



LESSONS FROM THE GLOBAL FINANCIAL CRISIS 2008: INDIA AND ITS MONETARY POLICY RESPONSES - AN EMPERICAL ANALYSIS

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ABSTRACT

India is an economy integrated with rest of the world. Any minor crisis caused to other countries could lead to a greater impact eventually on the Indian economy. It is characterized with ample and rich natural resources, and labor intensive opportunities which is a positive sign for rapid growth of the Indian economy. It has been the reason for huge investments made by the neighboring countries with respect to long term as well as short term investments. With the soaring foreign direct investments (FDI) and foreign portfolio investments (FPI), India has by far reached its peak in achieving its gross domestic product (GDP) target. With the new anticipations in newly formed government, India is in a stage where it can possibly find itself in the third largest growing economy only after US and Japan. With the advent of new and innovative technology, infrastructure and heavy industrialization, it has reached a stage towards rapid progress and development. With joint collaboration of Reserve Bank of India (RBI) and the Government of India (GOI), their sound economic policies could enable faster growth and overall stability. As an apex monetary authority, the Central Bank of India, RBI has a greater role to play with respect to assurance in price stability, inflation targeting and strengthening the economic growth. Therefore efficient and sound monetary framework is the foremost and predominant activity which is to be undertaken in order to ensure tolerances in recessionary periods, and control the demand and supply of money accordingly during boom as well as depression periods. On the other hand, the role played by the Government of India also outlines a vital part. It has the responsibility of framing sound fiscal policies in order to create high level of welfare in the economy. The present paper is an empirical investigation and an attempt of critically analyzing the major macro-economic indicators, their impact on Global Financial Crisis - 2008 which rooted from the US economy. Macroeconomic variables like GDP, Inflation, FDI, Exchange rates, Foreign Exchange Reserves and policy rates are taken for the study. It meticulously looks into the various effects on these variables which are undertaken for the study. The focus of this paper is to integrate and summarize the various factors which are responsible like GDP growth rate, Rates of Inflation, Forex reserves, Currency exchange rates, FDI inflows and monetary policy framework undertaken by the RBI aftermath crisis.

KEYWORDS: Monetary policy, Fiscal policy, FDI, GDP, Recession, RBI, CRR, Forex.

INTRODUCTION

Snapshot of Global Financial Crisis: 2008- The Central

The collapse in trade and contraction of output that occurred during 2008–09 was comparable to, and in many countries more severe than, the Great Depression of 1930, but did not give rise to the rampant protectionism that followed the Great Crash.¹ The global financial crisis of 2008-09 emerged in September 2008 with the failure merger of several large United States' based financial firms spread with the insolvency of additional companies following the recession and declining stock market prices around the globe. But in actual terms, the financial crisis really started to show its effects in the mid of 2007. Around the world, stock markets had fallen, large financial institutions had collapsed, which were later been bailed out by the unconditional support backed up by the World Bank, and governments in even the wealthiest nations have had to come up with rescue packages to bail out their financial

systems. The crisis had become one of the most radical reshaping of the global banking sectors as governments and the private sector battled to share up the financial system following the disappearance of Lehman Brothers and Merrill Lynch as independent entities. In real terms, the collapse of Lehman Brothers was a symbol of the global financial crisis. The real sectors in many countries were already feeling the effects of such a great breakdown in businesses. Many industrialized nations were sliding into recession. The crisis became so severe that after the failure and buyouts of major institutions, the Bush administration offered a \$700 billion bailout plan for the US financial system.² The subprime crisis that emerged in the US housing mortgage market in 2007 snowballed into a global financial crisis, leading to a global economic recession. The financial landscape has changed significantly after the collapse of Lehman Brothers in September 2008. An important lesson learnt post-September 2008 is that, irrespective of the degree of

globalization of a country and the soundness of its domestic policies, a financial crisis could spread to every economy. The international transmission of liquidity shocks was fast and unprecedented. While falling asset prices and uncertainty about valuation of the traded instruments affected market liquidity, failure of leading global financial institutions and the deleveraging process tightened the market for funding liquidity. Given the growing risk of illiquidity cascading into solvency problems, credit and quantitative easing acquired priority in most central banks. The contagion from the global financial crisis warranted swift monetary and fiscal policy responses with a view to ensure orderly functioning of markets, preserving financial stability, and moderating its adverse effects on growth. While the global financial markets had since started showing signs of stabilization, credit flow in advanced markets was yet to recover. There were two distinct phases in 2008-09 during which the transmission of global shocks – through trade, finance and expectations channels – posed different but significant challenges for the Reserve Bank of India. In the first half of the year, the world experienced simultaneous increase in both food and commodity prices, and there was a return of inflation after a phase of “great moderation”. Dealing with supply side sources of inflation posed challenges for the conduct of the Reserve Bank’s monetary policy, particularly in the face of signs of cyclical slowdown on

the one hand and the risk of spiraling headline inflation on the other. In the second half of the year, the global financial crisis and the subsequent global recession dramatically changed the nature of the challenge emanating from globalization. Under the impact of external demand shocks, the Indian economy witnessed moderation in growth in the second half of 2008-09 in comparison with the robust growth performance in the preceding five years (8.8 per cent per annum). The deceleration in growth was particularly noticeable in negative growth in industrial output.³

RBI Policy Response

During the first phase, the Reserve Bank of India (RBI) swiftly introduced a comprehensive range of measures to limit the impact of the adverse global developments on the domestic financial system and the economy. The RBI took a number of conventional and unconventional measures to augment domestic and foreign exchange liquidity, and sharply reduced the policy rates. In a span of seven months between October 2008 and April 2009, there were unprecedented policy activisms. Some of these measures include reduction of the repo rates by 0.50 basis points which stood earlier at 4.75, the reduction of reverse repo rates by 0.50 basis points which stood earlier at 3.25 and the reduction of cash reserve ratio (CRR) by a cumulative 100 basis points which stood earlier at 500 basis points.

Analysis of the Data

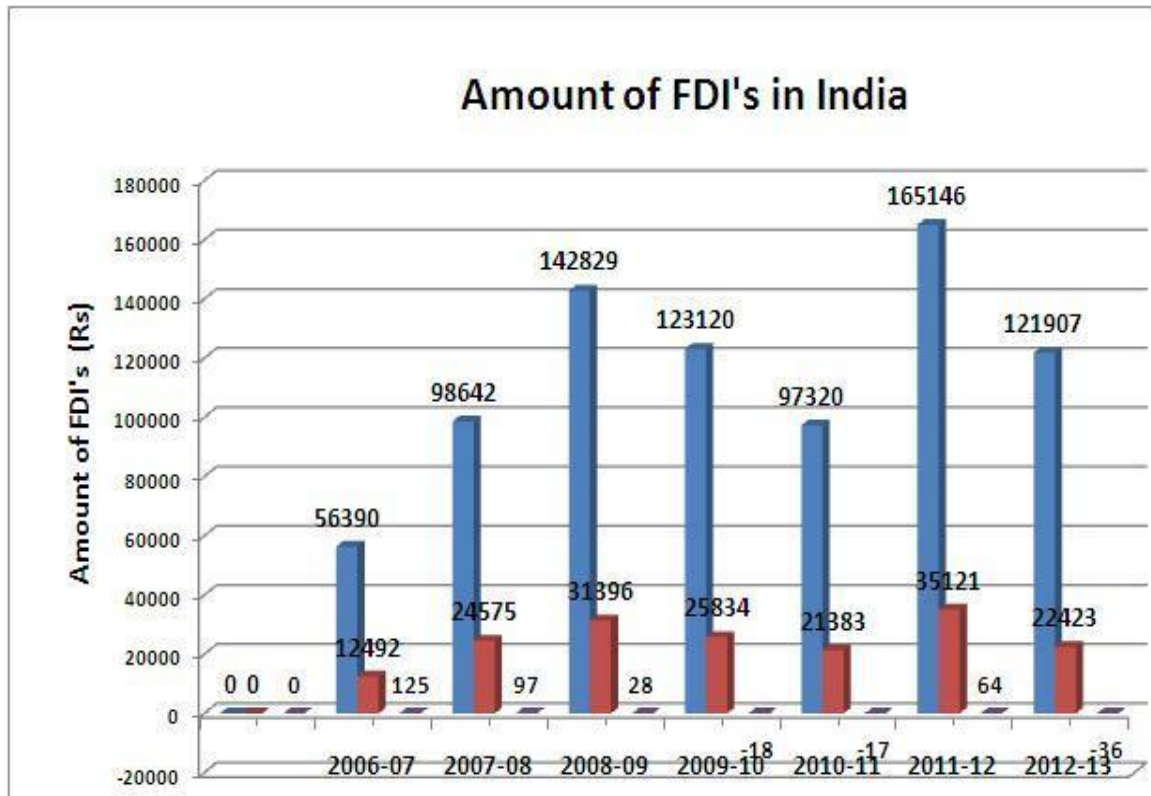


Fig.1: FDI Flows into India from 2006 to 2013

FDI's Flows in India: An Analysis

Foreign direct investment (FDI) is treated as an important mechanism for channelizing transfer of capital and technology, and thus perceived to be a potent factor in promoting economic growth in the host countries. Moreover, multinational corporations consider FDI as an important means to reorganize their production activities across borders in accordance with their corporate strategies and the competitive advantage of host countries. Fig.1 depicts FDI flows into India from 2006 to 2013 during each financial year. India positioned well *vis-à-vis* to the rest of the world in select countries in terms of the indicators starting into foreign business. During the year 2006-07 FDI inflows in India saw an unprecedented increase towards various sectors like mining, oil and natural gas, electricity, healthcare and waste management, since the foreign ownership towards this sector was allowed upto 100%. In terms of US dollars there was an unexpected growth observed. Later after a year, in 2007-08 there was an increase of capital investments made by neighboring countries which is why there was an increasing trend in FDI growth. The influencing factor for such a high level of boost towards FDI's was that there were excessive FII investments which took as a major change in the stock market movements too. Unlike the increasing trend of FDI investments made by the countries like US and Japan, Europe also took a positive outlook, and advanced the equity investment and boosted the economy towards the sign of positive growth. However, during the year 2008-09, the FDI's inflows started showing a sudden slowdown. India's regulatory policies in terms of procedural delays, complex rules and regulations related to land acquisition, legal requirements and environmental obligations have played a vital role in holding the investors back from investing into India. The supporting factor was also the uncertainty created by the actions taken by central bank policy makers led to unfriendly business environment in India. Also, with the infrastructure projects in India which carried significant risks associated with meeting government regulation, environment norms and legal requirements; inadequate user charges; and execution and construction risks for FDI's at this juncture could not support unlike the other sectors like agriculture, mining gems, jewellery and manufacturing. In the third quarter of 2007-08, the FDI's position looked more so shattered. Apart from hundreds of industry projects with respect to FDI's, lots of issues relating to sanctioning and clearances provoked the FDI projects in this purview to step backwards. With the abrupt 2008 financial crunch caused by the two major investment banks the FDI's position deteriorated tremendously in the

Indian economic scenario. In the financial year 2008-09, by the end of September there was a sudden downfall in FII's equity capital flows. Lots of funds were reversed and caused havoc in Indian Stock Market. From the peak 20000 landmark, the BSE index fell down below 9000. This was a dramatic and unprecedented event in the history of Indian Stock Market followed by the Asian crisis way back in 1990's.⁴

During the financial year 2009-10, there was a significant deceleration in the global FDI flows. FDI flows to India was relatively moderate, reflecting robust equity flows which led back of strong rebound in domestic growth ahead of global recovery and steady reinvested earnings (with a share of almost 25 per cent) reflecting better profitability of foreign companies in India. During the financial year 2010-11 the gross FDI equity inflows to India witnessed significant moderation. However this was not a very good sign for the development of the Indian economy, since majority amount of FDI flows came from the equity investments during this period. The stock market was just below the average to reach the minimum index standards. FDI in India mainly flowed into services sector (with an average share of 41 per cent during the years starting from 2006-2010). However, during the year 2010-11 the service sector observed a tremendous fall due to the crisis prone wave ripples spread into the South-Asian countries which was regarded to be the major terminals for service sector investments. FDI flows to India showed the moderation in gross equity investments during the year 2010-11, which was mainly driven by sectors such as construction, real estate, mining and other services not leaving the financial services. Manufacturing, which has been the largest recipient of FDI in India, had also witnessed some moderation. On an average, the world economic recovery continued to be uncertain and fragile with global FDI flows remaining stagnant at US \$ 1.1 trillion during the year 2010.

During 2011-12 there had been a distinct slowdown despite strong policy fundamentals. In spite of stalled reforms, FDI equity inflows rose to \$46.84 billion, compared with \$34.84 billion in 2010-11 and \$37.74 billion in 2009-10. This abrupt rise in FDI equity inflows was due to the fact that India has always been a preferred investment destination. But this trend did not continue for long and there was moderation during the financial year 2010-11. The reason being, there was slight negative news from across the globe at the beginning of the financial year 2010-2011, compared to the previous year. The rise in FDI equity inflows during 2009-10, compared to the year 2010-11, was because of some big-ticket deals, especially in chemicals, and oil & gas segments.

INFLATION TURMOIL

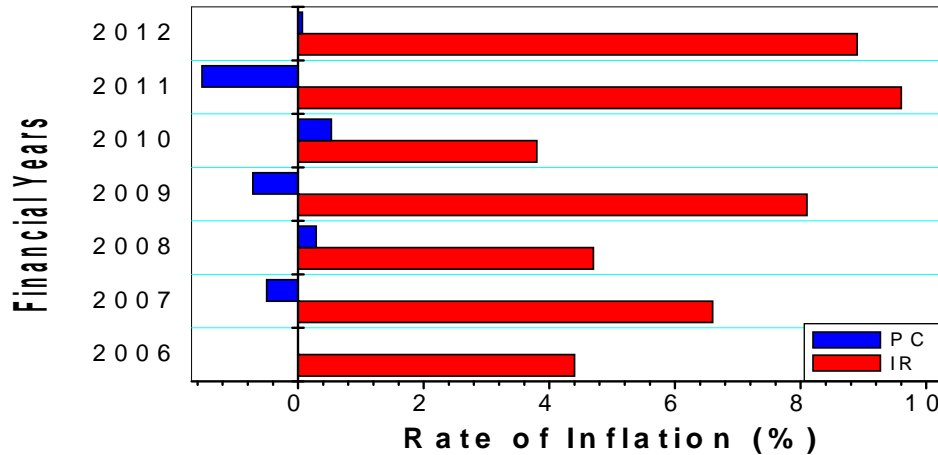


Fig.2: Rates of Inflation in India from 2006 to 2012
(PC indicates Percentage Change and IR indicates Inflation Rate)

Inflation is a phantom which poses a serious threat to the growth momentum of any nation. It is considered to be one of the pivotal macro-economic indicators for the economic sustenance. It determines the economic and financial stability of the country. Therefore it is the bound duty of the Reserve Bank of India, the apex institution to take due care of targeting and controlling the high rates of inflation in the country ensuring the financial stability through the use of policy tools like favorable interest rates, Cash Reserve Ratio, Statutory Reserve requirements and repo rates. Inflation measures the price rise levels in various categories mainly like fuel, food, non-food and crude oil which are the most significant indicators. India is one of the few countries where the Wholesale Price Index [WPI] is considered as the headline inflation measure by the Reserve Bank of India. The Indian economy has been subject to repeated and significant supply side shocks from time to time. This was one of the major micro-economic factors in increasing the levels of high inflation. There was an oil crisis in the year 2009 where the oil prices rose in the year 2010 that kept headline inflation persistently high. In this context, the use of core inflation for monetary policy purposes assumes importance, particularly in terms of communicating to public what the RBI's actions are trying to achieve. The RBI uses non-food manufacturing as an indicator of core inflation. India has three consumer price indices that account for three diverse groups, viz., agricultural labourers, rural labourers and industrial workers. Besides these, the Wholesale Price Index (WPI) is also used to measure inflation. The prices of commodities fluctuate, responding to the pulls and pushes of demand and supply of money⁵.

India is considered to be a moderate inflation country. During the year 2006, there was a sharp all round moderation in global inflation due to which the rate of inflation was close to 4.4 percent. The monetary policies were observed to be loose along with economy passing

through a boom period. The inflation rate rose from 4.7 percent in 2007-08 to 8.1 percent in 2008-09, and fell to 3.8 percent in 2009-10. However, the inflation rate backed up and stayed near double digits during 2010-11 and 2011-12 before showing some moderation in 2012-13.

The high inflation during 2010-2011 was a combination of both adverse global and domestic factors as well as supply and demand factors. The rate of inflation in the year 2007 which was observed at 4.7% saw a severe rise in 2008 at around 8.1%. The main reason being the global financial crisis which caused the stock market crash terribly. There was a larger impact on the exchange rate system which was one of the reasons for depreciation in the Indian Rupee. With such a high inflation, the FII's pull out in the investments were one of the main reasons to keep India watch a high rate of inflation for a prolonged period for about a year. It distorted economic incentives by diverting resources away from productive investment to speculative activities. It also imposed significant socio-economic costs. No sooner or later, due to the RBI's strong and stringent monetary policies, it challenged the economic crisis and brought India in a controlled rate of inflation in the year 2010. The years 2010-11 saw an expectation of new set of policy frameworks re-invited by the Reserve Bank of India. It ensured welfare-oriented public policy, controlled inflation and balanced progress. The major normal growth was observed in the financial sector soon after the policy framework cracked the aftermath financial crisis. The most hit sector was among the service sectors like Banking, Information Technology and the Telecom industry. The minor ones were the Agricultural and the Manufacturing sectors. As inflation rose beyond a threshold, it had an adverse impact on the overall growth. At this juncture the Reserve Bank of India ensures that the threshold level of inflation for India always be in the range of 4-6 per cent.

The Gross Domestic Product Scenario

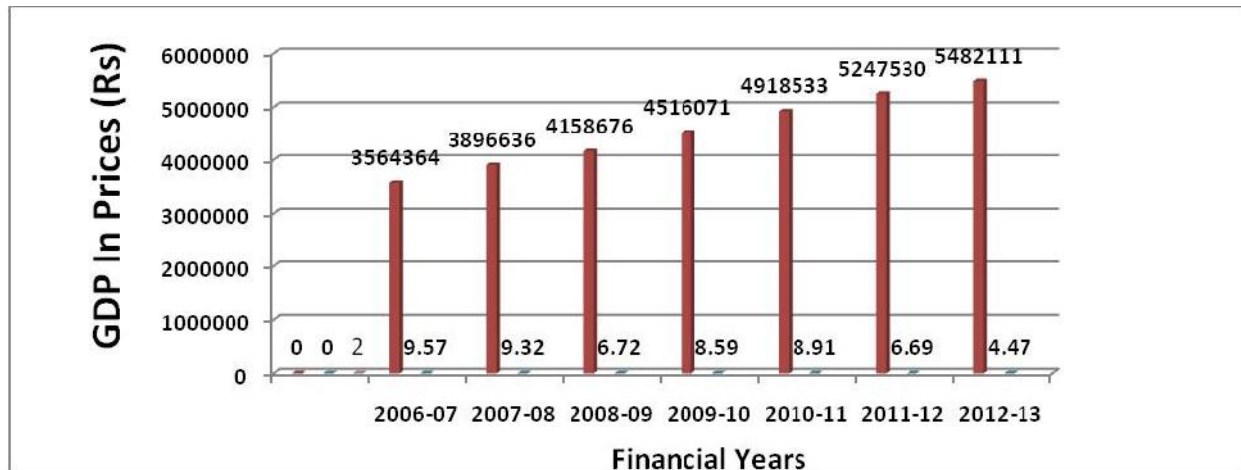


Fig.3: GDP at Factor cost in India from 2006 to 2013

The Gross Domestic Product (GDP) is the primary indicator used to gauge the health of a country's economy. The GDP of a country is defined as the market value of all final goods and services produced within a country in a given period of time. It is also considered the sum of value added at every stage of production of all final goods and services, produced within a country in a given period of time. GDP is a number that expresses the worth of the output of a country in local currency. GDP tries to capture all final goods and services that are produced within the political and geographical frontiers of the country, thereby assuring that the final monetary value of everything that is created in a country is represented in the GDP. GDP is calculated for a specific period of time, usually a year or a quarter of a year. India's GDP crossed the trillion-dollar mark for the first time and with this India has joined the elite club of 12 countries with a trillion dollar economy. Countries that have reached trillion-dollar GDP level in the past are the US, Japan, Germany, China, UK, France, Italy, Spain, Canada, Brazil and Russia⁵.

During the year 2006-07, India's GDP grew at an impressive 9.57 per cent. The shares of different sectors of the economy in India's GDP are: Agriculture - 18.5 per cent, Industry - 26.4 per cent, and Services - 55.1 per cent. The fact that the service sector now accounts for more than half the GDP is a milestone in India's economic history and takes it closer to the fundamentals of a developed economy. At the time of independence, agriculture occupied the major share of GDP while the contribution of services was relatively very low. The higher GDP growth rate has been ascribed to the good performance of the agricultural sector. It was increased to 4.5% as compared to projected 2.6%. This is seen as a result of bumper production of wheat, rice, maize, soya bean, and cotton, pulses, which has reached to its maximum.

Service sector emerged as one of the main driving forces towards India's high GDP growth rate. It grew by 10.8 percent during the year 2005-06 in comparison of 11.1 percent in the year 2006-07. It was due to the increase

of 12 percent in trade, hotels, transport and communication sectors, while it was 11.8 % in the finance, insurance, business services and real estate.

The industry has shown some signs of worries as its growth had shown a slowdown by more than 2% than what it was in 2006-07. Getting into flashback 2006-07 it was 11% but in 2007-08 it came down to 8.5%. All the expectations about the manufacturing sector and its rising share in a share of economy now required to be taken with some pinch of salt. The fallout was seen in the manufacturing sector, where it dropped to 8.8% from 12% in the year 2006-07. Construction sector growth slowed down to 9.8 % from 12% in the financial year 2006-07. During this year the growth rate in electricity, gas and water supply showed a tad of 6.3% from that of 6% in 2006-07. The contribution from the Indian government policies has also been the very reason for the GDP growth rate. It set a target of an average annual GDP growth of 9 per cent for the Eleventh Five Year Plan. The target looked achievable, as all the macroeconomic fundamentals were strong and the impressive growth rate of the Indian GDP resumed continuing during the start of 2007-08.

Indian economy had reached to a landmark of 9% GDP during 2007-08. Robust agricultural sector had pushed the GDP to 9%, even when the manufacturing sector failed to live up to the expectations of the higher growth rate. The economy had boomed to 9% during 2007-08, more than 8.7% of what was estimated. The time period from 2003-04 to 2007-08 has seen *five* progressive years in the India's economic history with 8.8% annual average GDP growth rate. During 2007-08, the 9% GDP growth rate had put India into the group of one of the fast growing major economies of the world after China. It was the 3rd year in a row, in which the GDP of India had touched the mark of 9% or above. The pace of growth had been recorded fast as compared to what was expected by the market. The Indian government had estimated annual growth rate of 8.7% for the whole of 2007-08. It exuded confidence that the economy will achieve the same or more GDP growth rate during the next financial year also.

The industrial sector considered this as a good sign from trading point of view. Subsequently during the year 2007, Indian economy witnessed high commotion in stock exchange and financial markets. With this commotion the Government had recorded 7.3% rise of GDP in social, personal and community services during 2007-08.

During the year 2008-09, due to the decline in the growth of agriculture sector, there was a sharp decline in

the GDP growth by 6.7%. The main cause being the financial crisis of 2008 which hit a massive attack on the agricultural sector.

Finally the year on year GDP growth rate started showing the positive growth due to the flexible and liberal policy framework laid through the ways of monetary policies with the joint effort by the Government of India and left India with a steady growth rate.

The USD-Rupee Connect

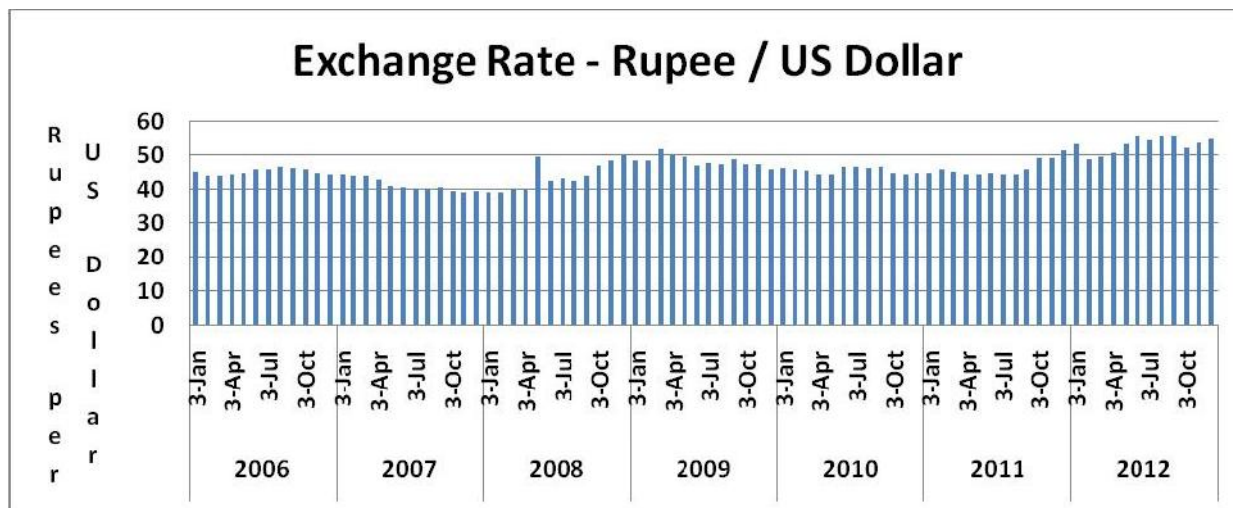


Fig.4: Exchange rates in India from 2006 to 2012

The exchange rate system in India vis-à-vis to the rest of the world observed a very volatile picture until the year 2008. The fall of Rupee vs. Dollar had created the same conundrum what the rupee appreciation caused in year 2007. However, the impact has reversed in the year 2008 with exporters making appreciated revenues and the importers feeling the heat. The financial years starting from 2006 to 2008 observed balanced currency exchange rates. The above figure depicts the yearly exchange rates for the years starting from 2006 to 2012.⁵

During 2007-08 when the rupee had appreciated on account of dollar's global weakness and large capital inflows. But the story left behind was the root cause for the carry forward ambiguous massacre soon after the year 2008-2012.

Taking a rapid look at the issues, the fall in Rupee is attributed primarily to three broad factors.

- Firstly, the grim global economic outlook was essentially due to the European debt crisis. Due to turbulence in European markets, investors considered dollars as a safe haven for their investments in the longer run. This led to increased demand for dollars vis-à-vis the supply for rupee, and thus caused the rupee depreciation. At the same time the investors were shifting from European markets. The situation being so the question arises as to why they are not investing in the Indian markets? The Indian economic scenario for the entire 2011 has been plagued by high rate of inflation hovering above 8%, and extremely low growth in manufacturing sector. The cumulative

effect of these factors has led to a shift in the investor sentiments towards dollar market.

- Secondly, the fall in rupee largely attributed to the speculations prevailing in the markets. Due to a sharp increase in the dollar rates, importers suddenly started gasping for dollars in order to hedge their position, which led to an increased demand for dollars. On the other hand exporters kept on holding their dollar reserves, speculating that the rupee will fall further in future. This interplay between the two forces further fuelled the demand for dollars while sequestering its supply from the market. This further was one of the reasons for fall in the value of rupee.
- Lastly, there has been shift of Foreign Institutional Investors (FII's) from the Indian markets from the financial year 2010-2011. FII's investments lead to a high inflow of dollars into the Indian market. The share of India's FII in the developing markets had decreased considerably from 19.2 % in 2010 to 3.8% during 2010-11. As FII's are taking their investments out of the Indian markets, it had led to an increased demand for dollars, further leading to a spiraling rupee.

Encompassing all these factors, there was a lack of firm initiative reforms with respect to exchange rate policy framework by the government on issues such as allowing FDI in retail. Debacles such as 2G during 2012 have further rendered the Indian market unattractive to a certain extent. This had severely hit the bottom line of many companies as well as the subsidy bill of the Indian

government. Huge buying of dollars from the market in order to meet the import bill had further added to the then existed woes. Additionally, the falling rupee had supplemented further to the inflationary pressures, as imports had become costlier and thus provoked the government to increase the prices of key commodities such as oil, imported coal, minerals, and metals. Nonetheless, the falling rupee was steady and substantial enough as it appreciated the revenues for the exporters, who in turn received more rupees for their dollar receipts.

Task of Reserve Bank of India (RBI) in policy framework for regulating a balanced exchange rate system:

RBI had been extremely cautious in its intervention during the entire rupee depreciation crises. RBI had however reacted with timely interventions by selling dollars intermittently to tame sharp fall in the currency. RBI's monetary policies were stringent enough to tackle the crisis handsomely. But however, the crisis did effect the

economic growth which showed some tremor in stock market and eventually led to slow growth in industrial growth on the contrary.

The outflow of dollar reserves from RBI had been extremely cautious, mostly due to the dwindling foreign exchange reserves. The foreign exchange reserves of India during December, 2011 stood at 270 billion USD. RBI had intervened with key policy initiatives such as in the forward contracts policy. Exporters in order to rake in more profits, were booking forward contracts, then cancelling the contracts, and again rebooking at better rate. This perturbed process led to a further depreciation in rupee and fuelled speculations. Also, RBI intermittently put trading limits for the banks in the foreign exchange market in order to tame the speculative forces. Looking towards the economic outlook during 2012, the currency crises stayed for a much longer period of time. However, a structuring of Greek debt coupled with higher inflows from FII's was one of the reasons to arrest the falling rupee.

Role of the Monetary Policy

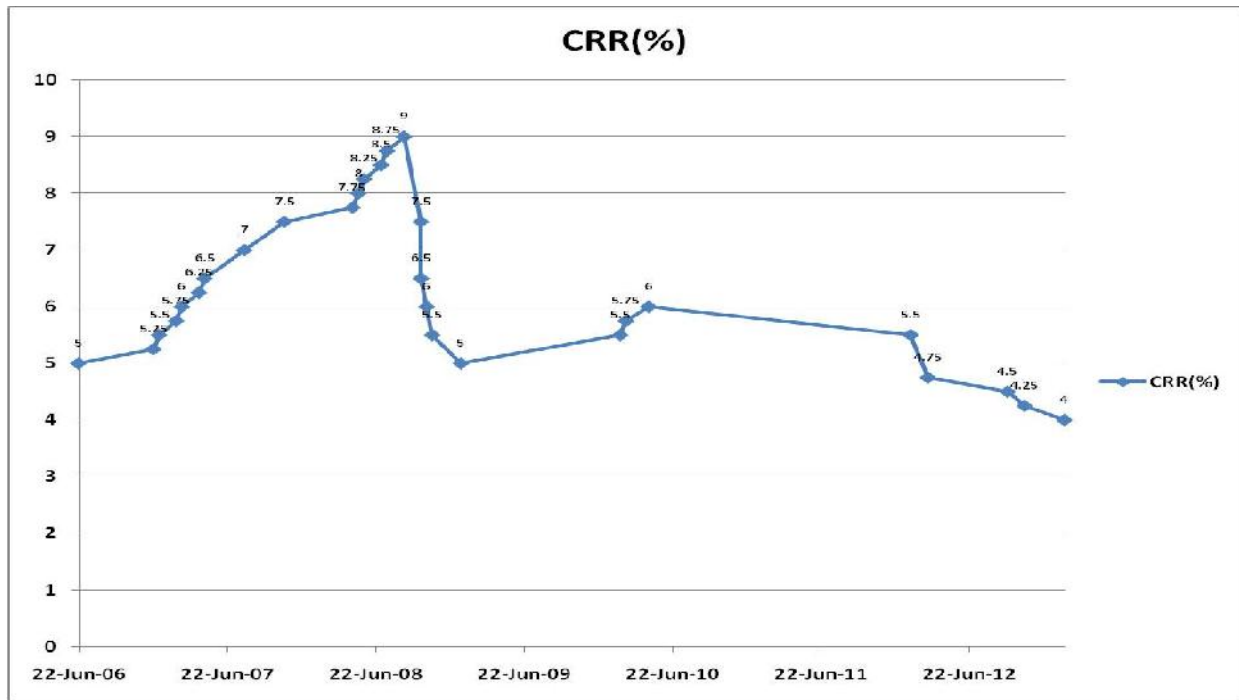


Fig.5: CRR rates in India from 2006 to 2012

Rationale of CRR in eradicating Financial Crisis

CRR means Cash Reserve Ratio. Banks in India are required to hold a certain proportion of their deposits in the form of cash. However, actually Banks don't hold these as cash with themselves, but deposit with Reserve Bank of India (RBI) / currency chests, which is considered as equivalent to holding cash with RBI. This minimum ratio (that is the part of the total deposits to be held as cash) is stipulated by the RBI and is known as the Cash Reserve Ratio (CRR). Thus, when a bank's deposits increase by Rs100, and if the cash reserve ratio is 6%, the banks will have to hold additional Rs 6 with RBI, and Bank will be able to use only Rs 94 for investments and

lending / credit purposes. Therefore, higher the CRR, the lower is the amount that banks will be able to use for lending and investment. This power of RBI to reduce the lendable amount by increasing the CRR makes it an instrument in the hands of a central bank through which it can control the amount that banks lend. Thus, it is a tool used by RBI to control liquidity in the banking system. The subprime crisis that emerged in the US housing mortgage market in 2007 snowballed into a global financial crisis, leading to a global economic recession. The financial landscape has changed significantly after the collapse of Lehman Brothers in September 2008. An important lesson learnt, post-September 2008, is that

irrespective of the degree of globalization of a country and the soundness of its domestic policies, a financial crisis could spread to every economy⁶.

During the years 2006-07 and 2007-08, the CRR basis points increased by 25 points each quarter. The reason being the demand of money in the economy due to which the financial sector could invest its funds which had the objective to manage its surplus funds with a highly challenging policy rates. But it was carried out up to a certain point of time until there was moderate financial crisis which emerged and spread in to Indian economy. But as the crisis evolved the tightening of monetary policies provoked the RBI to decrease the CRR rates during the year 2008-09 at lower rates in order to stabilize the weakened financial sector and bring back the sector into a healthy condition. But then later during 2009-10 RBI worked out with its stringent policy framework with again implementing the CRR rates at exceptionally contending rates in order to hold back the reserves through the way of backings (Forex reserves and gold reserves) and provide the same for meeting up the contingencies and injecting the funds into the financial sector in order to nourish and bring back the sector into normalcy. As the condition started showing some steady recovery the RBI with its framework continued to decrease the CRR rates.

How did Monetary Policy in India Respond to the Global Financial Crisis?

As the crisis intensified, the Reserve Bank of India, like other central banks, took a number of conventional and unconventional measures to augment domestic and foreign exchange liquidity, and sharply reduced the policy rates. In a span of seven months between October 2008 and April 2009, there were unprecedented policy activisms. The repo rate was reduced by 0.50 basis points which stood earlier at 4.75, the reduction of reverse repo rates by

0.50 basis points which stood earlier at 3.25 and the reduction of cash reserve ratio (CRR) by a cumulative 100 basis points which stood earlier at 500 basis points, and the actual/potential provision of primary liquidity was of the order of Rs. 5.6 trillion (10.5 per cent of GDP).

The actions taken by RBI somehow varied when compared to other advanced countries. However, it was a tough challenge which was to be faced by the economy in times of crisis.

In the process of liquidity injection by the supply of fund provision, the counter-parties involved were banks, Non Banking Financial Companies (NBFC's) and housing finance. Companies were largely fed through the banks. Despite the large liquidity injection, the Reserve Bank's balance sheet did not show any normal increase, unlike global trend, because of the release of earlier sterilized liquidity. Accessibility and exploitation of multiple instruments facilitated better sequencing of monetary and liquidity measures. The experience in the use of pro-cyclical provisioning norms and counter-cyclical regulations ahead of the global crisis helped enhance financial stability.

By synchronizing the liquidity management operations with those of exchange rate management and non-disruptive internal debt management operations, the Reserve Bank of India ensured that appropriate liquidity was maintained in the system, consistent with the objective of price and financial stability. The policy stance clearly reflected the forward looking undertone, particularly the expectations of more prolonged adverse conditions in the face of no visible risks to inflation. While the magnitude of the crisis was global in nature, the policy responses were adapted to domestic growth, inflation and financial sector conditions leaving Indian economy in a steady growth structure.

FOREIGN EXCHANGE MARKET OVERVIEW

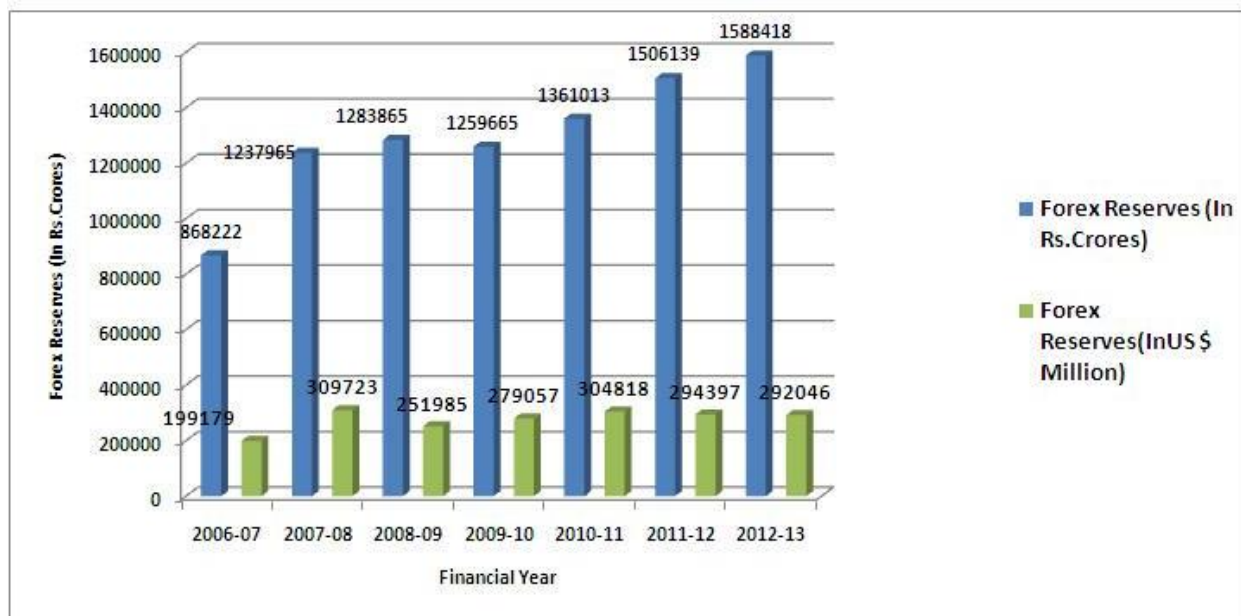


Fig.6: Foreign Exchange rates in India from 2006 to 2013

India's foreign exchange reserves have grown significantly since 1991. The increase in foreign exchange reserves during the years 2006-2012 had been on account of capital inflows. Major sources of increase in foreign exchange reserves during April-September 2006 have been: (a) Foreign investment (b) External commercial borrowings and (c) Banking capital.

The exchange rate of the rupee is determined largely by the market forces of demand and supply. The Reserve Bank of India has intervened occasionally to maintain orderly conditions and curb excessive volatility in the foreign exchange market. Being a current account deficit country, India is dependent on capital flows for financing the current account deficit. Given the dependence on volatile capital flows, there may be a case for augmenting forex reserves when the situation permits without any bias for particular exchange rates.

This increase was due to the increase in forex reserves which had been facilitated by an increase in the annual quantum of foreign direct investment (FDI). During April-September 2006, FDI amounted to US\$ 4.9 billion. FII investments in the Indian capital market, which commenced in January 1993, have shown significant increase over the subsequent years. Cumulative net FII investments increased from US\$ 827 million at end-December 1993 to US\$ 45.3 billion at end-March 2006 and further to US\$ 46.9 billion as at end-September 2006. India's exports during first half of 2006-07 stood at US\$ 60.3 billion. Invisibles such as, private remittances have also contributed significantly to the current account. Net invisibles inflows increased from US\$ 1.6 billion in 1991-92 to US\$ 31.2 billion in 2004-05 and further to US\$ 42.7 billion in 2005-06.⁷

During April-September 2006, net invisibles' inflows were of the order of US\$ 23.5 billion. It was mainly driven by strong import demand, both in oil and non-oil. During first half of 2006-07, current account deficit was of the order of US\$ 11.7 billion. Further in the year 2007-08 the increase in the foreign exchange reserves has been on account of capital and other inflows. Major sources of increase in the foreign exchange reserves for the year 2007-08 had been: (a) foreign investment, (b) external commercial borrowings, (c) short-term credit, and (d) banking capital.

During 2007-08, net FDI amounted to US\$ 15.5 billion. FII investments in the Indian capital market, which commenced in January 1993, had shown significant increase over the subsequent years. Cumulative net FII inflows increased from US\$ 1 million at end-March 1993 to US\$ 66.6 billion at end-March 2008, net accretion being US \$ 20.3 billion during the year 2007-08. During April-March 2007-08, net invisibles were of the order of US\$ 72.7 billion. India's current account balance, which was in deficit at 3.1 per cent of GDP in 1990-91, turned into a surplus of 0.7 per cent in 2001-02 and 1.3 per cent in 2002-03. A surplus of US \$ 14.1 billion (2.3 per cent of GDP) was posted in the current account during the financial year 2003-04, mainly due to surplus in the invisibles account. However, this was not sustained during 2004-05 with the current account posting a deficit of US\$ 2.5 billion (0.4 per cent of GDP). During 2005-06, current

account deficit widened further, and was of the order of US\$ 9.9 billion accounting to 1.2 per cent of GDP, driven mainly by strong import demand, both oil and non-oil. During 2006-07, the current account deficit amounted to US \$ 9.8 billion, of GDP. During 2007-08, current account deficit increased to US \$ 17.4 billion (1.5% of GDP).

India witnessed large and lumpy capital inflows far in excess of the economy's absorptive capacity during the year 2007-08.

During 2008-09, the reserves declined to US\$ 252.0 billion in March 2009. The reserves stood at US\$ 292.9 billion as on September 30, 2010 compared to US \$ 279.1 billion as on March 31, 2010. The reason being the sharp depreciation in the Indian currency system and the pressure in the aftermath global financial crisis, especially immediately following the Lehman collapse in September 2008 and this forced the Reserve Bank of India to sell US dollars in order to restore orderliness in the market.

In 2009-10, domestic foreign exchange markets generally remained stable with the rupee exhibiting a range bound movement. This was reflected in the very limited scale of intervention operations undertaken by the Reserve Bank of India during that period. On the current account, India's exports increased to US\$ 182.2 billion in 2009-10. And there was a continued impact for the next financial year too. It is quite clear that the Indian rupee had largely moved in tandem with other emerging currencies. The run-up of the financial crunch shattered the Indian stock market in terms of huge losses alongside the FII's reversing their capital investments.

Furthermore, the year on year the forex reserves started showing a steady growth after which the Reserve Bank of India increased its reserves through its flexible policy framework and led the economy into a smooth recovery which could resist any further shockwave. During the year 2010-11 the foreign exchange reserves started taking up a moderate escalation and continued to increase in the year 2010-11 and 2011-12 respectively.

CONCLUSIONS

The Reserve Bank of India is the most important catalyst in our economy which plays a predominant role in reviving the growth of the nation. During the post financial crisis 2008, RBI responded with very stiff and stringent monetary policies. The contagion from the global financial crisis required appropriate monetary and fiscal policy responses to ensure enough liquidity in the economy, the orderly functioning of markets, and the financial stability. The government of India and RBI responded to the challenge strongly through its fiscal and monetary policies. The government during this phase of crisis introduced fiscal stimulus packages. The expanded safety - net program for the rural poor, the farm loan waiver package and payout following the Sixth Pay Commission report for stimulating the money demand in the economy. On the other hand, the aftermath turmoil caused by bankruptcy, the Reserve Bank of India had announced a series of measures to facilitate orderly operation of financial markets and to ensure financial stability, which predominantly includes extension in additional liquidity support to the banks. The RBI has

been effectively able to manage domestic liquidity and monetary conditions consistent with its monetary policies. This has been enabled by the appropriate use of a range of instruments available for liquidity management.

In addition to this, the variables taken for the study also justify the fact that the financial crisis caused some damage to the economic system when viewed in a smaller quantum. The factors responsible for the assessment of the growth in an economy presented a clean and steady performance. The reason being the strong policy framework from the RBI which could help Indian economy to manage and sustain a healthy growth rate.

In addition to this, the RBI using one of its policy tools, CRR rates had decreased in order to revive the financial sector which had lost its credibility due to the economic shockwaves caused in US economy. It also decreased the repo rates prevailing in inter-bank open market operations in order to inject the liquidity arrangements in order to ease the supply of money and revive the growth of financial sector which is regarded as the crucial aspect, being wholly and solely responsible for the generation of funds and the growth in Indian economy.

It is clear from the analysis of the paper that, though the factors like GDP growth rate, forex rates, currency exchange rates, inflation rate, FDI and policy rates were unfavorable during the times of financial crisis, the RBI took its thriving step in reviving the growth of the Indian economy and nourishing the financial sector in order to achieve its very objective of financial stability and economic development in the economy using its policy instruments effectively in times of emergencies.

The tsunami waves of Global Financial Crisis 2008 was rightly observed and identified by Raghuram Rajan, the economist and chief advisor to the World Bank who is now the Governor of RBI in India.

The current scenario represents the policy tools of RBI to be effective in order to subside its slowdown in business cycles and quickly responded to the ever shooting prices of stock markets assuring the steady growth in all the primary sector, secondary as well as tertiary sectors (Especially the tertiary sector), which was largely affected post financial crisis of 2008.

SCOPE FOR FUTURE RESEARCH

Future research must focus on a wider scope in policy framework undertaken by RBI with regards to managing and gaze over the crisis management which can cause heavy damages in the economy. The researchers should further look into the in-depth outlook of analyzing the various policy framework in not only developing countries (India), but can extend the study further in other South Asian countries like China for a better comparative analysis. Since, the study only covered the analysis using the CRR as the policy tool of RBI, further did not take into account other tools like Repo rates, Statutory Liquidity Ratio (SLR). As these tools are also used for the assurance of stabilized policy framework. Researchers can glance into these aspects and draw noteworthy analysis, and come out with significant results.

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