

# PSYCHOLOGICAL DISORDER IN THE INDIAN ECONOMY DURING RECESSION

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## **—Abstract —**

The ongoing slump in the global economy is more a “matter of psychology than economics” and no amount of financial incentive shall be enough to turn it around. The stimulus into the global economy can not rid the world of recession. We have to get rid of our mindset and loom of recession. This study focuses the current financial scenario of the Indian economy and economic scenario after the last round recession. This comparative study may produce some facts and issues to change our mindset and loom of recession.

**Key Words:** *Recession, Forex, Trade Cycle, Debt, Investment, Savings.....*

## **1. Introduction:**

In General, a recession is a common slowdown in economic activity over a long period of time, or a business cycle contraction<sup>1,2</sup>. During recessions, many macroeconomic indicators vary in a similar way. Production as measured by Gross Domestic Product (GDP), employment, investment spending, capacity utilization, house-hold incomes and

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<sup>1</sup> "Recession". Merriam-Webster Online Dictionary.

<http://www.merriam-webster.com/dictionary/recession>. Retrieved 19 November 2008.

<sup>2</sup>"Recession definition". *Encarta World English Dictionary [North American Edition]*. Microsoft Corporation. 2007.

<http://encarta.msn.com/encnet/features/dictionary/DictionaryResults.aspx?refid=1861699686>.

business profits all fall during recessions. Governments usually respond to recessions by adopting expansionary macroeconomic policies, such as increasing money supply, increasing government spending and decreasing taxation. A global recession has resulted in a sharp drop in international trade, rising unemployment and slumping commodity prices. In December 2008, the National Bureau of Economic Research (NBER) declared that the United States had been in recession since December 2007.<sup>3</sup> Several economists have predicted that recovery may not appear until 2011 and that the recession will be the worst since the Great Depression of the 1930s.<sup>4, 5</sup> The conditions leading up to the crisis, characterized by an exorbitant rise in asset prices and associated boom in economic demand, are considered a result of the extended period of easily available credit,<sup>6</sup> inadequate regulation and oversight,<sup>7</sup> or increasing inequality.<sup>8</sup> Fiscal and monetary policies have been significantly eased to stem the recession and financial risks. While this has renewed interest in Keynesian economic ideas, the recent policy consensus is for the stimulus to be withdrawn as soon as the economies recover to "chart a path to sustainable growth".<sup>9, 10, 11</sup> A major lesson of the crisis appears to be that *self-regulation* does not work and that there is a need to strengthen regulation and surveillance of financial intermediation.<sup>12</sup>

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<sup>3</sup> Isidore, Chris (2008-12-01). "It's official: Recession since Dec. '07". CNN Money. <http://money.cnn.com/2008/12/01/news/economy/recession/index.htm?postversion=2008120112>. Retrieved 2009-04-10.

<sup>4</sup> Congressional Budget Office compares downturn to Great Depression. By David Lightman. *McClatchy Washington Bureau*. January 27, 2009.

<sup>5</sup> Finch, Julia (2009-01-26). "Twenty-five people at the heart of the meltdown ...". *The Guardian*. <http://www.guardian.co.uk/business/2009/jan/26/road-ruin-recession-individuals-economy>. Retrieved 2009-04-10.

<sup>6</sup> Wearden, Graeme (2008-06-03). "Oil prices: George Soros warns that speculators could trigger stock market crash". *The Guardian*. <http://www.guardian.co.uk/business/2008/jun/03/commodities>. Retrieved 2009-04-10.

<sup>7</sup> "Greenspan Concedes Error on Regulation". *New York Times*. [http://www.nytimes.com/2008/10/24/business/economy/24panel.html?\\_r=1&partner=permalink&expprod=permalink](http://www.nytimes.com/2008/10/24/business/economy/24panel.html?_r=1&partner=permalink&expprod=permalink). Retrieved 2009-04-18.

<sup>8</sup> "Inequality and depression: Ravi Batra's original thesis on financial crisis". *Forbes*. 1987-09-27. <http://www.ssc.uwo.ca/economics/faculty/jpalmer/Articles/Articles/drravi.html>. Retrieved 2009-04-18.

<sup>9</sup> IMF World Economic Outlook, April 2009: "Exit strategies will be needed to transition fiscal and monetary policies from extraordinary short-term support to sustainable medium-term frameworks." (p.38)

<sup>10</sup> Olivier Blanchard, the chief economist of the International Monetary Fund, "is advising officials around the world to keep economic stimulus programs in place no longer than necessary to chart a path to sustainable growth."

<sup>11</sup> U.S. deficit poses potential systemic risk: Taylor, Reuters, August 21, 2009

<sup>12</sup> "Why Self-Regulation of the Financial System Won't Work", Moneywatch.com, April 17, 2009]

A recession has many attributes that can occur simultaneously and includes declines in coincident measures of activity such as employment, investment, and corporate profits. A severe (GDP down by 10%) or prolonged (three or four years) recession is referred to as an economic depression, although some argue that their causes and cures can be different.<sup>13</sup> As informal shorthand, economists sometimes refer to different recession shapes, such as V-shaped, U-shaped, L-shaped and W-shaped recessions. In the US, V-shaped, or short-and-sharp contractions followed by rapid and sustained recovery, occurred in 1954 and 1990-91; U-shaped (prolonged slump) in 1974-75, and W-shaped, or double-dip recessions in 1949 and 1980-82. Japan's 1993-94 recession was U-shaped and its 8-out-of-9 quarters of contraction in 1997-99 can be described as L-shaped. Korea, Hong Kong and South-east Asia experienced U-shaped recessions in 1997-98, although Thailand's eight consecutive quarters of decline should be termed L-shaped.<sup>14</sup> Economists at the International Monetary Fund (IMF) state that a global recession would take a slowdown in global growth to three percent or less. By this measure, we have identified three periods of recession in globe since 1980. The periods are 1980-82, 1990-91, 1998 and 2001-2002.<sup>15</sup> The US economy has suffered 10 recessions since the end of World War II. The Great Depression in the United was an economic slowdown, from 1930 to 1939. It was a decade of high unemployment, low profits, low prices of goods, and high poverty. The trade market was brought to a standstill, which consequently affected the world markets in the 1930s. Industries that suffered the most included agriculture, mining, and logging. In 1937, the American economy unexpectedly fell, lasting through most of 1938. Production declined sharply, as did profits and employment. Unemployment jumped from 14.3 per cent in 1937 to 19.0 per cent in 1938. The US saw a recession during 1982-83 due to a tight monetary policy to control inflation and sharp correction to overproduction of the previous decade. This was followed by Black Monday in October 1987, when a stock market collapse saw the Dow Jones Industrial Average plunge by 22.6 per cent affecting the lives of millions of Americans. The early 1990s saw a collapse of junk bonds and a financial crisis. The US

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<sup>13</sup><http://clubtrolloppo.com.au/2008/11/23/what-is-the-difference-between-a-recession-and-a-depression/>  
"What is the difference between a recession and a depression?" Saul Eslake Nov 2008

<sup>14</sup> [http://www.adb.org/Documents/Books/Key\\_Indicators/2001/default.asp](http://www.adb.org/Documents/Books/Key_Indicators/2001/default.asp)

<sup>15</sup> January-july 1980 and July 1981-November1982: 2 years total July 1990-March 1991: 8 Months March 2001-November 2001: 8 Months December 2007 to till today

saw one of its biggest recessions in 2001, ending ten years of growth, the longest expansion on record. From March to November 2001, employment dropped by almost 1.7 million. In the 1990-91 recessions, the GDP fell 1.5 per cent from its peak in the second quarter of 1990. The 2001 recession saw a 0.6 per cent decline from the peak in the fourth quarter of 2000. The dot-com burst hit the US economy and many developing countries as well. The economy also suffered after the 9/11 attacks. In 2001, investors' wealth dwindled as technology stock prices crashed.

After years of tremendous growth, India's economy is facing a slowdown. Despite that, it is still growing at the second fastest rate in the world, after China. In India, it looks like the financial crisis is not truly global. The buck never stopped here. No banks collapsed, and there is no cash shortage largely thanks to a banking culture that looks down on reckless lending. All these issues show that India is ready enough to handle the situation of global crisis. Therefore, we may feel that ongoing slump in the global economy is more a "*matter of psychology than economics*" and no amount of financial incentive shall be enough to turn it around. The stimulus into the global economy cannot rid the world of recession. We have to get rid of our mindset and loom of recession.

This study focuses the current financial scenario of the Indian economy and economic scenario after the last round recessions. This comparative study may produce some facts and issues to change our mindset and loom of recession. The primary objective is to analysis the macroeconomic variables such as GDP, government expenditure, foreign exchange reserve, savings, investment, public debt, foreign investments, foreign trade, etc. from 1971 to 2009. During this period, the globe has faced seven *time* measure recessions.

## **2. The Conceptual Framework:**

The recession is product of inflation and vice versa. When there is buoyancy in demand. The trend to add capacities beyond certain levels increases excessive inventories which builds pressure of distress sale at price that does not make economical sense. Also prolonged recession will give birth to inflation. Recession also partly depends upon sectorial factors like poor demand product wise, sector wise and geographical conditions. But this type of recession is temporarily in nature and has quick recovery. Therefore it is

very important to be brave when there is recession in the economy; it is a “*matter of psychology than economics*”.

The fear of a recession looms over the United States. And as the cliché goes, whenever the US sneezes, the world catches a cold. This is evident from the way the Indian markets crashed taking a cue from a probable recession in the US and a global economic slowdown. Weakening of the American economy is bad news, not just for India, but for the rest of the world too. An economy which grows over a period of time tends to slow down the growth as a part of the normal economic cycle. An economy typically expands for 6-10 years and tends to go into a recession for about six months to 2 years. A recession normally takes place when consumers lose confidence in the growth of the economy and spend less. This leads to a decreased demand for goods and services, which in turn leads to a decrease in production, lay-offs and a sharp rise in unemployment. Investors spend less as they fear stocks values will fall and thus stock markets fall on negative sentiment.

However, the effects of this recession on India may be quite distinct from those of the past. Here are some areas worth following: A credit crisis in the United States might lead to a restructuring of asset allocation at pension funds. It has been suggested that CalPERS is likely to shift an additional US\$24 billion to its international portfolio. A large portion of this is likely to flow into India and China. If other funds follow suit, a cascading effect can be expected. Along with the already significant dollar funds available, the additional funds could be deployed to create infrastructure--roads, airports, and seaports--and be ready for a rapid takeoff when normalcy is restored. In terms of specific sectors, the IT Enabled Services sector may be hit since a majority of Indian IT firms derive 75% or more of their revenues from the United States--a classic case of having put all eggs in one basket. If Fortune 500 companies slash their IT budgets, Indian firms could be adversely affected. Instead of looking at the scenario as a threat, the sector would do well to focus on product innovation (as opposed to merely providing services). If this is done, India can emerge as a major player in the IT products category as well.

The manufacturing sector has to ramp up scale economies, and improve productivity and operational efficiency, thus lowering prices, if it wishes to offset the loss of revenue from

a possible US recession. The demand for appliances, consumer electronics, apparel, and a host of products is huge and can be exploited to advantage by adopting appropriate pricing strategies. Although unlikely, a prolonged recession might see the emergence of new regional groupings--India, China, and Korea? The tourism sector could be affected. Now is the time to aggressively promote health tourism. Given the availability of talented professionals, and with a distinct cost advantage, India can be the destination of choice for health tourism. A recession in the United States may see the loss of some jobs in India. The concept of Social Security, that has been absent until now, may gain momentum. The Indian Rupee has appreciated in relation to the US dollar. Exporters are pushing for government intervention and rate cuts. What is conveniently forgotten in this debate is that a stronger Rupee would reduce the import bill, and narrow the overall trade deficit. The Indian central bank (Reserve Bank of India) can intervene anytime and cut interest rates, increasing liquidity in the economy, and catalyzing domestic demand. A strong domestic demand would also help in competing globally when the recession is over. In summary, at the macro-level, a recession in the US may bring down GDP growth, but not by much. At the micro-level, specific sectors could be affected. Innovation now may prove to be the engine for growth when the next boom occurs. For US firms, who have long looked at China as a better investment destination, this may be a good time to look at India as well. After all, 350 million people with purchasing power cannot be ignored. This is not a sales pitch for India, but only a gentle suggestion to US corporations.

### **3. Research Objectives:**

Our primary objective is to highlight that the recession is product of inflation and vice versa. It is very important to be brave when there is recession in the economy; it is a *“matter of psychology than economics”*. Thus it can be studied under following aspects;

1. To find out trend and growth rate of various macroeconomic variables in India during pre and post recession periods (1971-2009).
2. To study the impact of recession and shift in the growth rate of macroeconomic variables in India due to presence of recession.

#### **4. Research Methodology:**

The study is being carried out by literature-gathered from various books on Indian economy, periodicals, journals, and business newspapers, several websites, reports of economic survey, hand book of statistics (RBI Bulletin) etc. Secondary data thus collected are analyzed by using various econometric and statistical methods.

For the estimation of compound annual growth rate, the following semi log trend equation has been used:  $\text{Log } Y = (\beta_1 + \beta_2 T + U)$ , Where Y is the dependent variable, T = Time,  $\beta_1$  and  $\beta_2$  = regression coefficients, U = The Error Term. Trend compound growth rate can be estimated as;  $\text{Growth rate} = (\text{Antilog } \beta_2 - 1) \times 100$ .

The constancy of long-term growth rate has been tested with the help of semi log quadratic equation –  $\text{Log } Y = \beta_1 + \beta_2 T + \beta_3 T^2 + U$ , Where  $\beta$ 's are regression coefficients. The value of  $\beta_3$  explains acceleration/deceleration in growth rate. Significant and positive value of  $\beta_3$  indicates acceleration in growth rate while negative but significant value reflects deceleration in the growth rate. Insignificant value of  $\beta_3$  indicates constancy in the growth rate.

In case of acceleration in growth rate, there must be some point of shift in the growth rate. In order to find out the year of shift in growth, following equation with dummy variables has been used (Rao & Miller);  $\text{Log } Y = \beta_1 + \beta_2 T + \beta_3 D + \beta_4 DT + U$ , Where  $\beta$ s are regression coefficients,  $\beta_3$  represents intercept of dummy variable and  $\beta_4$  is the slope of dummy. D is the Dummy variable representing the shift in the growth rate .It takes 0 for the period shift or breaks through and 1 otherwise. Thus the trend equation before and after shift will be as follows.  $\text{Log } Y = \beta_1 + \beta_2 T$  (before shift) and  $\text{Log } Y = (\beta_1 + \beta_2) + (\beta_2 + \beta_4) T$  (after shift). Respective growth rates are estimated from this estimation for two periods that is pre and post reform period.

#### **5. Data Analysis:**

The ongoing slump in the global economy is more a “matter of psychology than economics” and no amount of financial incentive shall be enough to turn it around. The stimulus into the global economy cannot rid the world of recession. We have to get rid of our mindset and loom of recession. This study focuses the current financial scenario of

the Indian economy and economic scenario after the last round recessions. This comparative study may produce some facts and issues to change our mindset and loom of recession. Thus, we have considered various factors of Indian economy such as GDP, Agricultural Production, Industrial Production, Services, Government Expenditure, Gross Domestic Savings, Gross Domestic Capital Formation, Fiscal Deficit, Export, Import, Foreign Exchange Reserve, Exchange Rate, Foreign Investment and External Assistance.

### 5.1. GDP and World Recessions:

Economic development is a long-term process. As a first step to understand the long-term trend in growth rate, we have fitted the semi log equations to India's GDP at constant Price for the period 1970-71 to 2008-09. The estimated equations are shown in the Table No-1.

**Table No-1: Growth of GDP at constant Price**

Year	Function	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$R^2$	Growth Rate %
1970-2009	Log Linear	5.581* (0.010)	0.022* (0.0004)	-	-	0.986	5.196
1970-2009	Log Quadratic	5.650* (0.005)	0.012* (0.001)	0.0002* (0.0001)	-	0.998	-
1970-2009 (***)	Log linear with dummy	5.595* (0.011)	0.022* (0.001)	-0.055* (0.023)	0.002* (0.001)	0.988	-

Source: Hand book of statistics, RBI-Database 2009.

Value in parenthesis is standard error of the coefficient.

\*Denotes significant at 5%level

\*\* Denotes significant at 10%level

\*\*\* The value of dummy is given 1 in the years of recessions in the world.

The trend coefficient of semi log function for the period of 1970-71 to 2008-09 is positive and statistically significant. Thus it shows that there is a growth in the Indian economy during this period. The annual compound growth rate of GDP during the 1970-71 and 2008-09 is found to be 5.196 per cent. It took relatively a small jump in the growth process from Hindu Growth Rate. In order to test the acceleration in the growth of GDP, we tried alternative functional form. The coefficient of semi log quadratic function for the period of 1970-71 to 2008-09 is positive and statistically significant. That means there is acceleration in the growth rate of GDP during this period.

In order to study the shift in the growth rate of GDP during world recessions, we have used the semi-log function with dummy variable. The coefficient of this dummy variable

is negative and statistically significant. That means there is a substantial change in the growth rate of GDP due to the world recessions. It is also found that the coefficient of world recession due to trade cycle is positive and statistically significant. That indicates that if the recession has emerged due to trade cycle, then also there is a shift in the growth trend of GDP in India. Therefore it can be concluded that world recessions have brought negative effect on the growth of GDP in the country like India. However, it may be understood that the recession has stroke the psychology of the general public in India, who contribute their share in GDP, which resulted change in the trend of the growth of GDP in India during the recessions in the world from the period 1970 to 2009.

## 5.2. Growth of Agricultural Production and Recessions:

In this section, we have tried to find out the growth of agricultural production and shifts in the growth trend of agricultural production during world recessions. We have used the semi log equations to India's agricultural production for the period 1970-71 to 2008-09. The estimated equations are shown in the Table No-2. The trend coefficient of semi log function for the period of 1970-71 to 2008-09 is positive and statistically significant. Thus it shows that there is a growth in the Indian agricultural production during this period. The annual compound growth rate of agricultural production during the 1970-71 and 2008-09 is found to be 2.801 per cent. In order to test the acceleration in the growth of agricultural production, we tried alternative functional form. The coefficient of semi log quadratic function for the period of 1970-71 to 2008-09 is positive and statistically significant. That means there is acceleration in the growth rate of agricultural production during this period.

**Table No-2: Growth of Agricultural Production**

Year	Function	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$R^2$	Growth Rate %
1970-2009	Log Linear	5.267* (0.006)	0.012* (0.0002)	-	-	0.982	2.801
1970-2009	Log Quadratic	5.279* (0.095)	0.010* (0.001)	0.00004** (0.002)	-	0.984	-
1970-2009 (***)	Log linear with dummy	5.273* (0.007)	0.012* (0.0002)	-0.028** (0.015)	0.001* (0.001)	0.984	-

Source: Hand book of statistics, RBI-Database 2009.

Value in parenthesis is standard error of the coefficient.

\*Denotes significant at 5%level

\*\* Denotes significant at 10%level

\*\*\* The value of dummy is given 1 in the years of recessions in the world

In order to study the shift in the growth rate of agricultural production during world recessions, we have used the semi-log function with dummy variable. The coefficient of this dummy variable is negative and statistically significant. That means there is a substantial change in the growth rate of agricultural production due to the world recessions. It is also found that the coefficient of world recession due to trade cycle is positive and statistically significant. That indicates that if the recession has emerged due to trade cycle, then also there is a shift in the growth trend of agricultural production in India. Therefore it can be concluded that world recessions have brought negative effect on the growth of agricultural production in the country like India. However, it may be understood that the recessions have stroke the psychology of the general public in India, who contribute their share in agricultural production, which resulted change in the trend of the growth of agricultural production in India during the recessions in the world from the period 1970 to 2009.

### 5.3. Industrial Production and Recessions

In this section, we have tried to find out the growth of industrial production and shifts in the growth trend of industrial production during world recessions. We have used the semi log equations to India's industrial production for the period 1970-71 to 2008-09. The estimated equations are shown in the Table No-3.

**Table No-3: Growth of Industrial Production**

Year	Function	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$R^2$	Growth Rate %
1970-2009	Log Linear	4.803* (0.006)	0.025* (0.0002)	-	-	0.996	5.925
1970-2009	Log Quadratic	4.829* (0.008)	0.021* (0.001)	0.00009* (0.002)	-	0.997	-
1970-2009 (***)	Log linear with dummy	4.811* (0.007)	0.024* (0.0003)	-0.034* (0.014)	0.001* (0.001)	0.996	-

Source: Hand book of statistics, RBI-Database 2009.

Value in parenthesis is standard error of the coefficient.

\*Denotes significant at 5%level

\*\* Denotes significant at 10%level

\*\*\* The value of dummy is given 1 in the years of recessions in the world

The trend coefficient of semi log function for the period of 1970-71 to 2008-09 is positive and statistically significant. Thus it shows that there is a growth in the Indian industrial production during this period. The annual compound growth rate of industrial

production during the 1970-71 and 2008-09 is found to be 5.925 per cent. In order to test the acceleration in the growth of industrial production, we tried alternative functional form. The coefficient of semi log quadratic function for the period of 1970-71 to 2008-09 is positive and statistically significant. That means there is acceleration in the growth rate of industrial production during this period.

In order to study the shift in the growth rate of industrial production during world recessions, we have used the semi-log function with dummy variable. The coefficient of this dummy variable is negative and statistically significant. That means there is a substantial change in the growth rate of industrial production due to the world recessions. It is also found that the coefficient of world recession due to trade cycle is positive and statistically significant. That indicates that if the recession has emerged due to trade cycle, then also there is a shift in the growth trend of industrial production in India. Therefore it can be concluded that world recessions have brought negative effect on the growth of industrial production in the country like India. However, it may be understood that the recessions have stroke the psychology of the general public in India, who contribute their share in industrial production, which resulted change in the trend of the growth of industrial production in India during the recessions in the world from the period 1970 to 2009.

#### **5.4. Growth of Service Sector and Recessions:**

Indian economy has been undergoing a process of economic reforms since late 1980s. We are adopting gradually the policies of trade and investment liberalization. This has resulted into an overall improvement in the growth rate of the economy. We could break the “Hindu Growth Rate” path of 3.5 percent of our economy during eighties and nineties. The liberalization process has transferred our economy into high growth economy. This has made the service sector more important in the growth process. In growing economy, the service sector always out-performed the rest of the economy. It not only facilitates the growth rate of commodity sector but also helps in the betterment of quality of life of the citizen.

Service sector covers a larger canvas and is the fastest growing sector in the economy with large employment. Services constitute a very heterogeneous economic category, and

it is one, which has become more difficult to define over time. Older definitions of services tended to rest on the fact that services were often difficult, if not impossible, to separate from the service-provider and recipient, so that people became crucial to the definition. More recent definitions have incorporated “business services” which also externalize part of R and D and management functions, and include activities like retailing, banking and insurance, and administration.

**Table No-4: Growth of Services**

Year	Function	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$R^2$	Growth Rate %
1970-2009	Log Linear	5.172* (0.012)	0.028* (0.001)	-	-	0.986	6.66
1970-2009	Log Quadratic	5.260* (0.004)	0.015* (0.004)	0.0004* (0.00001)	-	0.999	-
1970-2009 (***)	Log linear with dummy	5.187* (0.014)	0.027* (0.001)	-0.062* (0.029)	0.003* (0.001)	0.988	-

Source: Hand book of statistics, RBI-Database 2009.

Value in parenthesis is standard error of the coefficient.

\*Denotes significant at 5%level

\*\* Denotes significant at 10%level

\*\*\* The value of dummy is given 1 in the years of recessions in the world

We have used the semi log equations to India’s Services Sector for the period 1970-71 to 2008-09. The estimated equations are shown in the Table No-4. The trend coefficient of semi log function for the period of 1970-71 to 2008-09 is positive and statistically significant. Thus it shows that there is a growth in the Indian Services Sector during this period. The annual compound growth rate of Services Sector during the 1970-71 and 2008-09 is found to be 6.66 per cent. In order to test the acceleration in the growth of Services Sector, we tried alternative functional form. The coefficient of semi log quadratic function for the period of 1970-71 to 2008-09 is positive and statistically significant. That means there is acceleration in the growth rate of Services Sector during this period.

In order to study the shift in the growth rate of Services Sector during world recessions, we have used the semi-log function with dummy variable. The coefficient of this dummy variable is negative and statistically significant. That means there is a substantial change in the growth rate of Services Sector due to the world recessions. It is also found that the coefficient of world recession due to trade cycle is positive and statistically significant. That indicates that if the recession has emerged due to trade cycle, then also there is a

shift in the growth trend of Services Sector in India. Therefore it can be concluded that world recessions have brought negative effect on the growth of Services Sector in the country like India. However, it may be understood that the recessions have stroke the psychology of the general public in India, who contribute their share in Services Sector, which resulted change in the trend of the growth of Services Sector in India during the recessions in the world from the period 1970 to 2009.

### 5.5. Government Expenditure and Recessions:

In this section, we have tried to find out the growth of government expenditure and shifts in its growth trend during world recessions. We have used the semi log equations to India's government expenditure for the period 1970-71 to 2008-09. The estimated equations are shown in the Table No-5. The trend coefficient of semi log function for the period of 1970-71 to 2008-09 is positive and statistically significant. Thus it shows that there is a growth in the India's government expenditure during this period. The annual compound growth rate of government expenditure during the 1970-71 and 2008-09 is found to be 14.025 per cent. In order to test the acceleration in the growth of government expenditure, we tried alternative functional form. The coefficient of semi log quadratic function for the period of 1970-71 to 2008-09 is positive and statistically significant. That means there is acceleration in the growth rate of government expenditure during this period.

**Table No-5: Growth of Public Expenditure**

Year	Function	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$R^2$	Growth Rate %
1970-2009	Log Linear	3.753* (0.015)	0.057* (0.001)	-	-	0.995	14.025
1970-2009	Log Quadratic	3.666* (0.014)	0.070* (0.002)	-0.0003* (0.00003)	-	0.998	-
1970-2009 (***)	Log linear with dummy	3.755* (0.017)	0.057* (0.001)	-0.009 (0.037)	0.0003 (0.002)	0.995	-

Source: Hand book of statistics, RBI-Database 2009.

Value in parenthesis is standard error of the coefficient.

\*Denotes significant at 5%level

\*\* Denotes significant at 10%level

\*\*\* The value of dummy is given 1 in the years of recessions in the world

In order to study the shift in the growth rate of government expenditure during world recessions, we have used the semi-log function with dummy variable. The coefficient of this dummy variable is negative and statistically insignificant. That means there is no

substantial change in the growth rate of government expenditure due to the world recessions. It is also found that the coefficient of world recession due to trade cycle is positive and statistically insignificant. This indicates that if the recession has emerged due to trade cycle, then also there is no shift in the growth trend of government expenditure in India. Therefore it can be concluded that world recessions has not brought any negative effect on the growth of government expenditure in the country like India. However, it may be understood that the recessions have stroke the psychology of the general public in India. The government has not cared the pressure of recessions and tried its best to pump money in the market or economy in India during the recessions in the world from the period 1970 to 2009.

### 5.6. Gross Domestic Savings and Recessions:

In this section, we have tried to find out the growth of gross domestic savings and shifts in its growth trend during world recessions. We have used the semi log equations to India's government expenditure for the period 1970-71 to 2008-09. The estimated equations are shown in the Table No-6.

**Table No-6: Growth of Gross Domestic Savings**

Year	Function	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$R^2$	Growth Rate %
1970-2009	Log Linear	3.732* (0.013)	0.065* (0.001)	-	-	0.997	16.145
1970-2009	Log Quadratic	3.774* (0.019)	0.059* (0.002)	0.0001* (0.00003)	-	0.998	-
1970-2009 (***)	Log linear with dummy	3.740* (0.017)	0.064* (0.001)	-0.032 (0.033)	0.001 (0.001)	0.997	-

Source: Hand book of statistics, RBI-Database 2009.

Value in parenthesis is standard error of the coefficient.

\*Denotes significant at 5%level

\*\* Denotes significant at 10%level

\*\*\* The value of dummy is given 1 in the years of recessions in the world

The trend coefficient of semi log function for the period of 1970-71 to 2008-09 is positive and statistically significant. Thus it shows that there is a growth in the India's gross domestic savings during this period. The annual compound growth rate of gross domestic savings during the 1970-71 and 2008-09 is found to be 16.145 per cent. In order to test the acceleration in the growth of gross domestic savings, we tried alternative functional form. The coefficient of semi log quadratic function for the period of 1970-71

to 2008-09 is positive and statistically significant. That means there is acceleration in the growth rate of gross domestic savings during this period.

In order to study the shift in the growth rate of gross domestic savings during world recessions, we have used the semi-log function with dummy variable. The coefficient of this dummy variable is negative and statistically insignificant. That means there is no substantial change in the growth rate of gross domestic savings due to the world recessions. It is also found that the coefficient of world recession due to trade cycle is positive and statistically insignificant. This indicates that if the recession has emerged due to trade cycle, then also there is no shift in the growth trend of gross domestic savings in India. Therefore, it can be concluded that world recessions has not brought any negative effect on the growth of gross domestic savings in the country like India. However, it may be understood that the recessions have stroke the psychology of the general public in India. The general public have not cared the pressure of recessions and tried their best to save money in the money market in India during the recessions in the world from the period 1970 to 2009.

### 5.7. Gross Domestic Capital Formation and Recessions:

In this section, we have tried to find out the growth of gross domestic capital formation and shifts in its growth trend during world recessions. We have used the semi log equations to India's gross domestic capital formation for the period 1970-71 to 2008-09. The estimated equations are shown in the Table No-7.

**Table No-7: Growth of Gross Domestic Capital Formation**

Year	Function	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$R^2$	Growth Rate %
1970-2009	Log Linear	3.755* (0.014)	0.065* (0.001)	-	-	0.997	16.145
1970-2009	Log Quadratic	3.773* (0.021)	0.062* (0.002)	0.000006 (0.00005)	-	0.997	-
1970-2009 (***)	Log linear with dummy	3.757* (0.016)	0.064* (0.001)	-0.007 (0.034)	0.0004 (0.001)	0.997	-

Source: Hand book of statistics, RBI-Database 2009.  
Value in parenthesis is standard error of the coefficient.

\*Denotes significant at 5%level

\*\* Denotes significant at 10%level

\*\*\* The value of dummy is given 1 in the years of recessions in the world

The trend coefficient of semi log function for the period of 1970-71 to 2008-09 is positive and statistically significant. Thus it shows that there is a growth in the India's

gross domestic capital formation during this period. The annual compound growth rate of gross domestic savings during the 1970-71 and 2008-09 is found to be 16.145 per cent. In order to test the acceleration in the growth of gross domestic capital formation, we tried alternative functional form. The coefficient of semi log quadratic function for the period of 1970-71 to 2008-09 is positive and statistically insignificant. That means there is no acceleration in the growth rate of gross domestic capital formation during this period.

In order to study the shift in the growth rate of gross domestic capital formation during world recessions, we have used the semi-log function with dummy variable. The coefficient of this dummy variable is negative and statistically insignificant. That means there is no substantial change in the growth rate of gross domestic capital formation due to the world recessions. It is also found that the coefficient of world recession due to trade cycle is positive and statistically insignificant. This indicates that if the recession has emerged due to trade cycle, then also there is no shift in the growth trend of gross domestic capital formation in India. Therefore, it can be concluded that world recessions has not brought any negative effect on the growth of gross domestic capital formation in the country like India. However, it may be understood that the recessions have stroke the psychology of the general public in India. The general public have not dared to invest money in the market due to the pressure of recessions in the world and tried their best to save money in the money market in India from the period 1970 to 2009.

#### **5.8. Fiscal Deficit and Recessions:**

In this section, we have tried to find out the growth of fiscal deficit and shifts in its growth trend during world recessions. We have used the semi log equations to India's fiscal deficit for the period 1970-71 to 2008-09. The estimated equations are shown in the Table No-8. The trend coefficient of semi log function for the period of 1970-71 to 2008-09 is positive and statistically significant. Thus it shows that there is a growth in the India's fiscal deficit during this period. The annual compound growth rate of fiscal deficit during the 1970-71 and 2008-09 is found to be 14.287 per cent. In order to test the acceleration in the growth of fiscal deficit, we tried alternative functional form. The coefficient of semi log quadratic function for the period of 1970-71 to 2008-09 is

negative and statistically significant. That means there is deceleration in the growth rate of fiscal deficit during this period.

**Table No-8: Growth of Fiscal Deficit**

Year	Function	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$R^2$	Growth Rate %
1970-2009	Log Linear	3.230* (0.043)	0.058* (0.002)	-	-	0.962	14.287
1970-2009	Log Quadratic	2.972* (0.039)	0.096* (0.004)	-0.0009* (0.0009)	-	0.988	-
1970-2009 (***)	Log linear with dummy	3.219* (0.051)	0.058* (0.002)	0.059 (0.107)	-0.001 (0.004)	0.963	-

Source: Hand book of statistics, RBI-Database 2009.

Value in parenthesis is standard error of the coefficient.

\*Denotes significant at 5%level

\*\* Denotes significant at 10%level

\*\*\* The value of dummy is given 1 in the years of recessions in the world.

In order to study the shift in the growth rate of fiscal deficit during world recessions, we have used the semi-log function with dummy variable. The coefficient of this dummy variable is negative and statistically insignificant. That means there is no substantial change in the growth rate of fiscal deficit due to the world recessions. It is also found that the coefficient of world recession due to trade cycle is positive and statistically insignificant. This indicates that if the recession has emerged due to trade cycle, then also there is no shift in the growth trend of fiscal deficit in India. Therefore, it can be concluded that world recessions has not brought any negative effect on the growth of fiscal deficit in the country like India. However, it may be understood that the recessions have stroke the psychology of the general public in India. The government had tried reducing the quantum of fiscal deficit in India from the period 1970 to 2009. Thus the recession has no play in the fiscal deficit of India.

### **5.9. Export of Goods and Services and Recessions:**

In this section, we have tried to find out the growth of export of goods and services and shifts in its growth trend during world recessions. We have used the semi log equations to India's export of goods and services for the period 1970-71 to 2008-09. The estimated equations are shown in the Table No-9. The trend coefficient of semi log function for the period of 1970-71 to 2008-09 is positive and statistically significant. Thus it shows that there is a growth in the India's export of goods and services during this period. The annual compound growth rate of export of goods and services during the 1970-71 and

2008-09 is found to be 17.76 per cent. In order to test the acceleration in the growth of export of goods and services, we tried alternative functional form. The coefficient of semi log quadratic function for the period of 1970-71 to 2008-09 is positive and statistically significant. That means there is acceleration in the growth rate of export of goods and services during this period.

**Table No-9: Growth of Export of Goods and Services**

Year	Function	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$R^2$	Growth Rate %
1970-2009	Log Linear	3.075* (0.025)	0.071* (0.001)	-	-	0.991	17.76
1970-2009	Log Quadratic	3.152* (0.045)	0.060* (0.005)	0.000028* (0.0009)	-	0.993	-
1970-2009 (***)	Log linear with dummy	3.081* (0.029)	0.071* (0.001)	-0.018 (0.062)	0.001 (0.0013)	0.991	-

Source: Hand book of statistics, RBI-Database 2009.

Value in parenthesis is standard error of the coefficient.

\*Denotes significant at 5%level

\*\* Denotes significant at 10%level

\*\*\* The value of dummy is given 1 in the years of recessions in the world.

In order to study the shift in the growth rate of export of goods and services during world recessions, we have used the semi-log function with dummy variable. The coefficient of this dummy variable is negative and statistically insignificant. That means there is no substantial change in the growth rate of export of goods and services due to the world recessions. It is also found that the coefficient of world recession due to trade cycle is positive and statistically insignificant. This indicates that if the recession has emerged due to trade cycle, then also there is no shift in the growth trend of export of goods and services in India. Therefore, it can be concluded that world recessions has not brought any negative effect on the growth of export of goods and services in the country like India. However, it may be understood that the recessions have stroke the psychology of the general public in India. The general public have not cared the pressure of recessions and tried their best to export of goods and services in the foreign market during the recessions in the world from the period 1970 to 2009. In other words, it can be interpreted that the pace of India's export of goods and services has not ruptured during the world recession during this period.

#### **5.10. Import of Goods and Services and Recessions:**

In this section, we have tried to find out the growth of import of goods and services and shifts in its growth trend during world recessions. We have used the semi log equations to India's import of goods and services for the period 1970-71 to 2008-09. The estimated equations are shown in the Table No-10. The trend coefficient of semi log function for the period of 1970-71 to 2008-09 is positive and statistically significant. Thus it shows that there is a growth in the India's import of goods and services during this period. The annual compound growth rate of import of goods and services during the 1970-71 and 2008-09 is found to be 18.032 per cent. In order to test the acceleration in the growth of import of goods and services, we tried alternative functional form. The coefficient of semi log quadratic function for the period of 1970-71 to 2008-09 is positive and statistically significant. That means there is acceleration in the growth rate of import of goods and services during this period.

**Table No-10: Growth of Import of Goods and Services**

Year	Function	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$R^2$	Growth Rate %
1970-2009	Log Linear	3.173* (0.023)	0.072* (0.001)	-	-	0.993	18.032
1970-2009	Log Quadratic	3.228* (0.035)	0.064* (0.004)	0.00002* (0.0009)	-	0.993	-
1970-2009 (***)	Log linear with dummy	3.153* (0.026)	0.072* (0.001)	0.107* (0.062)	-0.003 (0.002)	0.994	-

Source: Hand book of statistics, RBI-Database 2009.

Value in parenthesis is standard error of the coefficient.

\*Denotes significant at 5%level

\*\* Denotes significant at 10%level

\*\*\* The value of dummy is given 1 in the years of recessions in the world.

In order to study the shift in the growth rate of import of goods and services during world recessions, we have used the semi-log function with dummy variable. The coefficient of this dummy variable is positive and statistically significant. That means there is a substantial change in the growth rate of import of goods and services due to the world recessions. It is also found that the coefficient of world recession due to trade cycle is negative and statistically insignificant. This indicates that if the recession has emerged due to trade cycle, then also there is no shift in the growth trend of import of goods and services in India. Therefore, it can be concluded that world recessions has brought many negative effect on the growth of import of goods and services in the country like India. However, it may be understood that the recessions have stroke the psychology of the general public in India. The general public with the pressure of recessions and have

reduced the import of goods and services from the foreign market during the recessions in the world from the period 1970 to 2009. In other words, it can be interpreted that the pace of India's import of goods and services has been ruptured during the world recession during this period.

### 5.11. Foreign Exchange Reserve and Recessions:

In this section, we have tried to find out the growth of foreign exchange reserve and shifts in its growth trend during world recessions. We have used the semi log equations to India's foreign exchange reserve for the period 1970-71 to 2008-09. The estimated equations are shown in the Table No-11. The trend coefficient of semi log function for the period of 1970-71 to 2008-09 is positive and statistically significant. Thus it shows that there is a growth in the India's foreign exchange reserve during this period. The annual compound growth rate of foreign exchange reserve during the 1970-71 and 2008-09 is found to be 21.618 per cent. In order to test the acceleration in the growth of foreign exchange reserve, we tried alternative functional form. The coefficient of semi log quadratic function for the period of 1970-71 to 2008-09 is positive and statistically significant. That means there is acceleration in the growth rate of foreign exchange reserve during this period.

**Table No-11: Growth of Foreign Exchange Reserve**

Year	Function	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$R^2$	Growth Rate %
1970-2009	Log Linear	2.666* (0.065)	0.085* (0.003)	-	-	0.961	21.618
1970-2009	Log Quadratic	2.925* (0.085)	0.047* (0.010)	0.001* (0.0002)	-	0.973	-
1970-2009 (***)	Log linear with dummy	2.709* (0.074)	0.083* (0.003)	-0.182 (0.158)	0.008 (0.006)	0.962	-

Source: Hand book of statistics, RBI-Database 2009.

Value in parenthesis is standard error of the coefficient.

\*Denotes significant at 5%level

\*\* Denotes significant at 10%level

\*\*\* The value of dummy is given 1 in the years of recessions in the world.

In order to study the shift in the growth rate of foreign exchange reserve during world recessions, we have used the semi-log function with dummy variable. The coefficient of this dummy variable is negative and statistically insignificant. That means there is no substantial change in the growth rate of foreign exchange reserve due to the world recessions. It is also found that the coefficient of world recession due to trade cycle is

positive and statistically insignificant. This indicates that if the recession has emerged due to trade cycle, then also there is no shift in the growth trend of foreign exchange reserve in India. Therefore, it can be concluded that world recessions has not brought any negative effect on the growth of export of goods and services in the country like India. However, it may be understood that the recessions have stroke the psychology of the general public in India. The government has not cared the pressure of recessions and tried its best to increase the foreign exchange reserve in India during the recessions in the world during the period 1970 to 2009.

### 5.12. Exchange Rate and Recessions:

In this section, we have tried to find out the growth of exchange rate of American dollar and shifts in its growth trend during world recessions. We have used the semi log equations to India's exchange rate of American dollar for the period 1970-71 to 2008-09. The estimated equations are shown in the Table No-12.

**Table No-12: Growth of Exchange Rate (US Dollar)**

Year	Function	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$R^2$	Growth Rate %
1970-2009	Log Linear	0.736* (0.029)	0.027* (0.001)	-	-	0.925	6.41
1970-2009	Log Quadratic	0.743* (0.045)	0.026* (0.005)	0.00002 (0.0001)	-	0.926	-
1970-2009 (***)	Log linear with dummy	0.747* (0.033)	0.026* (0.002)	-0.055 (0.023)	0.002 (0.001)	0.927	-

Source: Hand book of statistics, RBI-Database 2009.

Value in parenthesis is standard error of the coefficient.

\*Denotes significant at 5%level

\*\* Denotes significant at 10%level

\*\*\* The value of dummy is given 1 in the years of recessions in the world.

The trend coefficient of semi log function for the period of 1970-71 to 2008-09 is positive and statistically significant. Thus it shows that there is a growth in the India's exchange rate of American dollar during this period. The annual compound growth rate of exchange rate of American dollar during the 1970-71 and 2008-09 is found to be 6.41 per cent. In order to test the acceleration in the growth of exchange rate of American dollar, we tried alternative functional form. The coefficient of semi log quadratic function for the period of 1970-71 to 2008-09 is positive and statistically insignificant. That means there is no acceleration in the growth rate of exchange rate of American dollar during this period.

In order to study the shift in the growth rate of exchange rate of American dollar during world recessions, we have used the semi-log function with dummy variable. The coefficient of this dummy variable is negative and statistically insignificant. That means there is no substantial change in the growth rate of exchange rate of American dollar due to the world recessions. It is also found that the coefficient of world recession due to trade cycle is positive and statistically insignificant. This indicates that if the recession has emerged due to trade cycle, then also there is no shift in the growth trend of India's exchange rate of American dollar. Therefore, it can be concluded that world recessions has not brought any negative effect on the growth of exchange rate of American dollar in the country like India. However, it may be understood that the recessions have stroke the psychology of the general public in India. The supply and demand for foreign exchange by the government and general public have not cared the pressure of recessions and tried its best to increase transaction in foreign countries during the recessions in the world during the period 1970 to 2009.

### 5.13. Foreign Investment and Recessions:

In this section, we have tried to find out the growth of foreign investment and shifts in its growth trend during world recessions. We have used the semi log equations to foreign investment in India for the period 1970-71 to 2008-09. The estimated equations are shown in the Table No-13.

**Table No-13: Growth of Foreign Investment**

Year	Function	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$R^2$	Growth Rate %
1970-2009	Log Linear	0.735* (0.131)	0.116* (0.006)	-	-	0.918	30.617
1970-2009	Log Quadratic	1.103* (0.190)	0.062* (0.022)	0.001* (0.001)	-	0.931	-
1970-2009 (***)	Log linear with dummy	0.737* (0.153)	0.116* (0.007)	-0.004 (0.326)	0.001 (0.004)	0.963	-

Source: Hand book of statistics, RBI-Database 2009.

Value in parenthesis is standard error of the coefficient.

\*Denotes significant at 5%level

\*\* Denotes significant at 10%level

\*\*\* The value of dummy is given 1 in the years of recessions in the world.

The trend coefficient of semi log function for the period of 1970-71 to 2008-09 is positive and statistically significant. Thus it shows that there is a growth in the foreign investment in India during this period. The annual compound growth rate of foreign

investment in India during the 1970-71 and 2008-09 is found to be 30.617 per cent. In order to test the acceleration in the growth of foreign investment in India, we tried alternative functional form. The coefficient of semi log quadratic function for the period of 1970-71 to 2008-09 is positive and statistically significant. That means there is acceleration in the growth rate of foreign investment in India during this period.

In order to study the shift in the growth rate of foreign investment in India during world recessions, we have used the semi-log function with dummy variable. The coefficient of this dummy variable is negative and statistically insignificant. That means there is no substantial change in the growth rate of foreign investment in India due to the world recessions. It is also found that the coefficient of world recession due to trade cycle is positive and statistically insignificant. This indicates that if the recession has emerged due to trade cycle, then also there is no shift in the growth trend of foreign investment in India. Therefore, it can be concluded that world recessions has not brought any negative effect on the growth of foreign investment in India. However, it may be understood that the recessions have stroke the psychology of the general public in India.

#### **5.14. External Assistance and Recessions:**

In this section, we have tried to find out the growth of external assistance in India and shifts in its growth trend during world recessions. We have used the semi log equations to external assistance in India for the period 1970-71 to 2008-09. The estimated equations are shown in the Table No-14. The trend coefficient of semi log function for the period of 1970-71 to 2008-09 is positive and statistically significant. Thus it shows that there is a growth in the external assistance in India during this period. The annual compound growth rate of external assistance in India during the 1970-71 and 2008-09 is found to be 8.64 per cent. In order to test the acceleration in the growth of external assistance in India, we tried alternative functional form. The coefficient of semi log quadratic function for the period of 1970-71 to 2008-09 is negative and statistically insignificant. That means there is no acceleration in the growth rate of external assistance in India, rather there is a sign of deceleration in the growth of external assistance in India during this period.

**Table No-14: Growth of External Assistance**

Year	Function	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	R <sup>2</sup>	Growth Rate %
1970-2009	Log Linear	2.682* (0.061)	0.036* (0.003)	-	-	0.829	8.64
1970-2009	Log Quadratic	2.630* (0.095)	0.043* (0.011)	-0.001 (0.002)	-	0.831	-
1970-2009 (***)	Log linear with dummy	2.665* (0.068)	0.038* (0.003)	0.023 (0.145)	-0.006 (0.006)	0.844	-

Source: Hand book of statistics, RBI-Database 2009.

Value in parenthesis is standard error of the coefficient.

\*Denotes significant at 5%level

\*\* Denotes significant at 10%level

\*\*\* The value of dummy is given 1 in the years of recessions in the world

In order to study the shift in the growth rate of external assistance during world recessions, we have used the semi-log function with dummy variable. The coefficient of this dummy variable is positive and statistically insignificant. That means there is no substantial change in the growth rate of external assistance due to the world recessions. It is also found that the coefficient of world recession due to trade cycle is negative and statistically insignificant. This indicates that if the recession has emerged due to trade cycle, then also there is no shift in the growth trend of external assistance. Therefore, it can be concluded that world recessions has not brought any negative effect on the growth of external assistance.

## 6. Conclusion:

From the above discussion, it may be concluded that the major indicators of the Indian economy such as GDP, GDP, Agricultural Production, Industrial Production, Services, Government Expenditure, Gross Domestic Savings, Gross Domestic Capital Formation, Fiscal Deficit, Export, Import, Foreign Exchange Reserve, Exchange Rate, Foreign Investment and External Assistance are growing in the period 1970-2009. However, except, external assistance, government expenditure, fiscal deficit and exchange rate, all indicators' growth rate is accelerating in the same period. The recessions could not have played any vital role in the shift of trend of growth rate of major indicators such as Government Expenditure, Gross Domestic Savings, Gross Domestic Capital Formation, Fiscal Deficit, Export, Foreign Exchange Reserve, Exchange Rate, Foreign Investment and External Assistance. But the world recessions have played vital role in shifting in the growth trend of GDP, import, agricultural production, industrial production, services

during the period 1970 to 2009. These indicators are directly related to the general public in day to day life. The world recessions have played very important role in mindset of the people in India, which led to shift in the trend in growth rate of above major indicators. Thus it is clear from this conclusion that the ongoing slump in the global economy is more a “matter of psychology than economics” and no amount of financial incentive shall be enough to turn it around. The stimulus into the global economy cannot rid the world of recession. We have to get rid of our mindset and loom of recession.

### References:

1. "Greenspan Concedes Error on Regulation". *New York Times*.
2. "Inequality and depression: Ravi Batra's original thesis on financial crisis". *Forbes*. 1987-09-27.  
<http://www.ssc.uwo.ca/economics/faculty/jpalmer/Articles/Articles/drravi.html>. Retrieved 2009-04-18.
3. "Why Self-Regulation of the Financial System Won't Work", Moneywatch.com, April 17, 2009]
4. David L., "Congressional Budget Office compares downturn to Great Depression", *McClatchy Washington Bureau*. January 27, 2009.
5. Finch, Julia (2009-01-26). "Twenty-five people at the heart of the meltdown ...". *The Guardian*. <http://www.guardian.co.uk/business/2009/jan/26/road-ruin-recession-individuals-economy>. Retrieved 2009-04-10.
6. <http://clubtrotto.com.au/2008/11/23/what-is-the-difference-between-a-recession-and-a-depression/> "What is the difference between a recession and a depression?" Saul Eslake Nov 2008
7. <http://encarta.msn.com/encnet/features/dictionary/DictionaryResults.aspx?refid=1861699686>.
8. <http://money.cnn.com/2008/12/01/news/economy/recession/index.htm?postversion=2008120112>. Retrieved 2009-04-10.
9. [http://www.adb.org/Documents/Books/Key\\_Indicators/2001/default.asp](http://www.adb.org/Documents/Books/Key_Indicators/2001/default.asp)
10. <http://www.merriam-webster.com/dictionary/recession>. Retrieved 19 November 2008.
11. [http://www.nytimes.com/2008/10/24/business/economy/24panel.html?\\_r=1&partner=permalink&expprod=permalink](http://www.nytimes.com/2008/10/24/business/economy/24panel.html?_r=1&partner=permalink&expprod=permalink). Retrieved 2009-04-18.
12. U.S. deficit poses potential systemic risk: Taylor, Reuters, August 21, 2009
13. Wearden, Graeme (2008-06-03). "Oil prices: George Soros warns that speculators could trigger stock market crash". *The Guardian*.  
<http://www.guardian.co.uk/business/2008/jun/03/commodities>. Retrieved 2009-04-10.