

Sub Prime Crisis in US: Emergence, impact and lessons

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Sub Prime Crisis in US: Emergence, impact and lessons

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Abstract: The sub prime crisis in US is the result of excessive amounts of loans made to people who could not afford them and excessive amounts of money thrown into the mortgage arena by investors who were very eager for high return. The crisis represents the other side of a phase when a low rate of interest, rising home prices and mortgage securitization brought huge gains. A number of factors like legislations like Community Reinvestment Act, low rate of interest, mortgage brokers and lenders, rating agencies played their role in generating crisis. Three important dimensions of the sub prime saga relate to poor regulation of investment banks, relaxation in lending standards led by greed in a regime of unbridled competition and failure of the asset market to realize the dues from the defaulter. It once again brings home the fact that financial sector is distinctive in nature and can be exposed to unbridled and unregulated competition only at the cost of a complete peril.

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Introduction

Sub-prime crisis in U.S. is currently the hottest topic of discussion around the globe. It started as a financial crisis and quickly assumed the form of general economic crisis. Some termed it as the beginning of “the second great depression” because of the enormous dislocation it has created across continents. Such portents now appear to become a reality. As put aptly by Rakesh Mohan, “Even as every passing day unravels a little more of the underlying forces at work – the complex nature of the derivatives used; the high degree of leveraging on poor, light or even absent collateral; the underestimation of risk pervading financial markets; the surprisingly sizeable exposures of large financial institutions to some of the debt instruments and derivatives in question; and the speed of contagion.” It is the resultant of a multiplicity of factors. It has serious implications for the global economy.

Plan of the study

The first section deals with the mortgage lending process in the US. Mortgage securitization and the Housing bubble are dealt with the second and third sections respectively. In the fourth section, we discuss emergence of “unknown-unknown”. Cost of securitization and responsibility of crisis are discussed in the next two sections. The following sections reveal how various entities indulged in ‘Passing the buck’. The impact is studied in specific terms, as the overall impact and the effect on the global economy in the next three sections. Section XI and XII respectively explain the role of central banks all over the globe and the lessons drawn from the crisis. The final section contains the summary and conclusion.

I. The mortgage lending process in the US

In the residential mortgage business in the US, a homeowner, with the help of a real estate broker, selects a mortgage lender who gives the loan after checking the borrower's creditworthiness and the property that serves as collateral for the loan. After the loan is disbursed, most mortgage lenders resell these loans to investors or Wall Street firms, often through multiple intermediaries. Wall Street firms in turn bundle thousands of mortgage loans from different lenders into mortgage-backed securities (MBS). These institutions then slice these mortgages into residential mortgage backed securities (RMBS) or in other words, securities that are backed by collateral; the collateral here being the mortgages held by sub-prime borrowers. These mortgage-backed securities are, in turn, often sliced and diced into different structures, for example, a Collateralized Debt Obligation (CDO). Thus CDOs are pools of bond securities that are grouped together to help diversify risk. The different tranches of these structures are assigned a risk rating by the rating agencies such as Moody's, Standard & Poor's, and Fitch based on various parameters. They are subsequently sold by Wall Street firms to institutional investors worldwide – mutual funds, banks, hedge funds, central banks and pension funds.

The above discussion helps us to list the agents involved in the US housing mortgage market. This will help to identify those hit by the crisis.

- Homeowners.
- Real estate agents.
- Mortgage lenders.

- Wall Street firms
- Rating agencies
- Investors

II. Mortgage securitisation creates multiple principal agent problems.

Securitization is viewed as bank “disintermediation”. But actually it replaces one middleman by several. In the traditional model, there is only middleman between the lender and the borrower, the bank. This however leads to emergence of a principal-agent problem at two levels: between the depositor and the bank on the one hand and between the bank and borrower on the other. In a mortgage securitization, the lender is supplanted by

- The mortgage broker
- The loan originator
- The servicer who collects payments
- The investor
- The arranger
- Rating agencies
- Mortgage bond issuers.

Concept of sub prime lending

Subprime lending, also called B-paper, near-prime, or second chance lending, is the practice of making loans to borrowers who do not qualify for the best market interest rates because of their deficient credit history.

III. Housing bubble and sub-prime crisis.

A housing bubble is characterized by rapid increases in the valuations of real property such as housing until unsustainable levels are reached relative to incomes, price-to-rent ratios, and other economic indicators of affordability. The housing bubble (See Figure 1) was largely fed by the lowering of interest rates to record low levels to diminish the blow of the massive collapse of the bubble. Encouraged by the low interest regime and high liquidity, thanks to inflows from Asia and other economies, US banks started lending liberally for housing. Their credit to sub prime mortgages bloomed because of the low interest regime and hefty promotional campaigns. The sub prime crisis is the result of excessive amounts of loans made to people who could not afford them and excessive amounts of money thrown into the mortgage arena by investors who were very eager for high-yielding investments. It fed the real estate mania, the real estate bubble in many parts of the country. The bubble prices in the US housing market were caused by:

- Lax lending standards.
- Low treasury rates on adjustable rate mortgages.
- Speculative behavior by consumers.

Interest paid on residential mortgages in the US is linked to US Federal Reserve Fed Funds Rates. Between 2004 and 2006, because of incipient inflation in the US economy, the Fed increased its Fed fund rate¹ from 1% all that way to 5.25% and the discount rate² from 2% to 6.25%. Because of this, holders of residential mortgages saw their payments on their house loans rise. This rise in rates was a disaster in the making for banks that gave loans to sub prime borrowers. Defaults on sub-prime mortgages turned out more

¹ The overnight rate at which banks lend to each other in the US.

² The rate at which Fed lends to banks.

Figure 1

Housing Prices in USA

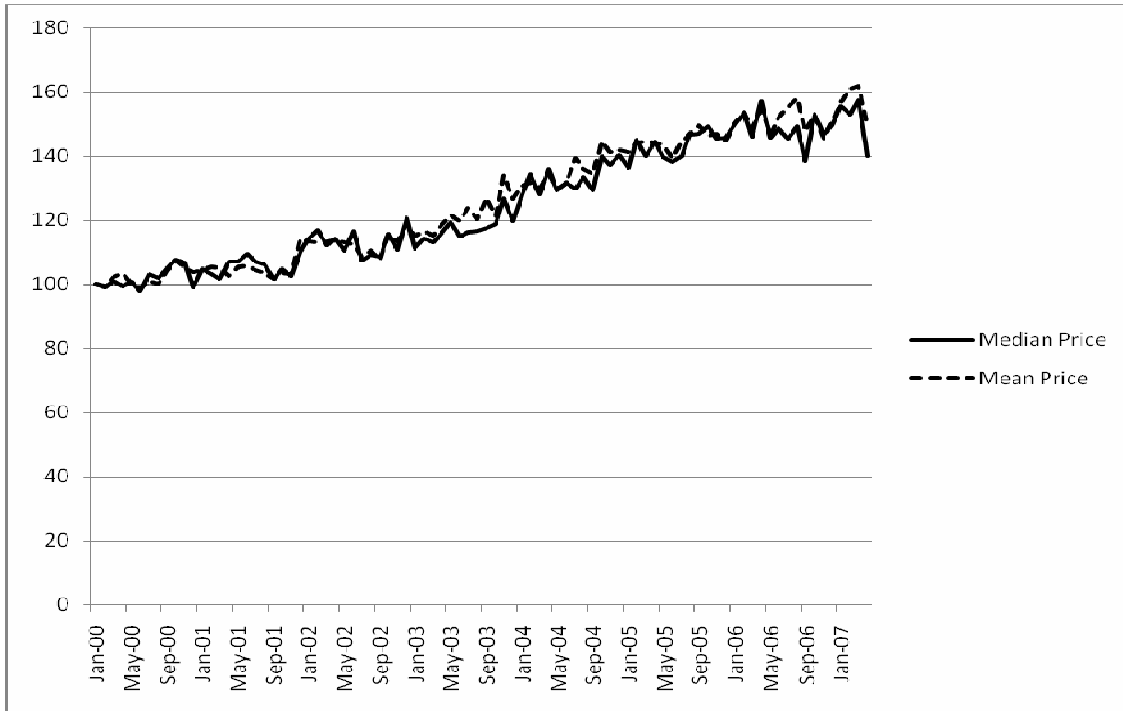


Figure 2
Change in Housing Prices in USA

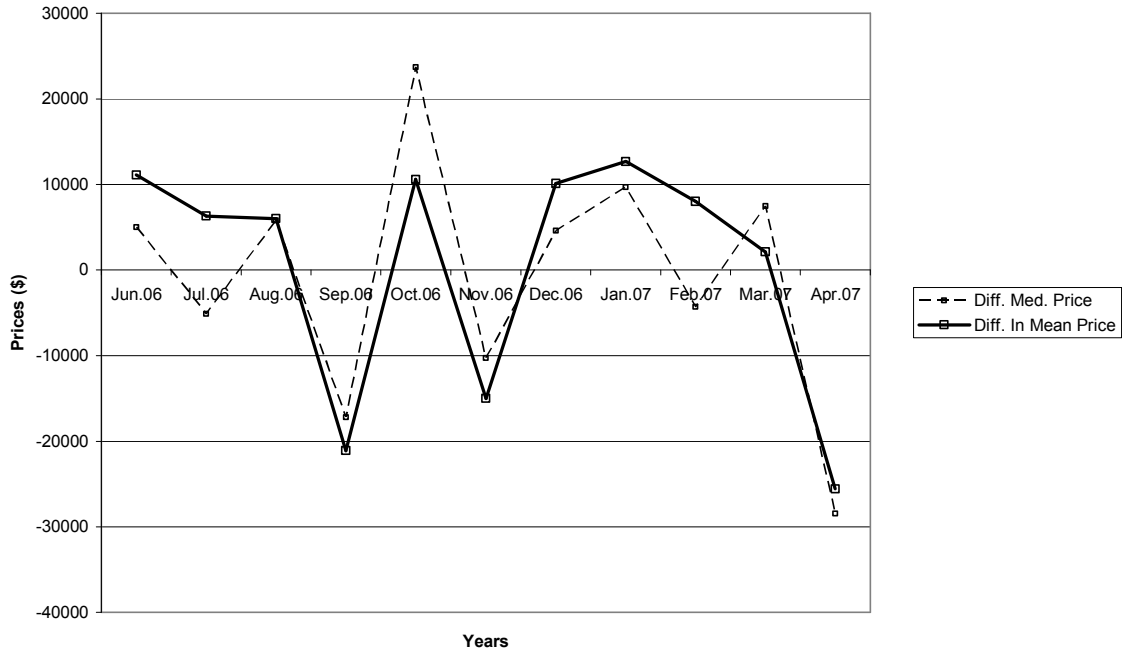


Table 1				
Housing Prices in USA				
	Median Price	Mean Price	Diff. Med. Price	Diff. In Mean Price
May.06	238200	293900		
Jun.06	243200	305000	5000	11100
Jul.06	238100	311300	-5100	6300
Aug.06	243900	317300	5800	6000
Sep.06	226700	296200	-17200	-21100
Oct.06	250400	306800	23700	10600
Nov.06	240100	291800	-10300	-15000
Dec.06	244700	301900	4600	10100
Jan.07	254400	314600	9700	12700
Feb.07	250100	322600	-4300	8000
Mar.07	257600	324700	7500	2100
Apr.07	229100	299100	-28500	-25600

Table 2 Growth rate of Housing Prices in USA

SUMMARY OUTPUT

<i>Regression Statistics</i>					
Multiple R	0.968351352				
R Square	0.937704341				
Adj.R Square	0.936971451				
Std.Error	0.036795352				
Observations	87				

<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1.732259658	1.73226	1279.461	5.17661E-53
Residual	85	0.115081325	0.001354		
Total	86	1.847340983			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	11.96471601	0.00795826	1503.434	7.6E-190
Time	0.005618843	0.000157085	35.76955	5.18E-53

than expected, with approximately 17 per cent of loans defaulting so far. When faced with higher mortgage payments, they fell behind their payments and in cases, some become delinquent and banks started repossessing their houses. However, problems cropped up for the same reasons leading to mortgage closure when banks attempted to sell these houses. Because of higher interest rates, people became more cautious in borrowing to buy houses and there occurred a general slowdown in demand in the housing market. This led to banks holding assets that people were not just willing to buy. Rise in supply of mortgaged houses couple with no demand for them led to plummeting of price in real estate sector. This trend was visible in the period May2006 to April 2007 (See Figure 2 and Table 1 below). The most dramatic fall in price was just in one month, from March 2007 to April 2007 when the prices declined by over \$ 25000 in just one

month. Prior to this in the preceding 87 months the growth in prices was an alarming 0.56 percent per month! (See Table 2). It is about 13 percent annually. In the last month the fall equals the rise in one year!

This created a vicious circle when subprime loan payers defaulted on their obligation, leaving foreclosure of their mortgages as the only perceived recourse for investors in the loan. When other homeowners with mortgages also attempt to meet their financial obligations, some of them put their homes up for sale, which drags down the price of other houses in their neighborhood, not merely those houses with subprime mortgages. People who held riskiest debt got paid the highest when the going was good and they got hit first times were bad.

IV. Emergence of “unknown unknown”

Any CDO manager, primarily new CDO managers with light staffing, very little technology and unbalanced capability, was able to get a CDO done. Actively managed CDOs are blind pools, in which a manager buys various debt instruments, which can be tranches of other asset backed securities, including pieces of other CDOs. Once the money committed has been invested, the manager trades it actively. And like regular CDOs, it is tranced into risk pools. The net result is two fold.

- one does not have an idea what he owns.
- no one knows which firms have exposure to sub-prime or the amounts involved

This is a situation that may be called the “unknown unknown”. The wall Street Journal expressed its apprehensions about CDOs because it's not entirely clear how much is in

bonds backed by risky subprime mortgages versus bonds backed by safer corporate debt. But the prospectus notes holdings of bonds backed by subprime debt as a "risk factor" that would need to be weighed by investors.

V. Costs of securitization became apparent.

It is argued that the transaction costs of CDOs are high and the benefits are questionable. CDOs are being used to transform existing debt instruments that are accurately priced into new ones that are overvalued. The more eclectic CDOs bind together the fate of assets which have few real economic links. For example, a lowly rated energy bond and top notch bank paper may be in the same structure. Separately, they would not move in tandem. If they are put in CDO, they fall together in a credit squeeze, by virtue of being in the same structure, as investors rush to exit or seek to hedge their risk.

Investors seeking to redress have encountered unforeseen problem. Securitizations are generally structured as true sales: the seller wipes its hands off the risk. In practice buyers have some protection. Many contracts allow them to hand back loan pools that sour surprisingly quickly. Some have done just this with the most rancid sup prime mortgages, requesting an injection of better-quality loans into the pool. But there were so many bad loans that originators could not oblige. The effective secondary market punishment mechanism turned out to be faulty when the problems grow beyond a certain size.

VI. Who were responsible for the crisis?

The crisis is the result of excessive amounts of loans made to people who could not afford them and excessive amounts of money thrown into the mortgage arena by investors who were very eager for high-yielding investments. However, apart from mere

borrowers, lenders and investors, a number of agents have played their role in generating the crisis.

Government policy: Some observers claim that government policy actually encouraged the development of the subprime debacle through legislation like the Community Reinvestment Act.

Fed's policy of reducing the rate of interest: This was done to contain the adverse impact of dot com boom.

The borrowers: Many borrowers bought a home they could not afford but hoped that prices would continue to rise and that they could re-sell their homes for a profit, sometime in the future. Unfortunately, prices went in the wrong direction.

Mortgage brokers: They have been blamed with steering borrowers to unaffordable loans, appraisers with inflating housing values. They were more interested in their commission.

The mortgage lenders/ the loan originator: High fixed costs of the loan originator platform motivated the mortgage lenders to generate as many loans as they could and then sell them quick³ In order to compete with other mortgage lenders, they relaxed lending standards. The most notorious example of this laxity -- the so-called NINJA loans i.e., loans to borrowers with No Income, No Job or Assets.

Poor regulation and Investment banks: In the last few years, SEC in US (counterpart of SEBI) removes the ceiling of 12 times capital placed on the borrowing limits of investment banks. This resulted in a borrowing spree by investment banks⁴. With money easily available from banks, they bought individual home loan mortgages from banks,

³ Most mortgage lenders in the US sell their loans within a month or two.

⁴ Bear Stern and Lehman Brothers had a leverage of over 30.

consolidated them into big packages and chop these into smaller pieces that serve as collateral for the issuance of tradable mortgage-backed securities. Investment banks backed subprime mortgage securities without verifying the strength of the underlying loans. Many of these structured securities are too complex and opaque. After being highly rated by credit rating agencies these instruments were sold to various institutional investors like hedge funds, pension funds, mutual funds and banks in all parts of the globe including Europe and Asia. When the loans turned sour, commercial banks that sold them realized that they were also affected, as many of the holders of sub-prime loans had in turn raised money from banks. The cycle was completed.

The rating agencies: The rating agencies, which were supposedly evaluating the risk of the securities structured by Wall Street, were making millions of dollars in fees from Wall Street's mortgage desks. The rating agencies appear to have been too free in giving out prized AAA badges for structured products, especially CDOs. This is partly because their models were faulty and partly because the appraiser is paid by the seller instead by the buyer. The rating agencies were beguiled by the low default rate of sub-prime loans which was partly due to rising house prices making refinance of loans possible.

VII. Passing the buck

For all its flaws, the old bank model resolved the incentive in a simple way. Loans were kept in-house, banks had to underwrite cautiously and also to keep a tab on the borrower after the money is disbursed to the borrower. Lax rating by the rating agencies made it easier for the banks securitizing and further repackaging debt to create the greatest number of securities with lowest regulatory cost (that is highest rating). Securitization has allowed banks which are regulated holders of credit risk to unregulated traders of credit

risk with smaller balance sheet. As a result, although the risk of bank runs as faced by the holder of such securities was shifted to the banking system at large because other banks have bought the security. It could also have been bought by other hedge funds. So a bank can push risk out of the front door, only to find it sneaking through the back.

While financial innovations spread risk from lenders to the investor and the markets, it distanced the borrower from the ultimate provider of funds-the Wall Street firms and the hedge funds. Hence, while the ultimate holder of the risk, the investor, has more reason to be careful but owns a complex product too far down the chain for monitoring to work. The risk was great but so was the return.

The expansion of US housing loans would **not** have been so disastrous if it were not fed mostly investors from Wall Street firms buying securitization bonds-made up of sub prime loan assets. Attracted by the higher returns on sub-prime loans, they relied in the rating of these by rating agencies. Given the rating agencies' laxity and investors' complacency, Wall Street kept pushing the envelope while structuring the mortgage-backed derivatives.

VIII. Devastating impact of the crisis

Since 2000, the market for MBS has overtaken even those for US treasury notes and bonds. This led to a broad-based and devastating impact of the crisis. It is hard to overstate the extent of this reversal in fortunes, if only because it is hard to overstate the effect that securitization has on financial markets.

Homeowners: A vicious circle was created when subprime loan payers defaulted on their obligation, leaving foreclosure of their mortgages as the only perceived recourse for investors in the loan. When other homeowners with mortgages also attempt to meet their

financial obligations, some of them put their homes up for sale, which drags down the price of other houses in their neighborhood, not merely those houses with subprime mortgages. Thus the entire real sector was involved. Sales of previously owned homes fell in September to annual rate of 5.04 million, the lowest since the records began in 1999, the National Association of Realtors said. Housing starts fell to a 14 year low.

Investors: These defaults will lead to huge losses for investors, with predictions in the range of \$200 billion or more just from sub-prime mortgage investments. The losses from so-called “contagion” effects are likely to be much larger.

Mortgage lenders: Mortgage lenders are seeing their lines of credit dry up and Wall Street is unwilling to buy any mortgage loans because of the liquidity crunch. Hundreds of mortgage lenders have shut down and more than 50,000 people have lost their jobs in 2007 alone. The situation is likely to worsen with smaller and mid-size lenders closing shop or forced to sell out.

Homebuilders & real estate brokers: Both these groups are also trying to deal with the perfect storm. Many homebuilders will shut down and thousands of real estate brokers will go out of business.

Wall Street firms: Wall Street firms, who issued and underwrote many of the mortgage-backed securities and structured vehicles (such as CDOs) that were sold to investors worldwide, have suffered huge losses on their holdings and business has come to a standstill. In addition, all banks have suffered losses in other markets from the “contagion”, which will likely continue.

IX. Overall impact

We can see how complex and interrelated the US economy was and how various undercurrents worked towards the final debacle. The impact of the crisis transcended the US economy and sent ripples across the globe.

Liquidity Crisis: The credit markets, along with most other markets, have experienced a liquidity crisis as an aftermath of sub-prime crisis. It induced a period in which most securities have simply ceased to trade. High grade securities traded like junk bonds as panicked investors dump them. This liquidity crisis has caused bids to disappear from the market and makes it virtually impossible to properly price securities or to trade them because it became harder to determine whom it is safe to do business with. In the atmosphere of acute uncertainty, where no one knows which firms have exposure to sub-prime or the amounts involved, banks decided to stop lending -- not just housing debt but other forms of debt as well. This led to the liquidity crunch in August, 2007 which in turn hit the markets worldwide.

Solvency crisis: Thus the gravest and most immediate threat to the banking system arose. For the time being banks no longer trusted potential debtors enough so as to lend them money except on onerous terms. They also lacked the confidence that other banks would will trust them if they wanted to borrow from them. This led to a hoarding of money. At best, it tightens monetary policy. At its worst, it creates a shortage of cash which would cripple the payment system causing a run on otherwise solvent banks and businesses that can not rapidly raise funds. The outcome is similar to a bank run, which engulfed the entire wholesale money market. The status of liquidity in various money and credit markets in US can be gauged from the fact that three-month Eurodollar loans carried an

interest tag about 247 basis points more than the yield on three month Treasury Bill (safe yield) in later part of September, 2007. The spread between these short term securities reflects the risk in lending to banks, which in months before August, 2007 was 50 basis points.

Crash in stock price and dollar turmoil: The US housing bubble, resulted in a severe credit crunch, threatening the solvency of a number of marginal private banks and other institutions. The sharp rise in foreclosures after the housing bubble caused several major subprime mortgage lenders, to shut down or file for bankruptcy leading to shortage of investible funds for the US stock markets and consequent collapse of stock prices for many in the subprime mortgage industry, and of some large lenders. The funds crunch, in turn, led to a vicious cycle. Redemption pressures led to further suction of funds and stock market fall. Overall, sub prime crisis has a disastrous effect on global stock markets. On July 19, 2007 the Dow-Jones closed above 14,000 for the first time. By August 15, the Dow had dropped below 13,000 and the S&P 500 had crossed into negative territory year-to-date. Similar drops occurred in virtually every market in the world, with Brazil and Korea being hard-hit.

The dollar dropped to its lowest level since 1996 according to a Fed index after the second rate cut by Fed.

Impact on labor market:

On September 7, 2007, a report by the US Labor Department announced that non-farm payrolls fell by 4,000 in August 2007, the first month of negative job growth since August 2003. The number fell well short of expectations, as analysts were expecting payrolls to grow by 110,000. The Dow Jones Industrials fell by as much as 180 points on

the news. The problems in the housing and credit markets are cited as a reason for the unexpected weakness in the job market.

X. Global fall out of the US crisis

The controversy surrounding subprime lending has expanded as the result of an ongoing lending and credit crisis both in the subprime industry, and in the greater financial markets which began in the United States. This phenomenon has been described as a financial contagion which has led to a restriction on the availability of credit in world financial markets. Hundreds of thousands of borrowers have been forced to default and several major American subprime lenders have filed for bankruptcy. So far, in 2007 itself losses have been reported from France, Germany, China, Australia, Japan and England in addition to the US. In September 2007 Northern Rock, the UK's fifth largest mortgage provider, had to seek emergency funding from the Bank of England, the UK's central bank as a result of problems in international credit markets attributed to the sub-prime lending crisis.

XI. Role of world central banks in stabilization

Other central banks around the world had to launch coordinated efforts of their own to increase liquidity in their own currencies to stabilize foreign exchange rates (thus stemming a further fall in the American dollar and diminishing any incentive to sell them off) and prevent the probable significant global consequences a run on the American dollar would cause. It marks the first time the American, European, and Japanese central banks have taken such actions together since the aftermath of the September 11, 2001 terrorist attacks.

XII. Lessons from the crisis.

1) *Asset market failure*: Asset market may fail to recover the dues in case of failed lending. This is true even when the asset is a real estate. **Poor lending** constitutes the core of sub prime crisis. In the literature, the issue of lending is commonly viewed as a principal-agent problem. There are three aspects of principal agent problem: adverse selection, moral hazard and monitoring. The first and the third aspects are related to the lender and second to the borrower. As for the role of the bank, it should try its best to select its customers judiciously after appropriate screening and this should be followed by a rigorous monitoring because bank will hold this asset on its balance sheet, till it returns duly with interest. One may be tempted to think that adverse selection is not a very big problem, when the bankruptcy procedure is efficient, so that the collateral may enforced with any problem. The need to monitor was considered redundant in a securitized regime, as there was an implicit faith in the ability of the collateral to recover the money lent. There was an implicit assumption that if the borrower in the credit market can not pay back, it may not be of any significance, when asset markets are functioning. However, it is already pointed out in the literature that the collateral may be a risky asset whose value may fluctuate⁵. The sub prime crisis demonstrated that relying on the asset market for realization of dues was counter productive, even when the asset was as solid as a real estate.

If the price of the collateral prevailing in the market happens to be low when the asset is sold, then the seller will not be able to recover his dues through selling. However, a very peculiar scenario was observed during the sub prime crisis where the same factor which leads to defaults is also forcing the prices of real estate to drop. This variable is rate of

⁵ Biswas, P. K. and Deb, A.T. (2004)

interest fixed by Fed, which is a policy variable. Such a variable is found to influence both aspects: demand and supply of real estate. Let us go through the chain of events. A rise in the interest rate caused defaults in sub-prime category. Faced with this, the investors who bought the securitized instruments attempted to sell them in the market. However, every rise in the rate of interest is also simultaneously leading to drying of demand through a rise in mortgage payments. Thus rise in the rate of interest led leading to widening of the gap between supply and demand and pushed below the price of collateral creating a vicious cycle from which no escape is apparently in sight. This has demolished the myth that real estate is considered a solid security. A bitter lesson emerging out of the crisis is that market of asset does not provide any respite in case of failed lending.

2) *New model of bank with modern principles of finance is not sustainable:*

Unwillingness of the mortgage banks to assess the risk profiles of the borrowers and lend on the basis of risk in a regime of low interest rate made financial system very fragile. Many lenders had to relax their credit norms due to competition. In addition, given that most mortgage lenders in the US sell their loans within a month or two, their primary motivation was to generate as many loans as they could and then sell them quick. This was yet another reason they lacked strong incentives for credit checks. It vindicates the old model of banks which provides loan and keeps it on its books till it matures.

3) *There should be more transparency about the structured products:* One reason behind market failure relates to information asymmetry. It is argued that sellers have more information than buyers about what they are selling. In the sub prime episode, Investors increasingly did not know what they were buying and what the security is worth. The

problem with the complex securities is that they do not trade at all and so market prices are rarely available. The following steps are necessary to ensure more transparency about the structured products.

- Consistent valuation of such assets across firms to be ensured by the regulator
- Dissemination of information on
 - the vehicles that issue asset-backed commercial paper and
 - price and performance of privately traded asset-backed instruments.
- Greater standardization of structured products

4) *Disciplining the rating agencies*: Investment bank pays the rating agencies to rate CDO securities. Investment banks and rating agencies work closely in structuring the transactions. Rating agency staff crosses over to “dark side ”to work for investment banks. One option is for the government itself to regulate rating agencies.

5) *Addressing the problem of fragmented responsibility*: Fixing the problem of fragmented responsibility will be a balancing act. It may be argued that subprime default rates would not have spiked if loan originators had been forced to set aside capital to cover, say, 10% of each securitized pool. But framing the terms of this sort of co-insurance would be tricky.

XIII. Summary and Conclusion

The remodeled financial system has made credit available to more people. This led to higher asset prices, increased value of collateral and loans that appeared to be safer. However, this benign cycle was dramatically reversed. The roots of crisis were sown during the fall in the rate of interest, engineered to contain the adverse impact of the dot com crisis. However, the housing boom went beyond what can be justified by its

fundamentals and was driven by speculation. With the rise in the interest rate, the mortgage payments rose and defaults among the sub-prime category of borrowers increased accordingly. When attempts were made to recover dues, it was realized that there were very few buyers of the mortgaged property due to increased mortgage costs. A recession developed in the housing sector and consequently it was transmitted to the entire US economy through securitization of mortgage payments. The collapse of the U.S. Housing Bubble had a direct impact not only on home valuations, but also on the nation's mortgage markets, home builders, home supply retail outlets, and Wall Street hedge funds held by large institutional investors. This led to the emergence of a nationwide recession. This created an unprecedented situation characterized by credit crunch, insolvency, crash in stock price and fall in price of dollar. While some observers are comparing it with Great Depression in its impact, it is clear that the fundamental nature of the crisis is different because the recession in the real sector has been created by instability in financial sector. It is the failure of the response of the financial sector in the form of financial innovation in the garb of derivatives, which failed to contain risks of lending. Fed had been attempting to counteract the recessionary tendency through a rate cut. However, in a situation in which one does not know, who is affected and by how much, the efficacy of the monetary policy pursued by Fed becomes questionable.

Securitization was a revolution that brought huge gains. The transformation of sticky debt into something more tradable, for all its imperfections, has forged hugely beneficial links between individual borrowers and vast capital markets that were previously out of reach. However, the costs of securitizations became apparent later. As it comes under scrutiny, the debate should be about how this system can be improved, not dismantled. The

challenge before the Fed and other central bankers is to control and regulate securitization without hurting the beneficial outcomes of increased flexibility, which securitization reportedly provides. Lastly, a debate is on whether central bankers may have themselves been responsible for the problems that led to sub-prime mess in the first instance and whether their subsequent actions are over compensating. The debacle has been a testing ground for central bankers of the world and will have a profound impact on the conduct of macroeconomic policy.

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