

An analytical study of macroeconomic indicators of Indian economy

Monica Bansal

ABSTRACT

India economy, the third largest economy in the world, in terms of purchasing power, is going to touch new heights in coming years. As predicted by Goldman Sachs, the Global Investment Bank, by 2035 India would be the third largest economy of the world just after US and China. It will grow to 60% of size of the US economy. This booming economy of today has to pass through many phases before it can achieve the current milestone of 9% GDP. Trade liberalization, financial liberalization, tax reforms and opening up to foreign investments were some of the important steps, which helped Indian economy to gain momentum. Textile manufacturing is the second largest source for employment after agriculture and accounts for 26% of manufacturing output. The main objective of this research paper is to analyze the trend of macroeconomic indicators of the Indian economy and also to make a comparative study of the central and state deficits in public finance.

Key Words: Gross Domestic Product, Fiscal Deficit, Industrial Policy, Factor Cost, Per Capita Income

INTERRODUCTION

As per the advance estimates of GDP for 2009-10 released by the Central Statistical Organization (CSO), the economy is expected to grow at 7.2 per cent in 2009-10, with the industrial and the service sectors growing at 8.2 and 8.7 per cent respectively. India's gross domestic product (GDP) grew by 6 per cent during October to December 2009, over the corresponding quarter of the previous year, as per data released by the CSO. The economic activities which registered significant growth in the third quarter of 2009-10 over the corresponding period in 2008-09 are 'mining and quarrying' at 9.6 per cent, 'manufacturing' at 14.3 per cent, 'construction' at 8.7 per cent, 'trade, hotels, transport and communication' at 10 per cent and 'financing, insurance, real estate and business services' at 7.8 per cent.

According to the latest estimates available on the Index of Industrial Production (IIP), the index of mining, manufacturing and electricity, registered growth rates of 9.6 per cent, 14.3 per cent and 4 per cent, respectively in Q3 of 2009-10, as compared to the growth rates of 2 per cent, 0.5 per cent and 2.9 per cent in these industries in same period in 2008-09. The key indicators of construction sector, namely, cement and finished steel registered growth rates of 8.5 per cent and 7.7 per cent, respectively in Q3 of 2009-10.

THE ECONOMIC SCENARIO

Foreign institutional investors (FIIs) were net investors of US\$ 4.37 billion in equity and US\$ 2.09 billion in debt instruments in the month of March 2010, according to the data released by Securities and Exchange Board of India (SEBI). The number of registered FIIs was 1713 as on March 31, 2010 and the total FII inflow in equity during January to March 2010 was US\$ 4.54 billion while it was US\$ 4.71 billion in debt.

As on March 26, 2010, India's foreign exchange reserves totaled US\$ 277.04 billion, an increase of US\$ 24.71 billion over the same

Author's Affiliation: Assistant Professor, Department of Management Studies, Jan Nayak Ch. Devi Lal College of Engineering, Sirsa-125055(Haryana)

Reprint's request: Dr. Monica Bansal, Assistant Professor, Department of Management Studies, Jan Nayak Ch. Devi Lal College of Engineering, Sirsa-125055 (Haryana), E-mail: monikabansal22@gmail.com

(Received on 05.08.10, accepted on 25.11.2010)

period last year, according to the Reserve Bank of India's Weekly Statistical Supplement. Moreover, India received FDI worth US\$ 20.92 billion during April-December 2009, taking the cumulative amount of FDI inflows from August 1991 to December 2009 to US\$ 127.46 billion, according to the Department of Industrial Policy and Promotion.

Six core infrastructure industries grew at 4.5 per cent in February 2010 against 1.9 per cent during the corresponding month last year, primarily due to increased output in electricity. The six infrastructure sectors—crude, petroleum refinery products, coal, electricity, cement and finished steel—that constitute 26.68 per cent in IIP, recorded a growth of 5.3 per cent in the period April-February 2009-10, as against 2.9 per cent in the same period last year.

Moreover, according to latest data from RBI, loan disbursement by scheduled commercial banks, including regional rural banks, recorded 16.04 per cent growth at the end of March 12, 2010, on a year-on-year basis. This is above RBI's projection of 16 per cent credit growth in this financial year. Of the more than 200 companies from over 50 countries that form part of the World Economic Forum's Global Growth Companies (GGC) Community, India today has the second largest representation, with a total of 18 GGCs. Indian GGCs come from every sector, with a strong representation in information technology and electronics, retail, consumer goods and banking.

To maintain its current status and to achieve the target GDP, Indian economy has to overcome many challenges.

CHALLENGES BEFORE INDIAN ECONOMY

Population Explosion

This monster is eating up into the success of India. According to 2001 census of India, population of India in 2001 was 1,028,610,328, growing at a rate of 2.11% approx. Such a vast population puts lots of stress on economic infrastructure of the nation.

Thus India has to control its burgeoning population.

Poverty

As per records of National Planning Commission, 36% of the Indian population was living Below Poverty Line in 1993-94. Though this figure has decreased in recent times but some major steps are needed to be taken to eliminate poverty from India.

Unemployment

The increasing population is pressing hard on economic resources as well as job opportunities. Indian government has started various schemes such as Jawahar Rozgar Yojna, and Self Employment Scheme for Educated Unemployed Youth (SEUY). But these are proving to be a drop in an ocean.

Rural Urban Divide

It is said that India lies in villages, even today when there is lots of talk going about migration to cities, 70% of the Indian population still lives in villages. There is a very stark difference in pace of rural and urban growth. Unless there isn't a balanced development Indian economy cannot grow.

These challenges can be overcome by the sustained and planned economic reforms.

THESE INCLUDE

1. Maintaining fiscal discipline
2. Orientation of public expenditure towards sectors in which India is faring badly such as health and education.
3. Introduction of reforms in labour laws to generate more employment opportunities for the growing population of India.
4. Reorganization of agricultural sector, introduction of new technology, reducing agriculture's dependence on monsoon by developing means of irrigation.
5. Introduction of financial reforms including privatization of some public sector banks.

OBJECTIVES

1. To analyze the trend of macroeconomic indicators of the Indian economy.

2. To make a comparative study of the central and state deficits in public finance.

Scope of the Study

The scope of the study includes the following things:-

Time Period

The time period for which the data has been collected is from 1999 to 2009.

Selected Parameters

3. National income: Population, gross domestic product, net domestic product, consumption on fixed capital, net income from abroad.

4. Public finance: gross fiscal deficit, net fiscal deficit.

SOURCES OF DATA COLLECTION

According to the needed research of the project; the researcher pursued secondary data collection method. Researcher has used web sites related to Indian Economy & R.B.I information brochure for secondary data collection. The data mainly collected from the government reports and policy documents, books and articles published in journals and news papers.

TECHNIQUE OF ANALYSIS

For analysing the collected data Two way ANOVA Technique and Bar diagrams have been used with the help of a leading Statistical Package SPSS 17.0

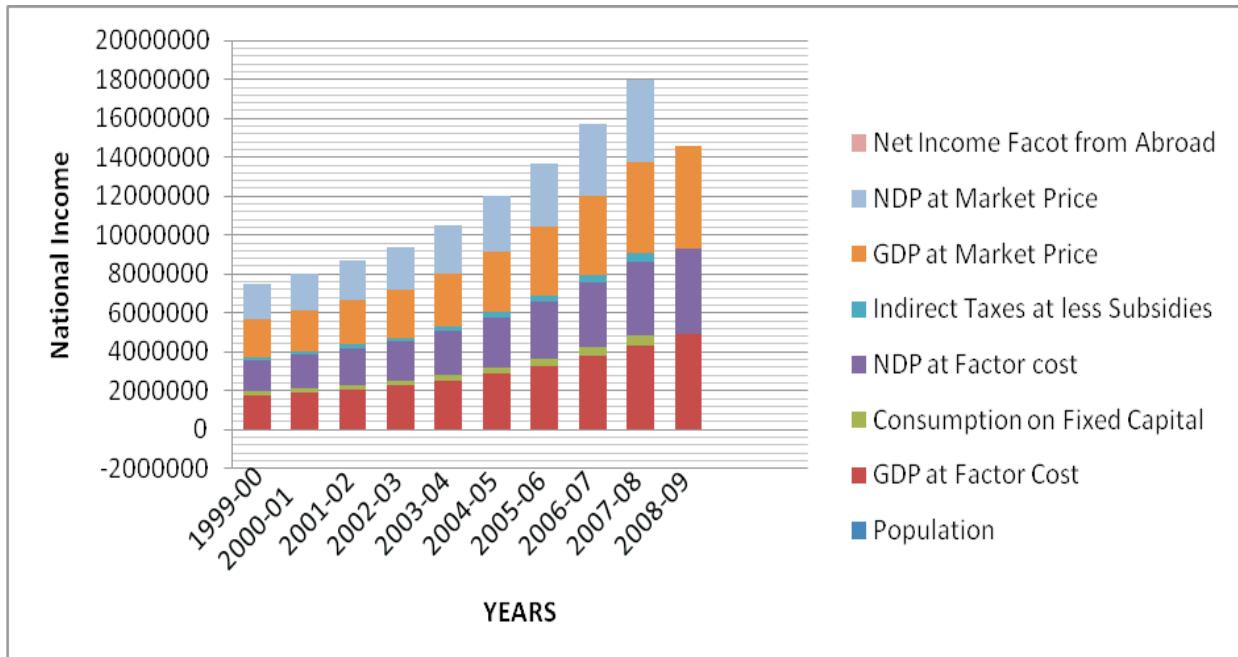
Table 1: National Income

	Population	GDP at Factor Cost	Consumption on Fixed Capital	NDP at Factor cost	Indirect Taxes at less Subsidies	GDP at Market Price	NDP at Market Price	Net Income Factor from Abroad
1999-00	1001	1786526	181421	1605104	165510	1952036	1770614	-15431
2000-01	1019	1925017	201817	1723199	177297	2102314	1900496	-22733
2001-02	1040	2097726	228298	1869429	181226	2278952	2050655	-20068
2002-03	1056	2261415	250477	2010907	193146	2454561	2204053	-16690
2003-04	1072	2538170	280048	2258122	216450	2754620	2474572	-20708
2004-05	1089	2877701	329041	2548660	271706	3149407	2820366	-22375
2005-06	1106	3282385	380312	2902074	304358	3586743	3206432	-26116
2006-07	1122	3779384	437038	3342346	349789	4129173	3692136	-29778
2007-08	1138	4320892	509450	3811442	402508	4723400	4213949	-23845
2008-09	1154	4933183	-	4353400	-	5321753	-	-

Two Way ANOVA Table

	Intraclass Correlation	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	0.486	0.240	0.797	8.569	8	56	0.000
Average Measures	0.883	0.717	0.969	8.569	8	56	0.000

Graph 1: National Income



ANALYSIS AND INTERPRETATION

According to table 1 Indicators like Population, Gross Domestic Product, Consumption on Fixed Capital, Net Domestic Product, and Indirect Tax at Less Subsidies of National Income from 1999 to 2009 showing increasing trend. F-test is also applied to know

whether there is a significant difference between the various macro economic variables in different years. The computed value of F-test (8.569) at (8, 56) degree of freedom and also at 5 percent level of significance is greater than the tabulated value. Hence, we reject our hypothesis. So it is concluded that there

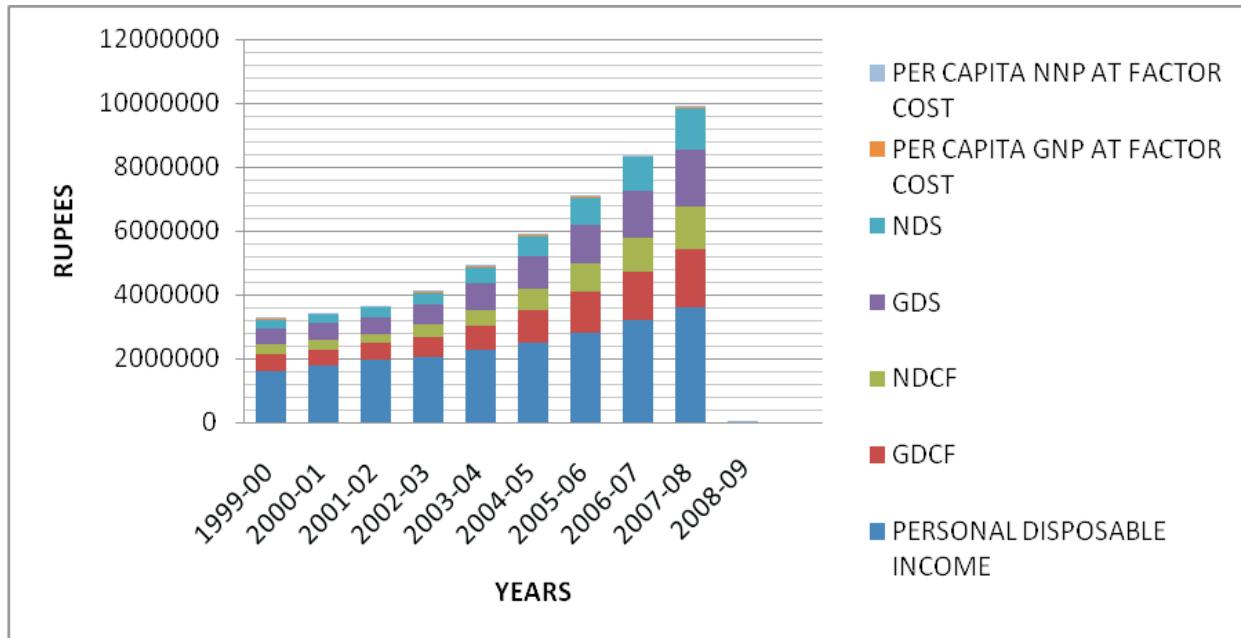
Table 2: Macro Economic Indicators Aggregates at Current Price

	Personal Disposable income	GDCF	NDCF	GDS	NDS	Per Capita GNP At Factor Cost	Per Capita NNP At Factor Cost
1999-00	1617965	506244	324823	484256	302835	17693	15881
2000-01	1773250	511788	309970	499033	297215	18668	16688
2001-02	1954839	520656	292359	534885	306588	19977	17782
2002-03	2064839	618035	367528	646521	396014	17693	18885
2003-04	2282148	759325	479277	820685	540637	23484	20871
2004-05	2495015	1011212	682171	997873	668832	26220	23198
2005-06	2806427	1272630	892318	1228026	847714	29442	26003
2006-07	3182710	1521805	1084768	1475108	1038071	33419	29524
2007-08	3592172	1845513	1336064	1779614	1270165	37760	33283
2008-09	-	-	-	-	-	-	37490

Two Way ANOVA Table

	Intraclass Correlation	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	0.63	0.38	0.87	12.90	8	48	0.00
Average Measures	0.92	0.81	0.98	12.90	8	48	0.00

Graph 2: Macro Economic Indicators



is significant difference between various macro economic variables in different years.

According to table 2 personal disposable income & gross domestic capital formation(GDCF), from 1999 to 2008 is on growing trend, ,net domestic capital formation(NDCF) there are up & down from 1999 to 2002 but from 2003 to 2008 it is continuously increasing, gross domestic saving(GDS) from 1999 to 2008 is on growing trend , net domestic savings(NDS) there is decrease in 2000 but from 2002 to 2008 it is continuously increase , per capita gross national product from 1999 to 2002 is increase but in 2003 it is decrease then from 2004 to 2008 it is continuously increasing, per capita net national product at factor cost from 1999 to 2009 is growing trend. The computed value of F-test (12.90) at (8, 48) degree of freedom

and also at 5 percent level of significance is greater than the tabulated value. Hence, we reject our hypothesis. So it is concluded that there is significant difference between various macroeconomic indicators of the Indian economy in different years.

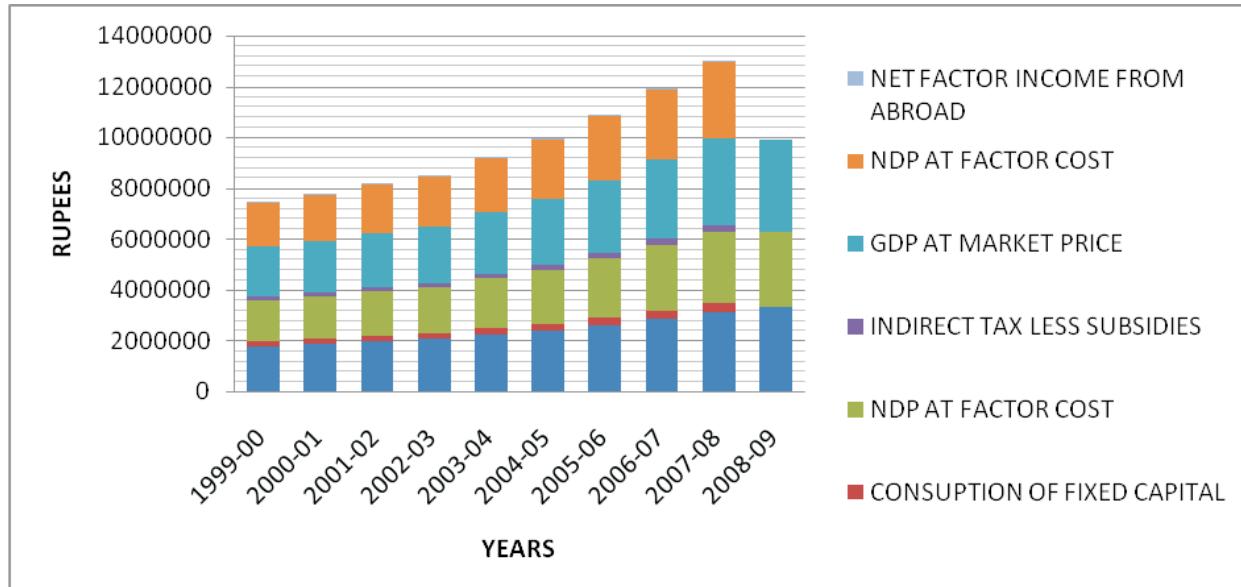
According to table 3 gross domestic product at factor cost from 1999 to 2009 is on increasing trend, consumption on fixed capital from 1999 to 2008 is on growing trend., net domestic product at factor cost from 1999 to 2008 is continuously increasing, indirect tax less subsidies from 1999 to 2001 increase but in 2002 it was decreasing then from 2003 to 2008 it is on growing trend, gross domestic product at market price from 1999 to 2009 is increasing trend, net domestic product at factor price from 1999 to 2008 is on growing trend, net factor income from abroad there is a fluctuating trend from 1999 to 2009. F-test

Table 3: Macro-Economic Indicators at Factor Cost

Years	GDP at factor cost	Consumption of fixed capital	NDP at factor cost	Indirect Tax Less Subsidies	GDP at market price	NDP at factor cost	Net Income Factor From Abroad
1999-00	1786525	181421	1605103	165510	1952035	1770613	15431
2000-01	1864301	193852	1670446	166410	2030711	1836856	22428
2001-02	1972606	208469	1764137	164045	2136651	1928182	20139
2002-03	2048286	223652	1824601	168847	2217133	1993448	17876
2003-04	2222758	241441	1981317	179969	2402727	2161286	19500
2004-05	2388768	262499	2126269	213297	2602065	2339566	21085
2005-06	2616101	287426	2328675	228841	2844942	2557516	20660
2006-07	2871120	316406	2554714	248911	3120031	2803623	21264
2007-08	3129717	350068	2779648	272999	3402716	3052647	14853
2008-09	3339375	-	2957698	-	3609425	-	-

Two Way ANOVA Table

	Intraclass Correlation	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	0.909	0.785	0.978	61.261	7	35	0.000
Average Measures	0.984	0.956	0.996	61.261	7	35	0.000

Graph 3: Macro Economic Indicators

is also applied to know whether the macroeconomic indicators differ significantly in different years or not. It is concluded that there is significant difference.

This table 4 shows that Gross Fiscal Deficit is increase from 2000 to 2002 but in 2003 it decrease then from 2004 to 2006 it is increase but in 2007 it is decrease then from 2008 to

2010 it is continuously increasing. Net Fiscal Deficit there is increment from 2000 to 2002 but in 2003 it is decrease then again from 2004 to 2006 it is increasing but in 2007 it is decrease then from 2008 to 2010 it is on growing trend.

Gross Primary Deficit it is increase from 2000 to 2002 then from 2002 to 2005 it is decrease then from 2008 to 2010 it is on growing trend. Revenue Deficit it is increase from 2000 to 2003 but from 2003 to 2005 it is decrease then

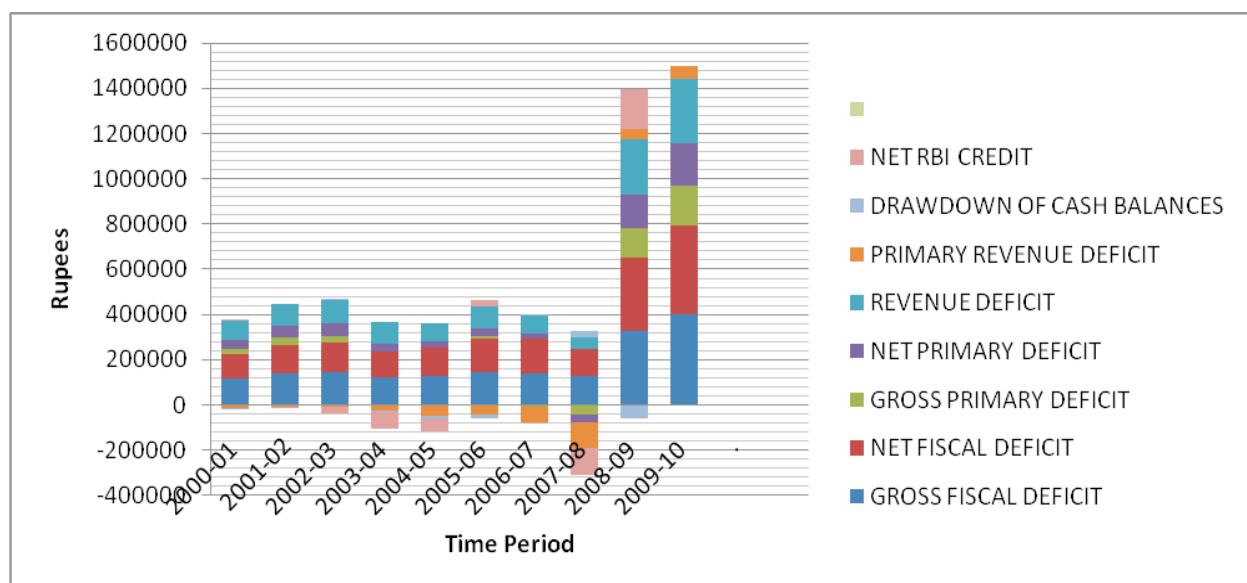
Table 4: Public Finance Key Indicators of the Central Government

Years	Gross Fiscal Deficit	Net Fiscal Deficit	Gross Primary Deficit	Net Primary Deficit	Revenue Deficit	Primary Revenue Deficit	Drawdown of cash Balances	Net RBI Credit
2000-01	118816	107854	19502	41351	85234	-14080	-1197	6705
2001-02	140955	123074	33495	51152	100162	-7298	-1496	-5150
2002-03	145072	133829	27268	53647	107879	-9925	1883	-28399
2003-04	123273	115558	-815	30008	98261	-25827	-3942	-76065
2004-05	125794	126252	-1140	31705	78338	-48596	-8130	-60177
2005-06	146435	145743	13805	35145	92299	-40331	-20888	28417
2006-07	142573	151245	-7699	23497	80222	-70050	4518	-3024
2007-08	126912	120714	-44118	-29256	52569	-118461	26594	-116772
2008-09	326515	322011	133821	148353	241273	48579	-60367	176397
2009-10	400996	392882	175485	186545	282735	57224		

Two Way ANOVA Table

	Intraclass Correlation	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	0.603	0.356	0.859	13.153	8	56	0.000
Average Measures	0.924	0.815	0.980	13.153	8	56	0.000

Graph 4: Public Finance Key Indicators of the Central Government



in 2005 it is increase but from 2006 to 2007 it is decrease than again from 2008 to 2009 it is increase.

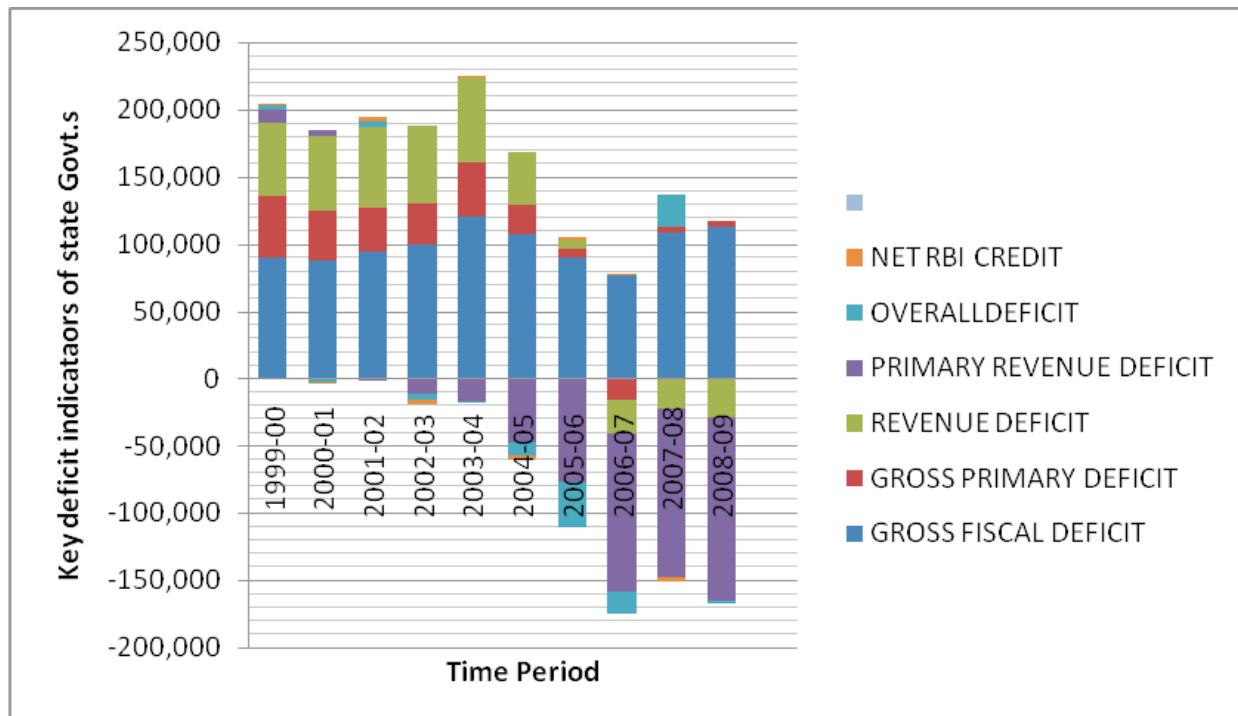
This table 5 explains that Gross Fiscal Deficit is decrease in 2000 but from 2001 to 2003 it is continuously increase but in from 2004 to 2006 decrease then from 2007 to 2009 it is on

growing trend. Revenue Deficit is increase from 1999 to 2001 but in 2002 it is decrease then again in 2003 it is increase again from 2004 to 2009 it is continuously decreasing. Net RBI credit is decreased in 2000 & then 2001 it increased. But in 2002 it again decreased then in 2003 it increased. In 2004 it decreased & then 2005 it increased. From 2006 to 2008 it continuously decreased.

Table 5: Key Deficit Indicators of the State Governments

Years	Gross Fiscal Deficit	Gross Primary Deficit	Revenue Deficit	Primary Revenue Deficit	Overall Deficiy	Net RBI Credit
1999-00	90,099	45,458	54,549	9,907	3,125	1,312
2000-01	87,923	36,937	55,316	4,331	-2,378	-1,092
2001-02	94,260	32,665	60,398	-1,198	3,545	3,451
2002-03	99,726	30,699	57,179	-11,848	-4,291	-3,100
2003-04	120,631	40,235	63,407	-16,989	-526	293
2004-05	107,774	21,353	39,158	-47,263	-10,232	-2,705
2005-06	90,084	6,060	7,013	-77,011	-33,947	2,425
2006-07	77,509	-15,654	-24,857	-118,021	-16,078	640
2007-08	107,958	5,080	-22,526	-125,404	24,122	-3,486
2008-09	112,653	4,270	-28,426	-136,809	-2,524	-

Graph 5: Key Deficit Indicators of the State Governments



According to table 6 Gross Fiscal Deficit from 1999-2009 is on increasing trend, Gross Primary Deficit from 1999-2002 is increasing but from 2003-2009 is decreasing, Revenue Deficit 1999-2003 is increasing but from 2004-2009 is continuously decreasing. F-test is also

applied to know that the combined deficits of central and state governments vary significantly or not. The computed value of F-test (1.967) at (9, 18) degree of freedom and also at 5 percent level of significance is less than the tabulated value. Hence, we accept our hypothesis. So it is concluded that there

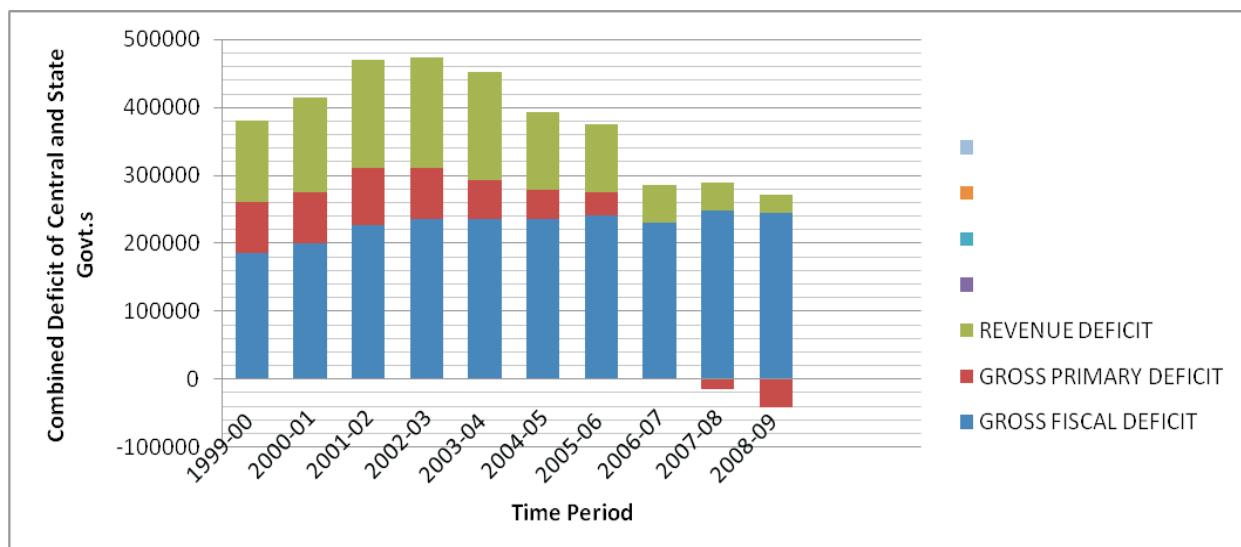
Table 6: Combined Deficits of Central and State Governments

Years	Gross Fiscal Deficit	Gross Primary Deficit	Revenue Deficit
1999-00	184826	74375	121393
2000-01	199852	75035	138803
2001-02	226425	84039	159350
2002-03	234987	75927	162990
2003-04	234501	56928	159408
2004-05	234721	42409	114761
2005-06	239560	35583	99312
2006-07	230432	-399	55366
2007-08	247831	-15905	40959
2008-09	244460	-43017	26758

Two Way ANOVA Table

	Intraclass Correlation	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	0.244	-0.123	0.677	1.967	9	18	0.106
Average Measures	0.492	-0.489	0.863	1.967	9	18	0.106

Graph 6: Combined Deficits of Central and State Governments



is no significant difference between the combined deficits of central and state governments in different years.

RATIONALE OF THE STUDY

The public sector was forced to play a dominant role in developing the economy because the private sector neither had the necessary resources nor the will to undertake risks involved in large investments with long term perspective. For the first time since the introduction of economic reforms a decade ago, India posted a growth rate of 8.2 percent, which is seen as a significant achievement for economy. Needless to say, it took almost 40 odd years for India to transform from the Hindu rate of growth of 3 percent to almost 6 percent per fiscal. Several economists strongly believe that India must aim at a growth rate of over 8 percent every year and most important it should be able to sustain this growth rate consistently for at least another decade. If India can achieve a growth rate of over 8 percent every year consistently for the next two decades, by 2025 India could grow as high as US economy today.

REFERENCES

1. Chaitanya Krishna, "Indian Economy in The Next Five Years: Key Issues & Challenges", *Applied Econometric & International Development*. 2004; 4.
 2. Debdas Bandyapadhyay, "Changing Complexity In The Productive Structure Of Indian Economy", *Journal of Quantitative Economics*. 2006; 4(2).
 3. M.G.Deepika, "Agricultural Trade & Its Linkages To Macro-Economic Variables In The Indian Economy", *ICFAI Journal of Agricultural Economics*. 2006; 3(1): 7-21.
 4. Bosworth Barry, "Sources of Growth In The Indian Economy", NBER Working Paper No: w12901. 2007.
 5. Dr. Nandy Monomita, "2008 Onward Indian Economy Will See Wal-Mart Effect". 2007.
 6. Jha Raghbendra, "The Indian Economy: Current performance & short term prospectus". 2007.
 7. Mattoo Aaditiya, "Human capital & the changing structure of the Indian economy", world bank policy research ,working paper no 4567. 2008.
 8. Bhatiya Hitesh, "unorganised workers in Indian -a perspective towards employment poverty & contribution in Indian economy". 2008.
 9. Palakkeel Prashobhan (2009), "changes in the money supply process & its impact on monetary policy transmission in the Indian economy", *The IFCI journal of applied finance*. 2009; 15(3): 5-19.
 10. C.P.Chandraskhar, "the cost of 'coupling':the global crisis & the Indian economy", *Cambridge journal of economics*. 2009; 33(4): 725-739.
 11. Perumula Gopinath (2009), " the role of non form sector in Indian economy". 2009.
 12. Dr.Rena Ravindra, "Indian economy :financial sector reforms & development", *International jurnal of business & emerging markets*. 2009; 1(4): 387-404.
-