CHAPTER - VIII
Contents

SUMMARY OF FINDINGS, CONCLUSION & SUGGESTIONS .......................................................... 3

THE FIRST PHASE: THE SUBPRIME MORTGAGE CRISIS .................................................. 4

THE SECOND PHASE: GLOBAL FINANCIAL CRISIS......................................................... 6

Reserve Primary Fund ........................................................................................................... 8

TARP ...................................................................................................................................... 8

The Broader Context .............................................................................................................. 9

The Links from Financial Crisis to Recession ...................................................................... 12

Globalization, technology and the trade deficit .................................................................... 13

Boom and collapse of the shadow banking system ............................................................... 14

Policy Responses To The Financial Crisis ............................................................................ 18

SUMMARY OF FINDINGS .................................................................................................. 19

Uncertainties and vulnerabilities ............................................................................................. 21

Developing countries are more vulnerable than in 2008 ................................................... 25

SUGGESTIONS ..................................................................................................................... 29

Conclusion ............................................................................................................................. 31

Let us briefly highlight the effects of this crisis on the Indian economy ............................. 32
SUMMARY OF FINDINGS, CONCLUSION & SUGGESTIONS

The financial crisis of 2007 to 2009 can be divided into two distinct phases. The first, more limited, phase from August of 2007 to August of 2008 stemmed from losses in one, relatively small segment of the U.S. financial system—namely, subprime residential mortgages. Despite this disruption to financial markets, real GDP in the United States continued to rise into the second quarter of 2008, and forecasters were predicting only a mild recession.

In mid-September 2008, however, the financial crisis entered a far more virulent phase. In rapid succession, the investment bank Lehman Brothers entered bankruptcy on September 15, 2008; the insurance firm AIG collapsed on September 16, 2008; there was a run on the Reserve Primary Fund money market fund on the same day; and the highly publicized struggle to pass the Troubled Asset Relief Program (TARP) began.

What caused the transformation from what appeared in mid-2008 to be a significant but fairly mild financial disruption into a full-fledged global financial crisis? Did the government’s responses to the global financial crisis help avoid a worldwide depression? What challenges do these government interventions raise for the world financial system and the economy going forward? Let us start with a brief step back to the first phase of the global financial crisis.
THE FIRST PHASE: THE SUBPRIME MORTGAGE CRISIS

The first disruption of credit markets in the recent financial crisis is often dated to August 7, 2007, when the French bank BNP Paribas suspended redemption of shares held in some of its money market funds. A boom in U.S. housing prices had peaked around 2005. As housing prices started to decline, mortgage-backed financial securities—in many cases, securities based on subprime residential mortgages but then divided into more senior claims that were supposedly safe and junior claims that were recognized to be risky—began to experience huge losses. By early 2008, losses on these securities were estimated to be on the order of $500 billion dollars.

What developed in late 2007 and into 2008 was a series of runs on financial institutions, but instead of the classic bank run, it was, as described by Gorton and Metrick (2009), a run on the shadow banking system. A bank has deposits that are short-term liabilities and assets that are long-term loans. Thus, in a classic bank run, when bank depositors run to withdraw deposits, the bank cannot readily convert its long-term assets into cash. In the shadow banking system, institutions have short-term liabilities in the form of short-term borrowing, like repurchase agreements (or repos), which use longer-term assets like mortgage-backed securities as collateral. A key element of this borrowing is the use of a "haircut," that is, a requirement that borrowers post collateral that is valued at more than the loan.
For example, if a borrower took out a $100 million loan in a repo agreement, it might have to post $105 million of mortgage-backed securities as collateral, and the haircut would then be 5 percent. As the value of mortgage-backed securities fell and uncertainty about their future value increased haircuts to levels as high as 50 percent. The result was that the same amount of collateral would now support less borrowing, leading to deleveraging in which financial institutions had to sell off assets. The resulting "fire sale" dynamic led to an adverse feedback loop in which the decline in asset values lowered the collateral's value while further raising uncertainty, causing haircuts to rise further, which forced financial institutions to deleverage and sell more assets, and so on.

One signal of the resulting credit market disruptions appears in the interest rate spreads between safe and risky financial instruments. For example, the "TED spread" is the spread between the interest rate on interbank lending (as measured by the LIBOR interest rate on three-month Eurodollar deposits) and the interest rate on three-month U.S. Treasury bills. The TED spread provides an assessment of counterparty risk from one bank lending to another, reflecting both liquidity and credit risk concerns. TED spread rocketed up from an average of around 40 basis points (0.40 percentage points) before August 7, 2007, to 240 basis points by August 20, 2007, before abating somewhat.

The collapse of Bear Stearns in March 2008 was the most visible of these runs on the shadow financing system. Short-term financing for Bear Stearns dried up. Its long-term assets could not quickly be turned into ready cash at a fair price, and without access to short-term funding, it could not continue. The Federal Reserve brokered a deal for J.P. Morgan/Chase to purchase Bear, which was not unprecedented, but as part of the deal the Fed also took onto its books $30 billion
of Bear Stearn's toxic assets, which was unprecedented. However, this deal and the opening of new Federal Reserve lending facilities to investment banks helped restore some calm to the market. The TED spread surged to over 200 basis points in March 2008, but then fell back below 100 basis points.

By summer 2008, credit markets were clearly impaired and credit risk was rising, as can be seen by the rise in the spread between interest rates on Baa corporate bonds and Treasury bonds. However, the financial crisis looked like it could be contained. The Baa- Treasury spread had climbed to over 200 basis points, but these levels were similar to those that occurred in the aftermath of the mild recession in 2001. The TED spread, although elevated, was also below its peak values immediately after the revelations of problems at BNP Paribas and the Bear Stearns collapse. Many forecasters in the public and private hoped that the worst was over. After all, they reasoned that the subprime mortgage sector was only a small part of overall capital markets, and the losses in the related mortgage-backed securities, although substantial, seemed manageable. Indeed, the Congressional Budget Office (2008) was forecasting in early September 2008 that the Consumer Price Index would rise from 2.9 percent in 2007 to 4.7 percent in 2008. As discussed in Wessel (2009), there was talk in the Federal Reserve as to whether the easing phase of monetary policy might have to be reversed in order to contain inflation.

However, here, the focus is on understanding what happened next.

**THE SECOND PHASE: GLOBAL FINANCIAL CRISIS**

In the space of a few short weeks in the fall 2008, everything changed. On Monday, September 15, 2008, after suffering losses in the subprime market, Lehman Brothers, the fourth-largest investment bank by asset size with over $600
billion in assets and 25,000 employees, filed for bankruptcy—the largest bankruptcy filing in U.S. history. Conventional discussions of the evolution of the financial crisis often view the Lehman bankruptcy as the key event that morphed the subprime crisis into a virulent global financial crisis. Although the Lehman bankruptcy led to a large increase in uncertainty and a wave of distressed selling of securities that caused a collapse in asset prices and a drying up of liquidity, it can be argued that the collapse of Lehman was followed by three events that were at least as important in causing the subprime crisis to go global: the AIG collapse on September 16, 2008; the run on the Reserve Primary Fund on the same day; and the struggle to get the Troubled Asset Relief Plan (TARP) plan approved by Congress over the following couple of weeks.

In considering these events, it is also important to remember that the financial system had been greatly weakened before September 2008 in ways that had not yet been fully recognized at that time. Just as a relatively small sound or vibration can trigger an avalanche, if the snow conditions have made the danger of such an avalanche high, it may be that with given the amount of systemic risk embedded in the financial system, some other stress or failure of a financial institution would also have revealed the fragility of the financial system—and then led to a chain reaction that could also have tipped the financial system over the cliff.

Finally, the financial system in mid-September 2008 was far more vulnerable than almost all policymakers and market participants realized at that time. There is a distinct possibility that the financial system would have imploded even if Lehman had been bailed out.
Reserve Primary Fund
The same day of the AIG collapse—September 16, 2008—also saw a run on the Reserve Primary Fund, a large money mutual market fund run by Bruce Bent, one of the originators of money market mutual funds in 1970. Before the crisis, Bent had publicly criticized the industry for taking on too much risk in its asset holdings. He stated in a letter to the Securities and Exchange Commission in September 2007 (Bent, 2007): “When I first created the money market fund in 1970, it was designed with the tenets of safety and liquidity.” He added that these principles had “fallen by the wayside as portfolio managers chased the highest yield and compromised the integrity of the money fund.” Alas, Bent did not follow his own advice, and the Reserve Primary Fund held $785 million of Lehman paper. With the Lehman bankruptcy, the fund could no longer afford to redeem its shares at the par value of $1—a situation known as “breaking the buck”—and shareholders pulled out their money, with the fund losing 90 percent of its assets. A run on money market funds followed, with assets in institutional money market mutual funds falling from $1.36 trillion to $0.97 trillion from September to October 2008. In turn, this run put pressure on the banks, since a significant amount of bank funding was coming from bank commercial paper and certificates of deposits held by money market mutual funds.

TARP
In the wake of these events, U.S. Treasury Secretary, Hank Paulson, then proposed on September 19, 2008, the Troubled Asset Relief Program (TARP) in an infamous three-page document. In its original form, it would have given the U.S. Treasury the authorization, with no accountability to the Congress, to spend $700 billion purchasing subprime mortgage assets from troubled financial institutions, but which subsequently was used to inject capital into banking institutions. It soon
became clear that Congress would vote down the original bill, which it did on September 29. Eventually the bill was finally passed on October 3, but passage required numerous “Christmas-tree” provisions such as a tax break for makers of toy wooden arrows.

The Broader Context
If the Federal Reserve had cut a deal with Barclays to rescue Lehman before bankruptcy, would the crisis have been defused? The underlying stresses in the financial system were all too real. A counterfactual history would have to take into account that a weakened Lehman, purchased before bankruptcy, might have later brought down Barclays. Rescuing Lehman would have increased moral hazard among other financial institutions, perhaps setting up a larger crash later. The costs of the AIG credit default swaps were eventually going to come due, quite possibly unexpectedly. Runs on various shadow banking institutions, like the run on Reserve Primary Fund and then on money market funds in general, were becoming more common. Here, rather than try to lay out a persuasive counterfactual history, emphasis shall be laid on two major changes that occurred by late September 2008.

First, even though markets had been digesting bad news about mortgage-backed securities since mid-2007, the events of September 2008 showed that risk taking was far more extensive than markets had realized and the fragility of the financial system was far greater than most market participants could have imagined. The AIG blow up and the run on the Reserve Primary Fund revealed that the financial system was engaged in what could be described as one huge “carry trade”. Technically carry trades are ones in which a trader borrows at a low interest rate to fund the purchase of assets that yield a high interest rate. Carry trades generate
immediate profits, but may be very risky because the higher interest rate on the purchased assets may just reflect greater tail risk for that asset. AIG's issuing of credit default swaps is a classic example of a type of carry trade, because the firm was earning large profits on the premiums paid on these contracts until the tail risk became a realization. In a prescient and now-famous paper, Rajan (2005) warned that this carry-trade problem was a danger to the financial system because incentives in compensation schemes for financial firms were leading to financial market participants engaging in financial transactions that produced immediate income, but exposed the financial system to massive risks.

Second, although markets had been watching government agencies scramble to deal with the financial crisis since late 2007, the events of September 2008 raised serious doubts that the U.S. government had the capability to manage the crisis. After all, the Fed and the U.S. Treasury proved unable to craft a solution so that Lehman would not fail. The AIG bailout was huge and unexpected. TARP was originally proposed as a flimsy, three-page proposal, which raised concerns that the Treasury was unprepared, and the initial TARP proposal failed on a bipartisan vote. Even though the TARP legislation was eventually passed, the reputational damage was done.

After September 2008, the pattern of runs on the shadow banking system intensified and worsened. Banks began to horde cash and were unwilling to lend to each other, despite huge injections of liquidity into the financial system by the European Central Bank, the Bank of England and the Federal Reserve. The subprime crisis had become a full-fledged, global financial crisis.
The patterns of credit spreads tell the story. TED spread rose from around 100 basis points during the week before the Lehman bankruptcy to over 300 basis points on September 17, the day after the liquidity squeeze on AIG and the Reserve Primary Fund materialized. The TED spread then dropped by 100 basis points, but as confidence in the ability and competence of the government to react quickly to contain the crisis weakened over the next couple of weeks, it climbed to over 450 basis points by October 10. The spread between interest rates on Baa corporate and Treasury bonds, also rose by over 200 basis points and now rose well above levels that had been seen in 2001 during the prior recession period. The stock market crash also accelerated, with the week of October 6 showing the worst weekly decline in U.S. history.

Conditions in the financial markets continued to deteriorate. The public anger that resulted from the TARP “bailouts”— which involved injections of capital into financial institutions, with little restrictions on their use— became so intense that it became increasingly clear that the new Obama administration, taking office in January 2009, would not be able to get additional funds beyond those already allocated to TARP if needed. Although the TED spread fell from its peak in October 2008 with the help of government support to the financial sector, the spread between Baa and Treasury bonds continued to rise, peaking at over 500 basis points in December 2009. By the end of 2008, the stock market had fallen by over half from its peak in the fall of 2007.
The Links from Financial Crisis to Recession

Later data showed that the U.S. economy had turned down in the third quarter of 2008, falling at a -1.3 percent annual rate, but the recession that started in December 2007 became the worst economic contraction in the United States since World War II. Real U.S. GDP contracted sharply in the fourth quarter of 2008 and the first quarter or 2009, declining at annual rates of -5.4 and -6.4 percent, respectively. The unemployment rate skyrocketed, exceeding 10 percent by October 2009. A worldwide recession ensued as well. World economic growth fell at an annual rate of -6.4 percent in the fourth quarter of 2008 and -7.3 percent in the first quarter of 2009. A more extensive description of how financial crisis led to sharp economic downturns can be found in 2011, but the basic story has three interrelated parts.

First, a financial crisis widens credit spreads, like the difference between interest rates on Baa corporate and Treasury bonds shown earlier in Figure 1. The result is that conventional monetary policy is defanged: even if interest rates on Treasury bonds fall because of a weakening economy and easing of monetary policy, the interest rates relevant to household and business purchase decisions go up, causing a drop in aggregate demand. Baa corporate bond rates barely budged at the beginning of the financial crisis in 2007 or during the Bear Stearns episode in March 2008, but climbed substantially in September 2008.

Second, the decline in asset prices during a financial crisis causes a decline in the value of collateral, which makes it harder for nonfinancial firms to borrow. In addition, the deterioration of balance sheets at financial firms, which have the expertise to mitigate adverse selection and moral hazard problems, causes their lending to fall, a process which is described by the term “deleveraging”, which
causes spending to decline. Total bank lending continued to rise early in the financial crisis in 2007, and even remained stable through March 2008 and the Bear Stearns rescue. Right after September 2008, bank lending rises largely because lenders were drawing heavily on already-established lines of credit, but by mid-2009 bank lending is on a downward trend. Of course, this decline should not only be attributed to the decline in the supply of loans, but also to the decline in the demand for loans as a result of weakening economic conditions.

Third, the general rise in uncertainty that occurs during a financial crisis also leads to an increase in asymmetric information, further hindering the ability of financial markets to allocate funds to households and businesses with productive investment opportunities. The market for asset-backed commercial paper, which had seemed to be recovering in mid-2008, which dwindled from daily average issuance of $64 billion at the beginning of September 2008 to $16.6 billion by the end of 2009.

**Globalization, technology and the trade deficit**

Between 1996 and 2004, the U.S. current account deficit increased by $650 billion, from 1.5% to 5.8% of GDP. The U.S. attracted a great deal of foreign investment, mainly from the emerging economies in Asia and oil-exporting nations. The balance of payments identity requires that a country (such as the U.S.) running a current account deficit also have a capital account (investment) surplus of the same amount. Foreign investors had these funds to lend, either because they had very high personal savings rates (as high as 40% in China), or because of high oil prices.

Bernanke referred to this as a "saving glut" that may have pushed capital into the United States, a view differing from that of some other economists, who view such capital as having been pulled into the U.S. by its high consumption levels. In other
words, a nation cannot consume more than its income unless it sells assets to foreigners, or foreigners are willing to lend to it. Alternatively, if a nation wishes to increase domestic investment in plant and equipment, it will also increase its level of imports to maintain balance if it has a floating exchange rate.

Regardless of the push or pull view, a "flood" of funds (capital or liquidity) reached the U.S. financial market. Foreign governments supplied funds by purchasing U.S. Treasury bonds and thus avoided much of the direct impact of the crisis. American households, on the other hand, used funds borrowed from foreigners to finance consumption or to bid up the prices of housing and financial assets. Financial institutions invested foreign funds in mortgage-backed securities. American housing and financial assets dramatically declined in value after the housing bubble burst.

Economist Joseph Stiglitz wrote in October 2011 that the recession and high unemployment of the 2009-2011 period was years in the making and driven by: unsustainable consumption; high manufacturing productivity outpacing demand thereby increasing unemployment; income inequality that shifted income from those who tended to spend it (i.e., the middle class) to those who do not (i.e., the wealthy); and emerging market's build-up of reserves (to the tune of $7.6 trillion by 2011) which was not spent. These factors all led to a "massive" shortfall in aggregate demand, which was "papered over" by demand related to the housing bubble until it burst.

**Boom and collapse of the shadow banking system**

In a June 2008 speech, President of the NY Federal Reserve Bank Timothy Geithner, who later became Secretary of the Treasury, placed significant blame for the freezing of credit markets on a "run" on the entities in the "parallel" banking
system, also called the shadow banking system. These entities became critical to the credit markets underpinning the financial system, but were not subject to the same regulatory controls as depository banks. Further, these entities were vulnerable because they borrowed short-term in liquid markets to purchase long-term, illiquid and risky assets. This meant that disruptions in credit markets would make them subject to rapid deleveraging, selling their long-term assets at depressed prices.

He described the significance of these entities: "In early 2007, asset-backed commercial paper conduits, in structured investment vehicles, in auction-rate preferred securities, tender option bonds and variable rate demand notes, had a combined asset size of roughly $2.2 trillion. Assets financed overnight in triparty repo grew to $2.5 trillion. Assets held in hedge funds grew to roughly $1.8 trillion. The combined balance sheets of the then five major investment banks totalled $4 trillion. In comparison, the total assets of the top five bank holding companies in the United States at that point were just over $6 trillion, and total assets of the entire banking system were about $10 trillion." He stated that the "combined effect of these factors was a financial system vulnerable to self-reinforcing asset price and credit cycles."

Nobel laureate Paul Krugman described the run on the shadow banking system as the "core of what happened" to cause the crisis. "As the shadow banking system expanded to rival or even surpass conventional banking in importance, politicians and government officials should have realized that they were re-creating the kind of financial vulnerability that made the Great Depression possible—and they should have responded by extending regulations and the financial safety net to cover these new institutions. Influential figures should have proclaimed a simple
rule: anything that does what a bank does, anything that has to be rescued in crises the way banks are, should be regulated like a bank." He referred to this lack of controls as "malign neglect."

The securitization markets supported by the shadow banking system started to close down in the spring of 2007 and nearly shut-down in the fall of 2008. More than a third of the private credit markets thus became unavailable as a source of funds. According to the Brookings Institution, the traditional banking system does not have the capital to close this gap as of June 2009: "It would take a number of years of strong profits to generate sufficient capital to support that additional lending volume." The authors also indicate that some forms of securitization are "likely to vanish forever, having been an artifact of excessively loose credit conditions."

Economist Mark Zandi testified to the Financial Crisis Inquiry Commission in January 2010: "The securitization markets also remain impaired, as investors anticipate more loan losses. Investors are also uncertain about coming legal and accounting rule changes and regulatory reforms. Private bond issuance of residential and commercial mortgage-backed securities, asset-backed securities, and CDOs peaked in 2006 at close to $2 trillion. In 2009, private issuance was less than $150 billion, and almost all of it was asset-backed issuance supported by the Federal Reserve's TALF program to aid credit card, auto and small-business lenders. Issuance of residential and commercial mortgage-backed securities and CDOs remains dormant."

The Economist reported in March 2010: "Bear Stearns and Lehman Brothers were non-banks that were crippled by a silent run among panicky overnight "repo"
lenders, many of them money market funds uncertain about the quality of securitized collateral they were holding. Mass redemptions from these funds after Lehman's failure froze short-term funding for big firms.”

The Financial Crisis Inquiry Commission reported in January 2011: "In the early part of the 20th century, we erected a series of protections—the Federal Reserve as a lender of last resort, federal deposit insurance, ample regulations—to provide a bulwark against the panics that had regularly plagued America’s banking system in the 20th century. Yet, over the past 30-plus years, we permitted the growth of a shadow banking system—opaque and laden with short term debt—that rivaled the size of the traditional banking system. Key components of the market—for example, the multitrillion-dollar repo lending market, off-balance-sheet entities, and the use of over-the-counter derivatives—were hidden from view, without the protections we had constructed to prevent financial meltdowns. We had a 21st-century financial system with 19th-century safeguards.

The effect of the global financial crisis was worsened by rising global energy and commodity prices which pushed up inflation.

Emerging and developing countries have particularly experienced strong rises in prices reflecting the high weight of food in their consumption baskets. The burst of the US mortgage bubble, in August 2007, is pointed out as the moment when international financial markets were stroked by the subprime crisis, notwithstanding the almost generalised interventions by central banks, suggesting that the impact could be global, until then the effects of the crisis were somewhat confined to the US.
After the first liquidity injection by the European Central Bank, taking place on the 9th of August, the supply of funds by central banks became almost a rule. By providing low cost money, monetary authorities wanted to ensure that commercial banks could maintain a normal level of activity, in spite of the increasing difficulties faced in the interbank money market. In fact, commercial banks were lending each other less frequently and at higher costs, either following an anticipation of losses and the consequent need to maintain adequate levels of reserves, or reflecting the turmoil in the financial system, motivated by the uncertainties on the real dimension of the crisis.

The impact of the global crisis has been transmitted to the Indian economy through three distinct channels, viz., the financial sector, exports, and exchange rates. On the financial front, the Indian banking sector was not overly exposed to the sub-prime crisis. While exports of both goods and services, still account for only about 22 percent of the Indian GDP, their multiplier effect for economic activity is quite large as the import content is not as high as for example in the case of Chinese exports. Therefore, an export slump will bring down GDP growth rate in this year. The third transmission channel is the exchange rate, as the Indian Rupee has come under pressure.

**Policy Responses To The Financial Crisis**

As the Crisis emerged worldwide with contagious effect, Several Governments world across, Federal Reserve in USA and various other Central Banks have started their measures to combat the Crisis. Simultaneously various respective Countries initiated Policy tightening while focusing on the overall economic growth by providing economic stimulus, initiated measures to bring solvency in Banking with Capital replenishment, Provided Bailouts to failed financial system,
provided sops to home owners by concentrating on affordable housing. The most powerful U.S. policy responses to the financial crisis came through policies that applied to the financial and banking system: conventional and unconventional monetary policies, bank “stress tests,” and bailouts of some banks and financial institutions. Many of these policies were implemented by the Federal Reserve, but others involved cooperation with fiscal authorities.

Introduction of a series of regulatory proposals in June 2009 took place, the regulatory proposals, addressed consumer protection, executive pay, bank financial cushions or capital requirements, expanded regulation of the shadow banking system and derivatives, and enhanced authority for the Central Banks to safely wind-down systemically important institutions, among others. The Dodd–Frank Wall Street Reform and Consumer Protection Act was signed into law in July 2010 to address some of the causes of the crisis in USA.

SUMMARY OF FINDINGS
Real estate boom and bust was the epicenter Sub Prime Crisis. But the foibles of human psychology play an unusually large role in this scenario. Adapting the argument first of, Irrational Exuberance, over the past several decades, financial democracy spread until we all became investors. That made society ever more vulnerable to the mass psychology of bubblenomics. Rising real estate prices FED "new era stories" about how the old rules for valuation no longer applied; those tall tales drove prices even higher, and more yarns were spun justifying the upward
spiral; eventually the irrational investment fever spread contagiously; and then, finally, the fever broke.

Clearly, psychology matters, although this approach seems to neglect such economic fundamentals as demographics and interest rates. More persuasive is the adroit puncturing of the all-too-common notion that real estate prices inevitably go up over time. Along the way, "It is in no way bad news if home prices fall" so long as our incomes are rising and we have the ability to meet the credit exposure. The problems comes only when one goes beyond his means in the name of valuation game without any income in hands. Servicing such loans will be a difficult task. However, such offerings for business growth when pursued under shadow banking, the banks in fact started holding the liabilities of other banks as their assets under securitization which in turn lead to global credit exotic swap making the whole world economy and banking system vulnerable to the Sub Prime Crisis. Added fuel to the fire Regulators, Credit Rating Agencies also did not notice the problem, rather they went on safeguarding the securitization process of throwing the debt of one on the other which ultimately collapsed exposing the weaknesses of Regulatory and Credit Rating Agencies.

With the tightened liquidity position, though various affected Government’s tried to combat the problem with monetary policy measures, but when there is no-money scenario, any such amount of policy feel good factors do not provide any rejoice. At the end to keep the boat floating, Governments in USA and Europe have recapitalized majority of the banks under bailout packages.
Uncertainties and vulnerabilities
In the whole process, the World Economy and the Indian Economy mainly got affected in 5 aspects. They are 1) Interest Rates 2) Trade Deficits 3) Financial Outflows 4) Inflation, and 5) Currency Volatilities. India which is a self consumption economy in terms of demand, has fallen a victim in the later period of Sub-Prime with the 5 factors as mentioned aforesaid affecting Indian economy due to the very nature of Globalized World of which it is a part and parcel.

The world economy has entered a very difficult phase characterized by significant downside risks and fragility.

The financial turmoil generated by Sub Prime Crisis and the intensification of the fiscal crisis in Europe has spread to both developing and high-income countries, and is generating significant headwinds. Capital flows to developing countries have declined by almost half as compared with last year, Europe appears to have entered recession, and growth in several major developing countries (Brazil, India, and to a lesser extent Russia, South Africa and Turkey) has slowed down partly in reaction to domestic policy tightening. As a result, and despite relatively strong activity in the United States and Japan, global growth and world trade have slowed down sharply.

Indeed, the world is living a version of the downside risk scenarios. Global Economic Prospects (GEP), forecasts have been significantly downgraded.

The global economy is now expected to expand 2.5 and 3.1 percent in 2012 and 2013 (3.4 and 4.0 percent when calculated using purchasing power parity weights), versus the 3.6 percent projected in June for both years.
High-income country growth is now expected to come in at 1.4 percent in 2012 (-0.3 percent for Euro Area countries, and 2.1 percent for the remainder) and 2.0 percent in 2013, versus June forecasts of 2.7 and 2.6 percent for 2012 and 2013 respectively.

Developing country growth has been revised down to 5.4 and 6.0 percent versus 6.2 and 6.3 percent in the June projections.

Reflecting the growth slowdown, world trade, which expanded by an estimated 6.6 percent in 2011, will grow only 4.7 percent in 2012.

The downturn in Europe and weaker growth in developing countries raises the risk that the two developments reinforce one another, resulting in an even weaker outcome. At the same time, the slow growth in Europe complicates efforts to restore market confidence in the sustainability of the region’s finances, and could exacerbate tensions. Meanwhile the medium-term challenges represented by high deficits and debts in Japan and the United States and slow trend growth in other high-income countries have not been resolved and could trigger sudden adverse shocks. Additional risks to the outlook include the possibility that political tensions in the Middle-East and North Africa disrupt oil supply, and the possibility of a hard landing in one or more economically important middle-income countries.

The risk of a much broader freezing up of capital markets and a global crisis
similar in magnitude to the Lehman crisis remains. In particular, the willingness of markets to finance the deficits and maturing debt of high-income countries cannot be assured. Should more countries find themselves denied such financing, a much wider financial crisis that could engulf private banks and other financial institutions on both sides of the Atlantic cannot be ruled out. The world could be thrown into a recession as large or even larger than that of 2008/09.

Although such a crisis, should it occur, would be centred in high-income countries, developing countries would feel its effects deeply. Even if aggregate developing country growth were to remain positive, many countries could expect outright declines in output. Overall, developing country GDP could be about 4.2 percent lower than in the baseline by 2013 — with all regions feeling the blow.

Problems are likely to be particularly acute for the 30 developing countries with external financing needs (for maturing short and long-term debt, and current account deficits) that exceed 10 percent of GDP. To the extent possible, such countries should seek to pre-finance these needs now so that a costly and abrupt cut in government and private-sector spending can be avoided.

1. A severe crisis could cause remittances to developing countries to decline by 6.3 percent—a particular burden for the 24 countries where remittances represent 10 or more percent of GDP.

2. Oil and metals prices could fall by 24 percent causing current account positions of some commodity exporting nations to deteriorate by 5 or more percent of GDP.

3. In most countries, lower food prices would have only small current account effects. They could, however, have important income effects by
reducing incomes of producers (partially offset by lower oil and fertilizer prices), while reducing consumers' costs.

4. Current account effects from reduced export volumes of manufactures would be less acute (being partially offset by reduced imports), but employment and industrial displacement effects could be large.

5. Overall, global trade volumes could decline by more than 7 percent.

6. GDP effects would be strongest in countries (such as those in Europe & Central Asia) that combine large trade sectors and significant exposure to the most directly affected economies.

Capital flows to developing countries weakened sharply. Investors withdrew substantial sums from developing-country markets in the second half of the year. Overall, emerging-market equity funds concluded 2011 with about $48 billion in net outflows, compared with a net inflow of $97 billion in 2010.

The dollar value of FDI is estimated to have risen broadly in line with developing country GDP, increasing by 10.6 percent in 2011. FDI flows are not expected to regain pre-crisis levels.

Commodity prices, which increased significantly during the second half of 2010, stabilized in early 2011 and, except for oil whose price picked up.

Inflation remains elevated and of concern in several countries, including India.
Developing countries are more vulnerable than in 2008

Whatever the actual outcomes for the world economy in 2012 and 2013 several factors are clear. First, growth in high-income countries is going to be weak as they struggle to repair damaged financial sectors and badly stretched fiscal balance sheets. Developing countries will have to search increasingly for growth within the developing world, a transition that has already begun but is likely to bring with it challenges of its own. Should conditions in high-income countries deteriorate and a second global crisis materializes, developing countries will find themselves operating in a much weaker global economy, with much less abundant capital, less vibrant trade opportunities and weaker financial support for both private and public activity.

Under these conditions prospects and growth rates that seemed relatively easy to achieve during the first decade of this millennium may become much more difficult to attain in the second, and vulnerabilities that remained hidden during the boom period may become visible and require policy action.

Fiscal positions in developing countries including India, have deteriorated markedly since 2008. In particular, government balances have fallen by two or more percent of GDP in almost 44 percent of developing countries in 2012 . As a result, developing countries have much less fiscal space available to respond to a new crisis.

Tighter financial conditions could make financing current account and government deficits much more difficult.
South Asia’s estimated external financing requirements have increased from 5.8 percent to 8.4 percent, mainly because of a sharp rise in India’s external debt in 2011.

The global economy is at a very difficult juncture. The financial system of the largest economic bloc in the world is threatened by a fiscal and financial crisis that has so far eluded policymakers’ efforts to contain it. Outside of Europe, high-income country growth, though strengthening, remains weak in historical perspective. At the same time some of the largest and most dynamic developing countries have entered a slowing phase.

These are not auspicious circumstances, and despite the significant measures that have been taken, the possibility of a further escalation of the crisis in Europe cannot be ruled out. Should this happen, the ensuing global downturn is likely to be deeper and longer-lasting than the recession of 2008/2009 because countries do not have the fiscal and monetary space to stimulate the global economy or support the financial system to the same degree as they did in 2008/09. While developing countries are in better shape than high-income countries, they too have fewer resources available (especially if international capital is not available to support deficit spending). No country and no region will escape the consequences of a serious downturn.

Importantly, because this second crisis will come on the heels of the earlier crisis of USA, for any given level of slowdown its impact at the firm and
household level is likely to be heavier. In 2008 developing countries went into the crisis in very strong cyclical positions (GDP was on average 3 percent higher than potential), now they are at best in a neutral position. Like national governments, firms and households are likely to be less resilient than in 2008, because the earlier crisis has depleted the cushions and buffers that allowed them to cope so well last time.

While the main responsibility for preventing a global financial crisis rests with high-income countries, developing countries have an obligation to support that process both through the G-20 and other international fora.

Now is not the time to pursue narrow national agendas on the global stage — too much is at stake. In this regard, developing (and high-income) countries could help by avoiding entering into trade disputes and by allowing market prices to move freely. On the one hand, developing countries could take steps to ensure that lower international commodity prices are passed through more quickly to domestic prices; while on the other hand, producers should avoid using their market power to resist market pressures for lower prices.

Faced with the enormous economic forces that would be unleashed by an acute crisis, there is little that developing countries can do to avoid being hit. There is, however, much that they can do to mitigate the effects that a deep crisis might have domestically.

In the immediate term, governments should engage in contingency planning to
identify spending priorities, seeking to preserve momentum in pro-development infrastructure programs and shore up safety net programs.

Contingencies should include the possibility that external financing is unavailable or that commodity prices (and therefore associated government revenues) fall abruptly.

Policymakers should also take steps to identify and address vulnerabilities in domestic banking sectors through stress-testing. Risks here include the possibility that an acute deleveraging in high-income countries spills over into domestic markets either as a cutting off of wholesale funding or asset sales. In addition, in the context of a major global recession the balance sheets of local banks could come under pressure as firms and households capacity to service existing debt levels deteriorate. This could be a particular problem in economies that have gone through a very rapid credit expansion in recent years. From a longer-term perspective, countries may want to take the time now to identify new drivers of growth so that post-crisis investment and progress is concentrated in the sectors that are most likely to succeed over the longer-term. Finally, governments may wish to address long-standing and tough policy challenges. Often it is only in serious crises that the political will can be mustered to put through difficult and unpopular (but necessary) reforms.
SUGGESTIONS

The time for society to be concerned is when prices drop rapidly, like how it happened leading to Sub Prime Crisis, in such scenarios, need for a bold bailout involving measures that range from creation of a new organization modeled after the 1933 Home Owners' Loan Corp. to the possibility of tax rebates for years to come.

Whereas in the long term, one should adopt more persuasive approach—even if it's sometimes insufficiently detailed. Though heavy-handed regulations are necessary, but tapping into modern technologies and information systems to advance the democratization of finance. Among such ideas include: the creation of new insurance products for hedging against major personal finance risks, a financial products safety commission, and improved financial disclosure.

Another intriguing remedy can be subsidization of independent financial advice to make it available to everyone through qualified advisors. This might take the form of a co-pay arrangement similar to Medicare and private health insurance. "We need both medical and financial advice on an ongoing basis, and failure to obtain either ultimately imposes costs on society when our health—medical or financial—suffers, ".

Legislatures across consider regulatory remedies, including requirements for better disclosure, face-to-face meetings between lender and borrower before loan
disbursal and in the eventual foreclosure if any, and the publication of specific, company-by-company loan data and defaulters list in open forums through websites.

Effective reforms approach in Regulatory mechanism by USA has become a case study for various countries, the reforms of regulatory includes:

Expanding the Federal Deposit Insurance Corporation bank resolution mechanism to include non-bank financial institutions; Ensure that a firm is allowed to fail in an orderly way and not be "rescued"; Ensure taxpayers are not on the hook for any losses, by applying losses to the firm's investors and creating a monetary pool funded by the largest financial institutions; Apply appropriate checks and balances to the FDIC and Federal Reserve in this resolution process; Require stronger capital and liquidity positions for financial firms and related regulatory authority.

Law investigations, judicial and other initiations started their own course of action which lead to several litigations, penalization etc.,

Where as in other part of the world including India-

Monetary policy intervention has been used as an effective tool, Introduction of Stimulus packages to keep up the economic growth. Provisioning to Risky assets exposure by the banking system. Increased CRR ratio and Liquidity tinkering through monetary policy. Thrust on Capital Adequacy of Banking System. Focus on Low Cost Affordable Housing and sops to such borrowers through tax benefits.

Discontinuation of Exotic Derivatives, Making the Country's Financial Institutions size wise big to prevent any crisis on the part of exodus of Foreign Investors in the events of crisis.
Proper Credit rating of borrowing individuals and corporate, Checks and Balances at each and every level, Increased supervision through review's by RBI on Banking and Non Banking Finance Companies.

Investor Education Programs and Financial Literacy and Whistle Blower Policy

Further, other remedies, including national board which can standardize the data base of underlying mortgage assets and assigning a value by the Government Approved values and stipulation of maximum exposure that a bank can take in co-ordination with a model developed for the purpose with the help of central banks and borrower financial education programs.

**Conclusion**
Sub Prime Crisis is a classic case of unrealistic valuations and unrealistic real-estate prices making individual and institutional borrowers and lenders follow a liberal approach for the purpose of borrowing with an objective of speculative mind set without looking into the risk factor of price crash and no contingent mechanism put in place to face such large exposure by the lending institutions which made this crisis a Global Crisis with Contagion effect.

What started in 2007 as a crisis in one small part of the financial system led to a world-wide economic conflagration by late 2008 and early 2009. There are two key lessons from what has happened. First, the global financial system is far more interconnected than was previously recognized and excessive risk taking that
threatened the collapse of the world financial system was far more pervasive than almost anyone realized. Understanding how systemic risk can arise and designing policies to rein in this risk taking are tasks of the highest priority. Second, extraordinary actions by central banks and governments have contained this global financial crisis, but successfully unwinding these policies will prove to be a highly challenging task.

Though the crisis eroded trillions of money from the world economy and made USA and Europe vulnerable to the crisis which is even now haunting the other economies of the world, the end result of the sub prime crisis is manifesting itself in myriad ways. There are direct and indirect implications not only for the United States but for the entire world.

**Let us briefly highlight the effects of this crisis on the Indian economy**

Firstly, the sub prime crisis has led to near loss of confidence in the American Stock Markets, and this has accentuated the credit crunch. Many big investment banks have been brought down to their knees and many others are finding it extremely difficult to stay on their feet. In order to consolidate their respective balance sheets in the United States, these banks had and have been unwinding positions in developing markets hence causing downswing in these markets. A simple case in point was the intraday 1400 points fall on the BSE in January 2008 that was brought about by CitiBank unwinding its position in many front line stocks in India. The sub prime that was brought upon by the American financial system upon itself is spreading its tentacles around the world. People who were not even remotely connected with the sub prime crisis are being adversely affected.
Secondly, the near recession situation in the USA has led to a loss of
demand for Indian exports hence loss of export earnings for India.

The Americans are known to live beyond their means. However, on account of the
sub prime crisis, all their sources of credit have dried up, and they are being
forced to cut down on their expenditures. Thus demand for imports is falling,
which implies loss of revenues for countries like India.

Thirdly, investment banks and other financial institutions are on a job
slashing spree to cut costs. This means that many jobs in India are at
stake because these institutions have their BPO’s in India.

So the first jobs to go will be the low end Indian BPO jobs
leading to increased unemployment in India.

Fourthly, there will be serious implications for the banking sector as well. The sub
prime has meant that the Indian banks have to follow stricter norms while
disbursing loans to the people.

These tighter norms could prove to be counter cyclical. The argument is this-
people will be asked to provide collateral for the loans given to them.
Anybody who is unable to furnish the collateral will be denied a loan. This
policy will exclude a majority of the population from institutional sources of
credit, thereby affecting growth negatively.

Fifthly, there is a risk of the financial contagion spreading to the entire
world. Firms like Bear Sterns, Lehman Brothers, Meryll Lynch who once
inspired confidence amongst the investor class have now gone bust. Other
giants like CitiBank, Morgan Stanley, and AIG have been shaken from their
very foundations. Freddie Mac and Fannie Mae are under the conservatorship of the US government. The risk is, thus, the domino effect. If one more big financial institution fails there will be a collapse of the entire financial system of the USA.

In retrospect we can conclude that due to increased financial integration of the world, risks emanating in one country are being transmitted to other nations.

There is no doubt that the financial system of the entire world is under great strain. The first of the dominos by the name of Lehman Brothers has fallen. The policy makers are trying all that they can to stem the fall of any more dominos. Only time will tell whether they succeed in their endeavor. Time is running out and the policymakers cannot afford to fail. Remedial Measures both Preventive and Curative are essential from a long term perspective to stop recurrence of such crisis once again.

On the basis of the findings in the research, which was discussed in detail in various chapters and as summarized in the current chapter, the below mentioned broad conclusion is drawn.

“Sub Prime Crisis Impacted World Economy and Indian Economy”. The impact of the Sub-Prime Crisis now spread to the World Across by making various economies of the World including India on combating the same from the 5 perspectives of 1) Interest Rates 2) Trade Deficits 3) Financial Outflows 4) Inflation, and 5) Currency Volatilities.