

“CROSS COUNTRY COMPARATIVE ANALYSIS OF US GLOBAL RECESSION (2008) ON INDIA AND OTHER HIGHLY AFFECTED COUNTRIES USING VARIOUS ECONOMIC INDICATORS.”

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Abstract

Finance is one of the most crucial elements for the growth and development of any economy. India has adopted the policy of LPG i.e. liberalization, privatization, and globalization, as a result of it the doors of trade and commerce became broadened and today the veins of Indian economy is strongly connected with the global economy. Banks and financial institutions are the significant medium to exchange the finance and let the flow of liquidity to be floated from surplus sector to the deficit one across various countries. Global crisis took place in the year 2007-2008 in the US economy highly influenced Indian trade as well as majority of the countries at large. In the present paper the attempt is made to reflect the extent of damage to the major countries due to US economic crisis on their GDP, Employment Investments, Etc.

Key words: Cross Country Analysis, International Monetary Fund, Investment, Inflation, Unemployment, Imports, Exports, Multiple Regression Analysis

INTRODUCTION

The present paper attempts to correlate the historical event took place in The United States (USA), there was a great economic turmoil took place which is remembered as “GLOBAL RECESSION.” The global recession was all about the NPA (non-performing assets) of Housing Banks in the year 2007-2008. Bank considerably started providing the Housing Loans so far it was estimated that it would bring a definite return for the banks in future with handsome amount of interest but due to declining the prices of real estates the loan seekers made defaults in payments and financial system of United States Collapsed.

In order to examine the impact of United States global recession in India, trend analysis and multiple regression analysis are used for data from the reports of handbook of statistics and Central Statistical Organisation. Not only this but the present paper comprises analysis of quarterly growth projections published by IMF for the selected companies thus, cross country data of highly influenced countries are selected to have clear picture of global meltdown. The selected countries are US, UK, Germany, Japan, France, Canada, Italy, Russia, and India. Trend analysis is the best tool to be applied to analyse the data of the period to identify the trend in the variables like Gross Domestic Product, Index of Industrial Production, Foreign investment inflow, Wholesale Price Index, Gross National Product, and Exchange Rate. The span of analysis comprises 20 years starting from 1995-96 till 2016-17. Reason behind this is to have the accuracy in analysis and to have the clear picture of the pre and post recessionary period. The global recession took place in the year 2007-08 in United States and the presented data can depict the pre recessionary condition of Indian economy and stock market from 1995 till 2006. Post-recession can be observed from 2007 till 2016-17. Not only that but trend analysis show which are the major changes that took place in the years followed by recession and from which year economy started reviving.

LITERATURE REVIEW

- ❖ **Stefan Gerlach, Srichander Ramaswamy and Michela Scatigna (2006)** 150 years of financial market volatility. This paper investigates the behaviour of the volatility of returns in bond and stock markets for a sample of eight countries using very long samples of data. The main source of data is the Global Financial Data database. Australia, Canada, France, Germany, Italy, Japan, UK, US are the major countries considered to measure the Volatility and returns of bonds. The period under consideration covers the years between 1850 and 2005; depending on availability. The volatilities of returns have been computed using exponentially weighted moving averages (EWMA) of squared returns, which follows closely the Risk

- Metrics methodology Volatility has been high during episodes of economic and political turbulence, in particular during the interwar period. Moreover, it is found that volatility is dominated by large, temporary increases that appear correlated with episodes of economic weakness, political instability and financial turmoil, and volatility has generally been high since the early 1970s.
- ❖ **Nomaan Majid (2009)** discussed The Global Recession and Developing Countries. This paper examines the effects of the global recession on developing countries. It argues that the majority of developing economies are in growth deceleration with positive as opposed to negative growth. The paper includes the period from 1998 till 2009. Data majorly collected from the website of IMF as secondary data. Percentage change in GDP, Population weighted international inequality: Gini coefficients, Episodes of change in the Gini coefficient of income distribution and change in GDP per capita for core developing countries, and Net foreign capital inflows as share of GDP for selected countries are variables included in the study. It is found that the majority of core developing economies are in growth deceleration with positive as opposed to negative year-on-year growth. In terms of central policy objectives, the concentration for the least developed economies ought to be on evolving strategies that minimise remittance loss from advanced economies and as well as the loss in effective aid flows.
 - ❖ **Vandana Kotai (2013)** analysed An Empirical Study on Currency volatility in Foreign Exchange Market. The study aimed to give a good theoretical approach to Indian Currency Market & Rupee position in global market, to study the fluctuation rates of some pairs of currencies (INR/USD, JPY/USD, EURO/USD, GBP/USD, and CNY/USD) of last quarter (July 2013 to Sep.2013) to compare the Indian Currency volatility with other countries fluctuations rates, and to find out that which currency is more stable in the global market. The duration of the study is one quarter that is from July to August 2013. Research design of the study is-exploratory & analytical data collection. The data collection for my study is secondary data only, because researcher has collected all the data from books and from websites. Currency rates of Us, Europe, India, Britain, and China are used to do comparative analysis of the different currencies. Finally it's found from the study that Indian currency markets present a good investment opportunity. However, investors should participate only after a thorough understanding of how they work. From last three months we can see that, due to external & internal factors Indian currency market is more volatile and sensitive market compare to other countries.
 - ❖ **Imran Ali (2010)** has analysed Causal relationship between macro-economic indicators and stock exchange prices in Pakistan. The objective of the study is to examine the causal relationship between macro-economic indicators and stock market prices in Pakistan. The data from June 1990 to December 2008 have been used to analyze the causal relationship between various macro-economic variables and stock exchange prices. The set of macro-economic indicators includes; inflation, exchange rate, balances of trade and index of industrial production, whereas the stock exchange prices have been represented by the general price index of the Karachi Stock Exchange, which is the largest stock exchange in Pakistan. The statistical techniques used include unit root Augmented Dickey Fuller test, Johansen's co-integration and Granger's causality test. The study found co-integration between industrial production index and stock exchange prices. However, no causal relationship was found between macro-economic indicators and stock exchange prices in Pakistan. Which means performance of macro-economic indicators cannot be used to predict stock prices; moreover stock prices in Pakistan do not reflect the macro-economic condition of the country.
 - ❖ **Jeet Singh & Preeti Yadav (2009)** evaluated Impact of Global Recession on Indian Economy with Special Reference to India's Exports. The present study takes into account the impact of global recession on India with special reference to India's exports. The study tries to present certain measures or steps to tackle recession in India. The study highlights the impact of recession on India's exports from different industrial sectors. The paper highlights the measures taken by the Centre to curb recessionary pressures. Study based on descriptive analysis only. There are various indicators selected here such as export of merchandise, iron, car, handicraft, leather, two wheelers, spices etc. railway, diamond, health care are least affected industries. It would be naïve to imagine that a recession in the United States would have no impact on India. The United States accounts for one-fourth of the world GDP and any significant slowdown is bound to have reverberations elsewhere. India and China have inherent strengths as they are large economies with huge domestic markets. With tremendous resources at their disposal, they can continue to grow under any circumstances that the world is facing today. But both of them manage it differently.

HYPOTHESES

H1: There is a major impact of US Global Recession (2008) on India as compared to other highly affected countries.

H2: There is no major impact of US Global Recession (2008) on India as compared to other highly affected countries.

RESEARCH METHODOLOGY

RESEARCH DESIGN

The present study is based on descriptive and causal research designs.

OBJECTIVES

- To compare the trend of Economic performance of various countries for the period under study, and especially for the global recessionary period i.e. from 2007 till 2012.
- To identify the core factors affecting Indian and foreign countries.
- To evaluate the impact of United States crisis on the Imports, Exports, Unemployment, and Investments through macro-economic indicators.
- To conclude which country is highly affected and what are the reasons for the same.

SAMPLING DESIGN

In the present study the data from 2000 to 2015 has been taken in order to study the Cross country comparative analysis of US Global Recession (2008) on India and other highly affected Countries using various economic indicators. The pre and post economic condition of India and other major countries has been evaluated using the data on various macro-economic indicators drawn from Hand book of statistics available from the website of Reserve bank of India, World Bank and International Monetary Fund.

Table-1 VARIABLE DEFINITIONS

NAME	DEFINITION
IMF	International Monetary Funds
WTO	World Trade Organisation
RBI	Reserve bank of India (Central Bank)
INVESTMENTS	Quantum of money deposited in banks and Financial institutions
UNEMPLOYMENT	Decline in job opportunities in given time interval
GDP	Gross Domestic Product
IMPORTS	Net Imports done by Countries

STATISTICAL TECHNIQUES APPLIED

- Trend Analysis
- Multiple Regression Analysis
- Descriptive Analysis

DATA ANALYSIS AND INTERPRETATION

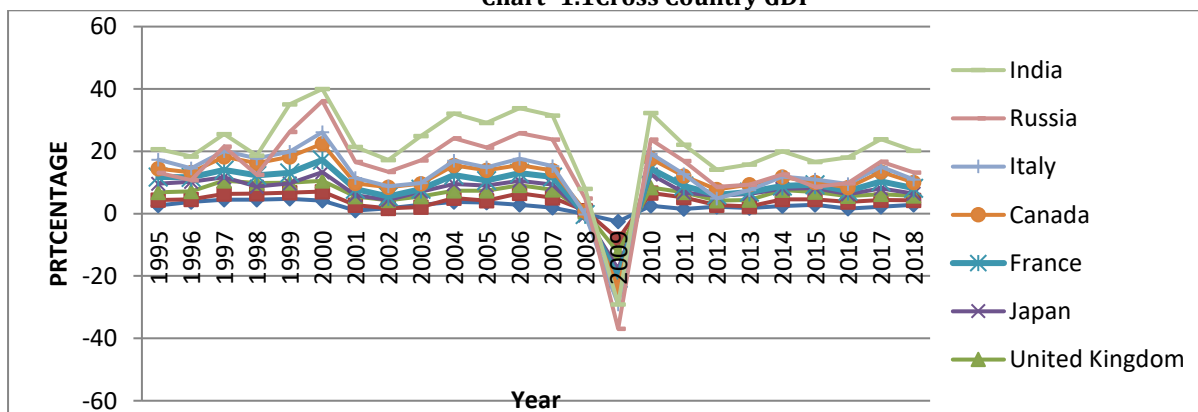
Cross Country Trend Analysis

Trend Analysis

Trend analysis is a technique used for technical analysis that attempts to predict the future stock price volatility based on recently observed trend data. Trend analysis is mainly focusing on the idea that what had happened in the past gives an idea of what will happen in the future. There are three mainly types of trends: short-term, intermediate and long-term.

Trend analysis is used to get the long term series of data and easy comparison can be made with respect to the other. It can be easily interpreted from the graphical presentation and ups and down or adverse and positive scenario can be observed.

Chart- 1.1 Cross Country GDP



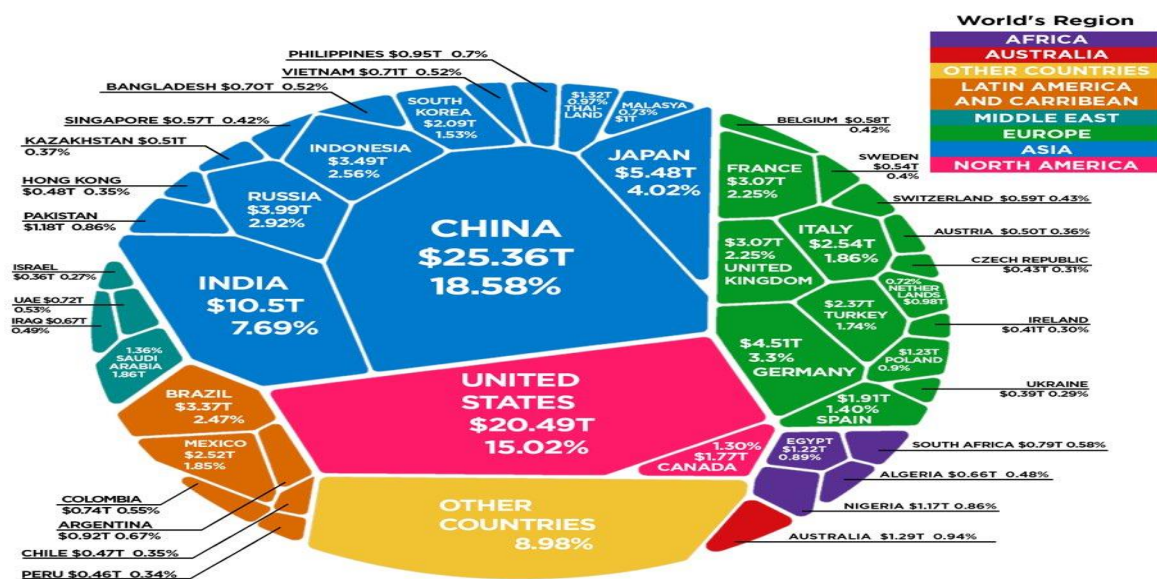
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The above given graphical presentation in Chart-1.1 depicting the plot of cross country Gross Domestic Product statistics, those countries which were highly influenced by global turmoil. The highly influenced countries are United States, Germany, United Kingdom, Japan, France, Canada, Italy, Russia, and India. Observing from the base year 1995 there had been genuine ups and down in the figure of GDP of all the highly influenced countries. Over a period of time up till 2006-07 there had been significant growth in the cross country data of highly influenced countries. United States faced the global meltdown in the same year; the meltdown was about financial crisis due to bankruptcy of banking industries in the housing sectors of US economy. The world is a global village since 1991, and directly or indirectly the above mentioned countries had financial investments with United States. Due to market breakdown the overall finance of the major countries including India went in vein, the graph depicts the adverse condition of all major countries in the year 2008-09. United States, Russia and United Kingdom are three majorly affecting countries whose GDP went to adverse condition i.e. near -35% in 2008-09 which was 32% in the year 2006-07. Thus it is to conclude from the above graph that global recession affected the given countries adversely as well as economically and financially.

GDP % at Purchasing Power Parity for World Economies in Year 2018

The World Economy Under Price Parity

GDP at Power Purchase Power Parity (PPP) by Country in 2018

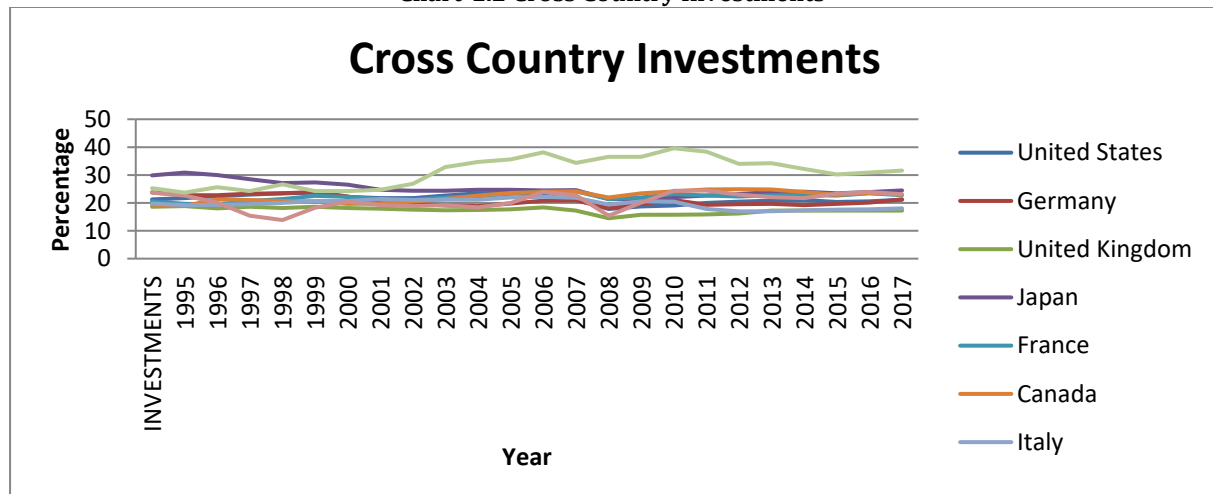


Article & Sources:
<https://howmuch.net/articles/the-world-economy-ppp-2018>
 The World Bank - <https://databank.worldbank.org>

howmuch.net

This figure indicates that China stands in first position as regards GDP at PPP with 18.58% in 2018, United States at the second position with 15.02%, whereas India ranks third with 7.69%. But there is a vast gap between the GDP growth rate of India and China. Thus India has not yet completely revived from the Global Recessionary effects.

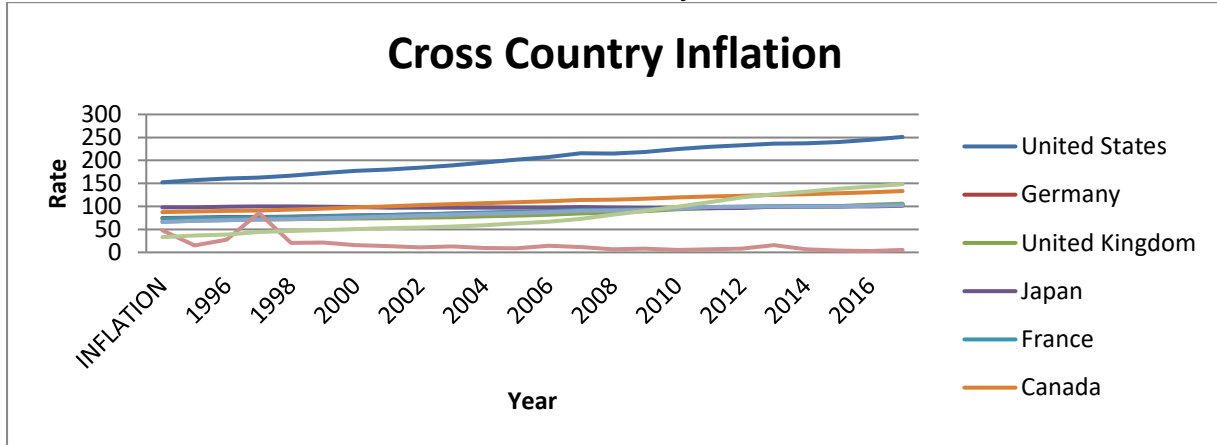
Chart-1.2 Cross Country Investments



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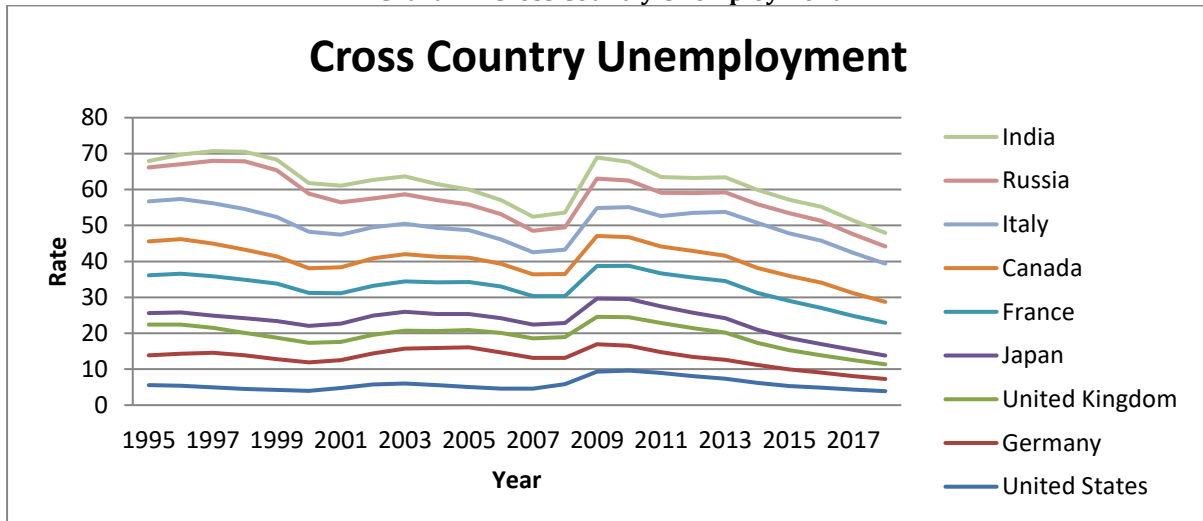
The trend analysis of twenty years starting from 1995 indicates the level of investments made by various countries plotted in above chart 1.2. The above graphical presentation includes top 10 highly influenced countries throughout two decades. Observing the statistics from the very initial years, it's seems each country having healthy investments with minor fluctuations. So far the investments of India is concern, India had experienced the noteworthy growth from 2001 till 2006. Among all the countries, India grew by 18%. Even though different countries differ from one another for investments the investment trend was homogeneous in the year 2008 all over the globe. The entire top 10 countries experienced decline in the year 2008-09 due to global turmoil took place in United States of America.

Chart-1.3 Cross Country Inflation



Considering the Chart 1.3, Russia is the only country which does not affect the global recession at all. On the other side United States is the country which was highly affected by global recession and that was the only reason the inflation rate of United States is found to be continuously increasing throughout the years. If India is compared with other countries its neatly indicates the graph in two segment that is pre and post recessionary environment. From 1995 till 2007-08 the inflation curve was quite flatter, over the period of time the inflation rates has increased and the graph depicts slant curve which means comparatively the inflation rates were higher in post recessionary environment in India.

Chart-1.4 Cross Country Unemployment

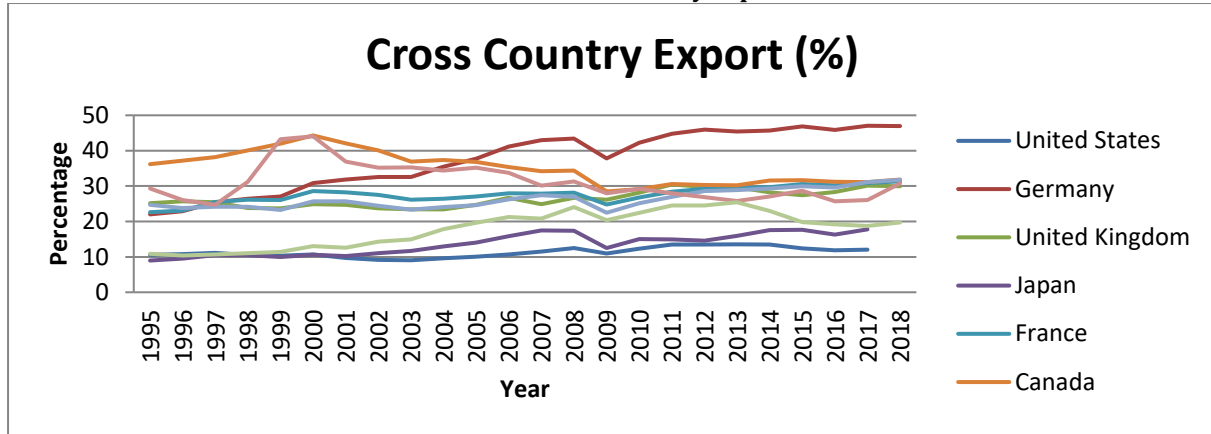


The above given graphical presentation in Chart 1.4 depicting the cross country Unemployment statistics, for those countries which were highly influenced by global turmoil. The highly influenced countries are United States, Germany, United Kingdom, Japan, France, Canada, Italy, Russia, and India. Observing from the base year 1995 there had been genuine ups and down in the figure of Unemployment of all the highly influenced countries. Over a period of time observing the year 2006-07 there had been drastic downfall of one decade seen. United States faced the global meltdown in the same year; the meltdown was about financial crisis due to bankruptcy of banking industries in the housing sectors. The world is a global village since 1991, and directly or indirectly the above mention countries had financial investments with United States. Due to market breakdown the overall finance of the major countries including India went in vein, the graph depict the adverse

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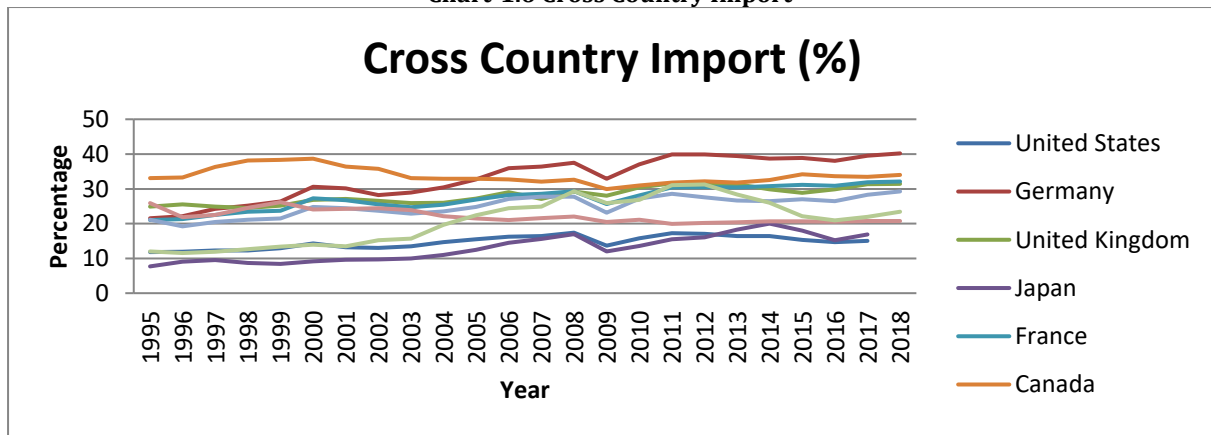
condition of all major countries in the year 2008-09. Global recession ceased the employments from all over the world, and especially the selected countries depict the same statistics. Even though almost countries faced reviving trend after recession, but after 2011-12 almost all the countries again shifting to recession, which is the matter of consideration. Thus it can be concluded from the above graph that global recession has affected the given countries adversely as far as employment is concerned.

Chart-1.5 Cross Country Export



Whatever country produces in-house, whether it is commodity or service and trade the same internally in the same country that is known as internal trade. Internal trade is just to satisfy the need of population of the country in exchange of money. It does not help the country globally to earn extraordinary income and profit. If the country desires to compete itself globally then Export is the major way to earn Foreign Exchange. By exports country earns foreign currencies and the local currency can be strengthened. The above given Chart 1.5 of cross country exports plots the condition of highly influenced countries in pre and post recessionary period. Except Canada and Russia almost all the countries indicates the growth in exports from the year 1995-96. Russia and Canada from the year 1999-00 could not meet the rise in exports as compared with other countries. Germany and India had achieved a considerable growth from the year 2000 till 2006-07. Observing the graph it is clearly seen in the year 1995-96 the export of India to the globe was 10%, and within one decade that is till 2005 the export gained the new height. The export of India in the year 2008-09 was approximately 25% which is considered the highest of the decade. But in the very next year i.e. 2009 the export of India declines by 5% that indicates the impact of global recession on Indian exports as well. By and large again Indian exports and overall exports of selected countries increased that indicates that countries started increasing exports of the commodities and services to the other countries. Among all, Germany achieved the noteworthy exports after the downfall of recession.

Chart-1.6 Cross Country Import



Country whatever produces in-house, whether it is commodity or service and trades the same internally in the same country that is known as internal trade. Internal trade is just to satisfy the need of population of the country in exchange of money. All the countries in the globe are having some or other special characteristics, but not a single country in the world having all the resources with it. That means each country is dependent on the other for some or other reason for goods and service. Globalization is the lifeline for imports and exports. From the above cross country Chart 1.6 it is observed that almost all the countries had been importing at almost stationary bases, which means not a particular trend in imports have seen throughout the year 1995-96 till 2007-08. But in the year 2009-10 the imports of all the selected countries have goes down. The reason

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being that was the globe was totally in the phase of recession at that time, and the financial positions of the countries were not healthy enough to import the goods and services from other countries. By and large all the countries indicated revival trend and India also increased the imports in the following years, and due to the global recession the imports of almost all the countries have gone up after 2008-09.

GDP Growth Estimates by IMF
Table-1.1 GDP Growth by IMF on Quarterly Statistics during Recession

	GDP Estimates for 2009				GDP Estimates 2010	
	Jul 2008	Nov 2008	Jan 2009	Apr 2009	Jan 2009	Apr 2009
US	0.8	-0.7	-1.6	-2.7	1.1	-0.04
UK	1.7	-1.3	-2.8	-4.0	0.2	-0.4
Germany	1.0	-0.8	-2.5	-5.0	0.1	-1.0
Japan	1.5	-0.2	-2.6	-6.1	0.6	0.5
France	1.4	-0.5	-1.9	-2.9	0.7	0.4
Canada	1.9	0.3	-1.2	-2.5	1.6	1.1
Italy	0.5	-0.6	-2.1	-4.4	-0.1	-0.4
Russia	7.3	3.5	-0.7	-5.9	1.3	0.5
PRC	9.8	8.5	6.7	6.5	8.0	7.5
India	8.0	6.3	5.1	4.5	6.5	5.6
World	3.9	2.2	0.5	-1.3	3.0	1.8

Source: IMF (2008, 2009)

Analysing the statistics of one or two countries is limiting the in depth study or analysis. In order to overcome this limitation the cross-sectional or cross countries data needed to be compared. The report published by IMF given in above Table 1.1 on GDP estimates covers 10 highly influenced countries including India. The statistic has been framed monthly bases within a gap of two to four months. The most affected country which is but obvious United States is drastically smashed out due to financial crisis of their own country. Similarly in that of the same time period India is also showing downward but positive growth rates, though that is not as deep as United States. Above projected table includes the statistics of cross country data. The quarterly growth projection published by IMF, thus cross country data of highly influenced countries are selected to have clear picture of global meltdown. Selecting the countries like US, UK, Germany, Japan, France, Canada, Italy, Russia, and India, the main purpose of the cross country projection is to identify up to what extent India affected as compared to other countries. United states, Russia and Italy were highly affected countries in recessionary environment.

Cross Country Multiple Regression Analysis for Macro economic variables

In order to analyse the impact of recession on the major economies including India, the cross country multiple regression analysis has been carried out.

Table-1.2 Multiple Regression Analysis

DEPENDENT VARIABLE	MODEL		
	GDP		
	COEFFICIENT	T	Sig.
CONSTANT	-2.208	-1.418	.158
INDEPENDENT VARIABLES			
EXPORT	.036	1.579	.158
IMPORT	.003	.242	.116
INFLATION	-0.005	-.096	.809
INVESTMENT	0.244	5.520	.000
UNEMPLOYMENT	-0.196	-2.416	.549
R ²	0.226		
F- value	12.290		
Sig. F	0.000		

MODEL

$$GDP = \beta_0 + \beta_1 \times EXPORT + \beta_2 \times IMPORT + \beta_3 \times INFLATION + \beta_4 \times INVESTMENT + \beta_5 \times UNEMPLOYMENT$$

Estimated Model

$$GDP = -2.208 + 0.36 \times EXPORT + 0.003 \times IMPORT - 0.005 \times INFLATION + 0.244 \times INVESTMENT - 0.196 \times UNEMPLOYMENT$$

- The above results indicate that the Investment factor is having the highest impact on GDP. As Export, Import, and Gross Investments are showing positive relation with GDP, which indicate direct effect. On the other hand variables like Inflation, and Unemployment having inverse effect.
- As R^2 having the range from 0 to 1, and in this model we have got the value of $R^2 = 0.226$ which means R^2 is not nearer to 1, the p value of R^2 is less than 0.05 which indicates that R^2 is significant. Further almost all the coefficient estimates have the p-values greater than 0.05, which make them all insignificant. Investment has highest contribution to GDP and is the only significant variable. Hence, the estimated model is weak, and does not indicate any major significant factor affecting GDP. But out of the selected factors, Gross Investments plays a major role in explaining GDP.

FINDINGS

United States, Germany, United Kingdom, Japan, France, Canada, Italy, Russia, and India were highly affected countries by the Global Recession of 2008-2009. The present objective is analysing the cross country time series analysis of the major macro-economic indicators of India, Russia, Italy, Canada, France, Japan, United Kingdom, Germany and United States. The cross country GDP depicts that almost all the top most countries taken in to consideration were affected by Global Recession in the year 2008-2009. The GDPs of all the countries were lowest of the two decades. Investments were also depicting the falling trend of all the countries in the year 2008. That means due to recession investors stepped back to put their money in fire. The rate of unemployment has also given a visible jerk and that has led to increase in unemployment due to recession. Major countries were facing sensitive stage to manage the economy and sustain wisely and that was the reason the export and imports have also reduced in the recession period. The negative trend of almost all the variables was just because of the recession outburst from United States.

As per the Estimates given by International Monetary Fund of highly affected 10 countries of world, United States is drastically smashed down due to financial crisis of the home country. Similarly, for the same time period India is also showing positive but declining growth rates, though that is not found to be as deep as United States. United States, Russia and Italy were highly affected countries in recessionary environment. In order to identify the major factor affecting the economic growth of the countries, Multiple Regression Analysis has been carried out taking GDP as dependent variables while Exports, Imports, Investment, Inflation and Unemployment as independent variables. As the output indicates that the Investment factor is having the highest impact on GDP. As Export, Import, and Investment were showing positive results, which indicate direct effect. On the other hand variables like Inflation, and Unemployment having inverse effect.

CONCLUSION

Since the world has become a global village, now it is necessary for the countries to be independent up to the extent that the financial or economic distress due to mismanagement of resources or malpractices happening in any country should not create a major damage to the economy of another country. Self-reliance of the respective countries may not become the reason of major damage and particular country can secure the economy financially from further future uncertainties whatever the situation might be.

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