Working Paper No. 234

Indian Economic Outlook 2008-09 and 2009-10

Rajiv Kumar
Mathew Joseph
Dony Alex
Pankaj Vashisht
Debosree Banerjee

March 2009

INDIAN COUNCIL FOR RESEARCH ON INTERNATIONAL ECONOMIC RELATIONS

Table of Contents

List of Tables

List of Figures

Foreword

This is the first working paper by the newly established Macro Unit in ICRIER. Some results were earlier presented on 19th September, 2008 in the seminar on "*Preventing an Economic Downturn*" jointly organized by ICRIER and Centre for Monitoring Indian Economy (CMIE). The comments from the seminar have been incorporated. The inclusion of the Leading Indicators Approach (LEI) analysis for forecasting GDP growth, perhaps the first in the country would hopefully help in generating a discussion on using this technique more extensively. This LEI based model had enabled us to be the first in forecasting as early as December 2008 that Indian GDP growth in 2008-09 will be about 6 per cent. I wish to acknowledge the substantial contribution by Mr. Karan Singh (ICRIER) in the preparation of this paper. Comments and feedback will be greatly appreciated.

(Rajiv Kumar)
Director & Chief Executive

March 19, 2009

Abstract

This paper provides an outlook for the Indian economy in the light of the extraordinary global financial crisis, that started in the US, but which has now transformed into the worst economic downturn since the Great Depression. The Indian economy was slowing down even before the onset of global crisis and so the timing of this external shock could not have been worse. The analysis undertaken for this paper shows that the global crisis is likely to bring the Indian GDP growth rate down considerably. This will pose a big challenge requiring urgent and sustained policy attention to prevent this downturn from becoming unnecessarily prolonged. There is real downside risk that the growth rate could plummet to the pre-1980s levels if appropriate countercyclical measures are not taken immediately and are not urgently followed by necessary structural reforms. The paper provides a short-term forecast for GDP growth based on a model of leading economic indicators. We present three scenarios in the paper assuming differentiated impact of the external crisis. Finally the paper suggests a set of policy measures to get the Indian economy back on the path of sustained rapid and inclusive growth.

Keywords: *Forecasting, Indian economic growth, Economic outlook and conditions, Financial crises*

JEL Classification: *E17, E66, G01*

1. Introduction

Researchers in the Macro Unit at ICRIER have been developing the model of leading economic indicators to try and forecast India's GDP growth. The latest results from this exercise were published in an early December issue of Business Standard. This paper attempts to further extend our GDP forecast until the end of 2009-10 and also provides an analysis of recent trends in the Indian macroeconomic situation. The structure of the paper is as follows: The next section initially describes the changes in India's external environment. It also examines the nature and intensity of the on-going global economic downturn by looking at recent trends in world economic growth, global trade and financial flows and the collateral damage that has been caused in major emerging economies. Section 3 then provides an analysis of past crises that India had undergone and also the recent trends of the Indian economy before and after the onset of the global downturn. Section 4 examines the policy response to the downturn and points out its strengths and weaknesses. Sections 3 and 4 thus provide the context for the growth forecast included in this paper. The penultimate section outlines the methodology of the leading economic indicators analysis and provides the forecasts for 2008-09 and 2009-10. Finally, section 6 contains policy suggestions for India to recover from the current slowdown and resume sustained high and inclusive growth in the medium term.

2. Global Economic Downturn

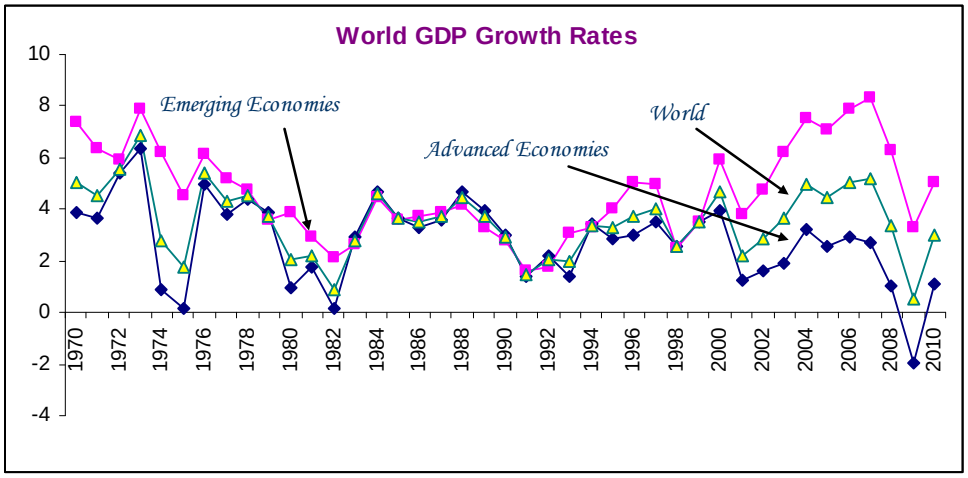
The extraordinary financial crisis in the US has spread to Europe and Japan and is likely to see most developed economies suffering a prolonged period of recession that could extend beyond 2009 and according to some even beyond 2010. The financial crisis in the US started in the latter half of 2007, with the so-called sub-prime housing mortgage crisis. As is by now well established,[1] the crisis had its real roots in hugely excessive leveraging by investment and commercial banks, under-pricing of risk and lack of necessary regulatory oversight. The busting of some of the big financial institutions has created an atmosphere of lack of confidence. This in turn has near completely clogged the flow of credit in the system. The banker's adage that 'it's not the speed that kills, it's the sudden stop' fits the present precarious situation quite well. The impasse seen in the credit flow has had a direct impact on investment and consumption and has taken a massive toll of the real economy. The morphing of the 'Wall Street crisis' in to a historical 'Main Street crisis' has led to the majority of OECD economies sliding into deep recession. And it is not yet clear as to when the bottom of this recessionary slide will be reached. This causes a further loss of confidence.

The enormity of the situation can be sensed by looking at some numbers. The IMF has re-estimated that the losses for financial institutions on account of US-based mortgage loans (the so called sub-prime loans) and securities may rise up to US$ 2.2 trillion (last estimate in October 2008 was US $ 1.4 trillion) [IMF, 2008a and 2009a]. The total funds made available by the US government and the Federal Reserve so far under the various rescue programs have already amounted to a whopping US$ 7.5 trillion or more (James Barth, 2008). In addition, the loss of market capitalization can

[1] "The First Global Financial Crisis of the 21st Century Part II: June – December, 2008" VOX Book February 2009. http://www.voxeu.org/.

be gauged from the sharp fall in stock market prices both in mature and emerging economies. The loss of wealth this represents is bound to adversely impact global demand for a prolonged period. This year in the Forbes list of billionaires the total wealth registered was 2.4 trillion U.S. dollars, down from 4.4 trillion last year, reducing more than 45 per cent and marking the worst reading since Forbes began compiling the list.

Figure 1: World GDP Growth Rates: 1970-2010

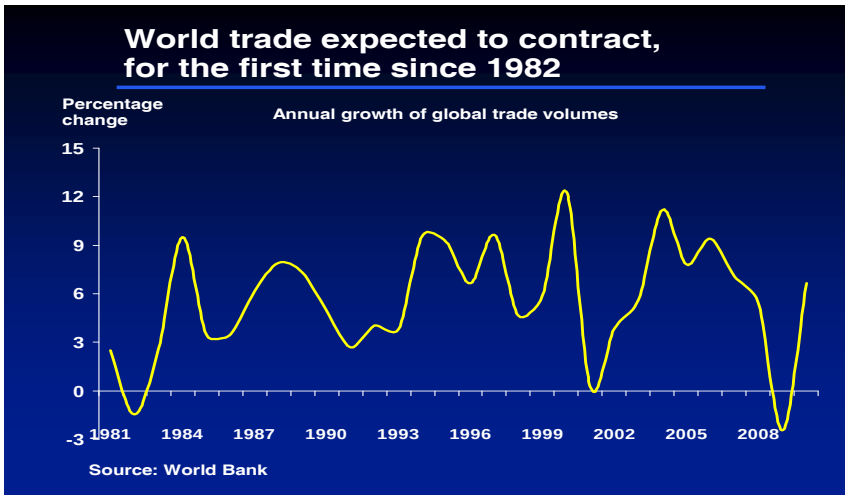


Source: IMF World Economic Outlook Update, January 2009.

This acute financial crisis resulted in a sharp slowdown of global GDP growth rate (Fig. 1). The acuteness, unpredictability and speed of the economic downturn can be gauged by the frequent downgrading of forecasts by the IMF. An IMF assessment in early November 2008 has projected that the world output would grow by 2.2 per cent in 2009 as compared to 3.4 per cent in 2008 and 5.2 per cent in 2007 (IMF, 2008b and 2009b). This has been revised in January 2009 to as low as 0.5 per cent and there is talk of the global GDP actually contracting in 2009 if major emerging economies are unable to compensate for the massive loss of external demand[2]. Projections by the IMF in November 2008 for advanced economies had estimated a contraction of around 0.3 per cent in 2009. This has been revised downwards in January 2009 to around 2.0 per cent. This is the first annual contraction for developed economies taken together since World War II. The World Bank had projected in early December 2008 that world trade will contract by 2.1 per cent in 2009, the first time since 1982 (World Bank, 2009). The IMF in January 2009 has revised it downwards to 2.8 per cent. The decline in exports in some major economies in the third and fourth quarters of 2008 has been simply stunning. In January 2009, exports fell sharply in Japan by 46.3 per cent, in Germany by 20.7 per cent, China by 17.5 per cent, in India by 15.9 per cent and in UK by 6.7 per cent.

[2] IMF Managing Director, Strauss Kahn has indicated that IMF is expected to further revise the global growth for 2009 to subzero in its *World Economic Outlook* to be released in April 2009.

Figure 2: Global Trade, 1981-2008



While some major emerging economies like China and India escaped the negative impact of the financial meltdown on their banking sector, any hopes that their real economies have decoupled from the developed market economies have been quickly belied. These economies are now experiencing a sharp downturn in their GDP growth rates. The IMF in January 2009 lowered its projections of GDP growth in 2009 for both India and China to 5.1 and 6.7 per cent respectively. This is a sharp slowdown in GDP growth for both these giant emerging economies compared to the past five years.

The contagion of this financial crisis has now spread to countries in Asia as the export markets of these countries have virtually collapsed. Exports in major Asian economies have declined by huge amounts. Japan and Taiwan saw a fall in exports of around 35 per cent and 40 per cent respectively in their exports in December 2008. The fallout from a major slowdown in Chinese exports and its GDP growth on South East economies and indeed the rest of the world can be severe and has yet to be factored in to the estimates of global growth for 2009 and 2010. Along with exports, industries in the region have also been affected as can be seen in the shocking contraction of Taiwan's industrial production of around 32 per cent in December 2008. The severity of the economic downturn has shocked all observers and the end is not yet in sight. The latest forecast by Nouriel Roubini, the NYU professor, who had warned of the crisis ahead of all others, is that world GDP will start to recover only toward the end of 2010. Thus, we have to reckon with another two years of weak global economic activity and perhaps a further shrinking of world trade.[3]

The scale of this global financial crisis and the subsequent economic downturn across the world has made it one of the truly global crises that the world has ever seen. But the pattern and the characteristics of the crisis expectedly have some precedence. In an influential study on the scale and duration of financial crises, Reinhart and Rogoff (2008) found that financial crises are protracted episodes and the asset market collapses due to them are deep and prolonged. Many of the financial crises have been

[3] Nouriel Roubini speaking at the India Today Conclave in New Delhi on 6th March, 2009. See also http://www.rgemonitor.com/.

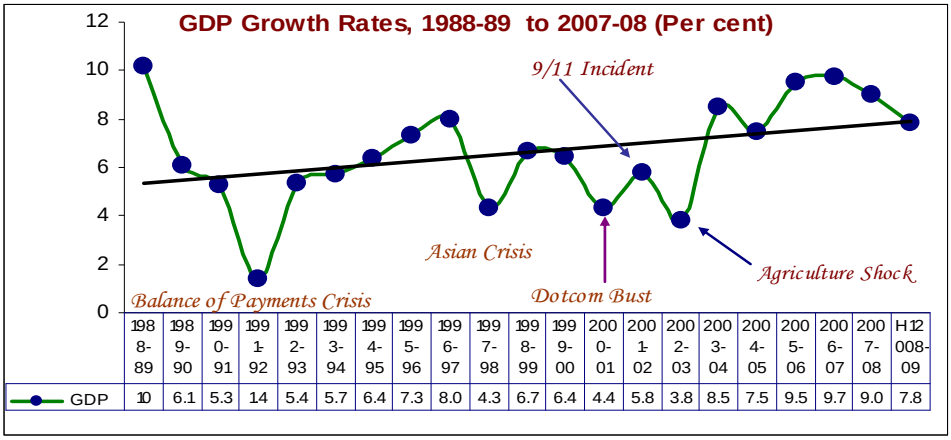
seen to be preceded by bubbles in the housing market and huge bullish rally in the stock markets. In their study they found that on an average real housing prices declined by 35 per cent over six years and the stock prices collapses average around 55 per cent recovering back to normal in more than three years. Apart from the impact on asset classes they found that the crises have huge impacts on the real economy as well. In terms of unemployment they found that the average slump to be around 7 per cent with recovery normally seen in four years. In regard to real GDP per capita they found that the contraction on average is around 9 per cent with an average two year recovery period. These results are important to note both for getting some understanding of how the global economic downturn might unfold in the coming months and also for understanding the impact of the crisis on the future outlook for the Indian economy.

3. Indian Economy: Past Crises and Recent Developments

3.1 Past Crises

Using an averaging process of past crises as done in the seminal study of Reinhart and Rogoff (2008) we try to see the impact of the present global crisis on the nature, severity and duration of the economic downturn in India. The past crises that have been considered are the three major crises – 1991-92 balance of payment (BOP) crisis; 1997-98 fallout from the Asian financial crisis; and 2000-02 crisis caused by the worldwide bursting of the dotcom bubble and 9/11 incident.

Figure 3: Indian GDP Growth Trends



	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	H1 2008-09
GDP	10	6.1	5.3	1.4	5.4	5.7	6.4	7.3	8.0	4.3	6.7	6.4	4.4	5.8	3.8	8.5	7.5	9.5	9.7	9.0	7.8

Source: Central Statistical Organization.

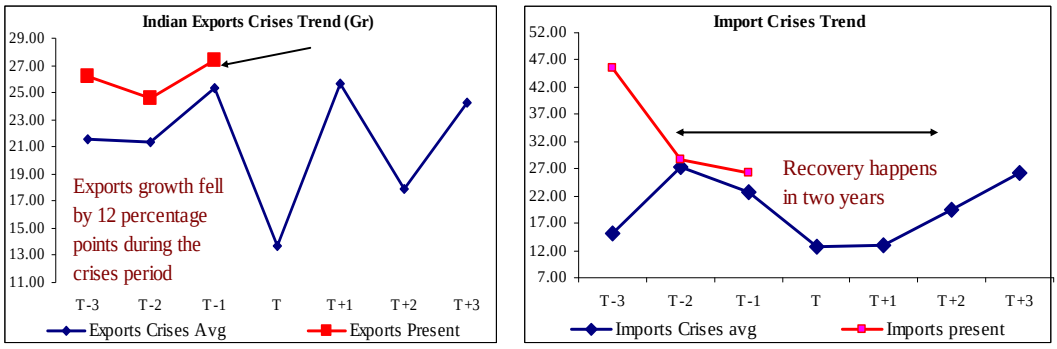
Quite expectedly, the sequencing of the crisis and the transmission mechanism are different in developed and developing economies. In the developed world the crisis originated in the financial sector and then impacted the real economy. The Swedish and Norwegian crises of the nineties and the present crisis in the US followed this sequence. For developing economies in the current crisis the causality and sequencing generally runs the other way, with the real sector being hit first and the financial sector thereafter. The pattern was of course different in the Asian financial crisis of the later nineties when the crisis also originated in the financial sectors of Asian economies. In line with this trend, in each of the cases of external shock, the real

sector of the Indian economy has been initially impacted by the crisis as its banks are considered safe and robust[4]. Exports and foreign trade overall have been the first to be impacted and act as the channel for the external crisis to be transmitted to the Indian economy.

The chart below shows the average of annual exports growth rates during the three major crises that India has suffered since the end of eighties. The period selected is three years prior to and three years after the worst year of the crisis. In the past crises we find that export growth slumped by 12 percentage points during the crises period. But the export sector recovered in just one year after the slump in all the three major crises. The sudden recovery of exports can be due to the huge depreciation that is seen during the crises period.

Figure 4: Indian Exports and Imports Crises Average

Figure 4a: Indian Exports Crises Average **4b: Indian Imports Crises Average**



Source: Reserve Bank of India.

On the other hand if we look at the imports we find that the slump is for a longer duration. As can be seen from Fig. 4b, import growth starts falling two years prior to the crises. The fall in import growth in the three major crises is greater than the fall seen in export growth. Import growth fell at an average of 14 percentage points and recovery also takes longer than for exports. The sharp depreciation during the crisis period makes the imports more expensive, hence, leading to their prolonged slump. The recovery in the case of imports is longer of a period of two years as compared to just one year in the case of exports. During the present crisis, the growth in exports and imports has started declining in September and October 2008 respectively.

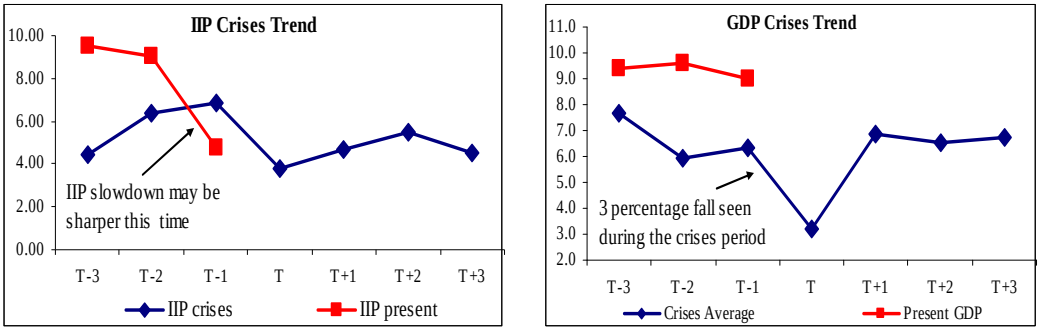
In the earlier crises the manufacturing sector also was negatively impacted. For example during the BOP crisis of 1991-92, the index of industrial production (IIP) grew at just 0.6 per cent. Industrial production has also weakened during the present downturn. IIP growth for the period, October to December 2008, averaged 0.4 per cent. In the month of January 2009, IIP registered a negative growth of around -0.5 per cent. As can be seen from the average of past crises, IIP growth in the peak year of the crises has fallen by an average of 3 percentage points, year on year (Fig. 5a). In

[4] Indian banks did not have any direct exposure to mortgage-based securities, their off- sheet activities were quite limited and nothing of the sort of securitization that was seen in the US was present here.

the present global downturn, manufacturing has virtually collapsed.[5] In India's case it is not yet clear if the trough of the industrial cycle has been reached and hence it is difficult to forecast the trend for the recovery.

Figure 5: IIP and GDP Crises Average

Figure 5a: IIP Crises Average **5b: GDP Crises Average**



Source: Reserve Bank of India

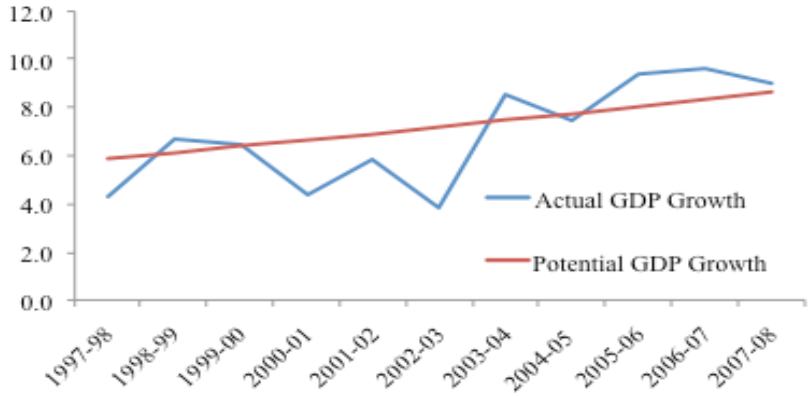
Finally, in the case GDP growth we find it falling by about 3 percentage points during the peak crises year (Fig. 5b).

3.2 Indian Economy: Recent Developments

India had been growing robustly at an annual average rate of 8.8 per cent for the past five years (2003-04 to 2007-08). This was higher than the potential growth rate of output as estimated both by the IMF and OECD (See IMF, 2007 and OECD, 2007). The strong Indian growth story, based on its structural strengths of a young population, skilled manpower, rising savings and investment rates, large unfulfilled domestic demand and globally competitive firms attracted significant investor attention in recent years. Analysts have predicted that by the year 2025, India would be the third largest economy in the world after China and the US. Recent high rates of economic growth have been the result of high levels of investment, rise in productivity supported by technological up-gradation and greater integration with global flows of trade, finance and technology. The challenge is to sustain these high growth rates while also preventing an unacceptable rise in income and spatial inequities and also eliminating absolute poverty in a given time frame. The answer to this challenge is in raising India's potential rate of output growth by removing the binding constraints. We have also estimated the potential growth rate for India during the last decade based on HP filter technique (Hodrick and Prescott, 1997) and found that in the last three years, India had been growing above its potential growth rate (Fig. 6)

[5] Industrial production in the US and UK fell sharply in the latest three months (November 2008-January 2009) by 3.6 per cent and 4.4 per cent respectively (equivalent to annual declines of 13.8 per cent and 16.4 per cent). Germany's industrial production in the fourth quarter of 2008 fell by 6.8 per cent; Taiwan's by a whopping 21.7 per cent and of Japan's by 12 per cent (The Economist, 2009).

Figure 6: Potential GDP Growth and Output Gap (1997-08 to 2007-08)

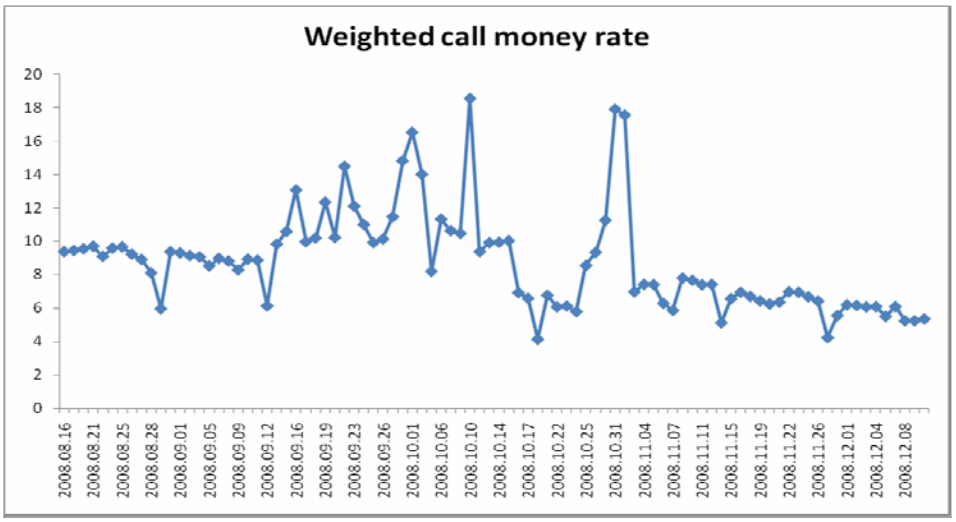


Note: Based on HP filter technique as proposed by Hodrick and Prescott (1997).

Fears of over-heating of the economy prompted the Reserve Bank of India (RBI) to begin monetary tightening as early as September 2004 when the cash-reserve ratio (CRR) for commercial banks was raised. The sharp increase in global fuel and food prices in the first quarter of 2008 aggravated inflationary concerns and resulted in further monetary tightening that saw interest rates being hiked until August 2008. This was clearly a case of policy running behind the curve and consequently over-compensating in its attempt to weaken inflationary expectations. Expectedly, this amount of monetary contraction resulted in a slowing down of the economy with the GDP growth coming down to 7.8 per cent during April-September 2008 from 9.3 per cent in the same period of 2007.

The global financial sector meltdown precipitated by the collapse of Lehman Brothers in September 2008 and the subsequent virtual nationalization of AIG, the world largest insurance company, impacted India at a time when the economy was already in the midst of a cyclical slowdown. The immediate transmission of the financial crisis to India was through a cessation of credit flows which was reflected in the spiking of overnight call money rates that rose to nearly 20 per cent in October and early November 2008 (See Fig. 7). Spooked by market rumors and some circumstantial evidence, depositors sought safety by shifting their deposits away from private banks to large public sector banks as reflected in the State Bank of India (SBI) seeing an increase in deposits of more than Rs. 1000 crore per day during that period. Foreign institutional investors (FIIs) withdrew from the Indian markets to provide the much-needed liquidity to their parents in the US or Europe. This resulted in a net repatriation of about $ 13 billion by the FIIs in 2008 on account of equity disinvestment though small has resulted in a sharp decline in equity prices and market capitalization. Besides, there had been large-scale redemption of holdings with mutual funds which put further pressure on liquidity. Thus, while the Indian banking sector remained largely unscathed by the global financial crisis, it could not escape a liquidity crisis and a credit crunch. This in turn has had its impact on investment and consumption and the real economy.

Figure 7: Daily Call Money Rates



Source: Reserve Bank of India.

Thus, the present global crisis has already begun affecting the Indian economy. With the sharp fall in oil and other commodity prices, inflation fears have receded. The year- on-year inflation rate has already come down to 2.4 per cent in the week ended 28th February 2009 from the peak of 12.9 per cent for the week ended 2nd August 2008. This does not fully reflect the actual softening of prices in the last few months, which is better seen by looking at month-on-month price changes (See in the next section). The significant decline in prices is worth noting as it presents policy options that could be missed otherwise.

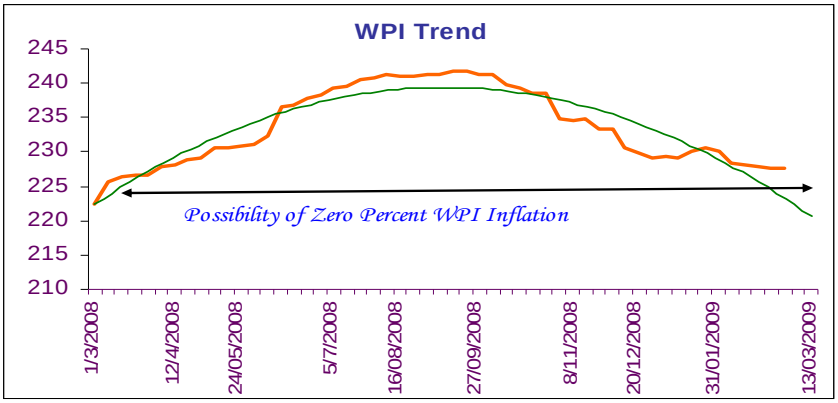
Deflation Possibility

The rate at which inflation has been sliding coupled with high base effect in the coming weeks provides quite a reasonable possibility of negative inflation. Apart from the year-to-year inflation if we take into consideration the month-to-month and quarter-to-quarter inflation, WPI inflation is already in negative territory. The rate at which inflation has been sliding has been sharp. If we try to follow this through a polynomial trend line, we find that the trend line has an inverted U shape (Fig. 8). The WPI index for the last week of February 2009 stood at 227.7. If we extend the trend line for another four weeks, i.e., up to end-March, we find that the index reduces to 225. This compared to last year would lead to a negative inflation rate. And even if we keep the price index constant at the present level of 227.7 then also in the second week of April we can expect negative inflation.

Moreover, there are several factors that point towards a continued sliding of prices in the coming months. Both global and domestic demand for commodities is likely to remain weak in the coming months. The services and manufacturing sector are faced with unutilized capacities and so a price rise is most unlikely to happen. In fact, there is a danger today of deflationary situation arising in the economy.

But what about growth? All signs point to a further and perhaps a sharper slowing down of the economy in the second half of 2008-09 fiscal year. The index of

Figure 8: Possibility of Negative Inflation



Source: Office of Economic Advisor, Ministry of Commerce &Industry, Government of India.

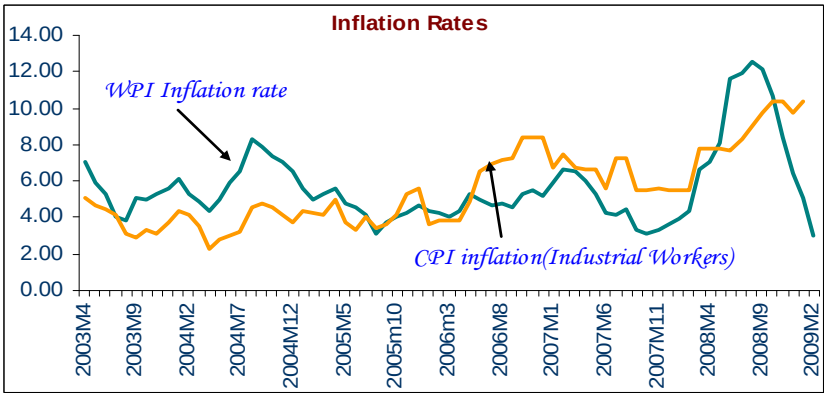
industrial production (IIP) registered a negative growth (a decline in production levels) in December 2008, for the first time since April 1994 and again in January 2009. Exports which had grown by 29 per cent in 2007-08 and 29.5 per cent in the first half of 2008-09 have shown negative growth from October onwards. In this context of a severe external shock brought about by the on going global recession, this paper examines the growth prospects of India for 2008-09 and 2009-10. It also looks at the policy challenges facing the government in protecting the economy from the global recessionary contagion and attempting to achieve sustained high growth with low inflation over the medium term.

4. Causes of the Slowdown in 2008-09

4.1 Impact of Monetary Tightening

Price stability, strongly anchoring inflationary expectations, promoting growth and maintaining financial stability are the avowed objectives of Indian monetary policy. The tolerance limit for the purposes of monetary policy for inflation in India is considered to be at about 5 per cent. Inflation in India has been at moderate levels as compared to other emerging economies but during 2003-04 the wholesale price index (WPI) inflation crossed the 6 per cent mark (Fig. 9).

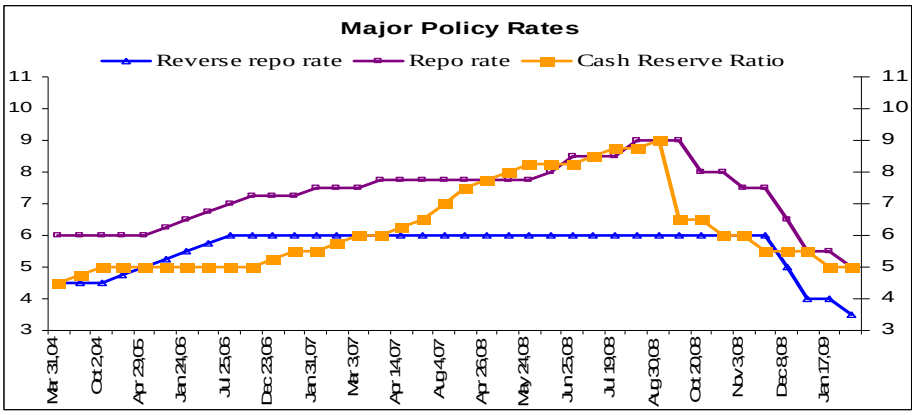
Figure 9: WPI Inflation and CPI (Industrial Workers) Inflation Rates



Source: Office of Economic Advisor, Ministry of Commerce & Industry, Government of India.

In response to the rise in inflation, the RBI, with its hawkish stance on inflation, and faced with an overheating economy, started monetary policy tightening as early as September 2004 when the CRR was raised from 4.5 to 5 per cent in two steps. As the inflationary situation worsened in the subsequent period the tightening got harder as shown in Fig. 9. With headline inflation crossing double digits first time in the second week of June 2008 and reaching 11 per cent primarily due to the abnormal hike in global fuel, food and commodity prices, the RBI continued with further monetary tightening. The last set of measures to cool the economy were announced at the end of August 2008. The RBI, ostensibly in response to global oil prices crossing $147 per barrel and domestic year-on-year inflation reaching 12.9 per cent raised the CRR by 25 basis points to 9 per cent. As several critics pointed out, the tight monetary policy stance was provoked principally to compensate for the fiscal expansion that originated with the 2008-09 budget. But the RBI perhaps overlooked that price trends, as reflected in the month-on-month changes had begun to head southwards since end of September 2008. The economy had already slowed down before the onset of the global crisis on account of the measures taken since the latter half of 2004.

Figure 10: Monetary Policy Changes, March 2004- March 2009



Source: Reserve Bank of India.

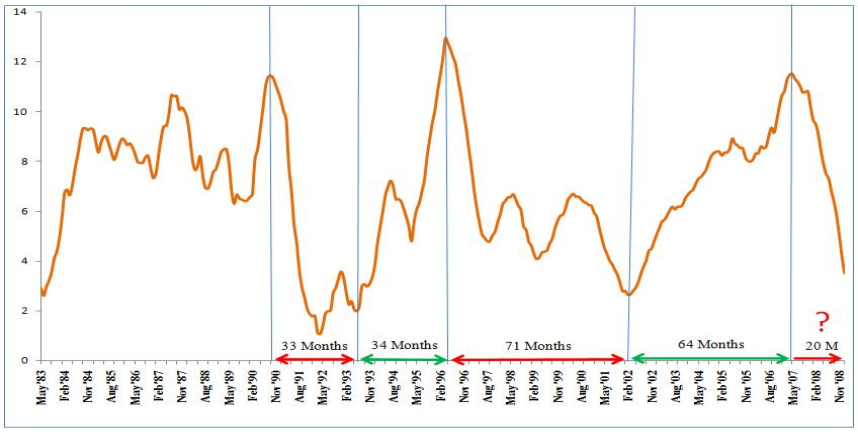
The effects of monetary policy are subject to long lags and the full impact of the progressive tightening that continued until August 2008 is still to fully work itself out. However, the contractionary impulses generated by the tightening undertaken until August 2008 are now being countered by the expansionary impact of monetary policy relaxation that started in the latter half of October 2008.

4.2 Industrial Sector Weakness

Fig. 11 plots the 12-monthly moving average of growth rates in the index of industrial production (IIP) from September 1982. This shows that industrial growth is characterized by prolonged periods of downturns. We had two previous downturns since the early 1980s: the first one in the early 1990s lasting 33 months and the second one since the mid-nineties lasting a longer 71 months. The first downtrend that happened in the early 1990s was on the back of the external payment crisis whereas the second downtrend coincided with the East Asian crisis. The recent downturn started since May 2007 and by December 2008 has already run for 20 months was

preceded by the longest upward industrial cycle during which the IIP growth rate improved almost continuously for 64 months. Underlying the beginning of the slowdown is the hardening of interest rates since March 2007 in the wake of the tightening monetary policy. The second quarter year-on-year IIP growth in the current year (Q2 2008-09) has dropped to 4.7 per cent from 5.3 per cent in the first quarter. In Q3 2008-09, the growth rate had turned to just 0.4 per cent. In January 2009 the growth rate turned negative at -0.5 per cent. The downturn is turning severe and would be prolonged due to the global crisis.

Figure 11: 12 Month Moving Average of IIP (1982-2008)

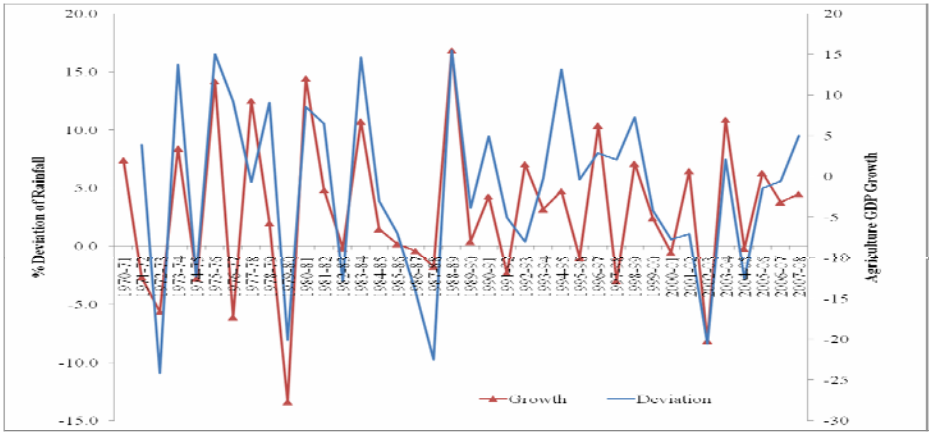


Source: Central Statistical Organization.

4.3 Monsoon-dependent Agriculture

In India agricultural growth closely follows monsoon. This is illustrated in Fig. 12 which gives the relationship between agricultural GDP growth and the deviation of rainfall from normal. It can be seen that monsoon deviations have a major impact on agricultural output. Except a few years in the late seventies and mid-nineties, the relationship holds up quite strongly.

Figure 12: Monsoon and Agricultural Growth



Source: Department of Agriculture & Cooperation, Government of India.

However, agriculture performance depends not only on the average level monsoon but also on its temporal and spatial distribution. During the current year, the cumulative rainfall during the south-west monsoon was normal or excess in 34 of total 36 sub-divisions, its distribution has been uneven and as a result, the areas sown in the *kharif* season for coarse cereals, pulses, sugarcane, cotton and jute have been lower than last year. There were excess rains towards the end of south-west monsoon which has increased the moisture levels in the soil and that was considered good for the *rabi* crop. According to official crop-weather watch reports, there have been increases in area sown under various crops in the *rabi* season.

The second advance estimates of food crops and cash crops released by the Department of Agriculture and Cooperation in February 2009 show a marginal decline in production of total food grains and a substantial decline in production of all major cash crops in 2008-09 compared to the previous year (Table 1).

Table 1: Estimates of Foodgrains and Commercial Crops for 2008-09 (Lakh tones)

Crop	2007-08 (Final Estimates)	2008-09 (2nd Advance Estimates)	Change (%)
Rice	96.69	98.89	0.3
Wheat	78.57	77.78	-1.0
Coarse cereals	40.76	36.96	-9.3
Total cereals	216.02	213.63	-1.1
Pulses	14.76	14.25	-3.5
Total foodgrains	**230.78**	**227.88**	**-1.3**
Groundnut	91.83	66.17	-27.9
Soybean	109.68	90.45	-17.5
Total nine oilseeds	**297.55**	**259.60**	**-12.8**
Cotton (lakh bales)	**258.84**	**221.67**	**-14.4**
Jute & Mesta (lakh bales)	**112.11**	**110.38**	**-1.5**
Sugarcane	**3481.88**	**2904.49**	**-16.6**

Source: Department of Agriculture & Cooperation, Government of India.

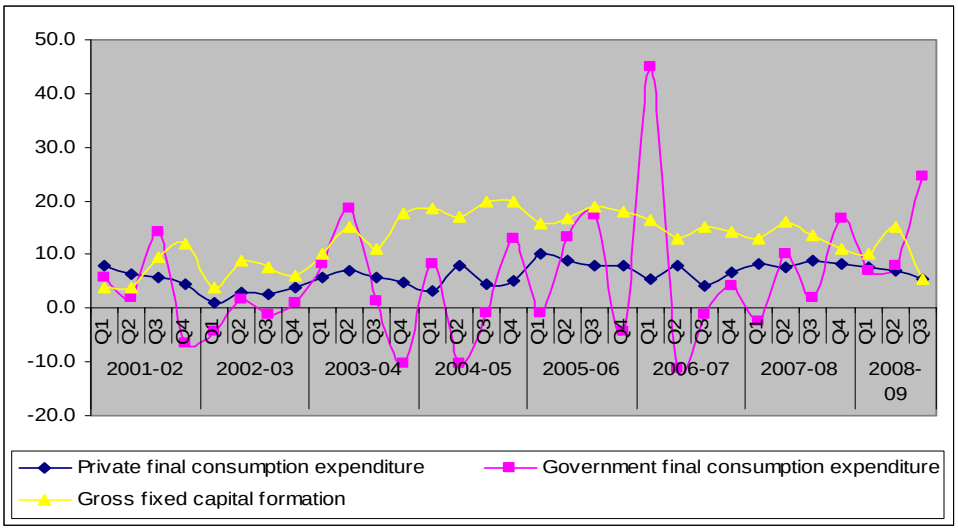
4.4 Investment Weakness

The major drivers of India's high growth rate in the last five years have been investment and private consumption. As can be seen from Fig. 13, the rate of growth in gross fixed investment more than doubled from about 7 per cent during 2001-03 to about 16 per cent during 2003-07. Growth in private final consumption also rose from about 5 per cent during 2001-05 to about 8 per cent during 2005-07. Private consumption growth has slowed down since Q3 2007-08, and the growth in fixed investment has continuously fallen since Q2 2007-08 with some pick-up just in Q2 2008-09. Government final consumption expenditure which normally is subject to wide swings has shown some reasonable growth in recent quarters and substantially so in Q3 2008-09.

The financial crisis in the US and the consequent recession in major developed countries have altered investment sentiments in India. The investment weakness which had already begun in India in the second half of 2007-08 has further worsened

with the global crisis. The impact of global crisis on both consumption and investment is clearly seen in Q3 of 2008-09 (Fig. 13).

Figure 13: Composition of Demand Growth, 2001-02 to 2008-09 Q3 (Per cent)

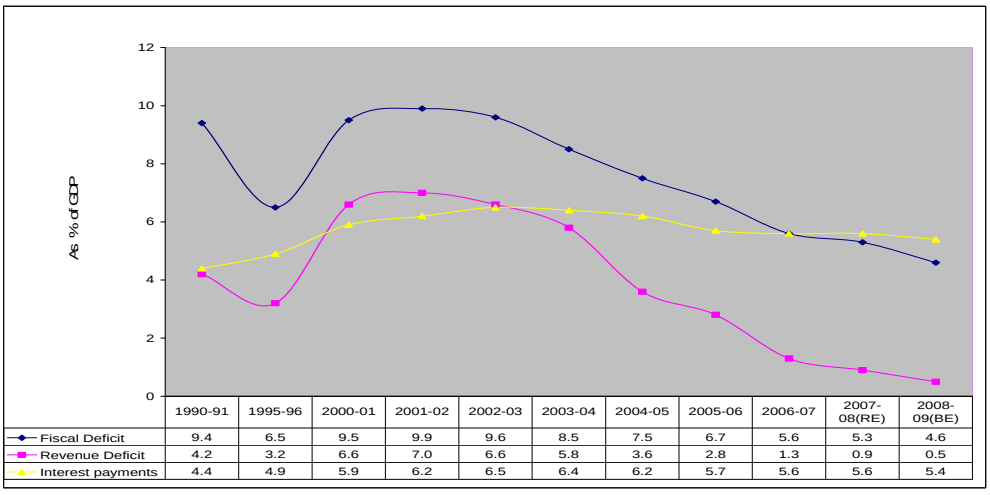


Source: Central Statistical Organization.

4.5 Fiscal Measures

Fig. 14 provides a synoptic view of fiscal trends from 1990-91, the year in which India confronted its gravest economic crisis. There has been a steady improvement in central and state finances since 2001-02 when the fiscal and revenue deficits of the combined central and state governments reached a peak of 9.9 per cent and 7.0 per cent of GDP respectively.

Figure 14: Fiscal Indicators of the Combined Centre and States



	1990-91	1995-96	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08(RE)	2008-09(BE)
Fiscal Deficit	9.4	6.5	9.5	9.9	9.6	8.5	7.5	6.7	5.6	5.3	4.6
Revenue Deficit	4.2	3.2	6.6	7.0	6.6	5.8	3.6	2.8	1.3	0.9	0.5
Interest payments	4.4	4.9	5.9	6.2	6.5	6.4	6.2	5.7	5.6	5.6	5.4

Source: Reserve Bank of India.

There was some deterioration in the central government finances in 2005-06 but these improved in 2006-07. The fiscal consolidation by the states has also been quite significant in recent years.

The central government budget for the current year 2008-09 targeted a further improvement in the fiscal situation. However, several leading experts and economists have conclusively pointed out the gross underestimation of fiscal deficit in that budget. The Interim Budget, released in February 2009, has now revealed a huge rise in fiscal deficit of the central government to 6 per cent of GDP in 2008-09 from 2.7 per cent in 2007-08.

The table below summarizes the budgetary trends as presented in the Interim Budget 2009-10. The worsening of fiscal deficit in 2008-09 (revised estimates) from the budget estimates is due to an increase in expenditure of Rs. 150,069 crore (2.8 per cent of GDP) and a decline in revenue receipts of Rs. 40,762 crore (0.75 per cent of GDP). The fiscal burden arising from fiscal stimulus packages (including both revenue fall and expenditure increase) amounted to Rs. 40,700 crore constituting just 0.75 per cent of GDP. Thus, out of the deterioration of fiscal deficit of 3.5 per cent of GDP from the budget estimates, the bulk of it, i.e., 2.8 per cent of GDP has not been due to fiscal stimulus packages.

Table 2: Central Government Budget 2009-10 (Rs. Crore)

	2007-08 (Actuals)	**2008-09 (BE)**	**2008-09 (RE)**	**2009-10 (BE)**	**%Change 4 over 2**	**%Change 5 over 4**
1	**2**	**3**	**4**	**5**	**6**	**7**
1. Revenue Receipts (3+4)	541925	602935	562173	609551	3.7	8.4
2. Gross Tax Revenue	593147	687715	627949	671293	5.9	6.9
Corporation tax	192910	226361	222000	244200	15.1	10.0
Income tax	102644	120604	108000	118800	5.2	10.0
Customs	104119	118930	108000	110187	3.7	2.0
Excise duties	123611	137874	108359	110604	-12.3	2.1
Service tax	51300	64460	65000	68900	26.7	6.0
3. Net Tax Revenue (Net of States' Share)	439547	507150	465970	497596	6.0	6.8
4. Non-Tax revenue	102378	95785	96203	111955	-6.0	16.4
5. Recoveries of Loans	5100	4497	9698	9725	90.2	0.3
6. Other Receipts*	3264	10165	2567	1120	-21.4	-56.4
7. Total Expenditure*	677201	750884	900953	953231	33.0	5.8
8. Revenue Expenditure	594494	658119	803446	848085	35.1	5.6
Of which: Interest payments	171030	190807	192694	225511	12.7	17.0
9. Capital Expenditure*	82707	92765	97507	105146	17.9	7.8
10. Revenue Deficit (8-1)	**52569 (1.1)**	**55184 (1.0)**	**241273 (4.4)**	**238534 (4.0)**	**359.0**	**1.1**
11. Fiscal Deficit [7-(1+5+6)]	**126912 (2.7)**	**133287 (2.5)**	**326515 (6.0)**	**332835 (5.5)**	**157.3**	**1.9**

**Excludes transactions related to RBI transfer of State Bank of India to central government in 2007-08 (Rs. 35531 crore) which is deficit neutral as equivalent amounts are shown on both receipts and expenditure sides.*
Note: Figures in brackets are per cent to GDP.

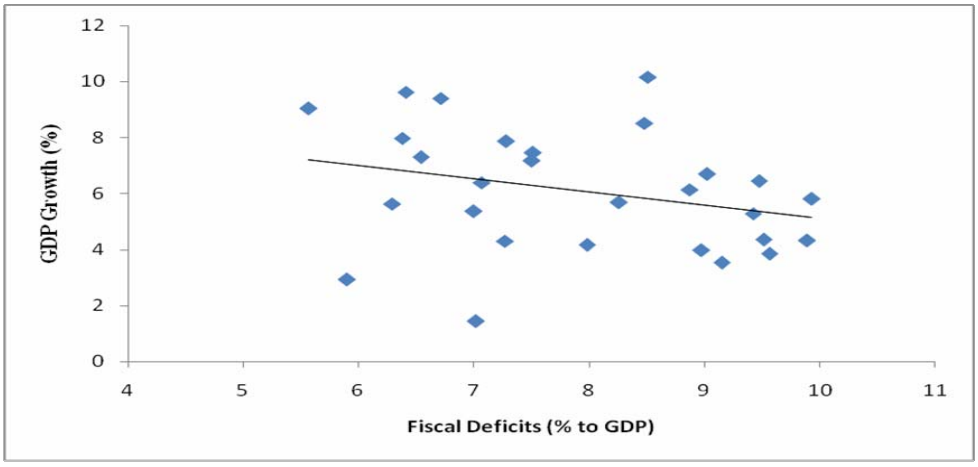
Source: Budget Documents, Ministry of Finance, Government of India.

The above estimates do not take into account the off-budget items of oil and fertilizer bonds which are estimated at Rs. 95,942 crore, equivalent to 1.8 per cent of GDP. For the previous year 2007-08 this amounted to Rs. 19,453 crore or 0.4 per cent of GDP. Thus including these off-budget items, the centre's fiscal deficit in 2008-09 would be 7.8 per cent of GDP compared to 3.1 per cent of GDP in 2007-08, a more than doubling of the deficit and largely, it can be argued, on account of electoral considerations as it was generated prior to the eruption of the global crisis in September 2008. The consolidated fiscal deficit of the states is expected to be over 3 per cent of GDP in 2008-09 against the budget estimates of 2.1 percent. Taking into account the additional borrowing of Rs. 30,000 crore for the fiscal stimulus package and the likely shortfall in tax revenues, the combined overall fiscal deficit would be about 11 per cent of GDP in 2008-09 as against 5.4 per cent in 2007-08.

Is High Deficit a Problem?

This high fiscal deficit marks a sharp reversal of fiscal consolidation happening over the last 6 years. It is a matter of concern as the Indian experience shows that high fiscal deficit hurts economic growth (Fig. 15).

Figure 15: Fiscal Deficits and GDP Growth (1981-2 to 2007-8)



Source: Reserve Bank of India.

The RBI (2001) has done significant research on the role of fiscal policy in reviving the Indian economy.[6] The results of the research show that attempts to raise public sector consumption to revive aggregate demand crowd out both private consumption and investment with no long-run impact on output. On the other hand, government

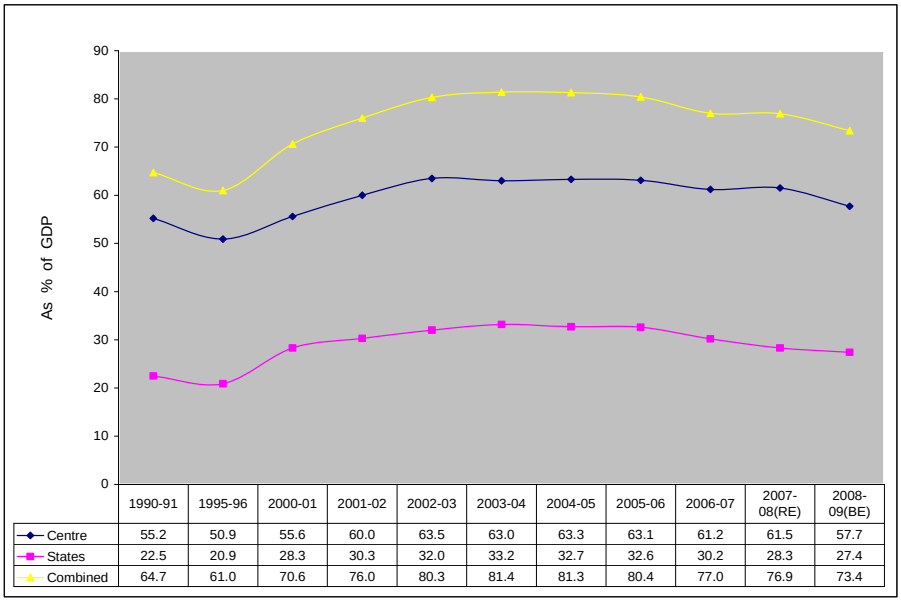
[6] This research looked at the impact not only the quantum of overall government spending but also the composition of government spending. Earlier studies on India had indicated the differential impact of the different components of government expenditure on private sector and the RBI has pursued it further with the data for the period 1972-73 to 1999-00. This shows that (i) government consumption expenditure leads to a decline in private consumption; (ii) public sector investment in manufacturing has a negative effect on private investment; and (iii) public sector investment in infrastructure has a positive effect on private investment. In addition, it shows that while government infrastructure investment encourages private investment, it may well, at the same time increase the fiscal deficit, which in turn could adversely affect the private investment. The study estimates an elasticity coefficient of minus 0.3 for fiscal deficit on private investment.

expenditure on infrastructure investment crowds in private investment; and public investment in manufacturing adversely affects private investment. In addition, the level of fiscal deficit is also seen to be important as the positive impact of public sector infrastructure investment on private investment is predicated on the deficit remaining the same or being less.

Debt Sustainability

With the fiscal deficit estimated to be above 10 per cent of GDP in 2008-09, the ratio of public debt to GDP is set to exceed 87 per cent of GDP at the end of the year. This is likely to rise further in 2009-10 as preliminary estimates for the fiscal deficit for the next fiscal year are also above 10 percent and could be higher if the GDP growth slows down further. This will reverse the downward movement in the public debt to GDP ratio in India, which had been achieved over the last few of years.[7]

Figure 16: Outstanding Liabilities of the Centre and States



	1990-91	1995-96	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08(RE)	2008-09(BE)
Centre	55.2	50.9	55.6	60.0	63.5	63.0	63.3	63.1	61.2	61.5	57.7
States	22.5	20.9	28.3	30.3	32.0	33.2	32.7	32.6	30.2	28.3	27.4
Combined	64.7	61.0	70.6	76.0	80.3	81.4	81.3	80.4	77.0	76.9	73.4

Source: Reserve Bank of India.

But what is the sustainable level of public debt ratio for India? The Twelfth Finance Commission had set this ratio to a target level of around 55 per cent in 2004-05, which was not achieved. Internationally, the Maastricht Treaty had set the tolerable debt level to around 60 per cent of GDP for the European Union countries. However, finding a particular threshold level for public debt to GDP would not be that feasible. In one of the seminal studies on the debt tolerance of countries (Reinhart et al, 2003) found *inter alia* that countries that were to default had higher aggregate public debt to GDP ratio and higher share of external debt in the total public debt than non-defaulters (IMF, 2003). India has one major advantage of having a very low share of

[7] In 2003-04 the total public debt to GDP ratio in India had been 81.4 per cent of GDP. It moved down gradually to below 77 per cent in 2007-08 and was budgeted to go down further to 73.4 per cent of GDP in 2008-09.

external debt in total public debt at less than 5 per cent. While this is a silver lining, letting the total public debt to go far beyond the levels recommended by the Twelfth Finance Commission or the Maastricht Criteria will be problematic. [8]

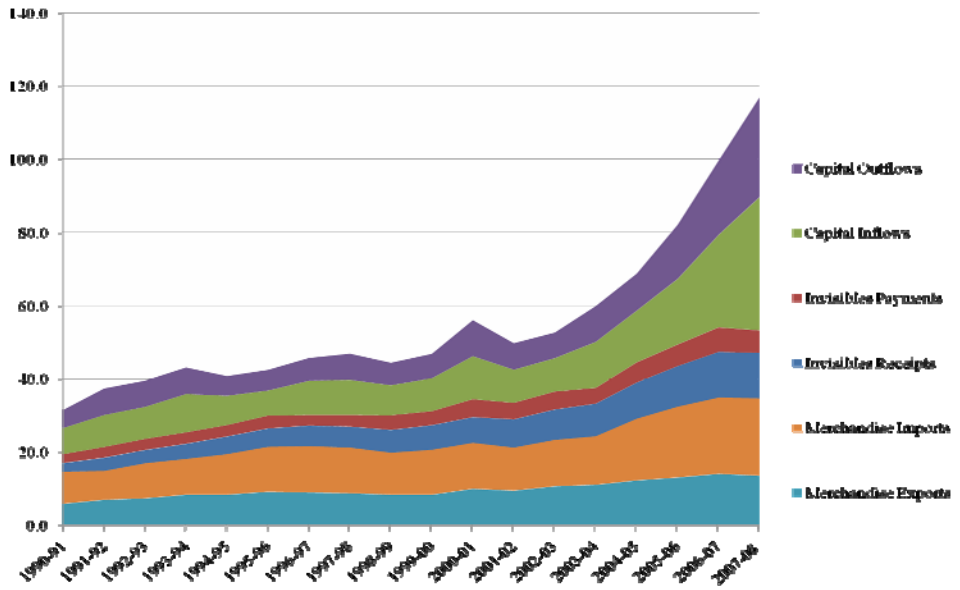
The government introduced fiscal stimulus packages amounting to 1.3 per cent of GDP in 2008-09 which has worsened the already high fiscal deficit situation. The additional borrowing to finance the huge deficit has already raised yields on government bonds in the last few months of the year. At a time of low private sector demand, we find the possibility of government borrowing crowding out the private sector borrowing. Standard and Poor's downgrade of India in February 2009 to a negative territory of lowest investment grade also points to the lack of fiscal space. The argument for crowding out is particularly relevant for India also due to lack of an active government bond market. The burden of fiscal profligacy falls initially on the banks who will try to pass on this burden to the private sector by raising its cost of borrowing. This implies that there is not much fiscal headroom for India in stimulating domestic demand. This is a pity as monetary measures need to be supplemented by fiscal expansion for counter-cyclical measures to become effective. This is especially true in a downturn when the consumption propensity is likely to decline and the monetary multiplier is weak.

4.6 Global Integration

Indian economy has become much more integrated with the world economy now than the pre-reform period. Liberalization in industry, investment, foreign trade, financial sector and capital flows that was undertaken after the balance of payment crisis in early 1990s led to India becoming well integrated with the world economy. Total trade flows (receipts and payments on merchandise and invisibles), as a proportion of GDP, rose from 20 per cent to 53 per cent during the period 1990-91 to 2007-08 (Fig. 17). Capital flows (inflows plus outflows) had been just 12 per cent of GDP in 1990-91, and in 2007-08 they rose to 64 per cent of GDP. Interestingly, these ratios are significantly higher than those in the US for which in 2007 trade in goods and services constituted a lower 41 per cent of GDP and capital flows were only 25 per cent of the GDP in that year.

[8] While it is to difficult to indicate the ideal size of public debt, what one can say is that it will be problematic if the ratio of debt to GDP rises year after year. The basic rule is that the ratio of debt to GDP will keep rising if there is a primary deficit (i.e. fiscal deficit minus interest payments) or if the interest rate of debt exceeds the growth rate of GDP. For the Indian economy, Rangarajan and Srivastava (2005) has found that for the period 1951-2003, primary deficit was the core variable that led to increase in debt to GDP ratio. The public debt to GDP ratio in the beginning of the first Plan period (1950-51) was around 29.6 per cent which had risen to 75.9 per cent in 2002-03. However, even with a primary deficit for a long period of time, the debt to GDP ratio was contained in certain periods due to the faster growth of GDP as compared to the real interest rates. Rangarajan (2003) had found that during the 1970's and 1990's, negligible increase was seen in the debt-GDP ratio because nearly 100 per cent of the impact of the primary deficit was absorbed by the growth-interest differential. If we try to evaluate the soundness of the Indian economy through these parameters the picture is some what mixed. The positive factor is that we have been running a primary surplus since 2006-07 and 2008-09 budget estimates had indicated a rather low level of primary deficit of around 0.8 per cent of GDP. However, with the huge rise in actual fiscal deficit, there would be a primary deficit of the order of 5 per cent of GDP and more in 2008-09. As regards the growth-interest differential there may be concern as the GDP growth rate would come down sharply in the coming years and interest rates may come down only with a lag.

Figure 17: Deepening Global Linkages



Source: Reserve Bank of India

With the increased linkage with the world economy, India cannot remain immune to the global crisis. India began to feel the impact of the crisis in January 2008 when the BSE sensex collapsed after crossing the peak of 20800 in early January 2008. Basically there are three channels through which India is affected by the global crisis: (i) financial markets, (ii) trade and (iii) exchange rate.

The financial channel has been operating in India largely through the equity or portfolio flows. The outstanding FII equity investments at the end of December 2007 had been about US$ 66 billion and by 13th March 2009 they have fallen to US$ 51 billion. This is due to the US and European financial institutions which are undergoing a historically unprecedented "deleveraging" process. The IMF has estimated that the US and the European banks alone are to downsize their assets by about US$ 10 trillion in 2009. This will involve massive disinvestment from the emerging markets continuing this year. FII equity outflows are just one part of outflows from India. Indian banks and corporates have been unable to borrow from abroad as there is a complete freeze of the financial system in the US and Europe. Instead, they had to send funds from India to provide for the necessary liquidity in their operations abroad as foreign banks were unable to meet their requirements. Moreover, trade financing by foreign banks also practically dried up and Indian banks had to substitute for that as well. With the crashing of global and domestic stock markets, the primary issue market also dried up in India. All this led to a huge liquidity and credit squeeze in India during September-October 2008.

The trade channel has worked negatively with the collapse of global demand for Indian exports, both merchandise and services. As a result, growth in India's exports slowed down sharply in September 2008 and turned negative from October onwards. Merchandize exports have been growing at 29 per cent till September 2008. Software exports grew by 22 per cent in H1 2008-09 and remittances by 49 per cent. They are likely to experience sharp declines in the second half for which data is not yet

available. A 10 per cent decline in the growth of export of goods and services could bring down the GDP growth significantly.

A comparison with China will be interesting in this regard. Table 3 gives the structure of demand for the economy of India and China for the year 2006. With very low consumption ratio and high import ratio, the income multiplier for China is lower than that in India. Therefore, though export ratio in China is much higher at 40 per cent than that of India at 23 per cent, the contribution of exports to GDP may not be much lower in India in comparison with China.[9] Rough calculations indicate that a 10 per cent rise in exports can raise the GDP by 4 per cent in China, whereas in India it is likely to increase the GDP by as much as 3 per cent.

Table 3: Structure of Demand 2006: India Vs China

(As % of GDP)

	India	**China**
Household consumption expenditure	58	33
General government final consumption expenditure	11	14
Gross capital formation	34	45
Exports of goods and services	23	40
Imports of goods and services	26	32
Gross savings	34	54

Source: World Development Indicators 2008, World Bank.

The rupee has been depreciating since January 2008 as a direct result of the huge reverse flow of capital out of India. From an average Rs. 40.36 per US dollar in March 2008 it fell to an average of Rs. 49.00 in November 2008, depreciation of about 18 per cent and further to nearly Rs 52 at the beginning of March 2009. This is a decline of 22 per cent over the same month in 2008. Depreciation is good for Indian exports but it will have adverse effects on corporates who borrowed abroad and will raise the cost of external debt servicing. Outstanding commercial borrowing at end-March 2008 had been US$ 62 billion (GOI, 2008).

The direct impact of global crisis will be seen on India's balance of payments in 2008-09 (Table 4). Non-oil exports for the full year may not grow more than 7 per cent against 28 per cent in 2007-08 and non-oil imports 12 per cent against 33 per cent last year.

[9] The income multiplier is given by the formula: 1/1-c (1-t) +m where c=marginal propensity to consume, t=direct taxes as a proportion of GDP, m=imports as a proportion of GDP. With the assumption of a same tax ratio (say, 10 per cent), the income multiplier for India is 1.35 and China just below 1.

Table 4: India's Balance of Payments: 2008-09

(US$ million)

	2006-07	**2007-08**	**2008-09(P)**
Exports	128888	166163	175715
Imports	190670	257789	291113
Trade balance	-61782	-91626	-115398
% of GDP	**-6.8**	**-7.8**	**-9.8**
Invisible receipts	114558	148604	173867
Invisible payments	62341	74012	81413
Invisibles, net	52217	74592	92453
% of GDP	**5.7**	**6.4**	**7.8**
Current account	-9565	-17034	-22945
% of GDP	**-1.0**	**-1.5**	**-1.9**
Capital account (net)	46171	109198	6500
% of GDP	**5.1**	**9.3**	**0.6**
-Foreign direct investment	7693	15401	18000
-Portfolio investment	7060	29556	-15000
-External commercial borrowings	16103	22633	5000
-Short-term trade credit	6612	17183	3000
-External assistance	1775	2114	2500
-NRI deposits	4321	179	3000
-Other banking capital	-2408	9349	-5000
-Other flows	5015	12783	-5000
Change in Reserves (-increase. +decline)	**-36606**	**-92164**	**16445**
Note: Crude oil price at $82 per barrel in 2008-09 against $79 in 2007-08.			

Remittances are assumed to grow by 20 per cent against 41 per cent last year and software exports to rise by 15 per cent against 29 per cent last year. Crude oil price is envisaged to average US$ 82 per barrel against US$ 79 last year[10]. On these assumptions, trade deficit will rise substantially and as a per cent of GDP is likely to be 9.8 per cent in 2008-09 against 7.8 per cent in 2007-08. Current account deficit will widen to 1.9 per cent of GDP in 2008-09 from 1.5 per cent in the previous year.

On the capital account, there could be a nominal surplus of less than 1 per cent of GDP as compared to huge surpluses in earlier years. Foreign reserves will be drawn down to the extent of US$ 16 billion (including valuation changes) against an accretion of US$ 92 billion last year. This will imply a change of more than $100 billion or nearly 10% of GDP in the BOP comfort level of the economy. This may have an adverse impact on investor perception and also on our own ability to handle a further weakening of our service and merchandize exports. There is thus an urgent need for focusing on measures to push exports.

[10] The average spot price of Brent and Dubai crude for April 2008 to January 2009 was US$ 89.6 per barrel and futures price for February and March are about US$ 44 per barrel.

5. Policy Response to the Economic Slowdown

5.1 Monetary Policy Measures

Before the spread of the global crisis, rising inflation was one major downside risk for the Indian economy. But the fall of prices of oil and other commodities and overall fall in demand as a result of recession in major developed countries has pushed down the rate of inflation in India. Inflation measured by the wholesale price index (WPI) had peaked at 12.9 per cent in early August 2008 and has been coming down since then. WPI inflation dropped to 4.4 per cent by 31st January 2009 and just 2.4 per cent as on 28th February 2009. Monetary policy shifted gear and became expansionary from October after the scale of the US financial sector meltdown and its likely adverse effects on the Indian economy became evident. The policy focus has shifted from containing inflation to promoting growth. The RBI thus acted with considerable alacrity in infusing considerable liquidity in to the system.

Falling inflation, a positive byproduct of global crisis, enabled the central bank to loosen monetary policy more aggressively. As indicated earlier, the RBI lowered the cash reserve ratio (CRR) requirements of banks from 9 per cent to 5 per cent, statutory reserve ratio (SLR) requirements from 25 per cent to 24 per cent and the repo rate (the rate at which it lends to banks overnight), from 9 per cent to 5 per cent and reverse repo rate (the rate at which RBI borrows from banks) from 6 per cent to 3.5 per cent. It also opened a special window for banks for short-term funds for on-lending to mutual funds, NBFC's and housing finance companies. It has also started the buy-back of the market stabilization scheme (MSS) securities from mid-November. RBI has opened a refinance facility to Small Industrial Development Bank of India (SIDBI), National Housing Bank (NHB) and EXIM Bank and a liquidity facility to NBFCs through a SPV. It also has opened a dollar swap arrangement for banks for their overseas operations. The actual or potential liquidity injection under all these measures has been estimated at Rs. 3,88,045 crore equivalent to over 7 per cent of GDP (Table 5).

Table 5: Actual/Potential Release of Primary Liquidity since Mid-September 2008

(Rs. Crore)

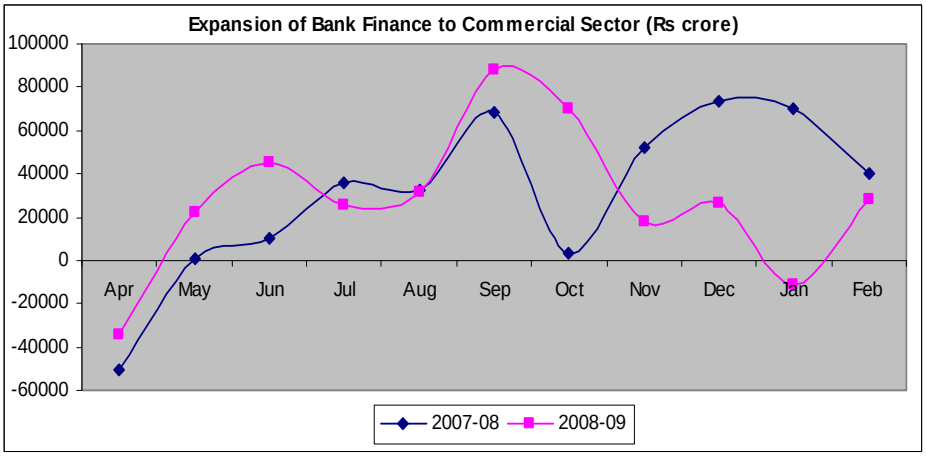
1	Cash Reserve Ratio (CRR) Reduction	1,60,000
2	MSS Unwinding	63,045
3	Term Repo Facility	60,000
4	Increase in Export Credit Refinance	25,500
5	Special Refinance Facility for SCBs (Non-RRB)	38,500
6	Refinance Facility for SIDBI/NHB/EXIM Bank	16,000
7	Liquidity Facility for NBFCs through SPV	25,000
Total (1 to 7)		**3,88,045**
Memo: Statutory Liquidity Ratio (SLR) Reduction		40,000

Source: Reserve Bank of India.

This is indeed an impressive slew of monetary policy measures and shows that the RBI is both watchful and active. The present problem is that this additional liquidity seems to have either found its way into a build-up of bank deposits or been pre-empted by government borrowing. There is hardly any evidence that it has been used for boosting either investment or consumption demand.

The liquidity crisis and credit crunch felt in the economy from mid-September to October 2008 has turned into a situation of deep demand contraction for bank finance as the effects of global recession has spread to India. In fact the expansion of bank finance in January 2009 has been negative at Rs.11, 218 crore as against an expansion of Rs. 70,396 crore in the same month of 2008 (Fig. 18). In the last four months from November 2008 to February 2009, expansion of bank finance to the commercial sector has been just Rs. 60,862 crore as compared to Rs. 2,36,227 crore in the same period last year. This reflects a very soft investment sentiment in the economy which may persist in the coming months.

Figure 18: Expansion of Bank Finance to Commercial Sector (Rs. Crore)



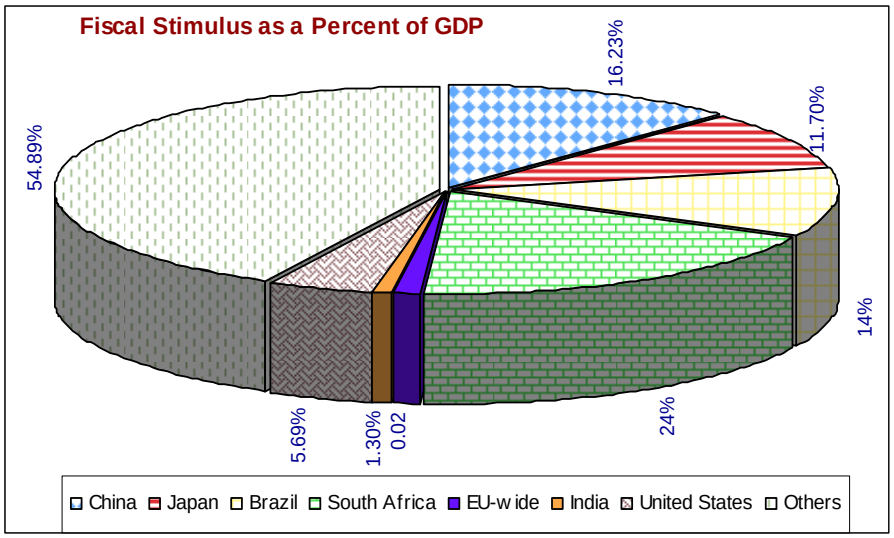
Note: Bank finance includes non-food credit, and investments in shares, debentures, bonds, commercial paper, etc.

Source: Reserve Bank of India.

5.2 Fiscal Stimulus

Due to the acuteness of the financial crisis and the ineffectiveness of monetary policy, governments across the world have announced various fiscal stimulus packages to counter the crisis. In terms of GDP, South African government has announced the biggest stimulus package that constitutes around 24 per cent of GDP (Fig. 19). The second biggest stimulus package has been announced by the Chinese government which constitutes 16.3 per cent of GDP with a total amount of around US$ 586 billion. In absolute terms, the US fiscal stimulus is the largest with an amount of US$ 787 billion. However, these fiscal numbers do not provide the real estimate of total stimulus as guarantees are not included in these calculations nor automatic stabilizers provided in certain countries. The Indian government's fiscal package is small in magnitude constituting around 1.3 per cent of GDP for 2008-09. This seems to be quite small as compared to most of the countries. But as has been reiterated earlier there is less fiscal headroom in India which is already running a high public debt.

Figure 19: Fiscal Stimulus as Per cent of GDP



Source: Gallagher, K.P (2009).

6. Growth Prospects for 2008-09 and 2009-10

Index of Leading Indicators

Given its implications for monetary and fiscal policy, GDP growth forecasting has become an important topic of research among economists. Various forecasting techniques, ranging from a relatively simple Bridge Model to highly complex structural econometric techniques such as Dynamic Stochastic General Equilibrium (DSGE) model are being used to predict future growth. Though all the forecasting techniques have their respective advantages and disadvantages, one approach, which is known as the "Leading Indicators" method, has recently gained a significant acceptability among researchers**.** Leading economic indicators (LEI) are variables that are considered to have significant influence on the future level of economic activity in the country. These indicators give advance signals about the likely future growth rate. Generally they are used to identify inflexion points in the business cycles which can be done with some accuracy as the change in direction of the principal leading indicators would result in a similar directional change in the overall economic activity. The predictive quality of these indicators has given them the appellation of the "leading" indicators. Given its ability to predict GDP growth with high precision in the Indian case[11], we have used here the LEI method for forecasting the GDP growth for 2008-09 and 2009-10.

For constructing the leading indicators index, the following nine indicators have been selected, after testing their correlation with and predictive quality for overall economic activity: (i) production of machinery and equipment, (ii) non-food credit, (iii) railway freight traffic; (iv) cement sales, (v) net sales of the corporate sector, (vi)

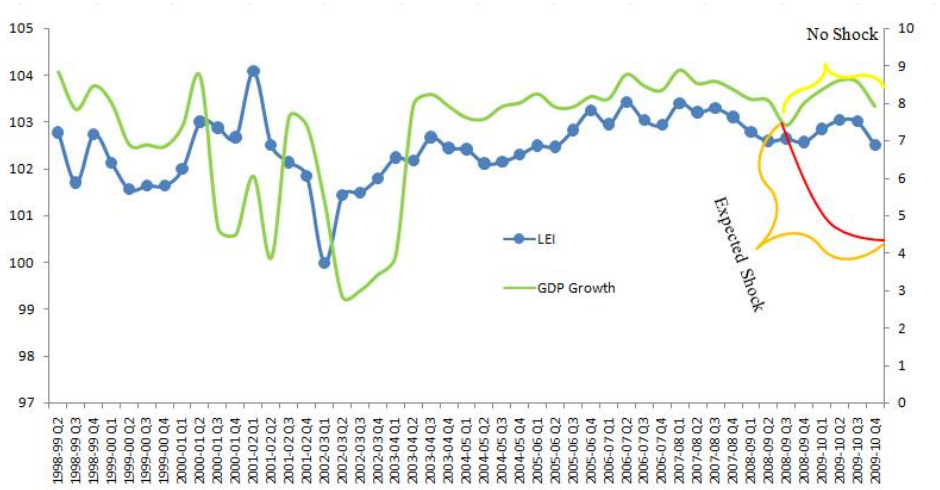
[11] Using the LEI methodology we had predicted in November 2006 a growth of GDP at 9.2 per cent for 2007-08. Most other agencies had predicted a lower growth rate of 8.5 per cent or less as against the actual growth rate of 9 per cent.

fuel and metal prices, (vii)) real rate of interest, (viii BSE sensex and (ix) exports growth.

A composite index for the leading economic indicators has been constructed for the period 1997-2008 with the quarterly series of growth of these variables (except for the real rate of interest where the level, and not the growth, has been used) using the 'principal component index' (PCI) method. The PCI method assigns weights to each component leading indicator by the iteration process based on its contribution to total variation in the composite index.

It has been noted that leading indicators do not capture the impact of external shocks which may have direct and immediate impact on the economy. Examples of such shocks are the IT bust in 2000-01 (Q3 2000-01 to Q2 2001-02), crop failure in 2002-03 (Q2 to Q4 2002-03) and the recent US financial meltdown (starting with Q3 2008-09 up to say, Q4 2009-10). The leading economic indicator index (LEI) with a 5-quarter lag and the shock represented by a dummy variable (equal to 1 with shock and 0 without) are used to forecast India's GDP growth. The growth equation builds in the previous shocks of the dotcom bust and the agricultural failure and its estimates tracked the actual GDP performance very closely. For projecting the GDP growth for 2008-09 and 2009-10, the equation incorporates LEI index plus the current expected shock of the global financial meltdown. Fig. 20 brings together the LEI, the shock variable and the projected GDP growth.

Figure 20: Projection of Growth Rate through Index of Leading Indicators with a Shock Variable



The estimated equation for GDP growth forecast, given below, is satisfactory with adjusted R-square value of 0.65 and all the co-efficients significant at 99 per cent level.

$$GrGDP_t = 7.98 + 1.34\ LEI_{t-5} - 3.70\ Dummy$$
$$(4.70) \qquad (-7.56)$$

The GDP forecast for 2008-09 and 2009-10 is tabulated below (Table 6) alternatively for three scenarios with the shock, without the shock and shock moderated by policy response.

Table 6: GDP Forecast for 2008-09 and 2009-10

	No Shock	With Shock	Shock Moderated by Policy Response
2008-09	7.9	6.3	6.3
2009-10	8.4	4.8	5.5

Using this three pronged calibrated approach we have derived three different forecasts for each of the two years. The scenario with 'no shock' which is considered as a case that would have been possible in the absence of the financial crisis, provides a growth of 7.9 per cent for the year 2008-09. For the year 2009-10 the growth without shock comes out around 8.4 per cent, which implies a recovery that would have been possible in the absence of the external crisis. The scenario 'with shock' has been calibrated for two cases. In the first case, the full impact of the shock has been taken into consideration whereas in the second case, the moderated shock impact has been considered. The first case of full impact of the shock gives a GDP growth of 6.3 per cent for 2008-09 and a much lower 4.8 per cent for 2009-10. The second case which takes into account the impact of both monetary and fiscal stimuli gives a growth of 6.3 per cent in 2008-09 and 5.5 per cent in 2009-10. The impact of the stimulus packages will occur only in 2009-10 and it is too early to occur in 2008-09.

It would be, therefore, realistic to say that the GDP growth rate for 2009-10 would be in the range of 4.8 to 5.5 per cent.

7. Conclusion and Policy Suggestions

The Indian economy was on a cyclical slowdown after a five-year record boom and there was every hope that the economy will go for another strong growth phase after this brief slowdown. The global crisis has changed that outlook and instead will deepen and prolong Indian economy's slowdown. It has dealt a severe blow to investment sentiments and consumer confidence in the economy. The policy response so far has been prompt in the form of monetary easing and fiscal expansion but the impact may not be much in the near term. A major worry is the severe weakening of India's fiscal position and balance of payments during this crisis period. The basic question is how long it will take to revive the investment and consumer demand which are falling precipitously.

Fiscal and monetary expansionary steps at a time of extreme uncertainty worldwide will have limited impact. On the other hand, the sharp reversal of the steady fiscal improvement over the past five years or so would weaken public finances considerably and store up problems for the economy sooner than later. The objective of economic policy must be to maximize on gains from global integration while causing a reduction in poverty and inequities. Therefore, a better way of responding to the crisis is the often repeated and now become cliché of kick-starting the 'second

round of reforms' which is long overdue. India has to substantially relax its "permit and approval" system by carrying out procedural reforms which will raise the investment climate for both domestic and foreign investment. It should reform its education system at school and university levels. It should carry out reforms in agriculture in its various stages; from input to output to marketing. The government should press hard in changing policies and procedures to build world class infrastructure of power, roads, ports, airports, urban infrastructure, water and sanitation. India ranks very low among countries on regulatory environment with regard to enforcement of contracts, payment of taxes, business closure, licensing, property registration and setting up of business (World Bank, 2008). Reforms in these areas would be much more effective than just packages of monetary and fiscal stimuli to restore investor and consumer confidence.

The real challenge for Indian policy makers and India Inc is however to try and raise the share of India's exports in major markets and product segments. It is really ironical that India's share in world trade is lower than the level as in 1950!! This is not tenable any longer if we have to achieve rapid growth with equity. Exports have the desirable characteristic of being relatively labor intensive. This is especially true of services exports that include a wide range of exports such as software, tourist earnings, films, accountancy, legal services etc. On the other hand, there is hardly reason for our textile and garment exports to loose grounds, as they have been doing, to Bangladesh, Vietnam and other such smaller economies when we still have such a large pool of unemployed human resources. For pushing both services and labour intensive manufactured exports, the policy makers must pay much greater attention to labour market reforms on the one hand and to development of vocational skills on the other. Overall, it is important to emphasize that while fiscal and monetary stimuli may provide the much needed short term palliatives for shoring up the GDP growth, the real push will only come from implementing structural reforms, the agenda for which has really been put on the shelf for a while. We cannot hope to generate the needed economic activity or the employment levels by continuing to tinker around with the economy. Bold and visionary measures, such as those undertaken in the early nineties, are needed again if the economy is not to slip into a prolonged phase of anemic growth.

References

Barth, James R. (2008), "The U.S. Housing and Financial Meltdown: What Happened and What Has Been the Response", *India Program, Office of International Information Programs,* U.S. Department of State, November 28 - December 19.

Economist (2009) "The Collapse of Manufacturing", *The Economist*, 19 February, London.

Gallagher, K.P. (2009), "A Global Survey of Stimulus Plans: Boston University Survey", *VOXEU*, 8th March.

GOI (2008), *India's External Debt: A Status Report 2007-08*, Government of India, Ministry of Finance, Department of Economic Affairs, August.

Hodrick, Robert J. and Edward C. Prescott (1997), "Postwar U.S. Business Cycles: An Empirical Investigation", *Journal of Money, Credit & Banking*, Vol. 29.

IMF (2003), Public Debt in Emerging Markets: Is It Too High? *The World Economic Outlook (WEO)*

IMF (2007), "Wild or Tamed? India's Potential Growth", *IMF Working Paper*, WP/07/224, September, IMF, Washington D.C.

IMF (2008a), *Global Financial Stability Report*, International Monetary Fund, Washington D.C., October 7.

IMF (2008b), *World Economic Outlook Update*, International Monetary Fund, Washington, D.C., November 6.

IMF (2009a), *Global Financial Stability Report: Market Update*, International Monetary Fund, Washington D.C., January 28.

IMF (2009b), *World Economic Outlook Update*, International Monetary Fund, Washington, D.C., January 28.

OECD (2007), *OECD Economic Surveys: India*, October, OECD-Academic Foundation, New Delhi.

Rangarajan and Srivastava (2005), 'Fiscal Deficits and Government Debt', Vol 40 No.27, *Economic and Political Weekly*

Rangarajan and Srivastava (2003), 'Dynamics of Debt Accumulation in India', Vol 38, No.46, *Economic and Political Weekly*

RBI (2001), 'The Role of Fiscal Policy in Reinvigorating Growth', *Report on Currency and Finance 2000-01, Reserve* Bank of India, Mumbai, Ch. 4.

Reinhart, Rogoff and Savastano (2003), 'Debt Intolerance', William Brainard and George Perry (eds.), *Brookings Papers on Economic Activity* 1: 2003, 1-74

Reinhart, Carmen and Kenneth Rogoff (2008), 'Banking Crisis: An Equal Opportunity Menace'. *NBER Working Paper*, December 2008.

World Bank (2008), "Doing Business 2008 India: Comparing Regulation in 178 Countries", *Doing Business Project*, World Bank Group, Washington D.C.

World Bank (2009), *Global Economic Prospects*, World Bank, Washington D.C., December 9.

LATEST ICRIER'S WORKING PAPERS

NO.	TITLE	AUTHOR	YEAR
233	ADVERSE SELECTION AND PRIVATE HEALTH INSURANCE COVERAGE IN INDIA:A RATIONAL BEHAVIOUR MODEL OF INSURANCE AGENTS UNDER ASYMMETRIC INFORMATION	SUKUMAR VELLAKKAL	FEBRUARY 2009
232	INDIA IN THE GLOBAL AND REGIONAL TRADE: DETERMINANTS OF AGGREGATE AND BILATERAL TRADE FLOWS AND FIRMS' DECISION TO EXPORT	T.N. SRINIVASAN VANI ARCHANA	FEBRUARY 2009
231	TRADE IN ENERGY SERVICES: GATS AND INDIA	ARPITA MUKHERJEE RAMNEET GOSWAMI	FEBRUARY 2009
230	THE MISSING MIDDLE	ANNE O. KRUEGER	JANUARY 2009
229	WHAT CAN BE LEARNED ABOUT THE ECONOMIES OF CHINA AND INDIA FROM PURCHASING POWER COMPARISONS?	ALAN HESTON	DECEMBER 2008
228	THE COST COMPETITIVENESS OF MANUFACTURING IN CHINA AND INDIA: AN INDUSTRY AND REGIONAL PERSPECTIVE	BART VAN ARK ABDUL AZEEZ ERUMBAN VIVIAN CHEN UTSAV KUMAR	DECEMBER 2008
227	EMERGING THROUGH TECHNOLOGICAL CAPABILITY: AN OVERVIEW OF INDIA'S TECHNOLOGICAL TRAJECTORY	AMIT SHOVON RAY	NOVEMBER 2008
226	THE CHINESE EXPORT BUNDLES: PATTERNS, PUZZLES AND POSSIBLE EXPLANATIONS	ZHI WANG SHANG-JIN WEI	NOVEMBER 2008
225	INDIA'S MACROECONOMIC PERFORMANCE AND POLICIES SINCE 2000	SHANKAR ACHARYA	OCTOBER 2008
224	DECONSTRUCTING CHINA'S AND INDIA'S GROWTH: THE ROLE OF FINANCIAL POLICIES	JAHANGIR AZIZ	OCTOBER 2008

About ICRIER

ICRIER – established in August 1981 – is an autonomous, policy-oriented, not-for-profit economic policy think tank. ICRIER's main focus is to enhance the knowledge content of policy making by undertaking analytical research that is targeted at improving India's interface with the global economy. We have nurtured our autonomy by establishing an endowment fund, income from which enables us pursue our priority research agenda. ICRIER's office is located in the prime institutional complex of India Habitat Centre, New Delhi.

ICRIER's founding Chairman was Dr. K.B. Lall who led the organization since its inception till 1992 when he handed over the Chairmanship to Mr. R.N. Malhotra (1992-1996). He was followed by Dr. I.G. Patel who remained Chairman from 1997 to 2005 until his demise in July 2005. ICRIER's current Chairperson is **Dr. Isher Judge Ahluwalia.** Amongst ICRIER's founding members are: Dr. Manmohan Singh, Dr. C. Rangarajan, Dr. M.S. Swaminathan, Dr. Jagdish Bhagwati, Dr. R. J. Chelliah, Mr. Muchkund Dubey, Prof. Deepak Nayyar etc.

To effectively disseminate the research findings, ICRIER organises workshops/ seminars/ conferences to bring together policy makers, academicians, Union Cabinet Ministers, Members of Parliament, senior industry representatives and media persons to try and create a more informed understanding on issues of major policy interest. ICRIER invites distinguished scholars and policy makers from around the world to deliver public lectures on economic themes of interest to contemporary India.

ICRIER's highly qualified **in-house team** of about 50 researchers includes several Ph.Ds from reputed Indian and foreign universities. In addition, we have 23 External Consultants working on specific projects. The team is led by Dr. Rajiv Kumar**,** D.Phil in Economics from Oxford University and Ph.D from Lucknow University.