INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION AND MANAGEMENT

CONTENTS

CALL FOR MANUSCRIPTS

We invite unpublished novel, original, empirical and high quality research work pertaining to recent developments & practices in the area of Computer, Business, Finance, Marketing, Human Resource Management, General Management, Banking, Insurance, Corporate Governance and emerging paradigms in allied subjects like Accounting Education; Accounting Information Systems; Accounting Theory & Practice; Auditing; Behavioral Accounting; Behavioral Economics; Corporate Finance; Cost Accounting; Econometrics; Economic Development; Economic History; Financial Institutions & Markets; Financial Services; Fiscal Policy; Government & Non Profit Accounting; Industrial Organization; International Economics & Trade; International Finance; Macro Economics; Micro Economics; Monetary Policy; Portfolio & Security Analysis; Public Policy Economics; Real Estate; Regional Economics; Tax Accounting; Advertising & Promotion Management; Business Education; Business Information Systems (MIS); Business Law, Public Responsibility & Ethics; Communication; Direct Marketing; E-Commerce; Global Business; Health Care Administration; Labor Relations & Human Resource Management; Marketing Research; Marketing Theory & Applications; Non-Profit Organizations; Office Administration/Management; Operations Research/Statistics; Organizational Behavior & Theory; Organizational Development; Production/Operations; Public Administration; Purchasing/Materials Management; Retailing; Sales/Selling; Services; Small Business Entrepreneurship; Strategic Management Policy; Technology/Innovation; Tourism, Hospitality & Leisure; Transportation/Physical Distribution; Algorithms; Artificial Intelligence; Compilers & Translation; Computer Aided Design (CAD); Computer Aided Manufacturing; Computer Graphics; Computer Organization & Architecture; Database Structures & Systems; Digital Logic; Discrete Structures; Internet; Management Information Systems; Modeling & Simulation; Multimedia; Neural Systems/Neural Networks; Numerical Analysis/Scientific Computing; Object Oriented Programming; Operating Systems; Programming Languages; Robotics; Symbolic & Formal Logic and Web Design. The above mentioned tracks are only indicative, and not exhaustive.

Anybody can submit the soft copy of his/her manuscript **anytime** in M.S. Word format after preparing the same as per our submission guidelines duly available on our website under the heading guidelines for submission, at the email addresses: **1** or **info@ijrcm.org.in**.

GUIDELINES FOR SUBMISSION OF MANUSCRIPT

1. **COVERING LETTER FOR SUBMISSION:**

DATED: _____

THE EDITOR

IJRCM

Subject: **SUBMISSION OF MANUSCRIPT IN THE AREA OF _____.**

(e.g. Computer/IT/Finance/Marketing/HRM/General Management/other, please specify).

DEAR SIR/MADAM

Please find my submission of manuscript titled '_____' for possible publication in your journal.

I hereby affirm that the contents of this manuscript are original. Furthermore, it has neither been published elsewhere in any language fully or partly, nor is it under review for publication anywhere.

I affirm that all author (s) have seen and agreed to the submitted version of the manuscript and their inclusion of name (s) as co-author (s).

Also, if our/my manuscript is accepted, I/We agree to comply with the formalities as given on the website of journal & you are free to publish our contribution to any of your journals.

NAME OF CORRESPONDING AUTHOR:

Designation:

Affiliation with full address & Pin Code:

Residential address with Pin Code:

Mobile Number (s):

Landline Number (s):

E-mail Address:

Alternate E-mail Address:

2. **INTRODUCTION:** Manuscript must be in British English prepared on a standard A4 size paper setting. It must be prepared on a single space and single column with 1" margin set for top, bottom, left and right. It should be typed in 8 point Calibri Font with page numbers at the bottom and centre of the every page.
3. **MANUSCRIPT TITLE:** The title of the paper should be in a 12 point Calibri Font. It should be bold typed, centered and fully capitalised.
4. **AUTHOR NAME(S) & AFFILIATIONS:** The author (s) full name, designation, affiliation (s), address, mobile/landline numbers, and email/alternate email address should be in italic & 11-point Calibri Font. It must be centered underneath the title.
5. **ABSTRACT:** Abstract should be in fully italicized text, not exceeding 250 words. The abstract must be informative and explain the background, aims, methods, results & conclusion in a single para.
6. **KEYWORDS:** Abstract must be followed by list of keywords, subject to the maximum of five. These should be arranged in alphabetic order separated by commas and full stops at the end.
7. **HEADINGS:** All the headings should be in a 10 point Calibri Font. These must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.
8. **SUB-HEADINGS:** All the sub-headings should be in a 8 point Calibri Font. These must be bold-faced, aligned left and fully capitalised.
9. **MAIN TEXT:** The main text should be in a 8 point Calibri Font, single spaced and justified.
10. **FIGURES &TABLES:** These should be simple, centered, separately numbered & self explained, and titles must be above the tables/figures. Sources of data should be mentioned below the table/figure. It should be ensured that the tables/figures are referred to from the main text.
11. **EQUATIONS:** These should be consecutively numbered in parentheses, horizontally centered with equation number placed at the right.
12. **REFERENCES:** The list of all references should be alphabetically arranged. It must be single spaced, and at the end of the manuscript. The author (s) should mention only the actually utilised references in the preparation of manuscript and they are supposed to follow **Harvard Style of Referencing**. The author (s) are supposed to follow the references as per following:

- All works cited in the text (including sources for tables and figures) should be listed alphabetically.
- Use (**ed.**) for one editor, and (**ed.s)** for multiple editors.
- When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc, in chronologically ascending order.
- Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
- The title of books and journals should be in italics. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
- For titles in a language other than English, provide an English translation in parentheses.
- The location of endnotes within the text should be indicated by superscript numbers.

PLEASE USE THE FOLLOWING FOR STYLE AND PUNCTUATION IN REFERENCES:

BOOKS

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio," Ohio State University.

CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

UNPUBLISHED DISSERTATIONS AND THESES

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

WEBSITE

- Garg, Bhavet (2011): Towards a New Natural Gas Policy, Economic and Political Weekly, Viewed on July 05, 2011 http://epw.in/user/viewabstract.jsp

A COMPARATIVE STUDY OF THE DOT.COM CRISIS AND THE SUB-PRIME CRISIS

DR. T.GEETHA
LECTURER
JANKIDEVI BAJAJ INSTITUTE OF MANAGEMENT STUDIES
S.N.D.T. WOMEN'S UNIVERSITY
MUMBAI

ABSTRACT

The global economy has been affected because of the sub-prime crisis which has brought about serious damage to the economic system across the world. The collapse of "tech boom" in 2000, also called the dotcom crisis and the incident of 9/11 bombing of the World Trade Centre grew more concerned about the downturn of US economy. To prevent the situation from worsening in 2001, US Federal Reserve Board dropped the key interest rate from 6.5% to 1% and kept it for a year and then gradually raised it. This led to the result of "subprime" mortgages where lending was at higher rates to the people who would normally never qualify for lower cost prime loans. The growth of the subprime industry is largely attributable to the increase in securitization. These securities, which have high risk, were then repackaged and sold to investors globally which led to the subprime crisis. The immediate agenda for every nation that is affected by this crisis is to tackle it efficiently and also to take steps to avoid such crisis in the future. Thus, it becomes important to study the similarities and dissimilarities in the dotcom and subprime crisis. A study on the movement of certain variables, like the interest rate, money supply, inflation rate, stock market index, etc., is likely to throw some light on how to avoid such risks in the future. This study focuses on the causes and effects of the recent sub-prime crisis and compares it with the causes and effects of the dotcom crisis of 2000 and offers certain suggestions to avoid such crisis in the future.

KEYWORDS
Dot.com crisis, Sub-prime crisis, Economic system.

INTRODUCTION

Sub-prime crisis is the crisis that the economy has been facing since mid 2007 which has befallen the US and the UK economies because of lending to the sub-prime market, *i.e.*, the not-so-worthy borrowers. Most of the countries have been affected by the recent sub-prime financial crisis. India has also been significantly affected and the immediate agenda of every nation is to address this issue and come out of this crisis as early as possible. Every nation has already started to work upon this area to revive the economy. However, one is also interested to know whether there are any similarities in the earlier dot-com crisis of 2001 and the present sub-prime crisis, so that some preventive measures can be taken to avoid such crisis in the future. This paper aims to analyse the similarities and dissimilarities of both these crises in order to identify warning signals and suggest certain measures to be taken to avoid such crisis in the future.

NEED FOR THE STUDY

The recent subprime crisis and the meltdown in the US and the UK economy had a tremendous effect on the businesses in other countries. Under such situations, it becomes very important to find out the causes of such crisis so that such crisis can be avoided in the future. In order to avoid such crisis it is essential to study certain macro-economic variables and to analyse them and find out whether the movement in such variables can provide some warning signals of the economy in the future so that we are well prepared to tackle such issues and face the future.

OBJECTIVES OF THE STUDY

The main objectives of the study are as follows.
1) To study the causes of the dot com crisis and the subprime crisis
2) To analyse the movements of certain variables like the M3, GDP, interest rates, inflation rate and share price indices of both the US and India.
3) To suggest certain measures to avoid such crisis in the future.

METHODOLOGY

The study analyses the movements in the variables like the money supply (M3), GDP, interest rates, inflation rate and Share Price Index of both the US and India for the past ten years , *i.e.*, from 1999 - 2000 to 2008 - 2009. As we do not have a perfect cut-off date for deciding on the meltdown point, we assume 2006-07 as the pre-meltdown period and 2008-09 as the post-meltdown period, as most of the Financial Institutions started to slowly write-off their loans from their balance sheets since the beginning of the year 2008 which is an indication of the start of the sub-prime crisis.
Graphical charts were used to study the trend in these variables. The analysis also involved the calculation of the Paired Mean Comparison Test (using the SPSS package) to compare the average of the pre-meltdown values of these variables and the post-meltdown values of these variables.
H0: The pre-meltdown values of these variables are not significantly different from the post meltdown values of the variables
H1: The pre-meltdown values of these variables are significantly different from the post meltdown values of the variables

SCHEME OF PRESENTATION

The first section introduces the study. The second section discusses the causes of the dot.com crisis and the sub-prime crisis. The analysis of the movements in certain variables like the M3, GDP, interest rates, inflation rates and share price indices of both the US and India pre and post crisis is done in the third section. The fourth section examines the effects of both these crisis on these variables. The last section aims at offering some warning signals / suggestions to avoid such crisis in the future.

CAUSES OF THE DOT.COM CRISIS AND THE SUB-PRIME CRISIS

A dot.com company is any internet-based company. The dot.com crisis started due to the downfall of many internet companies. A dot.com company depends on a huge customer database. The performance of a dot.com was measured on number of customers rather than the actual yearly profit. When the market was at its peak, many dot-com companies made an initial public offer of its stock and raised a hefty amount of money. The stock prices of such companies were rising. A combination of rapidly increasing stock prices, market confidence that the companies would earn huge profits, individual speculation in stocks, and widely available venture capital created an environment in which many investors were willing to overlook traditional metrics such as price to earnings ratios in favor of confidence in technological advancements.

In March 2000, the NASDAQ index peaked at 5132.52, which was thought of as the highest point of the bubble[1]. The major NASDAQ collapse is also attributed to multibillion dollar stock sell of Cisco, Dell, IBM, *etc*. Simultaneously NASDAQ opened lower by four percentage point. The massive selling was the main trigger for the after chain reaction.

During this period, many network companies loaded with debts, sold their assets and also filed for bankruptcy. Among them, WorldCom, was involved in illegal accounting procedures and had overstated the profits. The stocks of WorldCom came crashing down as soon as these irregularities were revealed; it went on to file the biggest bankruptcy in the US history. Many other dot-com companies also vanished quickly, some of the companies and their executives were accused of misusing the stock money. The Dot-com crash finished of USD five trillion of technology market value. Another major cause was the hefty money spending by major companies in the preparation for Y2K. Special soft wares and programs were brought into effect for nullifying the effect of Y2K.

Sub-prime crisis is the meltdown of the financial system of the US that has arisen because of lending to the not-so-worthy borrowers. After the dotcom bust and the recession that followed in 2001, the US Government followed a policy of Consumerism as Patriotism, thereby motivating people to spend. The Government Sponsored Enterprises (GSE) such as Freddie Mac and Fannie Mae have been spearheading government subsidized housing needs of the weaker section of the society in the US till the year 2002. The US real estate industry boomed between 2001 and 2005 as property prices reached historic highs on account of low interest rates. The Prices of the real-estate started to increase. Because of increased credit and growth, interest rates also started to increase.

As the real estate market picked up, there has been a mushrooming growth of mortgage companies, since 2003, who competed with each other in extending high interest rate loans to such borrowers with low credit rating. These were packaged into Asset Backed Securities (ABS) and placed in the debt market. Thus when the share of GSE exposure to housing mortgage outstanding dropped to 47% from 57% the share of ABS went up from 7% to 19% by 2006. In the year 2006, this accounted for 45% of the fresh mortgages extended. These ABS were further modified into exotic derivatives and took the final shape of agency rated CDOs, making it marketable to the best of the financial institutions around the world. Bankers don't hold mortgages till maturity. They create mortgage-backed securities or collateralized debt obligations (CDOs), which were sold to other banks and financial institutions. The housing boom in the US since January 2003 created many trillions of dollars of CDOs that were bought as assets by banks and financial institutions throughout the developed world.

The market for collateralized debt obligations grew continuously. In 2005, it was the second largest credit derivative market after credit default swaps. The CDOs were sold to investors, including hedge funds, insurance companies, pension plans, and mutual funds that were looking for high yield, given the excellent ratings by Rating Agencies. Although the CDO market began with cash CDOs, the most commonly traded CDO type was the synthetic CDO that builds on other credit instruments (like CDS) instead of the direct sale of the underlying assets. Because of the CDO structure and the diversification gained by bundling different debts, underwriters have tried to package these high-risk debt instruments in such a manner to receive investment grade ratings. Greedy bankers mixed sub prime loans with good paper and traded it as Collateralised Debt Obligations.

The major Sub-Prime Impact started from March 2007 and reached its peak during June to August 2007, when property prices began to fall due to saturation or lack of demand. The borrowers had to pay mortgage loan, which was higher compared to property value and they started defaulting. The banks bought all such houses owned by such defaulted borrowers, in the market for selling them to recover their loans which led to housing market collapse. Many hedge funds and other institutional investors who had invested in CDOs incurred significant losses, because the borrowers were not paying the coupon payments. Even if the SPV had to sell the collateral at the market, they had to sell them at low prices.

Also, valuation of CDOs became complex as it is derived from the collectibility of subprime mortgage payments, which was difficult to predict due to lack of precedent and rising delinquency rates. Banks and institutional investors have recognized substantial losses as they have to revalue their CDO assets downward. This made the CDOs illiquid and burdened them with mark-to-market losses as the value of portfolios had grossly depreciated. As the CDOs were illiquid and did not trade regularly, it was also difficult to value the CDOs accurately. The financial Institutions do not know the exact amount of the default of their borrowers and the portion of CDOs for which there is no asset backing. Unlike stocks listed on an exchange or US Treasury bonds, CDOs are rarely traded. So holders of the instruments are still finding it difficult to sell these papers and price discovery has become a problem.[2]

The liquidity concerns drove central banks to take action to provide funds to member banks and encourage lending. The impacts of credit risk and liquidity risk caused several major corporations and hedge funds to shut down or file for bankruptcy. Many institutional investors and mutual funds incurred huge losses. Many of the mortgage finance companies in the US closed down operations. Those who intermediated in extending the loans to sub-prime individuals and packaged them as first level asset backed securitized collaterals (ABS) to investors disappeared. Major mortgage companies have gone for closure.

AN ANALYSIS OF THE MOVEMENTS OF CERTAIN MACRO-ECONOMIC VARIABLES

The causes of the dot com crisis and the subprime crisis are very different. But, it is very clear that just before both the crisis happened the market was booming with much optimism. Money Supply, interest rates, stock market index, etc., were all increasing. So, it was of interest to analyse the movements in these variables. Table 1 gives the data on M3 and its growth rate, GDP and its growth rate and interest rates of the US and India. Table 2 gives the Share Price Index of India and the US and the returns from them, the WPI and the growth rate of India, Inflation rate of the US and the Exchange rate. Table 3 gives only the growth rate of these variables which was used in the analysis. Growth rates are used in the analysis as they are better measures compared to absolute values.

TABLE 1: DATA ON M3 AND ITS GROWTH RATE, GDP AND ITS GROWTH RATE AND INTEREST RATES OF THE US AND INDIA

Yr	Money supply		Money Supply		GDP		GDP		Interest rate	
	India	gM	US	gM	India	gGDP	US	gGDP	India	US
	Rs.crores		US $ Bns.		Rs. crore		Billions of $		PLR	Short term interest rate
			M2 (US has stopped making M3 public since 2005)						(average of the range)	
99	980960		4406.00		1817752		8793.5		12.00	4.64
0	1124174	14.60	4668.80	5.96	1952035	7.39	9353.5	6.37	11.50	5.82
1	1313220	16.82	4983.70	6.74	2030711	4.03	9951.5	6.39	11.50	3.40
2	1498355	14.10	5468.20	9.72	2136651	5.22	10286.2	3.36	11.13	1.61
3	1717960	14.66	5821.80	6.47	2217133	3.77	10642.3	3.46	10.63	1.01
4	2005676	16.75	6098.70	4.76	2402727	8.37	11142.1	4.70	10.50	1.37
5	2245677	11.97	6449.10	5.75	2602065	8.30	11867.8	6.51	10.50	3.15
6	2719519	21.10	6734.00	4.42	2844942	9.33	12638.4	6.49	12.38	4.73
7	3310068	21.72	7085.70	5.22	3120031	9.67	13398.9	6.02	12.50	4.36
8	4017882	21.38	7448.90	5.13	3402716	9.06	14077.6	5.07	12.00	1.37
9	4764019	18.57	8214.00	10.27	3609425	6.07	14441.4	2.58	11.63	0.17

[1] http://en.wikipedia.org/wiki/Dot-com_bubble

[2] http://www.ft.com/cms/s/0/547fe852-24da-11dc-bf47-000b5df10621.html?n&nclick_check=1

TABLE 2: SHARE PRICE INDEX OF INDIA AND THE US AND THE RETURNS FROM THEM, THE WPI AND ITS GROWTH RATE OF INDIA, INFLATION RATE OF THE US AND THE EXCHANGE RATE

Yr	Share price index		Share price index		WPI		Inflation rate	Ex. Rate
	India	Index returns	US	Index returns	India	gWPI	US	INR/$
99	5005.82		1279.64		143.8		1.67	42.43
0	3972.12	-20.65	1394.46	8.97	152.8	6.26	2.74	43.6
1	3262.33	-17.87	1366.01	-2.04	160.7	5.17	3.73	46.63
2	3377.28	3.52	1130.2	-17.26	164.7	2.49	1.14	48.8
3	5838.96	72.89	855.7	-24.29	173.4	5.28	2.6	47.5
4	6602.69	13.08	1131.13	32.19	184.9	6.63	1.93	43.39
5	9397.93	42.33	1181.27	4.43	193.7	4.76	2.97	43.75
6	13786.91	46.70	1280.08	8.36	203	4.80	3.99	44.61
7	20286.99	47.15	1438.24	12.36	212.8	4.83	2.08	43.59
8	9647.31	-52.45	1378.55	-4.15	232.2	9.12	4.28	39.97
9	16123.67	67.13	825.88	-40.09	228.9	-1.42	0.03	50.95

TABLE 3: GROWTH RATE OF THE VARIABLES USED IN THE ANALYSIS

Yr	gM India	gM US	gGDP India	gGDP US	India PLR	US ST int rate	Index returns India	Index returns US	gWPI India	Inflation rate US	Ex rate INR/$
1999					12	4.64				1.67	42.43
2000	14.6	5.96	7.39	6.37	11.5	5.82	-20.7	8.97	6.26	2.74	43.6
2001	16.82	6.74	4.03	6.39	11.5	3.4	-17.9	-2.04	5.17	3.73	46.63
2002	14.1	9.72	5.22	3.36	11.13	1.61	3.52	-17.26	2.49	1.14	48.8
2003	14.66	6.47	3.77	3.46	10.63	1.01	72.89	-24.29	5.28	2.6	47.5
2004	16.75	4.76	8.37	4.7	10.5	1.37	13.08	32.19	6.63	1.93	43.39
2005	11.97	5.75	8.3	6.51	10.5	3.15	42.33	4.43	4.76	2.97	43.75
2006	21.1	4.42	9.33	6.49	12.38	4.73	46.7	8.36	4.8	3.99	44.61
2007	21.72	5.22	9.67	6.02	12.5	4.36	47.15	12.36	4.83	2.08	43.59
2008	21.38	5.13	9.06	5.07	12	1.37	-52.5	-4.15	9.12	4.28	39.97
2009	18.57	10.27	6.07	2.58	11.63	0.17	67.13	-40.09	-1.42	0.03	50.95

SOURCES OF DATA

The different data that were used in the analysis have been collected from various sources. The different variables for which data was collected and the sources from where these data were taken are given below.

Exchange Rate: Rakshitra - CCIL Monthly Newsletter on Money, G-Sec and Forex markets, The Clearing Corporation of India Ltd., July 2009, pp. 66
http://www.docstoc.com/docs/11386100/Exchange-Rate-Rupees-Dollars

M3 of India: http://rbidocs.rbi.org.in/rbiadmin/Scripts/PublicationsView.aspx?id=11628

GDP: http://www.rbi.org.in/scripts/PublicationsView.aspx?id=11587

PLR of India: Rakshitra - CCIL Monthly Newsletter on Money, G-Sec and Forex markets, The Clearing Corporation of India Ltd., July 2009, pp. 65
PLR of 1999: http://www.indianexpress.com/ie/daily/19990302/ibu02057.html

Share price Index of US: (S&P 500)
http://finance.yahoo.com/q/hp?s=%5EGSPC&a=00&b=3&c=1999&d=01&e=2&f=2009&g=m

Inflation rate of US:
http://inflationdata.com/inflation/Inflation_Rate/HistoricalInflation.aspx?dsInflation_currentPage=0

M3 of US:
http://www.federalreserve.gov/releases/h6/

WPI of India
http://eaindustry.nic.in/

Interest rates of US:
http://www.measuringworth.org/interestrates/
http://www.newyorkfed.org/research/directors_charts/short.pdf

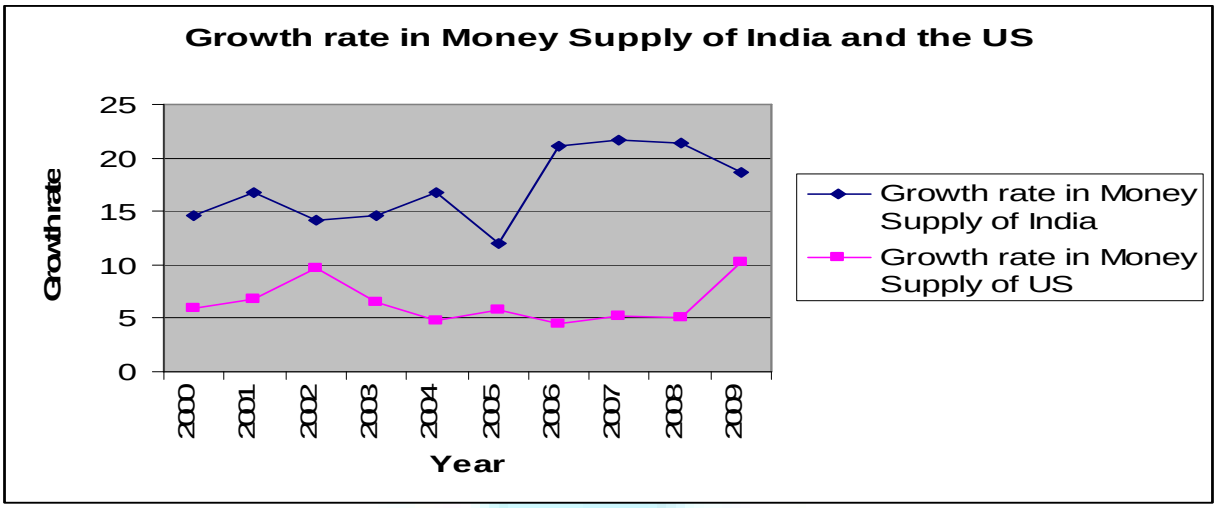
BSE Sensex data
http://www.bseindia.com/histdata/hindices2.asp

GDP data of US
http://www.bea.gov/national/nipaweb/TableView.asp?SelectedTable=5&ViewSeries=NO&Java=no&Request3Place=N&3Place=N&FromView=YES&Freq=Year&FirstYear=1999&LastYear=2009&3Place=N&AllYearsChk=YES&Update=Update&JavaBox=no

ANALYSIS

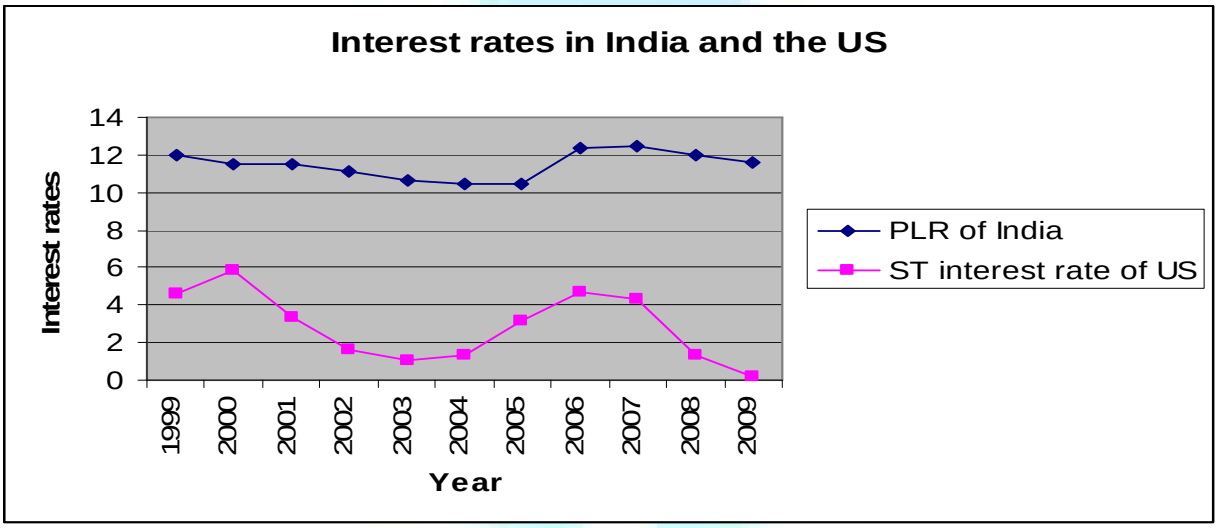
Graphical charts were prepared to study the movements of these variables. The Graphical charts depicting the movements in the variables under study are given below.

FIG.1: GROWTH RATE IN MONEY SUPPLY OF INDIA AND THE US



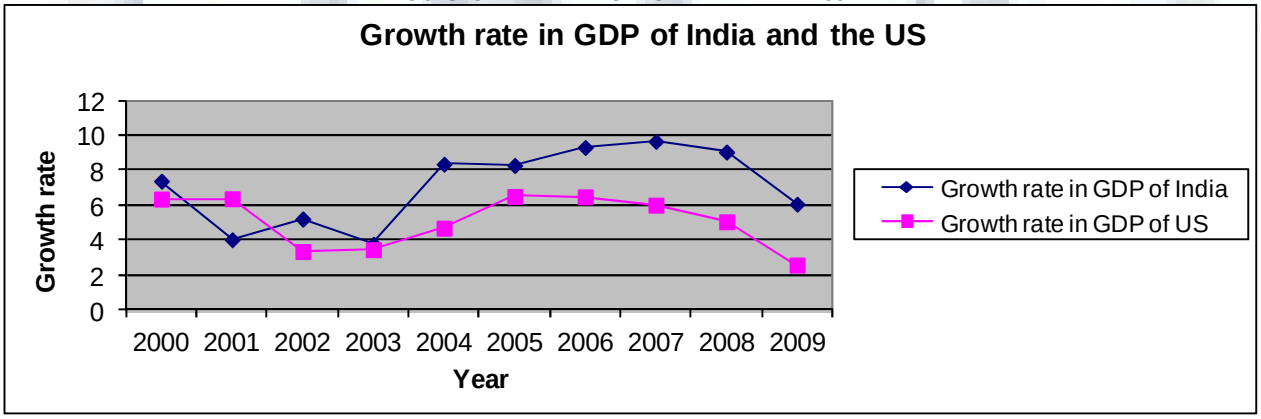
The analysis of growth rate in the money supply from Fig.1 indicates that in India the growth rate is high during the boom period and has started to decline during and after the crisis. In the case of US, the growth rate has increased after the crisis, indicating that the Government has pumped in liquidity to meet the crisis.

FIG.2: INTEREST RATES IN INDIA AND THE US



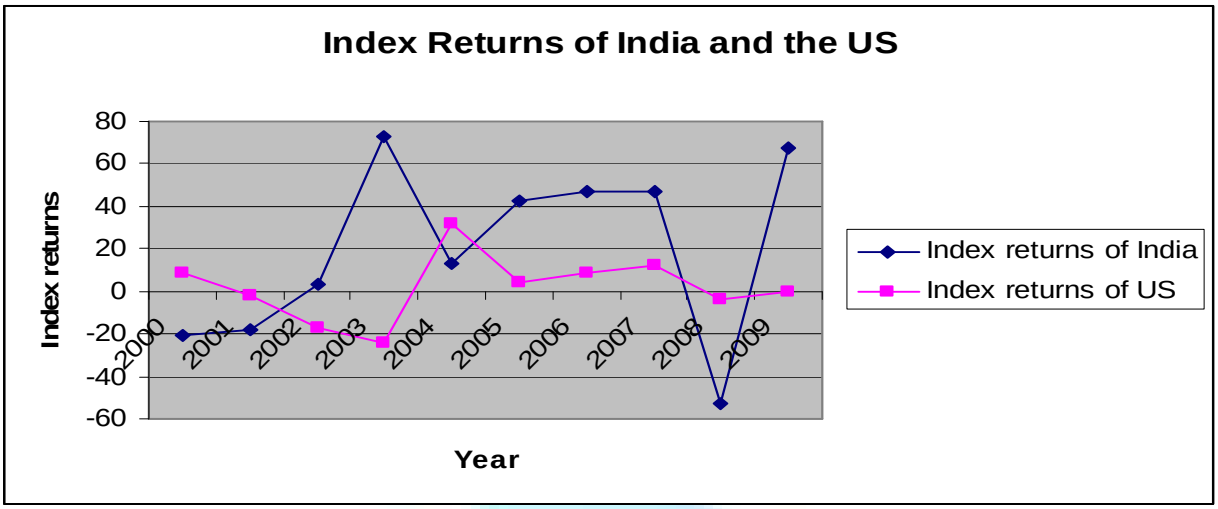
A close look at the movement of the Interest rates in India and the US, shown in Fig.2, indicates that the interest rates have increased between 2005-2007, but later the rates have declined following the crisis indicating that measures are being taken by both the governments to revive the economy. The interest rates were kept low after the dot.com crisis so as to revive the economy. The demand for housing loans increased and many mortgage lenders started offering loans. As the interest rates were low, the demand for loans picked up. This pushed up the interest rates. The borrowers found it difficult to pay as they had borrowed on floating rate of interest, which was the basis of the sub-prime crisis. From the chart it is clear that the interest rates are low, the reasons might be, i) due to decrease in the demand for loan and ii) the policy to keep interest rates low to revive the economy.

FIG.3: GROWTH RATE IN GDP OF INDIA AND THE US



The chart shown in Fig.3 on GDP Growth rate clearly indicates that there is an increase in growth rate just before the crisis. A very high growth rate achieved because of a great push to revive the economy might come as a warning signal for a downfall in the economy. The Growth rate in GDP of US has started falling much ahead compared to the fall in the rate of growth of GDP in India. This might be due to the fact that India had strong fundamentals and the GDP growth rate was affected only after its severe impact in the US.

FIG.4: INDEX RETURNS OF INDIA AND THE US



The analysis of the movements in Index returns shown in Fig.4, indicates that the markets are at a high just before a crisis and are at a low during the crisis. A highly overvalued market acts as a warning signal and investors should be extra cautious while investing in an overvalued market.

FIG.5: INFLATION RATES IN INDIA AND THE US

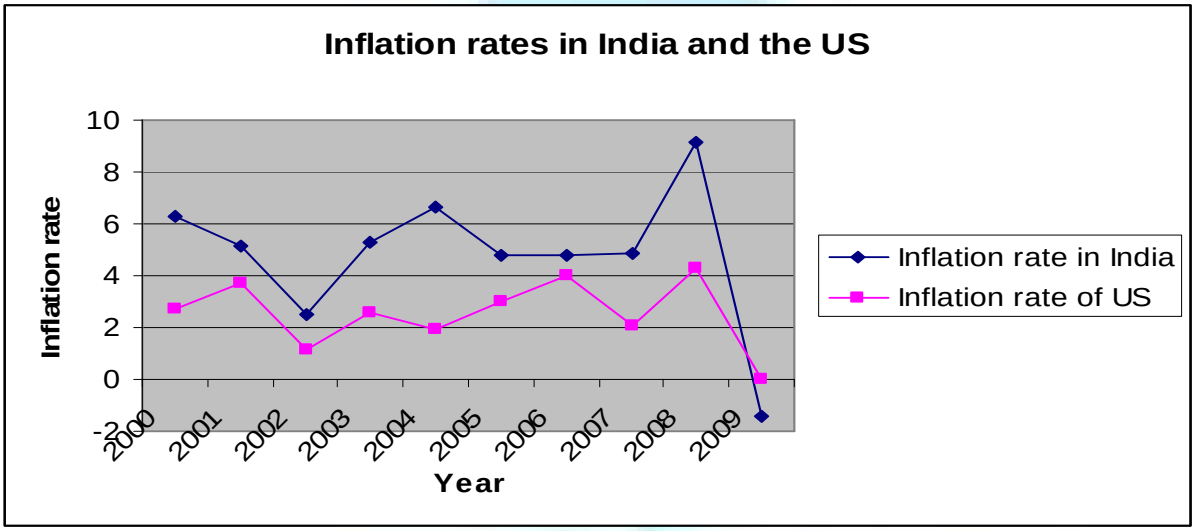
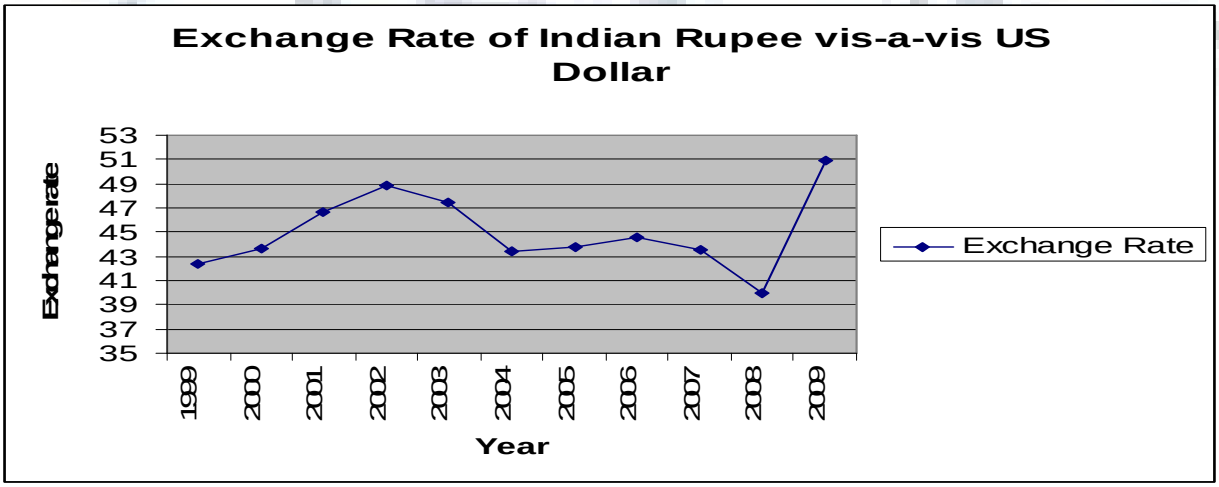


Fig.5 indicates that the inflation rates are rising and are high just before the crisis. As the economy is booming people have more money in their hands and the inflation rate increases. When markets fall as people are not able to pay off their debts when the interest rates are on the rise, the demand for products fall and the inflation rates also decrease.

FIG.6: EXCHANGE RATE OF INDIAN RUPEE VIS-À-VIS US DOLLAR



From Fig.6 it is clear that, immediately after the crisis the dollar is appreciating as the demand for other currencies decline since the confidence in other markets decline. The chart shows that Indian Rupee has been appreciating from 2004 to 2006, when the markets were picking up and when Indian companies received orders from abroad. Later, when the markets fell Indian companies lost business as there were no orders from the US. Demand for Indian currencies fall and dollar starts appreciating.

It was also of interest to analyse the extent to which these variables were correlated during the crisis period and the post crisis period.

TABLE 4: DATA ON THE VARIABLES USED FOR CORRELATION ANALYSIS FOR THE YEARS 2008 AND 2009

Yr	y2008	y2009
gM India	21.38	18.57
gM US	5.13	10.27
gGDP India	9.06	6.07
gGDP US	5.07	2.58
India PLR	12.00	11.63
US ST int rate	1.37	0.17
Index returns India	-52.45	67.13
Index returns US	-40.09	69.47
gWPI India	9.12	-1.42
Inflation rate US	4.28	0.03
Ex rate INR/$	39.97	50.95

CORRELATION COEFFICEINTS

		y2008	y2009
y2008	Pearson Correlation	1	-.552
	Sig. (2-tailed)	.	.078
	N	11	11
y2009	Pearson Correlation	-.552	1
	Sig. (2-tailed)	.078	.
	N	11	11

The correlation coefficient of -0.552 indicates that there is a negative correlation between the data of the two periods. This indicates that the variables are moving in opposite direction pre and post crisis and is significant at 10% level of significance. It is clear from the above analysis that the movement in certain variables can act as warning signals and help the economy from getting into a crisis.

SUMMARY AND CONCLUSION

The subprime crisis and the meltdown in the US and the UK economy have become a global phenomenon and have had a tremendous effect on the businesses in other countries. Hence it was of interest to know whether such crisis can be avoided by studying the movement in important macroeconomic variables. The study included the graphical analysis of the movement in variables such as, M3, GDP, interest rates, inflation rate and returns from share price indices of both the US and India. The analysis of the charts indicates that the movements in the macroeconomic variables can provide warning signals. For e.g., too high an index of share prices indicating that the share price of certain companies are highly overvalued without strong fundamentals, a very high interest rate, a high inflation rate, etc. can send a signal to the economy. The Government and the Central Bank should be very cautious during such peaks and devise policies to attain a sustainable growth instead of being very bullish on an already bullish market. This will help in reducing the impact of such crisis.

BIBLIOGRAPHY

Rakshitra, CCIL Monthly Newsletter on Money, G-Sec and Forex markets, The Clearing Corporation of India Ltd., July 2009, pp. 65, 66
Credit Derivatives – The great untangling, The Economist, 8th November 2008, pp79-80
http://www.ft.com/cms/s/0/547fe852-24da-11dc-bf47-000b5df10621.html?n&nclick_check=1
http://en.wikipedia.org/wiki/Dot-com_bubble
http://missionisi.wordpress.com/2007/11/27/what-is-subprime-crisis-how-to-solve-the-subprime-crisis/
http://www.bim.edu/pdf/Larticle/sivasankaran.pdf
http://www.stradley.com/articles.php?action=view&id=279
http://en.wikipedia.org/wiki/Financial_crisis_of_2007%E2%80%932009
http://www.docstoc.com/docs/11386100/Exchange-Rate-Rupees-Dollars
http://rbidocs.rbi.org.in/rbiadmin/Scripts/PublicationsView.aspx?id=11628
http://www.rbi.org.in/scripts/PublicationsView.aspx?id=11587
http://www.indianexpress.com/ie/daily/19990302/ibu02057.html
http://finance.yahoo.com/q/hp?s=%5EGSPC&a=00&b=3&c=1999&d=01&e=2&f=2009&g=m
http://inflationdata.com/inflation/Inflation_Rate/HistoricalInflation.aspx?dsInflation_currentPage=0
http://www.federalreserve.gov/releases/h6/
http://eaindustry.nic.in/
http://www.measuringworth.org/interestrates/
http://www.newyorkfed.org/research/directors_charts/short.pdf
http://www.bseindia.com/histdata/hindices2.asp
http://www.bea.gov/national/nipaweb/TableView.asp?SelectedTable=5&ViewSeries=NO&Java=no&Request3Place=N&3Place=N&FromView=YES&Freq=Year&FirstYear=1999&LastYear=2009&3Place=N&AllYearsChk=YES&Update=Update&JavaBox=no

REQUEST FOR FEEDBACK

Dear Readers

At the very outset, International Journal of Research in Computer Application and Management (IJRCM) acknowledges & appreciates your efforts in showing interest in our present issue under your kind perusal.

I would like to request you to supply your critical comments and suggestions about the material published in this issue as well as on the journal as a whole, on our E-mails i.e. **infoijrcm@gmail.com** or **info@ijrcm.org.in** for further improvements in the interest of research.

If you have any queries please feel free to contact us on our E-mail **infoijrcm@gmail.com**.

I am sure that your feedback and deliberations would make future issues better – a result of our joint effort.

Looking forward an appropriate consideration.

With sincere regards

Thanking you profoundly

Academically yours

Sd/-

Co-ordinator