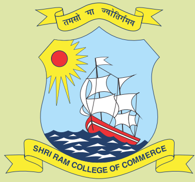

SHRI RAM COLLEGE OF COMMERCE

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STRIDES - A STUDENTS' JOURNAL OF SHRI RAM COLLEGE OF COMMERCE

VOLUME 4 – ISSUE1 & 2 **JULY 2019 - JUNE 2020**

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STRIDES - A STUDENTS' JOURNAL OF SHRI RAM COLLEGE OF COMMERCE
ISSN 2581-4931 (Print)

Shri Ram College of Commerce is well known for its academic excellence and dedicated approach towards dissemination of knowledge in the academic world. The college appreciates the role of research in education and is committed to developing an inclination towards research in both faculty and students. In this pursuit, the college has taken the initiative to launch a new Journal named 'Strides - A Students' Journal of Shri Ram College of Commerce'.

ABOUT THE JOURNAL

It is a double blind reviewed bi-annual Journal launched exclusively to encourage students to pursue research on the contemporary topics and issues in the area of commerce, economics, management, governance, polices etc. The journal provides an opportunity to the students and faculty of Shri Ram College of Commerce to publish their academic research work.

PUBLICATION POLICY

Shri Ram College of Commerce is committed to upholding the high academic standards. Therefore, the Committee on Publication Ethics (COPE) follows a 3-Stage Selection Process while approving a paper for publication in this Journal. The policy is as follows:

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The journal adheres to a rigorous double-blind review policy. Each research paper received by COPE is sent for review to the *Referee* (Subject Expert). The reports submitted by the *Referees* are sent to the respective students for improvement (if any, suggested by the *Referees*). After reporting all the suggestions recommended by the *Referees*, the revised and improved version of the papers are re-submitted by the students to the COPE.

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4. Keywords

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Endnotes

Endnotes should be serially arranged at the end of the article well before the references and after conclusion.

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The hard copy (3-Sets) of the manuscripts should be submitted in the Administrative Office of the College.

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Principal's Message

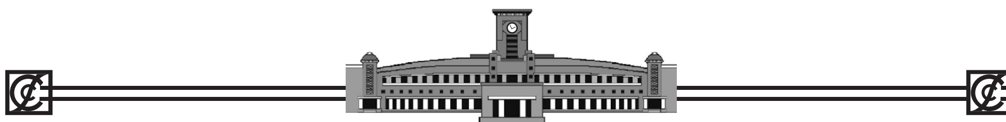
To achieve and promote excellence in research and publish quality academic as well as educational resources as guided by the Mission Statement of the College, Shri Ram College of Commerce had launched a Journal, "Strides- A Students' Journal of Shri Ram College of Commerce" on the occasion of 91st Annual Day of the College held on 13th April, 2017. The Journal was released by then the Hon'ble Union Minister of Human Resource Development, Shri Prakash Javadekar. The Journal publishes the research papers and articles written by students of the College under the mentorship of Faculty Members which go through an intense review mechanism before getting published.

Through the Journal, students get an excellent platform to enhance their research calibre, display their academic perspective, and practically apply their classroom learnings to real-world situations. The present Issue includes several multi-disciplinary and contemporary topics such as "Quantum computing: A futuristic frontier in the financial sector", "Unfolding the Global Hunger Index 2020", "Role of Monetary and Fiscal policies during Covid-19: India and Comparative Analysis", "An analysis of macroeconomic and bank-specific causes for burgeoning NPAs in India", "The political leaning paradox", and "Re-engineering climate change solutions through carbon credit trading".

I wholeheartedly congratulate the Editor, Strides, Dr. Rajeev Kumar and students whose research papers got published in Volume 4 Issue 1 & 2 of the Journal. Simultaneously, I encourage more students to contribute their research papers for the successive Issues.

My best wishes for your future endeavours!

Prof. Simrit Kaur
Principal



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It is a bi-annual Journal launched exclusively to publish academic research papers and articles by the students on contemporary topics and issues in the area of commerce, economics, management, governance, policies etc.

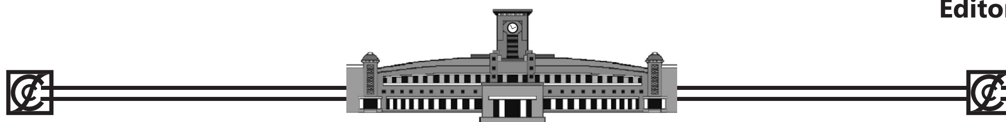
In order to maintain high standards of publication, COPE (Committee on Publication Ethics) has been constituted. The COPE is the apex authority which authorises over all the decisions related to publication of research papers and articles in Strides. The recommendations and decision of COPE is final and binding.

To maintain high academic standards, academic ethics and academic integrity, a rigorous process of double-blind review of research papers is followed along with screening of plagiarism of each manuscript received by the COPE for publication. The research work published in Strides is absolutely original and not published or presented in any form at any other public forum.

The foundation issue of the Journal "Strides - A Students' Journal of Shri Ram College of Commerce, Volume 1, Issue 1, 2016-17" was successfully released on 91st Annual Day of SRCC held on 13th April, 2017 by Shri Prakash Javadekar, Honb'le Union Minister of Human Resource Development, Government of India. The successive issues of 'Strides - A Students' Journal of Shri Ram College of Commerce' have been released bi-annually. However, due to the COVID19 pandemic and ensuing lockdowns the current issue has been delayed.

I congratulate all the students whose research papers are published in this issue of Strides and express my sincere thanks to their mentors and referees.

Dr. Rajeev Kumar
Editor



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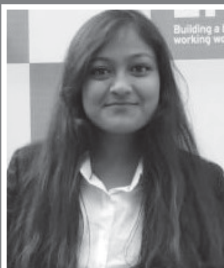

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Are Stock Market Crashes Driven by Fundamentals or Sentiments of Investor?

ABSTRACT

Stock market crashes have been occurring for centuries now. Some affected a single economy while some had drastic effects on the global economy. There exists a significant dissimilarity between the crashes of 17th century, 18th century and the conventional i.e., 20th and 21st century crashes. This paper studies the major stock market crashes that have happened since 17th century. A detailed analysis of each crash is undertaken to source out the major reasons behind such crashes. All the crashes are studied along with the macroeconomic and microeconomic variable prevalent at that time. Along with this, the financial market maturity and technological developments were taken into consideration to draw out the difference between earlier and conventional crashes. The paper then critically contrasts the reasons of different crashes and conducts a panel data analysis to determine whether stock market centuries in the earlier centuries a result of sentiments and the conventional crashes are a result of fundamental dysfunctions.

This paper begins with the crashes of 17th century i.e., Tulip Mania crisis of Netherlands by analyzing the root causes of the crash. Then, the paper studies the South Sea Bubble of 1720 and reflects upon the importance of rules, regulations and transparency in prevention of stock market crashes. The paper than moves on to the British Railway crash of 1840 to analyze the impact of investor sentiments on the stock markets and how over optimism can lead to brutal downfalls.

After this, the paper then studies the conventional crashes of 20th century i.e., the Wall Street crash of 1929 and the Asian crisis and contrasts the role of economic adversities in the earlier crashes and the conventional crashes and tries to find out whether the crashes were still a major play of investor sentiments or inherent fundamental abnormalities. Lastly, the paper studies the most recent crashes of 21st century i.e., the Dot Com Bubble Burst, The Crash of 2008 to analyze the impact of technological developments, accounting principles, free flow of information, financial literature etc. on the financial markets' maturity. It tries to find out whether the conventional crashes were a result of economic abnormalities or investor sentiments or a combination of both.

Keywords: Stock Market, Crash, Dot-com Bubble, 2008 Crisis, Asian Crisis, Tulipmania

OBJECTIVES OF RESEARCH STUDY

- To find out the reasons behind stock market crashes in the past centuries
- To find out the reasons behind stock market crashes in the past few decades
- Compare the crashes of past centuries and of the past few years
- To analyze the differences in such crashes and study the trend followed in such crashes
- To find out whether such crashes were a result of investor sentiments or a faulty economy or a mix of both

RESEARCH METHODOLOGY

- Collecting data of stock market crashes from 17th century onwards
- Collecting information of economic conditions prevailing Pre & Post crash.
- Analyzing the data – Each crash was analyzed along with economic conditions and macroeconomic factors. We compared the crashes of earlier centuries to those of recent times in order to find out the drivers of such crashes and whether these drivers were same for both the time periods.

INTRODUCTION

A stock market is an event where stock market indices fall by a significant amount in a day, a few days or even a few months. It is a side effect of a major catastrophic event, recession or crisis or even a bubble burst. Panic selling by investors in reaction to a possible crash or a recession also paves the way towards a stock market crash.

There does not exist a predetermined threshold for stock market crashes but generally a double-digit percentage drop in the stock market indices is considered over a course of few days is considered as a crash. They have a huge impact on the economy as well as the wealth of investors due to the steep fall in asset prices.

So, the crashes of past centuries and of the past few years have been analyzed the find out the real reason why these crashes happened in the first place and finally contrasting such reasons to find out about any deviations in such drivers.

Crashes of the 17th to 19th Century

TULIPMANIA – Netherlands (Circa 1636-1637)

Facts of the crisis – Tulip Mania, also called **Tulip Craze,** a speculative frenzy in 17th-century Holland over the sale of tulip bulbs. Many factors contributed to the conditions that caused Tulip Mania. First off, the coin debasement crisis

of the 1620s led to a period of prosperity and growth in the 1930s. The plague ran parallelly to this prosperity causing the supply of labor to fall while the demand continued to rise given the rising prosperity. The result was rising wages and real income of laborers. The craze reached its height in Holland during 1633–37. Prior to 1633, only professionals and experts were involved in the growing of Tulip but the rising prices and demand of tulip lured the middle-income and poor people towards the trading of tulip. People started mortgaging their homes, estates, industries etc. in order to buy tulip for reselling. Selling and reselling occurred even if the tulips did not exist physically (Forwards and derivatives type contracts), and rare varieties of bulbs sold for the equivalent of hundreds of dollars each. The crash came early in 1637, when speculations around continued momentum in prices will continue or not rose.

Prior to the 1630s, tulip bulbs were only physically traded among growers in the summer, when they could be safely pulled from the ground. This was a traditional spot market where real assets changed hands (In this case cash and tulips). During the 1630s, the tulip grew tremendously and growers started transacting on the basis of tulips still in the ground. The notes had borrower's bulb as collateral and helped the growers in financing the planting and that too at a low-risk credit. However, the notes created a limited opportunity to inspect bulbs or to see them flower, provided no assurance of quality, nor any proof of belongingness of bulbs to the seller, or even of its existence. The delivery of bulbs took place months after the creation of promissory note, and so this financial innovation led to speculatory trading by florists with selling, buying and reselling of notes leading to the creation of a futures market.

In February 1637, the market for tulips collapsed- primarily because of the incapability of people to afford even the cheapest of the tulip bulbs. This was followed by a significant decline in the demand of tulips and as a result the prices of tulips fell to the extent of one-tenth of their former values. There were a lot of disputes over debt in the coming years and those involved fell into severe debt traps.

SOUTH SEA BUBBLE (1720)

Facts of the crisis – The South Sea Bubble was a speculative bubble in the early 18th century involving the shares of the South Sea Company, a British international trading company that was granted a monopoly in trade with

Spain's colonies in South America and the West Indies as part of a treaty made after the War of the Spanish Succession. The company took England's war debt against the exclusive trading rights in South America. Investors were optimistic of the performance of South Sea Company as they thought trading in gold and silver from the mines of South America will garner huge monetary benefits to them and they skyrocketed the South Sea Company's shares and those of similar trading companies to gigantean heights forming a typical speculative bubble. What followed was intense and wild stock speculation from every corner of the British Society, leading to popping of the bubble and stock prices plundered, financially ruining their investors.

The South Sea Company was founded in 1711. During this time, most of the Americas were being colonized and Europeans used the term "South Seas" to refer to South America and other lands located in the surrounding waters.

The British government planned on transferring exclusive trading rights with Spain's colonies which would act as a strong incentive to lure the private sector into assuming government's war debt. The South Sea Company's founders and the government sold the shares of the company to the investors in return for assuming a total of £10 million in short-term government debt. The government promised a perpetual annuity on such amount, paying a total of £576,534 each year, on a perpetual loan of £10 million at a 6% yield. This deal resulted in a steady stream of earnings for new shareholders. On the other hand, to fund such interest obligations, government-imposed import duties on goods imported from South Seas.

Investors embarked upon a speculative frenzy trading in South Sea Company's shares, with stock prices escalating from £128 in January, £175 in February, £330 in March and £550 in May on the grounds that South America has abundance of gold and silver ready to be imported. The company was able to support unusually high valuations due to the fact that it had £70 million of credit granted by the King and the Parliament for expansionary purposes.

In the midst of rising stock prices of the South Sea Company, numerous other joint-stock companies IPOd to extract the benefit of the booming investor demand for speculative investments. Many of these new companies made outrageous, blatant and often fraudulent claims with regards to their

business entity just to have their stock prices skyrocket to new heights. Here are some examples of these companies' business proposals (History House, 1997):

- For supplying the town of Deal with fresh water.
- For trading in hair.
- For assuring of seamen's wages.
- For importing pitch and tar, and other naval stores, from North Britain and America.
- For insuring of horses.
- For improving the art of making soap.
- For improving of gardens.
- For insuring and increasing children's fortunes.
- For a wheel for perpetual motion.
- For importing walnut-trees from Virginia.
- For making of rape-oil.
- For paying pensions to widows and others, at a small discount.
- For making iron with pit coal.
- For the transmutation of quicksilver into a malleable fine metal.

Though South Sea Company share prices were unstoppable, the company's profitability was average at best, despite the fact that directors made a plethora of promises and painted a bright future in the minds on investors. Shares peaked to £1000 per share by August 1720 and then finally plummeted from this level and triggered a panic selling. The panic selling of the Company shares was exacerbated by a plan that the directors initiated earlier in the year with the aim of boosting share prices. The plan was to lend the investor money to buy the shares of the company, which meant that many shareholders had to liquidate their position to be able to pay the first installment of the loan which was due in August of 1720 (Carswell, 1960).

As South Sea Company and other "bubble" company shares plummeted,

leveraged speculators lost their and were declared bankrupt shortly after. When South Sea Company share plunged to a mere £150 per share in September 1720, banks and goldsmiths declared on the grounds of non-collection of debt which they lent to the common folks and aristocrats who went insolvent recently.

BRITISH RAILWAY MANIA BUBBLE (1840-1850)

Facts of the crisis – The UK's Industrial Revolution was progressing at a great pace during the 1840s and a need for a structured and systematic transport mechanism was felt to support the surge in industrial activity which required increasingly large quantities of coal, iron ore and other raw materials and finished goods. The traditional transportation mechanism i.e., the horse drawn carts and transport through the canal were not able to match the needs of the Industrial Revolution. In 1830, Britain (also the world's) first significant modern inter-city railroad opened – the Liverpool and Manchester Railway (L&MR).

The railroad proved effective and cost-efficient in transporting passengers as well as cargo. An economic slowdown in the late 1830s and early 1840s, high interest rates and anti-railroad protests acted as hurdles for the development of railroads as industrialists and investors found high yielding Government bonds more lucrative than those speculative locomotive stocks. Soon after, the Bank of England cut interest rates to stimulate the economy and, by the mid-1840s, the UK's economy was booming again, driven by manufacturing industries. Investors shifted their money from bonds to railroad shares as their prices were rising fueled by the rise in demand for both locomotive and passenger trains.

The Industrial Revolution gave rise to a significant number of middle class and affluent households, most of whom became a member of the ever-growing investor class. New business ventures, including railroads, were able to raise capital from this well-educated investor class instead of sole arrangement from banks, aristocrats and industrialists which was the case in the past. (Repeal of South Sea Bubble Act of 1720 that limited separate investors to a total of 5).

Railroad companies offered incentives such as buying of shares with only 10% of deposits while granting companies the right to call the rest of the 90% anytime. Financial feasibility of railroad lines was not a pre-requisite for Parliament's approval and most Bills got approved in no time owing to the fact that most Members of Parliament were themselves the shareholders in such companies from the beginning – a glaring conflict of interest. The huge capital roped in by these companies was soon deployed in flawed, impractical and temerarious railway development plans which were poised to fail from the get go.

From 1844 to 1846, an index of railroad company stocks approximately doubled as the speculative buying unfolded.

Figure 1: Market indices for all railways, established railways and non-railways, 1843-50

Source: VoxEU & CEPR

In 1845, the Bank of England tightened its monetary policy by raising interest rates, which has a tendency to pop economic bubbles as capital is no longer as cheap as it once was and now higher-yielding bonds become more attractive to investors again. Soon after, in 1846, the railroad stock index peaked and began to drop rapidly due to the combination of higher interest rates and growing investor realization that many railroads were not as profitable or even as viable as stock promoters made them appear to be. Railroad stocks proceeded to sink by 50% from 1846 to 1850 (Odlyzko, 2010), a plunge that was exacerbated when railroad companies called in the remaining 90% of the money that they had lent to stock investors as a part of their promotional scheme.

What follows from the above discussion is that stock market crashes during the 17-19th century were driven mostly by the sentiments of investors. The tulip crisis was fueled by the greed of traders who were attracted to the lucrative prices of tulips and got overexcited about the derivatives type trading that did not require actual tulips in physical form for entering into contracts and thus drove the price of tulips extremely high. The demand of tulips far exceeded their actual supply and the flow of capital in the market for such a pseudo futures market to such a extent that investors started mortgaging their houses to speculate over promissory notes. What investors forgot in between these events is that the tulips were no more affordable by individuals and so defaults started to happen on promissory notes and tulip prices tumbled tremendously. The problem was the lack of a proper regulation of this pseudo futures market, lack of credit analysis and lack of adequate collateral analysis. A collateral like tulip has uncertainty regarding its quality and so its value should be low but during tulipmania its value was extremely high – only made possible due to the sentiments of investors. Fast forward to the 18th century and we find that markets did not mature that much. The markets were still run on the sentiments of investors as evident from the stock frenzy during the South Sea Bubble. South Sea company witnessed speculative frenzy and high stock prices only on the grounds that their trading with Spanish colonies will reap in immense profits but there were no data backing this up and besides, the last treaty was not that helpful. Along with this the lending by promoters to the investors in order to buy the stocks further fueled the prices to record highs with no strong fundamentals backing it. In order to cash in on the investor frenzy, many companies IPO's but none of them had strong credentials and some of them had ridiculous and extremely vague purposes and made fraudulent and blatant claims. No one was actually analyzing these companies and investors invested on the grounds of promises made by directors and promoters. The actual crash happened only when prices started to decline and investors, who were mostly unaware, started panic selling which dragged the market down and many went bankrupt and insolvent post the crash.

Moving on, in the 19th century, industrial revolution was at its peak and railways was garnering attention and was growing at a high pace owing to the fact that it was the most efficient and cost-effective transportation mechanism for both cargo and passengers. Again, we find that the investor class started investing in railway stocks without analyzing the stocks or

conducting research or conducting due diligence. The revolution increased the disposable income of households and they began investing in locomotive stocks as they had government support (Members of Parliament were themselves investors in locomotive stocks) but were unaware of the deep-rooted inefficiency of railway projects. The only reason these stocks skyrocketed was the investor frenzy that took place and not cause of the profitability of locomotive firms. It follows from the above discussion that crashes in the earlier times were more or less driven by investor sentiments with fundamental factors playing significantly small role.

Crashes of the 20th to 21st Century

The Wall Street Crash of 1929

The Wall Street crash of 1929 was also known as the great crash, it started on 24th of October 1929, known as black Thursday, when panic selling lead the DOW decrease by about 11%. This day was a triggering point for great depression that followed the crash. Before the crash the stock market was high as 381.17 in September and it ultimately down to 41.22 in July, 1932 causing stock market experiencing a loss of 89.2%. Many factors contributed to the Great crash of 1929.

Figure 2: Significant fall in the stock market during 1929

Source: Helmsman Economics

In 1929 the US economy was at its peak, since the economy was shifting from

primary sector to secondary sector and there was growth of the automobile industry, Europe was also depending on US for the supply because at that time the Europe was recovering from world war I. Due to the immense export and the increasing demand the market was in its bullish period. The growing economy lead to increase in the prices of shares which attracted the majority of the people to invest in the stock market. People from the different walks of the life started investing in the market blindly. Whether be rich or poor, they all were investing without the proper knowledge about the market. People used their savings in the market. They even started taking loans to invest. They were buying stocks on margin, means, suppose the price of the share in the market is 100, so they only have to pay 25 and the rest 75 will be paid by the brokerage firm in the form of a loan which they have to repay them. At that time the ratio was as high as 1:3. There was already a speculation going on in the market for long time and it reached its peak in 1929.

During mid-1929 the economy wobbled due to overproduction in various industries creating excess products than demanded. This all resulted in stock piling of the goods by the industries and the losses were suffered by them. As a result, the stock prices in the market started to fall drastically. The losses suffered by companies complied them to reduce their production as well as workforce, resulted in increase of unemployment in the economy as well as enhance the losses faced by these companies. The situation was further heated up by increasing the tariff on imported goods by the fed, in order to increase the demand for their own products especially in case of agricultural goods. In response, many countries start increasing their tariff on American goods making them expensive in the international market. Overproduction, oversupply and higher price due to tariff resulted in a catastrophic consequence for the international trades. The panic selling started on 24th but by the end of the day it was saved by major banks and investment companies who bought huge amount of stocks to reduce the panic selling in the market. But all their effects failed when again on Monday and Tuesday the market crashed.

The Federal Reserve increased the discount rate from 5% to 6%, so as to discourage the widespread speculation going in the market. But this step of fed enhanced the liquidity crisis already being faced in the economy. People had bought their shares through margin call, hence when there was decrease

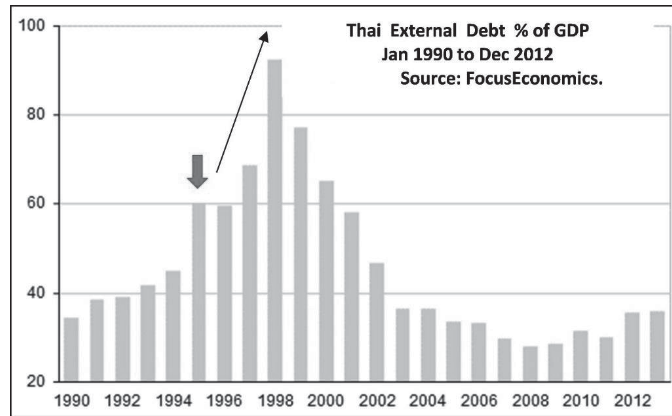
in the price of shares the banks call for the margin. There was already a shortage of cash in the economy since people had already spent their savings as well as borrowed amount on the market and with increasing unemployment in the economy the income level reduced a lot. A huge amount of shares was bought on margin by the public and there was shortage of cash in the economy, as a result, market spiraled down. With these banks faced significant amount of bad loans and people started withdrawing their money, run on banks happened. Many people and investors lost the whole savings and many of the banks and companies went bankrupt. This crash badly affect the American economy and involved almost every American in its way.

ASIAN FINANCIAL CRISIS 1997

Asian Financial Crisis or Asian Contagion started in the summer of 1997. It began with Thailand economy and soon captured many Asian markets including Singapore, Malaysia, Indonesia, Philippines, etc. It started when the Thailand Government decided not to peg their local currency to US Dollar. This decision lead to the drastic decline in the currency value in turn having bad effect on the stock market, import revenues, asset pricing, etc. The cause of the crisis was related to industrial, financial and monetary phenomena.

Like all the other crisis this one also started with the series of the asset bubble. Years before the crisis the developing East Asian economies adopted the export driven growth. In this strategy the government was having a close coordination with the manufactures of the export items, providing with financial support through subsidies, favorable deals and pegging their currency to US dollar so that to maintain a favorable exchange rate for the exporters. This also led to increase in FDI's.

Figure 3: Increase in the borrowing of the government

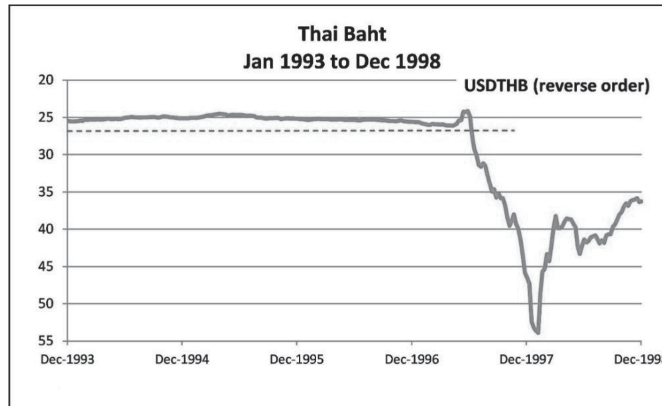


Source: Focus Economics

This strategy undoubtedly benefited the East Asian economy but it also came with certain risks which was overlooked upon. The government was giving a guarantee to these domestic industries and banks to bail them out in case of defaults and also having a close contact with the conglomerates, financial institutions and regulators. All of these created a sense of **Moral Hazard** among the people and they started misusing it by investing in unsound projects. Easily available investors and easy lending led to decrease in the quality of investments.

Further in 1995, Germany and Japan agreed to cooperate with US government on the reversal of **Plaza Accord**. In this these countries agreed to appreciate the US dollar relative to Japan and Germany currency. After this act the East Asian economies faced major financial difficulties as the Japanese and German export became competitive in comparison to eastern exports, the exports of the East Asian countries slumped and there was a decline in the profits of corporates. As with appreciation of US dollars the currencies pegged to it (East Asian currencies) also appreciated. It became very difficult for the East Asian Government to help the domestic industries who were in financial distress because of the above actions. The dollar became expensive and they can't borrow in dollars to subsidiaries these industries and also maintain their currency pegs. All these difficulties reached a boiling point in 1997 and then the Thailand government decided to unpegged its currency.

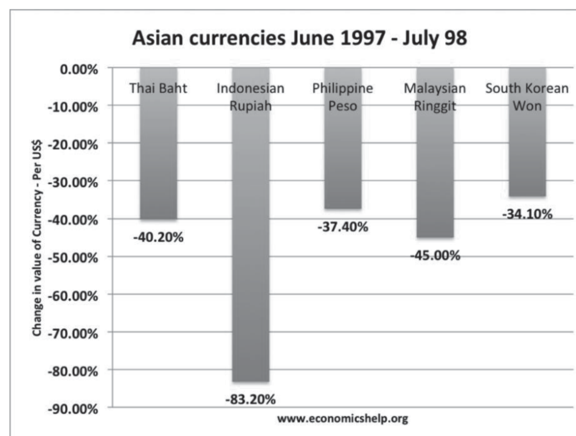
Figure 4: *Depreciation of Thai Baht in relation to US Dollar. Making it expensive in the market*



Source: Word Press

After the decision of the Thailand government there was a series of currency devaluation happened with loss of huge amount of capital. East Asian currencies fell about 38%. There was 60% decline in international stocks as well. The crisis also affected the Russian and Brazilian economies.

Figure 5: Percentage fall in the different East Asian currencies



Source: Economics Help

The situation was handled with the intervention of IMF. It advanced more than $110 billion short-term loans to Thailand, South Korea and Indonesia to

stabilize its economy. But in return these countries had to accept the conditions put forward by IMF. These were imposition of higher tax and interest rates, decrease in public spending, privatization of state-owned businesses and closing of illiquid financial institutions. All these conditions would help them to improve their currencies and resort the confidence on country's solvency.

DOTCOM BUBBLE 2000-2001

Dotcom bubble also known as internet bubble or tech bubble. 1990's was the period where the internet became very popular among the masses and technology was the base of the economy at that time. Since, internet was evolving and gaining more popularity, any new company with dotcom in it or a suffix ".com" where winning the hearts of the investors/venture capitals in the market. The bubble started in the 1990's with the commercialization of the internet. Bullish market was experienced in late 1990's with NASDAQ index raised from 1000 to 5000 within 5 years (1995-2000). The bubble burst in March of 2000 and continued till October 2001 crashing the market by 76.81%. Many factors led to the creation of the bubble some of the highlighted ones are speculation and trend-based investments.

Figure 6: *NASDAQ Index raising 5 folds within 5 years*

Source: Bloomberg

Investors or venture capitalists were blindly investing in internet-based start-ups without even thinking rational whether these companies are true, they would be able to meet their requirements, P/E Ratio, whether they are showing true cash flow, whether they are having any future or not and all the

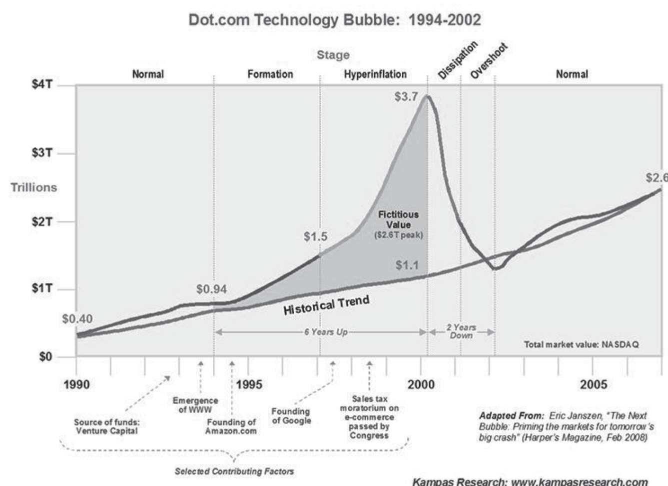
basic fundaments of doing business were overlooked. The startups were also more concern in getting the big fat investment than focusing on the company's future or the profit that need to be generated. They spent majorly on the advertisement than on the core activities of the business. About 39% of venture capital money were invested in the internet companies, 295 out of 475 IPO'S that was issued in 1999 were related to internet companies.

The valuation of these companies was based on very inflated earning and profits. The shares were overvalued in the market. The market speculation, wrong valuation of the shares leading overvaluation, easily available capital, cheap money, market overconfident on the internet companies, were some of the highlighted reasons behind the infamous dotcom bubble of 2000.

On March 10, 2000 the NASDAQ index reached to 5048.62 high. On March 13, 2000 Japan declared about once again entering into recession this had global impact. On April 3, 2000 the verdict for US v/s Microsoft Corp. was released leading to 15% decline in the value of its share with 8% decline in NASDAQ. Like this many important events took place which wiped out around $5 trillion. Many accounting scandals like Enron Scandal, WorldCom Scandal and Adelphia Communication and Corporation Scandal along with September 11 attack further enhance the fall in the stock market.

Figure 7

Total market value of NASDAQ



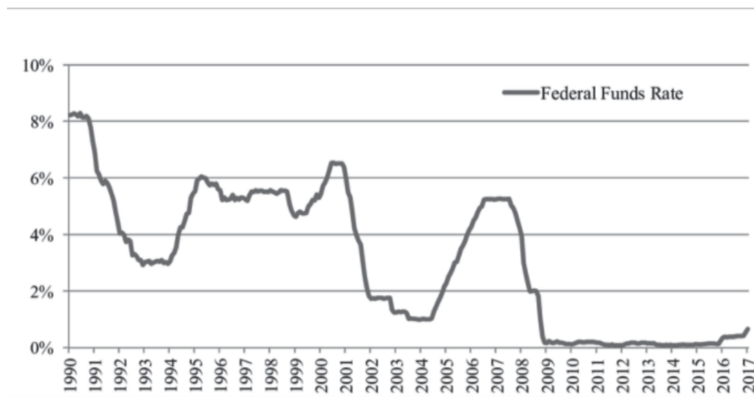
It was also said that the chairman of fed Alan Greenspan had given the warning about the bubble on 5th December, 1996 but he did not tighten up any monetary policy till spring of 2000. Only when all the excess liquidity (created for Y2K bug) was used up by the banks and brokerage then he had no choice but to burst the bubble adding fuel to the fire. During the market peak several leading high-tech companies like Dell and Cisco placed enormous sell order on their stock which led to panic selling in the market. There was about 10% loss in the stock market within a week. Many of the major public traded internet-based companies became bankrupt and enormous amount of dollars were evaporated from the market by the end of 2001, pushing the economy into recession.

Financial Crisis 2008

The Great Financial Crisis of 2007-2009 also known as subprime mortgage crisis started in US with the fall in the US subprime mortgage market in the summer of 2007. The liquidity was the major issue of the crisis. Unlike previous crisis this crash affected all the investors around the world. It shook the global financial system leading to the failure of major investment banks and other **"too big to fail"** financial institutions. The housing bubble started to develop in early 2000's period only. There are many reasons behind the failure of the securitization process as well as the formation of housing bubble and ultimately downturn of entire economy.

The period of boom also saw the financial innovation related to securitization. The banks started adopting OTD (originate to distribute) model. In this model the banks would sell their loans (here talking about home loans or mortgages) to the SPV's (special purpose vehicles) which is a completely different entity, to provide liquidity in the market and banks can continue with their lending process. The SPV's create a pool of these loans which is known as MBS (mortgage back securities) and sell them to the investors in the market. These MBS are graded by the rating agencies and the investors used to get the return according to the risk taken by them.

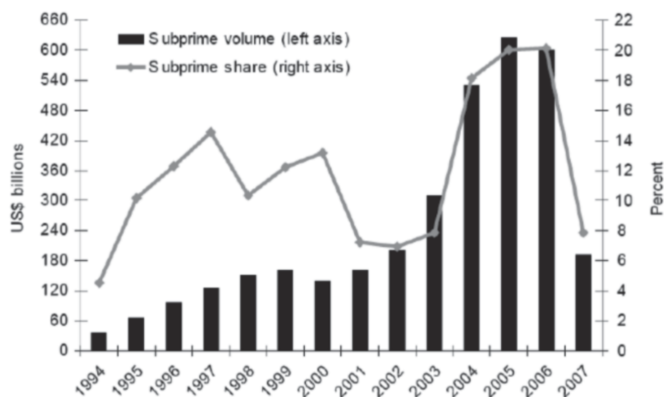
Figure 8: US interest rate – Federal Fund Rate 1990-2017



Source: Research Gate

The Fed reduced the interbank rate from 6.5% in May 2000 to 1% in June 2003, 11 times. This was done to boost the economy since at that time the economy suffered from Dotcom bubble followed by the September 11 terrorist attacks and other scandals in the economy. This resulted in cheap credit which boosted the demand for various durable goods especially houses. The consumers took advantage of the available cheap funds in the economy and that lead to the housing bubble. The subprime mortgage holds a larger share in the overall mortgage market about 20% in 2006.

Figure 9: *Mortgage Market*



Source: Inside Mortgage Finance

Many of these are having low teaser rate. Many of the people purchased the house with intention of living in it but many other also purchased it with speculative intentions. The housing bubble was already created in the economy as a result the house prices were more than the loan amount. Many of the borrowers started to either default intentionally or used to sell the house and repay the loan earlier. All this was having a bad effect on the investors of MBS because they were boning the risk of default as well as prepayment or any other losses. Since because of OTD model the banks were not facing any risk they started reducing the proper diligence process before giving the loans. They started giving the loans to people with poor credit quality, there was about 43% of first-time home buyers with no down payment in 2005. Banks started giving out NINJA loans (no income, no job, and no collateral) and LIARS loans. These subprime mortgages were packaged and repackaged into so called low risk financial instruments such as MBS and CDS leading to the creation of huge secondary market for originating and distributing subprime mortgages. Adding fuel to the fire SEC in October 2004 loosen up net capital requirements for 5 investment banks – Goldman Sachs, Merrill Lynch, Lehman Brothers, Bear Stearns, and Morgan Stanley, increasing their leverage capacity up to 30-40 times.

By 2004 housing market reached its peak and Fed also started rising the interest rate, it reached 5.25% by June 2006 and remained the same till august 2007. By 2006 the housing market started declining. With increase in interest rate and at the same time fall in the housing prices the borrowers of home loans started defaulting, they were not able to save themselves even by borrowing or refinancing or by selling the house as the prices were declining and number of sellers in the market were more than number of buyers in the market. Since many of the mortgage holders own loan amount more than the house value, a situation of crisis started evolving. With increase in number of defaults the value of the MBS formed on these subprime mortgages lost their values. These MBS were also sold outside US like in European countries; they also experienced the consequences of such defaults in the housing market.

By August 2007 it was quite evident that financial market itself couldn't solve the subprime crisis which had already spread across the US borders. The Interbank market providing liquidity around the globe was shut down as participant started losing faith on the quality of collateral. In April 2007 New

Century Financial Corporation, one of the largest subprime lenders filed for bankruptcy followed by in October 2007 UBS a Swiss bank announced $3.4 billion loss from subprime investments. The US economy was in deep recession by 2008 winter. In February the British Government nationalized Northern Rock, a UK mortgage lender. In March Bear Stearns, a US investment bank was acquired by JP Morgan Chase. Fannie Mae and Freddie Mac (formed to provide liquidity to the MBS holders) both were nationalized. In September 2008 one of the largest Investment banking firm Lehman Brothers filed for bankruptcy but government did not bail them out. It was the largest bankruptcy in the US history. The AIG group was also bailed out by the government.

Government formed various programs to bring the economy back to its track and stabilize the financial market. Troubled Asset Relief Program (TARP) was one of such programs with $250 billion funds to save the dying financial institutions. Government also set up various new laws and stricter the older ones so that the same situation can't be repeated again in the future.

If we look at the crisis as a whole then there are certain events and people responsible for the crash:

The banks who were giving out loans without even looking at the credit quality of the borrowers. They were simply consider about selling more and more loans and then selling it to SPV's, since with the sale of the loans the risk was also transferred. They were charging teaser rates and giving out loans without any down payments.

The rating agencies were also hugely responsible for the crisis. These rating agencies had a conflict of interest. They were also not able to understand the securitization process properly. Since these instruments were new in the market, they were having no historical data or experience about how they work. Hence, their rates were faulty.

Investors also over rely on these rating agencies.

Many of the investors as well as banks were having this confidence that the housing market will never fail. It will continue rising. Same way many financial institutions considered themselves "too big to fail" and continued with their

uncontrollable behavior of lending out loans and then repacking it and selling out to investors.

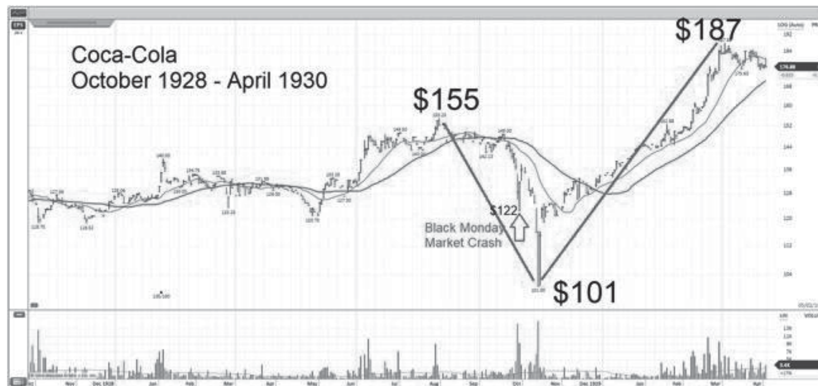
The Great Financial Crisis of 2007-2009 was a very different type of crisis which effected a huge number of investors worldwide. Ever those investors were also affected who were not directly related with the mortgage instruments just because the liquidity was adversely hampered in this depressing situation, many hedge funds and pension funds suffered a huge amount of loss because of this. It damaged the economy and made so many people jobless.

19TH AND 20TH CENTURY SAW THE INVOLVEMNET OF BOTH SENTIMENTS AND FUNDAMENTALS.

After studying some of the major crashes of the 17th, 18th, 19th and 20th century we can compare how the investors as well as the market evolved, no longer the sentiments of the investors drive the market alone, now fundaments also play in an important role in driving the market.

1929 crash was the starting of the translation phase for the market, not only being affected by the sentiments of the investors but also affected and moved by the economic and fundamental factors. We can observe how the market was sky rocket high not only by the craziness of people to invest in the stock market as everyone was doing but also because of various economic factors as well, like the improvement in the manufacturing industry with the decline in the European economy due to world war effects along with the overproduction and oversupply in the economy. **Take the example of Coca-Cola**. It was a young company listed on exchange, during the crash it's shares did fall but it was quick enough to get back to its pre-market crash level by February 1930. The key behind the success was the **rapid sales growth, high profitability and good balance sheet.** The company had a **$6.5 million in cash, with no debt and current ratio of 18:1.**

Figure 10: Coca-Cola Share Price



Source: William O'Neil & Company

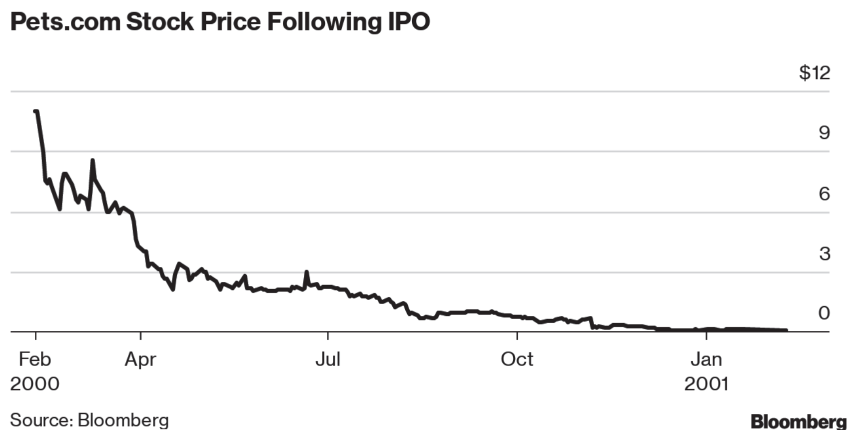
With time things started changing and during 1997 Asian crisis, we can observe how the fundaments were the major cause behind the fall of East Asian economy. The government intervention and as well as the super power ruling the currency market exposed the ill effects of globalization and hold of strong economies over weaker ones. The reversal Plaza Accord was a backfire for the East Asian economy and the economic factors were turn around with the appreciation of dollar affecting the markets badly with 38% decline in the East Asian currency value. Because of the dollar appreciation the government was not able to help the domestic industries and ultimately leading to unpegging of the currency. With export driven growth strategy, the companies were in huge debt and with appreciation of dollars the government were also not able to bail them out. For example, **Kia Motors** was declared bankrupt and taken by **Hyundai** although the company had excellent production capacity with good R&D but its balance sheet was filled with debts which it was not able to repay. There were other companies as well which was shut down like Finance One, it was the largest finance company of Thailand and it was declared bankrupt. All this instance clearly indicates that stock markets were completely driven by fundamentals rather than emotions.

Within no thing the world witnessed yet another disastrous crash of 2000-2001 which was followed by the housing bubble of 2008. In both of these situations investors were very emotional and blindly following the trend in the market. Dotcom bubble and housing bubble involved very clear picture

of future but people were being ignorant of the reality. **It is rightly said that speculative bubbles are notoriously hard to identify but when bust it seems obvious.**

In Dotcom bubble people were ignoring the basics of doing the investments. As already observed how tech companies were coming up without any proper future plans. They were just taking the advantage of the foolishness of investors and venture capitalist who were blindly pouring their money in the market without thinking whether they would be able to cash them back. The main aim of majority of tech startups during that time was to raise funds from investors and venture capitals. For instance, there were companies which got liquidated in few months after the issue of their IPO's. One such example is **Pets.com**. This company got liquidated within 9 months of its IPO. Despite having weak business model, it was able to attract big investors like Amazon due to its advertising strategies. Other companies like eToy.com, The Global.com, Webvan.com, etc. were listed but didn't survived in the market because of their failed business plans.

Figure 11: Stock Price of Pet.com after its issue



But this entire crash was not solely based on the foolishness and emotions of investors it was also based on fundamental factors. After the Asian crash the fed has decreased the interest rate to boost the capital flow in the market. The Tax Relief Act, 1997 also push the speculative investment among the masses, as this act lower the top marginal gains tax. All of this encourage the

speculative investment in the market. The failure of the chairman of Fed to control the bubble beforehand although he already saw it coming and gave the warning regarding the same but didn't do anything to control it. It was only in February, 2000 that he increased the interest rate to control the speculative activities in the market which was getting out of control and creating a havoc in the economy, this move was like a fuel to the burning economy. The ill effect of the bubble was already on the forefront and it was at its peak. The economy was already getting into recession and the bubble was about to bust and move of Alan Greenspan further accelerated the process. The various Accounting Scandals like and legal cases also acted as a fuel to fire during the fall of the stock market.

The stocks which survived the crash due to its performance and capabilities are Microsoft, eBay, Priceline etc.

Table 1: Analysis of Stocks During Dot-Com Crisis

Stock Analysis During Dot Com Crisis				
Stock Name	**Price Pre-Crash (January 2000)**	**Post-Crash (October 2002)**	**Price After Recovery**	**Comment**
Amazon.com	$ 69.69	$ 16.55	64 (On May 2007)	Amazon had strong financials backing its stock performance and this was the reason rose to high of 70 USD which it had in 2000 in just 4 years after the NASDAQ hit its lowest in October 2002
Adobe Systems	$ 16.81	$ 14.77	38.84 (On January 2006)	Adobe was dominating the creative software market and was undertaking successful acquisitions which resulted in a strong performance of it. It was diversifying at a good pace and utilizing the internet for its own good and as a result Adobe surpassed the high of 43.66 USD in November 2000 in March 2007
Ebay	$ 6.59	$ 6.52	$ 13.06 (December 2003)	eBay was one of the best performing firm in the dot com era. Its revenue was growing at a good pace even during the dot com bubble with revenue rising from 42.8 Million USD in 2000 to 102.6 Million USD in 2001 to 172.6 Million USD in 2002 and so on. Its revenue grew continuously in the coming decade and that is why recovered in just 2 years and surpassed its previous high because the company's product, online auctions, grew in popularity

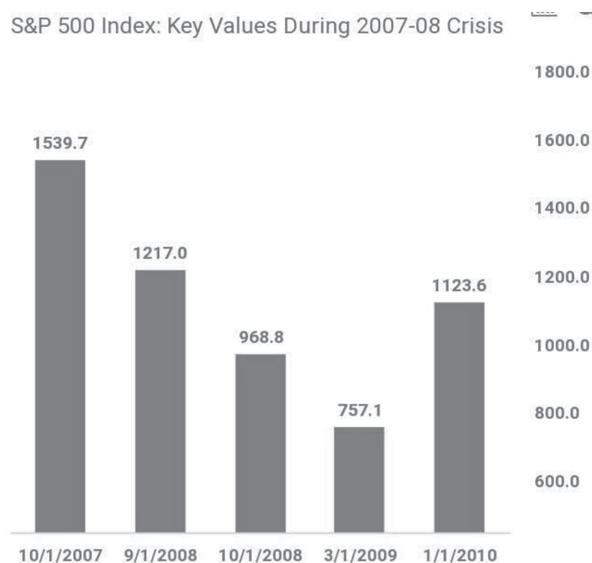
Priceline	$ 86.00	Under $10	After 2009	Priceline was the go-to website for travelers back in 2008-2009 and that helped the company in sustaining itself during the crisis. As soon as the economy started to bounce back, people started booking for travelling and Priceline was one of the best websites at that time. The company had a revamped business model which helped it survive the dot com bubble and even the 2008 crisis due to its acquisitions of Booking.com, Kayak etc. and booming international travel.
Shutterfly	-	-	IPO'd in 2006	Shutterfly is an internet-based personal publishing firm that allows users to create prints, calendars, photo books etc. It survived the Dot Com bubble and IPO'd in 2006 during recovery period at 15.55 USD and went on to grow until October 2007 and then crashing during 2008 crisis but quickly recovered after that despite facing competition from Kodak, Snapfish etc. and surpassed its 2007 high in 2010 and is growing since

The 2000 crash was followed by yet another financial disaster which shock the entire financial system globally. The 2008 crash was based on believe, "too-big-to-fail" by some of the big institutions. They hold this notion that they are too big and even if they were going to fail government have to bail them out or else the system will collapse. But this was proven false with the declaration of bankruptcy of Lehman Brothers. Government did save some of the banks by pouring in the funds or through mergers & acquisition but was in no position to bail Lehman out. Liquidity crunch was yet another important factor to be considered. These SPV's and banks were backing their long-term assets with short-term liabilities which created the maturity mismatch problem and ultimately leading to the liquidity crisis, as the short-term instruments need to be redeemed at maturity but by then the instrument on the asset side has not matured yet. All this led to cash crunching in the economy. It was also seen that even before defaulting Lehman Brothers and AIG were meetings the capital requirements but they were not having the liquidity to roll over their short-term obligations. Not only these factors were responsible for the collapse of the entire housing market or MBS, other factors like decrease in the interest rate by fed about 1% in order to boost up the cash flow in the economy after the Dotcom bubble also encourage more

people to pour in their money in the market. Following the decrease in the interest rate the fed also granted few investment banks the right to reduce their net capital requirement which encourage these institutions to take on risky ventures and increase their leverage as many times as they want to. As all the burden of default were shifted on the SPV's these banks did not care about quality of loans on which these securities were made. The 2008 crash perfectly showcase how multiple of combined fundamentals and sentimental factors affected the investors' decision and impacted the market accordingly.

From the graph given below we can see how the bubble burst affected the market. If we observe clearly, after it hit its lowest the market started rebounding within a year. However, the banking stocks and the companies directly involved in the securitization process took good amount of time to bounce back. This indicates that investors were being rational and not letting other stocks in the market getting much affected by rebounding the market back within a year. Not up to its pre level but still the market as a whole was recovering fast. Hence, we can say that now the investors are more fundamental rather being emotional while investing in the market.

Figure 12: S&P 500 Index Key dates during 2007-08 crisis



Source: Trefis

Both of the crashes stated above are perfect blend of economic and emotional factors. Hence, we can also see through these incidents that how the market is evolving with the decades. With the 1678, 1878, and other older crashes we can easily prove the fact that the market was driven more by the emotional factors then by the fundamental ones. Now with the increase in the flow of information and more global connectivity the market is growing as well as people are becoming more rational and analytical and using fundaments to prove their stand for investing in the market and not blindly following the herd.

CONCLUSION

After analyzing various crashes of different centuries, we can say that with the passage of time the factors driving the market and investors have also evolved. The 17th and 18th centuries market were largely governed by sentiments. Crashes in the earlier centuries were a result of overreaction by investors and not because of disturbances in the economy or other macro level factors. But following these centuries things changed and with 19th, 20th and further there was a blend of sentimental and fundamental factors governing the investor's decisions and ultimately moving the markets. Recent crashes were triggered due to significant disturbances in economy, growth, corporate downfalls and debt defaults etc. Investor sentiments do play a role in such crashes but not to the extent as they did in the earlier times.

It has been observed that any economy can never stay the same or can only follow the upward path. Every economy follows the economic cycle of boom and recession. It is evident that the world will face more crashes like the ones already described and with each new crash there will be discovery of new factors driving the investors and markets. With increasing globalization, it is predicted that the future crashes will be more disastrous, covering several countries.

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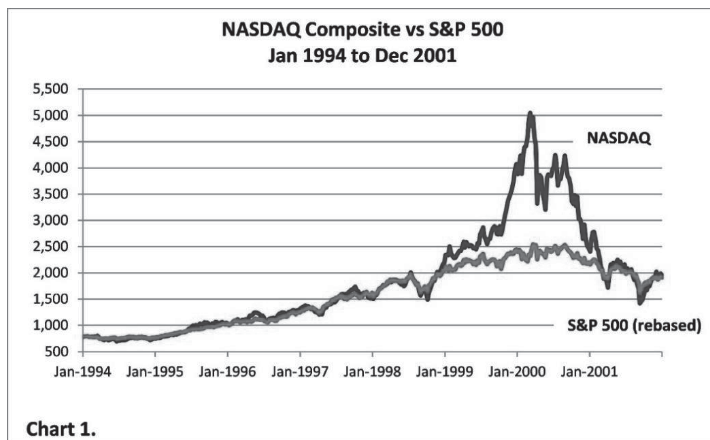
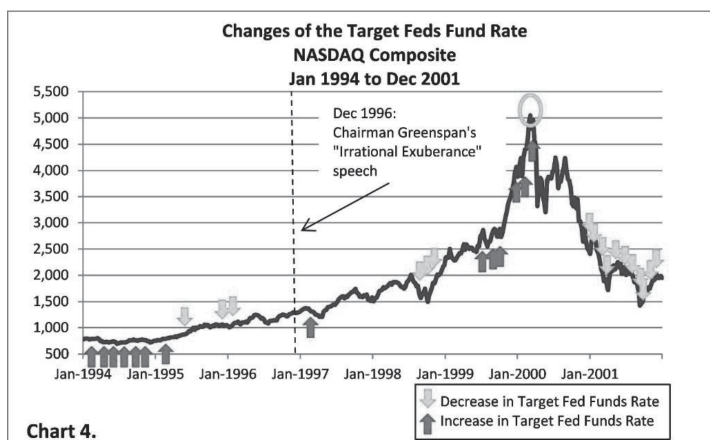
Appendix



Source: Word Press



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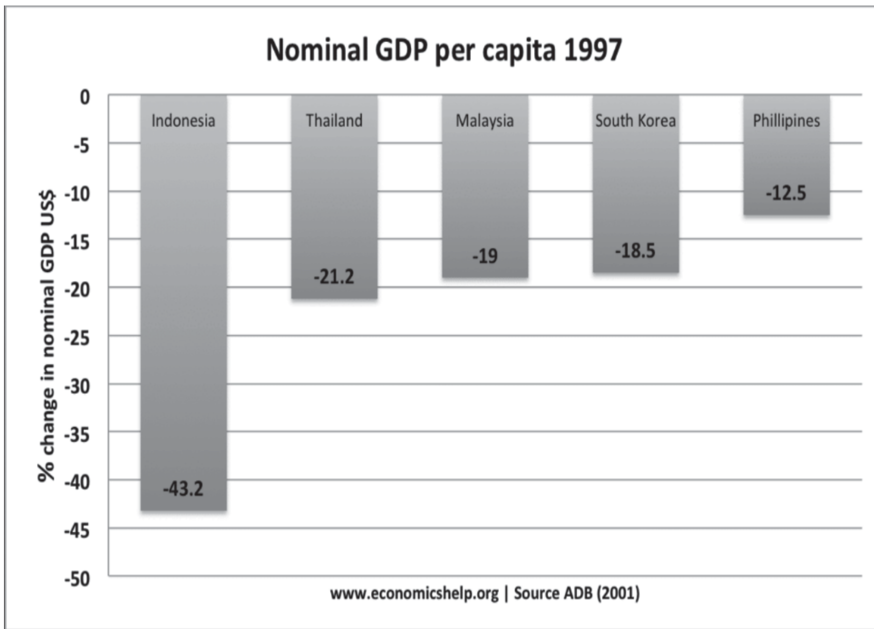
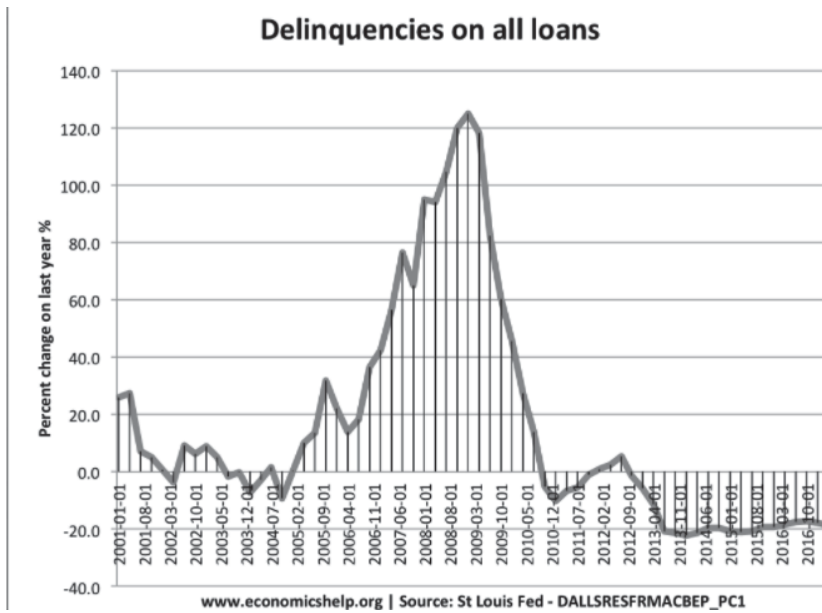
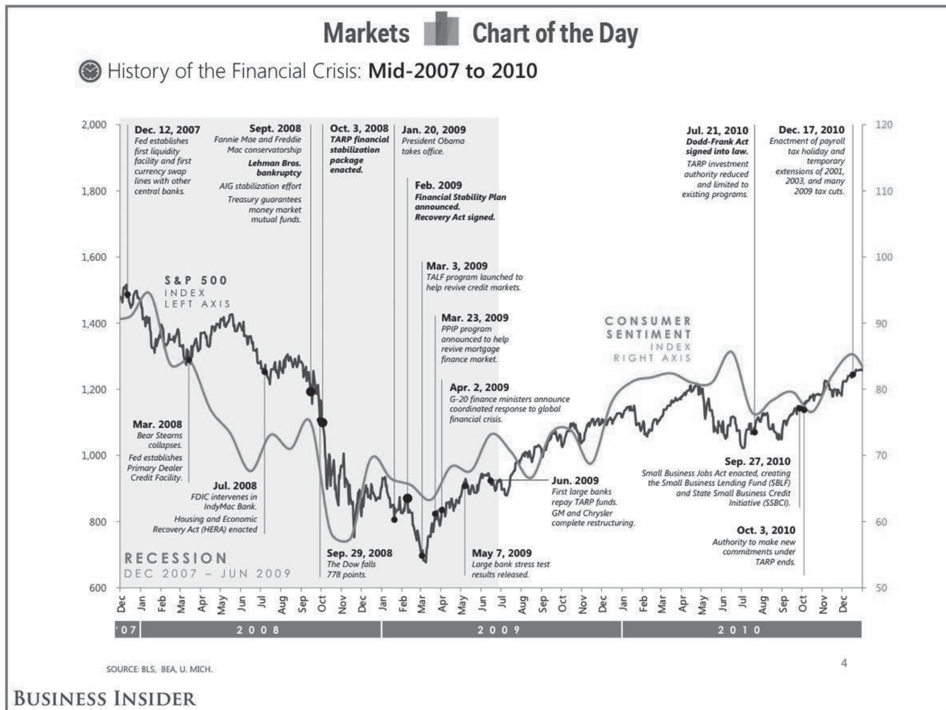


Nominal GDP per capita 1997
% change in nominal GDP US$
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
Indonesia
Thailand
Malaysia
South Korea
Phillipines
-43.2
-21.2
-19
-18.5
-12.5
www.economicshelp.org | Source ADB (2001)



Delinquencies on all loans
Percent change on last year %
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
-20.0
-40.0
2001-01-01
2001-08-01
2002-03-01
2002-10-01
2003-05-01
2003-12-01
2004-07-01
2005-02-01
2005-09-01
2006-04-01
2006-11-01
2007-06-01
2008-01-01
2008-08-01
2009-03-01
2009-10-01
2010-05-01
2010-12-01
2011-07-01
2012-02-01
2012-09-01
2013-04-01
2013-11-01
2014-06-01
2015-01-01
2015-08-01
2016-03-01
2016-10-01
www.economicshelp.org | Source: St Louis Fed - DALLSRESFRMACBEP_PC1


Markets Chart of the Day
History of the Financial Crisis: Mid-2007 to 2010
Dec. 12, 2007
Fed establishes first liquidity facility and first currency swap lines with other central banks.
Sept. 2008
Fannie Mae and Freddie Mac conservatorship
Lehman Bros. bankruptcy
AIG stabilization effort
Treasury guarantees money market mutual funds.
Oct. 3, 2008
TARP financial stabilization package enacted.
Jan. 20, 2009
President Obama takes office.
Feb. 2009
Financial Stability Plan announced.
Recovery Act signed.
Mar. 3, 2009
TALF program launched to help revive credit markets.
Mar. 23, 2009
PPIP program announced to help revive mortgage finance market.
Apr. 2, 2009
G-20 finance ministers announce coordinated response to global financial crisis.
Jul. 21, 2010
Dodd-Frank Act signed into law.
TARP investment authority reduced and limited to existing programs.
Dec. 17, 2010
Enactment of payroll tax holiday and temporary extensions of 2001, 2003, and many 2009 tax cuts.
S&P 500
INDEX
LEFT AXIS
CONSUMER SENTIMENT
INDEX
RIGHT AXIS
Mar. 2008
Bear Stearns collapses.
Fed establishes Primary Dealer Credit Facility.
Jul. 2008
FDIC intervenes in IndyMac Bank.
Housing and Economic Recovery Act (HERA) enacted
RECESSION
DEC 2007 – JUN 2009
Sep. 29, 2008
The Dow falls 778 points.
May 7, 2009
Large bank stress test results released.
Jun. 2009
First large banks repay TARP funds.
GM and Chrysler complete restructuring.
Sep. 27, 2010
Small Business Jobs Act enacted, creating the Small Business Lending Fund (SBLF) and State Small Business Credit Initiative (SSBCI).
Oct. 3, 2010
Authority to make new commitments under TARP ends.
2,000
1,800
1,600
1,400
1,200
1,000
800
600
120
110
100
90
80
70
60
50
Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
'07
2008
2009
2010
SOURCE: BLS, BEA, U. MICH.
4
BUSINESS INSIDER

ISSN 2581- 4931 (PRINT)

HISTORY OF THE JOURNAL

The idea to launch this Journal was discussed in December 2016 by the former Officiating Principal, **Dr. R. P. Rustagi** with **Dr. Santosh Kumari,** the Editor of the Journal. Since the idea appealed to **Dr. Santosh Kumari**, she took the initiative to contribute to SRCC by creating this new academic research Journal and took the responsibility for its Creation, Registration, License and ISSN (International Standard Serial Number) etc. along with *Editorship*. Therefore, **Dr. Santosh Kumari, Assistant Professor in the Department of Commerce, Shri Ram College of Commerce** was appointed as the Editor of the Journal vide. Office Order – SRCC/AD-158/2017 dated March 14, 2017. She meticulously worked hard in creating the concept and developing the structure of the Journal. She introduced the concept of COPE (Committee On Publication Ethics) to maintain the high academic standards of publication.

On behalf of SRCC, **Dr. Santosh Kumari** made every effort in seeking License from Deputy Commissioner of Police (Licensing), Delhi to register the Journal at "The Registrar of Newspapers for India, Ministry of Information and Broadcasting, Government of India". The paper work for seeking license started under the former Officiating Principal, **Dr. R.P. Rustagi** on March 27, 2017. The foundation Issue of the Journal "**Strides – A Students' Journal of Shri Ram College of Commerce, Volume 1, Issue 1, 2016-17**" was successfully released on the 91st Annual Day of SRCC held on April 13, 2017 by **Shri Prakash Javadekar, Honb'le Union Minister of Human Resource Development, Government of India**. The title of the Journal got verified and approved by the Registrar of Newspapers for India, Ministry of Information and Broadcasting, Government of India on April 21, 2017. On September 1, 2017, **Prof. Simrit Kaur** joined SRCC as Principal and signed each and every legal document required for further processing and supported **Dr. Santosh Kumari**.

On December 18, 2017, the College got the license "**License No. - DCP / LIC No. F. 2 (S / 37) Press / 2017"** to publish 'Strides – A Students' Journal of Shri Ram College of Commerce'. Due to change of Printing Press, the License got updated on March 09, 2018. On April 26, 2018, the SRCC Staff Council unanimously appointed **Dr. Santosh Kumari as the 'Editor of Strides**' for the next two academic years.

On April 27, 2018 (The Foundation Day of the College), **Dr. Santosh Kumari** submitted the application for the registration of the Journal. On May 04, 2018, the SRCC received the '**Certificate of Registration**' for ***"Strides – A Students' Journal of Shri Ram College of Commerce"*** and got the **Registration No. DELENG/2018/75093** dated May 04, 2018. ***On behalf of Shri Ram College of Commerce, it was a moment of pride for Dr. Santosh Kumari to receive the 'Certificate of Registration' on May 04, 2018 at the Office of Registrar of Newspapers for India, Ministry of Information and Broadcasting, Government of India (website - www.rni.nic.in).***

On May 07, 2018, **Dr. Santosh Kumari** submitted the application for seeking ISSN (International Standard Serial Number) at "ISSN National Centre – India, National Science Library, NISCAIR (National Institute of Science Communication and Information Resources). Weblink - http://nsl.niscair.res.in/ISSNPROCESS/issn.jsp". Finally, the College received the International Standard Serial Number "**ISSN 2581-4931 (Print)" on June 01, 2018.**

We are proud that this journal is an add-on to the enriched catalogue of SRCC's publications and academic literature.

STRIDES - A STUDENTS' JOURNAL OF SHRI RAM COLLEGE OF COMMERCE

ISSN 2581-4931 (Print)

RELEASE OF FOUNDATION ISSUE OF STRIDES

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