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Understanding Recession Cycles

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***Abstract*— Recessions tend to usually occur once in every ten years. Generally, they occur due to inflation, stock market crashes and post-war effects. The objective of this paper is to understand the reasons due to which recessions occur and the awareness amongst people about it. This study also tries to understand investment behaviour and consumer buying behaviour during recessions. The paper consists of primary as well as secondary data collected. The data of 100 respondents is collected through a questionnaire to understand their knowledge about recessions and their investment and buying behaviour during the same time. The stock data of different companies belonging to various sectors during the period of the 2020 recession is taken to understand the impact recessions had on these companies and on these sectors.**

Keywords — Recession, Investment, Buying Behavior, Reasons of Recessions, Impact of Recessions

INTRODUCTION

Recession is essentially a natural and general slowdown of the economy characterized by low public spending, fall in prices, rise in unemployment levels and an overall slower GDP growth. While this is a concept understood by a majority of the population, a slightly lesser- known fact is that Recessions are a part of the economic cycle. While there is no concrete and fixed gap between two recessions or even a fixed time-frame of the duration of recession, it is inevitable and ranges from mild to severe. While Mild Recessions, like the one around the world in 1990, are noticeable (such as a slower GDP growth, slightly higher levels of unemployment) but don't have long ranging consequences and are easily negotiable in the longer run; it is the more Severe Recessionary Phases such as the Great Recession around the globe in 2007 or the Covid Induced Recessionary Phase since 2020/21 that are dangerous to the economy and the citizens. Particularly in a country like India, where only 27% of the Adult Population (According to the Asian Development Bank) are meeting the financial literacy standards as prescribed by the Reserve Bank of India, it becomes all the more important to understand the rationale behind a recession to minimize its impacts on their daily life and the economy in general.

Ever Since the Second World War, India has experienced 7 major recessions, which pegs recessions at roughly one official recession per decade. In the initial phases of India's independence, the country was not financially self-reliant and that was the root cause of the initial recessionary phases faced by the country. Post the Liberalization Era (1990s), it was a victim of various global crises that had a ripple effect on the Indian economy overall. While some were prolonged, the others were for a short span but severe. The various major recessions faced by India (by root cause) are:

1- BoP Crisis (1957-58)
2- Severe Drought (1966-69)
3- Energy Crisis (1972-73)

4- Oil Shock (1980-81)
5- Y2K Boom (2000)
6- Global Recession (2007)
7- COVID Global Pandemic (2020)

Recessions can be brought about by a multitude of reasons. Sometimes, it is a global phenomenon caused by multiple external factors (such as the Housing Loan Crisis in 2007 brought about a Global Recession with extremities faced by countries around the world or the Global Pandemic in 2020). Other times, a company's central banking authority or the monetary policies can bring about a recession, however this is usually restricted to one country. Moreover, the duration of a recession can be as short as 2 months (2020) or as long as 18 months (2007-2009). Considering all these facts, two conclusions can be drawn:
1- Recessions are inevitable and one must regularly track the economic happenings and market movements to assess the probability and proximity of a recession.
2- A recessionary phase at a micro/household level can be tackled through good investments, savings and money management.
Recession does not hit every industry alike. While some industries and sectors are more vulnerable, others are more resistant.

Literature Review

According to (Ravel & Kamble, 2011), Recession can be described as a negative economic growth or a general slowdown of the economy over a long period of time. It is often characterized by a rise in unemployment and government borrowing or a fall in investments and share prices. It is often caused when in a longer cycle, the consumers lose confidence in the growth of the economy and begin to spend less, thereby resulting in a decrease in the demand of goods and services which reduces the production thus causing a sharp fall in prices and rise in unemployment.

The various noticeable impacts of a recession according to a paper by (Begum & Reddy, 2020) are as follows:
- Employment – A steep rise in unemployment levels due to decrease in production levels. This impact is all the more pronounced in the unorganized and unskilled employment sectors
- Business – A lot of businesses, much like the trend of the economy enter a lean and extremely slow/negative phase of growth. This is further accompanied by a fall in the demand. As a result, a lot of businesses go into losses or have to shut shop
- Stock Market – The stock market essentially plunges down due to the 'switch effect'. The stock market is indicative of the flexibility of the economy and recession causes people to save more and take their money out of the economy, thereby reducing investments and making the market bearish.
- Slowdown of GDP Growth Rates.

India as a country is not what it was in the 1970s-80s. While it is still susceptible and prone to economic shocks due to crises and emergencies worldwide, the growth in India's economy has also shielded it from extreme conditions.

For example, the 2008 Global Economic Slowdown (due to a housing loans crisis in the United States of America) has impacted India's exchange rates, trade flows and financial markets. A few of the fields where India suffered was:
- Indian exports were lower by 12% in October 2008.
- India's growth rate showed a decline from September 2008 onwards.
- Growth of capital goods production slowed during April-Oct. 2008.
- Production of consumer durables declined by 3% in October 2008.
- Real GDP growth rate went by 2.17% in 2008 and 17.78% in 2009.(Sain & Mittal, n.d.)

To understand a bit more in terms of sectoral impact of recession:

1) A research paper by (Rajesh, n.d.) uses the gravity model comprising of the pooled, fixed effect, Least Squared Dummy Variable Collector (LSDVC) to generate a clear image of India's trade activities in the wake of recession. Its findings are as follows:
a. There has been an obvious adverse impact on the Indian trade which resulted in economic slowdown.
b. However, due to India's strict fiscal and monetary counter-cyclical policies and sound macroeconomic fundamentals, it has not experienced the worst of the Great Recession.
c. India will become more prone to the impacts of such global crises as it integrates more and more into the global economy (specially the trade). Therefore, it becomes all the more important to reorient domestic policies and productions to meet domestic security and demand.

2) With respect to the impact recession could have on the manufacturing and MSME sectors, a paper by (Sahoo & Ashwani, 2020) states the following things:
a. The MSME sector is likely to witness a decline proportionate to various sectors. MSMEs dealing in trade and import-exports are expected to see the heaviest decline (roughly 5%) while services are expected to have a more subtle decline. The trade and manufacturing enterprises are also expected to struggle.
b. MSME sector has very high labor requirement and is the backbone of India's manufacturing and trade, and the sector is expected to be badly affected by the supply and demand side disruptions. This also leads to high levels of unemployment.

3) (S. Bhatt & Panigrahi, n.d.) published a paper which claims that the pharmaceutical industry is one of the few sectors that remains largely unaffected by any recessionary phase of the economy. This is due to the fact that it is a rapidly expanding industry, there is an ever-growing demand for general medicine in the international market. A lot can also be attributed to the fact that medicines are essentially necessities and not desires. As long as there is a sedentary lifestyle among people, medicines will always be required. As a result, pharmaceutical industry will not experience any recessionary pressures.

4) The e-commerce and e-businesses sector is more likely to reap more profits as opposed to other industries. This is because the impacts of recession are less likely to be the same everywhere and therefore a decline in demand in a particular region can be compensated by a surplus demand elsewhere in the world.

a. However, there is also going to be a heavy downfall in hiring staff. India is one of the top locations for organizations looking for IT related outsourcing.(Arora Kumar, 2011)

5) The various ways in which global financial crisis and economic slowdown could affect the agricultural sector are outlined below:
a. A decline in the demand for agricultural goods and products would adversely impact the prices of agricultural-products and the margins of profit.
b. Private and public investment in the agricultural sector would decline. This will not only slow the growth of the agricultural sector but also create credit issues.
c. The prices of input goods are expected to fall due to global recession, thereby bringing some reduction in the prices of fertilizers, pesticides etc. – in a welcome positive change.
d. The recession would make it difficult to export crops due to lack of demand.
e. There would also be a more fierce and competitive agricultural market environment. (Chand et al., n.d.)

While recession is inevitable and periodical, there are a few measures the authorities/governments can take to reduce and minimize the impact of the economic slowdown. A few of those solutions are as follows:

1) India is an agrarian economy. As a result, it is of utmost importance to relieve agriculture from any recessionary pressure at the earliest. This can be done by establishing an MSP for agricultural products, goods and services.
2) Manufacturing sector can be revived through credit rationing, customer loans offered at lower rates to liquidate piled stocks of manufacturing products
3) Revival of the construction sector can be done by offering loans at subsidized rates to interested parties.

4) Trade, tourism, hotels and telecommunication can be shielded from the impacts of recession by FDI, easing of restrictions, customs, rates and norms (Kumar Shinde & Vittala, n.d.)

A good solution to reverse the effects of recession on the Indian economy and stop it from escalating further would be achieved by moving away from the policies of neo-liberalism. India is still an agriculture driven economy. Adopting a food-first doctrine would be a two-pronged effort. Primarily, it will ensure food security to the enormous Indian population. Moreover, fulfilling domestic demand would be more profitable and secure as compared to a shrinking market for export of commercial crops.
Emphasizing more on cooperatives would be a suitable alternative framework for value creation and employment in the rural (and urban economy) compared to purely capitalist market policies. This can be done effectively by establishing cooperative markets and credit cooperatives that provides easily available credit at affordable rates for rural public engaged in primary/secondary sectors. Keynesian policies can also be considered which focus on increased Government spending in rural infrastructure.(R. K. Bhatt, 2011)

Strong price increases, particularly in the property market, from 1998 to 2007 represented a more pronounced fall in savings. Compared to the period from 1963 to 1982, the annual flow of savings by the lower 90% of society decreased by 6.3 percentage points of national income from 1998 to 2007. The impact of valuation gains on net worth also decreased with the collapse of the housing market, resulting in a substantially smaller annual change in net worth from 2008 to 2016 compared to the period prior to that. For the lowest 90%, the findings demonstrate that robust asset valuation increases—particularly in the housing market—masked a significant decrease in savings before the Great Recession, which declined even more following the 2008 financial crises. (Mian et al., 2021)

According to the paper (Simona-Moussa & Ravazzini, 2019), as seen in the dot-com boom and the great recession, the most impacted groups were the vulnerable households which had a kid. Large families and single parent families exhibited more or less at the same risk of poverty. The first crisis's persistent consequences and vulnerability on those who endured prolonged periods of unemployment, on large families, the illiterate, and on sole proprietors. Only economic and material well-being were negatively impacted by crises, subjective markers were unaffected. The fact that these groups are accustomed to financial hardship and instability may be one explanation for this outcome. On the other hand, they discovered that single parents, one of the categories most impacted by the first crisis, had higher levels of subjective and objective markers during the Great Recession and even after it. Around the time of the second crisis, families with children had access to enough resources to better their circumstances.

People who go through an economic shock during formative years are less inclined to consider changing careers with the possibility of high income but some downside risk. Adolescents who experience economic shock are less likely to take advantage of new work possibilities, whereas formative years who experience economic shock have a long-lasting detrimental impact on risk preferences in the labour domain in adulthood. that people who are through an economic shock during formative years are less prone to take financial risks as well. Although the estimates in the research for respondents with higher education levels are marginally bigger than those for respondents with lower education levels, the difference is not statistically very significant. People with mothers who have only completed high school have twice as much of an impact as people with mothers who have college degrees. The influence of early experiences on risk preferences is enduring. People who go through difficult economic times in late teens have stronger risk aversion as adults. The result lasts for a while. The study also reveals that these individuals had longer tenure and a lower likelihood of being self-employed, both of which are linked with an increased reluctance to taking risks. (Shigeoka, 2019)

In Greece, consumers used to save 233.64 euros a month in 2008 and 238.91 euros in 2009. However, since the financial and economic crisis occurred, there has been a dramatic drop in consumer savings. The global experience is connected to this phenomenon. Consumers saved 176.01 euros per month in 2010 and 121.36 euros per month in 2011, when there was a persistent decline in private savings due to the government's start of implementing fiscal measures. Indicating a trend that even though there was a financial crisis, the years worst hit were the ones where people saved the most whereas when things started to go better for the economy people started saving lesser than before. Consumers who expressed a negative outlook while claiming that the previous fiscal year was worse than they anticipated are also less inclined to save money. (Kostakis, 2013)

According to shops, foot traffic has decreased by 72%. No difference in kirana store foot traffic was noticed. Before the recession, the majority of frequent consumers used to shop more than once a week. 60% of the merchants discovered that their regular consumers were purchasing less frequently these days. People now shop less frequently as a result. People's spending on groceries and personal care items has not decreased. The luxury brands have been most adversely impacted. Additionally, given the decline in sales, shops are lowering their stocks. The retailers conduct a number of promotional events to promote foot traffic. Retailers are lowering their pricing to increase sales. Customers are switching from their preferred brands to cheaper alternatives. (Sharma, 2011)

When times are tough, customers choose private label goods and purchase smaller packages. Furthermore, thorough analysis enabled the article to pinpoint the fact that a sizable proportion of consumers move to less expensive brands. Additionally, they prefer not to buy food from foreign companies and want food with a clear indication of the country of origin. People keep an eye on food prices and search for discounts. It's remarkable that during an economic crisis, they don't care about food quality; instead, they just choose the option that is least expensive. Consumers continued to buy fast food, but only in specific situations, such as when they lacked the time or mood to prepare or were persuaded to eat outside by companions. Additionally, due to the lower cost of fast-food restaurants and ready meals, they preferred them to dining out with friends. Consumers have generally cut their food budgets by 0% to 25%, but occasionally by up to 70%. (Theodoridou et al., 2017)

Countries impacted by the surge in food costs had to deal with the twin crises of the global breakdown and the worldwide food crisis. Due to the high proportion of food expenditures in total consumer spending and the pre-existing vulnerabilities like as poverty and malnutrition in the developing world, the increase in food prices during 2007–2008 had a significantly more negative impact on developing countries than on affluent ones. This meant that after the food crisis, developing nations like India had to deal with another crisis. While the ongoing issue of hunger and malnutrition was directly threatened by the rising food prices. For India's enormous population to have access to food and for the majority of people to live a decent life, the agricultural sector is essential. As a result, the government regularly monitors this sector's performance and periodically implements a variety of policies and steps to counteract any negative effects that various causes may have on it. These strategies and policies use a variety of tools, including as import and export restrictions, monetary policy, public investments, minimum support prices, input subsidies, credit availability, direct market intervention, market and private trade regulation, sector-specific incentives, etc. These tools have proven successful in separating India's agriculture industry from the rest of the world and reducing the sector's vulnerability to significant shocks to the global economy. This was evident during the global food crisis of 2007 and 2008, when prices of food in India did not increase by even double digits while they increased by three digits globally. Thus, indicating agricultural industry is normally the worst hit until or unless the government intervenes. (Adesina & Zinnah, 1993)

Asset price drops and asset price increases have historically been linked to economic recessions and recoveries, respectively. This makes sense in terms of conventional asset pricing models: in a recession, dividends are low and the marginal cost of income is high, resulting in low asset prices. This is not the case when consumption constraints, like those experienced during the 2020 pandemic, induce a recession since they lower the marginal value of income and raise asset prices, which tend to outweigh the impact of low dividends. In a typical recession, incomes decline and households cut back on their expenditures as a result of tighter budgets. As a result, the marginal value of income increases, saving motivation declines, and the value of financial assets declines. On the other hand, during a pandemic, households limit their usage of socially exposed products and services to safeguard their health. Since additional income cannot be used, consumption limitations lead to income reductions, which in turn lead to a decline in the marginal value of income, an increase in the urge to save, and a high valuation of financial assets. Thus a pandemic recession increases people’s desire to save thus boosting asset prices. (Herrenbrueck, 2021)

A recession leads to lesser mortality rates than a booming economy. Fewer accidents at work are correlated with a bad economy. During a recession, the most skilled people are more likely to keep their jobs, and slower output can allow for greater focus on safety. Additionally, fewer people drive, which reduces the number of accidents on the road. And the fact that there are less vehicles on the road may also contribute to the better air quality. Studies have also connected recessions to decreased cardiovascular and respiratory issues, as well as infant mortality, which the link to air quality may also assist to explain. More sleep, exercise, and home-cooked meals may result from working fewer hours and having less money to spend, as well as less stress from work and less money for cigarettes and pints of beer. Long-term consequences do, however, also include drawbacks. The likelihood of getting a stress-related illness such hypertension, arthritis, diabetes, or psychiatric illnesses rose when a job was lost due to a firm closing. increasing inflammation, lowering immunity, and changing hormone levels that are essential to maintaining normal physiological function. On balance, a falling economy may benefit a population's physical health, though not always their mental health. (Peeples, 2019)

Research Objectives

- Analyzing consumer's awareness about aspects of recession.
- Understanding consumer behavior during recessions.
- Understanding consumer's investment preferences during recession.
- Conducting a sectoral analysis of various industries' responses to recession

Research Design

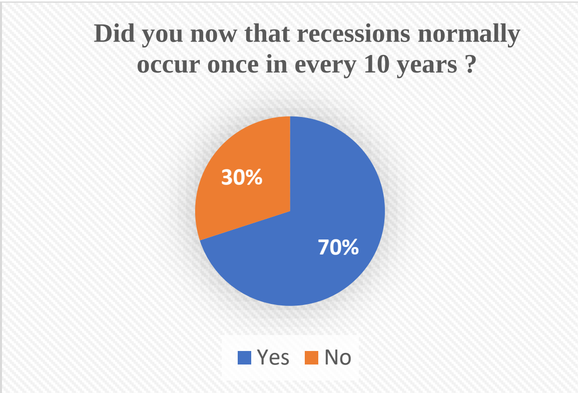
This paper, as specified from the objectives intends to understand the various aspects of the recurring recession cycle vis-à-vis the preparedness of the common public, impact on various industries and various safe investments during such periods. From an application viewpoint, this research is an **Applied Research** i.e., it tries to understand the various humane and business aspects of a pre-existing, real- world issue (recession) and present various relevant information that will enhance the clarity of the general public's perception and awareness regarding the recession cycle. From an objective viewpoint, this is a **Descriptive Research**. This research essentially tackles the questions of awareness, perception, knowledge and opinions rather than trying to establish a cause-and-effect relationship or explain a particular phenomenon. Finally, from an enquiry point-of-view, this research relies on **Quantitative Data** types and methods and their subsequent analysis to reach a concrete conclusion with both internal and external validity. The major reason for using just quantitative data is because to meet this particular research objective, it is more important to gather objective facts and statistics than in-depth information from each respondent. For a conclusive output in this research, it is important to employ the necessary tools for primary data collection, that will get respondents give pertinent responses as well as use appropriate sources of secondary data, that will not just give a clearer picture about the cycles of recession, but will also corroborate the views of the respondents, thereby lending it validity and credibility. In a **Descriptive Research Design**, the method of **Single Cross Sectional Design** was used where the respondents and were asked to present their objective views/knowledge about the pertinent topic and a distinction between respondents was drawn on the basis of their age (demographic distinction). The survey consisted of firm quantitative questions – both **Nominal (MCQ)** and **Ordinal (Likert Scale)** in nature to get a deeper understanding of the respondents' perspective. While the Nominal Questions allow the respondents to express their views/opinions and perspectives, the Ordinal Questions put the answers on a defined scale thereby enhancing the accuracy of the outcome. The survey has been collected from a sample of 100 respondents. The considered population for the research was **Adult Urban Region Residents of India**. The sampling method used here is **Simple Random Sampling** divided only on the basis of age – this is because, while respondents between the age of 35-60 in urban settings are equipped with the most relevant knowledge pertinent to the research objectives, it is also important to take the viewpoints of other demographics to check the overall awareness and preparedness of the population .The paper also employs The Chi-Square Hypothesis Testing to get a conclusive result by analyzing the difference between expected outcomes and observed outcomes of certain questions. Moreover, the secondary data has been sourced from official and sources and uses 'Excel' tools for derivation of numerical results and proofs. It is particularly used to mathematically show the impact of Recessionary Cycles of various industries and how they have recovered/tracked post that. It uses this data to come to a conclusion about the various industries that are particularly recession- proof.

Primary Data Analysis

Table 1

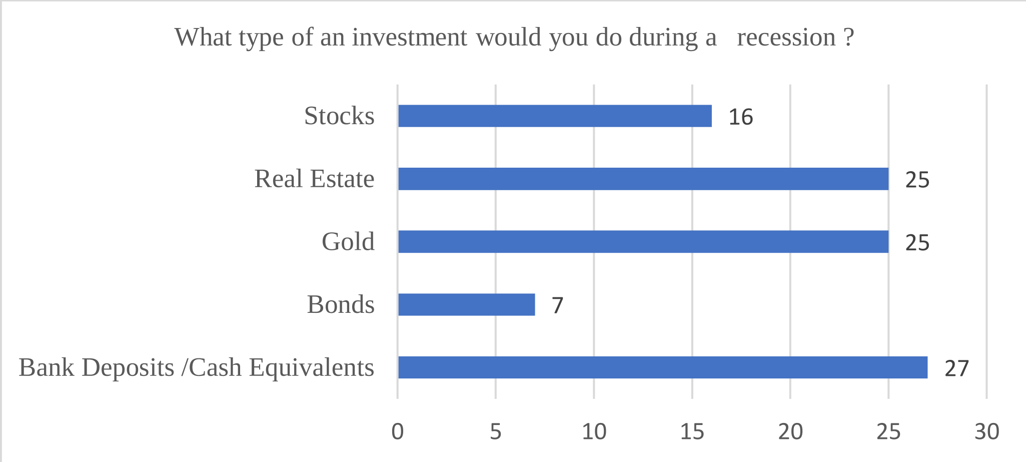
Age	Response
Under 18	2
18 - 24	36
25 - 34	8
35 - 44	18
45 - 54	26
55 & above	10
Grand Total	100

The above table shows that out of all our respondents the most (36) are of the age group 18-24 who have faced the economic and social consequences of only the 2020 recession. While the others who are mostly the age of 25 and above, have at least faced the consequences of 2 or more recessions. People falling in the age group 25 - 34 (8) might have faced two recessions in their working life – 2007, 2020 recession. The age group 35 - 44 (18) might have faced three recessions in their working life – dot com recession, 2007, 2020 recession. The age group 45 - 54 (26) might have faced four recessions in their working life – 1991, dot com recession, 2007, 2020 recession.



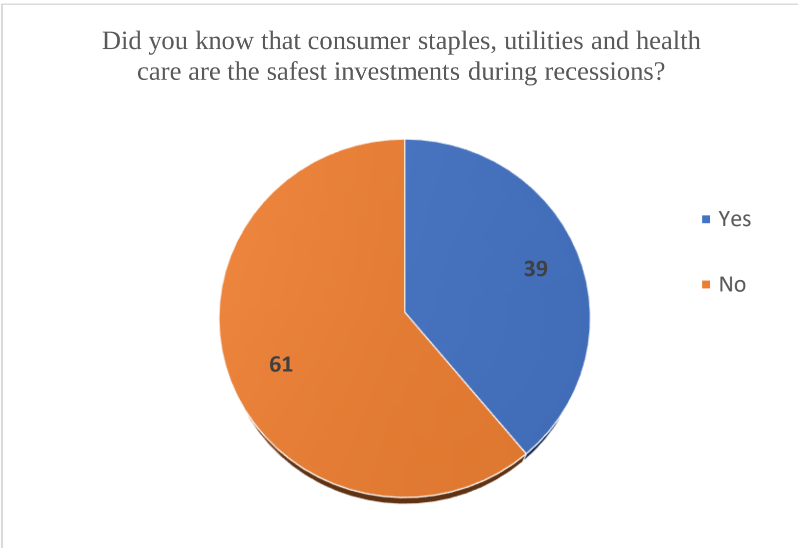
Pie Chart 1

The pie chart shows that most people are aware that recissions do normally occur once in every 20 years. 70% respondents knew that recissions are a thing once in a decade while 30% were not aware about the fact.



Graph 1.1

The most preferred investment option during a recession by respondents (27) is to keep it in the form of cash equivalents or keeping it in the form of bank deposits. The second most preferred options are gold and real estate sector (25 each). Stocks which tend to be wavering during recessions is the 2nd least preferred (16) option. While even though bonds are one of the most secured forms of investments available, they are not at all preferred as only 7% said they would invest in bonds. Thus, showing that during recessions people generally prefer to keep investments in forms that they could easily convert into cash – gold, cash equivalents, bank deposits and they tend to not invest in things that they won't be easily able to convert into cash in case of need – bonds. They don't usually tend to go for high-risk investments – stocks. The only anomaly here is real estate which is a preferred investment option even though it can't be converted into cash easily and is a long-term investment.



Pie Chart 2

Even though the safest investments during a recession are consumer staples, utilities, and health care, most people (61) were not aware about the same. Only 39% were aware that during recessions these were the safest investments.

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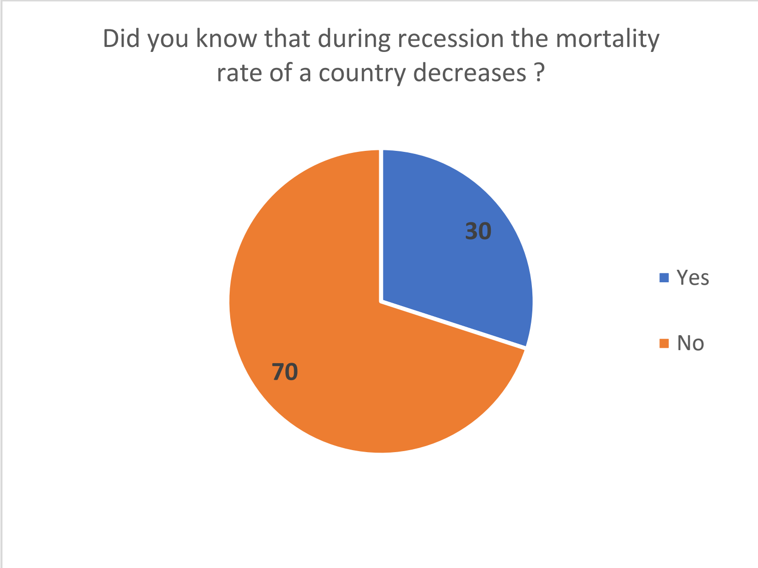
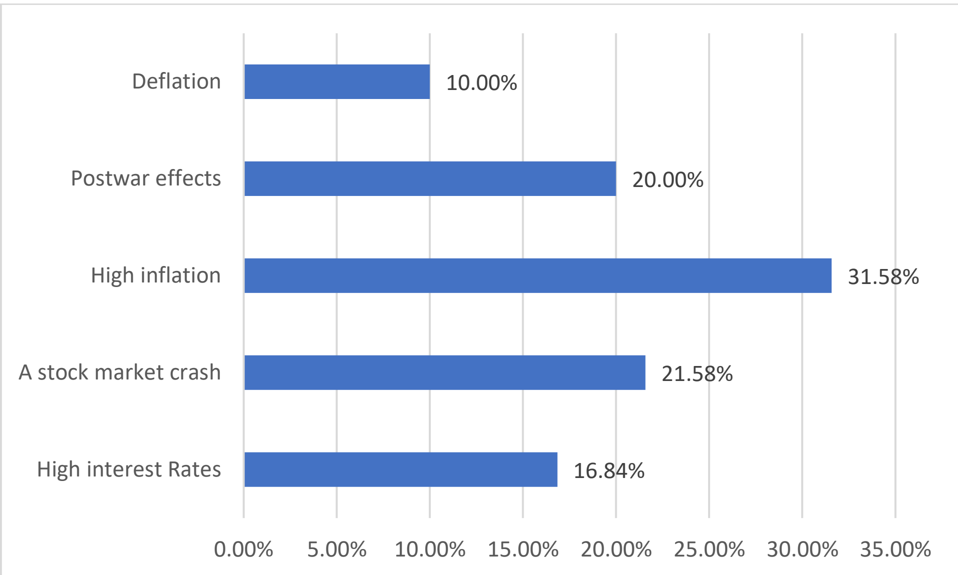


Pie Chart 3

When a recession hits everyone expects a strong increase in mortality rates, but the opposite is true. The general belief of more deaths during financial hard times is quite wrong. As proved from the above pie chart above the general belief is that people were not aware that recessions drive mortality rates down. 70% of the people were not aware of this fact. This has had been true for the recessions of 1991, 2000 and 2007.

The only anomaly over here is the 2020 recession which was caused by a worldwide pandemic which led to many governments announcing lockdown measures which halted the worldwide economy.

Due to this what has happened is politicians tend to cut health policies which leads to health issues that did not arise from the recession itself, but arose as health has become a soft easy target during recessions for politicians.

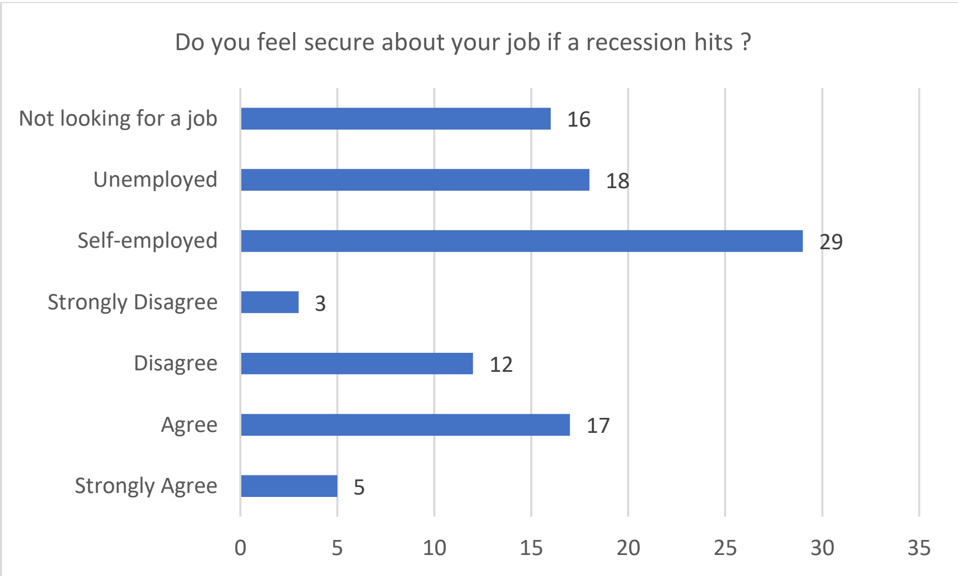


Graph 1.2

The above graph shows what people believe causes most recessions. People believe inflation is the most likely cause of recessions (31.58%), ranking stock market crashes (21.58%) second, post-war effects (20%) a close third, high interest rate (16.84%) fourth and deflation the least likely reason (10%).

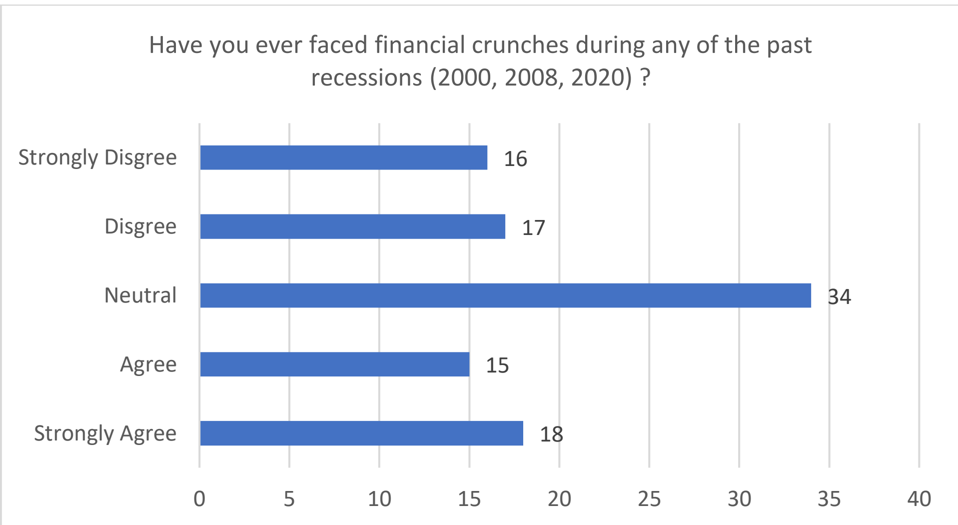
The following are the reasons for the previous 5 major recessions except the 2020 recession (caused due to a halt of the economy) –

1973-75 Oil Embargo – Caused due to a stock market crash, inflation, and post-war effects of the Israeli war.
1980-81 – Caused due to inflation and high interest rates.
1990-91 Gulf War- Caused due to the post-war effects after the gulf war and high interest rates.
2000-01 Dot-com recession – Caused due to a steep stock market crash of internet companies.
2007-09 The Great Recession – Caused due to the subprime mortgage crises and inflationary pressures.
As seen above recessions occurred thrice due to inflation, twice due to post war effects, twice due to high interest rates and twice due to stock market crashes. So as can be seen the respondents are aware of the major reasons that recessions normally occur.



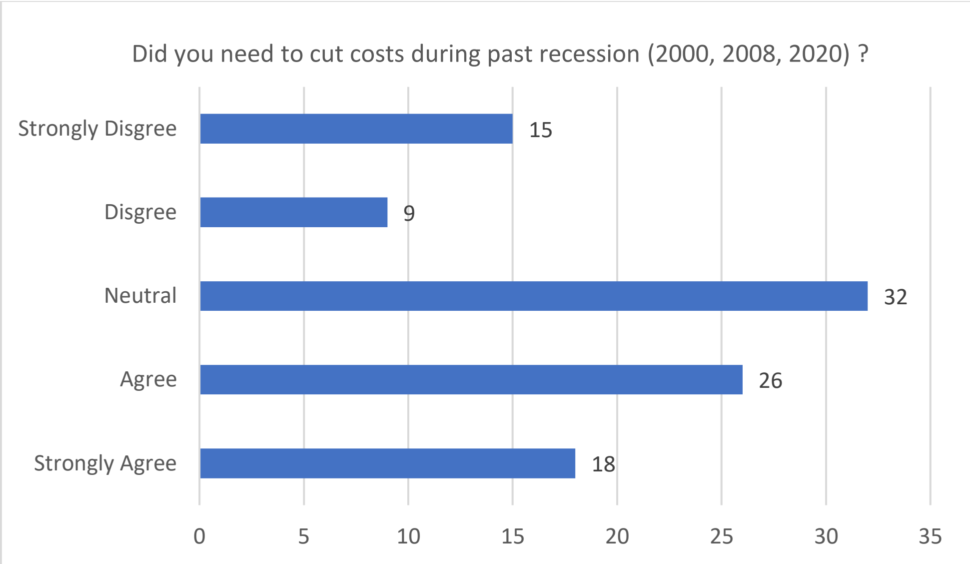
Graph 1.3

Most of the people surveyed were self-employed (29), some did not have a job (18) or were not looking for one (16), 5 people felt very secure about their jobs, 17 felt secured about their jobs, while 12 people did not feel secure about their jobs and 3 did not feel at all secure about their jobs if a recession was to hit currently.



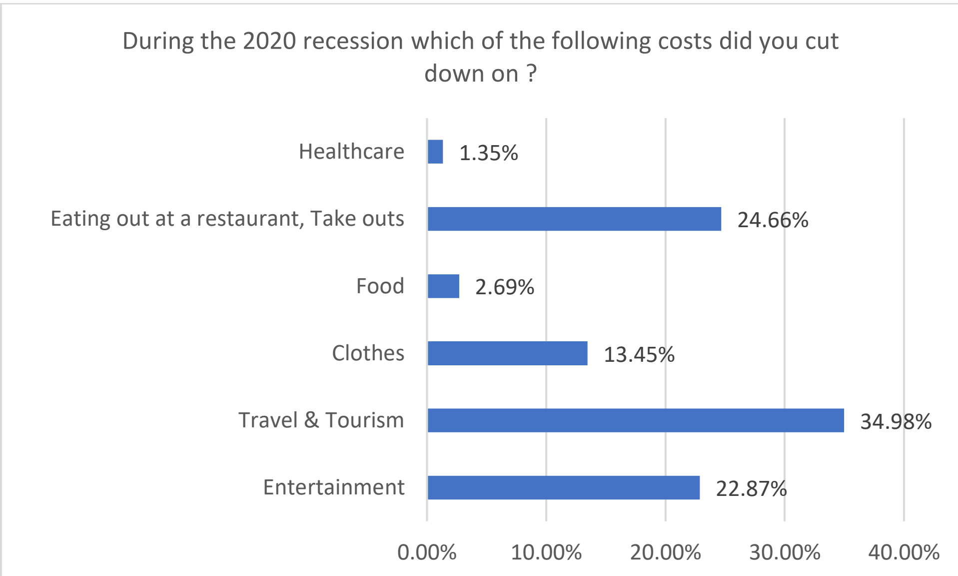
Graph 1.4

The above graph clearly shows that 34% of people were not financially affected that much during the past three recessions. While 17% of people disagreed to facing any financial crunches and 16% strongly disagreed to the same. 15% agreed that they did face financial crunches during the past 3 recessions while 18% strongly agreed to the same.



Graph 1.5

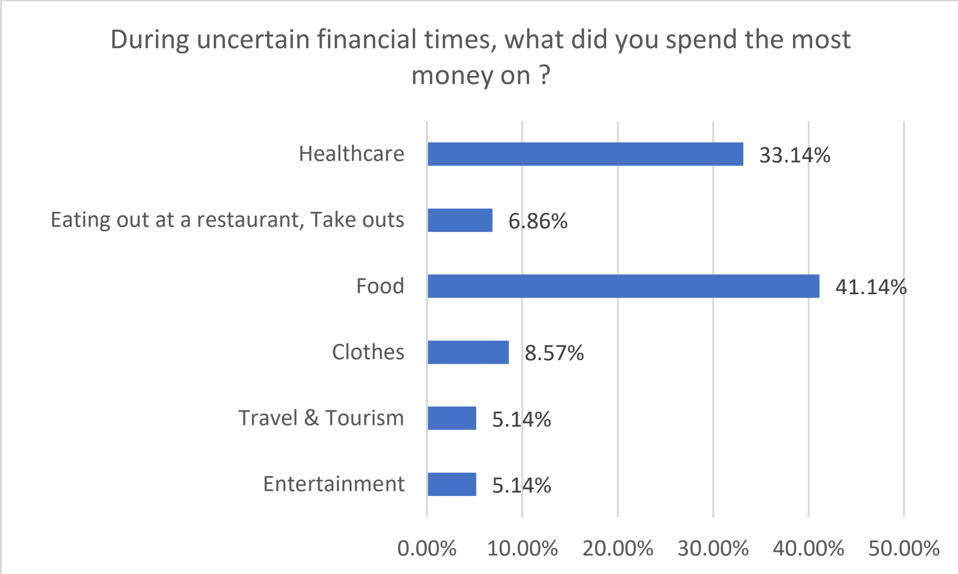
Most people had to cut costs during the recessions – 18% had to do it very highly, 26% had to do it. 32% had to not cut any costs during the recessions. While 24% people were better off during the recession.



Graph 1.6

From the above graph we can get an understanding that people while cutting costs cut travel and tourism costs the most (34.98%). Even entertainment (22.87%) and eating out (24.66%) were cut down on. Cost to purchase clothes (13.45%) were also reduced. The only areas where costs were not reduced significantly were healthcare (1.35%) and food (2.69%).

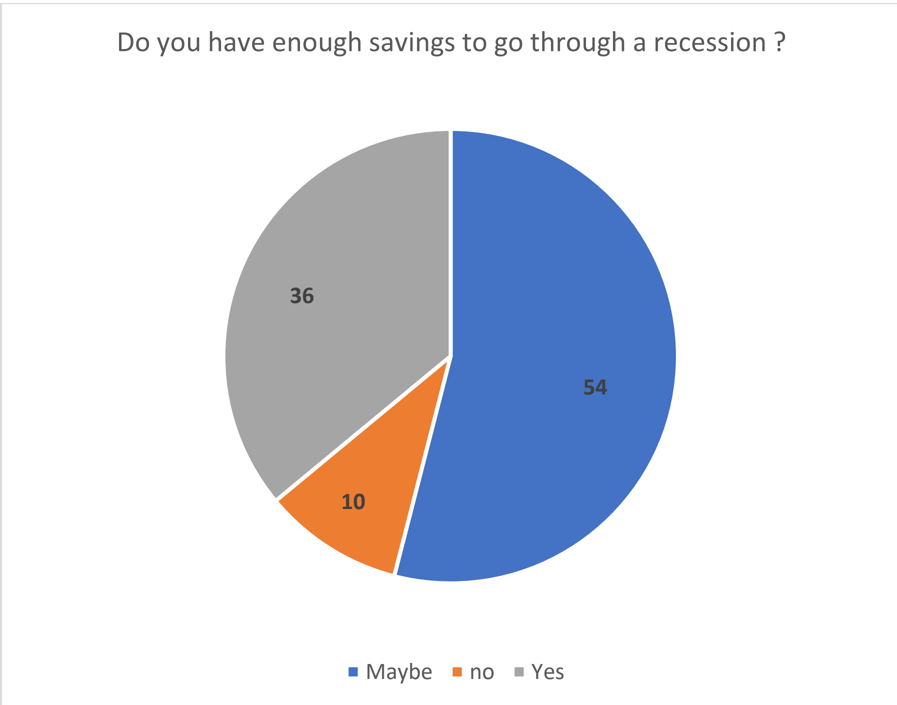
As also mentioned below through figure 1.7 the tourism industry and entertainment industry figure 1.10 are the ones most severely affected by recessions.



Graph 1.7

Food (41.14%0 is what consumers most spend on during recessions. While healthcare (33.14%) takes the second place on the spending list. Clothes (8.57%), Eating out (6.86%), travel and tourism (5.14%) and entertainment (5.14%) are not that important for spending as healthcare and food are.

As also shown below the pharmaceutical industry is an anomaly as the industry is completely recession proof (in Figure 1.1). Even the consumer staple goods industry is recession proof as it provides necessities to consumers.



Pie chart 4

Most people are not sure (54%) if they have enough savings to go through another recession. This is because the savings of households was used a lot when the 2020 covid recession hit. 10% feel that they do not have enough savings to sustain another recession. While only 36% feel they have enough savings if another recession hits.

To conclude, the survey indicated that many people are aware of why recessions occur and when they occur. People prefer investments during recessions the ones which could be easily liquified. Less number of people faced financial issues during recessions than the people who did not. Most people had to cut costs during the previous recessions during which entertainment, travel and restaurants faced the most cost reductions. People were more likely to spend on healthcare and food during recessions than other goods.

Hypothesis Testing

The primary objective for hypothesis testing in this paper is to assess the congruence between the estimated preferences for investments during a recession and the observed preferences for investments. A sample of 100 respondents were chosen where their responses were recorded. The options provided to them were in Bonds, Bank Deposits, Stocks, Real Estate and Gold. The data analysis method of Chi-Square test was used to analyze if there was a significant difference between the predicted model and the observed model. Considering India's financial literacy rates, it is a fair assumption that anyone in the older demographic considers more traditional and conservative methods of investment such as a bank-deposit. While Real Estate is also an orthodox and safe investment, it is also entirely dependent on disposable income and has a high price, thereby making it a relatively less lucrative option. Stocks on the other hand, are perceived to be volatile and are definitely not considered to be a safe investment during recession. Gold is an orthodox and conventional option on which Indians have invested since times immemorial, as a result, it is considered to be a great investment during recessionary phases. Finally, bonds are typically not considered safe by Indian investors as not a lot of them are well versed with the concepts of bonds and hence don't perceive it to be a safe investment. Keeping all these concepts in mind, a predicted model of expected investments is as follows:

Category	Probability
Bonds (A)	0.10
Gold (B)	0.30
Real Estate (C)	0.15
Stocks (D)	0.10
Bank Deposits (E)	0.35

The observed data values are as follows:

Category	Values
Bonds (A)	7
Gold (B)	25
Real Estate (C)	25
Stocks (D)	16
Bank Deposits (E)	27

As a result, the Chi-Square Mechanism will be as follows:
We will conduct an upper tail testing to test the goodness of the predicted model.
H_o – There is no significant difference between the predicted and the observed values
H_a – There is a significant difference between the predicted and observed values.

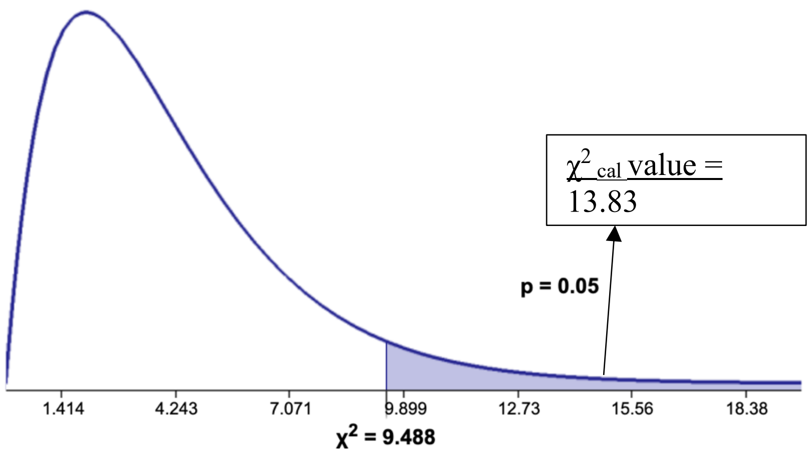
Category	Observed (O)	Expected (E)	(O-E)	$(O-E)^2$	$(O-E)^2/E$
A	7	10	-3	9	0.90
B	25	30	-5	25	0.83
C	25	15	10	100	6.67
D	16	10	6	36	3.6
E	27	35	-8	64	1.83

If total $\chi^2_{cal} < \chi^2_{crit}$, it means that the value falls under the acceptable range, thereby causing acceptance of null hypothesis, else, we accept alternate hypothesis.

Total χ^2_{cal} value = 13.83
Assuming confidence level of 95% ; α = 0.05
Number of categories = 5
Therefore, Degree of Freedom (d_f) = 4

Total χ^2_{crit} value = 9.49 [Σ (O-E)²/E]

Since $\chi^2_{cal} > \chi^2_{crit}$, we understand that the value does not fall under the acceptable range. Therefore, we accept that alternate hypothesis that there is a significant difference between observed and expected values. As a result, the predicted values do not hold good.



Graph 1.8 – A Chi-Square Table showing Critical and Calculated Values at α = 0.05 and d_f=4

Secondary Data Analysis

The secondary data comprises of stock prices of market leaders of every industry and their responses to the two latest recessionary phases (2008,2020). The objective of this secondary data analysis is to get a deeper understanding of the sectoral impact of recession. In the interest of convenience, this section has been divided into numbered points for each sector.

1- Automobile Industry – The automobile industry does not fall under providers of essential goods. As a result, during any phase of recession, where the consumer consumption normally decreases and there are financial crunches, it is a common notion that not a lot of people would objectively look at purchasing automobiles unless it is absolutely necessary and/or is used for daily commute. A prime example for this is Mahindra and Mahindra. In both recessionary phases, they have seen an expected drop in the Year-On-Year (YoY) growth rates. (Figure 1.1)

2- Oil and Petrochemical Industry– Oil prices have a tendency of falling during recession. As a result, the revenues of any oil/petrochemical company fall. However, the falls are not drastic and most companies in this industry look at recession as a sort of a ‘reset’ to get the oil prices and demand. Moreover, a recession also creates an excess stored capacity of oil. For example, while there was a decline in the growth rate of RIL in both 2007/08 and 2020, it did not fall to negative rates, thus implying that the industry is not the most vulnerable to recessions. (Figure 1.2)

3- Construction Industry - The construction industry is one of the biggest victims of recession. This is primarily because in a recessionary phase, governments and managements both put off investing in growth and infrastructure and instead want to use their funds judiciously for necessities. Prajay Engineers serve as a great example for this phenomenon as they have seen negative downtrends in 2008 and 2020. (Figure 1.3)

4- IT & Consultancy Services Industry - This industry is essentially becoming the backbone of Indian economy in the longer run – right from digitization of systems to the outsourced work of various firms around the globe. Therefore, in terms of recession, even the IT industry takes a hit with a very high upturn in the sectoral unemployment rate. A classic example of this is TCS which was severely hit by the 2008 recessionary phase, but managed to stay afloat in 2020 (only a minor downturn) primarily due to the fact that they had infrastructure ready to cut costs and tackle the pandemic (work from home, care packages for employees) (Figure 1.4)

5- Real Estate Industry - The Real Estate industry was one of the worst hits in the pandemic. This fall, yet again is owing to the fact that people were trying to cope with the recessionary pressures and spending only on essential commodities. Since real estate is considered to be a heavy investment by the Indian citizens, the cash inflow in the real estate industry declined drastically causing the stock prices to plummet. IndiaBulls is a great example of the industry's response to recession as it was on a dream run before 2020 but witnessed a huge crash in that year. (Figure 1.5)

6- Insurance Industry – Due to a slowdown in the economy, companies and households in general will have little to no surplus to invest in insurance. As a result, insurance, though essential, falls under the industries that are considerably hit by recession. GICRE can paint a clear picture as it shows how the company's stocks took a huge fall in 2020. (Figure 1.6)

7- Tourism Industry – Under ordinary circumstances, tourism is one of the most rapidly growing and developing industries and particularly in an Indian context, it is an industry with a lot of untapped potential. However, it is also one of the most severely affected industries due to recession. This can be attributed to the fact that people won't often travel/go sightseeing frequently in a phase where consumers want to spend judiciously on necessities. Thomas Cook India shows a downtrend in both recessionary cycles (2008/09, 2020). (Figure 1.7)

8- Metal Industry – The metal industry goes hand in hand with construction and the chemical industry. Recession will adversely impact the prices of aluminum, copper and other industrial metals. This will yet again make the industries rather vulnerable to recessionary shocks. This is clearly reflected in Hindalco that showed negative downtrends in both 2007/08 and 2020. (Figure 1.8)

9- Steel Industry – An extension of the metal industry, the steel industry has a very similar trending to that of the metal industry. Tata Steel, which is one of the companies that is indicative of the Indian Steel Industry ever since its independence shows a clear demarcation of the downtrend that the steel industry experienced during the Great Recession and COVID Pandemic. (Figure 1.9)

10- Entertainment Industry – The entertainment industry suffers extensively due to recession as it falls on the bottom of any consumer's priority list. While any recessionary phase is adverse for the entertainment industry, the recession in 2020 fueled by the pandemic has resulted in all activities and events being shut down, resulting in an extreme downturn in their stock prices. This is clearly visible in PVR's stock prices which hit a record low in 2020. (Figure 1.10)

11- Pharmaceutical Industry – A perfect anomaly to the usual downtrends of recession is the pharmaceutical company. This industry, which offers medicines (products that fall entirely under necessities category) does not see a change in demand and is almost completely recession proof. An even more special situation is noticed in the trends of SunPharma, where instead of a fall, a major spike is observed in 2020/21 due to the pandemic and an increasing demand for medicines. (Figure 1.11)

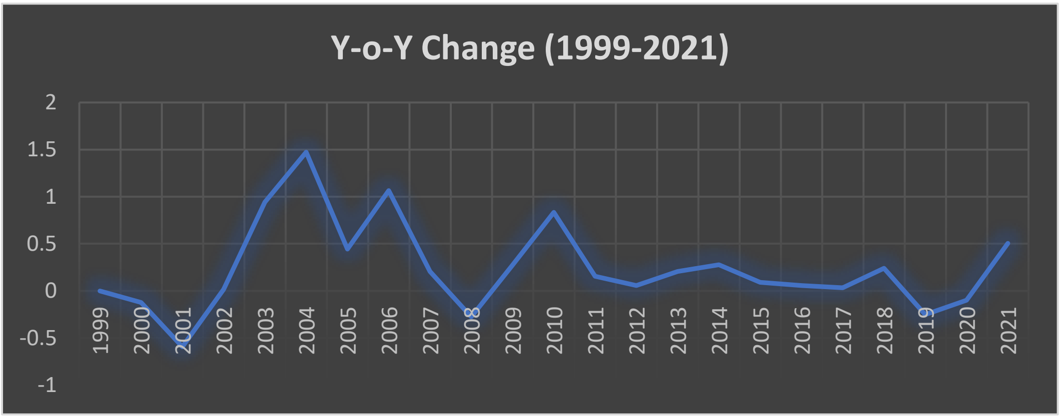
From a consumer's behavioral perspective, in any recessionary phase the consumers (at a household level) tend to reduce expenditure on their 'wants' and save more to satisfy their 'needs'. As a result, industries that provide essentials, such as daily use commodities and medicines are almost recession-proof. Meanwhile industries like automobile, tourism and entertainment and insurance took a hit because they don't fulfil the day to day needs of a consumer and are hence considered non-essential. At a macro level, governments and companies get into a survival mindset and look to consolidate and maximize utilization on existing resources on high-priority requirements and objectives. As a result, the don't invest in enhancing infrastructure or any other growth objectives. This has an adverse impact on the construction, minerals and steel industries. The oil industry on the other hand, has a fall in the prices of oil due to relatively demand and ends up with a surplus stock of oil and gas due to recessionary shocks. Finally, the IT industry which is both technology intensive and human intensive, also suffers due to a reduction in the outsourcing of work to IT firms resulting in higher unemployment. Therefore, it can be concluded that various industries have varied levels of impact due to recession. While some are almost recession-proof, others are relatively more vulnerable. This entirely depends on the nature of the goods or services the industry provides.

Conclusion

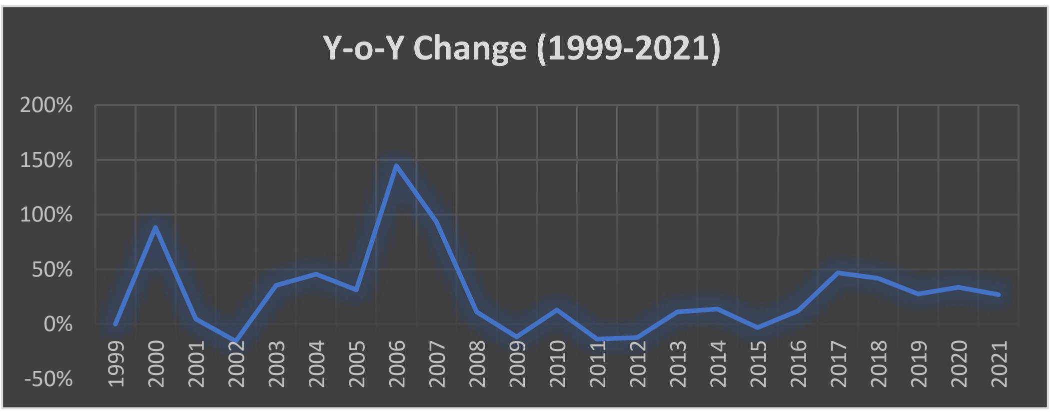
From the primary and secondary data that we have collected we could say that recessions have an effect what consumers spend during these times. We can also conclude that the awareness amongst people about the reasons and the effects of recessions is high. Investment during recessions skews towards savings that could be easily converted into cash such as gold. Households tend to spend more on necessities than wants. Thus healthcare, consumer staple industries are recession proof, whereas due to less money to spend on wants industries such as travel, entertainment, automobiles are the ones worst affected. Governments and companies tend to get into survival mood which leads to reduction in demand for construction, minerals, and IT industry. As households spend less industries that deal in non-necessity goods also get adversely affected.

Figures

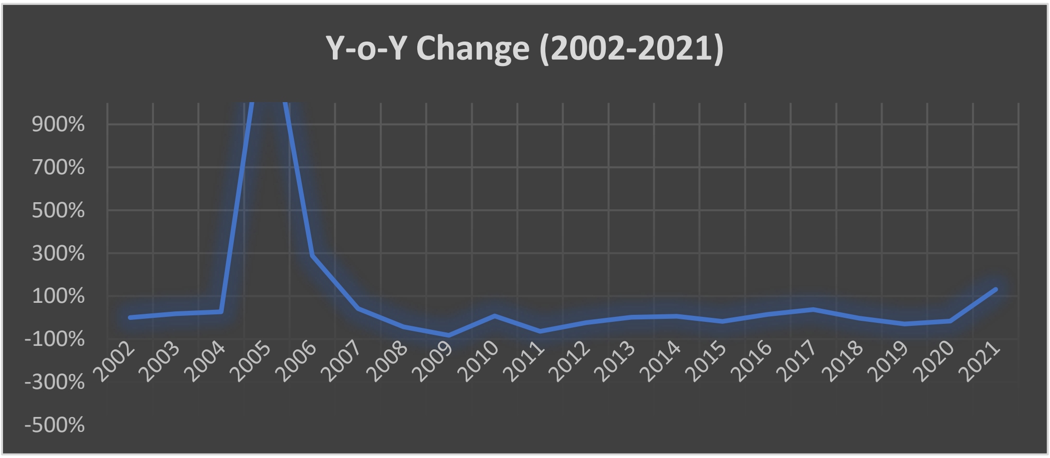
1.1- Mahindra and Mahindra (1990-2021)



1.2- Reliance Industries Ltd. (1999-2021)



1.3- Prajay Engineers (2002-2021)



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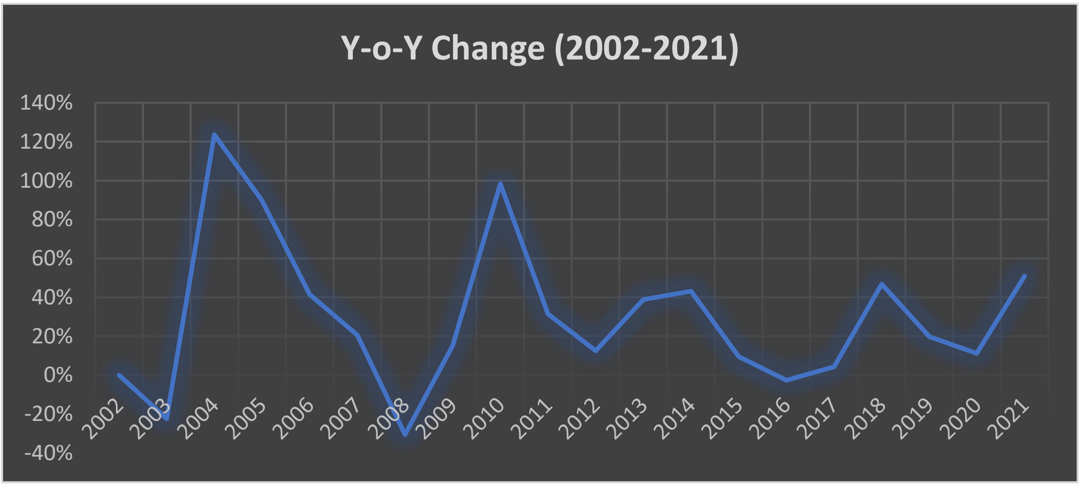
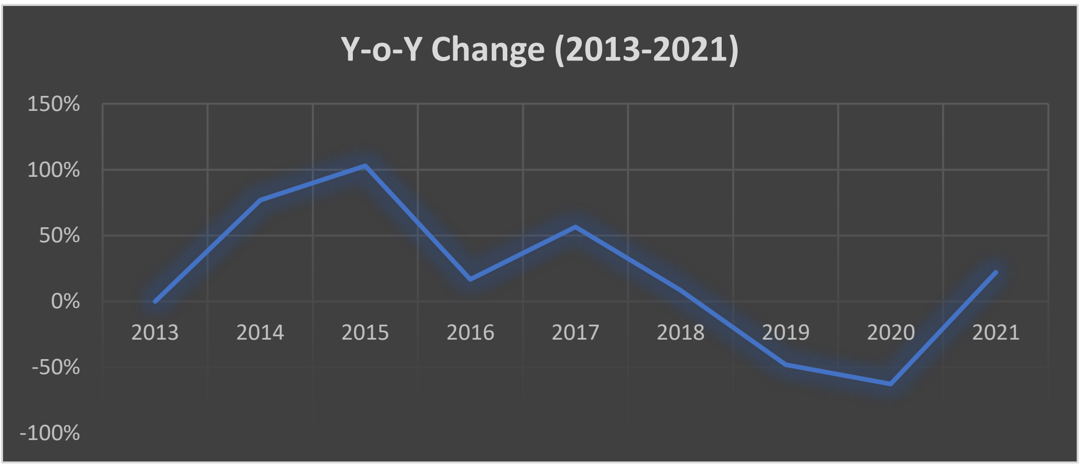


1.5- Indiabulls (2017-2021)



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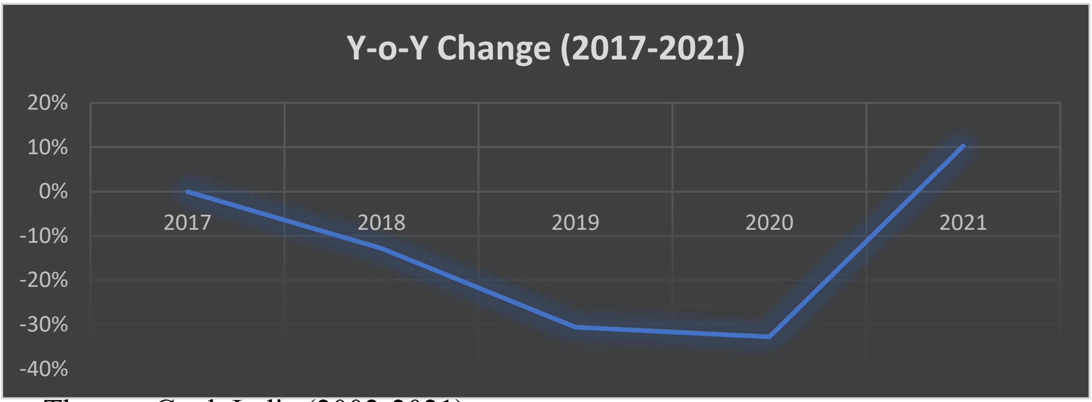
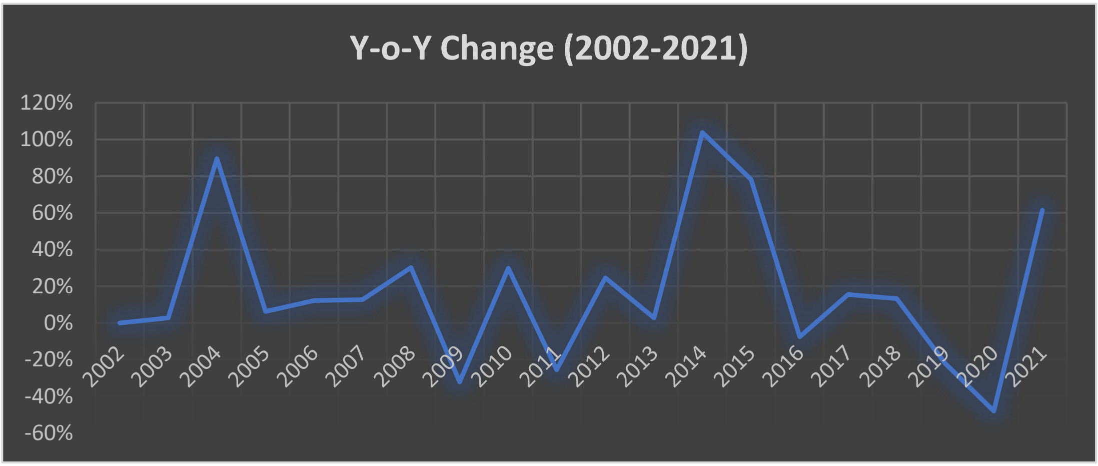
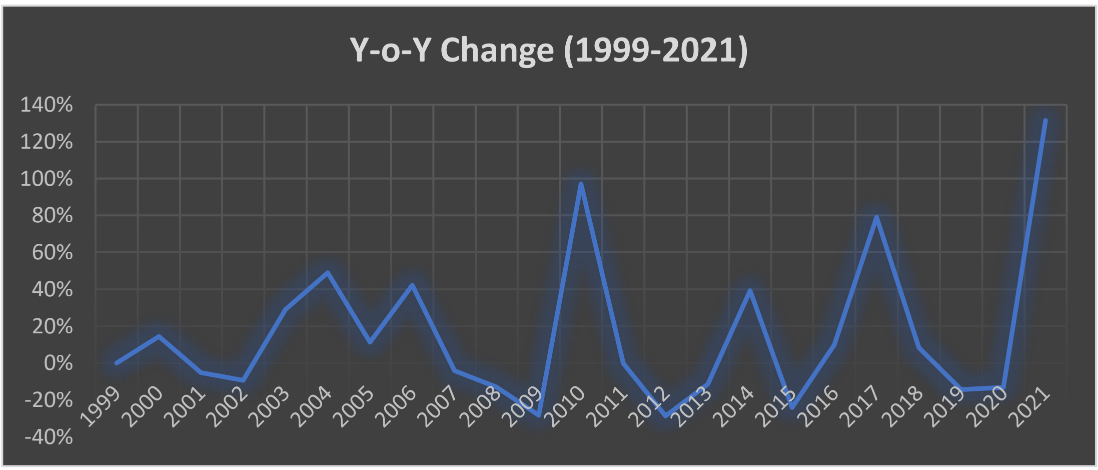
1.6- GICRE (2017-2021)



1.7- Thomas Cook India (2002-2021)



1.8- Hindalco (1999-2021)



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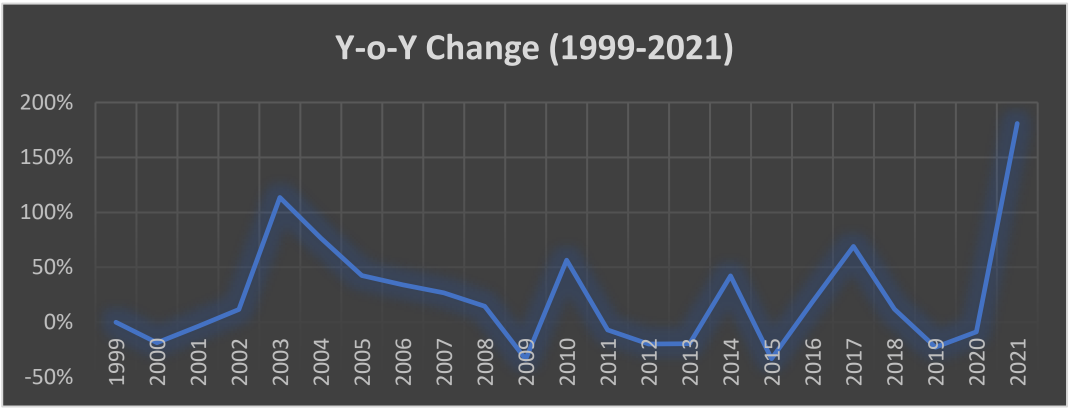
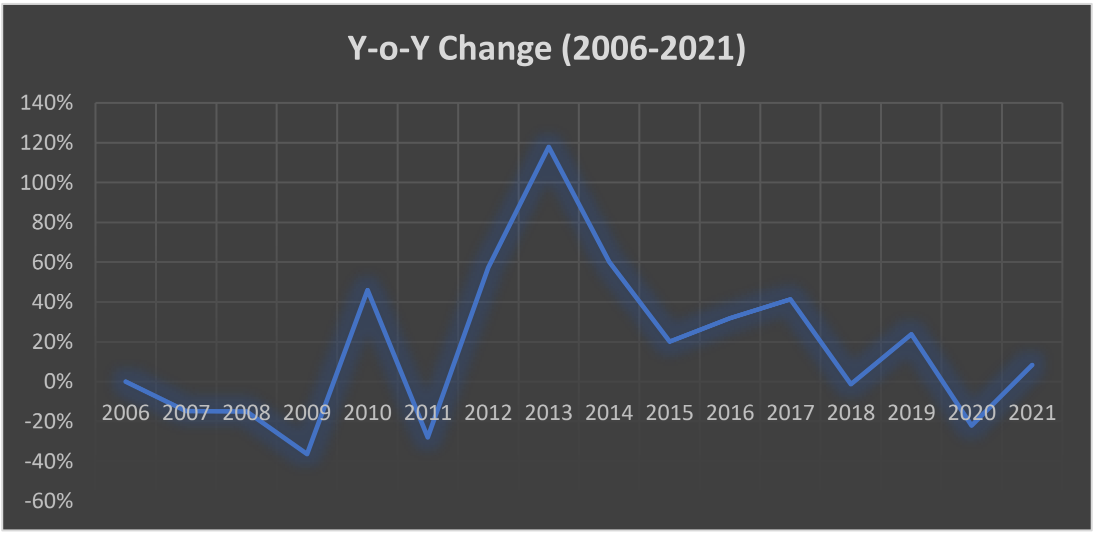
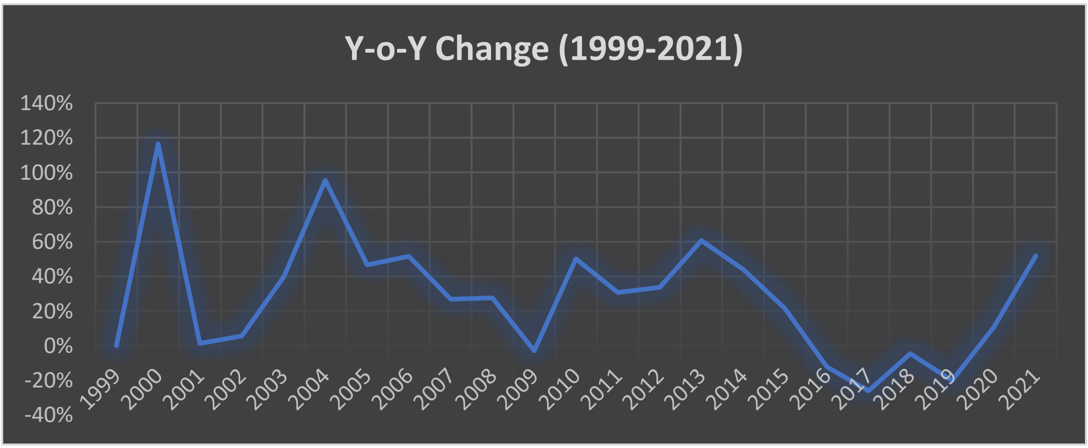
1.9- Tata Steel (1999-2021)



1.10- PVR (2006-2021)



1.11- SunPharma (1999-2021)



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