

# “EVALUATE THE EFFECT OF GLOBAL RECESSION ON LEADING AGRICULTURE, MANUFACTURING AS WELL AS SERVICE SECTORS OF INDIA”

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## Abstract

*In today's era all the countries are interlinked with the web of globalization. Which means a small jerk in the foreign country leads to the great impact on the domestic country. The same incident happened in the history; better known as global crisis of United States of America. The crisis On Sept. 15, 2008, Lehman Brothers filed for bankruptcy. With \$639 billion in assets and \$619 billion in debt, Lehman's bankruptcy filing was the largest in history, as its assets far surpassed those of previous bankrupt giants such as WorldCom and Enron. Lehman was the fourth-largest U.S. investment bank at the time of its collapse, with 25,000 employees worldwide. Lehman's demise also made it the largest victim of the U.S. subprime-mortgage-induced financial crisis that swept through global financial markets in 2008. Lehman's collapse was a seminal event that greatly intensified the 2008 crisis and contributed to the erosion of close to \$10 trillion in market capitalization from global equity markets in October 2008 – the biggest monthly decline on record at the time. In this paper an attempt is made to represent India being a part of globalization experienced what kind of impact on its manufacturing, agriculture and service sector.*

**Key words:** Real GDP, Agriculture Sector, Manufacturing Sector, Industrial Sector, Quarterly Estimates, Trend Analysis

## INTRODUCTION

In order to evaluate the effect of global turmoil on agriculture, as well as leading manufacturing and service sectors of India various leading industrial indicators and the three basic sectors are taken into consideration i.e. agriculture, service and industrial sector. To justify this objective appropriate variables are taken like, growth rate of agriculture, industry, service sector, CPI, employment rate, WPI, GDP, and GNP. To evaluate the fluctuation took place in the variables the models are also applied in that sectorial analysis is one that depict major sectors of Indian economy, not only that but time series analysis is appropriate technique to indicate the effect of recessionary environment took place in the phase of 20 years of pre and post recessionary period. Contribution of Agriculture, Industry and Service sector in Indian economic growth is given below.

## LITERATURE REVIEW

- ❖ **Ramesh Chand, S.S. Raju (2010)** Effect of Global Recession on Indian Agriculture. Aim of the study was to assess the impact of the global economic slowdown and financial crisis on India's agricultural sector, Agricultural advances by institutional sources, Public and private investment in agriculture, Subsidies on farm inputs, Agricultural exports and agricultural imports, Terms of trade for agriculture, and Fertiliser production and prices. Paper purely based on the secondary data of the concern annual reports and magazines. The global financial crisis started impacting the Western economies in the third quarter of year 2007. In India till mid 2008 it was perceived as a problem of rich countries and it was widely felt that India was decoupled from the slowdown in advanced economies. Till Q2 of year 2008-09 India's GDP was showing a robust growth of 7.5 per cent. After several quarters of high performance, India's GDP growth decelerated to reach a level of 6.2 per cent in Q3 of the year 2008-09. This was the first major worrying impact of global slowdown on the Indian economy. It is concluded that the apprehension about impact of the global recession on Indian agriculture was not well founded and the anticipated effect was overstated.
- ❖ **Apu Das, Kumar N.R, Biswajit Debnath and Mandal (2012)** Global Economic Crisis: Causes, Impact On Indian Economy, Agriculture and Fisheries. The objective of the study was to know the changes arise on the Indian economy particularly on the agriculture and the fisheries sector and the export of it. Period of the study is from 2001 till 2010. The data for the study has been collected from secondary sources. The present study focused on origin of the global economic crisis and the impact on Indian economy,

agriculture and fisheries. GDP and FDI are two major variables are considered here. They are presented in graphical form. Finally it's found from the study that the developed countries, including the U.S, the Euro Zone and Japan, has plunged into recession; the Indian Economy is being affected by the spill-over effects of the global financial crisis, Chid-ambaram (2008) & Seshan (2008). Though World Trade Organization (WTO) propa-gates free trade, we must adopt protectionist measures in certain sectors of the economy so that recession in any part of the globe does not affect our country.

- ❖ **Ms Sarah Razack (2014)** presented Impact of Global Financial Crisis on the Indian Economy. The present paper is an attempt to analyse the impact of global economic slowdown on the Indian economy in terms of growth rates of real Gross Domestic Product (GDP). The sector wise impact of the crisis on the economy has also been analysed. Techniques like Tables and Trend graphs have been used to present the impact. Time Series data for almost ten years from the year 2000-01 has been used to analyze the impact. The study includes 11 years from 2000 till the year 2011. Annual Growth Rate of Real Gross Domestic Product Sector like Agriculture & Allied Activities, Manufacturing, Construction, Electricity, Gas & Water Supply, Trade, Hotels, Transport & Communication etc. graphical method is used for the same. The global financial crisis has negatively impacted the Indian economy and it is very much evident in the real GDP growth performance. Global financial crisis has impacted almost all the economies, and India is not an exception to it. However the impact of the crisis has been different on different sectors of the economy.
- ❖ **Mangal Sain and Aditi Mitta (2013)** analysed, Impact of recession on India. The present paper is having the objective to reflect the impact of recession on the Indian economy. This paper includes the historical data chart, news and forecast for GDP growth (annual %) in India. The study is having the period of eight year from 2003 till 2010. India's diverse economy encompasses traditional village farming, modern agriculture, handicrafts, a wide range of modern industries, and a multitude of services. In this paper GDP growth rate is used to analyse the statistical data. Import, export, trade balance, FDI and GDP are the main variables used here. The data is collected from Ministry of Finance, Government of India. At last it is to conclude that Indian economy has been hurt by the global financial recession, but India may be in better position with quick recovery and for future growth than many of the other economics as Indian banks did not have significant exposure to Sub-prime loans in the U.S. RBI's decisions to appropriate use of a range of instruments such as CRR, Repo/Reverse Repo rate, SLR MSS and LAF are in the right direction and taken in time.

## HYPOTHESES

- H1: There is a significant effect of global recession on Agriculture, Manufacturing and Service sector of India.  
H2: There is no significant effect of global recession on Agriculture, Manufacturing and Service sector of India.

## RESEARCH METHODOLOGY

### RESEARCH DESIGN

The present study is based on descriptive and causal research designs.

### OBJECTIVES

- To compare the trend of Agriculture, Manufacturing and Industry Sector for the period under study, and especially for the global recessionary period i.e. from 2007 till 2012.
- To identify the core factors affecting Leading sectors of India.
- To evaluate the effect of global meltdown on the leading sectors through macro-economic indicators.
- To suggest the factors responsible (if any) for the difference in the performance of the above sectors.

### SAMPLING DESIGN

In the present study the data from 2000 to 2015 has been taken in order to study the impact of global recession on Indian Leading industries and especially Agriculture, Manufacturing and Service Sector. The pre and post condition of Indian industries has been evaluated using the data on various macro-economic indicators drawn from agricultural statistics available from RBI website and Indian financial system. The data of various Sectors has been drawn from the handbook so statistics published by RBI for the given time interval.

**Table 1 VARIABLE DEFINITIONS**

NAME	DEFINITION
Agricultural, Forestry & Fishing	Gross production and sale of primary sector
Manufacturing	Production activities of Industries
Trade, Hotels & Restaurant	Turnover and Consumption by the population
Construction	Real estate and new construction during year
Transport, Storage & Communication	Services and facilities to the population

**STATISTICAL TECHNIQUES APPLIED**

- Trend Analysis
- Descriptive Analysis

**DATA ANALYSIS AND INTERPRETATION**

**Contribution of Core Sectors of Economy to GDP**  
**Table- 2 Sector wise Growth Rate**

Year	REAL GDP Growth Rates	Agriculture growth (%)	Industry growth (%)	Services growth (%)
1999	8	2.67	5.96	12.05
2000	4.15	-0.01	6.03	5.07
2001	5.39	6.01	2.61	6.61
2002	3.88	-6.6	7.21	6.74
200	7.97	9.05	7.32	7.89
2004	7.05	0.18	9.81	8.28
2005	9.48	5.14	9.72	10.91
2006	9.57	4.16	12.2	10.06
<b>2007</b>	<b>9.32</b>	<b>5.8</b>	<b>9.67</b>	<b>10.27</b>
2008	6.72	0.09	4.44	9.98
2009	8.59	0.81	9.16	10.5
2010	8.91	8.6	7.55	9.67
2011	6.69	5.02	7.81	6.57
2012	4.47	1.42	0.96	6.96
2013	4.74	4.71	0.35	6.78

**Sector wise Growth Rate**

Above Table 2 indicates sector wise (i.e. Agriculture, Industry and Service) growth rate achieved in India. As far as agriculture sector is concern it is observed that the growth of agricultural product was negative on the year 2000. Agricultural sector attend good growth till 2007. In the year 2008-09 India observed a fall of approximately 5% in it and that was considerable decline so far. The recessionary effect prevailed till 2009-10 in agricultural sector as those agricultural commodities which were demanded more at international market, faced reduction in the demand of it.

After globalization India had been experiencing a great demand of industrial product not only in India but at international level also. As the given table clearly depicts a gentle and considerable growth Indian industries experienced. But the growth of industries hindered in the year 2007-08, not only hindered but the continuous decline in its growth rate been observed (i.e. 0.96 in the year 2012-13 and 0.35 in 2013-14) with some plus minus.

As far as service sector is concern, the growth rate observed falling in the same pattern from the initial years and thus no considerable changes been observed during recessionary environment in it.

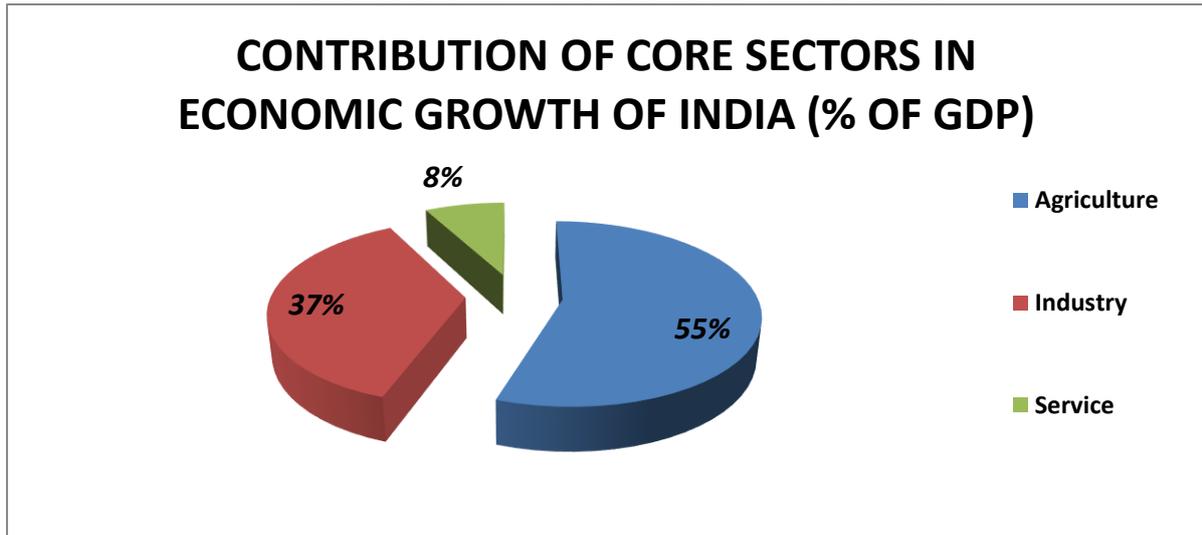
**Quarterly Growth Rates of Different Sectors Based on Base Year 2004-05 (per cent)**  
**Table-3 Quarterly Sectoral Distribution of GDP Growth**

Year	Quarter	Agriculture	Industry	Service	GDP
2007-2008	Q1	3.1	10.5	10.7	9.3
	Q2	3.9	9.5	10.5	9.4
	Q3	8.7	9.5	10.2	9.7
	Q4	2.1	7.8	10.4	8.5
2008-2009	Q1	3.2	5.2	9.4	7.6
	Q2	2.4	4.9	9.4	7.5
	Q3	-1.4	1.7	10.3	6.2
	Q4	3.3	0.8	8	5.8
2009-2010	Q1	2.4	4.2	7.7	6.1
	Q2	0.9	9.1	8.9	7.9
	Q3	-2.8	12.8	6.6	6
	Q4	NA	NA	NA	NA

Sources: Central Statistical Organisation and Macroeconomic and Monetary Developments in 2009-10, Reserve Bank of India

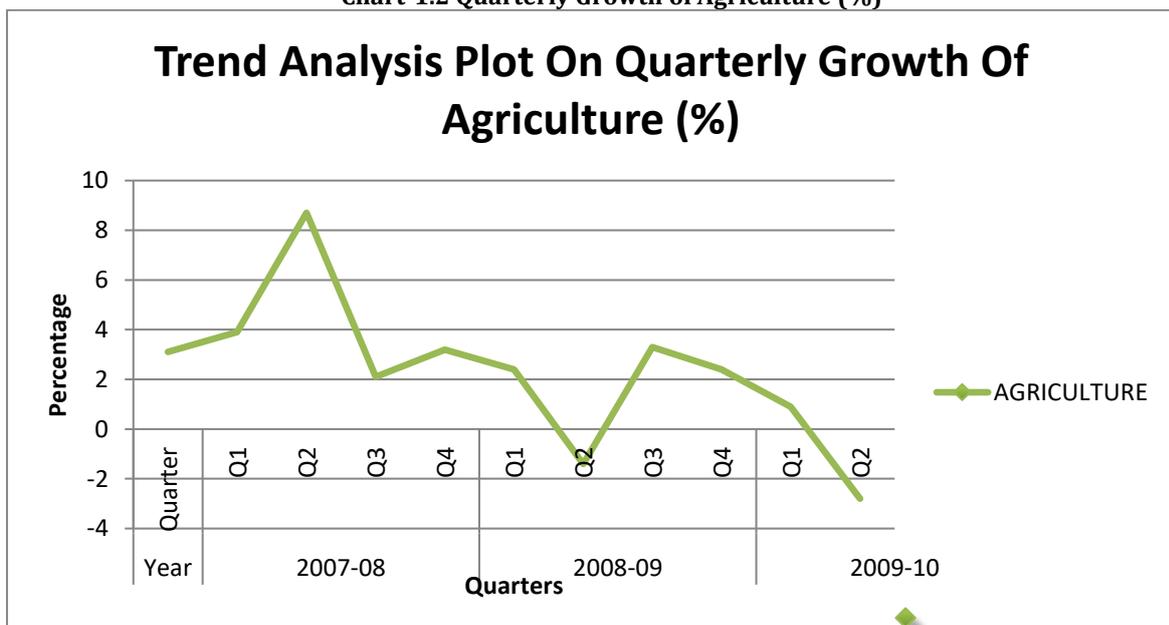
The Table 3 shows pre-recessionary, recessionary and post-recessionary phase of global recession. The statistics are plotted quarterly and are of three basic and fundamental sectors i.e. agriculture, industry, and service. As far as agriculture sector is concern, there is not specific effect observed except the third quarter of year 2008-09 where agriculture sector fall down to -1.4. Gradually there is increase in it and again fall in the third quarter of the year 2009-10. Another sector is industry which can be observed from the base year of 2007 since the 1<sup>st</sup> quarter of 2007. Due to global turmoil there is quick impact on industries which started depicting declining trend from the beginning. In the 4th quarter of 2008 the industrial growth was least at 0.8. But at the very next quarter it started increasing till the last quarter of the year 2009. Service sector depict the direct relation of global turmoil as it reduces throughout the year gradually and in the first quarter of 2009 it was found the least at 7.7 only. Over and above as overall GDP of all the sectors are observed, the least growth was 5.8 in the 4<sup>th</sup> quarter of 2009. Thus it's clear that more or less global turmoil affected all the prominent sectors of India.

**Contribution of Core Sectors in Economic Growth of India**



The above given Pie Graph 1.1 is the overall contribution of three major sectors viz; Agriculture, Industry, and Service sector. The data of last twenty years has been selected to have the clear picture, which indicates that agriculture is having approximately 55% of contribution in Indian economy while 37% is of industrial sector. Amongst all the least contribution is of service sector with only 8%.

**Quarterly Trend Analysis on Growth of Agriculture, Industry and Service Sector**  
Chart-1.2 Quarterly Growth of Agriculture (%)



<https://www.gapinterdisciplinaries.org/>

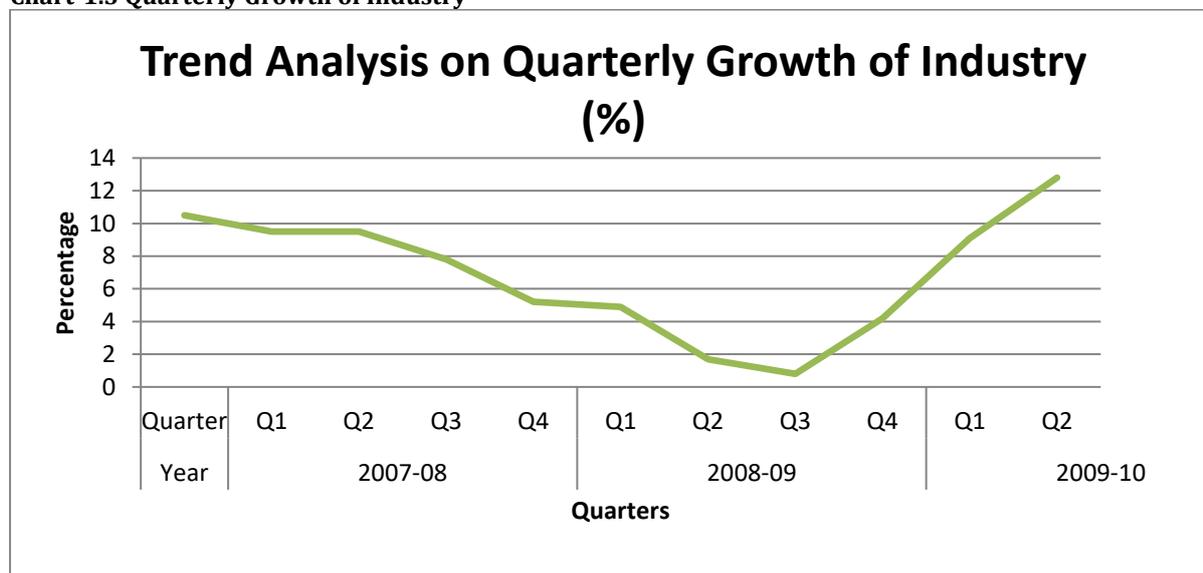
The above trend analysis Chart 1.2 plotted on the quarter bases. Agriculture is the one of the most significant primary sector in India. The analysis comprises three years viz, 2007-08 till 2009-10 with segregation of four quarters. It has been observed in the 2<sup>nd</sup> quarter of the year 2008 which shows great decline and reach to negative in the same time period, which shows adverse impact of global recession on agriculture sector.

**Table-4 Year wise Agricultural Area, Production and Yield**

year	Area	Production	Yield
1995-96	123.0	126.8	103.1
1996-97	125.6	137.8	109.7
1997-98	125.3	130.8	104.4
1998-99	126.6	137.8	108.9
1999-00	124.3	140.7	113.2
2000-01	121.8	134.1	110.0
2001-02	122.7	142.1	115.8
2002-03	113.2	123.9	109.5
2003-04	122.6	133.0	108.5
2004-05	123.5	130.9	105.9
2005-06	125.4	146.8	117.0
2006-07	127.5	167.8	131.6
<b>2007-08</b>	<b>128.6</b>	<b>172.9</b>	<b>134.4</b>
2008-09	132.97	185	139.1
2009-10	131.3	177.56	135.2
2010-11	140.3	209.2	149.04
2011-12	141.2	214.91	152.14
2012-13	140.04	214.74	153.22
2013-14	144.41	224.42	155.23
2014-15	143.9	214.39	148.91
2015-16	143.51	208.86	145.55
2016-17	144.8	229.61	158.59
2017-18	144.93	241.02	166.25
2018-19	141.57	236	165.44

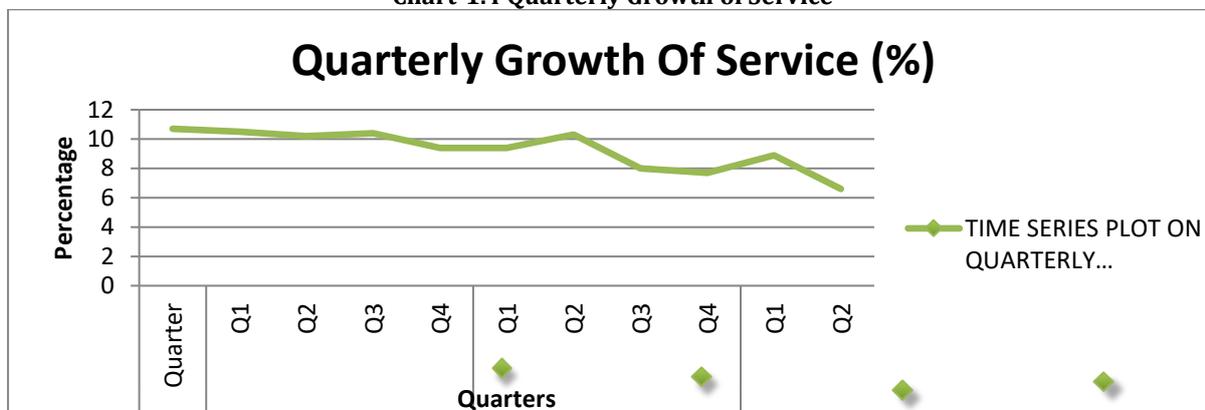
Given Table 4 above is concerned with three basic parameters of agriculture sector. The agriculture sector is classified on the bases of the area of produced land, the quantum of production on agricultural land and the proportion of yield to production. As area is static need not to do much with recession, but for the sake of comparison with another two parameters there is a need to know that the area of agricultural land gradually increases throughout the years. Not only area wise but as far as production and yield is concern that too indicates a gradual increase throughout the years after recession. Thus there is no significant impact of recession observed on agricultural production as well as yield of it.

**Chart-1.3 Quarterly Growth of Industry**



The above trend analysis Chart 1.3 plotted on the quarter bases. Industry is the one of the most significant secondary sector in India. The analysis comprises three years viz, 2007-08 till 2009-10 with segregation of four quarters. It has been observed in the 3<sup>rd</sup> quarter of the year 2008 which shows great decline and reach to negative in the same time period, which shows adverse impact of global recession on industry sector.

Chart-1.4 Quarterly Growth of Service



The above trend analysis Chart 1.4 plotted on the quarter bases. The analysis comprises three years, from 2007-08 till 2009-10 with segregation of four quarters. It has been observed from the above graph that there is no significant fluctuation or appropriate downfall in the recessionary period. The trend indicates that there was no significant impact of global recession on service sector in India.

Quarterly Estimates of GDP Growth for 2007-08 and 2008-09

Table-5 Quarterly Estimates of GDP Growth

Sectors	Pre Meltdown Years		Meltdown	Years
	2006-07	2007-08	2008-09	2009-10
Agricultural, Forestry, & Fishing	3.7	4.7	1.6	-0.2
Mining & Quarrying	8.7	3.9	1.6	8.7
Manufacturing	14.9	10.3	3.2	8.9
Electricity, Gas & Water Supply	8.5	10.0	3.9	8.2
Trade, Hotels & Restaurant	11.2	9.5	5.3	8.3
Construction	10.6	10.0	5.9	6.5
Transport, Storage, Communication	12.6	13.0	10.1	9.9
Finance Insurance, Real Estate	14.5	13.2	10.1	9.9
Community, Personal & Social Services	2.6	6.7	13.9	8.2
<b>Total GDP from all Sectors</b>	<b>9.7</b>	<b>9.2</b>	<b>6.7</b>	<b>7.2</b>

Source: Central Statistical Organization (2009)

A study should be comprehensive as well as covering all the sectors of economic indicators. The above Table 5 has plotted almost all the influencing sectors of economy in quarterly fluctuation. Here 2007-08 is considered as pre recessionary phase whereas 2008-09 as post recessionary phase. As far as agriculture sector is concern, in pre phase the growth rate was 4.9 which decrease to 1.6 in the post-recession. Mining is also influencing sector which had growth of 3.3 that increase to 3.6 with minor growth. That means mining sector quite remain as it was. Manufacturing sector had growth of 8.2 in pre-recession which drastically fall to just 2.4 in the year 2008-09.

## FINDINGS

- Global recession reached to the boundaries of the core sectors of economy i.e. Agriculture, Service and Industrial Sector. The Pie Chart presentation is used initially to realise the contribution of these three basic sectors to the GDP of country. It is found that agriculture is the single largest sector covers more than half of the all. While service sector followed by industry with just 8% to GDP.
- Similarly three basic sectors plotted in Trend form with Quarterly data and it is found that Agriculture sector found the first downfall in the second quarter of 2008 whereas industries in the third quarter and service in fourth quarter. By and large the effect of global recession on service sector found the least compared to other sectors.
- Quarterly estimates of GDP growth at Pre Meltdown and Meltdown environment of almost all the sectors presented in the table, where all the sectors contributes to the Gross Domestic Product, it is found that the GDP at the recessionary period reduced up to 30% as compared to pre recessionary period.

- As far as agriculture sector is concerned, there is not specific effect observed except the third quarter of year 2008-09 where agriculture sector fall down to -1.4. Gradually there is increase in it and again fall in the third quarter of the year 2009-10. Another sector is industry which can be observed from the base year of 2007 since the 1<sup>st</sup> quarter of 2007. Due to global turmoil there is quick impact on industries which started depicting declining trend from the beginning. In the 4th quarter of 2008 the industrial growth was least at 0.8. But at the very next quarter it started increasing till the last quarter of the year 2009. Service sector depict the direct relation of global turmoil as it reduces throughout the year gradually and in the first quarter of 2009 it was found the least at 7.7 only.

## CONCLUSION

Present objective depicts the findings of the Sectoral analysis of all; agriculture, service and manufacturing that agriculture sector did not affected by global turmoil. But there is need of concern that now the scenario of agriculture is changed as agriculture of India also adopted modernisation. In Indian agriculture now we are gradually importing the machines and tools as well as techniques and method for hybrid seeding. It is very much necessary to increase the yield from Agricultural Sector. Since this is the core dominating sector of Indian Economy and it can directly affect the Economic growth of the country.

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