CAPITAL INFLOWS AND THEIR MACROECONOMIC IMPACT IN INDIA: A VAR ANALYSIS

Dr. Narayan Sethi

Dept. of Humanities and Social Sciences
National Institute of Technology (NIT), Rourkela,
Odisha, India

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PRESENTATION OUTLINE

- Objective
- Introduction
- Background:
  - Global Trends
  - Openness of Indian Economy
- Importance of the Foreign Capital Flows and Study
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- Trends and Composition of Capital Flows into India
- Data Sources and Variables
- *Empirical Methodology*
- Empirical Results
- Effects of Capital Flows on Macroeconomic Variables
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  - Effects of Capital Flows on Reserve Accumulation
  - Capital Flows and its Impact upon Monetary Aggregates
- Conclusion

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OBJECTIVE OF THE STUDY

- To observe and analyze the dynamics of some selected macroeconomic indicators in relation to the inflows of private foreign capital as a consequence of economic reforms in India.

- The study also examines the trends and composition of capital flows into India.

BACKGROUND

- Examine recent trends and patterns of capital flows into India against the global backdrop of increasing capital flows

- Indicators of openness of Indian economy

- The study also examines the trends and composition of capital flows into India.

IMPORTANCE OF THE FOREIGN CAPITAL FLOWS AND STUDY

- The purpose of the flow of capital to underdeveloped countries is to accelerate their economic development upto a point where a satisfactory growth of rate can be achieved on a self sustaining basis.

- Capital flows in the form of private investment, foreign investment; foreign aid and private bank lending are the principle ways by which resources can come from rich to poor countries.

- The transmission of technology, ideas and knowledge are other special types of resource transfer.

- In this context, our discussion arises the question whether the international capital flows have been successfully increasing the growth of the economy and in particular whether they have lead to greater efficient financial markets.

GLOBAL BACKGROUND

- International capital flows were primarily confined to industrial countries till the beginning of the 70s. Capital flows towards developing countries were mainly debt flows

- In the 90s, an upsurge in capital flows was witnessed the world over due to financial liberalization and innovation, spread of information technology and proliferation of institutional investors

- Private capital flows increased considerably while official flows fell

- Within private capital flows, FDI and portfolio investment have been on the rise

- Portfolio flows have increased exposure of countries to enhanced volatility due to their short-term and uneven nature

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OFFICIAL AND PRIVATE NET FLOWS(US $ BILLION)

Year	Official Net Resource Flows (Average)				Private Net Resource Flows (Average)			
	All developing countries	East Asia & Pacific	South Asia	India	All Developing countries	East Asia & Pacific	South Asia	India
1975-79	22.54	2.76	3.60	1.37	39.01	4.33	0.33	0.21
1980-84	35.17	5.02	4.68	1.89	42.73	8.53	1.89	1.56
1985-89	42.08	6.89	6.96	2.88	33.61	11.57	3.61	3.40
1990-94	53.27	9.80	5.86	1.98	122.76	47.83	5.47	4.22
1995-99	37.93	10.23	4.08	0.83	240.35	62.62	7.80	6.34
2000-04	29.40	0.36	4.01	-0.63	261.86	69.63	14.25	11.73
2005	0.60	3.16	8.39	-0.32	483.00	138.18	23.29	17.02
2006	-5.20	1.63	24.49	-0.11	562.80	148.69	33.08	21.05

Source: Global Development Finance, 2007; RBI Handbook of Statistics, 2007

* All figures are in level

FOREIGN DIRECT INVESTMENT AND PORTFOLIO FLOWS (US $ BILLION)

Year	Net FDI Flows (Averages)				Net Portfolio Equity Flows (Averages)			
	All Developing countries	East Asia & Pacific	South Asia	India	All developing countries	East Asia & Pacific	South Asia	India
1975-79	7.4	1.05	0.09	0.03	0	0	0	0
1980-84	11.28	2.65	0.18	0.06	0.03	0.01	0	0
1985-89	16.44	6.48	0.36	0.13	1.58	0.74	0.08	0.08
1990-94	66.34	32.87	1.35	0.8	18.03	2.02	2.12	1.75
1995-99	164.49	54.73	3.88	2.88	18.51	2.99	2.23	2.12
2000-04	174.48	53.82	6.02	4.92	17.8	8.74	4.58	4.7
2005	280.8	96.4	9.9	6.6	66.7	26.1	12.2	12.2
2006	324.7	88.3	12.9	8.0	94.1	48.4	10.0	8.7

Source: Global Development Finance, 2007; RBI Handbook of Statistics, 2007   * All figures are in level

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CAPITAL FLOWS AND GROWTH: LITERATURE SURVEY

(1) <u>Lensik et al (1999)</u> examine the impact of uncertain capital flows on the growth of 60 developing countries during the 1990's.

- They have used the yearly uncertainty measures in Ordinary Least Square (OLS) as we as Generalized Method of Moments (GMM) estimates, to explain the impact of uncertain capital flows on growth.

- They conclude that both types of estimates suggest that uncertain capital flows have a negative effect on financial market and growth in developing countries.

(2) <u>Rangrajan (2000)</u> investigates the capital flows and its impact on the capital formation and economic growth taking into the variable as net private capital flows, net direct investment, net official flows, net portfolio investment and other net investments in 22 countries during 1992 to 2000.

- If capital inflows were volatile or temporary, the country would have to go through an adjustment process in both the real and financial market.

- When capital inflows are large, they can lead to an appreciation of real exchange rate.

(3) <u>Khanna (2002)</u> found that in case of India, the microanalysis of stock market also fails to provide any evidence that the entry of FII has reduced the cost of Indian corporate sector.

(4) __Kohli (2003)__ examines how capital flows affect a range of economic variables such as exchange rates, interest rates of foreign exchange reserves, domestic monetary condition and financial system in India during the period 1986 to 2001.

- Inflows of foreign capital have a significant impact on domestic money supply and stock market growth, liquidity and volatility.
- At the conclusion, the domestic financial sector that is the banking sector and capital market in the event of a heavy inflow of foreign capital in India.

(5) __Chakraborty (2001)__

- The Granger Causality Test shows unidirectional causality from private capital flows to nominal effective exchange rates- both trade-based and export-based-, which raises concern about the RBI strategy in the foreign exchange market.
- Finally, instability in the trend of foreign currency assets could be partially explained by the instability in private capital flows with some lagged effect.

6) __Edwards (2000)__

- In his study observes that the dynamic impact of capital inflows on the real exchange rate was different in several countries of the region, as far as the magnitude and the degree of persistence were concerned.

7)**Alfaro et al. (2005)** examine the empirical role of different explanations for the lack of flows of capital from rich to poor countries the "Lucas Paradox" and the various links among FDI, financial markets and economic growth.

- The results indicate that foreign investment might be a channel through which institutions affect long-run development.

8) **Beck (2000)** empirically examines the relationship among the volatility of capital flows.

- He took four aspects of financial liberalization, which might have different impacts on stability of capital flows and financial stability in general, capital account liberalization, liberalization of trade in financial services, domestic deregulation and introduction of new financial instruments.

9) **Dua and Sen (2006)** examine the relationship between the real exchange rate, level of capital flows, volatility of the flows, fiscal and monetary policy indicators and the current account surplus for the Indian economy for the period 1993Q2 to 2004Q1.

- They find that the real effective exchange rate is cointegrated with the level of capital flows, volatility of the flows, high-powered money, current account surplus and government expenditure.

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TABLE-III.1 INDIA'S: COMPOSITION OF CAPITAL INFLOWS   (US $ MILLION)

Variable	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Total Inflows (net) of which:(In percent)	7056	3910	3876	8895	8502	4089	12006	9844	8435	10444	10018	10573	12133	22112	31027	24693
1. Non Debt-creating inflows	1.5	3.4	14.3	47.6	57.9	117.5	51.3	54.8	28.6	49.7	67.8	77.1	46.6	72.5	46.7	81.7
a) Foreign Direct investment	1.4	3.3	8.1	6.6	15.8	52.4	23.7	36.2	29.4	20.7	40.2	58.0	38.5	21.1	18.0	31.1
b) Portfolio investment	0.1	0.1	6.2	41	42.1	65.1	27.6	18.6	-0.8	29	27.6	19.1	8.1	51.4	28.7	50.6
2. Debt creating-inflows	83.3	77.5	39.0	21.3	25	57.7	61.7	52.4	54.4	23.1	59.4	9.2	-10.7	1.4	30.6	29.9
a) External assistance	31.3	77.7	48.0	21.4	17.9	21.6	9.2	9.2	9.7	8.6	4.3	11.4	-20.0	-12.0	6.5	6.2
b)External commercial Borrowing #	31.9	37.2	-9.2	6.8	12.1	31.2	23.7	40.6	51.7	3	37.2	-14.9	-19.4	-8.4	16.3	7.8
c) Short term Credits	15.2	-13.1	-27.8	-8.6	46	1.2	7	-1	-8.9	3.6	1.0	-8.4	8.1	7.1	12.2	6.9
d) NRI Deposits ($)	21.8	7.4	51.6	13.5	2	27	27.9	11.4	11.4	14.7	23.1	26.0	24.6	16.4	-3.1	11.3
e) Rupee Debt-Service	-16.9	-31.7	-22.7	-11.8	-11.6	-23.3	-6.1	-7.8	-9.5	-6.8	-6.2	-4.9	-3.9	-1.7	-1.3	-2.3
3. Other Capital @	15.2	19.1	45.8	31.1	17.1	-75.2	-13	-7.2	17	27.2	-27.2	13.7	64.1	26.1	22.7	-11.6
Total (1+2+3)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Memo Item: Stable flows *	84.7	112.9	121.6	67.6	53.3	33.7	65.4	82.4	109.7	67.4	68.2	88.1	84.5	85.6	59.1	42.5

refers to medium and long terms borrowings. $ including NRNR deposits. @includes delayed export receipts, advance payment against imports, loans to non-residents by residents and banking capital. * Stable flows are defined to represent all capital flows excluding portfolio flows and short-term trade credits.

*Source: Report on Currency and Finance, 2005-06, RBI,*

CAPITAL FLOWS INTO INDIA AFTER 1990'S AND 2000'S (YEARLY) US $ MILLION

Year	FDI	FPI	FII	NRI	ADR/GDR	TCF
1990-91	97	6	-	-	-	103
1991-92	129	4	-	-	-	133
1992-93	315	244	1	42	240	559
1993-94	586	3567	1665	89	1520	4153
1994-95	1314	3824	1503	171	2082	5138
1995-96	2144	2748	2009	169	683	4892
1996-97	2821	3312	1926	135	1366	6133
1997-98	3557	1828	979	202	645	5385
1998-99	2462	-61	-390	179	270	2911
1999-00	2155	3026	2135	171	768	5181
2000-01	4029	2760	1847	67	831	6789
2001-02	6130	2021	1505	35	477	8151
2002-03	5035	979	377	NA	600	6014
2003-04	4673	11377	10918	NA	459	16050
2004-05	5653	9313	8684	NA	613	14966
2005-06	7751	12492	9926	NA	2552	20243
2006-07[p]	19531	7003	3776	NA	3225	26534

Source: Hand Book of Statistics on Indian Economy, Reserve Bank of India (RBI).
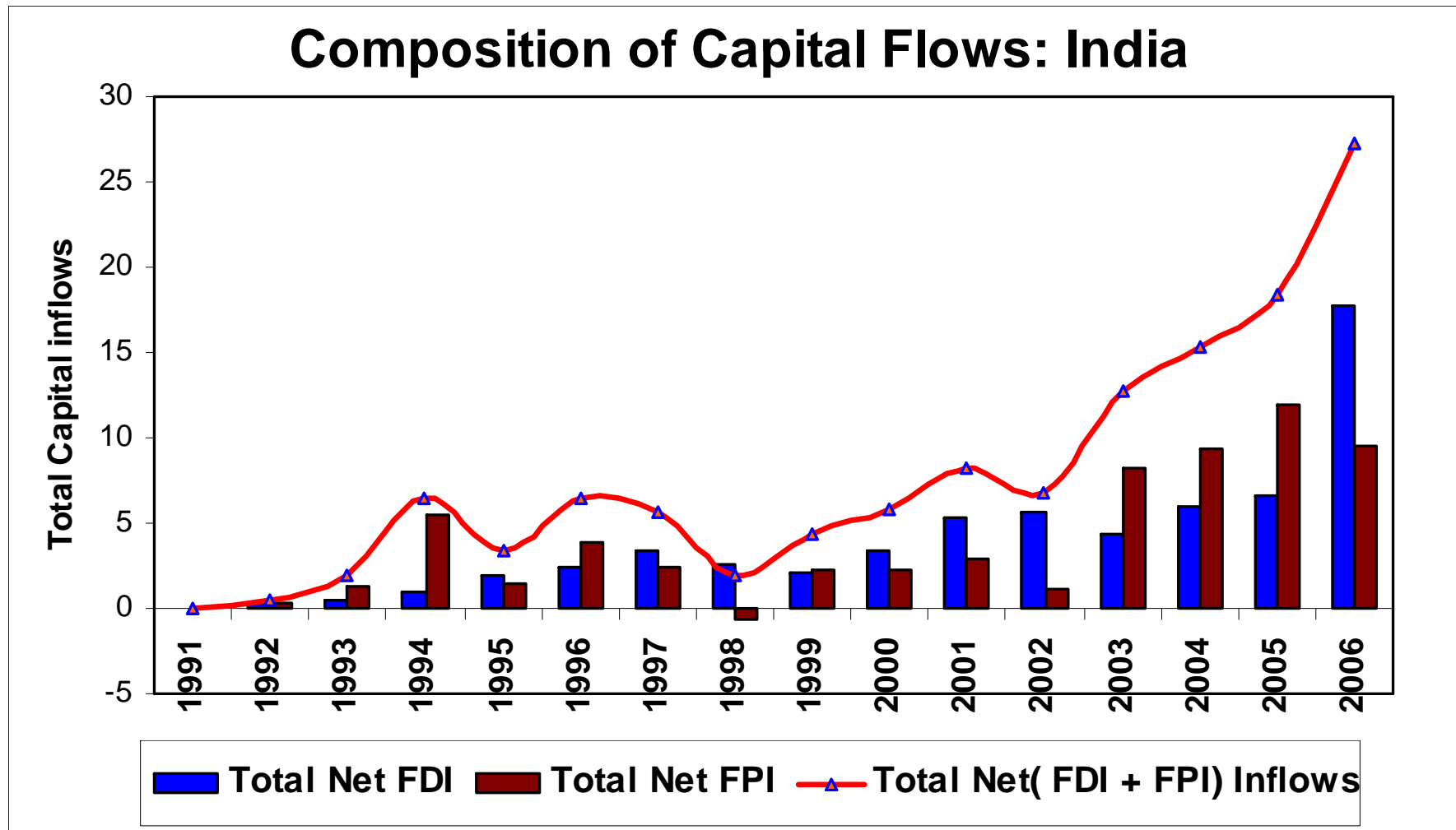
* All figures are in level

OFFICIAL AND PRIVATE CAPITAL INFLOWS TO INDIA (US $ BILLION)

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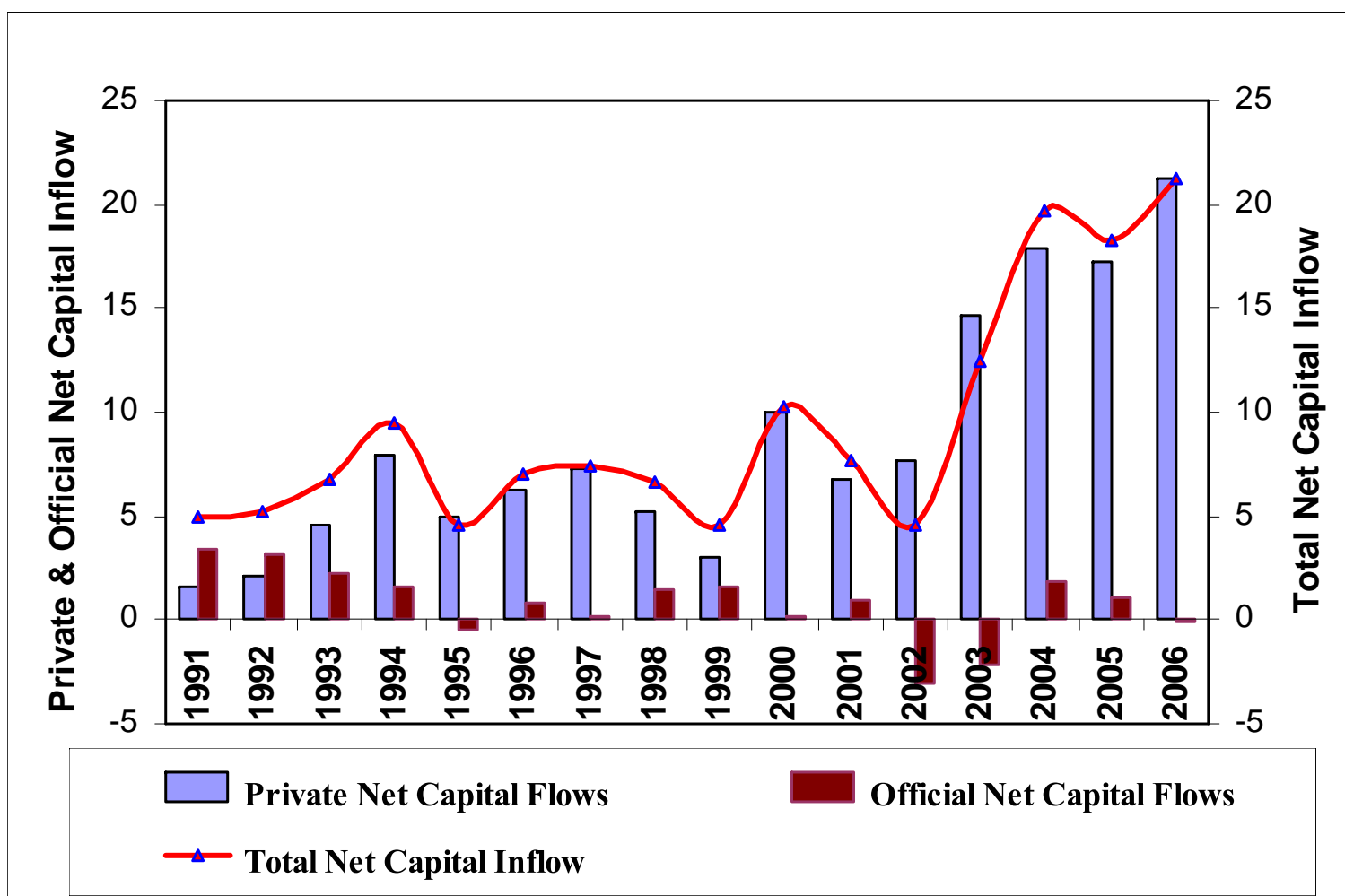
COMPOSITION OF CAPITAL FLOWS IN INDIA (US $ BILLION)

Composition of Capital Flows: India

OPENNESS OF INDIAN ECONOMY: KEY INDICATORS

Year	1990 -91	1995 -96	1996 -97	1998 -99	2000 -01	2002 -03	2003 -04	2004 - 05	2005 -06	2006 -07
Trade	14.6	21.4	18.8	18.3	22.5	26.54	24.3	29.3	32.6	35.0
Exports	5.8	9.1	8.7	8.0	9.9	11.93	11	12.2	13.1	13.9
Imports	8.8	12.3	10.2	10.2	12.6	14.62	13.3	17.1	19.5	21.1
Trade Balance	-3	-3.2	-1.5	-2.2	-2.7	-2.67	-2.3	-4.9	-6.4	-7.2
Current Account Balance	-3.1	-1.7	-1.2	-1.0	-0.6	1.2	2.3	-0.4	-1.1	-1.1
Capital Flows (Inflows + Outflows)[†]	12.12	12.50	15.56	14.35	21.61	16.11	22.37	24.24	32.35	44.80
Capital Inflows(FDI+FPI)	0.03	1.37	1.58	0.58	1.48	1.18	2.61	2.21	2.51	2.91
FDI	0.00	0.60	0.87	0.59	0.88	0.99	0.72	0.87	0.96	2.14
FPI	0.03	0.77	0.45	-0.02	0.60	0.20	1.89	1.34	1.55	0.77
Foreign Exchange Reserve (billion $)*	5.83	21.69	26.4	32.5	42.28	76.10	112.96	141.5	151.6	199.2
REER(T B) *	99.98	98.19	98.95	94.34	100.09	98.18	99.56	100.1	102.4	98.50
NEER(TB) *	88.04	91.54	89.03	90.34	92.12	89.12	89.12	87.31	89.85	85.88
Exchange Rate *	17.94	33.45	35.49	42.07	45.68	48.29	45.95	44.93	44.27	45.29
External Debt	28.7	26.2	23.4	21.2	20.5	20.3	19.6	18.1	15.8	16.4

OPENNESS OF INDIAN ECONOMY

o Total Capital flows (Inflows & Outflows) as a percentage of GDP has risen from 12.1% in 1990-91 to 44.8% in 2006-07 (as result of liberalization)

o Export as a % of GDP increased to 13.9% in 2006-07 from 5.8% in 1990-91. Imports rose to 21.1% from 8.8% over the same period

o Foreign Exchange Reserve rose sharply to more than $ 199 billion in 2006-07 from a mere $ 5.8 billion in 1990-91, largely as a result of capital inflows rather than current account surpluses

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DATA SOURCES & VARIABLES

The data for the study have been collected from:

The secondary source such as;

- **Handbook of Statistics in Indian Economy, by RBI**
- **International Financial Statistics (IFS) published by IMF.**

- *Frequency of Data*: **Monthly**
- *Time Period of Estimation*: **April 1995 to July 2008**

The data of the study are;

- Private foreign capital inflows **(FINV)**
- Foreign Direct Investment **(FDI)**
- Foreign Portfolio Investment **(FPI)**
- Foreign Institutional Investment **(FII)**
- Money supply **(M3)**
- Exchange rate **(EXR)**
- Wholesale price Index **(WPI)**
- Export **(EXP)**, import **(IMP)**
- Foreign exchange reserve **(FOREX)**
- Rate of interest **(RI)**
- Index of industrial production **(IIP).**

EMPIRICAL METHODOLOGY

1. ## Vector Autoregressive (VAR) method

   o To examine the dynamic relationship between private foreign capital inflows with macroeconomic variable, a vector auto regression (VAR) model is employed.

2. Impulse response function

   o The impulse response function (IRF) shows the dynamic responses of all the variables in the system to a shock or innovation in each variable.

3. Variance decomposition technique

   o Variance decomposition is used to detect the causal relation among the variables.

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Vector Auto-regression (VAR)

This approach has two major advantages over the extent of empirical research on this issue.

• First, VAR superficially resembles simultaneous equation modeling in that all the variables are considered to be endogenous. However, each endogenous variable is explained by its lagged or past values and lagged values of the other endogenous variables included in the model.

• Second, the VAR methodology can accommodate the general dynamic relationship among economic variables. Because most of the relevant empirical analyses utilize a partial equilibrium framework and do not account fully for dynamic interrelations, previous studies related to this topic may yield misleading inferences.

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Impulse Response Function (IRF)

o Impulse response function (IRF) shows the dynamic responses of all the variables in the system to a shock or innovation in each variable.

o For computing IRFs, it is essential that the variables in the system are ordered and that the system is represented by a moving average process.

Variance Decomposition Technique

o Variance decomposition is used to detect the causal relation among the variables. It explains the extent to which a variable is explained by the shocks in all the variables in the system.

o The forecast error variance decomposition explains the proportion of the movement's private foreign capital inflows in a sequence due to its own shock versus shocks to the other macroeconomic variable.

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EMPIRICAL RESULTS

- The results of various unit root tests namely DF and ADF tests are shown in table 1 below.

- Result shows that all the variables are non-stationary at level, but achieve stationarity at on first differences.

- Hence, they are said to be integrated of order one, and are usually denoted I (1).

- If all the variables in model are I (1), then it is important to discover whether a linear combination between them is stationary or not and one should move on to investigate the possibility of co-integration among these variables.

- The result indicates that a private foreign capital inflow into India has no impact on import, export, interest rates and inflation rates.

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Table 1: Unit Root Tests Results of Macro Variables

LEVELS				
Variable	Without Trend		With Trend	
	DF	ADF	DF	ADF
CMR	-5.727*	-2.415	-6.829*	-3.255*
EXPO	-0.736	1.783 (2)	-3.899*	-0.449 (4)
EXR	-2.528	-2.568 (2)	-1.494	-1.675 (4)
FINV	-8.559*	2.413 (6)	-9.566*	-2.960 (7)
FOREX	-4.378*	2.065 (8)	-0.485	-0.502 (4)
IIP	-1.212	-0.207 (4)	-6.046*	-2.021 (6)
IMP	0.560	3.919 (4)*	-1.589	1.585 (4)
M3	2.106	2.399 (1)	-0.791	1.363 (4)
WPI	1.211	1.267 (4)	1.211	-2.11 (4)
FIRST DIFFERENCE				
Variable	Without Trend		With Trend	
	DF	ADF	DF	ADF
RCMR	-15.221*	-6.805 (4)*	-15.165*	-6.782 (4)*
REXPO	-21.836 *	-8.194 (2)*	-22.023*	-8.842 (4)*
REXR	-10.149*	-5.379 (4)*	-10402*	-6.066 (2)*
RFINV	-17.122*	-9.666 (2)*	-17.057*	-6.635 (4)*
RFOREX	-7.471*	-3.671 (4)*	-8.461*	-6.814 (2)*
RIIP	-20.544*	-6.572 (2)*	-20.490*	-7.309 (4)*
RIMP	-23.874*	-4.443 (4)*	-24.795*	-5.765 (4)*
RM3	-12.309 *	-7.066 (2)*	-12.855*	-7.245 (4)*
RWPI	-10.248	-5.847 (4)*	-10.358*	-6.080 (4)*

Notes: *The critical values for unit root tests are -3.47, -2.88 and -2.57 without trend and -4.02, -3.44 and -3.14 with trend. Figures in brackets against ADF statistics are the numbers of lags used to obtain white noise residuals and these lags are selected using AIC. *, **, *** imply significance at 1%, 5% and 10% level respectively.*

V.1. Choice of Lag Length

- While determining lag length, econometricians have either fixed the lag length arbitrarily or chosen it through some statistical procedure.

- The study uses five lag order selection criterion such as Likelihood Ratio (LR), Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Information Criterion (SIC) and Hannan-Quinn Information Criterion (HQIC) as shown in table 2.

- Except LR and FPE, all other criteria unanimously select lag order 3, and, thus we take that as optimum lag length.

- A lag of three months seems to be appropriate for an analysis of private foreign capital flows and macroeconomic variables because the external sector policy or monetary policy is revised twice every year in India.

- During the period of study, policy changes have become frequent in a bid to deregulate the economy and strengthen the market forces.

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- Under such circumstances, the lag of three months is justifiable.

Table 2: VAR Lag order selection by different criteria in the case of macroeconomic variables

Lag	LR	FPE	AIC	SC	HQ
0	NA	1.5523	78.93714	79.13467*	79.0174
1	312.5537	4.0422	77.59069	79.56602	78.39335*
2	216.5536	2.0422	76.89382	80.64694	78.41888
3	162.1642*	1.5222*	76.55605*	82.08696	78.80351
4	99.4349	1.9722	76.73487	84.04358	79.70473

**Notes: - *indicates lag order selected by the criterion,*
LR: sequential modified LR test statistic (each test at 5% level),
FPE: Final prediction error, AIC: Akaike information criterion,
SC: Schwarz information criterion, HQ: Hannan-Quinn information criterion.

V.3. Variance Decompositions Technique

o Table 3 reports the results for variance decomposition of RFINV. It follows that apart from its own contribution, the highest contribution to variation of RFINV comes from REXR.

o It shows that the average contribution of private foreign capital inflows to variation of REXR, RFOREX, REXPO, and RM3 are 9.7%, 7.29%, 6.28%, and 5.28% respectively.

o Thus, private foreign capital inflows have played the most important role in explaining the dynamic changes with macroeconomic variables.

o At the end of the 24 forecast horizon, around 57% of the forecast error variance of RFINV is explained by its own innovation.

Table.3. Variance Decomposition of RFINV

Horizon	RCMR	REXPO	REXR	RFINV	RFOREX	RIIP	RIMP	RM3	RWPI
1	0.237545	0.021496	17.50431	82.23665	0	0	0	0	0
4	0.423279	5.174487	9.176205	66.8982	8.330061	1.24295	4.075414	4.088857	0.590543
8	1.060136	6.137316	9.748484	58.80903	7.376223	2.941225	7.862046	4.857543	1.207994
12	1.300562	6.303737	9.803894	57.62484	7.270951	3.230726	7.851045	5.285241	1.329002
16	1.372703	6.288677	9.796857	57.45038	7.294655	3.272176	7.867369	5.276499	1.380682
20	1.380576	6.286497	9.795924	57.41951	7.293405	3.275742	7.875148	5.28459	1.388609
24	1.382511	6.288259	9.795768	57.41444	7.293184	3.276151	7.875217	5.284448	1.390025

Ordering: *RCMR, REXPO, REXR, RFINV, RFOREX, RIIP, RIMP, RWPI*

Ordering of the Variables:

○ The ordering of the variable is a crucial aspect in VAR estimation. The implication of such ordering is that a current innovation in the variable is placed first in the ordering, which affects the rest of the variables.

○ However, the current innovations in variables towards the end are not expected to affect the variables at beginning of the order.

○ The below-mentioned orderings imply that current innovations in FINV can affect the entire system, but a shock in WPI cannot affect the current period of FINV. Similarly by the assumed ordering, CMR cannot affect the current period FINV and M3, but can affect all the remaining variables in the system.

○ With this logic WPI has been placed at the end of ordering with the presumption that current innovations in all variables affect the current period, where as innovation in WPI and IMP cannot affect the current period of any of the variables in the model except itself.

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V.4. Impulse Response Function

Figure: 1

Figure: 2

Response of RCMR to one S.D Shock to RFINV

Response of RWPI to Cholesky
One S.D. RFINV Innovation
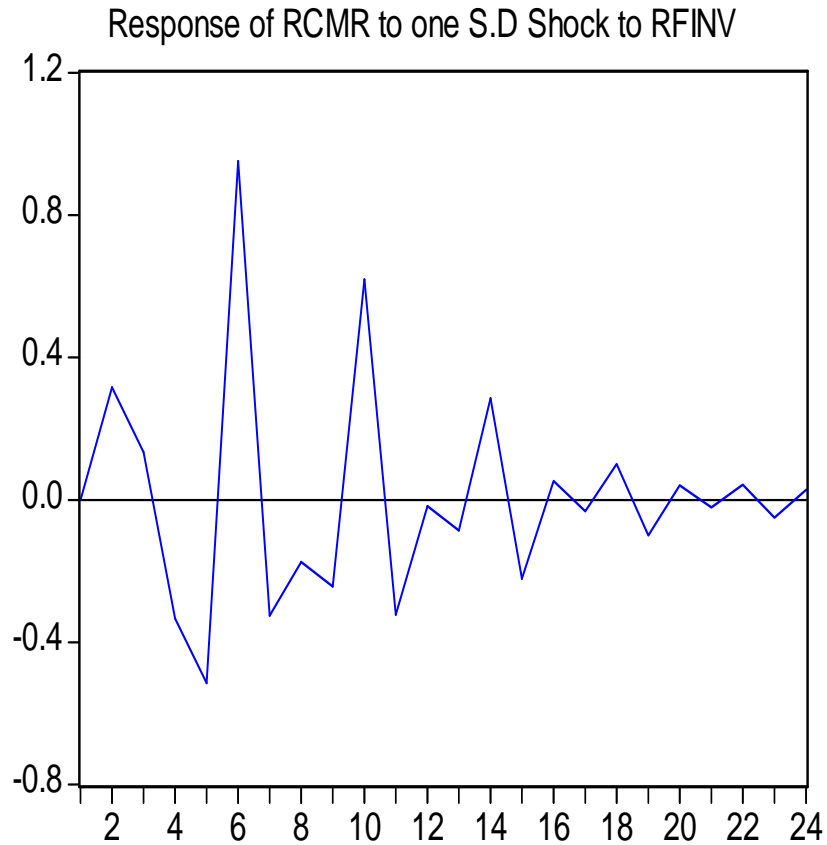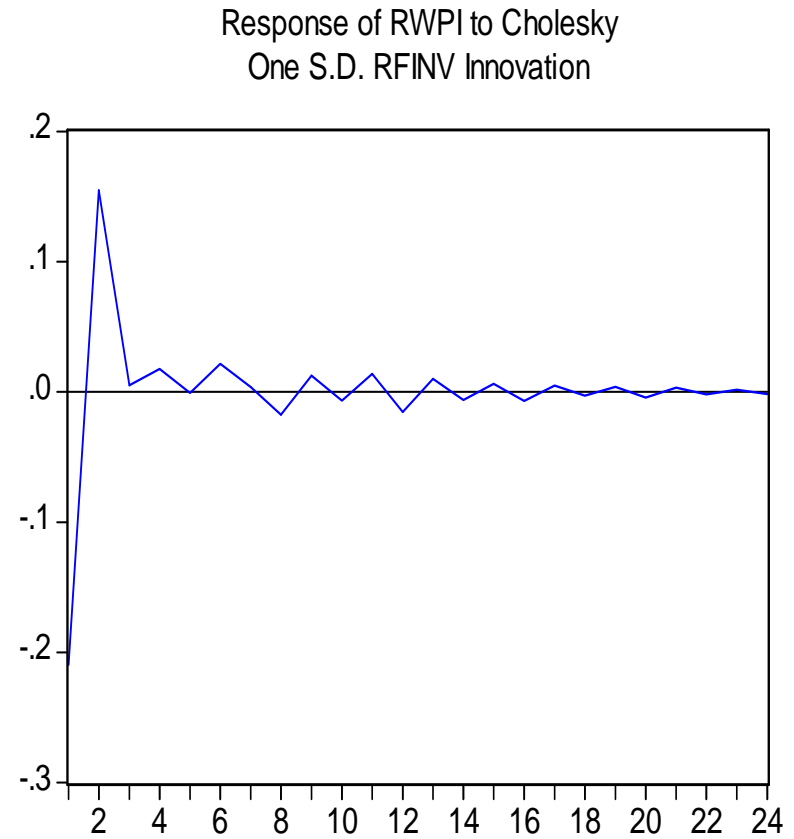
Figure: 3

Response of REXR to Cholesky
One S.D. RFINV Innovation
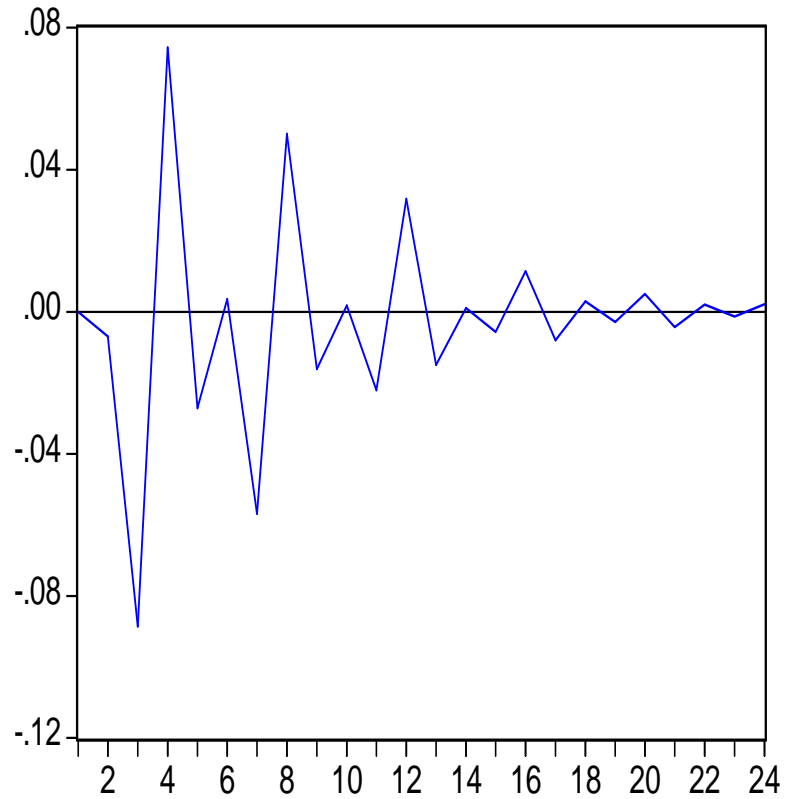
Figure: 4

Response of REXPO to Cholesky
One S.D. RFINV Innovation

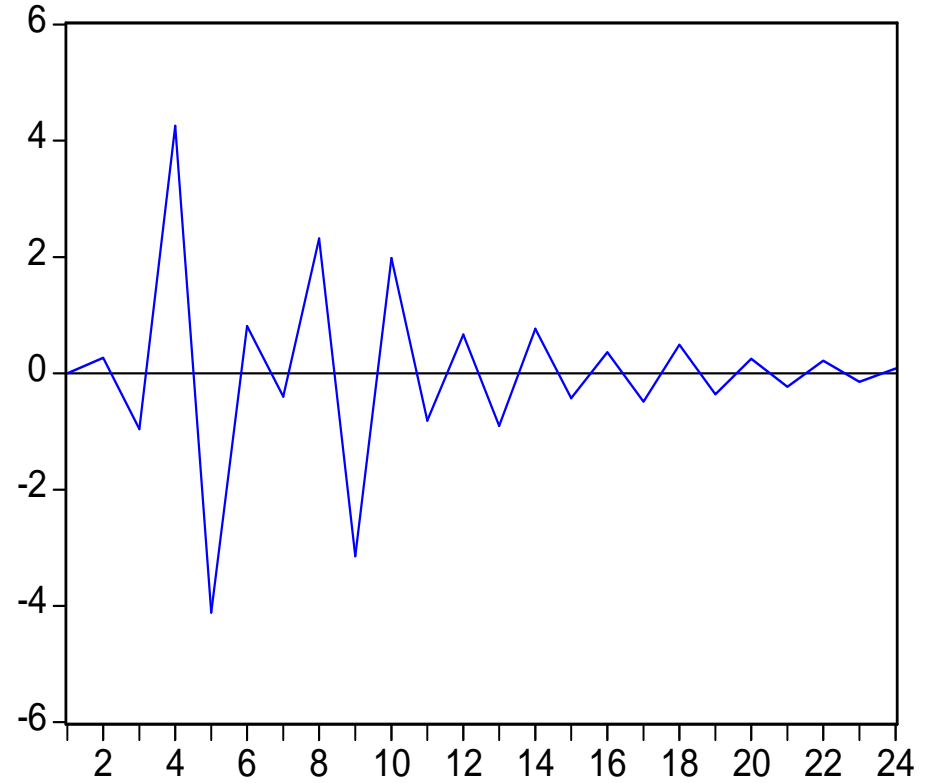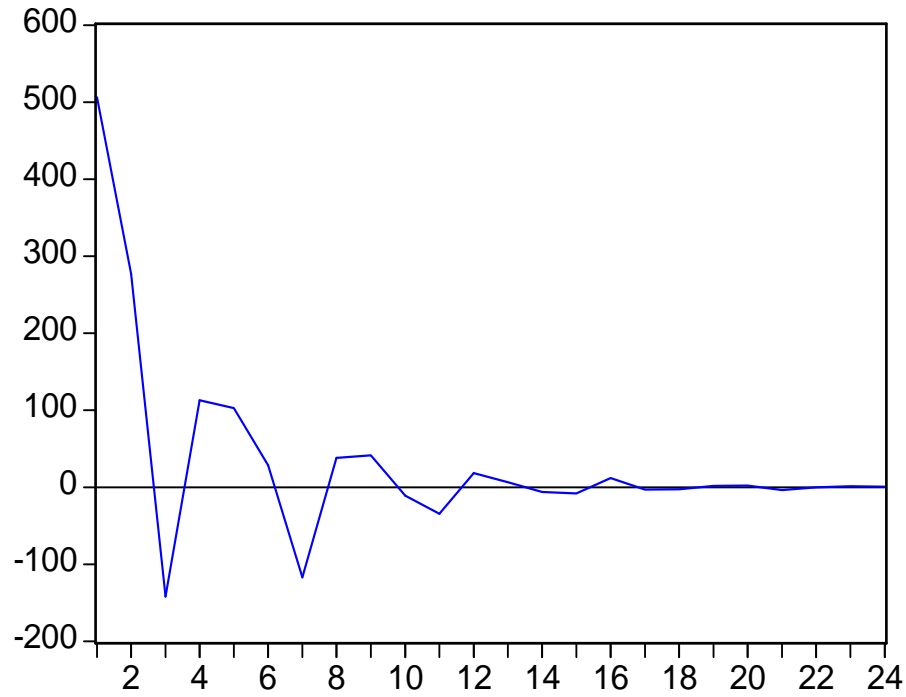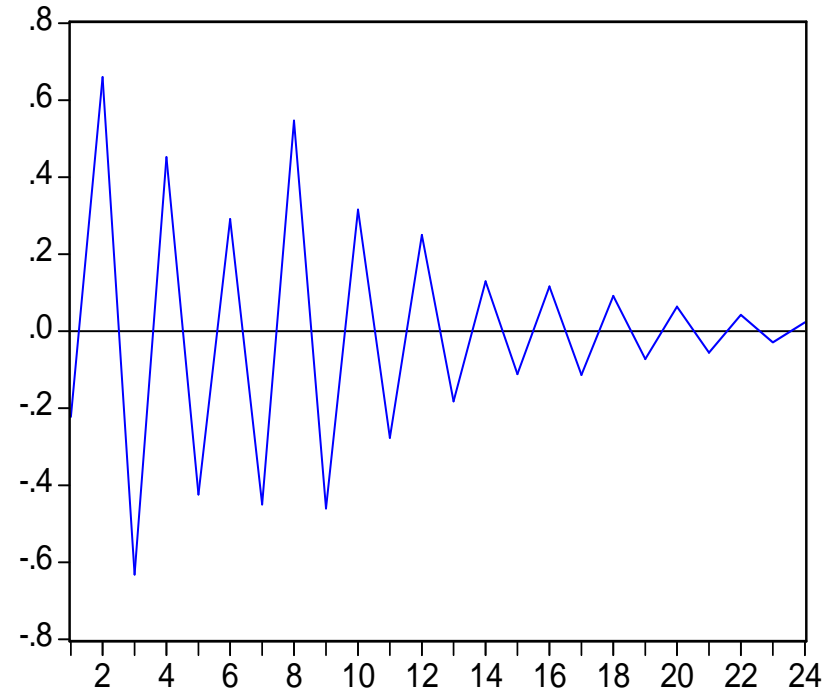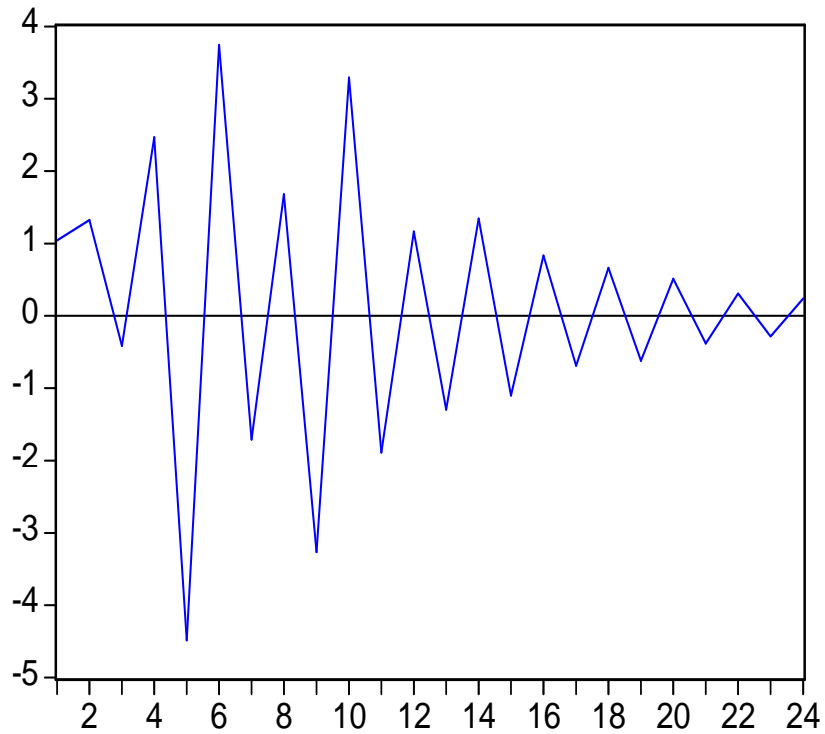**Figure: 5**

Figure: 6

Response of RFOREX to Cholesky
One S.D. RFINV Innovation

Response of RIIP to Cholesky
One S.D. RFINV Innovation

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Figure: 7
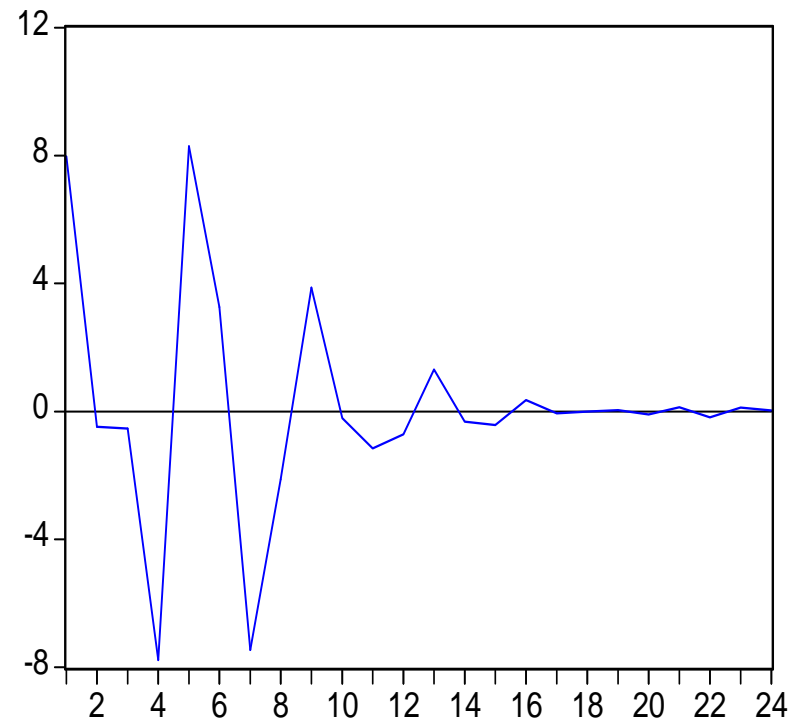
Response of RIMP to Cholesky
One S.D. RFINV Innovation

Figure: 8

Response of RM3 to Cholesky
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IMPULSE RESPONSE FUNCTION

- Findings from impulse response analysis reflect the fact that impact of private foreign capital inflows on the macroeconomic variables during liberalization in India is significant in some variables like IIP, M3, EXR and FOREX.

- As the findings based on Indian data set contradict the established belief, it may be taken by some policy implication as indication of efficient management of capital inflows during the 90s.

- In the same vein, henceforth, one may be praising the monetary and fiscal policies pursued in India during the liberalized regime.

Impact of Capital Flows on Exchange Rate

- Foreign capital inflows will raise the level of domestic expenditure in economy, which will raise the demand for non-tradable goods that result in an appreciation of the real exchange rate.
- The policy responses of India were directed towards capital outflows through early servicing of external debt.
- The capital inflows have been associated with real exchange rate appreciation in India.

Effects of Capital Flows on Reserve Accumulation

- Capital inflows can be traced to either international reserves accumulation or a current account deficit, depending upon the exchange rate regime of a country.
- From 1991 to 2000, growth of foreign exchange reserves in India averaged 58 percent, net average 58.8 percent against negative average of 16.8 percent for 1985-90 (Kletzer, 2004).

Capital Flows and its Impact upon Monetary Aggregates

- In India, the monetary impact of reserved accumulation is neutralized primarily through reserve requirement changes in commercial banks liabilities.
- In accordance to the percentage to M_3, OMO is 0.28 percent in 1994, increasing to 2.2 percent by 2000.
- OMO appears to be used more to neutralize foreign exchange market intervention than monetary policy instrument.
- During the capital surge episode in India, the CRR has raised from 14-15% in 1991-95, which offset the effect of capital inflows upon money-supply growth.

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CONCLUSIONS

- The study, analyses the dynamics of some major macroeconomic variables during the post-reform period in India.

- A review of the analytical literature shows that macroeconomic consequences of financial liberalization are the results of the combined effect of monetary, fiscal as well as trade and exchange rate policies followed by the government of a country.

- The trends of total international capital flows into India are positive, where portfolio investment flows are negative in the year of 1998-99. The Foreign Direct Investment (FDI) does not reveal stable trend so far in India.

- As far as the literature is concerned, it suggests the existence of dynamic relationship among all macroeconomic variables with private foreign capital inflows.

- However, our empirical findings strongly show that there is dynamic short and long equilibrium relationship between few macroeconomic variables like exchange rate (EXR), foreign exchange reserve (FOREX), index of industrial production (IIP) and money supply (M3) with private foreign capital inflows (FINV) during the study period from 1995:04 to 2008:07.

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Thank You