Foreign Exchange Reserve In India – A Review

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FOREIGN EXCHANGE

The term Foreign Exchange is used to indicate the exchange of one currency for another and also denotes a foreign currency. The importing currency pays money to exporting in return of goods either in its domestic currency or hard currency. The currency, which facilitates the payment to complete the transaction, is called foreign exchange. Foreign exchange is bought and sold in foreign exchange markets. The components of foreign exchange market include buyers, sellers and intermediaries in foreign exchange market. It is the market for currencies of various countries anywhere in the globe, as financial centers of the world are united as a single market.

FOREIGN EXCHANGE RESERVES

The **definition** suggested by International Monetary Fund (balance of payments manual, and guidelines on foreign exchange management, 2001) defines, "reserves as external assets that are readily available to and controlled by monetary authorities for direct financing of external payments imbalances, for indirectly regulating the magnitude of such imbalances, through intervention in exchange markets to effect the currency exchange rate, and for one or other purposes".

Reserves refer to that stock of external assets, which are available to a country's monetary authorities to cover payment for imports, imbalances in balance of trade or to support the domestic and currency exchange rate.

The standard level of international reserves of a country consists of

- ✓ Gold.
- ✓ Short term foreign exchange holding in convertible currencies.
- ✓ Special drawing rights.
- ✓ Reserve position in IMF.

The **'reserves'** refers to both foreign reserves in the form of gold assets in the banking departments and foreign securities held by the issue department, and domestics reserves in the form of the 'Bank of reserves'.

MOTIVES FOR HOLDING FOREIGN EXCHANGE RESERVES

Technically, it is possible to consider three motives that is transaction, speculative and precautionary motives for holding reserves. International Trade gives rise to currency flows, which are assumed to be handled by private banks driven by the transaction motive. Similarly, speculative motive is left to individual or corporates. Central bank reserves however are characterized primarily as last resort stock of foreign currency for unpredictable flows, which is consistent with precautionary motive for holding foreign assets. Precautionary motive for holding foreign currency like the demand for money can be positively related to wealth and the cost of covering unplanned deficit and negatively related to the return from alternative assets.

The list of objectives in broader terms may be encapsulated viz.,

1. Maintaining confidence in monetary and exchange rate policies.
2. Enhancing capacity to intervene in foreign exchange markets
3. Limiting external vulnerability by maintaining foreign currency liquidity to absorb shocks during time of crisis including national disasters or emergencies.
4. Providing confidence to the markets especially credit rating agencies that obligations can always be met, thus reducing the overall costs at which foreign exchange resources are available to all the market participants and
5. Incidentally adding to the comfort of the market participant by demonstrating the backing of domestic currency by external assets.

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INDIAN HISTORY

India was excellent for its export since **3,000 B.C** when its cotton textiles were exported to Rome and Greek. India during that period witnessed a glorious past in its exports till the British rule came into India. **During the British tenure in India,** India's export opportunity was exploited and its export performance experienced a nightmare situation. After its independence in 1947, India made a tremendous growth in export of textile and traditional products like leather and handicrafts. Until 1970's, exports were the main source of earning foreign exchange.

With the collapse of Bretton woods agreement, the market players occupied an important role in the foreign exchange market during 1970's. In India, as the first step, the RBI allowed banks to undertake **intra-day trading in foreign in 1978**. With the advent of industrialization and modernization, India was in need of huge foreign exchange reserves and the exports during the period were not sufficient to pay its imports. Hence it has witnessed balance of payments crisis in mid 1970's.Till the **1980's,** India had been under continuous pressure on the foreign exchange front and had to seek, from time to time, balance of payment support from the international monetary fund apart from relying on external development assistance, bilateral and multilateral, to finance development.

The exchange rate reforms helped India to secure all remittances and transfers from abroad through legal channels. There was an external payment crisis in **1990-91**. This was due to the macro economic imbalances in the second half of mid eighties such as modernization of fiscal deficit, over valued exchange rate, high tariffs and inward looking industrial policy.

Before 1991, there were number of restrictions on capital account transactions like FDI, Portfolio investment, external commercial borrowing non-resident deposits, short terms credits and outward investments. But **post 1991** period, the major reforms in capital account were the liberalization of FDI, and portfolio investment. By the implementation of new economic policy and new industrial policy, India's export opportunities were expanded to service industries. Now India is excellent for its export in traditional products, software products and other services Software and textiles are the leading foreign exchange earners in India. Hence, the revenue earned through export becomes the major contribution to foreign exchange reserves.

FOREIGN EXCHANGE RESERVE IN PRE-LIBERALISATION ERA IN INDIA

In India, the Reserve Bank of India Act 1934 states that, the RBI is the custodian of foreign exchange reserves and management reserves with specified objectives reserves refer to foreign exchange reserve in the form of gold and foreign securities and domestic reserves in the form of bank reserves. The foreign exchange reserves include Gold reserve, Special Drawing Rights and foreign currency assets.

Table: 1 shows the foreign exchange reserve from the period 1970-71 to 1989-90. The reserves have been gradually increasing from US $ 975 million in 1970-71 to US $ 7361 million by 1979-80. The reserves swelled down on the strength of foreign currency assets to reach the maximum of US $ 7361 million during 1979-80. After this, the trend shows considerable fluctuations. The fall in foreign exchange reserve is due to the fall in foreign currency assets and Balance of payments crisis.

DECADAL GROWTH OF FOREIGN EXCHANGE RESERVES IN INDIA

Table: 2 shows that the foreign exchange reserves have decreased from US $ 1815 million in 1950-51 to US $ 637 million in 1960-61. In the year 1970-71 the foreign exchange reserve increased to US $ 975 million. In the year 1980-81, the foreign exchange reserve increased to US $ 6823 million due to the strength of foreign currency assets. The year 1990-91, the reserves went alarmingly low to US $ 5834 million and forced the Indian government to rethink their strategies. After the changes made by the Government of India, the reserve again started building up. The foreign exchange reserves increased to US $ 42281 million in 2000-01.

COMPONENTS OF FOREIGN EXCHANGE RESERVE IN INDIA

Reserve Bank of India maintains reserves in India. The Gold reserves, SDR, Foreign Currency Assets, Reserve position of IMF are the components of foreign exchange reserves. Every country should have official reserve assets, such as gold, foreign currency assets and SDR through the central bank of the country that is Reserve Bank of India in India. The official reserves account includes transactions undertaken by the authorities to finance the overall balance and intervene in foreign exchange market. The more actively the government intervenes in foreign exchange markets, the greater the official reserve entry. Until the advent of Bretton woods system, in 1945, gold was the

TABLE: 1 : FOREIGN EXCHANGE IN PRE-LIBERALISATION ERA IN INDIA

(In US $ Million)

YEAR	GOLD	SDR	FOREIGN CURRENCY ASSETS	TOTAL
1970-71	243	148	584	975
1971-72	264	269	661	1194
1972-73	293	297	629	1219
1973-74	293	296	736	1325
1974-75	304	293	784	1384
1975-76	281	234	1657	2172
1976-77	217	290	3240	3747
1977-78	200	319	5305	5824
1978-79	470	377	6421	7268
1979-80	662	375	6324	7361
1980-81	370	603	5850	6823
1981-82	335	473	3582	4390
1982-83	324	291	4281	4896
1983-84	320	230	5099	5649
1984-85	325	145	5482	5952
1985-86	417	131	5972	6520
1986-87	471	179	5924	6574
1987-88	508	97	5618	6223
1988-89	473	103	4226	4802
1989-90	487	107	3368	3962

Sources: RBI Annual Reports
Note: Components taken for the study - Gold, SDR and Foreign Currency Assets.

TABLE: 2 : DECADAL GROWTH OF FOREIGN EXCHANGE RESERVES IN INDIA

(In US $ Million)

YEAR	GOLD	SPECIAL DRAWING RIGHTS	FOREIGN CURRENCY ASSETS	TOTAL
1950-51	247	-	1568	1815
1960-61	247	-	390	637
1970-71	243	148	584	975
1980-81	370	603	5850	6823
1990-91	3496	102	2236	5834
2000-01	2725	2	39554	42281

Source: RBI Annual Reports
Note: Components taken for the study - Gold, SDR and Foreign Currency Assets.

predominant international reserve asset. After 1945, however, international reserve asset comprise of gold, foreign exchange, special drawing right and reserve position in the International Monetary Fund.

GOLD RESERVE

Gold is valued at the end of the month at 90% of the daily average price quoted at London for the month. The rupee equivalent is determined on the basis of exchange rate prevailing on the last business day of the month; unrealized gains or losses are adjusted to the Currency and Gold Revaluation Account. (CGRA). **Table: 3** shows the gold component of foreign exchange reserves in India for the period 1996-97 to 2005-06.

Table: 3 shows the gold component of foreign exchange reserves, which shows a fluctuating trend from 1996-97 to 2000-01, it has decreased due to decline in international prices of gold and partial redemption under gold bond scheme, after which the percentage increased up to 2003-04 and again there was a decrease in the year 2004-05 and in the year 2005-06, the Gold Reserve shows a better percentage of increase.

TABLE: 3 : GOLD RESERVE

(In US $ Million)

YEAR	GOLD	INCREASE/ DECREASE	PERCENTAGE OF INCREASE/DECREASE
1996-97	4054	-	-
1997-98	3391	-654	-16.35
1998-99	2960	-431	-12.71
1999-00	2974	14	0.47
2000-01	2725	-249	-8.37
2001-02	3047	322	11.81
2002-03	3534	487	15.98
2003-04	4198	664	18.78
2004-05	4500	302	7.19
2005-06	5755	1255	27.88

Source: RBI annual reports. **Compound Growth Rate Value: 3.97%**

The **Compound Growth Rate (CGR)** of gold has been increased every year by 3.97% during the study period, which is positive, and it indicates the increase in the growth of gold reserve.

SPECIAL DRAWING RIGHTS (SDRs)

SDRs are entitlements granted to member-countries enabling them to draw from the IMF apart from their quotas. The arrangement is similar to a bank granting credit limit to its customer. When SDRs are allocated, the country's Special Drawing Account with the IMF is credited.with the amount of the allotment. When the country experiences need for foreign exchange, it can sell SDRs to another country and get foreign exchange. **Table: 4** shows the SDRs in India for the period 1996-97 to 2005-06.

TABLE: 4 : SPECIAL DRAWING RIGHTS

(In US $ Million)

YEAR	SDR	INCREASE/ DECREASE	PERCENTAGE OF INCREASE/DECREASE
1996-97	2	-	-
1997-98	1	-1	-50
1998-99	8	7	700
1999-00	4	-4	-50
2000-01	2	-2	-50
2001-02	10	8	400
2002-03	4	-6	-60
2003-04	2	-2	-50
2004-05	5	3	50
2005-06	3	-2	-40

Source: RBI Annual Reports. **Compound Growth Rate Value: 4.61%**

The SDR in the year 1996-97 is US $ 2 million. It has declined in the year 1997-98 due to several transactions such as payment to IMF. The SDR was maximum particularly 8 million i.e. 700% in the year 1998-99 and 10 million i.e. 400% in the year 2001-02 .The Special Drawing Rights component had halted at US $ 3 million in 2005-06.

The **CGR** of SDR has been increasing every year by 4.61% during the study period, which is positive, and it indicates the increase in the growth of Special Drawing Rights.

FOREIGN CURRENCY ASSETS

All foreign currency assets are translated at the exchange rates prevailing on the last business day of the week as well as on the last business day of the month. At the year end, assets and liabilities in foreign currencies are translated at the exchange rate prevailing on the last business day except in cases where rates are contractually fixed. **Table: 5** shows the foreign currency assets in India for the period 1996-97 to 2005-06. It is understood from the **Table: 5** that from the year 1996-97, the impact in exchange rate increased the foreign currency assets from US $ 22367 million

TABLE: 5 : FOREIGN CURRENCY ASSETS

(In US $ Million)

YEAR	FOREIGN CURRENCY ASSETS	INCREASE/ DECREASE	PERCENTAGE OF INCREASE/DECREASE
1996-97	22367	-	-
1997-98	25975	3608	16.13
1998-99	29522	3547	113.65
1999-00	35058	5536	84.20
2000-01	39554	4496	12.82
2001-02	51049	11495	29.06
2002-03	71890	20841	48.82
2003-04	107448	35558	49.46
2004-05	135571	28123	26.17
2005-06	145108	9537	7.03

Source: RBI Annual Reports.

Compound Growth Rate Value: 23.09%

in the 1996-97 to US $ 145108 million in 2005-06. The percentage of increase was maximum at 113.65% in the year 1998-99 and minimum in the year 2005-06 at 7.03%. In the year 2005-06, the percentage increase was 7.03, which is less than the previous year, which was due to preserve demand conditions and leads and lag prevailing in exchange market. The foreign currency assets component has made a tremendous growth over a period of ten years.

The **CGR** of foreign currency assets has been increasing every year by 23.09% during the study period, which is positive, and it indicates the increase in the growth of foreign currency assets.

RESERVE POSITION UNDER IMF

International Monetary Fund was established in 1946 and commenced its operations in 1947. It is an organization of countries that seeks to promote international monetary co-operation and facilitate the expansions of trade, and thus contribute to increase employed and improved economic condition in all member countries. The fundamental object of the IMF was the avoidance of competitive devaluation and exchange control that had characterized the era of 1930s. It was set up to administer a "code of fair practice", in the field of foreign exchange and to make short-term loans to member nations experiencing temporary deficits in their balance of payments, to enable them to meet these payments without resorting to devaluation or exchange control, while at the same time following international policies to maintain domestic income and employment at high levels. **Table: 6** shows the reserve position under IMF in India for the period 1996-97 to 2005-06.

As shown in the **Table: 6** the reserve position in IMF in the year 1996-97 and 1997-98 showed a decline in reserve position, due to withdrawal of deposits under FCNR (A) scheme and purchase of special drawing rights through IMF for affecting various payments to IMF also constituted major outflows from the reserves. The year 1998-99 marked an increase of US $ 663 million and there after, the reserve decreased upto 2001-2002. After that it shows an increase upto 2004-05. Then in the year 2003-2004, it showed a maximum increase of 95.08 percent. After that, there was a decline in the year 2005-2006 of US $ 756 million, which showed a percent of - 47.42.

The **CGR** of reserve position under IMF has been increasing every year by 11.06% during the study period. Therefore the inter-period growth of reserve position under IMF from 1996-97 to 2005-06 stood at 11.06 percent.

FOREIGN EXCHANGE RESERVES

A country participating in foreign trade and or other obligations requires such reserves in form of gold and or other currency and assets, which have a demand and are easily convertible or acceptable by others in settlement of dues. **Table: 7** shows the foreign exchange reserves for the period 1996-97 to 2005-06.

Table: 7 shows that there was a steady increase in 1996-97 of US $ 26717 million to 2005-06 of US $ 151622 million respectively. This increase in foreign exchange reserve was after high-level committee on balance of payments. The increase in foreign exchange reserves from 1996-97 was primarily in form of accretion to foreign currency assets. With currency level of reserves, India is among the top reserve holding emerging market countries. **India is the fifth largest holder of reserves in the world.** The percentage of increase was maximum in the year 2003-04 at 48.43% and minimum in the year 2005-06 at 7.14%.

TABLE: 6 : RESERVE POSITION UNDER IMF

(In US $ Million)

YEAR	RESERVE POSITION UNDER IMF	INCREASE/ DECREASE	PERCENTAGE OF INCREASE/DECREASE
1996-97	294	-	-
1997-98	283	-11	-3.74
1998-99	663	380	13.42
1999-00	658	-5	-0.75
2000-01	616	-42	-6.38
2001-02	610	-6	-0.97
2002-03	672	62	10.16
2003-04	1311	639	95.08
2004-05	1438	129	9.68
2005-06	756	-682	-47.42

Source: RBI Annual Reports. **Compound Growth Rate Value: 11.06%**

TABLE: 7 : FOREIGN EXCHANGE RESERVES

(In US $ Million)

YEAR	FOREIGN EXCHANGE RESERVE	INCREASE/ DECREASE	PERCENTAGE OF INCREASE/DECREASE
1996-97	26717	-	-
1997-98	29650	2933	10.98
1998-99	33153	3503	11.81
1999-00	38153	5541	16.71
2000-01	38694	4203	10.86
2001-02	42897	11819	27.55
2002-03	54716	21384	39.08
2003-04	76100	36859	48.43
2004-05	112959	28555	25.28
2005-06	151622	10108	7.14

Source: RBI Annual Reports. **Compound Growth Rate Value: 21.28%**

The overall growth of **CGR** of foreign exchange reserves has been increasing every year by 21.28 percent during the study period, which is positive, and it indicates the increase in the growth of foreign exchange reserves.

DEBT RELATED ADEQUACY

Table: 8 shows the debt related adequacy for India for period 1996-97 to 2005-06.

It is clear from table that reserves to external debt have increased from 28.3 times during the year 1996-97 to 121.1 times during the year 2005-06. The reserves to external debt show a steady increase over the period of 10 years under the study. The reserves of the country are accumulating and it is satisfying the debt related adequacy indicator of the country. There is an improvement in fulfillment on debt-based indicator over the period and this was adequate for the country.

SOURCES OF ACCRETION OF RESERVES

With the opening of Indian economy during 1990-91, foreign direct investment has been hailed as a portion that will cure all economic ailments and transform the nation on lines of the developed countries. Major sources of increase in foreign exchange reserves have been foreign investment, portfolio investment, commercial borrowings, short-term loans and NRI investment.

FOREIGN DIRECT INVESTMENT (FDI)

Foreign Direct Investment is defined as investment that is made to acquire a lasting management interest (usually 10% of voting stock) in an enterprise operating in a country other than that of investors. The investor's purpose being an effective voice in the management of the enterprise, Foreign Direct Investment occurs when the investor acquires a measure of control of the foreign business. It is the sum of equity capital, reinvestment earnings, other

TABLE: 8 : DEBT RELATED ADEQUACY

(In times)

YEAR	RESERVES TO EXTERNAL DEBT
1996-97	28.3
1997-98	31.4
1998-99	33.5
1999-00	38.7
2000-01	41.8
2001-02	54.8
2002-03	72.6
2003-04	100.3
2004-05	114.9
2005-06	121.1

Source: RBI Annual Reports.

TABLE: 9 : FOREIGN DIRECT INVESTMENT

(In US $ Million)

YEAR	FDI	INCREASE/ DECREASE	PERCENTAGE OF INCREASE/DECREASE
1996-97	2841	-	-
1997-98	3562	729	25.37
1998-99	2480	-1082	-30.37
1999-00	2167	-313	-12.62
2000-01	4029	1862	85.92
2001-02	6131	2102	52.17
2002-03	4660	-1471	23.99
2003-04	4322	-338	-7.25
2004-05	5589	1267	29.31
2005-06	7691	2102	37.60

Source: RBI Annual Reports. **Compound Growth Rate Value: 11.70%**

long-term capital and short-term capital. **Table: 9** shows the foreign investment inflow through foreign direct investment in India for period 1996-97 to 2005-06.

Table: 9 depicts that foreign investment inflow through foreign direct investment is fluctuating. In the year 1996-97 FDI was US $ 2841 million and in the year 1997-98 FDI increased by 25.37% as it was allowed into the area of financial services through foreign inflow promotion board. The year 1998-99 and 1999-00 marked a decrease, which required reviewing of the FDI policy, and constraints looming higher FDI inflows. The percentage of increase was maximum in the year 2000-01. The foreign direct investment halted at US $ 7691 million of 37.60 percent. The foreign direct investment has made a tremendous growth over a period of ten years with inter period's ups and downs.

The **CGR** of inter-period growth of foreign direct investment from 1996-97 to 2005-06 stood at 11.70 percent during the study period, which is positive and indicates the increase in the growth of foreign direct investment.

FOREIGN PORTFOLIO INVESTMENT (FPI)

Foreign Portfolio investments are the sum of the country funds, depository receipts and purchases of shares by the foreign investors in the secondary market. In simple terms, portfolio investment represents sales and purchases of foreign financial assets such as stocks and bonds that do not involve a transfer of control. **Table: 10** shows the foreign investment inflow through portfolio investment in India for period 1996-97 to 2005-06. It is observed from **Table: 10** that the foreign investment inflow from portfolio investment in the year 1999-00 shows a maximum inflow. After which in the year 2003-04 and in 2005-06 FPI has been increased. There is a strong performance of portfolios investment during 2005-06 at 40.21 percent. During the study period, the foreign portfolio investment shows ups and downs. The **CGR** of foreign portfolio investment has been increasing by 15.89 percent during the

TABLE: 10 : PORTFOLIO INVESTMENT

(In US $ Million)

YEAR	PORTFOLIO INVESTMENT	INCREASE/ DECREASE	PERCENTAGE OF INCREASE/DECREASE
1996-97	3312	-	-
1997-98	1828	-1484	-44.80
1998-99	-68	-1760	-96.28
1999-00	3024	3092	4547.05
2000-01	2760	-264	-8.73
2001-02	2020	-740	-26.81
2002-03	979	-1041	-51.53
2003-04	11356	10377	1059.96
2004-05	8907	-2449	-21.56
2005-06	12489	3582	40.21

Source: RBI Annual Reports. Compound Growth Rate Value: 15.89%

TABLE: 11 : FOREIGN INVESTMENT INFLOW

(In US $ Million)

YEAR	FOREIGN INVESTMENT INFLOW	INCREASE/ DECREASE	PERCENTAGE OF INCREASE/DECREASE
1996-97	6153	-	-
1997-98	5390	-763	-12.4
1998-99	2412	-2978	-55.2
1999-00	5191	2779	115.21
2000-01	6789	1598	30.78
2001-02	8151	1362	20.06
2002-03	5639	-2512	-30.82
2003-04	15678	10039	178.03
2004-05	14496	-1182	-7.54
2005-06	20180	5684	39.21

Source: RBI Annual Reports. Compound Growth Rate Value: 14.11%

study period, which is positive, and it indicates the increase in the growth of portfolio investment. Therefore the overall growth of portfolio investment from 1996-97 to 2005-06 is 15.89 percent.

FOREIGN INVESTMENT INFLOW (FII)

Table: 11 shows the Foreign Investment Inflow in India from 1996-97 to 2005-06.

It is understood from the above Table: 11, that the total foreign investment inflow of India in the year 1996-97 was US $ 6153 million which has increased to US $ 20180 in the year 2005-06. Due to imposition of economic sanctions and sluggishness in domestic activity from 1996-97 to 1998-99, the FII in India shows a decline. From the year 1999-2000 to 2001-02 the inflows shows an increase. There was a maximum increase of 178.03% in the year 2003-04. The decline of 7.54% in 2004-05 and increase of 39.21% in 2005-06 is due to huge influx of foreign institutional investment due to the bullish settlement of Indian stock market.

The **CGR** of foreign investment inflow has been increasing every year by 14.11 percent during the study period, which is positive, and it indicates the increase in the growth of foreign investment inflow. Therefore the overall growth of foreign investment inflow from 1996-97 to 2005-06 is 14.11 percent.

OTHER INFLOWS-COMMERCIAL BORROWINGS

The commercial borrowing under capital account of balance of payments includes commercial bank loans, securitized borrowings and loans or securitized borrowings with multi lateral or bilateral suppliers credit. Commercial bank loans are borrowings at competitive rates from international banks, life insurance companies, etc. **Table: 12** shows the foreign inflows through commercial borrowings in India from 1996-97 to 2005-06. **Table: 12** reveals that in spite of sluggishness in import demand, disbursement under commercial borrowings (medium and long term) was

TABLE: 12 : OTHER INFLOWS-COMMERCIAL BORROWINGS

(In US $ Million)

YEAR	COMMERCIAL BORROWINGS	INCREASE/ DECREASE	PERCENTAGE OF INCREASE/DECREASE
1996-97	2556	-	-
1997-98	4010	1454	56.89
1998-99	4367	357	8.90
1999-00	333	-4034	-92.37
2000-01	3737	3404	1022.22
2001-02	-1576	5313	142.17
2002-03	-2344	-768	48.73
2003-04	-2925	-581	24.79
2004-05	5040	7965	-272.31
2005-06	1591	-3449	-68.43

Source: RBI Annual Reports. (CGR) Compound Growth Rate Value: -5.13%

TABLE: 13 : OTHER INFLOW-SHORT TERM LOANS

(In US $ Million)

YEAR	SHORT TERM LOANS	INCREASE/ DECREASE	PERCENTAGE OF INCREASE/DECREASE
1996-97	838	-	-
1997-98	-96	-934	-111.45
1998-99	-748	-652	679.16
1999-00	377	1125	-150.40
2000-01	105	-272	-72.14
2001-02	-891	-996	-948.57
2002-03	979	1870	209.87
2003-04	1419	440	44.94
2004-05	3792	2373	167.23
2005-06	1708	-2084	54.96

Source: RBI Annual Reports. Compound Growth Rate Value: 8.23%

substantially higher from 1996-97 respectively. From the year 2001-02 it has declined, and there is a net outflow in capital account, which is due to higher levels of repayments and disbursements. In the year 2004-05, the commercial borrowings were maximum at US $ 5040 million. The **CGR** of commercial borrowings has been decreasing every year by 5.13 percent, which is negative, and it indicates the decrease in the growth of commercial borrowings. Therefore, the inter-period growth of commercial borrowing from 1996-97 to 2005-06 stood at -5.13 percent.

OTHER INFLOW-SHORT TERM LOANS

The short-term loans include capital inflows having a maturity of one year or less than one year. Loans under this are mostly trade related. **Table: 13** shows the other inflows through short-term loans in India for period 1996-97 to 2005-06. **Table: 13** shows the inflow through short-term loans to India from 1996-97 to 2005-06. In the year 1996-97 short-term loans to India were US $ 838 million. During the year 1997-98,1998-99,2000-01 and 2001-02 there was a decrease in the short-term loans. This is due to disbursement under short-term credit. The short-term loans to India increased from 2002-03 to 2004-05 i.e. US $ 979 million to US $ 3792 i.e. 167.23% but decreased by 54.96% i.e. US $ 1708 Million in the year 2005-06. The **CGR** of overall growth of short-term loans from 1996-97 to 2005-06 is 8.23 percent.

NRI INVESTMENT

Non-residents can make investments in India only after obtaining specific permission from the Reserve Bank of India. However, investments by non-residents of Indian origin or nationality are allowed more liberally in order to give them wide investment opportunities. Foreign exchange management regulations, 2000 currently govern investments in India by non-residents. The non-residents Indians are permitted to make direct investment on repatriation

TABLE: 14 : NRI INVESTMENT

(In US $ Million)

YEAR	NRI DEPOSITS	INCREASE/ DECREASE	PERCENTAGE OF INCREASE/DECREASE
1996-97	3350	-	-
1997-98	-1125	4475	-133.58
1998-99	960	2085	-185.33
1999-00	1540	580	60.42
2000-01	2317	777	50.45
2001-02	2754	437	18.86
2002-03	2976	222	8.06
2003-04	3642	666	22.37
2004-05	-964	-4606	126.37
2005-06	2789	3753	389.31

Source: RBI Annual Reports.

Compound Growth Rate Value: -2.02%

TABLE: 15 : IMPORT COVER OF RESERVE

(In months)

YEAR	IMPORT COVER OF RESERVE
1996-97	6.5
1997-98	6.9
1998-99	8.2
1999-00	8.2
2000-01	8.8
2001-02	11.7
2002-03	14.2
2003-04	16.9
2004-05	14.3
2005-06	11.6

Source: RBI Annual Reports.

basis under 40% scheme, on non-repatriation, in government securities and are now allowed to invest in aircraft areas. **Table: 14** shows the NRI deposits in India from 1996-97 to 2005-06.

Table: 14 reveals that the NRI deposits in the year 1996-97 showed US $ 3350 million which increased confidence in economy's performance. The NRI deposits declined in 1997-98 and 1998-99 at 133.58 percent and 185.33 percent respectively, with unwinding of residual deposits under discontinued FCNR (A) scheme. There was an increase through out the year from 1998-99 to 2003-04. But there is a decline in the year 2004-05 of US $ 964 million respectively. But during the year 2005-06, the inflow of NRI deposits increased by 389.31%, which shows the gaining of confidence in our economy.

The **CGR** of NRI deposits has decreased by 2.02 percent during the study period, which is negative, and it indicates the decrease in the growth of NRI deposits. Therefore the inter-period growth of NRI stood at -2.02 percent respectively.

IMPORT COVER OF RESERVE

Table: 15 shows the reserve adequacy of import cover of in India for period 1996-97 to 2005-06.

Table: 15 reveals that the import cover of reserve shows a steady increase from 6.5 months of import during 1996-97 to 16.9 months imports in 2003-2004. The year 2004-05 and 2005-06 shows a decrease of 14.3 and 11.6 months of import respectively. The import cover of reserves is a traditional indicator of reserve adequacy. The import cover of reserve in India from 1996-97 shows a favorable position, but the last two years shows a decrease.

USING TREND ANALYSIS - PROJECTED GROWTH RATE OF THE FOREIGN EXCHANGE RESERVE FROM 2006-2007 TO 2009-2010 IS SHOWN BELOW:

TABLE: 16

(In US $ Million)

YEAR	FOREIGN EXCHANGE RESERVE
2006-2007	173252.28
2007-2008	194476.10
2008-2009	215699.92
2009-2010	236923.74

TABLE: 17

YEAR	GOLD	SDR	FOREIGN CURRENCY ASSETS	RESERVE POSITION UNDER IMF	FOREIGN EXCHANGE RESERVE
1996-97	4054	2	22367	294	26717
1997-98	3391	1	25975	283	29650
1998-99	2960	8	29522	663	33153
1999-00	2974	4	35058	658	38153
2000-01	2725	2	39554	616	38694
2001-02	3047	10	51049	610	42897
2002-03	3534	4	71890	672	54716
2003-04	4198	2	107448	1311	76100
2004-05	4500	5	135571	1438	112959
2005-06	5755	3	145108	756	151622
Correlation (r)	0.82	-0.0598	0.99	0.769	
t Value	4.085	-0.16	19.85	4.52	

Note: 't' test table value=2.31 at 5% level of significance.

CORRELATION AND TEST OF SIGNIFICANCE (t TEST) ANALYSIS

Hypothesis:

1. There exists no significant relationship between gold and foreign exchange reserve.
2. There exists significant relationship between SDR and foreign exchange reserve.
3. There exists no significant relationship between foreign currency assets and foreign exchange reserve.
4. There exists no significant relationship between the reserve position under IMF and foreign exchange reserve.

Table: 17 reveals the correlation and t test results, the inference of it is given below:

1. There is a positive correlation between the gold and foreign exchange reserves. The test of significance shows that the both the variables move in the same trend and it has relationship between each other.
2. There is a negative correlation between the SDR and foreign exchange reserves. The test of significance, which shows that both the variables do not move in the same trend and there is very low relationship between them.
3. There is a high positive correlation between foreign currency assets and foreign exchange reserves. The test of significance, which shows that the both the variables move in the same trend and it has relationship between each other.
4. There is a positive correlation between the reserve position under IMF and foreign exchange reserves. The test of significance, which shows that the both the variables move in the same trend and it has relationship between them.

CONCLUSION

Foreign exchange reserves can be used to invest in certain key infrastructure areas like telecommunications power generations, to create new market for Indian goods and services. Reserve Bank of India can use these assets to pay off the high cost external debt for higher import of capital goods and technology etc. India has had such a long journey and changes have come about only by dint of hard work and implementation of prudent policies, which has made India, fifth largest holder of foreign exchange reserve and emerging economies of the world. Foreign exchange reserves are the main factors, which would help India to become a super power nation by 2050. The overall growth rate and trend position of the foreign exchange reserve shows a favorable position. *(Contd. on page 33)*

the shares and futures as the case may be. In this case, however it was possible to come up with a huge profit only because of the fluctuations in the Nifty value during the initial period.

3. The hedger will have to be a strategic thinker and also one who thinks positively. He should be able to comprehend market trends and fluctuations. Otherwise the strategies adopted by him will earn him only losses.

VI - CONCLUSION:

This study focusing on financial futures, tries to throw some light on derivative market in general and hedging characteristics of derivatives in particular. Sufficient care has been taken so as to provide real market situations and arrive at a conclusion in a fool proof manner. But still some aspects, which existed in the real market, could not be taken care due to some technical problems. Adequate effort has been taken to minimize any discrepancy caused by such problems on findings. This study helps to give a general idea about derivative market especially in futures.

The investor who has invested in stock market always seeks to reduce his risk and to enhance his profit. The study can be concluded in the way that-

The investor should have basic knowledge about the factors, which have impact on the stock market. This will make him to perceive the movements of the market in a better way.

A wise use of index futures will reduce the risk and sometimes it will generate profit also. The application of each of the strategy should be based on the needs of the investor and the amount of risk he is ready to take. When the market moves as against the perception of the investor, he can reduce his expenses by taking appropriate measures.

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