institutional Investors,*

Introduction

   The theory of foreign portfolio investment has drawn on macro-economic financial variables, notably interest rate differentials and exchange rate fluctuations. If, however, indirect investment is viewed as a transfer to wealth similar to that of arms length transfer of technology, plant and equipment or human capital, then it would be legitimate to consider its determinants vis-à-vis an internalized transfer of capital on exactly the same way as the third component of the eclectic paradigm vis the component. The three main tenets of the OLI paradigm of John Dunning apply to foreign portfolio investment also.

Ownership Specific Advantages

   It is self-evident that for foreign portfolio investment to occur, the investing entity must have capital to invest. This may be regarded as an advantage over other entities that do not possess that, or do not posses as much of it. In addition, the entity must have some knowledge about both, the prospect of the firm on firms in which the investment is being made and that of alternative foreign investment opportunities and their likely success. Where an intermediary is being used (an investment broker or mutual fund advisor), such knowledge would also include that about competent sources of advice.

   Such O specific advantages are necessary where portfolio investment is unconditional and the investing entity has no influence over the outcome of the investment. It embraces most individual and institutional loans and minority equity investment. However, in some cases, FPI may be part and parcel of package of assets transferred or have terms and conditions over its use set by the lending or investing entity, even though the foreign investor has no controlling equity ownership of the recipient entities capital. In such cases the O advantages attached to the FPI may be similar to those associated with FDI.

Location Specific Advantages

   Location Specific Advantages of foreign portfolio investment reflect the likely opportunities of securing good rate of return (in the form of interest, dividends and capital appreciation) on capital invested. Where the expected rate of return, discounted for risk is higher in the home country than elsewhere, domestic investment will be preferred to foreign investment. Where the reverse is the case, the choice between different foreign locations can be assessed by the same criteria as those used to evaluate the choice of location for FDI, with the sole exception that in the case of FPI, one looks at L advantages from the angle of how they affect the prosperity of the recipient entity, rather than that of the investing company.

Thus, the variables such as raw materials and labour costs, taxes, quality of infrastructure, size and character of local market and managerial efficiency, as they affect the prosperity of indigenous firms are as much likely to affect the location of inbound portfolio investment as that of direct investment. It may be hypothesized that FPI will be more responsive to the changes in the value of L specific variables of countries and regions than will FDI. This is partly because the latter tends to be more invisible and especially are likely to be more volatile than are the internal workings of TNCs.

Externalization Advantages

As per the internationalization theory of FDI, the foreign production of firms arises because of the failure of cross-border markets to transect intermediate goods and services at a cost below that which would be achieved if these transactions were undertaken within the same firm. The market cost commonly taken to illustrate is that of intangible assets and especially technology and all kinds of information. There is no reason why finance capital should not be treated like that of any other intangible asset or part of a group of intangible assets. The fungibility and divisibility of foreign portfolio investment together with its homogeneity make the market involve fewer transaction or coordination costs than the real intangible assets. For this reason, the volume of foreign portfolio investment can exceed the value of cross-border inter-firm flows of intangible assets. On the basis of the theory of John Dunning, major actors in foreign portfolio investment can be identified. It can also be seen how the OLI variables facing direct investors need to be modified to explain FPI, and how the particular advantages to private portfolio investors can be translated into an FDI.

Table 1 Major actors and their objectives in Private Portfolio Investment
Source: Dunning, J.H. and Dillyard. J.R., "Towards a General Paradigm of Foreign   Direct Investment and Foreign Portfolio Investment", Transnational Corporations, April 1999.

Investor	Objective
Institutional Investors Capital Gain, Diversification, Speculation, Market Knowledge/Access	Yield
Bank Holding Companies Capital Gain, Market Knowledge/ Access, Diversification	Yield
Non-Financial Firms Capital Gain, Speculation, Market Knowledge/Access, Diversification	Yield

Table 1 set out the major actors and their objectives. The actors are placed in three categories viz., Mutual funds, banks and other investors such as corporations, investment banks, insurance companies, pension funds, and individuals. While each type of investors has similar objectives the criteria each uses in making its investment decisions are different. Diversification, e.g., will have a different meaning for each investor depending on the structures of portfolio and the diversification strategies. Diversification refers to the diversification (reduction) of the risk as well as the structure of the entire investment portfolio. This can be achieved by diversifying the type of investment made (e.g., Stock in different industries, bond from different countries, mixing stock and bonds etc.) or by selecting investment that have little covariance within and across sectors. The expertise and market knowledge of portfolio manager, displayed in the ability of portfolio managers to research, locate and act upon investment opportunities and the ability to marshal funds to invest, determine in large part how much the portfolio can be diversified. An international bond fund will diversify differently from an international stock fund and both funds will diversify differently from a single product high technology firm looking for a minority interest in a foreign firm to help it find new markets for its existing product lines.The cross references the objectives with ownership location and externalization advantages (OLE) of FPI. Ownership advantages include the size of portfolio, the investment, risk management and learning capabilities and experience of the portfolio managers, the existing stock of FPI, and market information and knowledge (or the ability to access / acquire market information). All these can differ from investor to investor. Location advantages refer both to those provided by the home base and foreign locations.Thus, access to funds and a regulatory and policy framing environment that is conductive to the investors domestically and abroad are locational advantages.

Externalization advantages of using markets to support ownership and location advantages, include the ability to take advantage of investments whose return have limited covariance with the existing stock of investments, the ability of the market to provide the necessary information to exercise their preferred options and investment strategies, and also the lower costs of managing a large number of relatively standard transaction. The ultimate performance of a portfolio will depend on the interplay of the various ownership, locational and externalization advantages. If one starts with the premise that the ownership variables for portfolio investors are already present the choice of outlet for FPI would depend on location and externalization variables. Several studies of FPI have concluded that a broad range of macro economic reforms and conditions (such as the realignment of exchange rate and monitory controls, reduced restrictions on capital flows and a commitment to a market economy including privatization) have helped pull portfolio investment in East Asia and Latin America.

Earlier Studies of Foreign Portfolio Investment

Singh and Ajith (1997) argued that portfolio capital is recommended to developing countries for being less vulnerable to external interest rate shocks than debt. However, in practice these inflows can be destabilizing to the real economy if external financial liberalization is carried out in 'disequilibrium' conditions in the economy. Since the structural characteristics of developing countries makes them subject to more external and internal shocks than advanced economies, many of these unfavorable outcomes are likely to prevail even under 'normal' conditions.

Parthapratimpal (1998) points out that, during the late 1980s, foreign portfolio investment to developing countries was perceived as a symbiosis that benefited everyone. Less developed countries were eager to welcome any kind of foreign capital inflow because after the debt crisis of early 1980s, they were facing a shortage of both foreign capital and invisible resources. The low correlation between movements in developed and developing country's stock markets, the deceleration in industrial countries' markets and the high growth prospects of the less developed markets made them an attractive option for portfolio diversification. The most important benefit from foreign portfolio investment is that it gives an upward thrust to the domestic stock market prices. Foreign Institutional Investors (FIIs) are the primary source of portfolio investment in India. FIIs can invest in all the listed and unlisted securities traded on the primary and secondary markets, including the equity and other securities instruments of companies. These would include shares, debentures, warrants and schemes floated by domestic mutual funds.

Sanjay K. Hansda and Partha Ray (2002) are of the opinion that, among the significant measures of integration, portfolio investment by Foreign Institutional Investors (FIIs) allowed since September 1992, has undoubtedly been the turning point for the Indian stock market. Now FIIs are allowed to invest in all categories of securities traded in the primary and secondary segments including unlisted ones. FIIs are also allowed from June 1998 to trade in exchange-traded derivatives and take forward exchange cover for equity investment. While there is no restriction on the volume of FIIs or any lock-in-period, preferential allotment to FIIs is restricted to a maximum of 15 per cent equity of a company.

Bansal and Pasricha (2009) studied the impact of market opening to 36 FIIs, on Indian stock market behavior. India announced its policy regarding the opening of stock market to FIIs for investment in equity and related instruments on 14th September 1992. Using stock market data related to Bombay Stock Exchange, for both before and after the FIIs policy announcement day. An empirical examination has been conducted to assess the impact of the market opening on the returns and volatility of stock return. They found that while there is no significant changes in the Indian stock market average returns, volatility is significantly reduced after India unlocked its stock market to foreign investors.

Methodology

The whole analysis is based on time series data. The necessary data have been collected and compiled from the already published sources. The period of the study taken up for the analysis was a period of 27 years, from the year 1990-91 to that of the year 2016-17. All the data are taken in US million dollars. Correlation, Ordinary Least Square and Elasticity model had been used

in this study. In the present study both simple and advance statistical and econometric tools has been applied. Analysis has been done by using Eviews 7 version.

These study only some of location specific and externalization variables have been considered. Location variables include history of prospects for economic growth India's GDP, stock of foreign exchange reserves, debt-service ratio, Externalization variable includes correlation of returns with home markets (the interest differential between India and U.S.A., Degree of market openness and integration with global or regional markets (trade-GDP ratio), level of maturity of market (turn-over ratio), and share of market capitalization of Bombay Stock Exchange in the world market capitalization and REER.

$$FPI = \psi_0 + \psi_1 GDP + \psi_2 FEXRES + \psi_3 DEBTSER + \psi_4 INTDIFF + \psi_5 OPEN$$
$$+ \psi_6 TOR + \psi_7 SMCAP + \psi_8 REER + U$$

Where,

FPI	= Inflow of Foreign Portfolio Investment.
GDP	= Gross Domestic Product at factor cost.
EXRES	= The Foreign Exchange Reserves.
DEBTSER	= Debt servicing as a proportion of Exports.
INTDIFF	= Difference in the Interest Rate between India and the United States.
OPEN	= Sum of Exports and Imports as a proportion of GDP.
SMCAP	= The Share of Market Capitalization.
TOR	= Turn-Over Ratio at the Bombay Stock Exchange.
REER	= The Real Effective Exchange Rate of the Indian Rupee.
$\psi_1, \psi_2...\psi_8$	= Regression co-efficients.
U	= Stochastic disturbance term.

The literature suggests that GDP, the stock of foreign exchange reserves, the degree of openness, the turn-over ratio and the share of market capitalization of Bombay Stock Exchange in the world market capitalization should have positive coefficients while the other variables should have negative coefficients.

Empirical Results

The correlation matrix also shows the high degree of association between all the explanatory variables. The correlation matrix of Foreign Portfolio Investment (FPI) in India and other variables is given in Table 2.

Table 2 Correlation Matrix of Foreign Portfolio Investment

	FPI	GDP	FEXRES	DEBTSER	INTDIFF	OPEN	SMCAP	TOR	REER
FPI	1								
GDP	0.689	1							
FEXRES	0.599	0.932	1						
DEBTSER	-0.519	-0.828	-0.884	1					
INTDIFF	-0.495	-0.755	-0.718	0.653	1				
OPEN	0.339	0.675	0.762	-0.526	-0.354	1			
SMCAP	0.747	0.949	0.963	-0.814	-0.671	0.750	1		
TOR	0.370	0.878	0.929	-0.838	-0.509	0.748	0.855	1	
REER	0.230	0.359	0.415	-0.451	-0.125	0.117	0.351	0.457	1

Source: Author's own calculation.

To examine the variables which may not be included simultaneously in the equation because of multicollinearity, a correlation matrix for all the expected explanatory variables and the dependent variable was obtained. FPI was found to be highly correlated a the share of market capitalization (0.747), GDP (O.689), the foreign exchange reserves (0.599) and Openness (0.339), The difference in the interests rate between India and United States and the debt-service ratio have negative correlation with FPI. The correlation matrix also shows the high degree of association among the explanatory variables. GDP is highly correlated to market capitalization, foreign exchange reserves and Turn-Over ratio at the Bombay stock exchange. Foreign exchange reserves and Market capitalization also have significant positive correlation. The share of market capitalization is correlated to foreign exchange reserves and openness.

Regression Results

Using Ordinary Least Square linear equation the expected explanatory variables are regressed. The regression results are presented in the Table 3. In the regression analysis it was found that the variables which have some influence on the portfolio investment during the period under the study are; GDP, Openness, REER and Debt-service ratio. The coefficients of these variables, when taken together, do not have significant t- values except REER. However, when taken individually, they are found to be statistically significant variables at 1 per cent level significant (equations 1, 2 and 4). In equation 5openness was found to be statistically significant variable along with REER, which has expected negative coefficient.

Table 3 Regression Analysis in Foreign Portfolio Investment

Eq. No.	Constant	GDP	OPEN	REER	DEBTSER	R^2	F
1	-12102.943			201.111**		55.3	1.170
2	-2055.305	0.003**				47.5	18.963
3	-6356.566	0.004**			161.757	48.3	9.339
4	-9163.293		2336.957**			51.5	2.721
5	-24165.638		2181.568	-168.783**		15.1	1.784
6	7011.335	0.004**	1605.735			50.4	10.160
7	4908.631	0.004**	1718.807**	-21.475	-175.655*	51.6	4.790
e		6.32					

Source: Author's own calculation.

      ** one per cent level of significant.

      * five per cent level of significant.

      e Elasticity of FPI with to Openness.

Openness is found to be significant in the seventh equation also, along with GDP and DEBTSER but the coefficients of DEBTSER was not statistically very significant. Thus, Openness of Trade seems to have most influence on the inflow of foreign portfolio investment in India. GDP, Real effective exchange rate and Debt service ratio also have some influence on the inflow of foreign portfolio investment in India. The elasticity of FPI with respect to openness is 6.32 per cent. This means that 1per cent change in openness brings in 6.32 per cent of FPI in India.

Conclusion

Portfolio investment is basically confined to the secondary market. The benefit from these flows has to penetrate to the real economy via the stock market activity. Not much impact was found in the primary market. Among the capital market variables FPI's impact was mostly felt in the volatility and market capitalization of the two major stock exchanges in India – BSE &NSE. Also the benefit of FPI has not trickled down much into the real variables as the mainstream model predicts. Hence careful planning and policy formulation is needed to avoid sudden capital flight as well as for optimum utilization of this much debated "Hot Money".

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