Sustainable Strategies for Economic Growth and Decent Work: New Normal

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Foreword

There is no exaggeration in saying that inclusive and sustained economic growth can result in the generation of employment, improved standard of living and overall progress of mankind. The integration of social, environmental, governance and economic factors leads to the development of a firm's goals and objectives to create long-term and sustainable value for the business. Besides business, sustainable strategies are equally important for the economic growth and development of any nation. However, in case of economic disruption, sustainability of the strategies comes under pressure for businesses as well as for society at large.

One such situation arose due to the Covid-19 pandemic and the resultant lockdown leading to economic disruption throughout the globe. Since 2020, the Covid-19 pandemic has adversely affected the business environment across countries. The countries across the globe have experienced the heat of shutdown and its after-effects on their economic landscape. The extent and magnitude of the pandemic vary from country to country, sector to sector and firm to firm. In other words, the pandemic has shocked the economies. The pandemic, nevertheless, exposed the vulnerability of some basic systems like healthcare, education, financial markets etc. At the same time, one should remember that the pandemic has also brought about several changes in the economic, political and social front throughout the world.

In the Indian subcontinent, the after-effects of the pandemic are still prominent for some sectors, and for others, it turned out to be a lesson to be sustainable in the long run. The policies and frameworks designed by the policymakers and the combined efforts of the industries led to gradual recovery from the situation that arose due to the pandemic. Almost all the sectors of the economy, irrespective of their size, have experienced the devastation of the pandemic. As a result of the lockdown measure adopted by the Union Government in 2020-21, the GDP growth in India had plummeted significantly. This was the worst year for the Indian economy since the country's independence. The situation also impacted the investors' perception of the securities markets and liquidity imbalance was eminent.

Since then, the joint efforts of the policymakers, stakeholders and the masses helped the Indian economy retaliate and back to normalcy in a slow but steady way. When limitations were eased, as they were in 2020, the pent-up demand in the vehicle sector fueled a significant rebound. But the second wave of Covid-19 has again hampered India's excellent recovery. The resulting demand and supply shock resonated across the economy's productive sectors. The MSME sector, automobile industry, hospitality and tourism industry and aviation industry were severely impacted. As a result, employment generation and retention were also disrupted.

But the government packages, vaccination programmes and the intensification of the manufacturing sector led to gradual demand recovery in India. Consumers continued to return to normal buying behaviour slowly and investors gradually paved their way back to the capital markets to optimize their utility. According to several assessments, India continues to be one of the world's fastest-growing major economies. Following the pandemic, the Indian economy witnessed a V-shaped recovery. Strategic focus on infrastructure and logistics has begun to alleviate supply-side constraints. Contact-based services are now gaining momentum.

Against this backdrop, the present edited volume focuses on the impact of the Covid-19 on different sectors of the economy and the follow-up of survival strategies to strengthen the Indian economy. Different strategies, policies and frameworks are discussed and analyzed, both theoretically and empirically, to recover from the shocks of the pandemic and to attain sustainability in the different sectors of the Indian economy and throughout the globe. It is believed that the present edited volume will bring out new dimensions for different sectors to reduce the repercussion of the pandemic and to become sustainable in the way ahead.

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Foreword

The establishment of a business's goals and objectives with the intention of generating long-term and sustainable value for the enterprise is facilitated by the integration of social, environmental, and economic elements. Sustainable business practises are equally important for the development and prosperity of any nation's economy. However, in the event of an economic downturn, the viability of the policies is put into question for both the enterprises and the society as a whole.One such circumstance was brought on by the Covid-19 outbreak and the resulting shutdown, which caused global economic devastation. The pandemic also put a distinctive drag on the progress of the 2030 Agenda for Sustainable Development Goals (SDGs) issued by the United Nations, especially for the developing nations.

During the year 2020–21 different countries around the world declared mass lockdowns to combat the pandemic and which in return caused a sharp decline in global GDP growth. The prevailing circumstances resulted into negative perception of the inventors towards the securities markets too and liquidity imbalance was eminent.The frameworks and policies created by decision-makers, together with the combined efforts of the industries, paved the path for recovery from the slump brought on by the epidemic.

It goes without saying that the effects of the pandemic have been felt by all types of businesses, including microbusinesses, small and medium-sized businesses, large cap industries, and state-owned organisations. This caused disruptions in both employment creation and retention. But due to government initiatives, immunisation campaigns, and the expansion of the industrial sector, demand quickly recovered. Some of them are still experiencing the consequences of the epidemic, while others have learned a valuable lesson about how to remain sustainable over the long term.

In Indian Context, the pandemic has resulted into consequential drag of the SDG goals for the time being, especially for health and wellbeing, poverty and unemployment as well as economic growth. The pandemic has slacken the pace of progression by creating much more challenges to resolve for India but it is believed that in the near future the sustainable strategies will accelerate the progress by overcoming specific challenges.

In light of this, the current edited book concentrates on the impact of the Covid-19 and the subsequent survival tactics to support the economy. Various methods, policies, and framework are addressed and studied in the contemporary edited volume in order to recover from the pandemic's shocks and achieve sustainability for the various sectors of the Indian economy as well as the global economy. It is anticipated that this edited volume would open up new avenues for many industries, especially to the MSME sector, to lessen the pandemic's effects and achieve sustainability in the years to come.

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Preface

Almost every country throughout the globe has been affected by the Covid-19 pandemic. The virus's propagation has a disastrous effect on both human health and the economy as a whole. The COVID-19 global recession is the worst since World War II ended. According to the IMF's April 2021 World Economic Outlook Report, the global economy declined by 3.5 percent in 2020, 7 percent drop from the 3.4 percent growth predicted in October 2019. While almost every IMF-covered nation saw negative growth in 2020, the decline was more extreme in the world's poorest regions. The global supply system and international trade of all countries, including India, were affected by the nationwide lockdown in India and around the world to stop the pandemic from spreading. Since the beginning of 2020, the Covid-19 pandemic has had a negative impact on the global business climate.

The COVID-19 pandemic has resulted in significant public health and economic problems in South Asian countries and the worst impacted being India, Bangladesh and Pakistan in recent years. The nationwide lockdown adopted by the countries was effective in slowing down the spread of the coronavirus in South Asia, but it came at a substantial financial and social cost to society. Manufacturing activities in Japan, South Korea, Indonesia, Vietnam, and the Philippines have shrunk sharply. Tourism, trade and remittances, and all major sources of foreign money for South Asian countries, have been substantially impacted.

The COVID-19 spread has had a significant influence on global financial markets. The international financial and energy markets substantially dropped as the number of cases began to rise globally, primarily in the United States, Italy, Spain, Germany, France, Iran, and South Korea along with South Asian countries. Reduced travel has had a substantial impact on service businesses such as tourism, hospitality, and transportation. According to IMF, (space required after,) 2020 South Asian economies are likely to shrink for the first time in 4 decades.

The pandemic has pushed millions into poverty and widened income and wealth disparities because of premature deaths, workplace absenteeism and productivity losses. A negative supply shock has occurred with manufacturing and productive activity decreasing due to global supply chain disruptions and factory closures. This resulted in a severe short-term challenge for policymakers, especially when food and commodity prices rise, exacerbating economic insecurity. Failure to achieve equitable recovery might result in social and political unrest, as well as harsh responses from governments that have been less tolerant of dissident voices in recent years.

Almost every area of the Indian economy is being ravaged by the pandemic. But the scope and degree of the damage vary from sector to sector within each area. One of the worst-affected areas in India is the Micro, Small, and Medium Enterprises (MSMEs) sector. Apart from MSMEs, Agriculture and Agro-based industries, Banking companies and NBFCs and Social Sectors are also in jeopardy. The pandemic creates turmoil in the Capital Market and Mutual Funds industry. India's auto manufacturing and its ancillary sectors were badly hit during the initial stages of the pandemic when lockdown measures were adopted and the situation continued to remain subdued for many quarters. It is still uncertain whether this recession will have long-term structural ramifications for the global economy or will have only short-term financial and economic consequences. Additionally, the speed and the strength of the healing may be crucially dependent on the capability of the governments to accumulate and roll out the COVID-19 vaccines.

In the context of the pandemic and its devastating impact on the Indian economy, an edited volume is proposed which intends to identify and analyse the footfalls of the pandemic on various sectors and industries in India. The proposed edited volume endeavours to understand the status, impact, problems, policies and prospects of the agricultural and agro-based industries, Banking and NBFCs, MSMEs, Social Sector, Capital Market and Mutual Funds during the pandemic and beyond.

The proposed volume will contain research papers/articles covering the overall impact of the pandemic on various sectors, measures to be adopted to combat the situation and suggestions for overcoming the hurdles. For this, research papers and articles will be called from academicians, research scholars and industrialists having common research interests to share their insights relating to this area.

It is anticipated that the volume will include twenty to twenty-five chapters. An editorial committee will be constituted with three chief editors and another external editor to review the articles following a double-blind review process to assure the quality of the papers according to the global standards and publisher's guidelines. The expected time to complete the entire review process is one month, and the publication process will start thereafter.

The proposed volume is believed to be having significant socio-economic implications and is intended to cater to a large audience which includes academicians, researchers, students, corporates, policymakers, investors and general readers at large.

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Understanding the Impact of Global Pandemic on Indian MSMEs and Central Government's Initiatives in Ensuring MSMEs' Survival and Success under Current Context

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ABSTRACT

The world at this point in time is only thinking about whether it has faced such a devastating pandemic in the history of human civilization, if not in the history of the evolution of life on the earth and how to tackle it. To bring the Corona Pandemic under control one country after another irrespective of continents goes for complete and partial socio-economic lockdown. India is not an exception to this. It has been now found that after series of phases of lockdowns; the total daily infection rates in India are falling after the third wave. The most vital loss in this situation is not only the precious life but also huge economic losses. Along with all these; when the government is thinking of making Micro, Small and Medium Enterprises (MSMEs) sector the largest employment generating sector of the country, the researcher chooses the concerned area. The researcher has performed a thorough and in-depth analysis to understand how some specific industries has been impacted and how far Central Government's innovative initiatives; especially the Atma Nirbhar Bharat Abhiyan Scheme is workable in tackling the complexities. The researcher observed a very pathetic impact on MSME sector, especially on some specific industries. The government's initiatives are very fine and timely for the welfare of the sector; in spite of some loopholes. The researcher also put forwarded several innovative measures as recommendations for MSME welfare.

Keywords: *Atma Nirbhar Bharat Abhiyan Scheme; Corona Pandemic; Lockdown; MSME*

JEL Classification: L 52, O31, O35, O38

INTRODUCTION

Every country in the world is concerned with two things, the first one is economic health and the second one is social health. The economic wellbeing of a country is directly related to the social wellbeing of a country in a cyclical way. This pandemic not only brings economic debacle over the world through restriction on movements but also through huge loss of life (Sattar *et al.*, 2020). Poor, vulnerable and falling social structure resembles social ill health and it will hamper the economic development through lack of efficient and sustainable economic activities. In the same way; a poor economic condition leads to poor social health through inadequate capital investments. Most of the countries in the world imposed a serious socio-economic lockdown within their boundaries. Movement restrictions induced by the Indian government is most stringent of all countries that opt for this method for restricting virus transmissions (Ghosh, 2020). This approach turns the global village into small separated nations with negligible socio-economic relations. The current social threat from the rapid spread of pandemic shut up most of the economic activities in India. The threat on humans' life brings up the concept of "Social Distancing", thus the social fracture makes the society sick and puts a tremendous restriction on economic wellbeing. The Micro, Small and Medium Enterprises sector of India is a very important sector in terms of generating employment of all types of personals both in present and future. The Indian government is thinking of making the sector; largest employment generating sector of the country to accommodate the population outburst through expansion of all three products' and services' dimensions of the sector. But it has been found that the sector is chronically affected by several problems stemming mainly from financial and technological weakness. This current pandemic and the resultant lockdown all over the country have also impacted its operational and financial aspects negatively. It has been observed by several industry bodies and experts of the field that many of the MSMEs will fail to counter the current shock and will perish forever. This is not at all good news for the general wellbeing of the country. The central government has notified several innovative measures for MSME welfare recently to counter the current situational evils. In the current context, it is of utmost importance for social science researchers of the country to go for an in-depth study and analysis of how the current pandemic impacted the MSME sector and how far governmental initiatives are sufficient in protecting the sector from its evil eye. Through the research; the researchers can even define innovative solutions to the present problems which can boost the sector both in present and in future. Here lies the socio-economic significance of the area and the research concerning it.

Due to second wave of the pandemic; 1 crore people lost their job and due to pandemic 97% of the households experienced reduced income in India, as per the Centre for Monitoring the Indian Economy (BusinessToday.In, 2021). These can easily narrate the Micro, Small and Medium Enterprises sector which is contributing around 95% of the industrial activities of the country is the most severely impacted sector (IBEF, n.d.).

LITERATURE REVIEW

There are many literatures on this area ranging from research publications to various reports. The extensive literatures of this area are also from different period. The researcher has gone through several existing pieces of literature in this area.

Kumar (2017) has looked into how the MSME sector is contributing towards employment generation, its problem, prospects and current status. The study concluded the sector is developing at a good rate and creating a good amount of employment generation and governments are taking many initiatives for its development. Salgar (2017) research is concerned with understanding the concept of GST, its impact on MSMEs and what are the opportunity that arises due to the implementation of a new indirect taxation system on the MSME sector. The study finds that the new taxation system is good for the sector in terms of eliminating cascading effects, simplification of the system, etc and several organizations are voicing the need for awareness spreading regarding it among stakeholders. The GST system faces several hurdles in the initial implementation. Mohanty (2018) study focuses on analyzing the performance of the MSME sector in the Indian economy in the last several years, major opportunities and challenges that are facing by the sector and finally gave policy recommendations for betterment. The research work concludes that for the last few years the MSME sector is taking the center stage in the Indian economy through its rapid growth. Several challenges crept in from financial, technological and uneven competition issues. The governments need to take measures here. Mohan and Ali (2019) study looked into the major opportunities or determinants and challenges faced by Indian MSMEs in marketing their products through E-platform. The study identified the lack of awareness and skill is the largest challenge in the adaptation of E-platform based marketing and governments' help is required in transforming the challenge into an opportunity.

Sahoo and Ashwani (2020) concludes that the pandemic has a devastating impact on the survival and growth sphere of the MSMEs in India. Constructive and well planned fiscal and monetary policy initiatives are urgent for revival. Roy, Patnaik and Satpathy, (2020) study found that manufacturing and retails MSMEs of India have been seriously impacted by pandemic and the resultant movement restrictions. The monetary and other support mechanisms are not adequate. Affandi *et al.*, (2020) observed that pandemic has impacted the sustainability of Indonesian MSMEs through loss of global competitiveness. The government support in form of resource mobilizations, trainings and technological assistances will positively impact the scenario. Shafi, Liu and Ren (2020) found that Pakistani MSMEs are seriously impacted by the current pandemic. The generic weakness of the sector coupled with lack of preparation makes the sector more vulnerable to the pandemic. Jha and Kumar (2020), observed that central government's initiatives to boost the MSME sector in fighting the pandemic is not all perceived meritorious by sectoral stakeholders, mainly by financial institutions having huge debts contributed by the sector. Moreover, stakeholders think that the initiatives are more general in nature. Tripathy and Bisoyi (2021) observed that trade restrictions, supply shortage, financial weakness, labour issues, communication failures are creating huge bottlenecks for MSME survival and growth under this pandemic period.

Research gap

Based on the above extensive review of literature the researcher has found that there is no research work undertaken yet for gaining in-depth knowledge and view regarding impact of the current pandemic on the specific industries under MSME sector and how far the central government's innovative measures are efficient in bringing positive impact on the sector. Considering this as a major research gap and have a huge socio-economic significance; the researcher chooses to fill up the gap through below defined research objectives, by conducting descriptive, analytical and explorative research.

Research objectives

The study is centered on the following research objectives, based on the above research Gap.

1. To know how the selected industries under the Micro, Small and Medium Enterprises sector of India has been impacted by the recent global pandemic.

2. To understand how far the recent central government initiatives that are undertaken to boost and tackle the Indian MSME sector health and challenges; respectively, are efficient.

Research questions

Based on the above research objectives following research questions have been raised

1. Do the selected industries under the MSME sector of India is being negatively impacted by the global pandemic?

2. Does the innovative measures undertaken by the central government for welfare of the MSME sector under current situation will have a positive impact on the sector?

METHODOLOGY

The current study is based on presentation and logical descriptive analysis of secondary data collected from various sources to fulfill the above said research objectives or to answer the above-mentioned research questions. Researcher has collected information regarding the impact of COVID-19 on five different industries under MSME sector and the presented data concerning those industries has been clearly and conceptually analysed to conclude how the MSMEs of individual sectors are being impacted by the pandemic. The chosen industries are Tourism and Hospitality Industry, Automobile Industry, Real Estate Industry, Gems and Jewellery Industry and Food Processing Industry. The selection of industries is based on researcher's judgment and is again based on some facts and figures. A major portion of these industries are concentrated among MSME units and total employment and employment generation capacity of the MSMEs of these industries are also huge. The researcher has collected and presented data regarding various innovative measures taken by the central government through Atma Nirbhar Bharat Abhiyan Prakalpa, revamping of insolvency procedures and easing of lockdown restrictions and others. These data have been clearly presented and conceptually analysed to conclude on how innovative measures introduced by the government will boost the MSME health and will provide them long term sustainability in a prosperous way. Finally, the researcher has put forwarded several recommendations for welfare of the MSME sector in India.

RESULTS AND DISCUSSION

Sector specific impact

The Tourism and Hospitality Industry is most pathetically impacted due to this Corona pandemic. The most peculiar situation for this industry is; it has been impacted from the very early stage of spread of the virus and the impact will probably continue for coming one to two years according to many experts. Some countries of the world even decided to restrict tourism in their countries from outside world and for people of their countries to the foreign lands for coming few years. The way the infections started to spread in India, several countries will put India in the restriction list. Tourism and Hospitality industry under MSME sector is an extremely important source of earning for India due to its vast geographical and in-depth historical expanse. This sector has been accounted as one of the main spreaders of the disease in the world. So obviously it will take a considerable amount of time for the Tourism and Hospitality industry to get back its lost brightness. According to a recent report of the KPMG; Indian Tourism and Hospitality industry will suffer 10% to 15% job loss due to this pandemic (Agarwal, 2020) The several states of India have large numbers of MSMEs based on tourism and hospitality sector. Those states in which this sector is main livelihood for large numbers of people are severely impacted due to this pandemic. In the North Eastern states of India MSMEs of this sector and MSMEs of some other sectors heavily depend on this sector's performance are the main livelihood of many people.

The Automobile sector is another sector which is also highly negatively impacted by the Corona pandemic and the resultant lockdown. Both domestic and foreign demand for cars falls drastically in the month of March and April in the country. Due to fall in demand the production in the automobile industries also decreases rapidly. According data provided by Maruti Suzuki India, the India's largest car maker, the sales in the month of April-October period of 2021 rises by 25% in comparison to same period of the previous year, after drastic fall in 2020. In the month of April 2020 there was complete shutdown to adhere the government's safety directives. 75% of the auto industry component suppliers are MSMEs (Mishra, 2020). The problem for agricultural sector is also acute, as they also face problems in accessing markets for transportation related issues. This along with fear of contacting disease in markets; hampers their demand for agricultural related vehicles. The fall in sales and production can be easily attributed to nearly complete halt in transport the main vehicle for economy to move. A large number of MSMEs are working in the automobile sector of the country for supplying various types of parts to the large industries of the sector. So, stoppage of production in the large industries also severely impacted the small businesses from which they outsourced. The situation will not amend fully until the economy over the world opens up in the post lockdown period.

The Real Estate sector is another sector which is also highly adversely impacted due to stoppage of construction activities in the most parts of the country and in urban areas specifically due continuous lockdown and return of workers to their hometowns. The real estate sector of the country mostly concentrated in the urban localities and employed huge number of low to semiskilled workers for various jobs directly and indirectly and majority of them are migrant workers. Due to urban based spreading of this pandemic the construction activities are seriously interrupted. Many promoters and owners of the real estate firms failed to pay the wages of the workers as their investments are blocked in under construction buildings and there is also nearly no new advancements and sales. This coupled with stoppage of activities forced the workers to return back to their place of origin. Various small and medium suppliers supplying various materials for construction purpose are also in distress due to stoppage of nearly all forms of intra and interstate transport of goods, apart from major demand slide. The major slide in commercial activities and fall in income of many of the general public also drastically reduces the demand for real estate. As per ANAROCK Property Consultants firm, pandemic has serious impact on real estate sector, but still recovery at present is good (Anarock, 2020). West Bengal, Bihar and Uttar Pradesh have large number of workers associated with different construction related activities basically as migrant labourers. A huge portion of revenue of these states come from migrant workers, hence return of migrant workers due to stoppage of various construction activities negatively impacted the cash inflow of these states. It is hard to say those workers will again join their work soon, by overcoming the situational nightmare they experienced. The personal construction activities are also hampered due to several issues stemming from labour and material shortages apart from decreasing of personal income.

The Gems and Jewellery sector of the country is one of the most prominent sectors in terms of earning both foreign and domestic revenues. The Diamond and Gold trade of India contributes 7.5 % of total India's GDP and 14% of total merchandise exports from the country (IBEF, 2022). A large number of traders and manufacturers under this sector are from MSMEs. This sector is severely affected due to global pandemic followed by global socio-economic lockdown. There is a massive fall in the demand for the products as evidenced from the statement of the All India Gem and Jewellery Domestic Council chairman Anantha Padmanaban. He said retail stores are doing 20-25 percent business over the country (PTI, 2020). The Gems and Jewellery sector of the country is basically based on imported raw materials. Due to pandemic there is severe fall in production due to rapid fall in demand and due to problems in procuring of raw materials; which become very tough and costly under the current situation. The closure of large markets and malls highly worsen the demand situation. The export of processed diamonds and stones have been severely impacted due to export restrictions and import restrictions of India and several other countries, respectively. Cancellation of various social occasions also contributes to decrease in footfalls in very few retail outlets which are opened after slight reduction in restrictions. Urban centers are its main market, and which is most impacted. All these factors along with government order to close the business outlets, manufacturing concerns and trading activities for safety measures forced maximum workers in this industry to become jobless and many migrant workers returned to their domicile states. This is a major economic loss for both the domicile states and producing states. West Bengal is a large domicile state in this aspect and Gujarat is a large producing state in this aspect. The states where main industries under this sector are located have been highly impacted by pandemic, so to turn around; this industry will take a considerable amount of time.

The Food Processing Industries in India is one of the most mentions worthy sector under MSMEs. Most of the product of the FMCGs comes from MSME units either directly or through outsourcing of large companies. Sector contributes 14% of the country's GDP in 2016 (IBEF, 2020). For last few years the industry is experiencing a downturn in demand due to economic slowdown. It has both extensive foreign and domestic market and India is leading producer of several processed foods in the world. There were approximately 1.7 million people engaged in registered food processing units as per Annual Survey of Industries, 2016-2017 (Mani & Varun, 2017). Though a major portion of the product of this industry belongs to basic necessity and from the very early days of lockdown government has allowed functioning of retail grocery outlets and several processing units, still the sector has been badly impacted by the current pandemic. The closure of supermarkets, hawker corners and large markets seriously affected the demand. The toughest operational barrier comes from transport problems. Another problematic thing is; significant portion of the materials of this sector is very much prone to wastage and loss. Continuous shutdown of facilities has fetched huge material loss. This communication problem on one hand negatively hampers the production due to non availability of adequate and high cost of raw materials and on other hand disrupts smooth market supply of finished goods. The linkages of units with online selling platforms are also very poor.

As per latest report of CMIE the unemployment rate in India in the last week ending on 6th June, 2021 is 13.62%, it is slightly higher than previous week (Anandabazar Patrika , 2021). For continuous last four weeks unemployment rate in the country is in double digits. The unemployment condition was very severe in several states in the MAY, 2021 for Delhi (45.6%), Haryana (29.1%) and Rajasthan (27.6%) (Anandabazar Patrika , 2021). It is found that nationwide lockdown and state based partial lockdown has same impact on employment loss. The MSMEs like small food houses, manufacturing and service organizations feel that customer gain during flexible or partial lockdown in comparison to full lockdown is in no way profitable for them to continue operations. Large number of people working their lost their jobs.

The MSME sector has been considered as the one of those sectors which requires lowest investment for giving a single employment and again in the current socio-economic set up of the country MSME sector has the highest potential of creating employment in reaping maximum benefit from demographic Dividend. The sector has wide and in-depth reach among goods and services. So, for bringing out the sector from current fatal scenario government has taken various innovative measures and there is space for more.

Central government's initiatives:

The central government has taken following innovative initiatives to counter the detrimental impact on Indian MSMEs arises from current pandemic all over the world. Those measures which are now capable of solving the present MSME problems are termed as recent innovations in MSME sector.

Atma Nirbhar Bharat Abhiyan Prakalpa

The government of India has introduced the Atma Nirbhar Bharat Abhiyan Prakalpa, a comprehensive scheme for boosting the economy under current scenario. The main motive behind the launching of the scheme is to make the economy self dependent. The abhiyan is based on five principles, Economy, Demand, Infrastructure, Vibrant Demography and System. The total allotment under the scheme is 20 lakh crores, which is around 10% of India's GDP (Invest India, 2021). The importance given to MSMEs under the said scheme has shown that government has put special importance in amending and bettering the MSME problems and prospects respectively considering it as a very serious issue.

Initiatives under Atma Nirbhar Bharat Abhiyan Prakalpa

The government also brings a definitional change for MSMEs. Now onwards there will be no classification between MSMEs as of service or manufacturing sector and all qualified entities will be only under MSME tag. The annual turnover clause apart from pre-existing investment in plant and machinery criterion is being considered now onwards in identification of MSMEs. Under the new categorization the micro units have investment and turnover limits of 1crore and 5 crores respectively, small units have investment and turnover limits of 10 crores and 50 crores respectively and finally medium units have 20 crores investment limit and 100 crores turnover limit initially and it again revised to 50 crores and 250 crores respectively, recently (Mittal, 2020). The revenue limits will be determined after excluding export sales and for this MSMEs can expand their capability and market under various protections defined for MSMEs. It can easily verify that the new increase in investment limit criterion from the pre-existing one is very high; so many more enterprises can avail benefits provided specifically to MSMEs. The merging of service sector and manufacturing sector is a good decision as in present day various new MSME start-ups in service sector require good amount of investment in technologies which is no less costly than equivalent investment in plant and machineries for manufacturing sector MSMEs. The creating new turnover criterion is basically to deter extremely high earning entities from the benefits of MSMEs having fulfilled the investment criterion. But one thing is not good here, that if some small enterprises can have higher than prescribed turnover then they will be considered as medium enterprises and they will not get several benefits that are available only to micro and small enterprises. In comparison to investment limit specified for small enterprises the turnover can exceed the limit sometimes; because a moderate to high increase in sales are caused by various market factors anytime other than investment.

The government has sanctioned emergency credit facility through banks and NBFCs up to 20% of total outstanding credits as on 29.02.2020 for business houses including MSMEs (Gupta, 2020). This will meet emergency fund requirement of MSMEs under the pandemic situation and will ensure financial and operational viability to cope with this situation. One of the most important problems that are faced by MSMEs under current scenario is liquidity crisis. This initiative can overcome it to a large extant. One thing is very vital, the outstanding loan scenario more than one year ago is to a large extant different from current scenario. So, making the limit based on the balances that exist so long ago is not so much full proof under present scenario. It has been said that government has allowed this financial assistance as collateral free and guarantee fee free automatic loans for MSMEs and non MSME business borrowers having existing external due of up to 25 crores and annual turnover up to 100 crores (Mittal, 2020). This is obviously a good innovative initiative to boost the financial health of the sector. But what will be the case for MSMEs having due and turnover above this limit is unanswered. This discrimination is not logical under current situation. The loan tenure has been fixed as four years with a moratorium of 1 year on the principal amount (Mittal, 2020), but for several micro and small units it might have been a big problem in repaying the loans within this period. Another important feature of this scheme is interest rate capping. For banks and other financial institutions, it has been capped at 9.75% and for NBFCs it has been capped at 14% (Mittal, 2020). One of the major problems of Indian MSMEs is that they procure loans in general at much higher rate than this. So, obviously it will be beneficial for MSMEs in getting cheap finance in this harsh time. The scheme is open for availing till October 31, 2020. The most important feature of this financial assistance is the total principal and interest amount under the loan has been put under guarantee cover by the government. It has been generally observed that MSMEs does not get cheap loans at favourable terms from financial institutions for these collateral and guarantee issues. This is really an innovative measure on the part of the government for MSME welfare under current complex situation. The total loan amount that has been provisioned for disbursement among businesses including MSMEs amounts to 3 lakh crores. It has been put forwarded that 45 lakhs MSME units will be directly and indirectly benefitted from it (OpIndia, 2020).

The government has made a provision for 20,000 crores subordinated debt for revival of MSMEs which are sick or stressed or undergoing high NPAs and are currently operating (Mittal, 2020). This type of MSMEs faced tremendous struggle in getting further financial help from financial institutions due to their existing condition under current scenario. This financial assistance will of great help to about 2 lakhs stressed MSMEs (Sarkari Yojana, 2020). The banks will provide debt to MSME promoters and they will infuse it into their units as equity. Credit Guarantee Trust Fund for Micro and Small Enterprises has got 4000 crores financial assistance from government for providing partial credit guarantee to banks for giving this loan (OpIndia, 2020). Individual MSMEs can get maximum benefit of up to 75 lakhs (Press Information Bureau, 2020).

To ensure more liquidity into the MSME sector and to enable MSMEs with good potential of future growth to successfully overcome the current condition; government has decided equity infusion of 50,000 crores through fund of fund mechanism (Mittal, 2020). Under this mechanism through equity participation daughter funds under the control of a fund of fund will provide assistance to MSMEs. This will encourage the MSMEs to get listed in different exchanges of the countries. This innovative initiative will be of great help in developing the size and capacity of MSMEs having huge future potential and following legal matters ethically. This will also be a fantastic proposition for large scale industries depending on these MSMEs. This is unique in nature for MSME welfare.

Street vendors of different areas of the country are one of the worst impacted sections under MSMEs. Continuous period of lockdown severely impacted their normal life. The central government has taken a remarkable initiative for their revival. The government has brought into a financial assistance package called as, PM Street Vendor Atmanirbhar Nidhi. Under this package street vendors will get financial assistance of Rs 10000 at most (Ministry of Housing and Urban Affairs, 2020). They have provision of returning it within 1 year through monthly installments. They have also provision for interest rate subsidy if payments are done timely, at the rate of 7% (Ministry of Housing and Urban Affairs, 2020). There is also no question of imposing penalty for early payments. According to estimate it will do well to more than 50 Lakhs Vendors (Ministry of Housing and Urban Affairs, 2020).

Cabinet meeting has given approval to all these above schemes for bettering MSME prospect.

To give the new scheme a realistic view the government has decided not to go for global tender for any government purchase order of up to 200 crores for any type of goods and services (Gupta, 2020). There will be provision for exception only under certain specific situations. This decision will be very much workable in promoting sales, size and financial health of Indian MSMEs and large companies.

The Prime Minister has directed all the central government departments and central PSUs to immediately repay their outstanding dues to the MSMEs of the country within at maximum 45 days (Gupta, 2020). He has also requested state governments and state PSUs to follow the same.

Other initiatives

Due to closure of nearly all the physical marketplaces through which MSMEs are marketing their products, the government has taken the decision of developing secured and full proof E-marketplace opportunities for MSMEs to showcase, advertise and sell their products easily.

A well-designed Web Portal has been developed, named as “CHAMPIONS” for the ensuring one step solution of all the MSME problems.

The finance minister has announced increasing the minimum criterion for making application under IBC code for starting insolvency process for MSMEs from current 1 lakh to 1 crore (Ghosh & Mathur, 2020). Government is also planning to bring in a separate framework for conducting resolution procedures for MSMEs to put required weight age to unique MSME issues. It will give them an opportunity to turn around.

Finally, apart from all these innovative steps to boost MSME sector and thereby boosting the economy, the central government with the help of state governments is also easing the lockdown restrictions in phases. It is to bring back socio-economic mobility in the country and thereby channelizing the demand-supply mechanism again.

Findings

Based on analysis of the collected information the researcher has observed that the current pandemic situation is really a major obstacle in free functioning of the organizations. It hinders the normal trading activities. The situational incapacities nearly stop the revenue earning capacity of businesses. The MSMEs mainly follow low investment and daily operational cash flow-based principles in sustaining. For all this negative aspect the MSMEs are much more negatively impacted than larger counterparts or even in comparison to other sectors of the economy.

CONCLUSION

The central government has taken various serious measures fort boosting the economy through boosting of MSME sector's health and prospect. Except certain loopholes those innovative initiatives are really nice in giving required support to MSMEs to sustain in this pandemic situation. These will also ensure their brightening role in socio-economic upliftment of the country in future. All over the world it is believed by the researchers and academicians that if government seriously intervene to protect MSMEs during this pandemic, it will help MSMEs a lot to tide over these situational complexities,

Recommendations

Based on the presentation of research related data, its analysis and ultimate findings the researcher has given following policy recommendations for consideration for bettering MSME prospects both in present and future.

1. The most important step that needs to be pursued immediately is the practical implementation of all the new measures that has been introduced.

2. It has been previously observed that financial institutions are showing reluctance in giving financial assistance to MSMEs even under various government schemes. So strict control over financial institutions are required for successful practical implementation of various measures.

3. The turnover limit for small enterprises should be increased for giving desired benefits to large number of small units.

4. The government should try to extend the period of prohibition on global tender for procuring goods and services up to 200 crores as long as possible. There should also be definite provisions for government departments and Central PSUs in procuring certain specific raw materials from Indian MSMEs mandatorily and private organizations should be given some regulatory benefits for promoting procurement of raw materials from MSMEs.

5. Hardcore legal requirements should not be used for checking whether the street vendors were really operating on or before 24.03.2020, otherwise many street vendors will not get this assistance. Specifically, rural ones.

6. Continuous period of serious lockdown is not a solution to any of the existing problems. The socio-economic movements should be allowed slowly, and economy should be restart wisely and under planned and systematic procedures.

7. Apart from opening of E-Marketplace platform there is definite complimentary need for developing of full proof facilities for delivery of MSME products both in retail and wholesale form to different houses and industries. The governments' role is vital here.

8. For the welfare of Tourism sector, the governments should declare special financial packages. The packages should target towards MSMEs of this sector specifically. The MSMEs of this sector are much more impacted than large hotels and major tourist spots.

9. For the welfare of the Auto sector; planned and slow lifting up of lockdown is very much important. The large automobile industries should increase their procurement from MSMEs of the sector and they should make quick payment of their MSME dues. The MSMEs of Indian Auto Sector need to diversify their product base; governments support is required in this aspect.

10. The both commercial and personal construction activities should be allowed under specific conditions, so that both economic aspect and health and safety aspect can be balanced.

11. The production activities in the Gems and Jewellery sector should be started under definite set of restrictions. There are lots of migrant workers employed in this sector. The employees who are residing in the production site, the work can be started with them by following safety measures.

12. The production activities in Food Processing sector should also be initiated as soon as possible by following required safety measures and with the available workforce.

13. Both the central and state governments should allow easy movement of goods' vehicles as far as possible by respecting safety issues for restarting the economic activities slowly but smoothly.

14. The government should provide all types of helps to workers of MSMEs under this current situation; so that they can sustain their life in a dignified manner. Special financial packages from various governments are very much in need for them now. Governments should arrange both homeward and return journey of migrant workers in a time bound way for greater interest of the sector.

Limitations and Future Research Scope

The present study is descriptive and analytical in nature and based on secondary sources of data to fulfill the research objectives. The recent pandemic has elapses very small amount of time in India and world, to conduct any full proof numerical data based empirical analysis to ascertain its impact on different economic parameters and sectors of the country. Primary survey-based research can be done now, though they are basically fragile perception analysis of related and unrelated individuals regarding any specific element concerning which survey has been conducted to understand the impact or any view. Though numeric figures regarding various economic variables in the post pandemic period is available now, but those data are very small in amount for conducting any reliable empirical analysis through sophisticated statistical tools. Researcher need to wait for at least 4 to 6 months from now to do a foolproof primary or secondary data based empirical analysis regarding post Corona impacts. At present descriptive analysis can be considered best in discussing post Corona impacts and its remedies.

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REFERENCES

Affandi, A., Sarwani, A. S., Erlangga, H., Siagian, A. O., Purwanto, A., Effendy, A. A., & Juhaeri, G. (2020). Optimization of MSMEs empowerment in facing competition in the global market during the COVID-19 pandemic time. *Systematic Reviews in Pharmacy, 11*(11), 1506-1515.

Agarwal, V. (30 March 2020). Covid-19 and Tourism. https://home.kpmg/in/en/blogs/home/posts/2020/03/covid-19th-and-tourism-travel-hospitality-and-civil-aviation.html

Anandabazar Patrika (9th June 2021). Unemployment in double digits for four weeks in a row. Page-7. https://epaper.anandabazar.com/imageview_56572_35315563_4_71_09-06-2021_7_i_1_sf.html

Anarock (2020). Covid-19: impact on the Indian real estate sector. https://api.anarock.com/uploads/research/ANAROCK_Covid-19%20Impact%20on%20Indian%20RE%20Sector.pdf

BusinessToday.In. (1st June 2021)10 million lost jobs in Covid 2nd wave, 97% households' income declined: CMIE. https://www.businesstoday.in/latest/economy-politics/story/income-of-97-households-declined-since-covid-19-pandemic-began-cmie-298381-2021-06-01

Ghosh, J. (2020). A critique of the Indian government's response to the COVID-19 pandemic. *Journal of Industrial and Business Economics, 47*(3), 519-530.

Ghosh, S. & Mathur, N. (17th May 2020). Proposed IBC changes to benefit small businesses, resolutions to see a dip. Mint. https://www.livemint.com/news/india/proposed-ibc-changes-to-benefit-small-businesses-resolutions-to-see-a-dip-11589702539843.html

Gupta, K. (16th May 2020). Aatma Nirbhar Yojana Part-1 MSME Perspective. https://taxguru.in/finance/aatma-nirbhar-yojana-part-1-msme-perspective.html

IBEF (2022). FMCG Industry in India Industry Report. https://www.ibef.org/industry/fmcg

IBEF (2022). Gems and Jewellery Industry in India. https://www.ibef.org/industry/gems-jewellery-india#:~:text=As%20of%20February%202021%2C%20India's,from%20~5%20million%20in%202020

IBEF. (n.d.). Role-of-Manufacturing-in-Employment-Generation-in-India. https://www.ibef.org/download/Role-of-Manufacturing-in-Employment-Generation-in-India.pdf

Invest India (2021). Atmanirbhar Bharat Abhiyaan. https://www.investindia.gov.in/atmanirbhar-bharat-abhiyaan

Jha, S. K., & Kumar, A. (2020). Revitalizing MSME sector in India: Challenges and the road ahead. *Journal of Politics & Governance, 8*(5), 4-10.

Kumar, V. (2017). An Analysis of Growth of MSMEs in India and Their contribution in Employment and GDP of the Country. *International Journal of Interdisciplinary and Multidisciplinary Studies, 4*(2), 187-191.

Mani, R., & Varun, A. (2017). India's Food Processing Sector Poised for Growth. New Delhi: Global Agricultural Information Network.

Ministry of Housing and Urban Affairs (6th January 2020). PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi). Government of India. https://pmsvanidhi.mohua.gov.in/Default/ViewFile/?id=Guideline_English_Svanidhi.pdf&path=MiscFiles

Mishra, S. (25th April, 2020). Auto MSMEs battle to breathe amid lengthy lockdown . Auto.Com . https://auto.economictimes.indiatimes.com/news/auto-components/auto-msmes-battle-to-breathe-amid-lengthy-lockdown/75366869

Mittal, R. (05th June 2020). MSME Benefits under Aatma Nibhar Bharat Package. CAclubindia. https://www.caclubindia.com/articles/msme-benefits-under-aatma-nibhar-bharat-abhiyan-41793.asp

Mohan, V., & Ali, S. (2019). Challenges faced by Indian MSMEs in adoption of internet marketing and e-commerce. *Academy of Marketing Studies Journal, 23*(1), 1-9.

Mohanty, J. J. (2018). A Study on Micro, Small and Medium Enterprises (MSMEs) in India: Status and its Performance. *International Journal of Research and Scientific Innovation (IJRSI)*, *5,* 105-114.

OpIndia (13th May 2020). Atmanirbhar Bharat Abhiyan: FM Sitharaman announces economic relief packages, MSMEs to get collateral-free loans up to Rs 3 lakh crore. https://www.opindia.com/2020/05/atmanirbhar-bharat-abhiyan-sitharaman-economic-relief-packages-msmes-collateral-free-loan/

Press Information Bureau. (13th May 2020). Finance Minister announce measures for relief and credit support related to businesses, especially MSMEs to support Indian Economy's fight against COVID-19. *Government of India*.

PTI. (18th March 2020). Jewellery industry lose shine as corona scare grips people. The Economic Times. https://retail.economictimes.indiatimes.com/news/apparel-fashion/jewellery/jewellery-industry-lose-shine-as-corona-scare-grips-people/74687816

Roy, A., Patnaik, B. C. M., & Satpathy, I. (2020). Impact of Covid-19 crisis on Indian MSME sector: A study on remedial measures. *Eurasian Chemical Communications, 2*(9), 991-1000.

Sahoo, P., & Ashwani. (2020). COVID-19 and Indian economy: Impact on growth, manufacturing, trade and MSME sector. *Global Business Review, 21*(5), 1159-1183.

Salgar, R. (2017). Impact of Goods and Service Tax on MSMEs. *International Journal of Emerging Technologies and Innovative Research. 4* (8), 274-280.

Sarkari Yojana (13th May 2020).1st Economic Dose under Atmanirbhar Bharat Abhiyan. https://sarkariyojana.com/atmanirbhar-bharat-abhiyan/

Sattar, M. F., Khanum, S., Nawaz, A., Ashfaq, M. M., Khan, M. A., Jawad, M., & Ullah, W. (2020). Covid-19 global, pandemic impact on world economy. *Technium Soc. Sci. J., 11*, 165.

Shafi, M., Liu, J., & Ren, W. (2020). Impact of COVID-19 pandemic on micro, small, and medium-sized Enterprises operating in Pakistan. *Research in Globalization, 2*, 100018.

Tripathy, S., & Bisoyi, T. (2021). Detrimental impact of COVID-19 pandemic on micro, small and medium enterprises in India. *Jharkhand J. Dev. Manag. Stud, 19*, 8651-8660.

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Role of NBFCs in the Indian Economy: A Study with Reference to the Current Covid-19 Pandemic

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ABSTRACT

In a prospering economy like India, not only banks but also Non Banking FinancialCompanies (NBFCs) play a crucial and definite role in our financial sector. The recent coronavirus outbreak created a serious liquidity concern in our economy which is affecting our financial intermediaries. The economic slowdown due to the pandemic will affect the demand for loans which will further affect the NBFCs and the rising Non Performing Assets (NPAs) is also a major concern. Liquidity crisis is a serious obstacle for any financial institutions for its growth. In the present economic situation where the stock markets of the entire world are crushed and thereby the investors have started pulling out there money causing it a liquidity crisis, it is of immense importance to conduct a serious research study on NBFCs, which can be a measure for boosting up the liquidity crisis. Present paper aims at in-depth study and analysis of how the present situation impacted our NBFCs and the measures of central government in bettering its present condition which will boost the economy now and post Covid-19 period. Under this research work, a explorative study has been conducted to understand the role of NBFCs in our current pandemic situation such that to uplift the economy in the crisis. The major findings and conclusions for the research paper is that the special liquidity scheme for the NBFCs can be a booster for the economy to get rid of financial crisis due the Covid-19 pandemic and it is also quite certain that the sector can do better operations taking the help of the government initatives.

Keywords: *Liquidity; NBFCs; NPAs; Pandemic; Scheme*

INTRODUCTION

The entire world at this point of time is going through a massive crisis which was hardly faced earlier. The corona virus created pandemic have not only affected the whole economy but have also taken away the lifes of individuals to a great extent across the globe. The Covid-19 pandemic affected human beings physically and financially as the growth of the economy is at stag at these current juncture. The outbreak of the pandemic forced people to lose jobs and unemployment is also rising such that there is a declining growth in every sector. Supply chain is under stress and every small to large scale business is getting significantly affected due to this pandemic created lockdown. From farmers to daily wage earners, all are at risky situation, and the informal sectors are facing uncertainty as they do not know what will happen next in such a recession like situation. Liquidity crisis started taking place as the investors started pulling out their money, which resulted the global stock market to fall where India is not far behind. As the economic and the social wellbeing are correlated in a certain way in a country, one will effect the other and in a situation like this the pandemic is effecting the economic activities. The pandemic raised a situation where there are inadequate social investments, cash are not flowing in the economy and financial activities are degrading. The corona virus pandemic creating threat to human life forcing us to maintain social distancing which is the only short term remedy found until now. Due to the pandemic induced lockdown, several sectors have been hitted hardly to a large extent. Financial activities are also facing a major problem where lot of sectors are affected which are crucial for the development of our economy. A well balanced and robust financial sector is critical for activating and uplifting the economy and facilitating towards progress and economic growth. In an economy like us, the NBFCs do play a comprehensive role by accessing financial services to the needy and unbanked portion of the society. In the recent past scenario, the NBFCs have grown importance in our economy and thereby it is attracting a large number of investors owing them a customer friendly reputation. In away, the reason for importance of the NBFCs in our economy is because of providing accessible and affordable financial services to the economy in recent terms which is boosting the economy.

Over the years, the NBFCs have substantially contributed to the Indian economic growth by supplementing the effort of other different financial institutions of our country. They act as an intermediary between the investors and the savers as they play the crucial role in the direction of savings and investments in a wave of rapid industrial revolution. For a diverse and large economy like India, providing access to financial services to every individual is crucial for the development of our country. After the industrial revolution, therehas been a strong demand of credit and an increase in credit penetration that should continue to drive the growth of the economy, which was met by the NBFCs to a large extent. The major function of financial institutions like the NBFCs is to transfer the savings of surplus into deficit units and therefore they can have a crucial role for our country.NBFCs have also extended finance to Small and Medium Enterprises (SMEs) by providing a range of products according to their needs. The NBFCs have not only provided loan against property but they also offer various services to the MSMEs of our nation. Therefore, other than banks, the role of NBFC sector is also very crucial in a prospering country like India (Kubik, 2020). But, due to this pandemic created lockdown, our economy is in a major crisis where the NBFCs are also severally affected. As the collections of the NBFCs have become standstill at this situation, their primary cash flows have been disrupted and debt servicing has become a severe challenge for them. With minimal collections at this time, the NBFCs will have to depend upon back up credit source from banks and on their own cash reserves that they have generated previously. They have been facing a squeeze in liquidity position at this very moment which is challenging for the NBFCs (RBI, 2021). Looking at such crisis in the recent times at our economy, the Central Government of India have suggested measures for different sectors which is named as Atma Nirbhar Bharat Abhiyan Prakalpa or we call it as Self Reliance Scheme. Such remedial measures will help to revive the economy in a purposeful way and will give a much needed booster in the current liquidity crunch and crisis (Misra, 2020). The schemes will be effective in the long run as things have been redefined in a lucid manner as these measures looks like the probable solutions of the current economic problems. Business entities and different sectors which were facing a tough time at the pandemic period, can take advantage of these innovative schemes which in turn will boost the economy. Therefore, the schemes can be a relief to restart the economy and move forward from the crisis situation.

LITERATURE REVIEW

Many research works have been conducted so far considering different aspects of the NBFCs. Some of the existing and extensive review of literatures are shown below:

Balachandran (2006) studied about the NBFCs and have observed that in the financial markets, different financial products that are available, provide an effective credit and payment system and thus they facilitate the channelizing of funds from savers to investors in our nation. The researcher also pointed in the study that the growth of NBFCs in the year 1981 was 700 which increased to 40000 in the year 1995 and finally concluded that the deposits ofthe NBFCs are growing at an increasing rate than other financial institutions and thereby the NBFCs can play a crucial role in Indian financial system.

Mohan (2009) examined the contribution of financial inclusion to achieve the greater economic growth. The study also highlighted that India has a lower rank in financial depth and India's rural economy has shifted towards more commercialized sector. Therefore, it is very important to include the people in the folds of financial services. The study concluded that financial inclusion will help in further development of India's financial system and promotion of economic growth.

RBI Bulletin (2015), stated that the NBFC sector of our nation has shown a tremendous growth in recent years which are generically different from other public sector banks and shadow banks operating elsewhere around the globe. According to the report, it was also found out that the financial performance of our NBFCs are improving day by day and also they are emerging as an important source of financing credit to infrastructure sector and to micro, small and medium enterprises.

Kumar, July 1, 2020 b: The pandemic created lockdown has led to worsening conditions for NBFCs, especially that of the private sector and the low rated ones. The news report also studied that the several liquidity measures taken by the Reserve Bank of India have got a remedial impact on financial institutions and markets but the stress due to the pandemic was still there in certain areas. It also revealed that there is a need to ensure the flow of credit to the NBFC sector with certain credit backstop within the system.

Chhibber (2021) studied and observed that Indian NBFCs assumed critical importance in the financial system in last few years. The researcher found that the credit to MSMEs by the NBFCs grew at a rate of 12 percent year on year in June 2019 and the researcher also stated that mutual funds reduced the exposure of the NBFC sector very much in the year 2018. The study also highlighted that over the years various measures have been taken by the government of our country to create demand and thereby to generate liquidity in the market such that the banking sector of our nation lend further to the NBFC sector under different schemes.

Research gap

Based on the above extensive review of literature; it has been observed by the researcher that literature lacks any definite study regarding the role of NBFCs in economic development of the country under current situation and impact of current pandemic on NBFCs. Hence, a descriptive and explorative study has been considered by the researcher regarding the role of Non Banking Financial Companies (NBFCs) in the current pandemic period brize the research gap.

Objectives of the study

Following are the research objectives of the concerned research work as identified and decided by the researchers, based on the extensive review of the literature.

1. To study how the NBFCs have been affected in the current pandemic created nationwide lockdown in the economy.
2. To know how far the recent central government's measures will revive the NBFCs.
3. To study the implications and post effect of the crisis in the NBFCs.

METHODOLOGY

The current study is explorative and descriptive and in nature which is based on analysis of secondary sources of data to fulfil the above mentioned research objectives of the study. The secondary information that was used in the study was collected from various websites considering news reports and the present situation of the NBFCs of our country. Apart from the mentioned websites; various journals, research articles, newspapers and reports have also been used for the purpose of the study. Based on various information generated through secondary sources, the information has been clearly and conceptually analyzed by the researcher to understand how the NBFCs of our country have been affected due to the pandemic and its resulting lockdown. The researcher also focused on the self-reliant schemes taken by the central government of our country such that how those various innovative measures will help to combat the recent economic crisis in India and how far it can revive the NBFCs of our economy. Based on the extensive analysis and discussion of the study, conclusion has been drawn by the researcher such that how the smooth running of the NBFCs can be improved through the recent central government schemes or any other strategies that should be taken for the overall effectiveness of the industry and for the sustainability of the economy as a whole.

RESULTS AND DISCUSSION

Impact of Covid-19 Pandemic on Nationwide Non-Banking Financial Companies (NBFCs)

Due to the recent Covid-19 pandemic, every sector is getting affected creating a serious crisis in our country. Our economy is facing a tough time since they are having cash flow difficulties along with debt servicing problem. The economy is facing rescission where economic and financial activities are staged. Talking about our financial sector, not only banking sector but also the Non Banking Financial Companies (NBFCs) and Micro, Small and Medium Enterprises (MSMEs) and are facing serious problems in the pandemic period. Therefore, the impact on our NBFCs on account of the pandemic are analyzed below:

- The economy is facing liquidity crisis because of the pandemic induced lockdown and one of the severe affected section is the NBFC sector since they hardly have any cash in hand and majority of the NBFCs are surviving in daily cash collections. The revenue flow of the NBFCs is seriously affected because of the pandemic.

- Difficulties with the NBFCs are growing since they are facing financial problem where cash flows are at standstill in the current situation.The revenue streams of the NBFCs are setting up in the lockdown as they are facing severe difficulties. Liquidity crunch is faced by the NBFCs since it is difficult for the sector to raise capital from the market at the current pandemic situation.

- Due to low demand and loss of business opportunities, NBFCs are losing revenue and the revenue recovery rate is also slow. The debt servicing obligations has become a major problem for the NBFCs to run their business operations effectively.

- Delayed EMI payments on account of the pandemic will also increase the Non Performing Assets (NPAs) which is a major area of concern for the NBFCs right now. Moreover, money is not flowing from either of the demand or supply side and they hardly have cash to perform and continue their operations effectively.

- As per various rating agencies, NBFCs are likely to witness a spike of delinquencies across all asset classes which would be a challenge for them to sell their portfolio in future. Impact on NBFCs due to the pandemic have also created numerous issues for the private lenders and other non banking institutions in India.

- Highly unpredictable market created in the Indian economy due to the pandemic has impacted our NBFCs severally. Additionally, the benefits given to the commercial real estate sector in relaxation of meeting their loan amount given by the NBFCs is also a major issue for the NBFC sector. The moratorium provided to the borrowers acting as a pandemic relief affected the loan repayments such that the default borrowers will act as NPAs for the NBFCs.

- The Reserve Bank of India has extended moratorium on loans up to 31st August, 2020 which can temporarily meet the hardship of the borrowers but in the absence of any such moratorium on part of the Non Banking capital market borrowings, the repayments of loans coming up in the next term has become one of the primary challenges for the NBFCs.

- According to the estimates of the experts, the credit cost of NBFCs would increase by 280 bps and its NPAs by 190 bps in financial year 2021 just because of the Covid-19 pandemic. Since, markets are rolling down, most of the NBFCs have lost close to approximately 30% to 40% value in such a small period of time whose funds were considered as one of the most preferred stocks.

Several Measures taken by the Government of India and their Impact

The central government has taken following innovative initiatives to counter the impact on the Indian NBFCs that arises from the current pandemic all over the world. The government of India has introduced the Atma Nirbhar Abhiyan, on May 13, 2020, a comprehensive scheme that will be helpful in boosting the economy under current scenario in May 13, 2020. The main motive behind the launching of the scheme is to make the economy self dependent. The abhiyan is based on five principles, Economy, Demand, Infrastructure, Vibrant Demography and System. The total allotment under the scheme is 20 lakh crore, which is around 10% of of our country's GDP (Das, 2021). The importance given to NBFCs under the said scheme has shown that government has put special importance in bettering the NBFCs problems and prospects considering it a very serious issue in this pandemic situation.

• The Government launched "Special Liquidity Scheme" which are jointly for the Non Banking Financial Companies (NBFCs), Housing Finance Companies (HFCs) and Microfinance Institutions (MFIs) as they were finding difficult to raise money in the debt markets in the current pandemic situation. As per the self reliance scheme, Indian Government will provide a liquidity scheme of rupees 30,000 crore which will help to invest in both the primary and secondary market transactions and also in the investment grade debt paper of NBFCs, HFCs and MFIs. The scheme progressed well after its launch as because 37 proposals which includes amount of rupees 10,590 crores have been approved and also six applications searching for finance of rupees 783.5 crore were under process as on September 11, 2020 and the banks approved the purchase of portfolio of rupees 25505 crores as on July 01, 2020 (Kumar, 2020b).

• As per the scheme, supplement will be made to the Reserve Bank of India and several measures will be there to supplement liquidity which is very much needed in a crisis like situation caused due to the pandemic. The stimulus package will lunge forward to the stacked economic activity which will in turn help our Nation's NBFCs to revive. Because of the pandemic and its resultant weak economic activities, the schemes also helps to tighten the sectors underwriting standards, and there will also be lower disbursements just because of the increasing debt overdue for payment.

• The central government scheme will not only create confidence in the market for the NBFCs/ HFCs/ MFIs players but will also boost up liquidity in a greater scale that will in turn help the MSMEs to resume its operations quickly. As the relief scheme come as a package among the NBFCs, other sectors will get its revival measures for the better benefit of the economy.

• Under the Special Liquidity Scheme, the Government will fully guarantee the securities which will in turn help to provide support of liquidity for the NBFCs that will definitely instil confidence in the market. As per the scheme, it can also form a Special Purpose Vehicle (SPV) which may insert funds in the economy. Such measures will really boost to the NBFCs to get back into its feet in a comfortable way.

• Because of the pandemic, the emergency credit line was extended by the banking and the NBFC sectors to the MSME sector and other businesses that will help to cover up nearly 20 percent of the sectors outstanding credit. This will give a significant relief for the MSME sector, who are really in need of working capital along with cash. This measure will help the MSMEs to get back on track which is very much needed since it is one of the backbones of our economy and till 2nd October, 2020 more than 2.7 million individuals received over 1.32 lakh crore loans under the emergency credit line guarantee scheme by the banking and the NBFC sector (PTI, 2020).

• The scheme brings a crucial government intervention which will provide a booster dose in tackling the current economic slowdown which is recently much needed and that will regain the growth momentum to revive the economy. The innovative schemes laid down by the government will also improve the situation of credit availability at a lower competitive rates of interest for the borrowers.

• The Partial Credit Guarantee Scheme 2.0 taken by the Central Government is to allocate rupees 45,000 crore for the NBFCs that will precede the much needed capital creation and growth in our economy. It will boost up liquidity into the ecosystem of the NBFCs which in turn will help other sectors to continue operations which are staged in this lockdown period. It was also provided by the scheme that the first 20 percent loss will be borne by our Government (PTI, 2020).

• Nationwide NBFCs need liquidity to provide fresh lending to MSMEs and other individuals especially who are low on credit rating. Removal of such rating restrictions on the NBFCs will certainly help smaller and new NBFCs to raise debt from other various financial institutions in our country which will indeed generate capital creation in our economy.

• The existing “Partial Credit Guarantee Scheme" which was issued on mid December, 2019 that offered a extreme guarantee of up to 10 percent of the primary loss to the Public Sector Banks (PSBs) for purchasing pooled assets above worth up to rupees 1,00,000 crore or worth rated BBB+ from the NBFCs who are financially sound and that could have an extension to cover borrowings such as primary issuance of Bonds or Commercial Papers (CPs) of such organization where the first 20 percent of the loss will be borne by the Guarantor i.e., our Government (Sharma, 2020). Low rated NBFCs will get benefited a lot which can strike out the liquidity crisis that the economy is facing right now.

• The existing “Partial Credit Guarantee Scheme” also highlighted that the AA rated paper and below unrated paper that will be allowed for investment which is relevant for many financial institutions in our country. This scheme will provide liquidity of rupees 45,000 crores for low-rated NBFCs which were short of liquid cash because of the aversion of credit risk by investors in the midst of the economic crisis.

• The Non Banking Financial Institutions (NBFIs) which has been dealing with severe liquidity challenges since the repayments of loans by the borrowers have been lowered just because of the pandemic effected lockdown took place and the sector is going through a situation of liquidity crisis but the allotment of rupees 75,000 crore of the “Aatma Nirbhar Package” to the Non Banking Financial Institutions came as a life saving liquidity booster to them which can uplift the socio-economic livelihood in the economy.

• Since the conditions of our economy will take a bit time to get back to normality, the self reliant package will certainly provide a slightest of head start to our economy. The liquidity schemes will indeed go toward a long way in future to bring the economic situation back in track. The adequate measures will actually instill confidence between the financial institutions and the investors which will indeed support the major businesses that will actually need helping hands.

• The systematic focus to generate a larger market for the NBFCs via linkages of virtual market and local procurement will leap in the correct direction which is certainly critical as public attainment will give a huge boost up in the economy. Hence, the financial and regulatory measures offered by the Central Government will meet up the demand.

• Targeted Long Term Repo Operations (TLTRO) of rupees 50,000 crore will certainly be given under the scheme for investing in commercial papers, non convertible debentures and investment grade bonds of the NBFCs and MFIs (Kumar, 2020a). Such measures taken by the RBI will help in implementing cash liquidity in the market which is very much needed in a liquidity crisis situation due to the pandemic in our economy.

• The innovative self reliant schemes will give access to capital formation in the economy which will allow the smaller businesses and the NBFC sectors to accelerate manufacturing. The schemes will not only give access to capital formation but also the broader market can help the NBFCs to perform better in the tough phase. The timely measures taken by our government will definitely improve the NBFC sector as they were suffering from a significant liquidity stress and a larger business impact due to the Covid-19 outbreak. It was also observed that the collection efficiency, reflecting the repayment behaviour of the NBFC customers has improved since April 2020 with easing of lockdown restrictions and because of the various self reliant schemes.

CONCLUSION

The Covid-19 created lockdown and social distancing has been an obstacle in many sectors in our current socio-economic setup and it effected normal livelihood of individuals causing it a global crisis. Based on the extensive analysis, it was observed that the nationwide NBFCs got effected in the pandemic causing it a serious liquidity and financial crisis in the economy as the NBFC sector were facing severe liquidity problems. Because of these serious crises, "Atma Nirbhar Bharat Abhiyan Prakalpa" came as a booster dose to revive the sector and the economy as a whole such that liquidity will flow in the ecosystem and positive systematic changes will take place. The Government of our country has initiated several string measures to improve liquidity in the market which will set our economy rolling to a consequent boost in demand which will help the NBFCs to get them back in their feet and will respond to the crisis. The partial credit guarantee scheme taken on the edge of the pandemic will motivate lenders to look at the NBFC sector favourably and a large section of enterprises can reep the advantages of the financing options and improved credit lines. The stimulus package initiated because of the pandemic will help to generate a effort to the new and low rated NBFCs since support was given towards them but fundamentals of the economy still remains a concern. Support given to the NBFCs will certainly play a major role in giving credit to the rural corners and remote areas of our economy which will in turn restore good credit channels. It can be concluded that the schemes will give social upliftment in the economy if utilised judiciously by the NBFC sector such that it will definitely concur this tough phase and compensate its losses that will sustain well in future.

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REFERENCES

Balachandran, V. (2006). Financial performance of non-banking financial companies. *Southern Economics, 12*, 34-42.

Chhibber, A. (2021). *Why is India's Financial Sector in Such Trouble: A Whodunnit*? (No. 2021-09).

Das, S. (6th September, 2021). Liquidity position of NBFC sector is improving. *Economic Times*. https://economictimes.indiatimes.com/industry/banking/finance/banking/liquidity-position-of-nbfc-sector-is-improving-jm-financial-md/articleshow/85985261.cms

Kubik, O. (4th June, 2020). How NBFCs Can Play A Pivotal Role In Economic Recovery In India. *Business World*. https://www.businessworld.in/article/How-NBFCs-Can-Play-A-Pivotal-Role-In-Economic-Recovery-In-India/04-06-2020-194267/

Kumar, C. (17th April, 2020a). TLTRO 2.0: RBI announces Rs 50,000 crore for NBFCs, MFIs. *Business Today*.In. https://www.businesstoday.in/latest/economy-politics/story/tltro-20-rbi-announces-rs-50000-crore-for-nbfcs-mfis-255823-2020-04-17

Kumar, C. (1st July, 2020b). RBI outlines norms for special liquidity scheme for NBFCs, HFCs. *Business Today*.In. https://www.businesstoday.in/industry/infra/story/rbi-outlines-conditions-for-special-liquidity-schemes-for-nbfcs-hfcs-262786-2020-07-01

Misra, U. (14th May, 2020). PM Modi's Atmanirbhar Bharat Abhiyan economic package. *Indian Express.* https://indianexpress.com/article/explained/narendra-modi-coronavirus-economic-package-india-self-reliance-6406939/

Mohan, R. (2009). Financial Inclusion in India: Is the Glass Half Empty or Three Quarters Full?.

PTI. (13th May, 2020). Finance Minister announces Rs 30k cr support for NBFCs, HFCs, MFIs. *Economic*

Times. https://economictimes.indiatimes.com/small-biz/sme-sector/finance-minister-announces-rs-30k-cr-support-for-nbfcs-hfcs-mfis/articleshow/75718508.cms?from=mdr

RBI (5th May, 2021). Resolution Framework 2.0 Resolution of Covid-19 stress of Individuals and Small Businesses. https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=12085&Mode=0

RBI Bulletin (2015).NBFCs: Medium Term Prospects. Retrived from https://rbidocs.rbi.org.in/rdocs/Speeches/PDFs/NBFC211220152C4186C38B5042D18B26E79C0EE258D3.PDF

Sharma, A. (16th December, 2020). The Rs 3 lakh crore Emergency Credit Line Guarantee Scheme: Opportunities and gaps. *Economic Times*. https://economictimes.indiatimes.com/small-biz/sme-sector/the-rs-3-lakh-crore-emergency-credit-line-guarantee-scheme-opportunities-and-gaps/articleshow/79753604.cms?from=mdr

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Does Covid-19 Have any Impact on the Performance of Multi-Cap Funds in India? A Study with Reference to HDFC Equity Fund and Kotak Standard Multi-Cap Fund

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ABSTRACT

The stupendous growth of Assets under Management (AUM) of Indian Mutual Fund Industry is evident from the fact that from meagre Rs. 25 crores in 1964 the AUM of the industry crossed Rs. 23.93 lakh crores in April 2020. Multi-cap funds tend to invest in stocks of companies across the stock market irrespective of sector and size. As such, these funds provide the much-needed diversification. In a direct plan, the investor decides to invest directly in mutual funds without routing the investment through any distributor or agent. The direct plan has a lower expense ratio than a regular plan because of the absence of intermediary commission which leads to a higher return. However, the direct plan makes sense for knowledgeable, experienced and do-it-yourself (DIY) investors. Since the outbreak of COVID-19 in India, the global contagious disease caused by coronavirus in January 2020, the stock markets have experienced an extensive crisis with severe dampening effects in the entire global scenario. This has affected the Indian Mutual Fund Industry as well. In this backdrop, the present research paper endeavours to examine the impact of COVID-19 on the performance of direct plans of two open-ended Multi-cap funds [HDFC Equity Fund (HEF) and Kotak Standard Multi-cap Fund (KSMF)] based on certain parameters. This secondary data-based study covers 5-year period (2015-2020). The criterion for selecting the funds was net assets above Rs.15,000 crores as on 31.03.2020. Results reveal that the funds and the benchmark (Nifty 500 TRI) experienced reduced returns with increased risks and reduced risk-adjusted returns due to pandemic COVID-19. However, KSMF outperformed the benchmark while HEF underperformed the benchmark both before and after COVID-19. Further, HEF remained aggressive with inefficient fund management whereas KSMF was defensive with superior stock-picking by fund managers. However, both the funds remained adequately diversified before and after COVID-19.

Keywords: *AUM; COVID-19; Multi-cap fund; Mutual Fund*

INTRODUCTION

In times of enhancing need and mobilization of domestic savings in lucrative investments, the importance of mutual funds has increased significantly. The mutual fund acts as a financial intermediary by pooling up the savings of small and large income-earners and helps these investors in deriving the benefits of capital market advancement. This intermediation between the suppliers and customers of financial resources gains importance globally on account of attractive returns with reduced risks. Thus, in the era of globalization, the involvement of mutual funds has become crucial to serving not only financial intermediary but also as pace colonizers in the mobilization of investible funds through financial markets.

The Mutual Fund industry in the Indian economy has been developing constantly since its inception. Its Assets under Management (AUM) has been experiencing a radical increase from only Rs.25 crores in 1964 to Rs. 23.93 lakh crores till April 2020. But this growth has been dampened since January 2020 by the sudden outbreak of COVID 19, the contaminated disease of coronavirus, which originated from China. The stock markets have been experiencing a severe dampening effect both in India and in other parts of the globe. BSE SENSEX and NIFTY50 (the two key benchmark indices of Indian Stock market) slumped down by around 16000 points and 4500 base points respectively within February–March 2020. This also affected the Indian Mutual Fund industry (AMFI, 2022).

The number of New Fund Offers (NFOs) filed by Mutual Fund companies with the Securities and Exchange Board of India (SEBI) decreased drastically from 11 NFOs in January 2020 to just Nil in April 2020. Moreover, among the Debt funds, Franklin Templeton had suddenly shut down its 6 schemes, leading to an unknown dark fortune to its investors.

Multi-Cap funds create a portfolio with a combination of large-cap, mid-cap and small-cap stocks with a minimum investment of 65% of total assets in equity and equity-related instruments. Alike other mutual fund schemes, the Multi-Cap funds also faced such terrible trash due to this pandemic outbreak of coronavirus (SEBI, 2017).

Objectives of the Study

The main objectives of the study are:

a) To analyze the return of the chosen open-ended multi-cap funds in relation to the benchmark both before and after the coronavirus outbreak;

b) To examine the risk associated with investing in the chosen funds both before and after COVID-19;

c) To look at the risk-adjusted return of the chosen funds both before and after the coronavirus outbreak;

d) To observe the aggressiveness of the funds during pre-COVID and post-COVID period;

e) To measure the stock-picking ability of the fund managers of the chosen funds both before and after COVID-19;

f) To understand the extent of diversification of the select funds pre-COVID and post-COVID period.

LITERATURE REVIEW

Amihud and Goyenko (2013) observed that lower R2 or higher eccentric risk in relation to total risk examines excellent fund management. However, lagged R2 holds substantial negative predictive coefficient in calculating alpha or Information ratios. Karrupasamy and Vanaja (2014) concluded that most of the public sector schemes outperformed the benchmark index and the diversified schemes outperformed the performance indices. Jagric *et al.* (2015) applied several tests to analyze the performance of mutual funds. Their analysis depicted similar ranking of performance in both Sharpe and Treynor ratios which implies thatthe chosen funds were adequately diversified. Shukla (2015) selected three mutual fund schemes from five categories of mutual funds in terms of various parameters such as risk, return and nature of funds. She examined and stated that Mid-Cap and Small-Cap mutual funds outperform the market and the overall fund performance showed a positive mark from 2012 to 2014. Bhagyashree and Kishori (2016) analyzed the performance of thirty mutual fund schemes for five years. They stated that Tata Equity Opportunity Fund provided maximum return while Reliance Growth Fund generated minimum return. Tata Equity Opportunities Fund, HDFC Large Cap Equity Fund and Franklin India Flexi Cap Fund were the top three mutual funds in terms of Sharpe ratio. Soni (2017) examined the returns of several asset classes and correlated them with their risks and determined the positive association between returns and risks in all asset classes. Pandow (2017) focused on the growth and development of mutual funds in India. He mentioned that lack of product differentiation, ineffective communication with customers, low penetration ratio, lack of retail investor participation are the major challenges faced by Indian Mutual Fund sector. Kumar (2020a) opined that mutual fund investors should choose three or four equity funds with good long-term track records and invest steadily through SIPs, and not bother about market crashes. Further, the only way to use the combination of great returns and great volatility is to keep investing continuously, regularly and steadily, without interruption.

METHODOLOGY

The present study has been conducted based on secondary sources of information using several journals, articles, books, etc. The study is conducted using the official websites of Securities and Exchange Board of India (SEBI), Association of Mutual Funds in India (AMFI), Bombay Stock Exchange, etc.

This analysis on the performance of open-ended Multi-cap funds has been conducted in two stages for a five-year study period [First Stage, i.e., 31.12.2014 – 31.12.2019 (pre-COVID) and Second Stage, i.e., 30.04.2015 – 31.04.2020 (post-COVID)]. Two open-ended Multi-cap Mutual Fund schemes, namely, HDFC Equity Fund (HEF) and Kotak Standard Multi-cap Fund (KSMF) have been selected among thirty-three funds that meet the criteria bearing net assets above Rs. 15,000 crores (as on 31.03.2020). The 'Direct Plan' under 'Growth Option' for these above-mentioned Asset Management Companies (AMCs) has been chosen for this analysis. NIFTY 500 TRI has been considered as the common benchmark index. The risk-free return of 7.10% has been taken for computing the risk-adjusted return of the chosen funds using the Sharpe ratio. This is the rate offered by the Public Provident Fund (PPF) scheme of the Government of India since April 2020. Compound Annual Growth Rate (CAGR) has been computed to examine the overall return of the chosen funds for the last five years. Standard Deviation and Beta values have also been computed to explore the total risk and aggressiveness of the funds respectively. Not only that, Alpha values and R-Squared values have also been computed to analyze the skill of the fund managers in choosing funds and the extent of diversification of the funds respectively.

RESULTS AND DISCUSSION

Assets managed by the Indian mutual fund industry has decreased from Rs. 28.29 trillion in February 2020 to Rs. 24.71 trillion in March 2020 and further to Rs. 23.53 trillion in April 2020. The proportionate share of equity-oriented schemes is now 38.8% of the industry assets in April 2020, down from 42.1% in February 2020 and 39.7% in March 2020. Individual investors now hold a lower share of industry assets, i.e. 52.1% in April 2020, compared with 52.7% in February 2020 and 52.2% in March 2020 (www.amfiindia.com).

Multi-Cap funds are preferred mostly by potential investors to gain significant flexibility in terms of returns and risks. These diversified equity funds invest in stocks of different companies with varied market capitalizations, combining large-cap, mid-cap and small-cap stocks. But these funds have also been experiencing serious dampening effects of coronavirus since the last few months, when COVID-19 first outburst in India in January 2020, which originated from China.

Compound Annual Growth Rate (CAGR):

The formula for computing CAGR is given below:

CAGR = (End value of an investment / beginning value of an investment) 1/n – 1

where n = time horizon, i.e., number of years, months, days, etc.

CAGR of the funds and the benchmark index are presented in Table 1.

Table 1: CAGR of the fund and the benchmark (in %)

	Fund & benchmark	1Y		3Y		5Y	
		Pre COVID	Post COVID	Pre COVID	Post COVID	Pre COVID	Post COVID
CAGR	KSMF	13.34	(-) 13.83	15.54	1.46	12.17	7.70
		O	O	O	O	O	O
	HEF	7.43	(-) 22.47	13.03	(-) 1.86	8.37	3.28
		U	U	U	U	U	U
	NIFTY 500 TRI	8.97	(-) 15.97	13.65	0.42	9.11	4.77

Source: Computed by researchers

U = underperformance; O = outperformance

Table 1 depicts that the coronavirus outbreak created a huge adverse impact in returns of both the funds and the benchmark index. But KSMF outperformed the benchmark (NIFTY 500 TRI) throughout the Pre and Post COVID outbreak scenario. However, HEF underperformed the benchmark index during the entire study period.

Standard Deviation

This measurement of volatility in mutual fund prices is often used by financiers through comparison between the past prices with the current. Higher the standard deviation, the more discrete the return from an investment with increased riskiness. Table 2 exhibits standard deviation of the funds and that of the benchmark index.

Table 2: Risk of the Fund and the Benchmark (in%)

Fund & benchmark	1Y		3Y		5Y	
	Pre COVID	Post COVID	Pre COVID	Post COVID	Pre COVID	Post COVID
KSMF	12.15	29.22	12.46	20.02	13.49	18.19
	U	O	O	O	O	O
HEF	14.92	30.52	15.12	22.43	16.39	20.92
	U	U	U	U	U	U
NIFTY 500 TRI	11.62	29.85	12.97	20.83	13.72	18.62

Source: Computed by researchers

Apart from reduced returns, this outburst of deadly contagious disease also created a gigantic upsurge in the riskiness of investments. The total risk of the funds and that of the benchmark index increased significantly during the post-COVID period. KSMF outperformed the benchmark index during the post-COVID period. But pre-COVID period figures showed that KSMF outperformed the benchmark index during the 3-year and 5-year period but underperformed the benchmark in the 1 year. On the contrary, HEF underperformed the benchmark index throughout the study period (both pre-COVID and post-COVID).

Sharpe Ratio

Sharpe ratio measures the risk-adjusted performance of a particular investment. The higher an investment's Sharpe ratio, the better its risk-adjusted performance is.

This ratio, developed by William Forsyth Sharpe, examines the return for an investment in comparison to the risk associated with it. It is the extra return from a mutual fund over the risk-free return. It can be computed using the following formula:

Sharpe ratio = (Ri – Rf) / SDi

where Ri is the return from a particular investment, Rf is the risk-free return and SDi is the total risk associated with the particular investment.

Table 3 showsthe risk-adjusted return of the fund and the benchmark.

Table 3: Risk-adjusted Return of the Fund and the Benchmark

Fund & benchmark	1Y		3Y		5Y	
	Pre COVID	Post COVID	Pre COVID	Post COVID	Pre COVID	Post COVID
KSMF	0.514	(-)0.716	0.677	(-)0.282	0.376	0.033
	O	O	O	O	O	O
HEF	0.022	(-)0.969	0.392	(-)0.400	0.078	(-)0.182
	U	U	U	U	U	U
NIFTY 500 TRI	0.161	(-)0.773	0.505	(-)0.321	0.147	(-)0.125

Source: Computed by researchers

Reduced risk-adjusted returns were another highlighting effect of the pandemic coronavirus outbreak. Within a few months of the outbreak, due to constant fluctuations of returns with spontaneously increased risks, risk-adjusted returns slumped down to even negativity; signifying that it's safer to keep money at PPF (risk-free investment) rather than investing in Multi-Cap mutual funds. It is observed that KSMF outperformed the benchmark index and HEF underperformed the benchmark throughout the study period (both pre-COVID and post-COVID). The benchmark index and HEF exhibited negative Sharpe Ratio during the entire post-COVID period whereas KSMF had positive Sharpe Ratio in 5-year during the post-COVID period. However, both the funds and the benchmark outperformed the risk-free return during the entire pre-COVID period.

Beta

It measures the sensitivity of a mutual fund scheme in relation to market movements. It can be computed by dividing the covariance of excess returns from a mutual fund and excess returns from the benchmark index by the variance of excess returns of the benchmark index above the risk-free return. Beta > 1 implies that the fund is aggressive in relation to the benchmark while Beta < 1 signifies that the fund is defensive or conservative with respect to the benchmark index.

Alpha

It determines the efficiency of the fund managers in choosing quality stocks for investment. Positive Alpha denotes that the fund managers are successful in picking quality stocks.

Alpha is a risk-return indicator that can help you to judge the fund's performance, and measures performance on a risk-adjusted basis. It is often considered to represent the value that a portfolio manager adds or subtracts from a fund portfolio's return. A positive alpha means the fund has outperformed its benchmark index (Kumar, 2020b).

R-Squared (RSQ)

This examines the extent of diversification of mutual fund schemes. R-squared value of more than 0.6 indicates excellent diversification of funds. The value of RSQ ranges between 0 and 1. There exists an inverse relationship between RSQ and unsystematic risk. The higher the RSQ the lower will be the unsystematic risk.

Table 4 presents values of beta, alpha, and RSQ.

Table 4: Beta, Alpha, and RSQ of the Funds

Fund & benchmark		1Y		3Y		5Y	
		Pre COVID	Post COVID	Pre COVID	Post COVID	Pre COVID	Post COVID
	KSMF	1.029	0.974	0.938	0.952	0.963	0.966
		A	D	D	D	D	D
	HEF	1.198	1.010	1.085	1.041	1.124	1.085
		A	A	A	A	A	A
ALPHA	**KSMF**	0.313	0.168	0.204	0.084	0.259	0.244
	HEF	(-) 0.237	(-) 0.628	(-) 0.118	(-) 0.171	(-) 0.125	(-) 0.127
RSQ	**KSMF**	0.9692	0.9890	0.9529	0.9809	0.9584	0.9769
	HEF	0.8696	0.9763	0.8663	0.9353	0.8853	0.9323

Source: Computed by researchers
A = Aggressive mutual fund, D = Defensive mutual fund

Though the coronavirus outburst immensely worsened the performance of Multi-cap funds in terms of returns, risks, and risk-adjusted returns, this has not affected much to the nature of the funds, stock-picking ability of the funds, and the extent of diversification.

A fund that remained aggressive (HEF) in the pre-covid period continued to be so even after the COVID-19 outbreak. KSMF remained defensive during the entire post-covid period whereas it remained aggressive in the 1-year period before the coronavirus outbreak.

It is noticed that KSMF generated positive alpha values during the entire study period (both pre and post covid) though the alpha value of the post-covid period was less than the alpha value of the pre-covid corresponding period. It implies that the fund managers of KSMF were successful in picking quality stocks. On the other hand, HEF exhibited negative alpha values during the entire study period (both pre and post covid). It signifies that the fund managers of HEF were not successful in picking quality stocks.

Further,it is observed from RSQ values that both the funds were well diversified both before and after the coronavirus outbreak. It implies that the funds succeeded in deducing unsystematic risk component to a great extent.

CONCLUSION

The whole world started following a new pace since December 2019 due to spread of contagious disease of coronavirus. This contagious disease first outburst in India in January 2020. To mitigate the spread of such deadly disease, the Government of India announced lockdowns and several strict rules like social distancing. This had also affected the capital market as well as the mutual fund industry. The market fall was like a financial cyclone that waved away the faith and stability despite miscellaneous liquidity measures taken by the Central Government. The markets were worried on account of lack of clarity in near future. This led to massive fluctuations in the markets. With the sudden shut down of six debt mutual fund schemes by Franklin Templeton AMC, the investors' fear mounted again with increased lack of confidence about the way forward.

The present study analyzed that the Multi-cap funds experienced tremendous back flush of returns with increased risks. But this pandemic COVID-19 failed to change the nature of the funds and the stock-picking ability of the fund managers, as well as the extent of diversification of such funds. Throughout the entire five years (both pre and post covid), KSMF outperformed HEF in terms of CAGR, risk, risk-adjusted return, stock-picking ability while remaining defensive most of the times.

Indian economy in general and Indian mutual fund industry in particular are resilient enough to rebound from this COVID-19 hit, just as soon as the fight against the virus is won.

Limitations of the study

The present study suffers from certain limitations which are as follows:

(i) The study focuses on analyzing performances using traditional measures only.

(ii) The sample size taken for this study is very small.

(iii) The analysis is fully based on secondary sources of information where limitations are usual.

(iv) Only five years' data have been considered for this study.

(v) The effect of brokerages, exit load and taxes are not considered here.

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REFERENCES

Amihud, Y., & Goyenko, R. (2013). Mutual fund's R 2 as predictor of performance. *The Review of Financial Studies, 26*(3), 667-694. https://doi.org/10.1093/rfs/hhs182

Arora, R., & Raman, T. V. (2020). A study on performance evaluation of equity mutual funds schemes in India. *International Journal of Financial Engineering, 7*(02), 2050017. http://dx.doi.org/10.1142/S2424786320500176

Association of Mutual Funds in India (2022) Indian Mutual Fund Industry’s Average Assets Under Management (AAUM) stood at ₹ 37.70 Lakh Crore (INR 37.70 trillion). https://www.amfiindia.com/indian-mutual

Association of Mutual Fund in India (AMFI) (2020). Industry Trades (2022). https://www.amfiindia.com/Themes/Theme1/downloads/home/Industry-Trends.pdf,

Jagric, T., Podobnik, B., Strasek, S., & Jagric, V. (2015). Risk-adjusted performance of mutual funds: some tests. *South-Eastern Europe Journal of Economics, 5*(2).

Karrupasamy, R., & Vanaja, V. (2014). Performance evaluation of selected category of public sector mutual fund schemes in India. *International Research Journal of Business and Management, 1*, 1-9.

Kumar, D. (2020a). The futility of market timing. https://www.valueresearchonline.com/stories/48067/the-futility-of-market-timing/

Kumar, S. (2020b). Key steps to get the right mix of mutual fund. https://www.dnaindia.com/business/

report-key-steps-to-get-the-right-mix-of-mutual-fund-2425536.

Pandow, B.A. (2017). Performance of Mutual Funds in India. *International Journal of Research in IT, Management and Engineering, 7*(1), 14-23. https://www.doi.org/10.2139/ssrn.2925049

Securities and Exchange Board of India. (2017). *Categorization and Rationalization of Mutual Fund schemes*. https://www.sebi.gov.in/legal/circulars/oct-2017/categorization-and-rationalization-of-mutual-fund-schemes_36199.html

Shukla, S. (2015). Comparative Performance Evaluation of Selected Mutual Funds. *International Journal of Science Technology & Management, 4*(2), 140-149. http://dx.doi.org/10.18535/afmj/v2i9.02

Soni, R. (2017). Designing a portfolio based on risk and return of various asset classes. *International Journal of Economics and Finance, 9*(2), 142-147. https://www.doi.org/10.5539/ijef.v9n2p142

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Strategies for Survival of Indian Business Post Lockdown with Special Reference to MSMEs

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ABSTRACT

The Covid-19 pandemic has adversely affected the business environment throughout the world since the beginning of 2020. Almost all the economies in the world is experiencing the heat of shutdown to tackle this pandemic, the extent and magnitude of impact vary from country to country, sector to sector and across different companies within the sector. It is needless to mention the significance of Micro, Small and Medium Enterprises (MSMEs) in Indian Economy and due to the nationwide lockdown this sector has borne the maximum impact. It is the need of the hour to construct a framework which will help these enterprises to re-start their operations post lockdown. This present study attempts to identify the operational problems faced by the MSMEs and to provide strategies for survival of Micro and Small enterprises post lockdown.

Keywords: *Covid-19; Lock down; Slow down; MSMEs; Challeneges; C-5 Model and Survival Strategies.*

INTRODUCTION

Almost all the sectors of Indian economy are under the evil waves of the pandemic. The Micro, Small and Medium Enterprises (MSMEs) sector is one of the worst affected sectors in India. The Indian MSME sector is the second largest in the world after China in terms of gross contribution to GDP, and is considered as the backbone of the Indian Economy. It plays a vital role in terms of catering local demands, exporting quality products throughout the globe and generating employment opportunities for a vast segment of the society. The present position of MSME will be very unimaginable and unpredictable after this epidemic.

As per the published information of the Ministry of Micro, Small and Medium enterprises, there are around 63.4 million units throughout the country; it contributes around 6.11% of the manufacturing GDP and 24.63% of the GDP from service activities as well as 33.4% of India's manufacturing output (Goyal, 2020). Uttar Pradesh homes for the largest number of estimated MSME with a share of 14.20% of total MSME's in the country. West Bengal comes as a close second with a share of 14%, followed by Tamil Nadu and Maharashtra at 8% (Government of India, 2020) have been able to provide employment to around 120 million persons throughout the geographical expansion of the country. Nearly 20% of the MSMEs are based in rural areas, indicating the deployment of significant rural workforce (RBI, 2020). This exhibits the importance of the sector in promoting sustainable and inclusive development as well as generating large scale employment, especially in the rural areas.

In spite of the major contribution of MSMEs in Indian economy, it is experiencing a major slow down in its operations, now-a-days due to pandemic and nation wide lockdown. The Indian economy is facing the same since the beginning of the year 2020. The rapid spread of the Covid-19 virus from the month of March had added more misery to this sector.

According to a survey conducted by Kotak Institutional Equities, "only 7% of the small and medium enterprises will be able to survive for more than three months with their cash in hand if their business remains closed". The declining revenue and capacity utilization of this sector had increased the struggle for survival in this Covid-19 crisis.

LITERATURE REVIEW

Prasad and Mondal (2020) tried to overview the probable impact of Covid-19 on Indian MSME sector. The concluding remarks of this article reveal that there will be a big shock for new entrepreneur and start up, they might shut down and some small businesses will be vanished. Jha and Kimar (2020) in their research article provides a razor-sharp analysis of the recent announcement of the Finance Minister regarding revival of the Micro, Small and Medium Enterprises (MSME sector) in the wake of the Covid-19 crisis. Sahoo and Ashwani (2020) in their study aims to make an assessment of Covid-19 on Indian economy by analyzing its impact on growth, manufacturing, trade and micro, small and medium enterprises (MSME) sector, and highlights key policy measures to control the possible fallout in the economy.

Kumar (2020) in his article focused on the macroeconomic consequences of a lockdown and its policy implications in context of Indian economy. Mohan and Ali (2019) in their study give an insight into the major opportunities or determinants and challenges faced by Indian MSMEs in marketing their products through the E - platform. Major findings of the study revealed that there is a lack of awareness among the MSME workers and skill is the largest challenge in the adaptation of E-platform based marketing. Mohanty (2018) in his research work, conducted to analyze the operational performance of MSME sector in the Indian economy for several years, major opportunities and challenges faced by this sector. Under this study, the researcher proposed various recommendations for the improvement of this sector.

Research objectives

Based on the extensive review of available literature, it has been indentified that there is an utmost need for not only to identify the present and emerging problems faced by MSMEs but also to provide for a suitable conceptual framework or model, which will definitely help the internal management of this sector to survive and boost its operations in post lockdown period. On the basis of the research gap the following research objectives are formulated:

1. To identify the problems faced by the MSMEs sector due to the nationwide lockdown for the spread of Covid-19 pandemic.

2. To propose a model which will help the internal management of the MSMEs sector to survive and improve their performance in the post lockdown period.

METHODOLOGY

The study is based on descriptive analysis of available literature collected from various research works, news reports and published information from various government websites. At first, the researcher has collected relevant information and data regarding the impact of Covid-19 on MSME sector and the policy measures adopted by the Indian government as well as foreign governments. Then the available information has been clearly and conceptually analyzed to conclude on the problems faced by MSMEs in this crisis.

After analyzing the various challenges faced by the MSMEs, a conceptual Model, namely the 5-C (Cash Management, Cost Management, Choosing Technology, Create Local Supply chain and Customer Management) model has been used in the present study to identify the ways to help the MSMEs sector to survive and sustain in the post lockdown period. The model proposed is based on the concept of practical application of theoretical knowledge for the internal management of the MSMEs.

RESULTS AND DISCUSSION

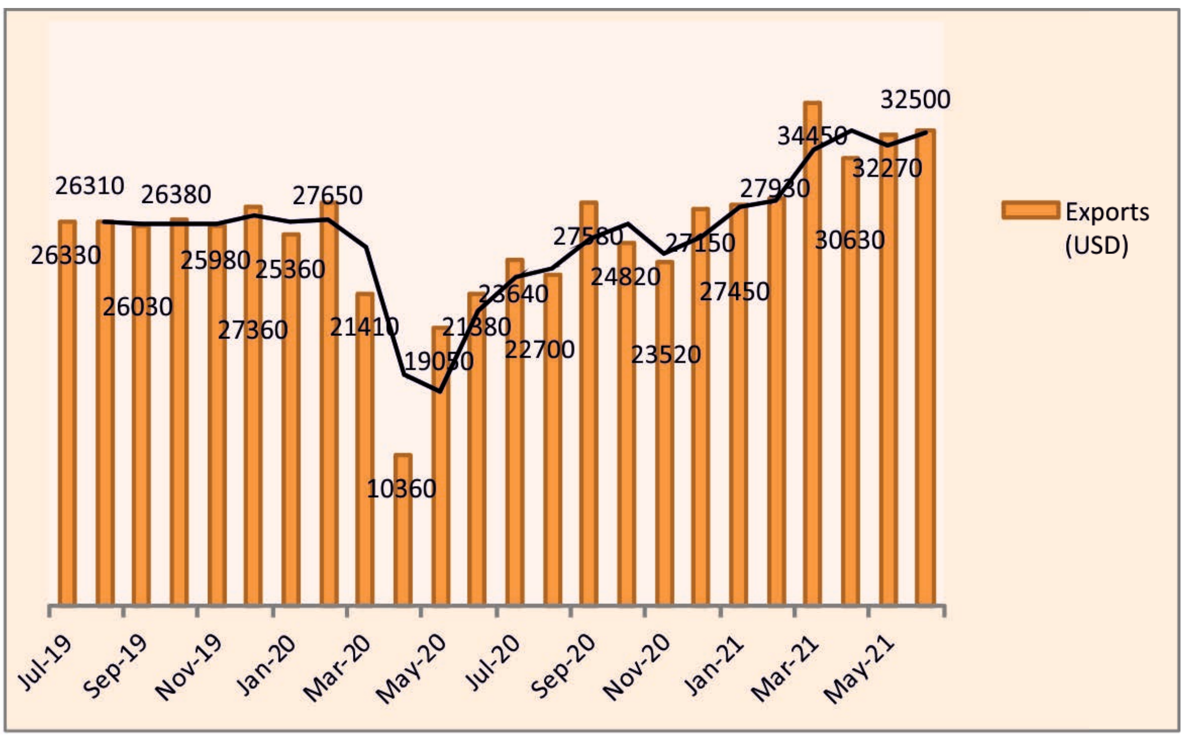
Problems faced by MSMEs due to nationwide lockdown

It is of no doubt that the Indian economy, which is already sputtering since the beginning of this year, growing at one of the lowest rates in the last six years. Apart from the continuing economic slowdown, a new set of economic challenges unleashed by this pandemic, leaving many sectors in tatters. The COVID-19 pandemic has led to massive disruptions to economic activities across countries, and India is no exception. The pandemic will continue to disrupt the Global Value Chains (GVCs) and the Global Supply Chains (GSCs), domestic production network, trade, services and MSMEs thereby affecting overall growth and welfare.

The complete lockdown in the earlier days and currently the ongoing partial lockdowns have both demand-side and supply-side effects on the Indian economy. The restrictions in movement of goods, services and personnel have severely affected the production capacity of MSMEs. Decrease in demand of goods has led to a plunge in economic activities and overall output growth leads to employment loss. This has led to a reduction in the economy's disposable income, savings and giving rise to unwanted uncertainty.

The COVID-19 pandemic has adversely impacted almost all sectors of Indian economy except few, but it had worst hampered Micro, Small and Medium Enterprises (MSMEs) of India the most. The havoc causality of MSME sector is seen from all available anecdotal evidences as hundreds of thousands of migrant workers stranded across the country.

The prevailing pandemic affected major countries, namely, the US, China, Italy, Spain, Germany, South Korea, France, the UK, are considered to be the major hubs of Global Value Chains (GVCs) and global trade. India is experiencing a severe decline in exports of gems and jewelry, garments, tea, seafood, etc., relating to the MSME sectors, which are mainly exported to these countries resulting in the loss of millions of jobs. Moreover, the scenario has brought disruptions in the global supply chains and production networks among and across several sectors, which have already affected India's manufacturing, trade, employment and growth, mostly to the MSMEs.



Source: https://commerce.gov.in/trade-statistics/

Figure 1: Indian Export (in USD)

The fallout of the pandemic on Indian trade and commerce is visible as both exports and imports (year-on-year basis) fell by 30 per cent in March 2020, compared to March 2019. The small and medium enterprises (SMEs) in India, which is considered to be captivating the second largest work force after agriculture, are not only strongly linked to exports but also heavily depend on imports for their productions.

The pan India lockdown has severely affected smaller firms from both domestic demand and supply sides. It is anticipated that if the overall situation prolongs for a few more months, many small and tiny firms may cease to exist if they are not financially supported by the government in this extremely difficult phase. MSMEs engaged in manufacturing relating to exports are suffering major losses due to shutdown of factories, collapse of global demand, cancellations of orders, delays in shipments, etc.

MSMEs with existing exports commitment should be facilitated to continue their works to deliver orders on time. Therefore, MSMEs, in exports should be supported with interest free working capital to cover their wage and administrative cost like rent, utilities and logistics. It is the time to support this sector in order to revive their existing production establishment and the manpower.

Some of the major export oriented MSME sectors which are associated with the production and selling garments, leather, footwear, marine products, gems and jewellery, apparel, etc. is experiencing a downfall in global demand due to this lockdown. Table 1 and figure 2 below depicts the downfall of exports of selected major commodities related to the MSME sector.

There are many operational problems experienced by MSMEs due to this pan India lockdown. One of the most serious and biggest hurdles is arranging finance. As most of the MSMEs falls under micro category (near about 99.5%), and most of them are not registered anywhere, which explains why the government's efforts to push liquidity towards this sector have a limited impact. Since this sector is largely financed by informal sources, MSMEs will have to face a severe cash crunch, that is, severe shortage of working capital in near future.

As per estimation, India's MSME sector can expect a decline of 2.1 percent from the normal operating level and this loss can increase to 5.7 per cent in the lockdown period. The loss is more skewed in manufacturing sector to the tune of 8.3 per cent. MSMEs dealing with trade and other service activities can bear the decline in GVA in the range of 1.4–4.5 per cent (Sahoo & Ashwani, 2020)

The lockdown affected these small firms from both domestic demand and supply side. The sudden collapse of trade also affects the MSMEs sector. In fact, if the situation gets worse and prolongs for a few months, many small and tiny firms may cease to exist as it would be difficult for them to survive and hold onto their men and machines.

MSMEs were already struggling in terms of declining revenues and capacity utilization, the total lockdown has raised a question mark on their existence because these are not firms that have too much cash to wait out the crisis. That explains the job losses. According to a recent survey he did for "small and medium" firms in manufacturing, only 7% said they will be able to survive for more than three months with their cash in hand if their business remains closed. A big hurdle to restarting now is the lack of labour availability. It is anticipated that near about 19% to 43% of the MSME may disappear if epidemic persists 4 or 8 weeks (Mishra, 2020).

The other ill effect of this COVID crisis is non-availability of workers. It is the stranded migrant workers leading to decline in the availability, workforce for MSMEs which in turn leads to underutilization of available resources, decrease in production and an increase in operational costs.

It has been witnessed that there is a sharp decline in the bank credit requirement of MSMEs as the imposed lockdown has resulted in temporary winding up of this sector. This fact is clearly evident from the data presented in the table below:

Sector	Values in Rs. Crores		Variation (in %)
	May 2020	May 2021	May 2020 - May 2021
Micro & Small*	352949	370718	5.03
Medium	99847	145549	45.77
Micro & Small Enterprises**	1077748	1027910	-4.62

Source: https://www.rbi.org.in/Scripts/Data_Sectoral_Deployment.aspx and compiled by the researcher

Table 1: Deployment of Gross Bank Credit to MSME Sector

*Micro & small includes credit to micro & small industries in manufacturing sector.

**Micro & small enterprises includes credit to micro & small enterprises in manufacturing as well as services sector.

The above figures depict that gross credit deployed by the banks to MSMEs has considerably declined after the lockdown was announced, that is, after 25th March, 2020, which is a matter of concern and some serious framework is required in the near future to support this sector. Later the bank credit to this sector has improved significantly after the announcement of the policy measures of the government.

It is a very well-known fact that the pandemic had adversely affected the global supply chain. In this context, China plays a very pivotal role for India, mostly for MSME sector, which is largely dependent on China for its raw material. This situation has given birth to the scarcity of raw materials.

The situation is alarming, as if the current situation prevails for a longer duration, it will lead to temporary to permanent shutdown of most of the MSMEs. Continuous lockdown is restricting the free flow of men and materials which is the major threat. This will give rise to an imbalance between the demand and supply of goods and services. The resultant situation of MSMEs will lead to lower levels of production, deterioration in the quality of products, increase in costs, reduction in exports, a decline in revenue and many more, leaving the Indian economy in severe distress.

The struggling MSME sector needs some serious support from the Government to assure its existence. There are many schemes launched by the Government such as the innovative packages under Atmanirbhar Bharat Abhiyan Parikalpana, changing the definition of MSMEs, naming a few. One needs a larger time frame, maybe three to four months, to access the effectiveness and success of these packages and schemes launched by the government in this crisis period.

It is equally important to have a look on the various policy measures and responses initiated by various countries for the revival of the MSME sector. The steps taken by select major nations across the globe to support the SMEs as well as the entire economic structure are pictured below:

Table 2: Overview of Policy Responses

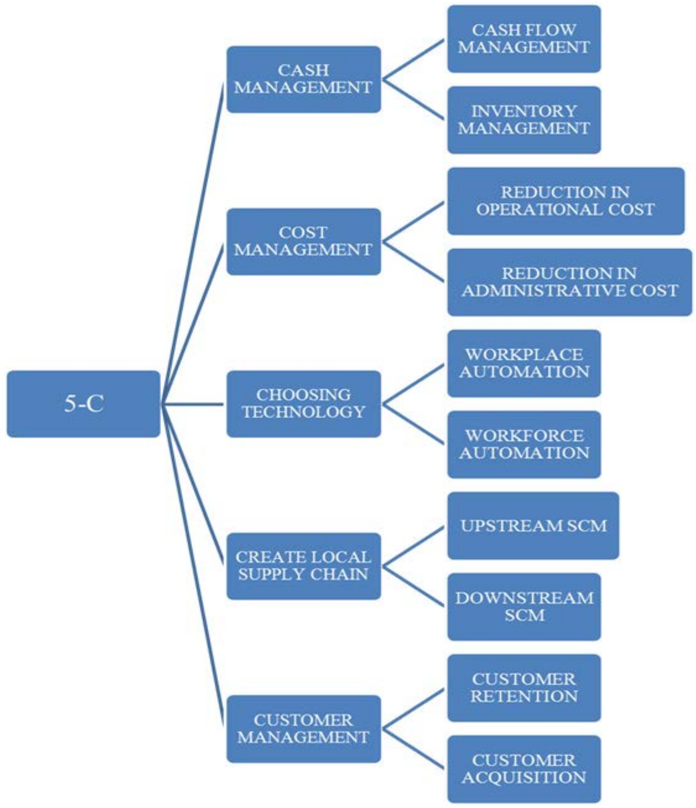
Policy Measures						
Country	**Wage subsidies**	**Income/ corporate tax cut**	**Debt moratorium**	**Loan guarantees**	**Direct lending to SMEs**	**Grants and subsidies**
Australia	✓	✓	✓	✓	✓	✓
Brazil	✓	✓	✓		✓	
France		✓		✓		✓
Germany	✓	✓	✓	✓	✓	✓
China	✓	✓		✓	✓	
India	✓	✓	✓	✓	✓	✓
Israel	✓	✓		✓	✓	✓
Italy	✓		✓	✓		
Japan	✓	✓	✓	✓	✓	✓
Korea	✓	✓		✓	✓	✓
Malaysia	✓	✓		✓	✓	
New Zealand	✓	✓	✓	✓	✓	✓
Russia	✓	✓	✓	✓		
Saudi Arabia		✓	✓		✓	
Singapore	✓		✓	✓	✓	
South Africa	✓	✓	✓	✓	✓	
Spain			✓		✓	
United Kingdom	✓	✓	✓	✓	✓	✓
United States	✓	✓	✓	✓	✓	✓

Source: http://www.oecd.org/coronavirus/policy-responses/coronavirus-covid-19-sme-policy-responses-04440101/and compiled by the researcher

Five-C Model for survival and sustainability of MSMEs post lockdown

It is equally important that the internal management of MSMEs needs some specific operational restructuring so that not only they can face the emerging challenges but also to convert those challenges into opportunities.

In light of the above discussion, the researcher has framed a practical Model, naming the ***5-C (Cash Management, Cost Management, Choosing Technology, Create Local Supply chain and Customer Management)*** model. The proposed model is recommended by the researcher to be followed by the internal management which will definitely help them in this scenario.



Source: Developed by the researcher

Figure 2: Five-C Model

Cash management: It is the financial crisis, which will largely affect the day to day working of MSMEs. This sector will be facing a serious cash crunch in the near future, as the majority of their financing comes from the informal sector. It is strongly recommended that it should focus on effective cash management techniques to arrange for its working capital requirement. Under this, two main aspects need to be focused.

Firstly, Cash flow management, that is, to keep an eye on the cash flows, cash cycles and cash turnover of the enterprise. Millar-Orr Model of cash management may be applied depending on the adaptability of the firm.

It is the time when serious debt recovery needs to be done. The enterprise must follow their debtors for timely payment, and mostly those who are lagging payments. The business model should be accustomed to retain cash within the business as much as possible. The customers must be motivated for cash purchases. Online Payment Gateways, such as BHIM UPI, GooplePay, PayTm, etc., cash back offers and traditional discounting techniques must be used to attract cash purchases.

According to a recent survey done by a merchant payment solutions company, 57 per cent of respondents used digital payments 5-6 times a week in July 2020 while 21 percent of them claimed to use it thrice. About 20 per cent of respondents used digital payments less than three times a week. This should come as no surprise considering that India is estimated to see the fastest growth in the transactions of mobile payments in terms of value, with a CAGR of over 20 percent between 2019 and 2023.

Digital payment volumes also received a boost through the government, which is leveraging UPI and Aadhaar to provide monetary assistance through direct benefit transfers to the bank accounts of MSMEs (Goyal, 2020). Secondly, Inventory management, which is also an important aspect, needs to be taken care of. Lean inventory management technique, that is, the systematic approach to inventory management, which identifies and eliminates the wastage of materials, efforts and time, needs to be followed. Some popular techniques such as Economic Ordering Quantity (EOQ) model, Back Ordering Model, etc. can be used.

Activity Based Costing (ABC) Analysis which helps to reduce average cost of inventory can be followed. Demand for the products must be properly assessed, and minimum inventory levels must be maintained. It will definitely reduce the cash blockage.

Cost management: During this COVID crisis, it is of utmost importance that the costs should be effectively managed, especially for MSMEs for its survival. In this respect effective management of both operational and administrative cost is of equal importance.

As far as operational costs are concerned, unnecessary costs must be identified and slashed down. An effective management tool, Business Process Reengineering (BPR) should be used to radically redesign the core business process for the achievement of improved productivity, quality and cycle time, depending on the scale of operation, which in turn will help in cost savings. Value analysis and value engineering techniques may be used. Re-negotiation with vendors, suppliers, channel partners and consultants needs to be done to reduce unnecessary costs.

Apart from this, reduction in administrative costs is also necessary. MSMEs must focus on arranging for local partners, making collaborations, and outsourcing some jobs which will help in cost reduction. In case of MSMEs, workplace sharing, lowering transportation costs, early payment to suppliers availing discounts, and maximizing use of energy saving appliances helps in cost reduction.

Choosing technology: Most of the industries are gradually shifting its operations towards technology driven environment. It is also applicable to MSMEs. At present count, India has 63 million MSMEs but only 32% of them are digitally equipped and 68% are beyond the preview of digital practices (RBI, 2019).

The portion of MSMEs which are digitally untapped must change their strategy and digitize their business processes to survive in the long run. Digitalizing of operations and bringing the business into an online platform is really difficult for some MSMEs but without adopting digital practices it will be very difficult to survive during a post epidemic as the practice of social distancing is likely to be continued for a long period of time.

In this COVID crisis, the maximum use of information technology and artificial intelligence will not only help in survival but also provide sustainability to MSMEs. It will thereby create competitive advantage for MSMEs in the local as well as global market, upgrade the quality of products and increase exports. Under this, two significant aspects need to be discussed. One is workplace automation and other is workforce automation.

Firstly, workplace automation, that is the use of information technology in routine operations, is required. Use of Enterprise Resource Planning (ERP), remote monitoring system, AI software, etc. will boost the operating efficiency of MSMEs. The MSMEs may register themselves with the Ministry of MSME, Government of India scheme “Technology Up gradation and Quality Certification” launched this year with the aim to provide Energy Efficient Technologies (EETs) in manufacturing units so as to reduce cost of production and adopt the clean development mechanism.

On the other hand, workforce automation, especially for Small and Medium Enterprises (SMEs) is of equal importance. In this pandemic situation, the problem of stranded migrant workers is evident. This situation will give rise to labor shortages in almost all sectors including MSMEs.

Hence, workforce automation is the need of the hour, which will help the SMEs to survive in this scarcity period. Innovation, of course, in MSMEs business is out of the box thinking, but innovation will be indispensable for MSMEs after this epidemic. MSMEs should give more emphasis on innovation.

Create local supply chain: In view of this pandemic situation, it is necessary to re-structure the supply chain of MSMEs so that uninterrupted supply of raw materials and distribution of products can be assured.

Under this, it is significant to manage both the upstream supply chain as well as the downstream supply chain effectively to stabilize in this crisis situation. MSMEs associated with cross-border traded are badly affected by the supply chain disruptions mainly due to limited land and ocean movements of goods. The government, along with industry bodies is required to restore or rearrange new supply chains domestically for the time being. The government should extend everything possible to help firms for local sourcing in case of disrupted imports.

The flow of raw materials from the suppliers to the manufacturers is defined upstream supply chain. It is seen that the raw materials supplied to MSMEs are mostly scattered in layers under different suppliers from different parts of the country.

In case of the downstream supply chain, that is, the flow of goods and services from the enterprise to the end users through distribution channels, MSMEs need to build partnerships with the channel partners. Moreover partnering with domestic channels and making collations with global distributors will lead to stimulation of demand. Unnecessary layers in the channel of distribution must be eliminated to reduce cost.

The Central Governmenmt urged the nation to be 'Vocal for Local'. This term is also relevant in case of creating a local supply chain. Going local will prove to be a boon for the manufacturing sectors, especially for MSMEs.

Customer management: For MSMEs, which effectively caters the domestic needs and foreign demand, customer management is of equal importance. It has got dual aspect of Customer Retention and Customer Acquisition.

Customer Retention in this pandemic situation is a challenge for all enterprises. MSMEs have to study the behavior and buying patterns of their present customers so that they can retain them. In this COVID crisis, MSMEs must adopt some innovative measures such as 24x7 visibility through websites, use of social media, developing app based home delivery system, use of payment gateways, using word of mouth connect, etc. The use of this innovative technology tools would help the MSMEs to keep a close connect with their present customers.

Not only retention, but also the acquisition of customers is of equal importance. MSMEs must also focus on the identification of potential customers. In this respect, lowest cost marketing tool, that is, social media marketing can be used in place of traditional advertisement channels for cost savings. Below The Line Marketing (BTM) can be used. Identification of a target group of customers and clear differentiation of the products is equally beneficial for the MSMEs.

CONCLUSION

The MSMEs sector is mostly a low investment based and it depends on the informal sector for its finance. The global spread of Covid-19 pandemic had led the world economy at a standstill, including India. It has affected almost all the sectors of India, but the MSMEs sector is are worst affected. Some of the labour intensive industries under MSME sector such as garments, leather, footwear, marine products, gems and jewellery, apparel, etc. need special packages from the government to survive and hold on to their men and machines.

The central government has taken various serious measures in supporting the economy through boosting the MSME sector. It is also important that the internal management of the MSMEs must pull up their socks to face this challenge. In this prospect, the researcher has proposed a framework, naming the 5-C model which will hopefully help the MSMEs not only to survive but also to sustain in this crisis.

It is expected that the MSMEs, which is considered as the backbone of the Indian economy, will definitely overcome this tough time, compensate its losses and will sustain in the post lockdown period.

Recommendations

Based on the extensive study and analysis of the operational problems faced by the MSME sector, the researcher recommends that the government should provide all types of possibilities and practical support to the MSME sector under this current situation so that they can survive and sustain in this crisis situation. Not only announcement of special financial packages from the central government as well as from respective state governments, but also ensuring that the benefits are directly passed on to the beneficiaries, are very much in need for the betterment of MSME sector both in present and future.

The effective management of the operations of MSME sector is of equal importance, in this crisis situation. The researcher, in this prospect, has proposed a practically feasible and adaptable model for effective management of MSMEs. It is strongly recommended that the internal management must implement this model for its survival and sustainability. It is expected that the model will definitely help the MSMEs to survive in this tough time.

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REFERENCES

Government of India. (2020). *Annual Report 2019-20*. Ministry of Micro, Small and Medium Enterprises. https://msme.gov.in/sites/default/files/FINAL_MSME_ENGLISH_AR_2019-20.pdf

Goyal, P. (07th January 2020). SMEs must strive to produce World Class Products; GeM to handhold Women Entrepreneurs in SME Manufacturing. *Ministry of Commerce & Industry*. https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1598636

Jha, S. K., & Kumar, A. (2020). Revitalizing MSME sector in India: Challenges and the road ahead. *Journal of Politics & Governance, 8*(5), 4-10.

Kumar, A. (2020). Macroeconomic consequences of a lockdown and its policy implications. *Economic and Political Weekly, 55*(39), 34-40.

Mishra, U. (7th March 2020). Explained: Why are Medium, Small, Micro Enterprises worst hit by Covid-19 lockdown?. *The Indian Express*. https://indianexpress.com/article/explained/coronavirus-india-lockdown-msme-sector-crisis-government-relief-package-6395731/

Mohan, V., & Ali, S. (2019). Challenges faced by Indian MSMEs in adoption of internet marketing and e-commerce. *Academy of Marketing Studies Journal, 23*(1), 1-9.

Mohanty, J. J. (2018). A Study on Micro, Small and Medium Enterprises (MSMEs) in India: Status and its Performance. *International Journal of Research and Scientific Innovation (IJRSI), 5*, 105-114.

Prasad, R., & Mondal, A. (2020). Impact of Covid-19 pandemic on Indian economy with special reference to Indian MSME sector. *Research Gate, 15*(7), 16-21.

RBI .(17th August, 2020) Reserve bank of india annual report 2019-20. https://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/0RBIAR201920DA64F97C6E7B48848E6DEA06D531BADF.PDF

RBI. (2019). Expert Committee on Micro, Small and Medium Enterprises. https://www.rbi.org.in/commonperson/English/Scripts/PressReleases.aspx?Id=3049

Sahoo, P., & Ashwani. (2020). COVID-19 and Indian economy: Impact on growth, manufacturing, trade and MSME sector. *Global Business Review, 21*(5), 1159-1183.

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First wave's Impact of COVID 19 on Global Economy: Where are we and where will we go? Assessment from Cross country evidence

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ABSTRACT

The first wave of Covid-19 originated from Wuhan of China has jolted the entire world compelling governments of most of the countries in the world to follow stringent measures like shutting down of offices, public places, educational institutions, maintaining social distancing, partial to complete lockdown etc to curb spread of pandemic. This study tries to assess the impending impact of COVID-19 induced pandemic on gross domestic product (GDP) and foreign trade, employment, domestic demand, manufacturing growth, (Foreign Direct Investment) FDI and also on commodity market. This effort is enlightening, but it is not high time till now to make a full assessment or objective evaluation regarding impact of pandemic on several aspects of the global economy on the basis of fractional facts and figures. Nevertheless, everyday's mortality and its contamination rate are depicting some worst indication, but it is very difficult to estimate gravity of the pandemic as well as to assess prominently how long it will take to become an endemic from pandemic and make it possible to bring human life back to normal. But, definitely, it does put across probable degree of impending global economic ache, particularly for emerging and developing economies and their possible requirement of several kinds of support. The researchers suppose this article, although based on short term fractional but factual data will throw light to an improved perception of the effects of COVID-19 induced pandemic on global economy and facilitate in policy formulation to ease the hurdles caused on several aspects of human lives and their economic periphery by the pandemic.

JEL Codes: F17, I15, C68

Keywords: *COVID-19; International Trade; FDI; GDP; Global Economy*

INTRODUCTION

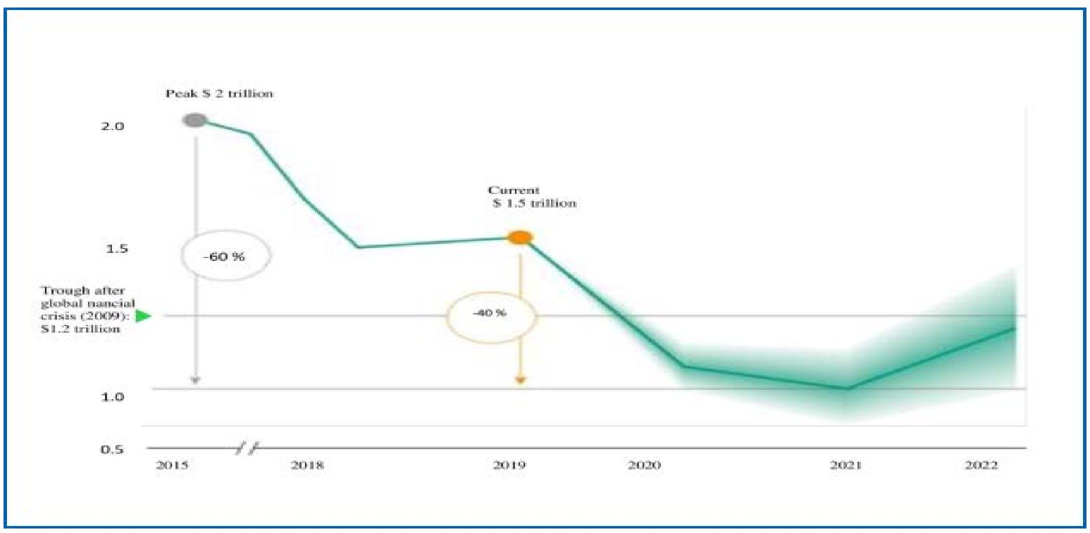
The first wave of Covid-19 originated from Wuhan of China has jolted the entire world compelling governments of most of the countries in the world to follow stringent measures like shutting down of offices, public places, educational institutions, maintaining social distancing, partial to complete lockdown etc to curb spread of pandemic. Apart from mammoth loss of human lives, the lockdown disrupted supply chain in major sectors, stoppage of production, unemployment growth, shrinkage of commodity demand, sharp decline in GDP growth, FDI flow as well as investment growth across countries. Industries which are affected typically are tourism automobile and extractive. Internationally, this pandemic has long lasting impact on cross broader investment including hindrance in project implementation, abandoning new projects etc. So, called economically powerful countries like United Kingdom, USA, France, Germany and emerging economies like China, Japan, Korea and also India were on the economically catastrophic situation whose immediate recovery was hard to think. In accordance with World Investment Report 2020 (UNCTAD, 2020) during peak phase of pandemic in 2020, a double digit turn down was anticipated in import and export in most of the prominent economics of the world except Commonwealth of Independent States (CIS), Africa and Middle East countries. In a nutshell, all economies of the world have gone through socially and economically turbulent phases. According to the WHO website as of 6th August, 2020, more than 7,02,642 confirmed death cases from COVID-19,1,86,14177 confirmed contamination cases and 216 affected countries have been reported and recorded all over the world and number is progressively multiplying rapidly in geometric progression. Keeping in mind the gravity of the destructive power that pandemic has caused initially in global economy in terms of several parameters, World Trade Organization has evaluated and compared it with great depression of 1930 (Crafts & Fearon, 2010).In accordance with report published by World Economic Outlook, 2020, and global economy is anticipated to shrink stridently by 3 percent in 2020.

However, to the best of the knowledge, the researchers have found no research studies which have empirically investigated the impacts of COVID-19 across the world in terms of economic growth, foreign trade, unemployment growth, manufacturing growth, domestic demand growth, investment growth, impact on commodity market and above all, impact on FDI flow.

More specifically, this endeavor intensely aspires to afford early substantiation for the impacts of the long-standing corona virus pandemic on several aspects of global economy in terms of the above economic parameters. The researchers are optimistic that this initial effort will pave the way for superior understanding of the effect of COVID-19 led pandemic on the global economy and assist in framing policy responses to alleviate them.

LITERATURE REVIEW

It is anticipated that in 2020 at initial stage of the outbreak, global movement of FDI will be strained. The COVID-19 is supposed to be demand, supply and policy induced distress which is against congenial movement of FDI. UNCTAD report, 2020 anticipated that a sharp decline in FDI flow upto 40 percent would bring down FDI flow to one trillion dollar for the first time ever since 2005.This situation is expected to improve in 2021 with further decline up to 5 to 10 percent and initial recovery will be palpable in 2022.



Source: UNCTAD, 2020

Figure 1: Worldwide FDI movement, 2015–2019 and 2020–2022 estimate (Trillions of dollars)Source: UNCTAD, 2020

The first wave of covid-19 has been found to be ruthless everywhere in the world and more prominently it fluctuates erratically across region. Developing and emerging countries are anticipated to witness largest decline in foreign direct investment (FDI). This is because of the fact that developing countries depend more upon GVC (global value chain). During this critical phase, this has been hard hit and these countries are not in a position to provide similar financial support like developed countries. UNCTAD database presents us that developed economies are anticipated to confront with discriminative FDI flow. Among developed nations, European countries are anticipated to visualize 30 to 45 per cent decline in FDI flow whereas North America and other developed nations lying on same footing are anticipated to having a decline in FDI inflow by 20 to 35 per cent on average. This is probably because of the reason that the later countries confronted the catastrophe on a comparatively more delicate footing. The remarkable fact is that before the outbreak of pandemic, in 2019, there has been an increase in FDI flow in developed nations as a group by 5 percent which tantamount to nearly 800 billion dollars.

Although South-East Asia, India and China witnessed gain in FDI flow, other developing Asian countries have been brutally affected by decline in FDI flow. This may probably be due to disturbance in supply chain and worldwide demands to broaden the horizons of production locations. Flow of FDI in Latin American countries and the Caribbean islands is anticipated to see 50 percent decline in 2020. Investment projections are unwelcoming because the pandemic multifaceted political turmoil, affected tourism as well as structural fault manifested in quite a lot of economies.

The COVID-19 crisis is expected to have some glaring short run instant effects and have some long-standing impact on foreign direct investment. The intense lockdown suspending business activities, closures of manufacturing operations worldwide to combat pandemic has trapped the FDI flow, delayed the proclamation of greenfield projects, accomplishment of existing investment projects, perched the numerous mergers and acquisitions (M&As) across the world.

As far as short-term impact on FDI is concerned, the profit of foreign affiliates is anticipated to crash down during first wave of pandemic in 2020 keeping a large number of MNCs in challenging situations. As a part of policy measures, some countries have adopted short term trade restrictions in order to avert dearth of critical medical supplies during the initial critical phase of pandemic. A large number of governments in many countries have adopted policies to keep away from fire sales of domestic firms in times of initial phase of crises; they initiate new screening requirements as well as new investment restrictions.

Medium term effect of pandemic on FDI was predicted through the path of demand reduction which is expected to have pessimistic consequences on international production. In 2020, demand reduction has hit FDI severely. If there exist doubt and uncertainty about economic recovery via GDP growth in 2021 afterwards, this may dampen down new investment plans. In practice, liquidity crunch during this critical phase has compelled many MNCs to divert funds kept for new investment plans to maintaining working capital. Depending on the intensity of lockdown and recession, the continuing projects which were delayed in lockdown were permanently abandoned in some cases. Overall, pandemic has steered a worldwide Economic Recession. Since during peak phase of pandemic, strict restrictions have been imposed on foreign trade and investment, MNEs may opt for policy measures for achieving higher degree self reliance in manufacture of critical supplies. This may, in turn, broaden industrial capacity strategically.

Table 1: Mean and Mean Difference of Pre-COVID and Post-COVID Ratios of GDP growth rate [average of 4 quarters pre and 3 quarter post COVID-19 Outburst period data]

Countries/Region	Pre-and post- COVID outburst period	Mean	Mean Difference	Change in Ratios
Advanced Economies				
Euro area (7 countries) [AUT, BEL, EST, FIN, FRA, GRC, DEU]	Pre-COVID	1.199	-6.91	D*
	Post- COVID	-5.711		

USA	Pre-COVID	2.329	-11.541	D*
	Post- COVID	-9.212		
JAPAN	Pre-COVID	-0.6467	-2.578	D*
	Post- COVID	-3.2254		
United Kingdom	Pre-COVID	1.067	-11.417	D*
	Post- COVID	-10.35		
Spain	Pre-COVID	1.776	-1.827	D*
	Post- COVID	-0.0514		
Italy	Pre-COVID	0.0744	-3.462	D*
	Post- COVID	-3.388		
France	Pre-COVID	0.888	-2.074	D*
	Post- COVID	-1.186		
Emerging Market				
(A)Commodity exporting EMDEs	Pre-COVID	0.6645	-0.675	D*
[Chile, Columbia]	Post- COVID	-0.0109		
(B)South Asia				
Korea	Pre-COVID	2.407	-5.775	D*
	Post- COVID	-3.368		
India	Pre-COVID	4.718	-1.416	D*
	Post- COVID	3.302		
OECD Countries	Pre-COVID	1.618	-8.567	D*
	Post- COVID	-6.949		

Source: Compiled and computed from OECD database, 2020
D stands for decrease*

World Bank has estimated that developed countries will witness a decline in growth rate to 7 percent on an average up to the second quarter (Q2) of crucial initial year of pandemic, 2020.Emerging and other developing countries including India will witness a decrease in growth rate to 2.5 percent on an average during the same time period (UNCTAD, 2020). Our computed result also confirms the declining GDP growth rate worldwide to the same direction as stipulated by World Bank. Most of the developed and emerging, developing economies excepting a few, under our study undergo negative growth rate during post covid-19 period. GDP growth in India during second quarter (Q2) of the initial outbreak of pandemic in 2020 declined to 3.3%. It is the most sluggish rate in 11 years which dragged down the country's whole year growth to 4.2% as compared to 6.1% in the preceding year. The reduced GDP growth rate may be due to dip in all sorts of economic activities, manufacturing activities, and service sectors' downturn due to prolonged lockdown (UNCTAD, 2020).

Table 2: Mean, Mean Difference of Pre- COVID and Post - COVID period'sForeign Trade growth rate [average of 4 months pre and 4 months post COVID-19 Outburst period data]

Import					Export				
Countries/Region	**Pre-and post-COVID outburst period**	**Mean**	**Mean Difference**	**Change in ratios**	**Pre-and post-COVID outburst period**	**Mean**	**Mean Differenc**	**Change in ratios**	**Trade Balance growth[EXPG-IMPG]**
Advanced Economies									
Euro area (7 countries) [AUT, BEL, EST, FIN, FRA, GRC, DEU]	Pre-COVID	0.042	-8.842	D*	Pre-COVID	0.7	-10.3	D*	0.658
	Post- COVID	-8.8			Post-COVID	-9.6			-0.8
USA	Pre-COVID	-0.5	-4.2	D*	Pre-COVID	0.181	-9.489	D*	0.681
	Post- COVID	-4.7			Post-COVID	-9.308			-4.608
JAPAN	Pre-COVID	-1.7	-0.7	D*	Pre-COVID	-2.5	-2	D*	-0.8
	Post- COVID	-2.4			Post-COVID	-4.5			-2.1
United Kingdom	Pre-COVID	-0.4	-11.3	D*	Pre-COVID	0.4	-12.9	D*	0.8
	Post- COVID	-11.7			Post-COVID	-12.5			-0.8
Spain	Pre-COVID	-0.4	-14.2	D*	Pre-COVID	0.3	-16	D*	0.7
	Post- COVID	-14.6			Post-COVID	-15.7			-1.1
Italy	Pre-COVID	0.2	-13.6	D*	Pre-COVID	0.6	-18.1	D*	0.4
	Post- COVID	-13.4			Post-COVID	-17.5			-4.1
France	Pre-COVID	-0.2	-14.2	D*	Pre-COVID	-0.2	-15	D*	0
	Post- COVID	-14.4			Post-COVID	-15.2			-0.8
Emerging Market									
(A) Commodity exporting EMDEs	Pre-COVID	1.1	-10.3	D*	Pre-COVID	3.7	-17.4	D*	2.6
[Chile, Columbia]	Post- COVID	-9.2			Post-COVID	-13.7			-4.5
(B)Emerging Latin America[Brazil,Mexico,Argentina]	Pre-COVID	-0.8	-4.6	D*	Pre-COVID	-1.2	-5.4	D*	-0.4
	Post- COVID	-5.4			Post-COVID	-6.6			-1.2
(C) Asia									
Korea	Pre-COVID	0.8	-3.8	D*	Pre-COVID	0.3	-6.9	D*	-0.5
	Post- COVID	-3			Post-COVID	-6.6			-3.6
India	Pre-COVID	2.5	-15	D*	Pre-COVID	1.4	-0.6	D*	-1.1
	Post- COVID	-12.5			Post-COVID	0.8			13.3
China	Pre-COVID	-1.8	1.1	I*	Pre-COVID	-7.2	18.8	I*	-5.4
	Post- COVID	-0.7			Post-COVID	11.6			12.3

Source: Compiled and computed from OECD database, 2020
I stands for increase*

The table-2 above shows that trade balance in most of the countries except china is adverse. This is quite obvious. This may probably be due to disturbance in supply chain and foreign trade owing to the outbreak of the Covid-19 led pandemic. During the first couple of months of outbreak of first wave of pandemic, protracted lockdown coupled with closure of national boundaries of more than 100 countries has resulted in complete restrictions of the movements of people as well as flow of tourism. Specially, developing countries suffer much in terms of decrease in export than those of developed countries. In an exporting economy, Covid-19 led pandemic are having impacts in two ways: decrease in scale of production leading to contraction of export supply; another is decline in domestic demand for exported products. There will be increase in net export if the country can divert the amount of production not consumed by home market to export market. During lockdown, telecommunication or remote servicing may act as boost up in improving productivity or efficiency where it is feasible; but labour intensive industries requiring physical presence of persons for production may find it difficult to realize suck operation. In case of importing countries, effect of pandemic has come from decrease in aggregate demand of the economy. This may be due to the fact that intense lockdown has dropped the earning capacity of the people of the country and even if they can maintain their earnings, owing to 'contagion effect', there is prohibition to visit to supermarkets or other shopping malls resulting in decrease in aggregate consumers' demand.

Table 3: Mean and Mean Difference of Pre- COVID and Post- COVID period's Unemployment growth rate and manufacturing growth rate [average of 4 quarter pre and 3 quarter post COVID-19 Outburst period data]

Unemployment Rate					Manufacturing growth rate [IIP(manufacturing)]			
Countries/Region	**Pre-and post-COVID outburst period**	**Mean**	**Mean Difference**	**Change in ratios**	**Pre-and post-COVID outburst period**	**Mean**	**Mean Difference**	**Change in ratios**
Advanced Economies								
Euro area (7 countries) [AUT, BEL, EST, FIN, FRA, GRC, DEU]	Pre-COVID	7.076	-0.524	D*	Pre-COVID	-0.28	-0.693	D*
	Post-COVID	6.552			Post-COVID	-0.973		
USA	Pre-COVID	3.54	5.86	I*	Pre-COVID	-0.265	-1.191	D*
	Post-COVID	9.4			Post-COVID	-1.456		
JAPAN	Pre-COVID	2.32	0.28	I*	Pre-COVID	-1.61	2.077	I*
	Post-COVID	2.6			Post-COVID	0.467		
United Kingdom	Pre-COVID	3.74	0.11	I*	Pre-COVID	-1.436	0.4	I*
	Post-COVID	3.85			Post-COVID	-1.036		
Spain	Pre-COVID	13.92	0.33	I*	Pre-COVID	-0.458	-5.629	D*
	Post-COVID	14.25			Post-COVID	-6.087		

Italy	Pre-COVID	9.48	-1.58	D*	Pre-COVID	-0.744	-8.755	D*
	Post-COVID	7.9			Post-COVID	-9.499		
France	Pre-COVID	8.22	-0.22	D*	Pre-COVID	-0.615	-5.981	D*
	Post-COVID	8			Post-COVID	-6.596		
Emerging Market								
(A)Commodity exporting EMDEs	Pre-COVID	9.07	3.64	I*	Pre-COVID	0.15792	-0.365	D*
[Chile, Columbia]	Post-COVID	12.71			Post-COVID	-0.2067		
(B)Emerging Latin America[Brazil,Mexico,Argentina)	Pre-COVID	3.498	0.446	I*	Pre-COVID	-0.66453	-0.990	D*
	Post-COVID	3.944			Post-COVID	-1.6547		
(C) Asia								
Korea	Pre-COVID	3.64	0.21	I*	Pre-COVID	1.7111	-1.6444	D*
	Post-COVID	3.85			Post-COVID	0.0667		
India	Pre-COVID	7.46	7.46	I*	Pre-COVID	0.7	-14.58	D*
	Post-COVID	14.92			Post-COVID	-13.88		
OECD Countries	Pre-COVID	5.278	1.622	I*	Pre-COVID	-0.28	-1.34	D*
	Post-COVID	6.9			Post-COVID	-1.62		

Source: Compiled and computed from OECD database, 2020

From the table-3 above, it is found that Japan and United Kingdom are two countries in the world which showed positive manufacturing growth during the pandemic period under our study. Manufacturers of the chemical, automobile, electronics and aircraft have been confronted with scarcity of raw material resulting in reduction in production operations in every part of the world. The shutting down of factories by major automobile manufacturers results a loss in automobile production. This in turn has affected the automobile sector in Europe in particular as well as entire world in general. Electronic industry all over the world has been affected most because most of the Chinese factories supplying and exporting important components, such as mobile displays, memory, printed circuit boards, LED chips, open cell TV panels and capacitors has been forced to enter into shut down owing to the Covid led pandemic.

Seven countries of Euro area (Austria, Belgium, Estonia, Finland, France, Greece, and Germany) showed declining unemployment rate which is a positive sign amidst pessimism. In all other countries, except Euro area, unemployment rate is gradually increasing which is quite expected due to prolonged lockdown of industrial set up, service sector as well as suspension of all sorts of economic activities.

Unemployment rates in almost all the economies except France, Italy and other Euro countries have been showing alarmingly increasing trend during initial wave of Covid-19. The increasing unemployment rate may be due to the fact that under intensive lockdown in most of the economies, need for human labour decreases because of tightening or suspension of productive activity coupled with reducing customers demand, contraction of tourism. Unskilled, informal and provisional workers are probable to be the earliest to lose their jobs and find it hard to seek jobs in other sectors of the nation. Displaced workers may find it difficult to get job in other sectors during lockdown. Covid-19 has impacted manufacturing industries sector wise as well as region wise.

Table 4: Mean and Mean Difference of Pre- COVID and Post- COVID period's Investment growth rate [GFCF growth] and Domestic demand growth rate [average of 4 quarter pre and 3 quarter post COVID-19 Outburst period data]

Investment growth rate [GFCF growth]					Domestic demand growth rate			
Countries/Region	**Pre-and post-COVID outburst period**	**Mean**	**Mean Difference**	**Change in ratios**	**Pre-and post- COVID outburst period**	**Mean**	**Mean Difference**	**Change in ratios**
Advanced Economies								
Euro area (7 countries) [AUT, BEL, EST, FIN, FRA, GRC, DEU]	Pre-COVID	0.842	-5.163	D*	Pre-COVID	0.877	0.923	I*
	Post- COVID	-4.321			Post- COVID	1.8		
USA	Pre-COVID	0.26	-0.416	I*	Pre-COVID	2.305	-0.226	D*
	Post- COVID	-0.156			Post- COVID	2.079		
JAPAN	Pre-COVID	-0.397	0.995	I*	Pre-COVID	0.921	-0.353	D*
	Post- COVID	0.598			Post- COVID	0.568		
United Kingdom	Pre-COVID	-0.074	-1.008	D*	Pre-COVID	0.079	1.296	I*
	Post- COVID	-1.082			Post- COVID	1.375		
Spain	Pre-COVID	0.158	-5.814	D*	Pre-COVID	2.22	-0.35	D*
	Post- COVID	-5.656			Post- COVID	1.87		
Italy	Pre-COVID	0.331	-8.479	D*	Pre-COVID	-0.391	0.881	I*
	Post- COVID	-8.148			Post- COVID	0.49		
France	Pre-COVID	0.939	-11.43	D*	Pre-COVID	1.86	-0.58	D*
	Post- COVID	-10.49			Post- COVID	1.28		
Emerging Market								
(A)Commodity exporting EMDEs	Pre-COVID	0.348	-1.778	D*	Pre-COVID	1.248	1.011	I*
[Chile, Columbia]	Post- COVID	-1.43			Post- COVID	2.259		
(B)Emerging Latin America[Brazil,Mexico,Argentina)	Pre-COVID	-1.27	-0.88	D*	Pre-COVID	-0.731	2.439	I*
	Post- COVID	-2.15			Post- COVID	1.708		
(C) Asia								
Korea	Pre-COVID	0.464	0.005	I*	Pre-COVID	1.28	0.71	I*
	Post- COVID	0.469			Post- COVID	1.99		
India	Pre-COVID	-1.37	-0.62	D*	Pre-COVID	1.40	0.08	I*
	Post- COVID	-1.99			Post- COVID	1.48		
OECD Countries	Pre-COVID	0.436	-1.826	D*	Pre-COVID	1.634	0.223	I*
	Post- COVID	-1.39			Post- COVID	1.857		

Source: Compiled and computed from OECD database, 2020

From the table 4, it has been found that growth in investment (in terms of GFCF growth) has found in USA, Japan Korea, and the leading economies in the world. The dreadful social and financial impact of Covid 19 on the country as a whole can be managed in the long run by sound investment policies. Protecting domestic industries need specific investment policy measures which many countries have adopted in first of wave of pandemic. Developing and emerging countries are more susceptible to the covid led crisis. This is because of having their comparatively less diversified investment footprint which calls for more systematic risk and on the other hand, reliance on commodities for the Caribbean, Latin America and Africa and on GVC-intensive industries for Asia, reshoring as well as regionalization of intercontinental production.

Domestic demand falls, as noticed from computed table, in major advanced countries whereas emerging economies shows upward trend in domestic demand growth. The manufacturing production in a lot of countries (in our study, USA, Japan, Spain, France) has declined, resulting a collapse in outside demand and emergent expectations of a decrease in domestic demand.

Effect of the pandemic on trade may have come in form of adverse shock in domestic as well as intercontinental demand. This could diminish expenditure on durable products and enhance expenditure on non-durable products because durable goods are 'postpone-able' and on the other hand, 'panic buying' during pandemic period may enhance demand for non-durable goods like hand sanitizers, facemasks etc. to defend against pandemic.

DISCUSSION

The initial jerk of pandemic during early, 2020 has multifaceted adverse impact on commodity demand and supply .Decline in commodity prices accompanied by drastic fall in crude oil prices owing to travel and transport restrictions have been noticed .In many countries, specially food importing countries have been facing severe problem with availability of food owing to disturbances in supply chain and closures of borders as a part of containment strategies restricting free flow of food supplies and free movement of labourers. So, food security remains an issue in food importing countries which compels them to engage in stockpiling of food commodities through intense importing. Energy prices declined nearly 20 percent (q/q) in first quarter (Q1) of 2020, along with major non-energy prices with increasing intensity of pandemic (World Bank Group, 2020).

The worst affected commodity market is crude oil market where two-third of crude oil demand has been dropped since January 2020 owing to travel and transport restrictions everywhere in the world. Metal prices are expected to decline nearly 13 percent (World Bank Group, 2020), although less than crude oil prices. But precious metal like gold as a means of safe haven rises slightly in the midst of mounting insecurity and uncertainty.

From above discussion, it can be easily realized and perceived from past downturn experience that this acute recession, 2020 caused due to global pandemic (COVID-19) has slashed down per capita output (GDP per capita) in such a way that it is less than per capita output as was in 1870. The recession, 2020 is different from others in that its speed and depth is so dominant that recovery of global economy would seem to be more sluggish, although recovery of general recession associates and brings sharp improvement in production. The developing as well as emerging countries are anticipated to undergo contraction by upto 2.5 percent which is lowest ever in last six decades (World Bank, 2020). This recession is different from other recession happened earlier because of the changing nature of COVID19 and gathering gradually new information about novel corona virus day by day which compels economists to estimate again and again the scale of depth of the jerk in the economy at lower level. Keneith Rogoff of Harvard University, an eminent growth economist is of the stipulation that Short-term downturn in world production after outburst of pandemic, 2020 may exceed any downturn in production happened during last 150 years (Bulow *et al*., 2020). Jerom Powel, present chairperson of US Federal Reserve System opines that downturn in world production is exceptionally alarming which may exceed the downturn noticed in Second World War in 1940s.

The indices of world recession are gradually becoming worst with the prolonged persistence of COVID19. Unless and until effective vaccines are invented and come out in the market at affordable price after completion of successful trial run, it remains to be an urgent necessity to maintain physical distancing, use of protective mask and other precautionary measures resulting in lockdown of manufacturing activities, especially service sector's economic activities vis-a-vis resultant decline in global output coupled with gradual enhancement of unemployment rate and subsequent misery of unemployed people as a whole.

In view of IMF forecast of June (Q2 period), 2020, it reveals that all indicators of global economy become worse (Contraction of global economy by 4.9%) than economic indicators published for Q1 period (Contraction of global economy by 3%) published in April, 2020 which is 1.9% more in Q2 period than Q1 period. IMF report also forecasted that cumulative global GDP for the year 2020 and 2021 may be reduced by 12.5 trillion USD. Gita Gopinath, the Chief economist of IMF, reminds us that COVID 19 centric world recession may be placed after 'Great Depression of 1930s which extended from 1929 to 1933. The forecasted possibility of 'turn around 'of world economy in 2021 published by IMF in June, 2020 reveals that present recovery rate is 5.4% which is 0.4% lower as forecasted in April, 2020 (IMF, 2020).

It should be remembered that prolonged lockdown and post lockdown unlock periods claim maintaining social or physical distancing for further extended period which may slash down global value chain system for further extended period across the world and it may continue till first quarter of 2021. The economic activities in terms of trade commerce, manufacturing, especially service-related activities which may survive during post-pandemic period must have to incur additional expenditure in terms of safety measure, disinfection and sanitization resulting slower productivity growth rate. The wave of sluggish economic activities must have undoubtedly a jerk in global labour market. IMF report reveals that during 3 months of quarter-II (Q2-April-June, 2020) , there is a full time job loss of 300 millions across the world, although ILO report accounts for full time job loss of 400 million during Q2 of 2020 as compared to end period of 2019. It results in unemployment rate of 14 % on an average globally. Present unemployment rate in USA computed in June is 18.4% slightly lower than unemployment rate during great depression in 1930s (23%) (International Labour Organization, 2021).

World Bank forecasts show that degree of contraction of world economy during 2020 will be 5.2% which is worse than any contraction rate occurred during 8 decades after world war-II and it is also 3 times more than 2008-09 global recessions (World Bank, 2020). The contraction rate is expected to be more prominent and steeper if it takes more time to curb and control this global pandemic. The report discloses that during 2020, developed countries is suspected to be contracted by 7%, emerging and developing economies by 2.5%, South Asian economies by 2.7%, contraction rate in case India would be 3.2% and Pakistan by 2.6%. The World Bank forecasts that China will grow by 1% and Bangladesh will grow by1.6% (Dhar, 2020).

If financial system of a country remains intact and revenue collection, financial and other economic system is in operation to recover the crises, then global may possibly be turned around. In that case, turn around rate in 2021 as estimated by world Bank would be 4.2% in medium sized economies, 3.9% in developed economies, 4.6% in emerging and developing economies, 6.9% in case of China, 2.8% in south Asia, 3.1% in India, 0.2% in Pakistan,1% in Bangladesh (The World Bank, 2021).

In times of crisis, trade is more volatile, instable and more elastic than output or production resulting sharp decline in trade rather than output. World Bank estimate forecasts world trade contraction at the rate of 13.4% in 2020 (Giordano, Campos & Michalczewsky, 2020). Recovery of world trade cannot be predicted in advance because it depends on lockdown continuation period, duration on restrictions of value chain system, rapidity of regaining confidence of general people, Rate at which generally economy recovers after recession will not be applicable in this pandemic period rather it be a historically sluggish recovery. It must be remembered that if GDP in India increases by 1%, GDP in other South Asian economies will increase by 0.49% (The Indian Express, 2020). Specially, Foreign trade of two neighboring countries-India and Bangladesh is a dominant indicator of growth of these two countries. Employability of labour force in different sectors in middle-east countries depends on crude oil price and volatility in crude oil market. More important fact is that foreign remittance inflow sent by labourers working in several sectors in Middle East countries is also an important determinant of South Asian economy. A World Bank estimate over last ten years suggests that remittance inflow in South Asia decreases by 0.28% with the decline in crude oil price by one USD (World Economic Forum, 2020).

CONCLUSION

The economists suspect that pandemic ridden economies will lose significant portion of their prospective income on the whole. More particularly, global GDP is anticipated to be declined by about 3.9 percent and this decline will vary from 4 percent to 6.5 percent depending upon the severity of contamination. The developing countries which rely more heavily on commodity import are more susceptible to the worst effect of pandemic owing to supply chain disruption and border restriction to curb down contamination. The final impact of pandemic is yet to assess because its final assessment will depend upon how long it will continue in the world to harm human beings as well their economies. But trend and behavoiur of covid19 with changing variants manifesting at different time interval are compelling us to think that it has long lasting implication. There have been structural changes in workplace culture from physical presence to online presence of employees resulting hybrid mode of workplace culture. A gradual deceleration in global value chain (GVC) may restrain demand for commodity.

The crisis still exists, and the society has to accept its hazardous countenance. In the midst of mounting health hazards globally, flow of trade among countries is very much essential for saving of human lives and their livelihood. To minimize uncertainty in trade flow, government of different countries should keep up uninterrupted supply chain of essential commodities like health equipments and food supplies. Covid19 led pandemic is global crisis which seems to be mitigated only by global cooperation in terms of trade, health and financial assistance and framing well defined congenial macroeconomic policies.

Limitations of the Study

The study has certain drawbacks. The researchers have, for ease of comparison, compared pre-covid and post-covid outbreak period taking December-January, 2019-2020 as COVID-19 outburst period across countries which is not probably true because outbreak of pandemic contagion took place subsequently in different continents in different phases and times. Moreover, during the first jerk of the crisis in early 2020, the human society have not yet surpassed long through the rough terrain of the critical journey. So it is not high time till now to make a full assessment or evaluation regarding impact of pandemic on the basis of fractional facts and figures. Nevertheless, everyday's mortality and its contamination rate are depicting some worst indication, but it is very difficult to estimate gravity of the pandemic as well as to assess prominently how long it will take to become an endemic from pandemic and make it possible to bring human life back to normal.

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REFERENCES

Bulow, J., Reinhart, C., Rogoff, K., & Trebesch, C. (2020). The debt pandemic. *Finance & Development, 57*(003). https://www.imf.org/external/pubs/ft/fandd/2020/09/pdf/debt-pandemic-reinhart-rogoff-bulow-trebesch.pdf

Crafts, N., & Fearon, P. (2010). Lessons from the 1930s great depression. *Oxford Review of Economic Policy, 26*(3), 285-317.

Dhar, U. (2021). Asian Development Bank (ADB), Asian Development Outlook 2020: What Drives Innovation in Asia?. https://www.adb.org/sites/default/files/publication/575626/ado2020.pdf

Giordano, P., Campos, R., & Michalczewsky, K. (2020). The COVID-19 shock: building trade resilience for after the pandemic. *Trade and Integration Monitor. Inter-American Development Bank*. https://publications.iadb.org/publications/english/document/Trade-and-Integration-Monitor-2020-The-COVID-19-Shock-Building-Trade-Resilience-for-After-the-Pandemic.pdf

International Labour Organization. (25th January 2021). ILO Monitor: COVID-19 and the World of Work. *Updated estimates and analysis*. Int Labour Organ.

OECD (2nd March 2020). Coronavirus: The world economy at risk. *Organisation for Economic Co-operation and Development*. France: Assessment OI.

The Indian Express, (28th October 2020). Why has the comparison between India, Bangladesh per capita GDP got so much attention?. https://indianexpress.com/article/explained/india-gdp-bangladesh-gdp-indian-economy-6748867/

The World Bank. (31st March, 2021). South Asian Economies bounce back but faces fragile recovery. https://www.worldbank.org/en/news/press-release/2021/03/31/south-asian-economies-bounce-back-but-face-fragile-recovery

UNCTAD. (2020). *World Investment Report 2020. Geneva*. https://unctad.org/system/files/official-document/wir2020_en.pdf

World Bank Group. (2020). *Commodity Market Outlook: Implications of COVID -19* for Commodities. https://openknowledge.worldbank.org/bitstream/handle/10986/33624/CMO-April-2020.pdf

World Bank. (2020). COVID-19 to plunge global economy into worst recession since World War II.

World Economic Forum (7th August 2020). 4 critical steps for fighting a historic remittance decline in South Asia. https://www.weforum.org/agenda/2020/08/4-critical-steps-for-fighting-a-historic-remittance-decline-in-south-asia/

World Economic Outlook (April, 2020). Global Prospects and Policies. https://www.imf.org/en/Publications/WEO/Issues/2020/04/14/weo-april-2020.

World Health Organization. (2020). Coronavirus disease (COVID-19) *Situation Report – 199*. https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200806-covid-19-sitrep-199.pdf.

IMF, J. (2020). A crisis like no other, an uncertain recovery. *World Economic Outlook Update*.

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The Impact of Covid-19 Pandemic on Indian Agriculture: A Study

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ABSTRACT

In the year 2020, not only agriculture but all the sectors were severely affected by the Covid-19 outbreak. The present paper deals with the impact of the present crisis on agriculture globally as well as nationally. The paper also discusses the special packages that the Governments of a few countries around the world and Government of India have announced in order to boost the agricultural sector. The paper is based on secondary data available from various sources like articles from journals, newspaper articles, etc. The impact of the pandemic on agriculture has been quite devastating. The government is taking various steps in order to revive the agricultural sector. The authors are of the view that the packages will help the farmers, but in the long run so the government needs to take more concrete decisions to help the small farmers in the present situation by giving them more financial boost.

Keywords: *Agriculture; Covid-19; Impact of Pandemic; Financial Packages; Government of India (GOI)*

INTRODUCTION

Agriculture is one of the biggest enterprises of the country. 'People residing in rural parts of India are still heavily dependent on agriculture. Agriculture and related activities are the main source of livelihood for around 58% of populationof India and its contribution to Gross Domestic Product (GDP) was nearly 17% (in 2014).' (Bhattacharya & Biswas, 2018)

Agricultural activities are primarily dependent on the vagaries of nature. In our country monsoon is a gamble, so it is understood that due to uneven distribution of rainfall, agriculture is severely affected. Apart from rainfall, agriculture in India is also affected by pest attacks, hail and other natural calamities like flood, drought etc. But in the year 2020 not only agriculture all the sectors are severely affected by the Covid-19 (or novel Coronavirus) outbreak.

The entire country has been locked down since end of March 2020, and work-from-home has become the new culture. In this situation one wonders about the future of agriculture, since it is impossible for the farmers to do their job from their homes. In the present paper the authors have thus tried to highlight the problems of the farmers during this ongoing crisis of the novel Coronavirus and also make a critical study of the financial packages announced by the government for the farmers.

LITERATURE REVIEW

Chatterjee and Oza (2017) stated that agriculture is one of those rare activities where the risk factor is very high, yet the return received by the farmers is too low. They are of the view that government and other has to work in partnership with private sector, technology provider, financial institutions and other stakeholders.

Basu (2020) is of the view that agricultural workers of the third world countries are one of the largest sections who are being dispossessed of their health and livelihood, thus a work class driven agenda is need of the hour.

FAO (2020) in their policy briefs have highlighted the misery faced by the migrant workers during this COVID-19 pandemic. They are of the view that protection of the workers at the workplace, giving them temporary work permits; safe mobility of the workers both inter-state and across countries, supporting employment and income for the vulnerable and matching of the labor demand and supply can be good response measures.

Ramakumar (2020) stated that though currently the food supply situation was comfortable, but it may pose serious threats if the lockdown was prolonged. He also found that supply-chain disruptions were quite obvious due to the pandemic, but it also forced a decline in the prices received by the farmers. There was huge disparity among the retail prices and wholesale prices.

Gu and Wang (2020) are of the view that the pandemic has negatively impacted the sales stage of the vegetable supply chain. They opine that agricultural insurance could play an important role in stabilization of the supply of vegetables to the urban areas.

Objectives

The objectives of the present study are:

(a) To give an overview of the global impact of Covid-19 pandemic on agricultural sector and an account of the relief measures taken by Governments of few other countries around the world.

(b) To give an account of the crisis faced by the Indian agriculture due to Covid-19 pandemic and to highlight the financial packages announced by the Government of India to boost the agricultural sector.

METHODOLOGY

The data have been collected from various secondary sources like books, journals, websites, and newspaper articles, etc. The present study is divided into three parts. In the first part the authors have explained the globalimpact of Covid-19 pandemic on agricultural sector and relief measures taken by a few Governments around the world for boosting the sector. In the second part the authors have highlighted how the Covid-19 pandemic has affected the Indian agricultural sector and made a study of the various financial relief packages announced by the Government of India for the agricultural sector. And finally, in the third part the authors have drawn conclusions based on the findings of the paper.

RESULTS AND DISCUSSION

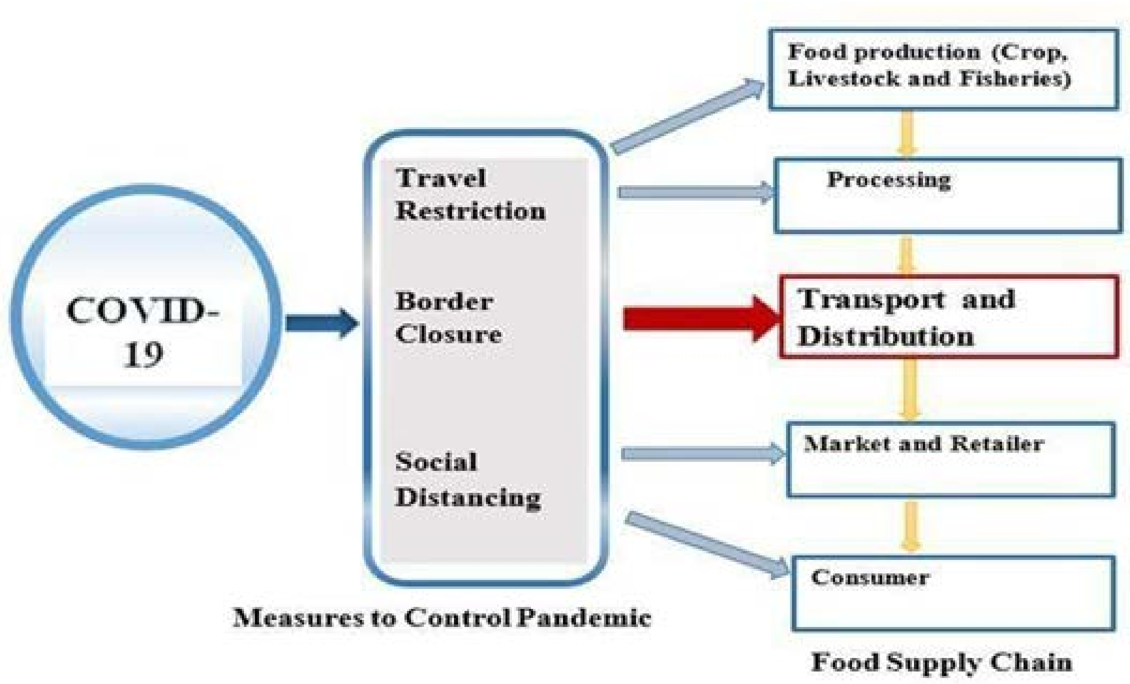
The present section deals with both global and Indian impact of the pandemic on the agricultural sector. The section also discusses the relief measures taken by a few Governments around the world and Indian Government. For lucid understanding the section has been divided into two broad headings: Global Impact of COVID-19 Pandemic on Food and Agriculture and Relief Measures Taken by the Governments and Impact on Indian Agricultural Sector and Measures taken by the Government.

Global Impact of COVID-19 Pandemic on Food and Agriculture and Relief Measures Taken by the Governments

The present section is divided into two parts, in the first part the authors discuss the global impact of COVID-19 pandemic on food and agriculture and in the second part the relief measures taken by Governments of few countries across the world has been discussed.

Global Impact of Covid-19 pandemic on food and agriculture:

The pandemic and the subsequent lockdown caught the Governments around the world off guard. The challenges faced by the Governments were innumerable, food security of the citizens being one of them. According to the Food and Agriculture Organization (FAO) before pandemic around 135 million people in the world faced acute food insecurity, however, in post-COVID scenario the number was to rise to around 265 million. Also, worldwide the number of children suffering from malnourishment was projected to rise by 10 million (Ramakumar, 2020). The exhibit (Exhibit 1) below shows that the pandemic has affected all the stages of food supply chain, though the most serious effect was on transport and distribution.



Source: Poudel et al. (2020)

Figure 1: Impact of Covid-19 on every stage of Food Supply Chain

The production of the crops was not the problem, but with the international borders closed and other restrictions on the supply chain, the import-export was a major issue. The export of Asia had declined in March 2020 and also of Europe and North America in April. However, South America saw an increase in export of products as soybeans, sugar and meat compared to the same period in 2019. The food prices around the world also showed a downward trend (though it was an all-time high for staples like rice, wheat and maize) since the beginning of 2020 and the Covid-19 only worsened the situation. The impact of the pandemic on agricultural sector has been two-fold, (a)on food production and distribution, and (b) on food demand and security.

(a) On food production and distribution- Covid-19 pandemic has affected every stage of food supply chain. The global lockdowns have disrupted the supply of agricultural inputs like seeds, pesticides and fertilizers. The international fertilizer trade has been affected since China, which is one of the major fertilizer producer and exporter, had been under lockdown. With the international borders closed the sowing or planting had also been affected for the countries which depend on imported seeds, for example, India needs around 250 lakh quintals of seeds in the Kharif season. Lockdowns and travel bans have led to acute labor shortage on the fields.

(b) On food demand and security- The food demand is affected due to the reduction in income level of the consumers. Reduced income in turn affects the purchasing power of the consumers. The pandemic has affected around 81 per cent of the global workforce due to partial or full closure of businesses. The food prices are also affected due to sudden stock piling and panic buying. The disruption in international trade relations have also affected the food supply chain and food production which in turn may eventually give rise to food insecurity. The lockdowns forced the closure of the schools which suspended the free meal programs thus depriving around 10 million children of their daily nutritional requirements.

Brief account of relief measures taken by governments of few countries for agricultural sector:

Government had a major role to play in normalizing the situation. The role of the Governments can be divided into two phases, where phase 1 is management of the crisis and phase 2 is helping the agricultural producers by mending the supply chains.

Phase 1: In the first phase in order to restrict the spread of the virus in their respective countries the Governments announced lockdowns and other social distancing measures. But due to these restrictions there were shortage of agricultural labor as the high-value labor-intensive crops were dependent on migrant workers. Hence, many countries around the world classified agriculture and food processing as essential activities. Countries like Germany and United States eased the visa requirements for the temporary agricultural workers. Again, countries like Australia, New Zealand and Italy extended the working visas of the temporary and seasonal migrants. Temporary tariff reductions or duty reductions were allowed for agricultural and other food products in more than 20 economies. Many Governments in order to help the agricultural producers sell their unsold stock, and also for providing food to the poor engaged in stockpiling.

Phase 2: Governments of many countries around the world offered economic stimulus package to the agricultural sector so that the farmers can cope up with the new normal. After the initial panic buying since there was a sudden decline in the demand of agricultural products countries like Japan, Brazil, United States and Switzerland introduced storage aid and food aid programs. Support were also provided to the agricultural producers in varied ways like postponement of the rural debt repayment (in Brazil), access to credit (in United States and European Union), access to raw materials and other inputs (in Japan and China), upgradation of supply chain infrastructure (in India), loan guarantees (in Namibia), cash transfers (in Paraguay and Côte d'Ivoire), etc.

Governments of almost all the countries around the world have taken measures to revive the agricultural sector. In the following paragraphs details of measures taken by Canada and United Kingdom are given:

Canada: An emergency fund of worth USD 77.5 million for PPE kits of the food producers and also for automation of their facilities and packages. Increase in the Dairy Commission's borrowing limit by USD 200 million for helping in storage and also in avoiding food waste. A boost to the provincial governments worth USD 1.72 billion for cleaning up of the orphan and inactive oil and gas wells. Agri-insurance were to be provided to the horticultural sector for insuring the loss of production due to shortage of labor. The Surplus Food Purchase Program was to be expanded with an initial USD 50 million fund for redistributing the unsold inventories to the local food organizations for supporting the vulnerable Canadians. Provision of USD 62.5 million in order to support the new manufacturing and automated technologies for improving the productivity and quality of seafood products. Fisherman grants up to $10, 000 per self-employed fisherman were also provided.

United Kingdom: For the sheep farmers who were affected by the poor wool price (worth up to £1.2 million). For the pig growers who were affected by the decline in price for the cull sows (worth up to £1.6 million). For the potato growers who were affected by the decline in demand from the hospitality and food service sector for processing potatoes (worth up to £2 million).

Impact on Indian agricultural sector and measures taken by the government

The present section is divided into two parts, in the first part the authors discuss the crisis faced by the agricultural sector due to the COVID-19 pandemic and the second part highlights the packages announced for the agricultural sector by the Government of India for overcoming the crisis.

The crisis of Indian agricultural sector due to Covid-19 pandemic:

The farmers associated with agricultural activities have to face various risks, for example weather risks, price risks, biological risks, institutional risks, political risks, labor and health risks and asset risks. These risks pose serious threat to the farmers and since each risk is unique and is independent of each other their cumulative occurrence can be very severe for the farmers. Yet, apart from the above-mentioned risks farmers might also be affected by other unprecedented ones, the year 2020 being an example of it. The entire world is still fighting the unknown Covid-19 pandemic, because of which every country is facing lockdown situation time and again. During the first wave of the pandemic India has been locked down since March 25, 2020 and then unlocking in phased out manner since July 2020. Thereafter the country faced lockdown during the second wave also. Every sector has been facing the brunt of it and agriculture being no exception. As a result of which the economy (of our country as well as the world) is facing a low, experts are of the view that it will be taking at least 6 to 12 months to get back in the pre-pandemic situation. With all the other sectors locked down Indian economy has only agriculture to depend upon.

Lockdowns posed serious threats for the farmers of the country. For example, during the first lockdown the farmers were put in a very difficult situation as it was particularly busy time for the farmers due to the then ongoing Rabi harvest and the subsequent Kharif sowing. There might be a few other serious impacts of Covid-19 pandemic on Indian agriculture.

- Firstly, the markets and farm prices may get affected as due to the novel coronavirus outbreak consumers are now faced with tough choices about food and overall spending, so this might impact the food services sales. In agricultural sector since the migrant labors play a very important role the lockdowns may completely disrupt the system. According to a report by FAO (2020), restricted movements at national and international borders would lead to labor shortage which in turn would affect the food availability, global market prices and agricultural value chains.

- Secondly, there might be supply chain slowdown and shortages because of the disruption of services in the logistics and other connected industry sectors and also due to 'panic buying'. Since the supply chains are not working in full swing, the small farmers who are largely dependent on horticultural crops, perishable commodities livestock, fish farming, etc. are expected to lose their regular income flow. It has been reported that small farmers are destroying vegetables, spilling milk on roads or selling perishables at throwaway price due to excess supply whereas the cities are facing shortage of the same and paying a premium due to limited transportation.

- Thirdly, the farmers' health is a very important factor, as in our country a large number of the farmer force are ageing population and since they are the most vulnerable lot. Fourthly, the worker safety and the shortage of the Personal Protective Equipment (PPE) kits, the farmers need to be out in the field for hours, so it is essential that they take proper safety measures like masks, gloves, PPE kits etc. But in our country, we are striving to provide all our healthcare workers with PPE kits, thus it is obvious that it will be difficult for the farmers to get one.

- Lastly, so far, the novel coronavirus has been an urban disease but now with the migrant workforce returning to their villages the farm workforce needs to be more careful and ensure their safety.

Among the migrant workforce one category is the seasonal workers who take inter-district and inter-state employment in the agriculture and its related activities. They are manual workers who engage themselves in seasonal agricultural work and shift to non-farm manual work during the other times. But, now since the movement is restricted due to the national lockdown, they are getting deprived. When the lockdown was announced in the end of March, the areas which depend on rainfall did not have any standing crops but the areas which have irrigation facilities had crops (like wheat, vegetables, oilseeds, pulses, etc.) ready for harvest. Thus, this regional disparity is the primary reason for the migration of the agricultural workers. In the northern states of India, especially Punjab and Haryana, the wheat harvesting begins April onwards and hugely dependent on supply of migrant agricultural workers from the eastern states of the country (for example, Bihar and Jharkhand). According to an estimate, during this Rabi season, Bihar alone supplies around one million agricultural workers to Punjab and around 0.6 million agricultural labor to the state of Haryana. (Basu, 2020) These workers not only take part in field operations but also in loading and unloading activities at government run procurement centers. Therefore, as a result the states where crops are ready to be harvested are striving with shortage of agricultural workers and the states from which the workers could not migrate are left with oversupply of labor which again has resulted in fall of agricultural wages.

Relief packages by the government of India to boost the agricultural sector:

The farmers use different risk reducing (ex-ante) strategies and risk coping (ex post) strategies for safeguarding themselves from the risks. The government also takes steps to help the farmers (for example crop insurance). Presently the Government of India (GOI) in order to boost the agricultural sector announced a stimulus package.

The Union Finance Minister has announced funds worth Rs.1 lakh crore for building agricultural infrastructure, and for boosting infrastructure projects at farm-gate and aggregation points. The FM also announced the decision of extension of the Operation Greens from tomato, onions and potatoes to all the other fruits and vegetables and referred to it as the TOP to TOTAL move.

Currently the farmers can only sell their produce to licensees in the Agricultural Produce Market Committees (APMCs). The FM said that the government has decided to formulate a central law that will allow the farmers to sell their produce at attractive prices without any inter-state trade barriers and also allow them to engage in e-trading of their produce. The farmers are allowed to make contract even before they begin sowing with food-processing companies, retailers and exporters which will assure their returns. The government has also decided to amend the Essential Commodities Act, 1955 and deregulate cereals, edible oil, oilseeds, pulses, onion and potato. The FM said that under the new law stock limit will be imposed only under exceptional situations like national calamities, famine and when the prices start soaring high.

Apart from this the government also announced a scheme of Rs. 10,000 crores for formalization of the micro-food enterprises. 'The government will launch the Pradhan Mantri Matsya Sampada Yojana (PMMSY) for integrated, sustainable, inclusive development of marine and inland fisheries. Rs. 11,000 crores for activities in marine, inland fisheries and aquaculture and Rs. 9,000 crores for infrastructure - fishing harbors, cold chain, markets etc. It will lead to additional fish production of 70 lakh tons over 5 years and employment to over 55 lakh persons.' (Express Web Desk, 2020) Rs.13000 crore drives have been announced by the government for 100 per cent vaccination of cattle, buffalos, sheep, goat and pig. An Animal Husbandry Infrastructure Development Fund of Rs. 15,000 crores have also been announced. 10 lakh hectares have been decided to be covered under herbal cultivation in the next two years with Rs. 4,000 crores. The government also announced Rs. 500 crores for the beekeeping initiatives.

The farmers will definitely be benefitted from the above-mentioned announcements made by the government in the long run, but they are not enough for addressing the current challenges faced by the farmers. Some experts are of the view that these are more of reforms than immediate relief for the farmers, so during this time of crisis government should address the current need of the farmers. The government has announced infrastructure development in marketing and processing however this is time consuming and may take longer than expected and thus not enough to address the current challenge. Again, the government has amended the Essential Commodities Act, 1955 and deregulated the stock limits of cereals, edible oil, oilseeds, pulses, onion and potato but instead of improving the situation of the small farmers it might worsen it. The small farmers often have limited storage available so they are forced to sell their produce immediately, so they will not be able to hoard it and make profit. Instead, the traders and other value chain participants may engage in hoarding which will lead to price hike. Thus, more concrete steps (for example creation of more rural jobs, providing the farmers with basic essentials like seeds, pesticides and fodder, etc.) need to be taken by the government for helping the farmers in this time of crisis.

CONCLUSION

The silver lining in this time of crisis is that India is expecting record food grain production of almost 300 million tons this year, so the government needs to ensure that the farmers are able to sell their produce and get good price. Predictions are also made that despite the adverse conditions the farm sector is expected to grow by an annual rate of 3 per cent. The sector is also expected to add around 0.5 per cent to the country's GDP in the year 2020-21. The additional contribution may prove to be extremely crucial and may prevent the Indian economy from contracting in the current fiscal year.

The authors are of the view that government should consider providing more direct support to the farmers. The government might make a lump sum cash transfer to the accounts of the farmers which will help them to recover the losses they faced due to the rotting of the Rabi crops on the field and will also help them to plan the forthcoming Kharif crop sowing in a better way. The authors feel the government might also waive off the loan amount taken by the farmers for the Rabi crop. The government should also take steps to vaccinate the rural population especially those associated with farming activities to ensure uninterrupted supply of agricultural produce, also given the available medical infrastructure in the rural belt vaccination is the need of the hour.

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REFERENCES

Basu, R. (7th May, 2020). Migrant Agricultural Workers in India and the COVID-19 lockdown. https://focusweb.org/migrant-agricultural-workers-in-india-and-the-covid-19-lockdown/

Bhattacharya, S. & Biswas, B. (2018). Evolution of Different Crop Insurance Schemes in India: An Analytical Study. *Business Studies*, *XXXIX* (1 & 2).

Chatterjee, A., & Oza, A. (2017). Agriculture insurance. http://dx.doi.org/10.22617/BRF178762-2

Express Web Desk. (17th May 2020). Nirmala Sitharaman presser highlights: Reform initiatives in agriculture will boost farmers' income, says PM Modi. *The Indian Express*. https://indianexpress.com/article/india/fm-nirmala-sitharaman-announcements-press-conference-today-live-updates-coronavirus-third-economic-package-india-6411296/

Food and Agriculture Organization of the United Nations (FAO). (7th April 2020). Migrant workers and the COVID-19 pandemic. https://www.fao.org/3/ca8559en/CA8559EN.pdf

Gu, H. Y., & Wang, C. W. (2020). Impacts of the COVID-19 pandemic on vegetable production and countermeasures from an agricultural insurance perspective. *Journal of Integrative Agriculture, 19*(12), 2866-2876.

Poudel, P. B., Poudel, M. R., Gautam, A., Phuyal, S., Tiwari, C. K., Bashyal, N., & Bashyal, S. (2020). COVID-19 and its global impact on food and agriculture. *Journal of Biology and Today's World, 9*(5), 221-225.

Ramakumar, R. (2020). Agriculture and the Covid-19 Pandemic: An Analysis with special reference to India. *Review of Agrarian Studies, 10*(2369-2020-1856).

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Covid-19 and Indian Banking Industry: A Study

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ABSTRACT

There is a lot of uproar about the virus, specifically the coronavirus, all over the world. In short, it is well known as Covid-19. It is the alternative name for global wary and economic unrest. This global pandemic is spreading a deeply rooted negative impact on the world economy. As a result, economic growth is gradually shrinking. India is not the exception. The first wave of the virus has passed, and now the second wave of the pandemic is underway. The Covid-19 has been affecting India's manufacturing and service sectors, including industrial production, job market, e-commerce market, financial market, GDP growth, etc., during its outbreak. The International Monetary Fund (IMF) has forecasted that the Indian growth rate for 2021 will be 12.5%. Earlier, it was forecasted at 7% of the same apex body. The world's banking apex authorities like the IMF and the World Bank have taken so many measures over time during the spread of the virus to reduce the harm to the world's economies and to support the member nations in improving and sustaining their health as well as the financial sector. The present study attempts to provide an overview of the various strategic measures taken by the World Bank, the IMF, and the Reserve Bank of India (RBI).

Keywords: *Covid-19; Global Pandemic; Economic Growth; Shrinking; Economic Damage; Strategic Measures; The World Bank; IMF; RBI; Improving and Sustaining*

INTRODUCTION

COVID-19 has spread widely and very fast. It is causing an epidemic throughout China. It has been followed by a pandemic, a number of issues in different nations throughout the globe (World Health Organization, 2020). The initial report on Covid-19 by the World Health Organization (WHO) shows that the coronavirus infection has spread to contain more than 81552 cases in China and more than 1400000 across the globe. As a result, the WHO declared a public health emergency in late January 2020 and a pandemic in March 2020 (ECDC, 2022). The Covid-19 is a group of virus variants that belong to the Coronaviridae family. It affects both humans and animals. Some human coronaviruses can cause mild diseases like the common cold, whereas others cause more severe diseases like Middle East Respiratory Syndrome and Severe Acute Respiratory Syndrome (World Health Organization, 2020). The Covid-19 has emerged as the most powerful devil of the century, with significant macroeconomic impact across the globe. India is not the exception. It is playing with the health and economy of mankind. The present crisis due to Covid-19 pandemic is different and worse than the global crisis of 2007-08. It is disturbing the real economy as a whole, not just the financial system. The current financial system is much more elastic with improved capital adequacy, credit worthiness, and asset quality as a result of the implementation of so many initiatives by the government and regulatory bodies over the years. The lending standards should not be diluted and the overall asset quality of the banking portfolio must be maintained. The RBI must be sure of these issues. It may be a potential policy implementation to fight the economic slowdown of Covid-19. The first wave of the virus has passed, and now the second wave of the pandemic is underway. In this global pandemic of the Covid-19 outbreak, the Government of India and RBI together can play an extensive role in facilitating support from banks and financial institutions to permit borrowers to stick out the economic downturn. They will help to make us learn how to live in the new normal.

LITERATURE REVIEW

Yerchuru and Chidambaram (2020) have pointed out the impact of the various issues, like the crisis in the financial services industry, on proposed immediate, short-term, and medium-term technological solutions, arising from the Covid-19 pandemic. TCS has concluded that there is testing time and it strongly believes that banks require to take necessary steps as soon as possible to make sure of the faultless release of services to the clientele with minimum disruptions.

Agrawal, Jamwal and Gupta (2020) have studied the effect of Covid-19 on the Indian economy and supply chain system. They have reported that the manufacturing organisations and their supply chains have been very badly affected by the covid pandemic across the globe as well as India. Thousands of industries have been forced to shut down their product lines due to Covid-19 virus.

Peterson and Thankom (2020) have assessed the restrictive measures by proper and real observation of monetary policy, fiscal policy, and public health policies that have been adopted during the pandemic situation by the competent authorities. They have also analyzed the effect of the policy regarding social distancing and its impact on economic activity and stock market indicators. They have also found out that the increase in lockdown periods, decisions relating to monetary policy and restrictions on international travel have brutally affected the economic activities and the opening, closing, lowest and highest prices of stocks in the chief stock exchange index.

The World Economic Forum (2020) intends to recognize emerging risk in financial stability by understanding the consumption adjustments and investment rationale of Covid-19. It also identified where policymakers need to pay attention and implement the emergency measures from the lessons of the previous crises and present pandemic.

Lelissa (2020) has tried to investigate the shock of the Covid-19 pandemic on the fundamental trade or commerce of the private sector banks and its reflection on the profit and loss account and balance sheet perspective. She found that there is an immediate requirement for liquidity for private banks, a comprehensive reform and financial sector restructuring programme to have room for change and accelerate the method of improvements.

Objective of the study

The primary objective of the present paper is to overview various measures taken by the banking apex bodies of the world in general and the RBI in particular to provide safeguards to the global as well as Indian economy from the harm caused by the outbreak of the Covid-19 pandemic on the earth.

DISCUSSION

The Covid-19 pandemic impacted some Indian banks and caused them to struggle due to deposits that had protected loans. In this situation, private sector banks may force banking customers to lend less, which may lead to poor liquidity (Sharma & Mathur, 2021). The Covid-19 has affected the Indian economy and its banking sector very negatively. It is still not possible to know the exact depth and span of the virus. The situation will be clear after the pandemic is over (Kumar & Kumar, 2021). Most public sector banks are expected to report a net loss in FY 2021 Furthermore, in FY 2022, public sector banks will need to make provisions for buffers because these loans will be converted into non performing assets in FY 2023 (Nair, 2020). The Indian economy has been struggling with lower GDP and substantial unemployment rates. Now, it has faced another unprecedented shock due to Covid-19 pandemic. The nation's wide lockdown in various stages and the global slowdown have considerably interrupted the demand-supply chain, which has dented the Indian economy and banking sector very deeply (Sonkhaskar, 2020).

(A) Effect of Covid-19 on the banking sector:

Following critical effect could be observed in Indian banking sector caused by the global pandemic of the corona virus.

- The profitability of the banking sector is under very stress because of so many reasons. These are (i) Customers having a precautious viewpoint about the loan in this recessionary market condition that leads to decline in borrowings (ii) In post moratorium period, loan defaulters may increase for national lockdown. (iii) Interest rate cut policy will decrease the profitability (iv) Reduction in the banking sector's income of transaction due to suspension and reduction of global trade or commerce. (v) Because of the unpredictability of the capital market, there is a reduction in the fee-based income for wealth product distribution.
- Now, the Indian banking sector is focusing on some alternative measures to partially offset the loss of its profitability. The sector is trying to harvest profits from SLR portfolio and lowing the cost of fund. It is focusing on non-interest-based revenue areas, cost optimization and digitalization like medium term measures.
- The savings fund may climb and that can fulfill the liquidity demands for banks in short-run.
- If retail investors choose for the setback in renewal and endowment products then it will be bad for the flow of capital markets. But, it may be good for banking sector for having a strong balance sheet.
- Demand for real estate, FMCG and working capital financing have been affected due to economic slowdown which will negatively affect the retail financing industry for at least the next two quarters which is a key driver of credit growth.
- If the apex bodies do not carefully handle the unprecedented challenges of corporate and retail sector, then there is a possibility of default and bankruptcy.

(B) Policy measures by the global apex banking bodies:

(a) The World Bank:

Various countries are facing helplessness and uncertainty for the spread of the pandemic of the Covid-19 virus. They need support for diverse levels. The World Bank is prioritizing the poorest nations with high risk and low capability for providing assistance. It expects that the global pandemic of Covid-19 has thrown more than 60 million people into extreme poverty across the globe. The president of the World Bank, David Malpass has announced to deploy US $160 billion over a fifteen month period for the improvement of 100 developing nations. It is a milestone commitment on the part of the world banks. The objective of The World Bank is (i) to return to growth, (ii) rapid and elastic action to deal with the healthiness crisis, (iii) provide various resilient support and cash for the protection of vulnerable section, (iv) maintenance of the sector under private control (v) reinforce the flexibility and revival of the economy. These programmes would strengthen health, economic and social degradation that the globe is facing(Outlook, 2020). Initially, the World Bank announced a package up to US $12 billion for the instant support to help out the member countries overcome the negative impact on the health and economy due to the worldwide spread of Covid-19 virus. Out of US $12 billion, $8 billion is new on a first track basis. The International Bank for Reconstruction and Development (IBRD) provided up to US $2.7 billion as new financing model. The International Development Association (IDA) helped up to US $1.3 billion and complemented US $2 billion to on hand portfolio of banks. The International Finance Corporation (IFC) assisted US $6 as well as US $2 billion from accessible business amenities. This is a policy recommendation and technological aid for global knowledge. The IDA and IBRD would provide lower interest loan and grants for lower income and middle income countries respectively from the financial package (The World Bank, 2022). The World Bank will adopt their suitable strategies and deploy their resources as desired as the effect of global pandemic continues to grow.

The World Bank policy measures for India:

So far, the total commitment of US $2 billion has been made by the World Bank on account of Covid-19 outbreaks to support India. Out of this, first US $1 billion would be utilized for the acceleration of the

Covid-19 social protection response programme for India. This programme is for the assistance of the nation's effort to provide community support specially, the weak sections of the country that is severely affected by the global pandemic. Next, US $1 billion is announced to support the health sector of India. Out of this US $1 billion, US $550 million has been financed by IDA. The IBRD has given a loan of US $200 million with maturity period of 18.5 years and 5 years of a grace period. The remaining US $250 million has been paid after June 30, 2020 (The World Bank, 2020).

The World Bank has planned to give a loan up to US $ 160 billion between April'20 to June'21 for combating health crisis and other economic and social issues affected by the Covid-19 pandemic. This flexible revival phase helps the countries in building a more comprehensive, durable and sustainable future for the world that has been turned down by the pandemic(Trotsenburg, 2020).

A support programme for MSMEs in India, of US $500 million by The World Bank has really impacted in the pandemic of Covid-19. It has been intended to develop the performance of 555000 MSMEs and mobilize the assistance of US $15.5 million from the MSMEs comprehensive program under Post Covid-19 Resilience and Recovery Programme. In June, 2020, the Work Bank has approved US $750 million MSME Emergency Response Programme (The World Bank, 2020).

(b) International monetary fund:

The International Monetary Fund (IMF) is giving catastrophe monetary help and obligation respite to member nations, in front of downturn financial effect due to the Covid-19 epidemic. The executive board of the IMF has approved total US $22041. 59 million emergency fund under the rapid investment financing, credit facility and expansion of existing financing agreements. The debt relief grant of US $229.31 million has been financed by the 'emergency restraint and relief trust' in the side of the IMF in this global crisis situation.

According to Gita Gopinathan, chief economist of the IMF, India has not approached to IMF for any kind of assistance as of now. The growth rate of India for 2020 is expected to be 1.9% as forecasted by IMF whereas the china's growth rate will be 1.2%.

A report published by the IMF in 2021 where they have appreciated the move by the central government to fund of US$610 million to the vaccine manufacturing institute like Bharat Biotech and Serum Institute of India for increasing their ability of manufacturing up to two million doses by the end of 2021 to inoculate more citizen of India(PTI, 2021).

(C) Various actions by the RBI to fight the Covid-19 pandemic:

The First Weave:

(a) Measures taken by RBI on 27.03.2020 (RBI, 2022a):

1. Under LAF, RBI has reduced repo rates by 0.75 basis points from 5.15% to 4.40%.

2. Under LAF, the reserve repo rate has been reduced by the RBI from 4.90% to 4.0%.

3. Under MSF, the bank rate has been reduced by the RBI from 5.40% to 4.65%.

4. The objective behind the above reduction in various rates is to increase liquidity in the hands of banks and markets as well.

5. RBI also has announced to supply liquid cash of Rs. 3.74 lakh crore amongst the banking institutions to offer more amount of credits for the industries, indirectly.

6. But, the banks did not give credits for the MSMEs with fear of generation of more amounts of NPAs. They deposited their liquid funds of Rs. 6.90 lakh crore to RBI at the return of 4% reverse Repo rate. They also invested funds to the debentures and commercial papers of large corporations.

7. RBI has allowed banks to extend a three-month moratorium on all loan payments (RBI, 2020a).

(b) Measures taken by RBI on 17.04.2020 (RBI, 2022b):

1. Under LAF, RBI has reduced the reverse repo rate from 4.0% to 3.75% so that banks provide more amount of loans to industries instead of depositing the liquid cash to RBI.

2. RBI decided to provide credits of Rs. 50000 crore to banks at the repo rate. The condition is that 50% of the same should be invested in 'investment grade' debentures of MSMEs, NBFCs and MFIs of India.

3. As a result, banks have reduced interest rate on savings deposit (2.75% to 3.5%) and interest on fixed deposit (5.5% to 5.9%). The banks will also reduce the interest on the loan. It will ultimately increase liquidity in the hands of depositors and borrowers.

4. The liquidity coverage ratio has been reduced from 100% to 80%.

5. RBI also announced additional funding of Rs. 50000 crore for NABARD, SIDBI and NHB, in order to hike the supply of liquidity to MSMEs, NBFCs and MFIs. Out this fund, Rs. 25000 crore is for NABARD, Rs. 15000 crore is for SIDBI and rest Rs. 10000 car goes to NHB. NABARD will provide loans to rural banks and MFIs. SIDBI will give loan to MSMEs and NBFCs. NHB will make arrangements for credits to housing finance organizations.

6. To combat against cash crunch, States is allowed to take advances from RBI on account of 'ways and means'. Presently, this limit has been increased from 30% to 60%.

7. RBI has allowed a 90-days asset classification standstill on all overdue accounts as on February 29, 2020 (RBI, 2020b).

8. The moratorium on loans has been increased for three months from March to May 2020 along with 10% provisioning on such loans.

This facility will be available to those borrowers who did not have any outstanding installments of loan repayment (principal & interest) up to February 2020.

(c) Measures taken by RBI on 22.05.2020 (RBI, 2020c):

1. SBI research has forecasted that Indian economy may shrink from 1.6% to 7% in 2020.

2. Under LAF, the RBI has reduced the repo rate from 4.40% to 4.0% again. This is the lowest repo rate of the last two decades in India. This is done to rejuvenate the economy. The government wants to hike demands in the markets by providing more and more amount of loans to the customers. At present situation, there is huge uncertainty of income that's why the customers do not have confidence in borrowings. From 27.03.2020 to 8.05.2020, the rate of borrowings from banks has been reduced by 1.32%.

3. Under LAF, the RBI has reduced the reverse repo rate from 3.75% to 3.35% again, so that banks do not deposit their surplus liquid cash to RBI to earn reverse repo interest rather provide more amounts of loans to industries to increase liquidity.

4. The moratorium on loans has been increased once again for three months from May to August 2020.

5. If any interest due on the outstanding principal of the loan, is up paid for a month than the due interest amount will be added with outstanding principal. Then interest will be calculated on that increased principal amount and the same should be paid off later. This is the reality if anyone takes the benefit of a moratorium on the loan. So, moratorium facility will increase only the amount of interest payable, but also time for repayment of the loan.

6. Banks have informed that 50% of their borrowers have taken the moratorium facility. It will increase the chances of the NPAs for banks.

7. The RBI expects that what measures it has taken so far, will boost the economy to turn around in the next monetary session of October 2020 to March 2021.

The Second Weave (The Economic Times, 2022):

1. Term liquidity facility to ease access to emergency health services of rs. 50000 crores:

To enhance the Covid-19 related emergency health care service and infrastructure in India, a liquidity window of Rs. 50000 crores for the duration up to three years at repo rate has been proposed to remain open till 31.03.2022. A fresh loan can be provided by the banks under this scheme to a wide range of organizations like vaccines manufacturers, importers of vaccines, suppliers of vaccines and priority medical equipments, hospitals, pathology labs, oxygen manufacturer, oxygen suppliers and ventilators, Covid-19 virus related medicines, logistics firms, patients for treatment.

2. Special long term repo operations for small finance banks:

The RBI has decided a special three years long term repo operation scheme of Rs. 10000 crores. Under this scheme, Small finance banks would lend a fresh loan up to Rs. 10 lakh per loan seeker at repo rate. Its objective is to support MSMEs and unorganized sector enterprises which are negatively affected by the second wave of the Covid-19. The facilities under this scheme are available up to 31.10.2021.

3. Small Finance Bank lending to MFIs for on-lending to be classified as Priority Sector Lending:

A fresh credit is allowed to small MFIs with asset size up to Rs. 500 crores by the small finance banks. So that MFIs can lend small loan as priority sector lending to individuals who are affected by the pandemic. The objective behind this decision is to support the liquidity position of the small MFIs. The benefits under the scheme are available up to 31.03.2022.

4. Loan to MSMEs:

For disbursing loans to the new MSMEs, the schedule commercial banks deduct the same amount from their net demand and time liabilities for computation of cash reserve ratio in the month of February'21 for incentivizing the flow of credit to the MSMEs. This facility is available for exposure up to Rs. 25 lakh to bank the unbanked MSMEs into the formal banking system. The facility is available till 31.12.2021.

5. Rationalization of compliance to KYC requirements:

The following additional norms in KYC have been included by the RBI for rationalizing some mechanism in the level of KYC norms.

i. For new customers, extend the scope of video KYC which is known as video-based customer identification process (V-CIP).

ii. e-KYC authentication in non-face to face mode of conversion of Aaadhaar based limited KYC account into full KYC compliant account.

iii. Submission of electronic documents for identification poof for enabling the KYC identifiers of central KYC registry to V-CIP identifiers.

iv. Customer responsive options like the use of digital channels for episodic renew of customers KYC are included.

v. No punishment is imposed on the operation of the customers when the periodic KYC updating is pending.

6. Utilization of floating provisions:

The RBI has allowed the banks to use 100 percent floating provisions held by them as of 31.12.2020 for making specific provisions for non performing assets with the previous sanction of the boards. It is decided by the RBI with the expectation to relax the pandemic related stress on banks and to allow capital exchange till 31.03.2022.

7. Relaxation of overdraft facility for the State Governments:

With the taking of overdraft facilities some relaxations are permitted to the State governments for better supervision of their fiscal situation by way of their cash-flows and borrowings from the market. The maximum number of days for an overdraft facility in a quarter has been increased from 36 to 50 days. The number of consecutive days of overdraft has risen from 14 to 21 days. The benefits are available till 30.09.2021.

8. Resolution framework 2.0 for the Covid-19 related stressed assets of indivisuals, small business and MSMEs:

The Indian economic performance has been disrupted due to the reappearance of Covid-19 and local lockdown. It has badly affected the helpless borrowers like MSMEs, small business, individuals etc.

i. Above mention loan seekers have been allowed to borrow loan in the aggregate up to Rs. 25 crores. Among the borrowers who have not taken the loan restructuring facility under the earlier framework should be considered under the resolution 2.0 frameworks. The loan restructuring must be implemented within 90 days after the incantation.

ii. Individual borrowers, small businesses which have rationalized their loan under the resolution framework 1.0 have been allowed to use the window to adjust the plans to the point of hiking the tenure of suspension and extension of the remaining period up to 2 years.

iii. MSMEs and small businesses which have rationalized their loan earlier, have been allowed at one time assess to check the working capital approved edge on the basis of re-examination of the working capital cycle.

(D) Present operation scenario of the Indian scheduled commercial banks:

Performance of the Indian scheduled commercial banks from 2019-20 to 2020-21 has been summarized in the table-1 below.

Table 1: Performance of scheduled commercial banks in India in from 2019-20 and 2020-21

Indicators	Ratio	2019-20	2020-21
Balance Sheet Operations	Credit Deposit Ratio	73.72%	69.41%
Earning Quality	Return on Assets	0.15%	0.66%
	Return on Equity	0.8%	7.7%
	Net Interest Margin	2.81%	2.91%
	Cost of Fund (Borrowings + Deposits)	5%	4.2%
	Return on Fund (Advances + Investment)	8.3%	7.6%
	Spread	3.2%	3.3%
Capital Adequacy	Capital Adequacy Ratio	14.8%	16.3%
Liquidity	Liquidity Coverage Ratio	145%	158.9%
Asset Quality	Net NPA Ratio	2.8%	2.4%

Source: RBI, 2021

Observation:

The above table shows the performance of the scheduled commercial banks in India during the pre and post Covid-19 pandemic period i.e. 2019-20 to 2020-21. Four performance indicators like balance sheet operations, earning quality, capital adequacy, liquidity and asset quality have been used here to measure the performance of scheduled commercial banks. The credit deposit ratio has been used under balance sheet operations. Return on equity, return on assets, net interest margin and spread have been considered under earning quality indicator. The capital adequacy ratio has been used under capital adequacy indicator. Liquidity indicator has used liquidity coverage ratio. Finally, the net

NPA ratio has been used under asset quality indicator. The overall credit deposit ratio of SCBs has decreased from 73.72% to 69.41%. All the earning quality ratios have increased. Return on assets has increased from 0.15% to 0.66%. Return on equity has increased from 0.8% to 7.7%. Net interest margin has increased from 2.81% to 2.91%. The spread between the return on the fund and the cost of the fund has increased from 3.2% to 3.3%. The capital adequacy ratio has increased from 14.8% to 16.3%. The liquidity coverage ratio has also increased from 145% to 158.9%. Finally, the net NPA ratio has decreased from 2.8% to 2.4%. So, the demand for loans and advances and net NPA ratio have been reduced, but profitability, liquidity, capital adequacy has been hiked in 2020-21 compared to 2019-20. It has been observed that the Indian banking sector has not been affected so much by the Covid-19 pandemic. The efficiency of Indian banking sector management has managed the negative situation very well. As a result what devastating damage could have been done by the pandemic towards the Indian banking sector that is being restricted to some extent. But, in overall sense it can be said that the banking sector of India has been affected by the Covid-19 in many aspects. It will take some time to come back into usual state.

CONCLUSION

The RBI has taken so many steps to protect and provide safeguards to the banking sector as well as the Indian economy since the lockdown started in India, like increasing the moratorium periods, reduction of repo and reverse repo rates, etc. Besides, the Government of India (GOI) has taken numerous measures to infuse liquidity into the market instead of providing direct benefits to the industry and vulnerable sections of society through various lending schemes via Indian banks. The main objective of the RBI and GOI behind this was to increase liquidity in the market. It would hike the purchasing power of the people, which may lead to an increase in demand in society and that may lead to an increase in production. But, the people as well as corporate did not respond much to this objective. They did not borrow much because they were afraid of the inability to repay the burden of a loan. On the other hand, banks were also not feeling relaxed about lending money to the borrowers due to the fear of increasing the burden of bad loans, if they defaulted. In this situation, a group of borrowers has filed a plea to the Supreme Court to waive the interest on their borrowings, especially during the lockdown tenure. Still, this deadly virus related endemic is going on with its own power across the globe. India has started to move from a lockdown to an unlocking process. The industries, both manufacturing and service, have started functioning slowly. The economy is also trying to stand up and walk forward. Likewise, the Indian banking sector is also taking some time to revert to normal. Now it's time to put ourselves through the process of learning, unlearning, and relearning to adopt the new normal.

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REFERENCES

Agrawal, S., Jamwal, A., & Gupta, S. (2020). Effect of COVID-19 on the Indian economy and supply chain.

European Centre for Disease Prevention and Control (ECDC) (2022). Geographical Distribution of Covid-19. https://www.ecdc.europa.eu/en/geographical-distribution-2019-ncov-cases.

Kumar, V. K., & Kumar, S. (2021). Impact of Covid-19 on Indian Economy with Special Reference to Banking Sector: An Indian Perspective. *International Journal of Law Management and Humanities, 4*(1), 12-20. https://www.researchgate.net/publication/348191222_Impact_of_Covid-19_on_Indian_Economy_with_Special_Reference_to_Banking_Sector_An_Indian_Perspective

Lelissa, T.B. (2020). The Impact of Covid-19 on the Ethiopian private Banking System. *European Journal of Business and Management, 12*(16), 53-77.

Nair, V.(2020). India Ratings Cuts Banking Sector Outlook to Negative. *BQ*. https://www.bqprime.com/business/india-ratings-cuts-banking-sector-outlook-to-negative

Outlook. (20th May 2020). *Covid-19 Outbreak*. www.outlookindia.com

Peterson, O., & Thankom, A. (2020). Spillover of COVID-19: impact on the Global Economy. *SSRN Electronic Journal, 10*.

PTI. (2021). COVID-19 | Second wave in India a warning of possible events in the developing world, says IMF. *The Hindu*. https://www.thehindu.com/business/covid-19-second-wave-in-india-a-warning-of-possible-events-in-the-developing-world-says-imf/article34619918.ece

RBI. (17th April 2020b). *COVID19 Regulatory Package - Asset Classification and Provisioning*. https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11872&Mode=0

RBI. (22nd May 2020c). Monetary Policy Statement, 2020-21: *Resolution of the Monetary Policy Committee (MPC)*. https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=49843

RBI. (23rd May 2020a). *COVID-19 – Regulatory Package*. https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11902

RBI. (28th December 2021). *Report on Trend and Progress of Banking in India.* https://rbi.org.in/scripts/AnnualPublications.aspx?head=Trend%20and%20Progress%20of%20Banking%20in%20India

RBI. (4th May 2022a). *Monetary Policy Statement, 2022-23 Resolution of the Monetary Policy Committee (MPC).* https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=53652

RBI. (8th April 2022b). *Statement on Developmental and Regulatory Policies*. https://www.rbi.org.in/scripts/FS_PressRelease.aspx?prid=53536&fn=2752

Sharma, P., & Mathur, N. (2021). Covid-19 Impact of Banking Sector. https://www.researchgate.net/publication/351933889_covid-19_impact_of_banking_sector

Sonkhaskar, J.D. (2020). Impact of Covid-19 on Indian Economy. *International Journal of Advanced Science and Technology, 29*(12), 432-439.

The Economic Times. (30th June 2022). *RBI extends term-liquidity facility to emergency health services till June 30, 2022*. https://economictimes.indiatimes.com/news/economy/finance/rbi-extends-term-liquidity-facility-to-emergency-health-services-till-june-30-2022/articleshow/89474881.cms

The World Bank. (14th May 2020). *$1 Billion from World Bank to Protect India's Poorest from COVID-19 (Coronavirus)*. https://www.worldbank.org/en/news/press-release/2020/05/13/world-bank-covid-coronavirus-india-protect-poor

The World Bank. (2022). *The World Bank Group and the International Monetary Fund (IMF)*. https://www.worldbank.org/en/about/history/the-world-bank-group-and-the-imf

The World Bank. (30th June 2020). *World Bank Approves $750 Million Emergency Response Program for Micro, Small, and Medium Enterprises in India*. https://www.worldbank.org/en/news/press-release/2020/06/30/world-bank-approves-750-million-emergency-response-program-for-micro-small-and-medium-enterprises-in-india

The World Economic Forum. (2020). Impact of Covid-19 on the Global Financial System.https://www3.weforum.org/docs/WEF_Impact_of_COVID_19_on_the_Global_Financial_System_2020.pdf.

Trotsenburg, A.V. (22nd July 2020). Strong Covid-19 Response and Road Recovery. World Bank Blogs. https://blogs.worldbank.org/voices/strong-covid-19-response-and-road-recovery

World Health Organization. (2020). Coronavirus Disease (Covid-19) Outbreak: Rights, Roles And Responsibilities of Health Workers, Including Key Considerations for Occupational Safety and Health. https://www.who.int/docs/default-source/coronaviruse/who-rights-roles-respon-hw-covid-19.pdf

World Health Organization. (22nd January 2020). Novel Coronavirus (2019-Ncov) Situation Report - 2. https://www.who.int/docs/ default-source/coronaviruse/situation-reports/20200122-sitrep-2- 2019-ncov.pdf.

Yerchuru, S.K. & Chidambaram, M. (2020). The Covid-19 Crisis: Implications for the Financial Services Industry. Tata Consultancy Services. https://www.tcs.com/covid-19-crisis-implications-for-financial-services-industry

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Estimating the Impact of COVID-19 on Different Sectors of the Indian Economy

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ABSTRACT

The entire world economy has been shattered by the COVID-19 pandemic. Its adverse impact on different sectors of the economy has compelled the Governments and policymakers to rethink from scratch and come up with appropriate measures for all stakeholders. The disease has already triggered a worldwide recession. All businesses, irrespective of size, are facing grave challenges. The ILO (International Labour Organization) estimate reveals that a huge number of jobs will be severely impacted across the globe. According to the ILO, the COVID-19 pandemic is the most horrible disaster since the Second World War. The International Monetary Fund (IMF), on the other hand, treats the pandemic as the most terrible economic catastrophe since the Great Depression (1930). The crisis resulted in a demand-supply mismatch because of the dismantling of the nationwide transport system. On the one hand, farmers are unable to take their produce to the market, leading to a huge shortfall in supply and consequent inflation. On the other hand, there is a huge fall in income-generating from non-marketing of products in the agricultural sector and joblessness in the industrial and service sectors also. This fall in income is again creating a fall in demand circularly. In this way, the domestic slowdown coupled with the international recession put India on the back foot. Economic activities have come to a total standstill, which has badly hit the informal sector and casual workers in India. Governments across the world are announcing stimulus packages, and Central Banks are lowering interest rates. The Government of India has also come up with many relief initiatives. Against this backdrop, this exploratory research paper endeavors to analyse the possible effects of the COVID-19 pandemic on various sectors of the Indian economy.

Keywords: *COVID-19; ILO; IMF; Recession; Sectors*

INTRODUCTION

The world has witnessed deadly diseases like Ebola, Swine flu, and SARS in the past, which took the shape of an epidemic and resulted in a huge crisis for the global economy. But the novel coronavirus (COVID-19) pandemic has not only killed people worldwide but also affected the world economy negatively. The Indian economy also suffered a huge setback as a result of this pandemic. The outcome is that the projected growth rate of the Indian economy, as per the opinions and estimates of different agencies and organizations, will likely decline.

The disease has already triggered a worldwide recession. All businesses, irrespective of size, are facing grave challenges. The ILO (International Labour Organization) estimate reveals that a huge number of jobs will be severely impacted across the globe. According to the ILO, the COVID-19 pandemic is the most horrible disaster since the Second World War. The International Monetary Fund (IMF), on the other hand, treats the pandemic as the most terrible economic catastrophe since the Great Depression (1930).

Objective of the study and data source

The main objective of this exploratory research paper is to analyse the possible effect of COVID-19 on different sectors of the Indian economy. The study uses secondary data from various sources like articles, reports, web materials etc.

Projected GDP

The growth rate (GDP) projection of India during FY-21 by various agencies is presented in Table 1.

Table 1: GDP projection of India during FY-21

Organization/Agency	Growth (in %)
ADB	4
Fitch Ratings	0.8
ICRA	2
IMF	1.9
S&P Global Ratings	3.5
World Bank	1.5-2.8

Source: Gupta (May 2020a)

LITERATURE REVIEW

'Work from Home' culture has become the new-normal norm. Accordingly, the coming years may witness huge investments in tools that cater to 'Work from Home' effectively and efficiently (Datta, 2020). The pandemic is expected to transform the landscape of all the sectors of the economy. As a result, the business will witness a change in the patterns of consumption, investments and flow of trades. As such, business firms need to have recovery plans ready in advance to combat the challenging scenario (Suri, 2020). A huge number of workers of the informal sector (around 93 million) was mostly affected. These workers belong to five sectors of the economy. These sectors are (i) manufacturing; (ii) trade, hotel and restaurant; (iii) construction; (iv) transport, storage and communications; and (v) finance, business and real estate (Mehta &Arjun, 2020). With uncertain domestic and global demand outlook and weak crude oil prices, petrochemical prices are likely to remain low. This will lead to the accumulation of huge inventories for the producers (KPMG, 2020a). There are two challenges in the real estate sector: payment of a higher rate of interest and reduced sales. The pandemic will also pose challenges to the global shipping industry (Rastogi, 2020). Uncertainty, subdued demand, crash in the stock market, pay cuts and lay-offs will result in lower GDP for India and make the economy more vulnerable (Gupta, 2020b).

DISCUSSION

Estimate of impact on the economy as a whole:

The crisis resulted in a demand-supply mismatch because of the dismantling of the nationwide transport system. On the one side, farmers are unable to take their produce to the market, leading to a huge shortfall of supply and consequent inflation. On the other hand, there is a huge fall in income-generating from non-marketing of products in the agricultural sector and the joblessness in the industrial and service sector also. This fall in income is again creating a fall in demand in a circular way. In this way, the domestic slowdown coupled with the international recession put India on the back foot. Economic activities come to a total standstill which has badly hit the informal sector and casual workers of India.

Considerable decreases in jobs and an increasing rate of unemployment were observed in March 2020 in the CMIE report. The workers, irrespective of their locality (urban or rural), were adversely impacted.

Estimate of impact on different sectors of the economy:

Auto sector

For auto components, India heavily depends on China. Such components are imported from China and the auto manufacturers and auto-ancillary industries use such components. However, the pandemic created a situation where auto components could not be imported due to shut down in China (Nifty50Stocks, 2020).

The pandemic may affect the decisions of a large number of buyers so far as purchasing vehicles is concerned. Many prospective vehicle buyers may prefer to defer their decisions on vehicle purchase for some time due to financial compulsions and low sentiment. Production is also adversely affected in the auto sector because the country heavily depends on Germany and South Korea apart from China. And, the pandemic hurts the auto sector of these countries as well (Suri, 2020). It will be difficult for the automobile sector to return to normalcy in the near term.

Aviation, tourism and entertainment sector

The tourism and hospitality sector of India is one of the worst affected sectors during the pandemic. The tourism sector witnessed a huge job loss and is bleeding. It requires heavy investment from the Government and the private sector to get the sector back on track. The aviation and tourism industry faced severe cash flow issues.

The shooting of films and release of films have been put on hold. Indian cinema industry has been seriously affected because multiplexes and cinema halls are closed for a long time. The industry is going to suffer a huge monetary loss which may be more than Rs. 200 crores at least in the next quarter. The recovery path of the Indian entertainment sector is very difficult in the short run since people will avoid gathering and travelling to maintain social distancing. The rising rate of unemployment and a simultaneous decrease in the level of income will add salt to the wounds.

Real estate sector

There will be subdued demand in the real estate sector in general and the housing sector in particular over a period of time which may extend several quarters. As a result, the launching of new projects will get reduced. The real estate sector employs a large section of the population either directly or indirectly. But the pandemic has changed the scenario and there will be a huge job loss or job curtailment in the sector. Reduced sales and payment of high interest will make the situation more challenging for the real estate sector in India. Nevertheless, it is expected that the situation will gradually improve after a few quarters.

Chemical and petrochemical sector

The petroleum sector is under tremendous pressure even before the pandemic because the demand has slowed down throughout the world. It results in excess capacity. The coronavirus outbreak has further aggravated the sector (KPMG, 2020a).

The Indian chemical sector also heavily depends on China for its raw materials. The pandemic created bottlenecks for the sector because it has become difficult to obtain raw materials from China. It leads to escalation in the price of raw materials and it badly affects the sector (Nifty50Stocks, 2020).

Electronics and consumer durable sector

Just like many other sectors, the electronics and consumer durables sector are also facing stiff challenges due to a sudden drop in demand. The prospective consumers prefer to defer their buying decisions because the disposable income in the hands of individuals has been reduced substantially and the prospect of growth looks gloomy for the sector. In this sector also, dependence on China for products and components will negatively impact the sector because the shutdown in China makes these sectors vulnerable. The sectors are not getting the products and components which results in an increase in price.

Pandemic-related restrictions compelled the logistic providers across the globe to withhold their services which act as a deterrent to the uninterrupted supply of products. Shipment delay will result in logistic cost enhancement. Subdued demand and labour shortfall led to underutilised capacity in the plants. To survive, many businesses in the sector weighed carefully the idea of diversification to new business which may affect the core business adversely (EY, 2020).

Banking and finance

The demand for all types of loans (home loans, consumer loans, working capital financing etc.) has shrunk drastically. Even in a low-interest rate situation for loans, the banks are finding it difficult to get customers. As a result, the banks are under pressure and the situation may prevail for a few quarters. There is also a risk of getting corporate as defaulters (Nifty50Stocks, 2020).

A report from the country's Central Bank has indicated an unprecedented rise in NPA (Non-Performing Assets) in the coming months. It will lead to erosion of assets of the banks. It is expected that the coming weeks and months will show a further fall in the net interest margin. However, one positive impact of the pandemic in the sector is the use of digital banking on a large scale (Bhowmik, 2020).

Oil and gas sector

Recently, crude oil prices have experienced a downward movement primarily due to a lack of crude oil demand across the world. In India, the biggest demand for Oil and gas comes from retail direct customer end. The Aviation industry has been sorely impacted by the closure of international and domestic travel. It is expected that the demand for Oil & Gas will take at least two to three quarters to become stable and will definitely impact the Indian economy (Nifty 50 Stocks, 2020). The demand for transport fuel was slowed down due to lockdown.

Power sector

The effect on the power sector will not be that serious as compared to many other sectors. It is anticipated that post-lockdown demand is going to be increased. However, the pandemic has resulted in disruptions in the activities of the coal mines. As a result, there may be a shortage of coal which may impact the availability of power in different regions. At the same time, the demand is also low which may make up for the constraints of the supply side. However, solar projects are going to suffer because of interruption in production, disruption in the supply chain and limited availability of the required raw materials (KPMG, 2020b).

IT and software service sector

Human resources are the key in IT and software organisations. But lockdown measures adopted by the Government will restrict the free movement of human resources. The existing projects of IT and software companies are not getting completed on time. Moreover, the new IT projects are also declining. It may take at least a quarter or two to solve this issue in this sector (Nifty50Stocks, 2020).

Pharmaceutical and healthcare sector

Huge demand for the essentials like masks, sanitisers, gloves, disinfectants etc. has resulted in a demand-supply mismatch. As a result, the price of these essentials increases. The situation will be normal with the increase in production of these items and it is observed that the situation is improving. Revenue flow for private healthcare providers got impacted due to the closure of all services except emergencies. Pay-cuts and layoffs may be experienced in private hospitals. To boost up healthcare infrastructure, huge funding is required from all possible sources. The nation has decided to impose a ban on the export of crucial medicines to ensure their availability for domestic use. It is expected that the difficulties in the near term will be over with time. This is the sector where there is demand but there is temporary supply disruption.

FMCG sector

The challenges before the FMCG and the retail sectors are unique because there is a huge demand for FMCG products but the same cannot be fulfilled because of disruption in the supply chain as a result of travel restriction decrease in the number of employees and inadequate inventory. The demand for commodities is growing faster than its supply. Retailers started innovating new delivery models/procedures to brighten up the scope of delivery (especially online delivery). For instance, companies like Big Basket and Flipkart join hands with companies like Swiggy and Uber for quick delivery of products. ITC, for ensuring no-contact delivery of its products like spices and Ashirwad atta, tied up with Domino's Pizza. Other companies like Spencer's Retail and Grofers start sending their vehicles and workers for lifting goods from the centres of distribution. This mechanism adopted by Spencer's Retail and Grofers is called a 'reverse supply chain mechanism'. Companies like Metro Cash & Carry and D Mart, to motivate their workers during this tough time, started offering an extra cash incentive to their employees (Suri, 2020).

Micro, small, and medium enterprises (MSME) sector

The MSME sector is under huge pressure. Things are not going well for this sector. Many customers are not in a position to repay their dues in time because of a severe liquidity crunch. It has impacted the sector badly. The sector's contribution to the exports of our nation is significant. As such, the impact will be huge and it will take a long time to overcome the situation.

Textile sector

The pandemic has adversely affected the Apparel and Textile sector. Non-availability of raw materials in time, dearth of working capital, reduced and inconsistent supply of labour, restriction on free movement, decreased ability of the customers to buy products resulted in lower demand for Apparel and Textile goods (Rastogi, 2020). Issues like transportation problems, production loss, non-availability of the skilled labour force, reduced demand, non-availability of raw materials, order cancellation, dearth of working capital etc. have put the sector on the back foot (Ministry of Textiles, 2020).

Agricultural sector

The impact of COVID-19 on agriculture is varied and devastating which calls for immediate actions on behalf of the government. Because of nationwide lockdown agricultural activities faced two major obstacles: (1) labour non-availability, and (2) inability to access the market by the producer due to transportation problems. Labour non-availability did not throw a serious problem for food crop production like rice and wheat because of the use of machinery. However, the production of the commercial crop was drastically hit due to heavy dependence on migrant labour. Shortage of labour resulted in a sharp increase in wages. So, production of such crops becomes highly unremunerative for the farmer (Ananth, 2020).

Inability to access the market resulted in the disruption of the supply chain of agricultural products. There was a disruption in the procurement of food grains by Government Agencies (mandis) and private traders too. This, in turn, generated two sorts of problems: (a) supply shocks/ bottlenecks (b) decrease in income of small and marginal farmers causing a decrease in demand for goods. Both of these should cause the prices of commodities to be stable. However, there was panicked consumption/ purchase of urban consumers with high/moderate-income levels. This stockpiling resulted in a sudden increase in the prices of vegetables, food livestock etc. Needless to say, middlemen and traders reaped the benefit of high prices while producers/farmers of agro-product suffered a huge loss in income and purchasing power (Ramakumar, 2020).

In this connection, it may be mentioned that the Government Relief measures directed towards removing supply chain disruption of agricultural sectors are quite inadequate. One such recent measure is 'Atmanirbhar Bharat Abhiyan'. The problem with this measure is that instead of putting a focus on short-term crop loans the measure attempts to improve the income of the farmers through long-term investments. Experts think that waiver of loans, cash transfer and adequate compensation for the unsold produce are the need of the hour (Jebaraj, 2020). Overall, agricultural production has not been impacted much due to the coronavirus outbreak since the agricultural product is on the list of essential categories. It will definitely contribute to Indian economic growth in the current financial year.

Measures by the Government:

Governments across the world are announcing stimulus packages and Central Banks are lowering interest rates. The objective is to bring more money into the economy to spur demand. According to Harsh Jain, Co-founder and COO, Groww, “The RBI is trying to maintain adequate liquidity in the system and ease the inflationary pressure on the economy” (Pal, 2020).

To cope with the situation, the Union Government of our country has taken certain initiatives for providing relief to different sectors. Healthcare workers are brought under the umbrella of medical insurance. Medical insurance cover of Rs. 5 million was announced for each healthcare worker. The Central Bank of the nation (RBI) came out with certain liquidity measures like reduction in Repo rate, reduction in Cash Reserve Ratio (CRR) and lowering liquidity coverage ratio for the banks. It is expected that such measures will inject liquidity of more than Rs. 1,37,000 crores in the banking sector. Relief measures announced for the Non-Banking Financial Companies (NBFCs) and Housing Finance Companies (HFCs) include Rs. 30,000 crore liquidity infusions for these sectors. Certain relaxations have been given to financial services for three months. These include the following:

(i) There will be no “minimum balance' requirements for the holders of Savings Bank account and for withdrawing cash in the ATMs of other banks there will be no charge.

(ii) There will be a reduction in bank charges for all digital transactions.

For the real estate sector, the time for completion and registration of projects registered under the Real Estate Regulations Act (RERA) was extended by six months. At the same time, various compliance requirements under the statute were also extended by the same period. On the corporate affairs front, it is decided that the MCA (Ministry of Corporate Affairs) will not charge any late fee for filing any document, return or generation of statements during the moratorium period (01.04.2020 to 30.09.2020, 6 months). The statutory requirement of holding the Board Meeting was relaxed and the time was extended by sixty days. It is further decided that CARO (Companies Auditors' Report Order), 2020 will be applicable from FY21 instead of FY20. For preventing insolvency proceedings against MSMEs, the limit of default was extended to Rs. 10 lakhs from Rs. 1 lakh. Further, COVID-19 related loans are kept out of the ambit of the definition of default. Food-related relief initiatives include bringing a majority of the population (almost 2/3rd) under the umbrella of 'Pradhan Mantri Garib Kalyan Anna Yojana' under which each member will be given an additional five kg of rice and wheat. Moreover, an additional one kg of pulse has been earmarked for every household initially for three months. Initiatives under the DBT (Direct Benefit Transfer) include the following:

(i) Enhancement of wages of MNREGA workers from Rs. 182/- to Rs. 202/-

(ii) Provision of one-time ex-gratia of Rs. 1,000 for three months for certain categories of persons (senior citizens, widows, disabled etc).

(iii) Supply of free LPG cylinders under Ujwala scheme for a period of three months to women belonging to BPL (Below Poverty Line) families.

(iv) Providing Rs. 500 per month for a period of three months as ex-gratia to women account holders of 'Jan Dhan'.

(v) Enhancement of the amount of collateral-free loans for Self-help Groups (SHGs).

(vi) Issuing directives to the State Governments for utilising the welfare fund for the cause of building and construction workers.

Regulatory measures for the benefit of borrowers are:

(i) Permitting lending institutions, a moratorium for a period of three months on EMIs.

(ii) Allowing lending institutions to defer payment of interest for a period of three months for facilities relating to working capital.

(iii) Re-defining computation of NPA by excluding the moratorium period from the computation.

Initiatives in the social security front include bearing both the employers' contribution and the employees' contribution (12% each) of E.P.F (Employees Provident Fund) for a period of three months and enhancement of the limit of withdrawal from E.P.F.

Relief measures related to taxation include the following:

(i) Extension of Aadhaar-PAN linking date.

(ii) Extension of due date for filing ITR (income tax returns).

(iii) Extension of due date for filing GST annual returns.

Recommendations

Many organisations offered suggestions to cope with the pandemic. Amongst these, the Associated Chambers of Commerce & Industry of India (ASSOCHAM) came out with many recommendations in different periods. Keeping in line with these suggestions, the following measures may be recommended:

Cash support for the urban poor: The Government must make necessary arrangements for the vulnerable sections of the urban areas by offering them cash support. The amount may be in the range between Rs. 3,000 and Rs. 5,000 per month for the poor urban workers which include auto rickshaw drivers, street vendors, construction workers and the like.

Paid sick leave: The provision of paid sick leave has to be there to support the workers and the Government has to ensure that.

Job safety: Dismissing, firing or sacking employees should be disallowed irrespective of the sector in which the organisation belongs for a specific period which maybe three months or more depending on the situation.

Waiving cost of utility: The Government must ensure waiving of the cost of the utility for a certain period (three months or more) for the poor and vulnerable section living in urban areas.

Working capital support: The Government should identify the sectors suffering from working capital crunch and provide those sectors with financial assistance for overcoming the liquidity problems.

Industry support: Firms belonging to certain sectors were hugely affected and some of these sectors are aviation, tourism, hospitality, retail etc. As such, the Government must provide support to such sectors for a certain period (six months or more) by offering them loans.

Restructuring CSR budgets: It is high time that the companies should come forward to deploy their funds earmarked for CSR activities for managing the COVID-19 crisis and the Government has to push the companies in doing this.

Oil PSU contributions: It is observed that the oil companies in the public sector are earning huge profits due to a fall in the price of crude oil across the globe. A portion of this profit should be earmarked for managing the pandemic and the Government has to convince these companies to come forward and contribute generously for the said cause.

Ensuring manufacturing of essentials at low cost: Essential items like masks and sanitisers should be made available in bulk quantity and at a reduced cost to support the citizens of the nation. The Government, as well as the private sector, should ensure the availability of essential items at a low cost on a no-profit basis. For supporting healthcare professionals, the manufacturing of testing kits and protective gear should also be extended. The State should provide free vaccination to all its citizens.

CONCLUSION

The challenges before the Government are two-fold: (i) Providing support to the workers belonging to the informal sector (who have lost their jobs) instantaneously; and (ii) Helping the unemployed workers in search of jobs.

History reveals that the world was successful in overcoming such pandemic situations in the past. As such, one should be optimistic that the world economy will bounce back this time also. New opportunities will emerge, and the Indian economy will prosper along with the global economy.

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REFERENCES

Ananth, S. (22nd April 2020). COVID-19 impact on agriculture: varied and devastating. *Deccan Herald J, 254*. https://www.deccanherald.com/opinion/covid-19-impact-on-agriculture-varied-and-devastating-828390.html

Bhowmik, R. (27th April 2020). Opinion: How banks will change post COVID-19. *THE WEEK*. https://www.theweek.in/news/biz-tech/2020/04/27/opinion-how-banks-will-change-post-covid-19.html

Datta, D. (May 2020). Battling the Black Swan. *Outlook Money*, 71. https://www.outlookindia.com/outlookmoney/public/issue/olm_may_2020_icicibank.pdf.

EY. (July 2020). Managing the impact of COVID-19 on India's supply chains – Now, Next and Beyond. https://assets.ey.com/content/dam/ey-sites/ey-com/en_in/topics/government-and-public-sector/2020/09/managing-the-impact-of-covid-19-on-india-supply-chains.pdf.

Gupta, A. (May 2020a). Trapped in the Whirlwind of Adversity. *Outlook Money*, 52-53. https://www.outlookindia.com/outlookmoney/public/issue/olm_may_2020_icicibank.pdf.

Gupta, A. (2020b). India: Coronavirus (COVID-19) and Indian Economy. *Mondaq*. https://www.mondaq.com/india/operational-impacts-and-strategy/936014/coronavirus-covid-19-and-indian-economy.

Jebaraj, P. (17th May 2020). Coronavirus package | What are the measures announced by the government to deal with the farm crisis?. *The Hindu*. https://www.thehindu.com/business/Economy/coronavirus-package-what-are-the-measures-announced-by-the-government-to-deal-with-the-farm-crisis/article31603557.ece

KPMG. (April 2020a). Potential Impact of COVID-19 on the Indian Economy.https://www.mmaglobal.com/files/potential_impact_of_covid_19_on_the_indian_economy_1585908555.pdf.pdf.pdf.pdf

KPMG. (2nd December 2020b). Government and institution measures in response to COVID-19. https://home.kpmg/xx/en/home/insights/2020/04/india-government-and-institution-measures-in-response-to-covid.html.

Mehta, B., & Arjun, K. (13th April 2020). COVID-19 and The Lockdown Impact: Estimating the Unemployment and Job Losses in India's Informal Economy, *The Times of India*. https://timesofindia.indiatimes.com/blogs/red-button-day-light/covid-19-and-the-lockdown-impact-estimating-the-unemployment-and-job-losses-in-indias-informal-economy/

Ministry of Textiles. (18th September 2020). Effects of Covid-19 Pandemic on Textile Sector. https://nidm.gov.in/covid19/PDF/covid19/Ministries/Ministry%20of%20Textiles/2.pdf.

Nifty50Stocks (2nd May 2020). Coronavirus impact on various sectors and Indian economic growth. https://www.nifty50stocks.com/coronavirus-indian-economic-growth/

Pal, A. (May 2020). Cushioning Impact of Rate Cuts. *Outlook Money*, 72-73. https://www.outlookindia.com/outlookmoney/public/issue/olm_may_2020_icicibank.pdf.

Ramakumar, R. (2020). The Covid-19 pandemic and Indian agriculture: A note. Foundation for Agrarian Studies.

Rastogi, S. (29th April 2020). The New Normal: Analysis of COVID-19 Impact on the Indian Economy. Small Case. https://blog.smallcase.com/the-new-normal-analysis-of-covid-19-on-indian-businesses-sectors-and-the-economy/

Suri, I. S. (30th April 2020). Impact of COVID-19 on Indian Economy and Road Ahead for Corporate Sector. *BWDISRUPT*. http://bwdisrupt.businessworld.in/article/Impact-of-COVID-19-on-Indian-Economy-and-Road-Ahead-for-Corporate-Sector-/30-04-2020-190322/

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Profitability of Non-Banking Financial Companies in India during Covid-19 Pandemic: A DuPont Analysis

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ABSTRACT

The Non-Banking Financial Companies (NBFCs) flourished in Indian landscape since 1980s and since then the sector has undergone various changes. The services provided by these Indian NBFCs are quite similar to those of banks. The uniqueness, however, lies in its credit extension to unbanked customers and customization of financial products. The global financial markets, including India have been severely hit by the COVID-19 pandemic. The present study takes a sample of 52 NBFCs-D (Non-Banking Financial Companies accepting Public Deposits) and 312 NBFCs-ND-SI (Systemically Important Non-Deposit Taking Non-Banking Financial Companies) currently registered with the Reserve Bank of India (RBI). The period of study spans over the financial years 2019-2020 and 2020-2021, during which Covid-19 Pandemic was prevalent. The three-step DuPont Analysis method was applied to analyze the profitability position of the select NBFCs during the years of Covid-19 pandemic. In this analysis, Return on Equity is disintegrated into Net Profit Margin (which measures the net profit generated as a percentage of net revenue), Total Asset Turnover (which measures the efficiency in utilization of assets in generating revenue) and Equity Multiplier (measures the proportion of assets financed by shareholders' equity),to report on profitability performance. The results of the analysis indicate the grim profitability position of Indian NBFCs during the Covid-19 Pandemic. During both the years of the pandemic, i.e., 2019-2020 and 2020-2021, the net profit generated by the select NBFCs was appreciably low. This was reflected in the value of Net Profit Margin for both the years. The revenue generated on utilizing the assets was also very low. This was indicated by the low value of Total Assets Turnover of the select NBFCs in both the years of pandemic. The Equity Multiplier ratio indicated the fact that, a high amount of debt was employed to finance the assets of the select NBFCs in 2019-2020 and 2020-2021.Debt is a cheaper source of finance in comparison to equity. However, incurrence of high amount of debt, when revenue generation is substantially low, leads to failure in servicing of debt. This is a financially risky situation. Along with that low profit indicates, that the low cost of debt did not yield any advantage as far as profit is concerned. The findings of the study indicate that the Indian NBFC sector was critically reeling under pressure with issues of, inadequate profit, fault in generating revenue from assets and inefficient allocation of own funds in assets.

Keywords: *Profitability; Net Profit Margin; Total Asset Turnover; Equity Multiplier; Return on Equity*

INTRODUCTION

According to the study by Makhijani (2014), Non-Banking Financial Companies (NBFCs) in India have taken up a complementary role to that of banks. Since the 1980s, when the banking sector was subjected to stringent regulations, the NBFC sector has grown slowly. In January 1997, changes in the RBI Act 1934 were made in the regulatory and supervisory structure of NBFCs. This was done to facilitate the smooth functioning of NBFCs. The systematic growth of NBFCs in India started to take root in 1997. According to Khan (2010), the NBFCs provide loans and advances to industry, agriculture, real estate, vehicle financing, hire purchase, lease, personal loans, working capital loans, loans against shares, investments, etc. They participate in the money market and are also involved in underwriting shares, stocks, etc. They are also engaged in providing specialized services such as portfolio management, asset management, and factoring services. The functioning of NBFCs in developing countries, involves a mix of banking and non-banking services. Another notable factor elaborated by Das and Ranjan (2019) relating to NBFCs in developing nations is, the diversity in the customer segments to which they cater. The NBFCs catering to Micro, Small and Medium Enterprises (MSMEs) have dominance in rural areas; the ones engaged in real estate, leasing and hire purchase are dominant in urban areas. The Reserve Bank of India brought the Indian NBFC sector under strict regulations and prudential norms. The capital adequacy and asset classification norms of the NBFC sector were made on par with the banking sector. The NBFC sector has added depth and dimension to the diversity of Indian Financial System over the years.

According to RBI, small and medium NBFCs have turned out to be the ones bearing the brunt in the wake of the Covid-19 outbreak. The large NBFCs have the advantage of raising money to pay back debt; it is the small and medium NBFCs that have to rely on reserves. The cash inflows in the Indian NBFC sector are showing signs of scarcity due to suspension of industrial operations. The liquidity crisis in the Indian NBFC sector, in 2018-2019, had already discouraged the suspicious banking sector to lend to NBFCs. The Covid-19 outbreak has further worsened the situation for Indian NBFCs. NBFCs had appealed to Reserve Bank of India to direct banks, to extend the benefit of three-month asset classification moratorium during the initial days of the pandemic. In response to it, such a moratorium had been provided from March to May 2020. A further extension till August 2020 was appealed by the NBFCs, as major business activities had remained shut in lockdown. The banks did provide loan moratorium, however in case of debt servicing the NBFCs had to rely mostly on their own reserves.

The Finance Industry Development Council, a representative body of assets and loan financing NBFCs, had urged RBI to consider a draw down from their reserves and an adjustment in Additional Expected Credit Losses provision requirement, in excess of the provisions calculated as per Normal Probability of Default. Such an adjustment can lead to comparative ease for the sector in accessing equity or debt when the situation normalizes over time. The NBFCs had further sought a one-time restructuring window till March 2021, for changing loan repayment schedule, restructuring installments, due to revised cash flows expected from customers. According to Impact Assessment of Covid-19 on Indian Agriculture and Rural Economy (2020), the most affected segments due to the pandemic are transport operators and MSMEs who form the bulk of customer base of the NBFCs. The NBFCs had further requested RBI to provide funds to Small Industries Development Bank of India (SIDBI) and National Bank for Agriculture and Rural Development (NABARD), so that they could provide long term loans to NBFCs.

LITERATURE REVIEW

There are various studies that have been undertaken based on different dimensions of the functioning of NBFCs. A number of studies have also been conducted on the impact of Covid-19 Pandemic on Indian economy. Of them some of the noted studies are elaborated below:

Bhole (2004) focussed on the problems,prospects and growth pattern of the NBFCs.He conducted a comparitive study between profitabiility of banks and NBFCs. Kantawala (2001) on analysing the performance of NBFCs in India from 1985-1995, found significant difference in profitability ratio, leverage ratio and liquidity ratio of various categories of NBFCs in India.In the study by Harihar (1998) and Machiraju (2010), overall performance of NBFCs with respect to cost of investment,cost of operations and profitability were taken into consideration.The study offered an insight into aggregate or overall performance of the NBFCs. Paul (2011) based on the analysis of some listed NBFCs had found out differences in their financial performances. Vadde (2011) on examining the performance of Indian NBFCs from 2008-2009 had found significant decrease in operating profit and profitability during the said period. Sowndharya and Shanmugham (2014) focussed on performance analysis of NBFCs taking into consideration efficiency and profitability.

Chaudhary, Sodani and Das (2020) assessed the disastrous impact of Covid-19 on Indian aviation, tourism, retail, capital markets, MSMEs and oil sectors.They focussed on the depreciation of rupee value and the loss of jobs of many migrant workers .They were of the opinion that India has to presently focus more on inclusive development. Das, Kumar and Patnaik (2020) stressed on the slowdown in

Indian domestic demand due to the pandemic.They have also discussed on the estimated drastic fall in Gross Domestic Growth rate of Indian economy as a consequence of Covid-19 pandemic. Dev and Sengupta(2020) has predicted long lasting damage to the Indian economy due to the pandemic.They have focussed on the need of the government to balance the income support especially of that of the poor,with the commensurate need. Agarwal and Singh (2020) has focussed on the wrecking of the Indian stock market for decline in consumption levels. The shortage in supply of raw materials for pharmaceuticals,automobiles, chemical products and electronics industries and the fall of Indian exports to China, is estimated to have a far reaching detrimental effect. Ramakumar and Kanitkar (2021) concluded that the government in India needs to focus more on the demand side revival and allocate budgetary funds for generation of employment opportunities.

The importance of NBFCs is increasing steadfastly with the gradual expanse in Indian economy. Various studies are unanimously indicating the distress of Indian economy during Covid-19 Pandemic. This paper studies and analyses the profitability position of the NBFCs in India during Covid-19 Pandemic. The effect of various significant ratios on overall profitability of a NBFC are examined,to cover multiple dimensions.

Objectives of the study

The study envisages on the path of the following objectives:

(a) To study the profitability position of NBFCs for first year of Covid-19 Pandemic,i.e,for the financial year 2019-2020.

(b) To study the profitability of position of NBFCs for second year of Covid-19 Pandemic,i.e, for the financial year 2020-2021.

METHODOLOGY

The present study has as sample 52 NBFCs-D (Non-Banking Financial Companies accepting Public Deposits) and 312 NBFCs-ND-SI (Systemically Important Non-Deposit Taking Non-Banking Financial Companies). This is the number of total NBFCs-D and NBFCs-ND-SI currently registered with the RBI, as per Report on Trends and Progress of Banking in India 2021. The period of study covers the financial years 2019-2020 and 2020-2021, during which the Covid-19 pandemic was prevalent. The study is based on secondary data collected from the reports on NBFCs available in Reserve Bank of India website. Along with that, different books, journal articles, annual reports and web-based materials have been consulted. The profitability of the RBI registered NBFCs (52 NBFCs-D and 312 NBFCs-ND-SI), taken as sample for the study, are examined with the help of three step DuPont Analysis. In this analysis, Return on Equity (ROE) is disintegrated into Net Profit Margin(measures the net profit generated as a percentage of net revenue),Total Asset Turnover(measures the efficiency in utilization of assets in generating revenue) and Equity Multiplier (measures the proportion of assets financed by shareholders' equity), to report on profitability performance. According to Philips (2015), this analysis was popularized by the American company DuPont de Nemours, Inc., in its internal efficiency report. The analysis takes into consideration both income statement data and balance sheet data. Saunders (2000), corroborated the fact that, the main ratio for performance evaluation in case of DuPont Analysis is Return on Equity, which measures profitability. Further Rogova (2014) in his study,seconded the fact that Return on Equity exhibited an advantageous position in profitability reporting , as it can be disintegrated into different profitability ratios. Jaffe *et al.* (2008),in their research work,concluded that Return on Equity measures profitability position of a firm by taking into consideration the return of the investors.

RESULTS

The Return on Equity and its disintegration into Net Profit Margin, Total Asset Turnover and Equity Multiplier for the selected sample of NBFCs-D and NBFCs-ND-SI for the first year of Covid-19 Pandemic, i.e,2019-2020,gives the following result:

Table 1: Return on equity, net profit margin,total asset turnover and equity multiplier of RBI registered NBFCs-D and NBFCs-ND-SI for financial year 2019-2020

Return on Equity	Net Profit Margin	Total Asset Turnover	Equity Multiplier
0.065259	0.114457	0.111066	5.019918

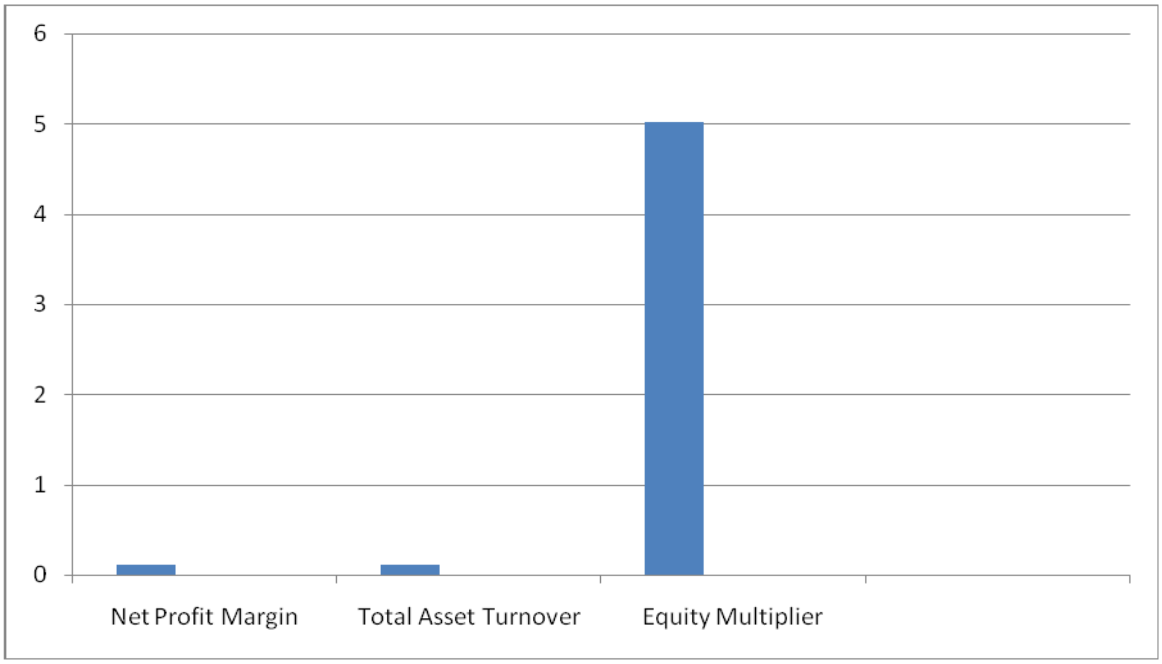

Figure 1: Graphical presentation of net profit margin,total asset turnover and equity multiplier of RBI registered NBFCs-D and NBFCs-ND-SI for financial year 2019-2020

In line with the first objective of the study, it can be observed that the value of the ratios Net Profit Margin and Total Asset Turnover is quite low for the select NBFCs, for the financial year 2019-2020. In comparison to their values, the value of Equity Multiplier is appreciably high at 5.019918. This presents a dismal situation as far as profitability is concerned. Net Profit Margin indicates the proportion of Net Profit earned to Net Revenue. Net Profit is obtained after deducting total cost (sum total of operating and non-operating cost) from total revenue (sum total of operating and non-operating revenue). A low value of Net Profit Margin means that a company has an ineffective total cost structure or poor pricing strategies or both. Thus, it points towards inadequate generation of profit. Total Asset Turnover indicates the efficiency in utilizing assets to generate revenue. A low value of Total Asset Turnover for the select NBFCs in 2019-2020, indicates that the NBFCs failed to generate adequate revenue utilizing its total assets. Equity Multiplier measures the portion of assets financed by the shareholders' equity. Hence, invariably the high value of Equity Multiplier for the select NBFCs, for the financial year 2019-2020, means that the NBFCs were relying more on debt, as its source of fund, to finance the assets. A high Equity Multiplier indicates high usage of debt. Using debt, as a source of capital, leads to incurrence of lower cost compared to using equity. This advantage of low-cost incurrence can only be viable when; the revenue generation is adequate to pay off the total debt, and when a company is able to generate substantial profit due to such low cost. But in 2019-2020, there was low revenue and profit generation by the NBFCs. In this situation a high burden of debt calls for a financially risky situation.

Table 2: Return on equity, net profit margin,total asset turnover and equity multiplier of RBI registered NBFCs-D and NBFCs-ND-SI for the financial year 2020-2021

Return on Equity	Net Profit Margin	Total Asset Turnover	Equity Multiplier
0.057617	0.126548	0.10169	4.47729

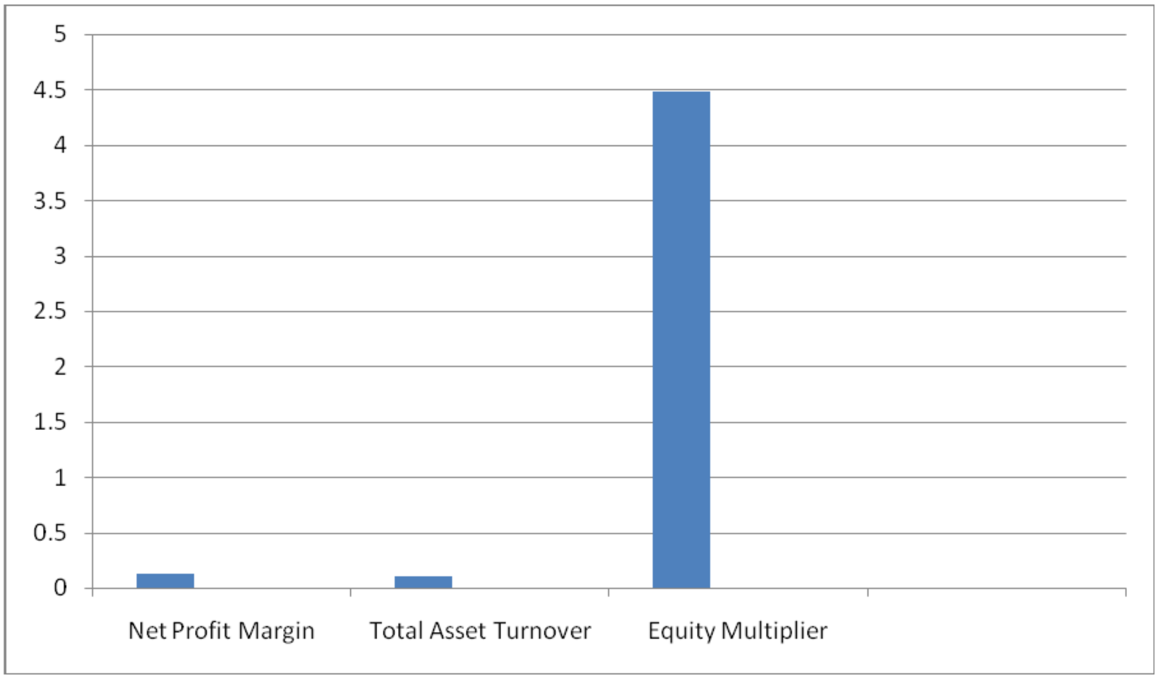

Figure 2: Graphical presentation of net profit margin,total asset turnover and equity multiplier of RBI registered NBFCs-D and NBFCs-ND-SI for financial year 2020-2021

In line with the second objective of the study, a number of important observations could be made. Net Profit Margin and Total Asset Turnover, of the select NBFCs for the financial year 2020-2021, had very low values. In comparison to their values, the value of Equity Multiplier is appreciably high. A low value of Net Profit Margin of the select NBFCs, in 2020-2021, means that the revenue earned with respect to total cost was inadequate, leading to low profit generation. A low value of Total Asset Turnover for the select NBFCs in 2020-2021, indicates failure on the part of the NBFCs to utilize its assets in generating adequate revenue. A proportionately very high value of Equity Multiplier for the select NBFCs, for the financial year 2020-2021, indicates that the NBFCs relied highly on debt financing, rather than its own funds, to build their assets. In other words, the select NBFCs were highly leveraged in 2020-2021. Incurring high debt to source funds, can be an effective business strategy when a company is able to generate adequate revenue to pay off the debts. It ensures efficient servicing of the high amount of debt. Debt is a cheaper source of finance compared to equity. Employment of high amount of debt can only be taken to be a successful strategy when a company is able to yield adequate profit. But in 2020-2021, there was low revenue and profit generation by the NBFCs. In such a situation a high leverage entails financial risk.

DISCUSSION

In the study conducted by Das (2016), the Return on Assets which measures the net income earned in proportion to total assets has been consistent at around 2% since 2008.This was higher than the Return on Assets of the banks. Kalra (2016) had concluded in her study that Total Assets, Deposits, Total Income and Total Expenditure significantly influenced profitability of Indian NBFCs. Total Assets which measure solvency of financial institutions turned out to be the most important factor in determining profitability position. The study also indicated that operating efficiency and total equity contributed significantly in increasing the profits of Indian NBFCs. In comparison to the present study, the similarity lies in the fact that Equity Multiplier, i.e., the ratio between total assets and total equity (5.019918 in 2019-2020 and 4.47729 in 2020-2021) is also seen to contribute most significantly to profitability of the NBFCs in India during Covid-19 pandemic. Hence total assets and total equity continue to affect profitability of Indian NBFCs both during pre and post covid-19 pandemic period.

From the study of Shanmuganandavadivel and Sasikala Devi (2018), the most important finding relating to profitability of Indian NBFCs was that the Return on Assets had declined for the sector from 2013-2014 to 2017-2018, due to poor asset quality. In comparison to that Return on Equity during the same time period was fairly high. As can be seen in the present study the asset quality of Indian NBFCs continue to be poor during pandemic period as in pre-pandemic period. This is indicated by the low values of Total Assets Turnover ratio (0.111066 in 2019-2020 and 0.10169 in 2020-2021) of Indian NBFCs during the two initial years of covid-19 pandemic. Girija and Faisal (2019) assessed the profitability positions of NBFCs-D and NBFCs-ND-SI during the period 2014-2015 to 2017-2018.In case of both the categories of NBFCs the net profit showed an increasing trend, however the profit of NBFC-ND–SI remained higher than NBFC-D over the time period, thus establishing the importance of the former. During covid-19 pandemic the net profit margin ratio (ratio between net profit and net sales) remained considerably low. However, the net profit margin ratio of the Indian NBFCs, did increase slightly from 2019-2020 to 2020-2021(from 0.114457 to 0.126548), when the government started to implement the policies to revive the worse hit NBFC sector during the pandemic. Rajsekaran and Premalatha (2020), inferred in their study that in terms of Return on Net Worth, Return on Capital Employed ,Price Earnings Ratio and Earnings per share the profitability position of ten NSE listed NBFCs was fairly good for the period 2014-2015 to 2019-2020.However in the present study, considering the total number of Indian NBFCs(both NBFCs-D and NBFCs-ND-SI),the profitability position had deteriorated significantly during 2019-2020 and 2020-2021 as is indicated by the significantly low values of Net Profit Margin .

A notable fact that could be observed is that profitability position of NBFCs in India suffered significantly in terms of net profit generation and total asset generation. The asset quality of NBFCs continued to be dismal also during the period of pandemic. However, total equity continued to contribute significantly to the profitability of Indian NBFCs even during the years of pandemic.

CONCLUSION

On analysis of the results, in line with the objectives of the study, the omnipotent fact that emerges is that the profitability position of Indian NBFCs was quite dismal during the Covid-19 Pandemic. During both the years of the pandemic, the profit generated remained low, as indicated by the low Net Profit Margin. Along with that, the revenue generated from utilizing assets also remained appreciably low. On the other hand, a high amount of debt was infused to finance the assets in 2019-2020 and 2020-2021. Low profit and revenue generation, coupled with the incurrence of a high amount of debt, indicates financial risk issues.

Profitability Analysis is a continuous management and planning procedure that covers all the revenue generating activities, asset and liability allocation issues of a financial institution. It serves one of the main purposes of financial management. Indian NBFCs have a deep-rooted problem in their basic operational and financial strategies with respect to profit generation. Such problems, coupled with the widespread economic distress prevalent in the Indian economy during the pandemic, have adversely affected the Indian NBFC sector immensely. The importance of the NBFC sector in a developing economy like India is significant. The cost management, balance sheet management, and operational strategies have to be corrected in detail and in time to improve the profitability of the Indian NBFC sector.

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REFERENCES

Agarwal, S., & Singh, A. (2020). Covid-19 and its impact on Indian economy. *International Journal of Trade and Commerce-IIARTC, 9*(1), 72-79.

Bhole, L. M. (2004). *Financial institutions and markets: structure, growth and innovations*, (4th ed.) Tata McGraw-Hill Education.

Chaudhary, M., Sodani, P. R., & Das, S. (2020). Effect of COVID-19 on economy in India: Some reflections for policy and programme. *Journal of Health Management, 22*(2), 169-180.

Das, D. K., & Ranjan, P. S. (2019). The Role of NBFCin Development of Indian Economy:A Case Study. *International Journal of Advanced Research in Commerce,Management & Social Science , 2* (4), 19-26.

Das, D. S. (2016). Performance and Growth of Non-Banking Financial Companies as Compared to Banks in India. *International Journal of Multifaceted and Multilingual Studies , 3* (3).

Das, D., Kumar, K., & Patnaik, S. (2020). The impact of covid-19 in Indian economy–an empirical study. *International Journal of Electrical Engineering and Technology, 11*(3).

Dev, S. M., & Sengupta, R. (2020). Covid-19: Impact on the Indian economy. *Indira Gandhi Institute of Development Research, Mumbai*.

Girija, K., & Faisal,Dr.U (2019). Analytical Study of Financial Performance of Non Banking Financial Companies(NBFCs) in India. *Think India Journal , 22* (25).

Harihar, T. S. (1998). Non-Banking Finance Companies, the Imminent Squeeze. *Chartered Financial Analyst,* 40-47.

Jaffe, J.F., Jordan, B.D.,Ross, S.A. & Westerfield, R.W. (2008). *Modern Financial Management* (8th ed.). New York :Mc Graw Hill.

Kalra, R. (2016). Performance Analysis of Non-Banking Financial Institutions. *International Journal of Research in Economics andSocial Sciences , 6* (No. 11), pp. 1-14.

Kantawala, A. S. (2001). Financial performance of non banking finance companies in India. *Indian Economic Journal, 49*(1), 86-92.

Khan, J. A. (2010). *Non-Banking Financial Coompanies in India:Functioning and Reforms* (1st ed.). India: New Century Publications.

Machiraju, H. R. (2010). *Indian financial system*. Vikas Publishing House.

Makhijani, N. (2014). Non Banking Finance Companies-Time to Introspect. *Analytique , 10* (2), 34-36.

National Bank for Agriculture and Rural Development (2020). *Impact Assessment of Covid-19 on Indian Agriculture and Rural Economy*, Department of Economic Analysis & Research, Mumbai.

Paul, P. (2011). Financial Performance Evaluation- A Comparative Study of Some Selected NBFCs. *Indian Journal of Finance , 5* (5), 13-22.

Phillips, M. (2015). The DuPont invention that changed how things work in the corporate world. *Quartz*.

Rajsekaran, S., & Premalatha, D. K. (2020). Analysis of Finan*cial Performance of Non-Banking Financial Companies in India.* Dogo Rangsang Research Journal , 10 (6).

Ramakumar, R., & Kanitkar, T. (2021). Impact of COVID-19 pandemic on the Indian economy: A critical analysis. *Investigación económica, 80*(315), 3-32. https://doi.org/10.22201/fe.01851667p.2021.315.76845

Rogova, E. (2014). Dupont analysis of the efficiency and investment appeal of Russian oil-extracting companies. *In Proceedings of the 8th International Scientific Conference "Business and Management 2014"*, Vilnius, Lithuania.

Saunders, A. (2000). *Management of Financial Institutions* (3rd ed.). McGraw Hill.

Shanmuganandavadivel, J., & Sasikala Devi, D. (2018). Performance of NBFC's-An Indian Context. *International Journal of Pure and Applied Mathematics* , Vol. 119 (No. 8).

Sowndharya, R., & Shanmugham, R. (2014). Analysis of Financial Performance of Non-Banking Financial Companies in India. *Indian Journal of Applied Research , 4* (12), 556-558.

Vadde, S. (2011). Performance of non-banking financial companies in India-An evaluation. *Researchers World, 2*(1),123.

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A Study on Impact of COVID- 19 Pandemic on Indian Banking Sector

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ABSTRACT

The banking sector plays a crucial role in the Indian economy. Banks not only provide a flow of finance in the Indian economy but also act as a driver to uplift socio economic development in India. In 2020, the sudden spread of the COVID-19 virus and the imposition of a nationwide lockdown presented numerous challenges in front of all sectors of the Indian economy, including the banking sector. In this paper, the researcher portrays the impact of COVID-19 on the Indian banking sector and demonstrates various measures that have been taken by the Reserve Bank of India (RBI) to counter the adverse impact of COVID-19 on the Indian banking sector. This study is based on secondary data which has been collected from various newspapers, articles, reports, and published research journals available on the internet. According to this report, the RBI and the government should provide more loans and simplify credit conditions in order to increase liquidity in the economy and lessen financial stress among small and medium businesses. The immediate takeaway from the epidemic is that the government should strengthen our economy in order to absorb the impact of future crises of this nature.

Keywords: *COVID-19; Indian Economy; Lockdown; Non-Performing Assets; Loan Moratorium*

JEL code: E43, E58, G21

INTRODUCTION

The Indian economy was already in a precarious state, but the imposition of a nationwide lockdown and the suspension of major economic activities due to COVID-19 weakened it even further (Ali, 2020). This pandemic affected various sectors of the Indian economy. The Indian economy is broadly segregated into three sectors, namely the primary sector (agriculture, farming, fishing, etc.), the secondary sector (manufacturing, processing, etc.) and the tertiary sector (financial services, transportation services, etc.) (Ramakumar & Kanitkar, 2021). All these sectors are supported by banks. Behind every successful economy, there is always a sound banking system. The banking sector is responsible for most of the financial activities going on in the economy, and this sector is working as a supporting hand to all of the industries in terms of financing, credit, transactions, collection, and payment, and it mobilizes deposits and provides credit to various sectors across India. Apart from their traditional work, banks are now facilitating e-commerce, promoting digital transactions and providing forex support to all sectors in the Indian economy. If the banking sector gets impacted by any hindrance, it will also impact other sectors. In this paper, the researcher portrays the impact of COVID-19 on the Indian banking sector and discusses various regulatory measures that have been announced by the RBI so far to ameliorate the economic shock.

LITERATURE REVIEW

In their research paper, Bobade and Alex (2020) emphasised the impact of COVID-19 on the Indian banking sector, as well as RBI policies that have been implemented thus far.

Dev and Sengupta (2020) have written an article about the impact of COVID-19 on the Indian economy along with a detailed analysis of the different sectors that suffered from COVID-19. They highlighted that COVID-19 has had an adverse influence on India's banking sector (particularly public sector banks), and that this sector has been having a hard time dealing with the swelling losses from nonperforming assets (NPAs) on their balance sheets.

Perwej (2020) explained in his article several operational and technical challenges that banks are currently facing due to COVID-19. According to the researcher, banks should focus on utilising new technologies and make their infrastructure agile in order to traverse the obstacles presented by the COVID-19 crisis.

Sharma and Mathur (2021) in their article discussed the impact of the lockdown on Indian banks in the event of moving beyond July 2020. According to researchers, people are now playing it safe as a consequence of the pandemic, and there has been a huge shift toward saving instead of borrowing. It enhanced the amount of money kept in bank accounts.

Chanduji and Thakor (2020) in his article mentioned this pandemic forced Indian banks towards digitizing and optimizing the bank's back-office operations. Researchers revealed that there was a major shift towards precautionary savings and the risk aversion for households. The researcher has also mentioned that in future banks will operate in a financial system that is awash with the liquidity and interest rates are extremely low.

Research objectives

The objectives of this study are

- To understand the impact of COVID-19 on Indian banking sector.
- To discuss the regulatory measures taken by the Reserve Bank India to counter the impact of COVID-19 on the Indian banking sector.

METHODOLOGY

This study is descriptive in nature and it is supported by secondary data. The study objectifies to identify the impact of COVID-19 and the therefore the resultant nationwide lockdown on Indian Banking Sector and to discuss various measures that has taken by RBI to counter its adverse impact. Under the study, data regarding Indian banks concerning the FY 2020-2021, 2021-22 are collected. Data have been collected from various newspapers, articles, reports, published research journal available in internet.

RESULTS AND DISCUSSION

Impact of COVID-19 pandemic on Indian Banking Sector

Banks plays a crucial role in socio-economic development of a country. Every healthy economy is always supported by a sound banking system. Primarily, it collects funds from surplus sector and channelizes them to deficit sector in the form of loans to bridge the gap. Banks also try to reduce regional imbalances. It helps in capital formation and improving standard of living of people by providing loan for purchases of goods and services. Moreover, banks are also facilitating e-commerce, promoting digital transactions, providing forex support to all sectors. So, it is very much required to analyze the impact of COVID-19 pandemic on Indian Banking Sector.

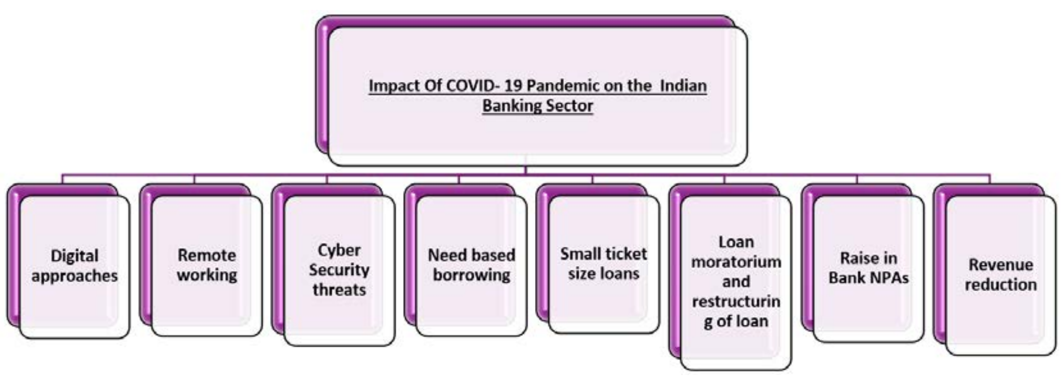


Figure 1: Showing impact of COVID-19 pandemic on Indian Banking Sector

Digital approaches: - During this pandemic bank in India did manage to bring innovation into play, they brought and adopted the age of technology and digitization. This pandemic has accelerated the proliferation of digital transaction as customers mindset shifted to digital payments, online services and other digital solutions. Digitalization has also been very helpful for banks both in terms of maintain contact with their customers and also as organizing their internal ways of working. Though digital solutions are there in India before this pandemic, but this pandemic has created such a scenario that compel banks and their customer to adopt digital banking solutions.

Table 1: Payment system indicators – annual turnover (April-March)

Item	Volume (Lakh)		
	2018-19	2019-20	2020-21
1	2	3	4
A. Settlement Systems			
CCIL Operated Systems	36	36	28
B. Payment Systems			
1. Large Value Credit Transfers – RTGS	1,366	1,507	1,592
Retail Segment			
2. Credit Transfers	1,18,481	2,06,506	3,17,852
2.1 AePS (Fund Transfers)	11	10	11
2.2 APBS	14,949	16,766	14,373
2.3 ECS Cr	54	18	0
2.4 IMPS	17,529	25,792	32,783
2.5 NACH Cr	8,834	11,290	16,450
2.6 NEFT	23,189	27,445	30,928
2.7 UPI	53,915	1,25,186	2,23,307
3. Debit Transfers and Direct Debits	4,914	7,525	10,456
3.1 BHIM Aadhaar Pay	68	91	161
3.2 ECS Dr	9	1	0
3.3 NACH Dr	4,830	7,340	9,630
3.4 NETC (Linked to Bank Account)	6	93	650
4. Card Payments	61,769	72,384	57,841
4.1 Credit Cards	17,626	21,773	17,641
4.2 Debit Cards	44,143	50,611	40,200
5. Prepaid Payment Instruments	46,072	53,318	49,392
6. Paper-based Instruments	11,238	10,414	6,704
Total – Retail Payments (2+3+4+5+6)	2,42,473	3,50,147	4,42,229
Total Payments (1+2+3+4+5+6)	2,43,839	3,51,654	4,43,821
Total Digital Payments (1+2+3+4+5)	2,32,602	3,41,240	4,37,118

Source: RBI, 2021b

Above table shows that within the F.Y. 2020-2021 digital transactions in India have been increased by 28% (i.e., from 3,41,240 lakhs in 2019-2020 to 4,37,118 lakhs in 2020-2021). As customers are becoming quick access to smartphones, internet, banks can easily reach out to their customers and communicate with them digitally. This brings an enormous opportunity for lending institutions like banks to build intuitive customer journeys for interacting with them. Banks can now do the KYC (Know Your Customer), underwriting, and verification process digitally. A lot of services are rendered by banks within the field of lending product design digitally such as click payments, checkout financing (checkout financing refers to loans offered during the merchant's online checkout process), buy now-pay later credit solutions etc. It is expected that this trend would continue in future and this banking sector will witness a rise in the number and size of digital transactions.

There are so many benefits are there in adopting digital approach, like banks are getting benefits in unit cost, customer service, help in improving customer experience significantly, now banks are able to get in their customers at lower cost. The whole digitalization got big boost. Not only banks are getting huge benefits in adopting such ways of working but also customers. Digital banking acts as a touchless approach, there is no such COVID-19 risk in using digital tools for making their transactions. So, for customers it is a secure approach to protect themselves from COVID-19. Ultimately this pandemic will allow banks to push this new way of banking into the future and propel India towards a fintech nation.

Remote working: - This pandemic and lockdown has been created a troublesome situation for banking sectors. Multiple business continuity challenges have been arisen in fort of banking sectors to provide services, obey compliance functions, and maintaining social distancing norms. Banks are taken care of their branches', customers, employees and that they need to make sure that linkage has not broken during this point.

Banks have tried to open all their branches' and rendered services as per RBI mandate during this tough time. Banks has devised new ways of working like remote working, internet banking to continue its operations and deliver satisfactory level of services to their customers. It has been seen that productivity of workers has gone up in remote working platform and feedback from customers is also stated the same. This remote working saves 2 to 3 hour every day in unproductive travel time for some employees. It has helped them to extend their productivity and operational efficiency. At the same time due to this platform and pandemic situation so many contractual bank employees had lost their job also. As per the data published by the All-India Bank Employee Association (AIBEA) 1.5 lakhs bank employees (frontline workers) have been tested positive. And more than 1300 bank employees have lost their life due to COVID-19 (Chanduji & Thakor, 2020).

Cyber Security threats: - Financial institutions are always favorite among cyber criminals. During this difficult time with the increasing needs of remote working and more uses of digital approach by banks and their customers, there is a growing concern for cybercrimes. It has been observed that now days malware attacks have becoming more and more frequent. The banking frauds in India have increased during this pandemic situation.

Table 2: Fraud cases - bank group-wise

(Amount in ₹ crore)						
Bank Group/Institution	**2018-19**		**2019-20**		**2020-21**	
	Number of Frauds	**Amount Involved**	**Number of Frauds**	**Amount Involved**	**Number of Frauds**	**Amount Involved**
1	**2**	**3**	**4**	**5**	**6**	**7**
Public Sector Banks	3,704	64,207	4,410	1,48,224	2,903	81,901
	(54.5)	(89.8)	(50.7)	(79.9)	(39.4)	(59.2)
Private Sector Banks	2,149	5,809	3,065	34,211	3,710	46,335
	(31.6)	(8.1)	(35.2)	(18.4)	(50.4)	(33.5)
Foreign Banks	762	955	1026	972	521	3,315
	(11.2)	(1.3)	(11.8)	(0.5)	(7.1)	(2.4)
Financial Institutions	28	553	15	2,048	25	6,839
	(0.4)	(0.8)	(0.2)	(1.1)	(0.3)	(4.9)
Small Finance Banks	115	8	147	11	114	30
	(1.7)	(0.0)	(1.7)	(0.0)	(1.6)	(0.0)
Payments Banks	39	2	38	2	88	2
	(0.6)	(0.0)	(0.4)	(0.0)	(1.2)	(0.0)
Local Area Banks	1	0.02	2	0.43	2	0
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Total	6,798	71,534	8,703	1,85,468	7,363	138,422
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
Note: Figures in parentheses represent shares in total (in per cent).						

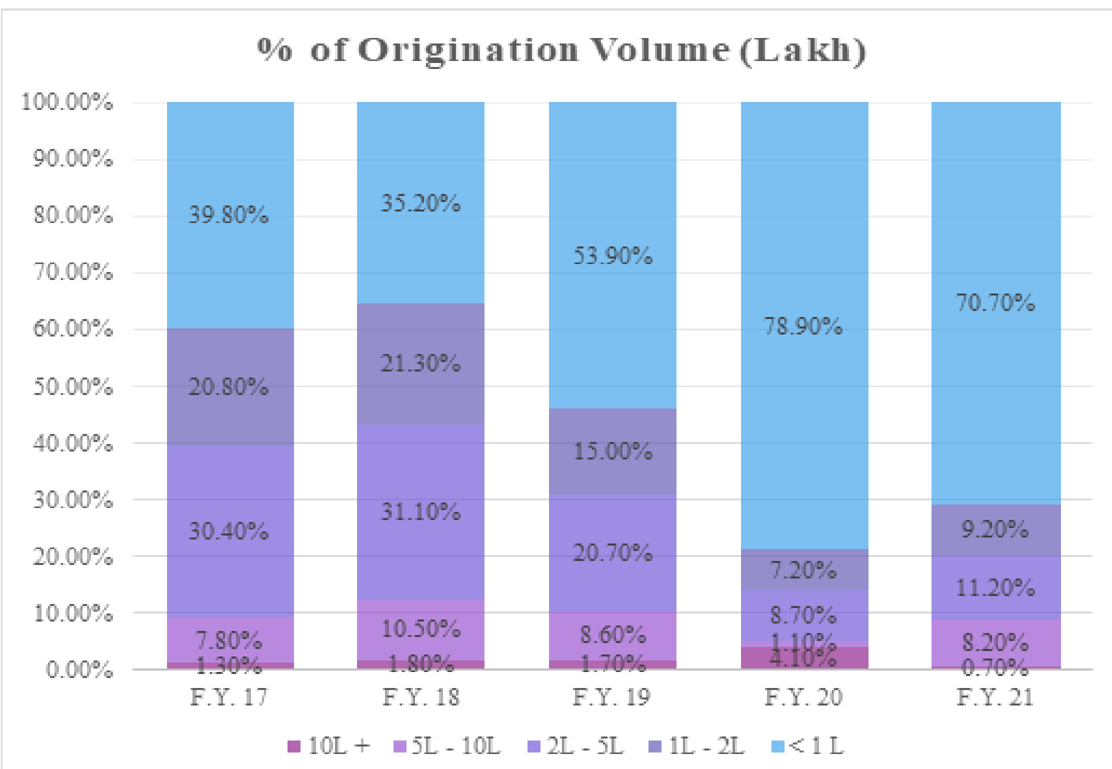
Source: RBI, 2021b

According to RBI's annual report for 2019-20, the amount involved in banking frauds has grown 2.5 times from Rs. 71,534 crores to Rs 1,85,468 lakh crores in 2019-20 compared with Rs 71,500 crore in 2018-19 (Ali, 2020) and grown 1.93 times in 2020-21 compared to 2018-19. If there is a privacy breach or breach in security in a bank, it basically leads to the information of the customers being sold or purchased on the dark web by other cybercriminals. Ultimately these types of privacy breach led to loss of data and earnings for a banking institution, disruptions in their operations, loss of reputation of that bank along with loss of their both actual and potential customers.

At this present situation cybersecurity and access management has played a vital role. This has been used by banks to protect banking confidential data, customers data, reduce or eliminate loss, and meet the regulatory compliance requirements. Now banks have implemented more security practices like data encryption, automated scanning and monitoring processes, security audit to further safeguard their customer interest, current remote working, digital way of doing businesses in the future.

Need based borrowing: - Before this pandemic people are wont to borrow money to fulfill their desire of travel, dining, experiences, luxury purchases, and other indulgences. During this pandemic situation peoples are afraid of the chance of job loss, salary reductions, economic uncertainty at the same time so many people have already experienced their salary reduction and ultimately their disposable has gone down (RBI, 2020). Now, people take loan out of necessity like education, medical emergencies, and other essentials. Now, people exercise caution about their borrowing. Presently customers are taking need-based borrowing than Want-based borrowing.

Small ticket size loans: - It has been observed that due to economic distress triggered by the corona virus pandemic, now customers are taking small ticket sized loan (loan below Rs. 1,00,000 in value), for emergencies or for financing their immediate requirements. At the present scenario it has been observed that there is lower appetite for traditional unsecured and larger ticket sized loans. Now it is become very difficult for the first-time borrowers with no credit history to obtain larger ticket sized loans from banks. As now banks have critically analyzed that what amount should be given to customers so that it would be not over levered to customers (RBI, 2021a).



Source: RBI, 2021c

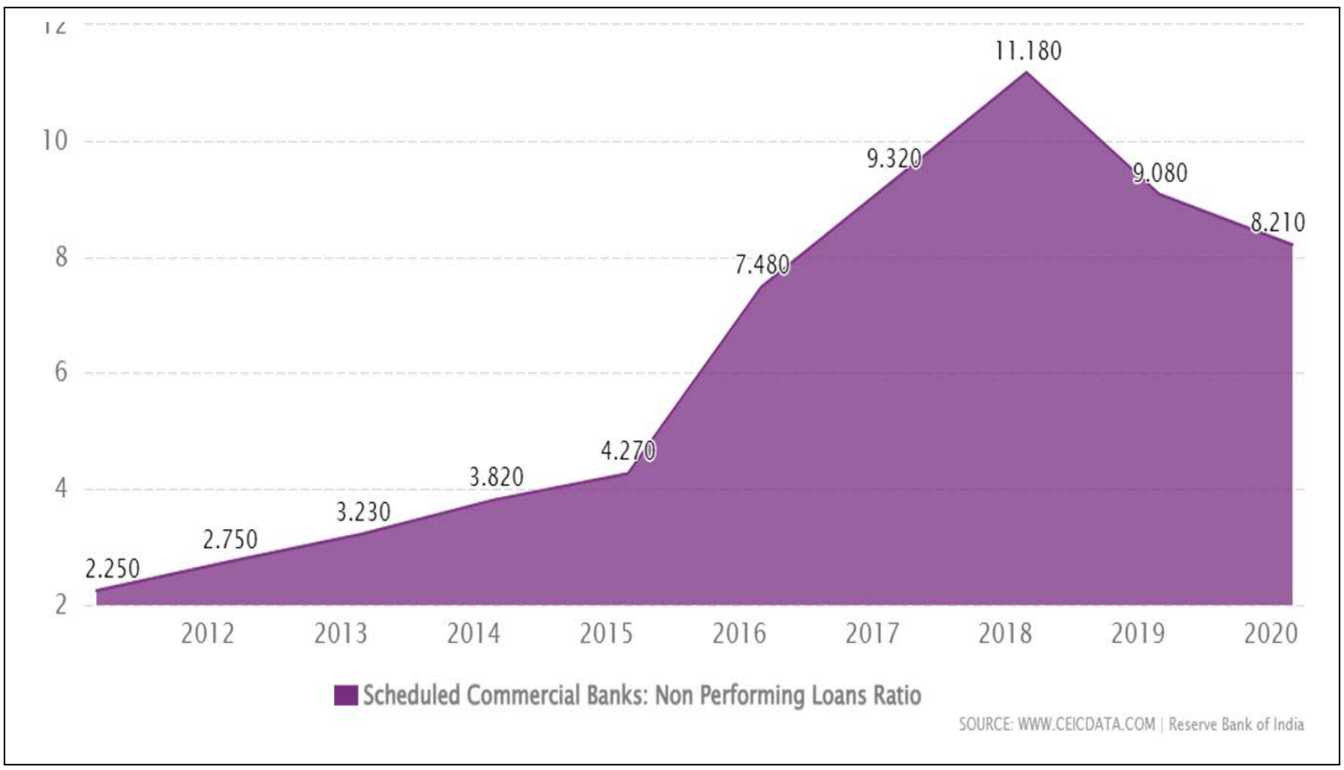
Figure 2: Personal loan originations - ticket size

Figure 2 indicates that there was almost 2 times growth in volume of small ticket size loan from 2017 to 2020. And during the FY 2020, small tickets loans were 78.9 % of personal loans disbursed, followed by 8.2% drop in FY 2021 due to 2nd wave of COVID-19.

Loan moratorium and restructuring of loan: - During this pandemic situation so many customers have lost their job, experienced salary reduction etc. Now, financially affected customers trapped in the economic crisis due to this pandemic. In 2020 during the first wave COVID-19, RBI had announced a loan moratorium and restructuring scheme. Due to the second wave of Covid-19, on 5th May 2021, RBI has announced a resolution framework 2.0 for many borrowers including individual and MSME borrowers. Now, banks are providing loan restructuring and loan moratorium facility to their financial distress individual and MSME customers.

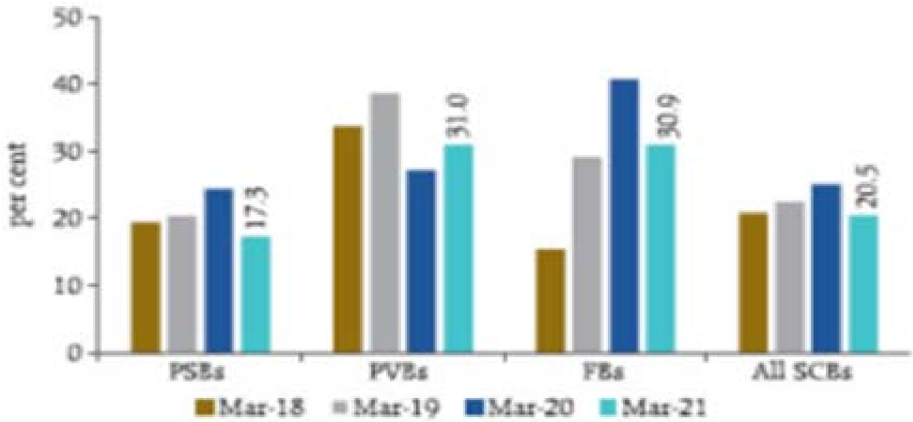
Loan restructuring is a process where borrowers facing financial distress, they can modification of the loan terms and conditions with the lender to avoid default. When borrowers face financial distress, they can opt these facilities. Loan restructuring permits customers to extend their loan tenure with or without changes in the rate of interest. This facility offers to borrowers by considerably bringing down their EMI burden. it negatively impacts the borrowing capacity of customers for that extended period until the restructured loan is cleared. At the same time with the introduction of these Scheme, banks can now able to avoid these loan accounts from being declared as NPA, it basically provides a positive impact to their financial statements (RBI, 2021d).

Raise in Bank NPAs: - India had a bad history of NPAs, due to waves of COVID-19 Indian banking system has been reeling under the pressure of NPAs. Though RBI has been very active during his pandemic and has taken several numbers of actions to shield national economy from the destruction of the pandemic but still India has been experiencing deterioration in economic activity due to the pandemic and enhanced bank NPA stresses. If the principal and/or interest amount of a loan and advance is overdue for a period of 90 days, it is termed as Non-Performing Asset (NPA).



Source: https://www.ceicdata.com/en

Figure 3: GNPA ratio of public and private sector banks



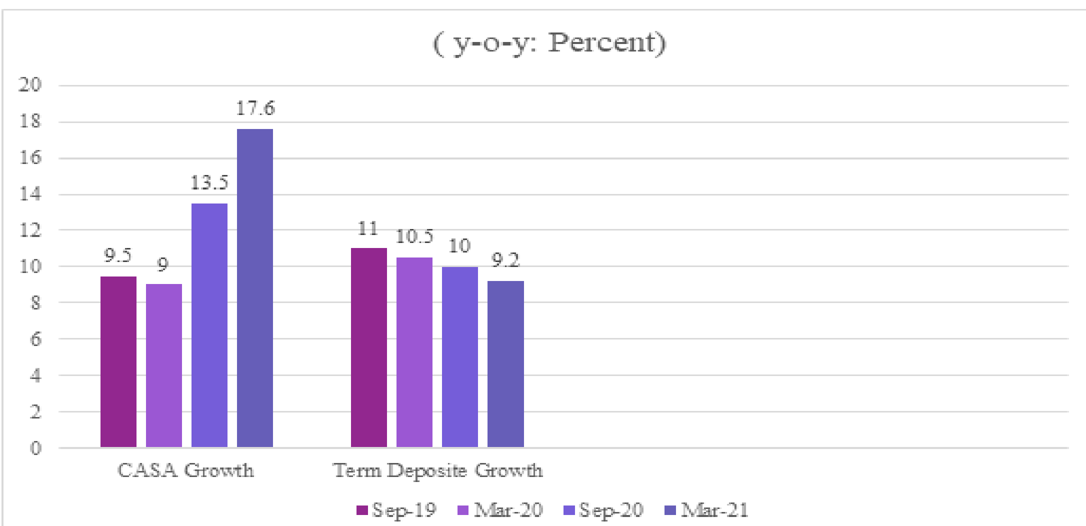
Source: RBI, 2021d

Figure 4: Write off to GPA

Figure 3 indicates that after reaching the peak in FY 2018 (11.18%), GNPA ratio started declining. In September 2019 it had been 9.08% and 8.21% in September, 2020. According to a RTI response this fall has been seen due to write off more NPAs in FY 2019 and 2020 (shown in figure 4) and recovery of huge NPAs accounts (Rs.1,31,894 crore worth of NPAs in FY 2020-21) through various debt recovery channels.

The second wave of COVID-19 has worsened stressed assets in Indian banking system, adding more pressure on the financial stability. As per the 23rd issue of the Financial Stability Report (FSR) NPAs of the banking sector were projected to increase to 13.5 % of advances by September 2021, from 7.5 % in September 2020, under the baseline scenario. At the same time as per the same report Macro stress tests indicate that the gross non-performing asset (GNPA) ratio of Scheduled Commercial Banks may raise from 7.48 % in March 2021 to 9.80 % by March 2022 under the baseline scenario (RBI, 2021b).

Revenue reduction: - The COVID-19 pandemic has halted the wheel of the economy. During this pandemic situation peoples are scared of the possibility of job loss, salary reductions, economic uncertainty, at the same time so many people have already experienced their salary reduction and ultimately their disposable income has gone down. During this situation banks loans showed downward trend and now people are taking mainly need based loan and they preferred to deposit rather to borrow with the expectation of securing their future. During FY 2020-21, Current account and savings account (CASA) deposits grew rapidly (shown in figure 5). On the other hand, the banks have become liable to pay them interest against those deposits that indicates it will increase banks interest expenses.



Source: RBI, 2021d

Figure 5: CASA growth in CASA and Time deposit

As RBI had announced a loan moratorium and restructuring scheme i.e., resolution framework 2.0. These scheme helps customers to reduce their financial stress but at the same time these cause decline in revenue of banks. Due to this situation cross border transactions have gone down; loan capabilities of individual and small business customers have gone down and NPA stress has also been increasing that why banks interest income declining continuously and impacting banks financial health. It also increases stressed assets. Apart from this bank now offering more insurance products to their customers because now people prefer health and life insurance product than regular typical bank products.

RBI regulatory measures to counteract the impact of COVID 19 on the Indian banking sector:

During this COVID- 19 pandemic situation RBI has announced slew of regulatory measures as a part of a calibrated strategy for overcoming from these pandemic disruptions by several provisions, cutting down repo rate and easing of asset classification norms. RBI has declared relaxation in repayment of debt and improving access to working capital management. At the same time RBI has also focused on reduction of financial stress to the individual borrowers, business holders, so that they can continue their business during the unprecedented COVID-19 crisis.

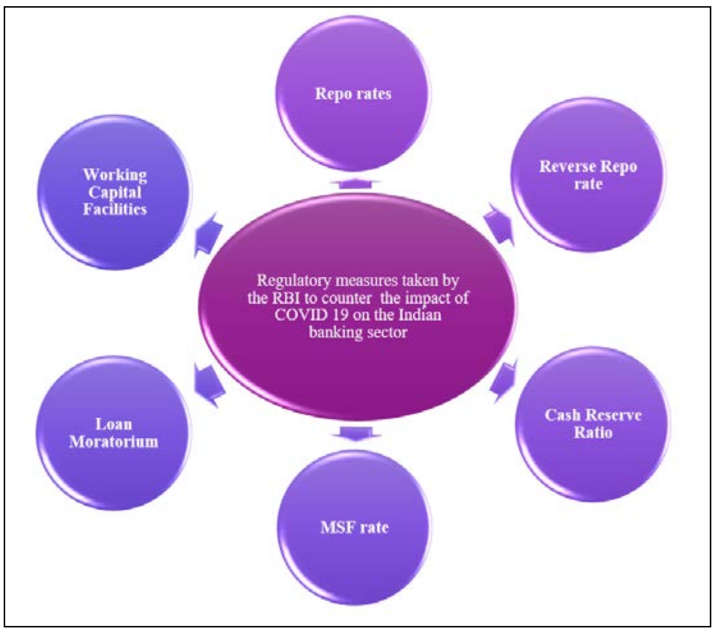


Figure 6: Showing various regulatory measures taken by the RBI to counteract the impact of COVID 19 on the Indian banking sector

Repo rates: - The rate at which the RBI lends money to banks termed as Repo rate. RBI changing its key lending rates according to changing macroeconomic factors. 22nd May 2020, it was a remarkable day, on that day RBI organized a pre-term Monetary Policy Committee meeting and decided to cut repo rate by a record 40 basis points (shown in figure 7). The repo rate or key lending rate was cut down to a fifteen-years low of 4.00%. This modification impacts all sectors of the economy.

RBI uses this rate as to signal monetary policy. The RBI has slashed down the key lending rate/ repo rate by a total of 115 basis points since March 2020 to accelerate economic growth and to adhere the economy to combat with this COVID-19 pandemic crisis (RBI, 2021b). It was the steepest cut since October 2004. Due to reduction of repo rate, banks get the benefit of reduction in the cost of funds and allow them to provide credit at lower interest rate. It will increase the demand for loans due to lower interest rates that means it will help customers to get the credit, business loan at lower cost which eventually pave the way for economic development. In 2021, RBI kept the repo rate unchanged at 4.00%.

Source: CEICDATA.COM https://www.ceicdata.com/en

Figure 7: Repo rate (%)

Reverse Repo rate: - like repo rate, RBI also uses reverse repo as an instrument to control money supply in the economy and stimulate various aspects of economic growth. The rate at which Reserve Bank of India borrows money from the commercial banks termed as reverse repo rate. It is the rate at which commercial banks put their excess money in RBI. During 2020, RBI slash down the reverse repo rate by 40 basis points to 3.35% from 3.75% (shown in figure 8), as the RBI ramped up measures to relieve stress on an economy ravaged by the COVID-19 pandemic. As RBI reduced reverse repo rate, now banks tend to invest their money in other areas in the market and it prompts banks to make more funds/ loan available for the various productive sectors of the economy. It increases the cash flow/ liquidity in the market. In 2021, RBI kept the reverse repo rate unchanged at 3.35% (RBI, 2021e).

Source: CEICDATA.COM https://www.ceicdata.com/en

Figure 8: Reverse Repo rate (%)

Cash Reserve Ratio: -During 2020, in the view of COVID-19 crisis, RBI cuts down CRR to 3% (it is the percentage of total deposit that banks are required to maintain with the RBI). It helps banks to reduce their lending rates and aid monetary transmission in economy. This reduction had made by RBI to provide comfort to banks on their liquidity requirements.

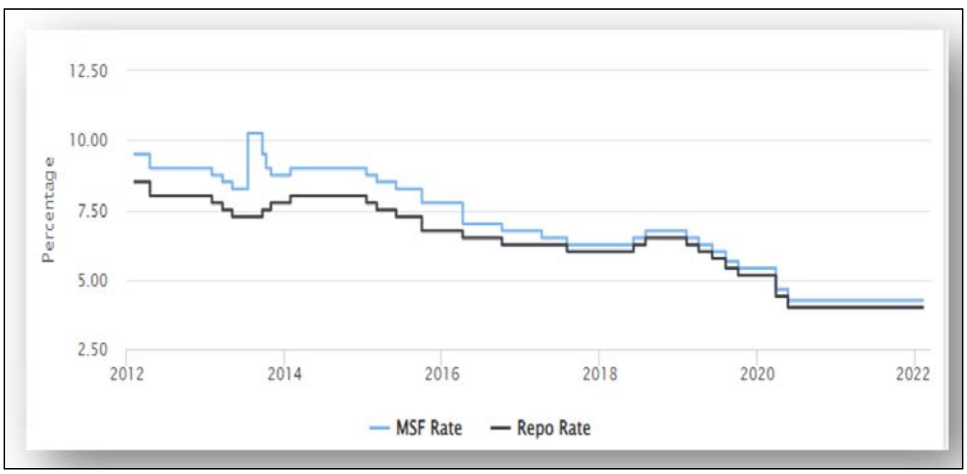
In line with strengthening signs of economic recovery, the RBI has forecast that real GDP, hit by the COVID-19 in 2020-21, is expected to grow by 10.5 per cent in 2021-22 and RBI has scaled back the CRR to 4% in two phases to remove unwinding surplus liquidity from the system (shown in figure 9). As per an estimate by SBI's economic research wing, the restoration of CRR to 4% will drain Rs 1.50

lakh crore (approx.) of liquidity from the system, but due to the adverse effect of the lockdowns imposed by different state governments to fight with the second wave of COVID, the RBI has lowered the growth forecast for FY22 to 9.5 per cent from the previous 10.5 per cent (RBI, 2021a).

Source: CEICDATA.COM https://www.ceicdata.com/en

Figure 9: CRR (%)

MSF rate: - MSF stands for Marginal Standing Facility, it is one types of Liquidity Adjustment Facility provided by the RBI to banks, when banks liquidity totally dries up then banks can borrow funds from the RBI overnight, up to 1% of its NDTL (Net demand and term liabilities) at a higher rate than repo rate. MSF rate refers to the rate at which banks avail MSF facility from RBI. That means MSF rate is more expensive than repo rate. In March 2020 RBI reduced MSF rate 40 basis point (from 4.65% to 4.25%) to increase liquidity and strengthen the Indian economy (shown in figure 10).



Source: CEICDATA.COM https://www.ceicdata.com/en

Figure 10: MSF rate (in %)

Loan Moratorium: - With an aim to support borrowers who were reeling under the monetary impact of the first wave of the Coronavirus in India, Reserve Bank of India (RBI) governor permitted banks in India to offer a loan moratorium of 3 months on term loans, outstanding as on 1st march, 2020. It was really a massive relief for the middle class. Later, the RBI allowed the loan moratorium as part of a restructuring scheme, where the loan moratorium could be extended up to a total period of two years.

Loan moratorium period can be described as a legally authorized period of time during which borrowers can differs their loan installments. This period is also termed as EMI holiday. Generally, it is offered to assist borrowers who is facing temporary financial difficulties to pay installments. Usually, if loan repayment is deferred by the borrower, the borrower's credit history and risk classification of the loan can be negatively affected. But in case of loan moratorium facility, the borrower's credit rating will not be impacted in any way for that particular loan. In, 2021 again RBI permits loan moratorium to support borrowers with the motive to reduce the financial stress of Individuals and Small Businesses (RBI, 2021a).

Working Capital Facilities: - During this pandemic all banks are permitted by RBI to allow three months deferment of interest payment in respect of working capital facility in the mode of Cash Credit and Overdraft. RBI also permitted all banks to reassess the working capital cycle (mainly in the form of elongation in working capital cycle) and revise working capital limit for the borrowers. The above-mentioned steps have taken by RBI as a measure to minimize financial stress of borrowers (The Economic Times, 2021).

CONCLUSION

The outbreak of the coronavirus has severely impacted every sector across the planet in recent years. This outbreak has created such a disturbing situation that it has caused an unprecedented shock to the Indian economy. Banking operations have been affected by this ongoing pandemic. It presents several challenges ahead for the Indian banking sector. Moreover, this pandemic has highlighted deficiencies within the Indian banking system. Banks should now focus on utilizing new technologies in their operations and make their infrastructure agile to manage these challenges. Ultimately, use of technology would scale back the dependency on hand operated entries and manual operations within banks. Now, banks have got to create such an environment in order for the health of their employees and customers to be protected. During this difficult period, banks must also reskill their employees on new processes and new ways of working. People are now playing it safe as a consequence of the pandemic, and there has been a huge shift toward saving instead of borrowing. It enhanced the amount of money kept in bank accounts. During this pandemic, people are playing it safe. They have started saving their earnings and keeping them in their bank accounts for uncertain situations. It enhanced the amount of money kept in bank accounts and a downward trend in loans has been observed. As a result, a liquidity crisis has been observed during this hard time. However, RBI has announced Resolution Framework 1 and Resolution Framework 2.0 to combat this situation. But still, the government and RBI need to do many things in the near future to beat the negative impact of COVID-19. The RBI and the government should provide more loans and relax loan criteria to provide more liquidity in the economy and reduce the financial stress of all small and medium enterprises. The immediate learning from the pandemic is that the government should make our economy stronger to soak up the impact of this type of crisis in the future.

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REFERENCES

Ali, I. (2020). A study on impact of covid-19 on Indian economy, *International Research Journal of Modernization in Engineering Technology and Science, 2*(7), 279-283.

Bobade, P., & Alex, A. (2020). Study the Effect of Covid-19 in Indian Banking Sector. *JournalNX*, 179-184.

Chanduji, D., & Thakor, P. (2020). A Study on Impact Of COVID-19 On Banking Sector: An Indian Perspective. *Paripex-Indian Journal of Research, 9*, 2250-1991.

Dev, S. M., & Sengupta, R. (2020). Covid-19: Impact on the Indian economy. *Indira Gandhi Institute of Development Research, Mumbai, India*.

Perwej, A. (2020). The impact of pandemic COVID-19 on the Indian Banking System. *International Journal of Recent Scientific Research, 11*(10), 39873-39883.

Ramakumar, R., & Kanitkar, T. (2021). Impact of COVID-19 pandemic on the Indian economy: A critical analysis. *Investigación Económica, 80*(315), 3-32.

RBI. (25th August 2020). Regulation, Supervision and Financial Stability. https://www.rbi.org.in/scripts/AnnualReportPublications.aspx?Id=1290

RBI. (5th May 2021a). Resolution Framework – 2.0: Resolution of Covid-19 related stress of Individuals and Small Businesses https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=12085&Mode=0

RBI. (27th May 2021b). Monetary Policy Operations https://rbi.org.in/scripts/AnnualReportPublications.aspx?Id=1316#:~:text=Monetary%20policy%20and%20liquidity%20operations,February%202019%20to%20February%202020.

RBI. (18th November 2021c). RBI releases the Report of the Working Group on digital lending including lending through online platforms and mobile apps. https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=52589

RBI (July 2021d). Financial Stability Report Issue No. 23 https://rbidocs.rbi.org.in/rdocs/Bulletin/PDFs/FSR1507202152E1B98A6E5B4CA98903F6389930D249.PDF

RBI. (27th May 2021e). Statement on Developmental and Regulatory Policies. https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=49582

Sharma, P. & Mathur, N. (2021). COVID-19: Impact of Banking Sector. *JPS Scientific Publications*, 155-159. https://www.researchgate.net/publication/351933889_covid-19_impact_of_banking_sector

The Economic Times. (21st May 2021). AIBEA says over 1,300 bank staff succumbed to COVID; urges IBA to issue weekly health bulletin, *the economics times*, published on May 21st 2021, https://economictimes.indiatimes.com/industry/banking/finance/banking/aibea-says-over-1300-bank-staff-succumbed-to-covid-urges-iba-to-issue-weekly-health-bulletin/articleshow/82831686.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

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Post-Covid Transformation in Banking Environment: Emerging Needs for Training and Development Programs

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ABSTRACT

Indian Banking system needs a strategic change in its structural and operational practices to serve the post-COVID driven new-normal clients. Banking operations turned out to be more inclined to a digital transformation path through fintech partnerships and collaborations. As the bank transitions from crisis mode to a more stable but altered operating environment, it will require an efficient, vulnerable, and resilient system to serve its customers. The paper aims to address the issue of the need for strategic changes in the Indian banking sector and frame out the major perspectives in training and development programs for imbibing the changes. A strategic choice model for banking staff training and development programmes is presented here, with key programme areas highlighted. Aligned to the new approach to the structural, operational, and cultural changes in the banking business, it is imperative to develop and adapt training and development programs suitable for the specific functional environment for recovery, growth, and sustenance.

Keywords: *Covid19 on Banking Business; Digital transformation in Banks; Strategic Training and Development Programs*

INTRODUCTION

Amid the high volatility in the global financial market during the post COVID-19 pandemic regime, the Indian Banking sector has confronted unprecedented uncertainty and risk in its known capital market. Deloitte (2020) noted major changes in the Indian banking sector as a significant reduction in demand from Small and Medium Enterprises (SMEs) or corporates, structural shifts in customer behaviour, and transformation of employee roles and the overall operating model. The Indian banking sector is undergoing a paradigm shift in both its cultural and operational practices since the world has witnessed a metamorphosis in clients' behaviour. This is the time for Indian banks to redesign their operational and structural procedures—a new strategic frontier to face the new economic challenges.

Followed by the right strategic move compatible with the objectives of the post-pandemic stakeholders, it is imperative to prepare the employees for the successful implementation of the new rule. Only training and development programs can meet this gap in any organizations. Banks are no exception.

In this paper, we investigated the need for strategic changes in the Indian banking sector and frame out the major perspectives in staff training and development programs for imbibing the changes successfully. The paper will draw the attention of the researchers and bank authorities to get an insight into how to adapt and constitute employee training and development programs as a component of strategic tools for meeting the challenges that emerged during the post-covid period.

LITERATURE REVIEW

Bellens (2022) of Tapestry Networks observed that banks have responded to the pandemic and future implications are considered as – the emergence of new risks since digital transformation has accelerated coupled with persistent uncertainty that continues to challenge forecasting. It is time to re-evaluate the banking models and ratify their reputations.

Despite time-to-time RBI interventions, the whole Indian banking system has suffered from enormous economic costs including liquidity issues during the Covid19 pandemic situation (Perwej, 2020). The banking sector has been facing a difficult task in understanding the new behaviour to meet the requirements of consumers with relevant products and services, and to adapt their business services to social changes related to the pandemic situation (Mathew & Sunil, 2022).

Hu, Jadoul and Reich (2021) observed in a McKinsey Report (Shaping and safeguarding the banking workforce after COVID-19 published in April 2020) that the pandemic situation shifted hierarchical structures to agile ones, in which individuals have autonomy, leaders delegate to empowered teams, and relationships are less formal and more flexible.

Carletti *et al.* (2020) argued that 'while banks may enjoy temporary regulatory and supervisory relief, digitalization will receive a large impetus, with new entrants challenging banks. However, 'medium-sized banks will suffer since they cannot manage the cost efficiencies and IT investment that are crucial in the new environment'. They advised the regulatory body (RBI in the case of India) to the assimilation of 'digital disruption by balancing facilitating competition and allowing the benefits of innovation with protecting financial stability.

Abramson *et al*. (2020) postulate that the banking system has undergone two major changes - the ways of working and the ways of engaging. They explain that banks are under revenue pressures which leads to unlocking new revenue streams and capitalizing on COVID-driven market and behaviour changes; cost pressures which impel to redesign processes and systems to leverage advanced technology for efficiency, and vulnerability resilience which insulate the business from future shocks and continue to serve customers in a safe, secure and optimal manner.

Kreger (2021), the founder and CEO of UXDA, noted that just being digitally developed is not enough to ensure the existence of any financial company. Extreme customer-centricity is becoming a must to adapt to the post-pandemic world.

A short review of the literature noted above entails that the post-covid banking system is in utter need to alter the traditional system of banking since fintech has occupied a pivotal role. Changed customers' behaviour in banking habits and borrowers' hesitancy to revive the due growth impels the banking sector to set for a new strategic outlook that will consider technological efficiency, process resiliency, and engagement culture.

DISCUSSION

Having noted the need for strategic changes in the banking system, we may ask a question - how to adopt the changes in the banking system? The simplest answer to the question is to get the employees equipped for the changes. Undoubtedly, training and development are the means of driving the changes. Let us iterate on how to develop the training and development programs in the banking system to make it more efficient, stable and resilient in a new-normal period.

Hu, Jadoul and Reich (2021) reported that banks have offered training on new skills that people can use in their current jobs (upskilling) or for new jobs (reskilling). Most of the banks' chief HR officers postulated upskilling and reskilling of bank employees as –

1. Upskill proactively based on strategy needs and industry trends
2. Use skill adjacencies for effective reskilling
3. Build a scalable learning infrastructure
4. Invest in a learning culture
5. Start with leadership and ensure sufficient talent developers

In connotation to the employee competency development as a component of strategic HRM, Kreger (2021) suggests that training and development programs for the banking staff should address the following issues:

1. Overcoming the experience gap
2. Enriching the customer experience in finance with an emotional connection
3. Empowering an experience-based inner culture
4. Establishing consistency through product ecosystem, and
5. Teaming up with Fintech and technology companies

In the context of the new strategic outlook for the banking structure and operations during the post covid period, we intend to develop a model addressing the issues of training and development programs for the bank employees. The model is depicted in Diagram 1. The model consists of four components, namely, Transformation in Post-Covid19 Banking Environment, Strategic Choice for Training and Development Programs, Key Program Areas and Evaluation and Control. Let us examine each component.

Transformation in Post-Covid19 Banking Environment: During the post-covid19 pandemic environment, most banks face challenges to their structure, operations and culture. Structural changes demand more agility in the hierarchy, flexibility in terms of formality and environmental responsiveness, and resilience to workload allocation and control over the technological infrastructure. The mode of

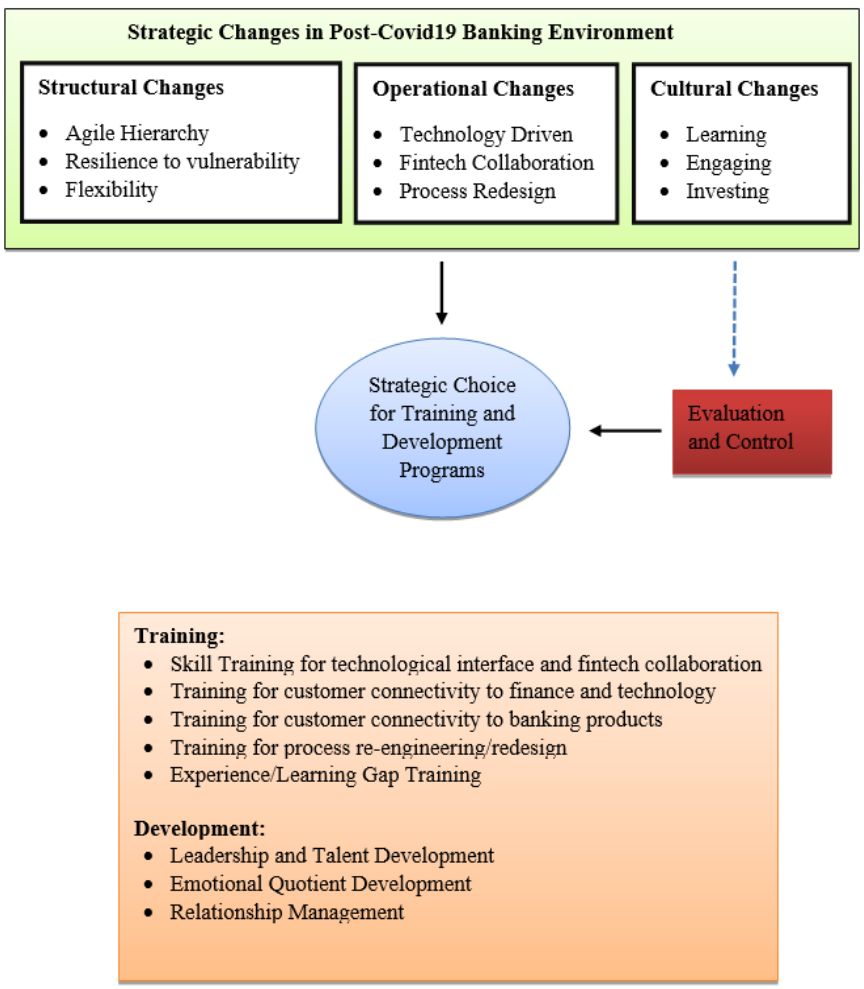

Figure 1: Training and Development Programs for Banking Staff

banking operations has taken a turn due to behavioural changes of the customers towards the financial market. Digital transformation across the industries during the Covid19 period forced the business organization to be equipped with digital infrastructure. Satya Nadella, the Microsoft CEO, said 'What we were going to think about during 2030 is probably going to be true in 2025'. Organizations come close to digital collaborations to operate in the virtual environment. Since resourcing and locations of the traditional banking system are altered, the operational process is redesigned to make the system faster and more efficient.

The most significant impact of COVID19 is reflected in organizational culture. Employees learn from the crisis. Covid19 paves the opportunity to develop a learning environment. Employees who are trailing behind technological advancement propel to meet up the learning gap through self-managed or sponsored educational programs. On the other hand, due to the obliteration of physical distance, bank relationship personnel, clients and sales team are getting more engaged in thank pre-pandemic situation. Employees enjoy flexibility in the work-life balance due to facilities like work from home, flexi-time, virtual conferences and meetings. Banks have realized that investment in cultural improvement enhances the rapid responsiveness of the workforce towards environmental changes. Investment in the cultural development of the organization in a fast-pacing business environment is an inevitable strategy.

Strategic choice of training and development programs: Having noted the changes in the functional environment, each bank requires to develop its own training and development programs critical to the environmental factors. For example, banks that are already exposed to digital technology in serving customers, need to train the employees on application skills, whether, banks are new to a digital platform, as is the case of most Indian PSU banks, can imbibe the training program concerning customer-connectivity to digital platform offered by the banks. It is the bank to decide which training and development program(s) to adapt to serve the customer and remain competitive.

Key program areas: Key areas on training and development programs supported by the literature are enlisted under this component. Banks can evaluate and prioritize the areas while considering their strategic choice needs.

Evaluation and control: Periodic assessment and relevant modification in the Strategic Choice for Training and Development Programs are necessary for the successful implementation of the programs undertaken.

The training and development programs for banking staff as a strategic choice for the post-covid new normal period indicates that it is important to design and act on employee development programs to recover financial loss and to maintain growth and stability. This is a tactical compulsion rather than a technical need.

CONCLUSION

Low profitability and revenue pressure including the increasing competition from shadow banks and new digital entrants appeared as major challenges for the banking sector across the world during the post-covid19 pandemic situation. The traditional banking model cannot resolve the issues since the customers' behaviour has undergone a significant change. Proper strategic intervention in the banking business, even in developing countries like India, is required to adopt an extreme customer-centricity approach. Aligned to the new approach in the structural and operational changes in the banking business, it is imperative to develop and adapt training and development programs for the banking staff as a choice for contextual needs. Key Program areas noted in the present paper will help the banking authority rethink and re-design the training and development programs for the employee competency development. Employees trained with fintech applications and new-age customer service can restore the banking system from the post-covid crisis in the financial market.

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REFERENCES

Abramson, R., Kosin, V., Howard-Jones, D. & Lanzos, C.L.D. (6th October 2020). *The Post-Covid Opportunities for Banks*. Oliver Wyman.

Bellens, J. (14th Apr 2022). Three ways COVID-19 is changing how banks adapt to digital technology. https://www.ey.com/en_gl/banking-capital-markets/three-ways-covid-19-is-changing-how-banks-adapt-to-digital-technology

Carletti, E. , Claessens, S., Fatás, A. & Vives, X. (2020). *The Bank Business Models in the Post Covid-19 World*. Centre for Economic Policy Research.

Deloitee, M. (2020). Weathering COVID 19 Impact on Banking in India. https://www2.deloitte.com/in/en/pages/financial-services/articles/weathering-the-covid19.html

Hu, H., Jadoul, Q., & Reich, A. (17th August 2021). How banks can build their future workforce—today. *Mckinsey & Company*. https://www.mckinsey.com/industries/financial-services/our-insights/how-banks-can-build-their-future-workforce-today

Kreger, A. (4th January 2021). Post-Covid Digital Strategy: Banking Customer Experience Trends of 2021. Finextra. https://www.finextra.com/blogposting/19712/post-covid-digital-strategy-banking-customer-experience-trends-of-2021

Mathew, S. M., & Sunil, S. (2022). A Study on the Impact of Covid-19 Pandemic in the Adoption of Tech-driven Banking in India. *Available at SSRN 4022859*. https://doi.org/10.31124/advance.19105505.v1

Perwej, A. (2020). The impact of pandemic COVID-19 on the Indian Banking System. *International Journal of Recent Scientific Research, 11*(10), 39873-39883. http://dx.doi.org/10.24327/ijrsr.2020.1110.5578

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Sustainability in a Changed World- A Report on Two Kiwi Organizations

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ABSTRACT

The author has focused on the various objectives and activities that two New Zealand-based community organisations named Go Eco and Waikato Waldorf School are involved in, and how they are aligned with some of the United Nations' Sustainable Development Goals (SDGs) which were framed with the objective of making the earth a better place. The research was mixed, but it was predominantly primary. The author came in touch with (and interviewed) multiple members of the staff of Go Eco and Waikato Waldorf School. I have gained further and in-depth insights into those various activities from them. The research findings helped in bringing out the real picture, which was positive, and perfectly in line with what the organizations have on their website. Although the influence of these organisations is limited to Hamilton city or the Waikato district, their activities, in turn, help in achieving the SDGs. The findings and analysis showed the level of their involvement and reflected the extent of their impact. It helped the author link his investigations with the literature review and the knowledge about the organisations he gained from their official websites. Thus, he suggested some recommendations. He has mentioned how these expanding organisations could work in association with the New Zealand government, which is supporting the United Nations' cause and the SDGs, to reach the people in other parts of the world in post-pandemic times.

Keywords: *Community Organization; Sustainable Development; United Nations; SDGs*

INTRODUCTION

The author was living, studying, and working in Hamilton, Waikato, New Zealand before COVID-19 changed the landscape of the world in many ways. New Zealand is a country known for its sincere focus on environmental sustainability. As the world recovers from the adverse effects and far-reaching consequences of the COVID pandemic, new thinking, planning, and approaches are necessary to tide over this crisis. However, here the objective would be to show how the goodwill activities of certain Kiwi organizations could help the world to build a better post-pandemic future, with an increased impetus for sustainable development, sustainable living practices, and environmental sustainability—all of which have become more important than ever.

The author was a volunteer at Go Eco (Waikato Environment Centre), which was the sponsor organization for one of the internships done by him in New Zealand. He had worked under their supervision on a project focusing on the potential place of alternative farming or agricultural practices such as permaculture, organic farming, and regenerative agriculture in achieving water quality and positive environmental outcomes. His research for Go Eco has helped the organisation and the ACRE (Advisory Committee for the Regional Environment) in forming recommendations for Block-3 of the Healthy Rivers Plan Change hearings in New Zealand in the second half of 2019.

The focus of this chapter is on two Hamilton organizations- Go Eco and Waikato Waldorf School. They are both community organisations with activities ranging from the field of education to environmental sustainability. The author initially came to know about the various activities of these organisations from their official websites.

The Go Eco website significantly mentions that the organisation is a centre for learning and that they want to be an agent of change working for their mission which is the development and preservation of healthy environments orchestrated by thriving communities. When coming to the values, they give central priority to the community, to empowerment, to inspiration and to integrity. They engage in several activities which promote environmental well-being through projects like Kaivolution Food Rescue, E-Waste Recycling (electronic devices, batteries, light bulbs, toner cartridges), by running a Sustainable Living Retail outlet, by imparting community education, by collaborating with environmental groups, and by working on environmental projects (Go Eco, 2019c).

The Centre relocated to even bigger premises in 2017, after relocating previously to an even smaller premises. The food provided by Kaivolution Food Rescue to community organisations and charities was in high demand. They also serve this rescued food for free to people who need it through the Kaivolution Freestore, which welcomes everyone. Food-waste management through the distribution of excess but edible food, is also environmentally helpful. This, in turn, is a Go Eco Climate Action Project, as it reduces the amount of food going into landfills and its ill-effects (Go Eco, 2019c). Events and workshops were also gaining popularity, and this created a natural need for more space. There was a change of name again, along with the change of premises- it was changed to the present name, 'Go Eco', and a new look for the centre better reflected the scope of its activities. (Go Eco, 2019a).

The Waikato Waldorf School is a special school based on the model created by an Austrian educational philosopher named Rudolf Steiner who established the first Waldorf School in Germany hundred years ago. Steiner's focus was on the children's needs, and hence he created schools which give impetus to free thinking and creativity (Waikato Waldorf School, 2022). This is a very important quality of education.

The Waikato Waldorf School in Hamilton was set up in the 1990's. As more and more families inclined toward inclusive and imaginative education for their children, it has grown bigger with time- like Go Eco, it has also evolved into a Waldorf community including early childhood facilities with full-time daycare, parent/child play circle, a big kindergarten, a primary school and a junior high school. The campus is dotted with many fruit trees, native plantings, and a big vegetable garden. There is catering facility for the students too (Waikato Waldorf School, 2022).

LITERATURE REVIEW

Sustainable Development and the United Nations

The literature review deals with the Sustainable Development Goals (SDGs). It is specifically based on the meaning of sustainable development, the goals, and the importance of the United Nations (UN) and its role in implementing the goals. The review focuses on the various sustainable development goals, the necessary background information, and also the larger implications of some of those goals.

Sustainability is the concept of developing in such a way which preserves the planet for the future generations, without depleting the available resources through present use, while maintaining a balance between economic growth, care for our environment, and social well-being. Sustainable development is a concept which alerted people about the ill-effects of economic growth and globalization on the environment, when it first appeared in published form in the late 1980's. It also tried to find remedies to the issues created as a result of population growth and industrialization. Many of the perils that we face today (like climate change, water scarcity, inequality and hunger, etc.) can be countered with implementing sustainable development all over the world (Acciona, 2020).

Now, the UN has the power to take action on the grave issues that we face in the 21st century. The United Nations aids in the maintenance of international peace and security, the protection of human rights, the delivery of humanitarian aid, the promotion of sustainable development, and the enforcement of international law (United Nations, 2019).

The good thing is that the 2030 Agenda, which contains the roadmap for the SDGs, was approved by the UN. These goals provide the objectives of protecting the planet and its people within the next decade. These common goals demand the dedicated engagement of people, governments, and businesses to turn them into reality (Acciona, 2020). The objectives of the SDGs, or Global Goals, include ending poverty, making the planet habitable, and ensuring peace and prosperity for all earthlings (Morton, Pencheon & Squires, 2017).

The UN's 17 SDGs are sub-divided under the five Areas of Critical Importance or 5P's, that is, People, Planet, Prosperity, Peace and Partnerships. Each P incorporates several SDGs. They are as follows: People includes No Poverty (Goal 1), Zero Hunger (Goal 2), Good Health and Well-being (Goal 3), Quality Education (Goal 4), Gender Equality (Goal 5), and Clean Water and Sanitation (Goal 6), Planet includes Climate Action (Goal 13), Life below Water (Goal 14), and Life on Land (Goal 15), Prosperity includes Affordable Clean Energy (Goal 7), Decent Work and Economic Development (Goal 8), Industry, Innovation and Infrastructure (Goal 9), Reduce Inequalities (Goal 10), Sustainable Cities and Communities (Goal 11), and Responsible consumption and production (Goal 12), Peace and partnerships include Peace, Justice and Strong Institutions (Goal 16), and Partnerships for the Goals (Goal 17) (Morton, Pencheon & Squires, 2017).

According to Freistein and Mahlert (2016), the SDGs have a strong potential role to play in addressing inequality in today's world. It is also one of the 17 goals (Goal 10). However, Mohammed and Ghebreyesus (2018) have pointed out that the increase in prosperity around the world has been a double-edged sword as it has led to new health threats that have resulted from changes in diets and lifestyles and rapid, unplanned urbanization.

Williams and Taylor (2017) refer to the importance of child health under Goal 3, which is good health and well-being. They stress the global implications of the shared values and aspirations, based on Goal 3, and especially child health. The fact that the SDGs offer great opportunities to improve child health throughout the world has been attested to by Taylor *et al.* (2015).

It might escape one's attention, but there is something which is both essential for life on earth and for sustainable development. Akinsemolu (2018) has emphasised the integration of microbial technology in achieving the SDGs. In the review, Akinsemolu also mentions that several problems could be solved if society was educated properly about how to use microorganisms intelligently for positive outcomes. The role of these organisms could be pivotal, and according to the author, it is in line with multiple SDGs.

The success of the SDGs is directly dependent on the adoption of the goals by the people, and when every empowered citizen turns into an agent of change (Chin & Jacobsson, 2016). This might sound like an ideal scenario, but it is definitely rewarding when we work to keep it as an objective or goal.

Now, research question is: How are the two organisations (Go Eco and Waikato Waldorf School) contributing to achieving the different Sustainable Development Goals (SDGs) in general, and in particular the SDGs like Zero Hunger, Good Health and Well-being, Quality Education, Clean Water and Sanitation, Sustainable Cities and Communities, Climate Action, and Partnerships for the Goals?

Objectives

The aim is to find out:-

- How the two organisations are working to ensure sustainability.
- What they are doing in terms of overall community well-being cum sustainability.
- How the multiple SDGs are being combined through their activities.
- What role the government can play in this.
- How this could also be emulated on a global scale.

METHODOLOGY

Although the project is heavily based on primary research, secondary research has also been done materials have been collected for the literature review, references, and personal knowledge. As part of the project's primary research, a series of interviews were planned. People from multiple organizations, like Advisory Committee for the Regional Environment (ACRE), Organic Farm New Zealand (OFNZ), Waikato Waldorf School, and, of course, Go Eco, were contacted to see whether they were open to interviews for this project.

The author talked to Interviewee-A, Interviewee-B, Interviewee-C, and Interviewee-D, who are from Go Eco. Interviewee-E and Interviewee-F from Waikato Waldorf School were also interviewed. Their experience of the field scenario and their expertise in their respective spheres helped him gain valuable insights for the project. The author tried to keep the interviews limited to 30-45 minutes, but at times it extended to more than an hour of both formal interview-based conversation and informal conversation. The casual conversations also provided the author with important information in certain cases.

The qualitative data analysis method of content analysis was used to analyse what was gathered from the interviews, and to compare and corroborate the findings with the literature review, and with the websites of the concerned organisations too.

RESULTS AND DISCUSSION

The investigations led to certain findings which are being shared below

Go Eco works for good health and well-being through the eco-friendly and sustainable products that they sell. Interviewee-A from Go Eco introduced the author to the products. The author also did a close survey of the kinds of products they sell, which included popular ethical and sustainable brands like Ethique. They also support food-growing through natural farming methods to ensure good food quality through reduced use of artificial chemicals. Go Eco's Interviewee-B told the author that Kaivolution feeds 150-200 people every single day. They do not turn people away, even if the same person keeps coming back every day. They do not judge whether a person has money or not. The author has himself seen people queuing outside the Kaivolution shop for food every day during the span of his internship (Go Eco, 2019b).

Interviewee-C told the author that Go Eco has participated in all three blocks of the Healthy Rivers Plan Change Hearings arranged by the Waikato Regional Council in New Zealand. Interviewee-C has placed recommendations on behalf of Go Eco to ensure better future policy making that would improve water quality in the water bodies of the Waikato region. He came to know from interviewee-C that Go Eco and the ACRE have worked together to prepare recommendations for the three blocks. The author himself talked to members of the ACRE whom interviewee-C had introduced him to.

Moreover, the incentives and objectives of business or profit organizations and those of community or non-profit organizations differ starkly. Hence, there is a difference in the way they state their opinions, arguments, and recommendations. So, it naturally divides the groups into two broad categories. The role of the community is very important when it comes to the collective good of any country. The role of the government is also important; but ultimately, it is the people that constitute the core of any society. Hence, interviewee-C represents the side of the non-profit community organization at the hearings and voices her recommendations that are good for the environment. Go Eco had different objectives for all the hearings; the objective for Block-3 of the plan change hearings was to promote alternative agricultural practices (especially organic farming) as an alternative because it reduces the amount of nutrient nitrogen run-off into rivers and other water bodies and thus enhances water quality. It is also better for the overall environment when compared to conventional farming. This promotion of organic farming as a sustainable choice through raising public awareness is also one of their objectives. They organised a workshop on the topic and a climate change talk when the author was working there as an intern. They also organized a rainwater harvesting workshop and other important workshops later.

Apart from alternative farming, there are other ways that the community could get involved in the improvement of water quality and environmental health. The Waikato Waldorf School has a plethora of other direct and indirect involvement, activities, and plans other than just encouraging good education. The author was enlightened on these other aspects by his interviewees from the same school. Interviewee-E from Waikato Waldorf School promotes and actively participates in riverside plantations. This helps in soil conservation by reducing the run-off of nutrients like nitrogen and phosphate into the rivers. Interviewee-E has been into organic farming before but has now shifted his focus to cleaning rivers and maintaining riverbanks. He has made holding ponds on the plot of land behind the school, uses sustainable techniques to clean them, and he is also working on plantations on his own farm to reduce run-off into water. He is taking other measures too and has set an example for the others. The author talked to interviewee-F from the same organization, who shared valuable insights too.

Go Eco also participates in and supports other events and organisations. Here, the author would like to refer to interviewee-D as an instance. The author came to know about a Hamilton-based children's adventure group called Kirikiriroa Explorers from her. It is supported by Go Eco. Interviewee-D helps the group on behalf of Go Eco during their events once a week. The author himself has also volunteered at one of their events on behalf of Go Eco. Both organizations are doing substantial work in the field of children's education—not just formal education, but environmental education too. This includes providing them with much-needed exposure, tutoring them about the environment and its major issues, teaching them basic sustainable practises such as gardening and basic food preparation, taking them on trips along rivers and to gardens, and teaching them about the cultural elements, myths, and practises associated with the environment, which in turn teaches them to respect it. These not only help in educating the children, but also help in educating the parents who come to the events as guardians and participants. This is essential for community awareness. Moreover, these children would grow up to be environmentally well-informed citizens in the future. Due to their past grooming, they are expected to make wiser decisions that would be more sustainability focused.

The indigenous Iwi communities have also shown great concern for preservation of nature and conservation of natural resources. The indigenous Iwi population has been closer to nature culturally. Certain community organizations such as Go Eco and Kirikiriroa Explorers have made Iwi prayers and invocations addressed to nature, a part of their organizational culture. They celebrate various Maori tribal festivals with the involvement of the community, and with a message for promoting sustainability. Maori prayers and songs revering the earth and the environment are sung during special events, volunteer inductions, staff inductions, birthday parties and on other occasions at such community organizations.

Interviewee-D is also looking forward to helping Waikato farmers in various procedures and in legal needs whenever they require it. He is also associated with another group which is into environmental well-being.

Now the author comes to the analysis part, where the findings would be summarized, while relating and connecting them to the literature review, and to what was found on the websites of the two organisations. In this way, the former and the latter would be compared and corroborated at the same time.

Good Health and Well-being is ensured by Go Eco through their products, and their pro-natural food growing stance. Both the organizations are providing Quality Education too. It is evident from what was gathered from the Waldorf School site. In case of Go Eco, they are giving children the valuable exposure to things related to nature and the environment by connecting them with it. They are educating them to live a life which is close to nature and in harmony with the environment. There is plenty of 'nature' on the Waldorf School campus, which the author visited personally. It provides an ideal environment for the students to flourish. The sustainability-focused stance of the school and its environment would affect the students in a positive way, even if it is on a subconscious level. The author is saying this from personal experience as he has studied in a college based in an organic farm for food crops with a big medicinal plant garden, and whose campus is dotted with orchards and lakes. These aspects also affect the mental health of the child in a positive way.

The nature and the environment are an integral part of education, and more essential in our times. The children are the future citizens of the earth, and the work that the two organizations are doing, is having a constructive impact on the children and their parents. This is how they are building Sustainable Cities and Communities for both the near and the far future by making the children the agents of change.

Zero Hunger is Goal 10. Go Eco's Kaivolution distributes the collected food to anyone who wants it, in order to reduce food waste, thereby reducing hunger. This is instrumental in reducing inequality too. According to their website, the Waldorf School also feed their students. Kaivolution is also a Climate Action project, as mentioned on the website of the organisation.

It has already been mentioned how Go Eco has contributed to the future of Clean Water and Sanitation for the Waikato region. The author feels fortunate to have been a part of that goodwill project. The recommendations prepared by Go Eco (it was partially prepared by the author) for the Healthy Rivers Plan Change Hearings was pitched by the author's mentor and the author to the panel on the Block-3 hearing day with the objective of doing their part to create a better future for both the inhabiting humans and the natural ecosystem of Waikato, which are inseparable. There were several recommendations, one of which referred to how soil microorganisms could be managed through improving soil awareness among farmers. Soil awareness is directly related to microorganisms in soil and soil health, and good soil health means better crops, better water quality, and ensures overall environmental benefits. The activities which interviewee-E from the Waldorf School has been involved in, and the steps he has taken to ensure better water and environment quality, have also been mentioned above.

It is also inferred both from the author's findings and from the organisation's website that Go Eco has established effective partnerships with multiple organisations like Kirikiriroa Explorers, and the partner organisations have increased their strength through this effective cooperation.

The interviewees from the Waikato Waldorf School also shared some of their future plans, which the organisation has also briefly referred to on their website.

Hence, the findings and analysis have shown in some detail how the two organisations are working to ensure sustainability, what they are efficiently doing or planning to do for overall community well-being cum sustainability, and how they are clearly combining multiple SDGs through their activities. It has also revealed the real depth of their activities, which they refer to on their website. Thus, the work of Go Eco and Waikato Waldorf School are definitely contributing to a great extent in order to ensure the achievement of the SDGs mentioned in the research question, and the work and the role of these organizations in realizing the different SDGs is significant, even if their influence is limited to Hamilton or Waikato only.

CONCLUSION

It has been seen how both organisations have tried to fulfil their objectives and have done what they have claimed to do. They work for sustainability and for the community, and their progress is helping the United Nations' cause and, therefore, helping in turning the SDGs into reality through their real-life constructive activities and through the implementation of sustainable future-friendly policies that govern them. The SDGs were meant to ensure that no one is left behind, and these two organizations are doing their bit. They are also constantly expanding, reaching more people, and they have future plans too. The two organisations have similar goals, and their paths occasionally cross and overlap. The author is personally satisfied with the efforts they are putting in to ensure a better future.

Although this research project does not cover it, it would be interesting to further study other such organisations in New Zealand, India or other parts of the world that have a common purpose. I intend to focus on whether or not they are putting in more effort to fulfil the SDGs. The author would also like to know in detail about the Kirikiriroa Explorers.

Recommendations

If more organizations shifted their focus in the same direction, then almost every locality in Waikato and New Zealand would become clean and green one day. The same is true for the whole world. This would be easier with the help of the government. A cross-government effort is required to achieve the SDGs. The New Zealand government is open to help from the private sector and civil society to help the government agencies with the SDGs, and they were already engaging with the government for the same purpose in 2019. New Zealand would contribute to the achievement of the SDGs through international leadership on global policy-related issues and helping other countries through the New Zealand Aid Programme (New Zealand Foreign Affairs and Trade, n.d.). This is perhaps more important in the post-pandemic period than ever before.

These are welcome facts. The community organizations, such as the ones that were dealt with in this chapter, could join hands with the government agencies and work on a global scale, even if it is limited to the Oceania at first.

The COVID-19 outbreak has changed everything. However, with these organizations expanding, and more such organizations coming of age, the post-COVID future looks full of hope. With increased awareness and implemented action, it is essential to fight the challenges that are plaguing mankind today. Thinking on a global scale is important as the earth is a common and shared heritage, and this has been proved by the pandemic once again. The borders are just in our minds. Sharing knowledge and tools with and lending necessary resources and help to the countries and communities in dire need, would help in healing the wounds of the human society and our mother earth. There is more awareness today than what was there even fifteen years ago. The COVID pandemic has also been a hard learning lesson for humanity. So, the efforts of the United Nations would be more effective when conscious citizens would work shoulder to shoulder as conscious change agents, along with it, and with the various government agencies of different countries, to make the planet better for the future generations.

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REFERENCES

Acciona (2020). Sustainable Development. https://www.acciona.com/sustainable-development/

Akinsemolu, A. A. (2018). The role of microorganisms in achieving the sustainable development goals. *Journal of cleaner production, 182*, 139-155.

Assembly, G. (2015). Sustainable Development goals. SDGs), *Transforming our world: the, 2030*.

Chin, A., & Jacobsson, T. (2016). The Goals. org: mobile global education on the Sustainable Development Goals. *Journal of cleaner production, 123*, 227-229.

Freistein, K., & Mahlert, B. (2016). The potential for tackling inequality in the Sustainable Development Goals. *Third World Quarterly, 37*(12), 2139-2155.

Go Eco. (2019a). Our History. https://goeco.org.nz/about/

Go Eco. (2019b). Kaivolution. https://goeco.org.nz/portfolio/kaivolution/

Go Eco. (2019c). Our Projects. https://goeco.org.nz/#projects

Mohammed, A. J., & Ghebreyesus, T. A. (2018). Healthy living, well-being and the sustainable development goals. *Bulletin of the World Health Organization, 96*(9), 590.

Morton, S., Pencheon, D., & Squires, N. (2017). Sustainable Development Goals (SDGs), and their implementation: A national global framework for health, development and equity needs a systems approach at every level. *British medical bulletin*, 1-10.

New Zealand Foreign Affairs and Trade (n.d.). Sustainable Development Goals. https://www.mfat.govt.nz/en/peace-rights-and-security/work-with-the-un-and-other-partners/new-zealand-and-the-sustainable-development-goals-sdgs/

Taylor, S., Williams, B., Magnus, D., Goenka, A., & Modi, N. (2015). From MDG to SDG: good news for global child health?. *The Lancet, 386*(10000), 1213-1214.

United Nations (2019). Shaping our future together. https://www.un.org/en/

Waikato Waldorf School (2022). http://waikatowaldorf.school.nz/rich-history-from-humble-beginnings/

Williams, B., & Taylor, S. (2017). Squaring the circle: health as a bridge to global solidarity in the Sustainable Development Goals. *Archives of disease in childhood, 102*(5), 459-462.

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Impact of Covid 19 Pandemic on PSUs in India – A Study on Power Industry

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ABSTRACT

Since January 2020, the entire world has been suffering from the unprecedented threat of Covid – 19. But the most significant part is that this pandemic brought the world economy down to ground level as much as possible, and India is not an exception to that. This study examines how the pandemic affects public sector units in India's power industry, as well as how the Indian government has taken steps to improve the industry's performance. In order to do so, this study considers five Maharatna companies. The result of the study shows that almost all the reporting companies have suffered in terms of their valuation and profitability position due to the Covid – 19 pandemics. From this study, it can be stated that the pandemic had a serious negative impact on the performance of this industry.

Keywords: *PSUs; Maharatna Companies; Enterprise Value*

INTRODUCTION

Since January 2020, the entire world has been shattered by the unprecedented threat of Covid – 19 pandemics. But the most significant part is that this pandemic pushed the world economy down to the ground level as much as possible, and India is not an exception to that. From April to June 2020, India's GDP faced a drop of a massive 24.4%. During the second quarter of the financial year 2020–21, the economy contracted by a further 7.4%. The recovery in the third and fourth quarters of 2020–21 was still weak, with GDP moving up by 0.5% and 1.6%, respectively (Dhingra & Ghatak, 2021). This implies that the overall rate of contraction in India was 7.3% for the whole 2020–21 financial year.

On the other hand, the Indian power industry is considered a precious industry that contributes a substantial fraction of GDP to the Indian economy. India got the sixth rank in the world for making the most investments in clean energy at 90 billion US dollars. Besides that, as per the Economic Survey 2018-19, total FDI (Foreign Direct Investment) inflows in the energy sector reached 14.65 billion US dollars from April 2000 to December 2019 (Ministry of Finance, 2019). Furthermore, according to the International Energy Agency's key world energy statistics published in 2019, India will see a massive energy investment of around $100 billion US dollars by 2024.

A Public Sector Undertaking (PSU) is a company in which more than 50% of the stake is owned by the Government. Depending upon whether it is owned by Central Government or State Government, it can be stated as Central PSU or State PSU. On the other hand, to get a 'Maharatna' status, a PSU must fulfil the following conditions –

- Turnover exceeding INR 25000 crore for the last three years.
- Net worth exceeding INR 15000 crore for the last three years.
- Post tax net profit exceeding INR 5000 crore annually.
- The company according to the SEBI mandates of minimum prescribed public shareholding limit, must show its presence at Indian Stock Exchange.

This study therefore analyzes the pre and post lockdown financial performance of the Power Industry of India and to do so it considers NSE listed five different Maharatna Companies (PSUs) lying under this industry.

LITERATURE REVIEW

There are several studies on pandemic but there are hardly any studies describing the effect of pandemic on various sectors of an economy. Dev and Sengupta (2020) in their study found that the magnificence of the economic impact depends upon several factors like duration and harshness of the health crisis, the time-span of the lockdown and the way in which the situation unfolds when the lockdown is lifted. In their opinion, policy makers have to be prepared to scale up the response according to the events in order to minimize the impact of the shock on both the organized and unorganized sectors. Agrawal, Jamwal and Gupta (2020) in their study described that lockdown due to pandemic affected the manufacturing activities in India and majorly it affected the supply chains and economy of the country. They have also identified 18 critical barriers which affected the supply chains in India. Fernandes (2020) in his study expressed that world's GDP would be shortened to a great extent due to outbreak of such Corona Virus and Service sector would be particularly adversely affected. He also opined that countries highly dependent on foreign trade would be more negatively affected. Jamwal, Bhatnagar and Sharma (2020) in their study showed that there is a great slow-down in the global economy due to Covid-19 attack which is likely to costs around One Trillion Dollar.

The review of available literatures shows that the findings are not conclusive, and the spectrum of result is wide. Available literatures also showed that there is absolutely a negative impact of the pandemic due to Coronavirus outbreak on Indian as well as Global Economy. But neither of these studies analyzed the impact of such pandemic on the financial performance of the individual industrial sector of India. Hence this study tries to bridge the above-mentioned gap.

Objectives of the study

This study aims to achieve three specific objectives –

- To identify the status of selected Maharatna Public Sector Undertakings belonged to Power Industry in terms of financial performance during pre-lockdown and post-lockdown period.
- To make a comparative analysis among the reporting companies.
- To highlight the Government's strategies for the survival of Indian Power Industry.

METHODOLOGY

This section consists of four sub-sections which are Selection of samples, Period of Study, Sources of data and Variables considered for analysis purpose.

Sample Selection – This study is based on a sample consisting of five Mahartna Public Sector Undertakings (PSUs) lying under Power Industry. Besides that, these five companies are also included in the NSE NIFTY Index. These are mentioned below.

(a) National Thermal Power Corporation Limited (NTPC)
(b) Gas Authority of India Limited (GAIL)
(c) Indian Oil Corporation Limited (IOCL)
(d) Oil and Natural Gas Corporation (ONGC)
(e) Power Grid Corporation of India Limited (PGCIL)

Period of Study - All the data collected for the seven consecutive years ranging from 2014-15 to 2020-21.

Data Sources - All the data are collected from the sample companies' websites and other different web-links attached with the market performance of these listed companies.

Variables - Four variables on the basis of which performance of a firm can be judged have been selected for this study. These are –

(i) Enterprise Value
(ii) Return on Assets (%)
(iii) EV/EBDITA Ratio (times)
(iv) Net Profit Margin Ratio (%).

Methodology – This study is descriptive in nature. No statistical test is used for the study. For analysis purpose, some graphical measures like bar diagram, line charts are used.

RESULTS AND DISCUSSION

It is quite natural that a pandemic has a severe effect on different industrial sectors. In their study, Alsamhi *et al.* (2021) found a significant difference in total income, net sales, net profit, and earnings per share before and after the pandemic in the tourism, hospitality, and consumer sectors. Thus, this section deals with the analysis of the impact of the COVID-19 pandemic on the financial performance of the reporting companies that belong to the power industry, and this section also shows the government's intervention towards the survival of such an industry for the upcoming future days after the pandemic crisis.

Enterprise Value:

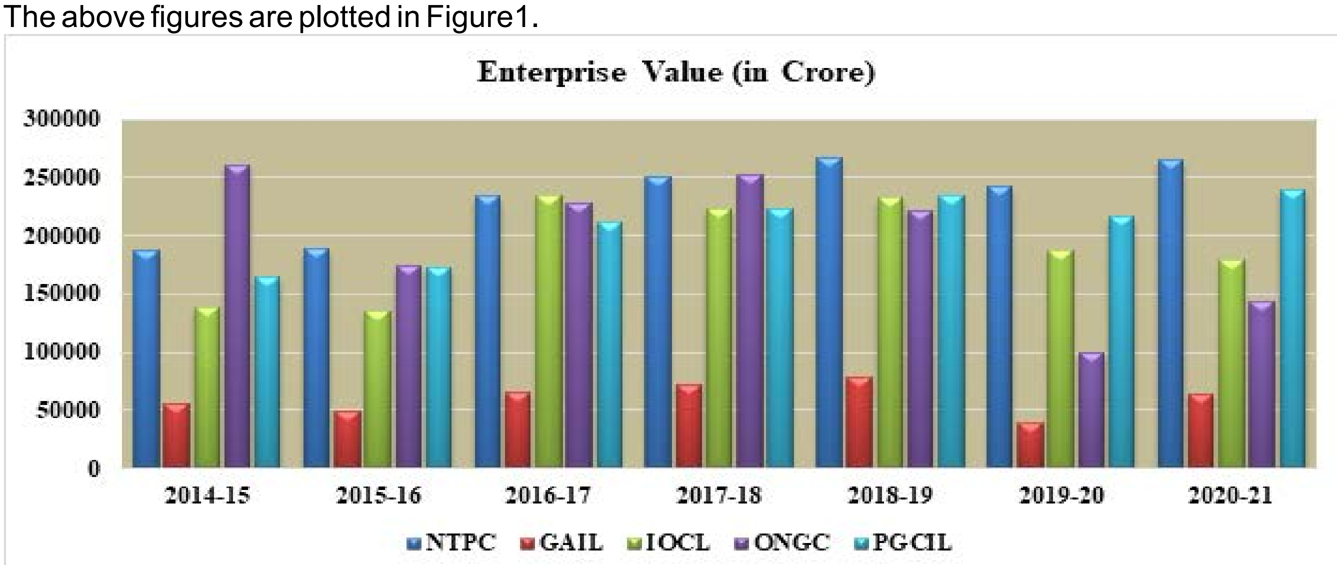
It is used as the basis of measuring the performance of a company. Higher the value, better is the performance of the company and vice-versa. Table – 1 shows the Enterprise Value of selected companies.

Table 1: Enterprise value of reporting companies

Companies	Enterprise Value (in Crores)						
	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
NTPC	187150.37	188137.19	234243	251145	266980	241691	264971.95
GAIL	56231.49	49189.69	65331.7	72548.33	77974.5	39087.9	64393.24
IOCL	139020.07	135205.1	233592	222553.1	232544	187111	179194.49
ONGC	261116.29	173773.15	227969	252754.9	221808	98904.4	143227.65
PGCIL	164475.55	172557.45	212290	222664.3	234645	216209	238425.77

Source: https://www.moneycontrol.com

The above figures are plotted in Figure1.



Source: Presentation by the researcher

Figure 1: Enterprise value of reporting companies

Figure 1 depicts that the Enterprise value of the NTPC, GAIL, IOCL and PGCIL were constantly rising over the years before 2019-20 while it shows a fluctuating trend in case of ONGC. But based on the availability of data, it can be stated that there was a considerable downfall in the value of all the companies in 2019-20 but significantly it went up in 2020-21. It means that the reporting companies started well performing after the period of strict lockdown.

Return on Assets (ROA) ratio:

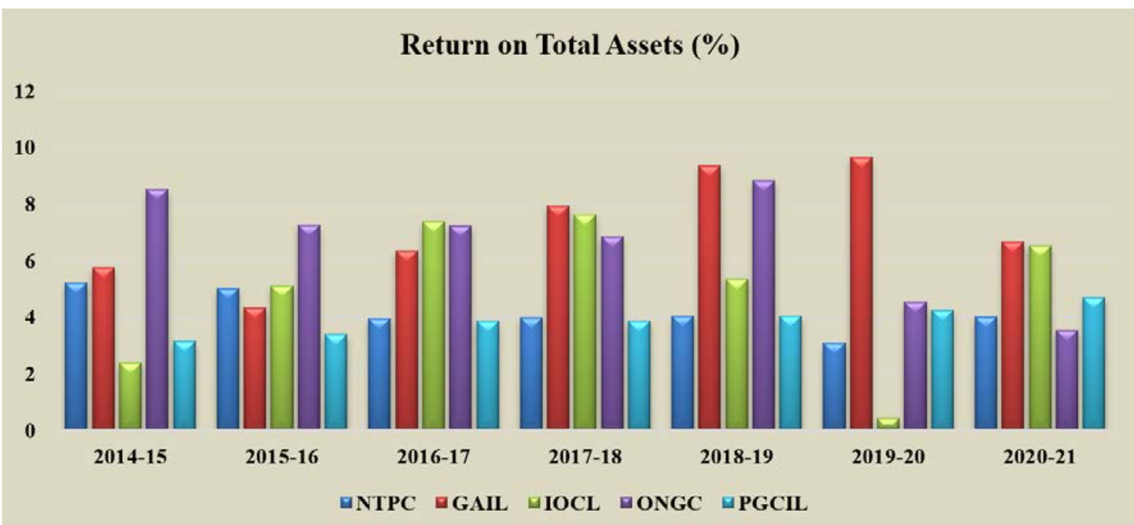
It means a financial ratio which implies how profitable a company is in connection with its total assets. Actually, ROA determines how efficiently an organization uses its assets to earn profit. A higher ROA indicates that a company is much more efficient and productive at managing its balance sheet to generate profits. Table 2 represents the ROA of reporting companies.

Table 2: ROA of reporting companies

Companies	Return on Total Assets (%)						
	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
NTPC	5.22	5	3.96	3.97	4.03	3.08	4.01
GAIL	5.74	4.33	6.33	7.95	9.35	9.66	6.67
IOCL	2.39	5.09	7.37	7.6	5.35	0.42	6.53
ONGC	8.52	7.27	7.23	6.84	8.83	4.53	3.53
PGCIL	3.14	3.37	3.86	3.86	4.03	4.23	4.69

Source: https://www.moneycontrol.com

From the above table the following figure is depicted.



Source: Presentation by the researcher

Figure 2: ROA of reporting companies

Figure 2 exhibits that there was a massive drop in ROA of all the reporting companies except GAIL and PGCIL in the year 2019-20 i.e. during pandemic situation. Even in the year 2020-21, when GAIL and PGCIL faced a downturn with regard to ROA, other companies found a hope of recovery. So, it implies that pandemic had serious impact on the downfall of ROA and thereby affecting the performance of the companies.

Enterprise Value/ Earnings before Depreciation, Interest, Tax and Amortization (EV/EBDITA) ratio:

This ratio is used to measure the performance of the company. Higher the ratio, better will be the value of the company and hence represents better performance of the company too. Table – 3 mentions the EV/EBDITA Ratio of all the reporting companies.

Table 3: EV/EBDITA ratio of reporting companies

Companies	EV/EBDITA (in times)						
	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
NTPC	10.47	9.87	10.48	10.72	10.83	8.09	7.99
GAIL	10.12	9.6	8.61	8.42	7.02	3.99	7.62
IOCL	9.72	5.79	6.49	5.17	6.29	8.37	4.21
ONGC	6.8	4.43	5.9	5.63	3.81	2.12	4.27
PGCIL	10.68	9.2	9.05	8.26	7.62	6.45	6.64

Source: https://www.moneycontrol.com

From the above table the following figure is depicted.

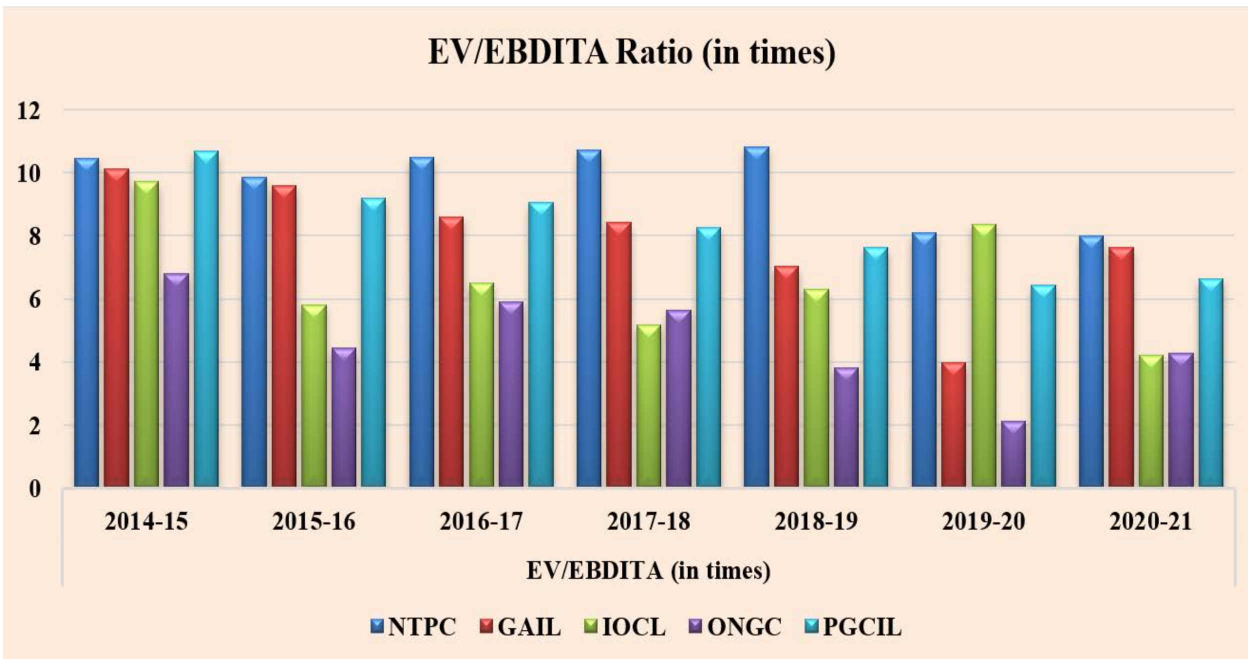


Figure 3: EV/EBDITA ratio of reporting companies

Figure 3 exhibits that the pandemic had serious impact on the EV/EBDITA Ratio of all the reporting companies except IOCL in 2019-20 as there was a drastic fall in the value of the companies. But in 2020-21 when other companies showed a hope of recovery, IOCL faced the downfall. It indicates that Covid – 19 pandemics also affected the performance of the sample companies.

Net Profit Margin (NPM) ratio:

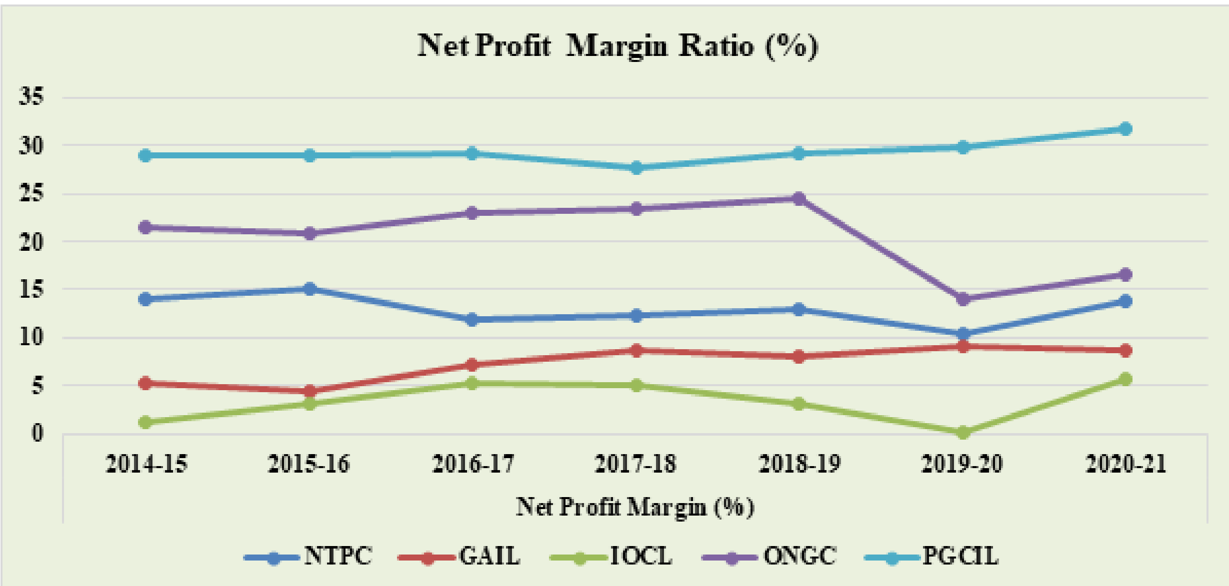
It measures how much net profit is generated by the company as a percentage of its revenue. Actually, it is the most important indicators of a company's overall financial health. Higher the value of NPM, the better will be the performance of the company and vice-versa. Table – 4 exhibits the Net Profit Margin Ratio of all the reporting companies.

Table 4: Net Profit Margin (NPM) ratio

Companies	Net Profit Margin (%)						
	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**
NTPC	14.04	15.2	11.99	12.39	13.01	10.35	13.87
GAIL	5.35	4.42	7.27	8.6	8.02	9.21	8.62
IOCL	1.2	3.23	5.3	5.03	3.2	0.27	5.77
ONGC	21.39	20.81	23.03	23.47	24.37	13.98	16.51
PGCIL	28.98	28.97	29.24	27.69	29.12	29.87	31.68

Source: https://www.moneycontrol.com

The above data is reflected in Figure 4.



Source: Presentation by the researcher

Figure 4: Net Profit Margin (NPM) ratio

Figure 4 represents that the performance of ONGC and PGCIL is quite better than other three reporting companies as far as NPM Ratio is concerned. But in the year 2019-20, due to pandemic, there was a sharp fall in such ratio faced by NTPC, IOCL and ONGC. These trio were trying to overcome the situation in 2020-21 while GAIL faced a downturn in that year. Significant fact is that pandemic had no impact on NPM of PGCIL as in both the year 2019-20 and 2020-21, there was a steady increase in NPM of such company.

Government's initiatives towards promotion of Power Industry:

There are some major initiatives that have already been taken by the Government of India with a view to restoring the damage caused by the pandemic to the Indian Power Industry. These are mentioned here.

- As per Union Budget 2021-22, the Government allocated Rs. 305984 crores (US$ 2 billion) for a revamped, reforms-based and result-linked new power distribution sector scheme over the next five years.

- According to Union Budget 2021-22, the Government has also allocated Rs. 300 crores (US$ 41.42 million) to increase capacity of the Green Energy Corridor Project, along with Rs. 1100 crore (US$ 151.90 million) for wind and Rs. 2369.13 crore (US$ 327.15 million) for social power projects.

- Indian Government is preparing a 'Rent a Roof' policy for achieving a target of generating 40 GW of power through solar rooftop projects by 2022.

- In November 2021, Govt. of India declared that it would release 5 million barrels of crude oil from its strategic petroleum reserves with a view to bringing down global crude oil prices.

- In September 2021, India and the US agreed to expand their energy collaboration by giving emphasize on emerging fuels as a part of US-India Strategic Clean Energy Partnership (SCEP).

- In July 2021, the Department for Promotion of Industry and Internal Trade (DPIIT) approved an order allowing 100% FDI under automatic route for Oil and Gas PSUs.

CONCLUSION

Based on the performance analysis of reporting companies taken as a proxy of the Indian Power Industry, it can be stated that the pandemic had a serious negative impact on the performance of this industry. But with the passing of time, the industry started gearing its performance up to a lucrative level as much as possible. Various initiatives were also undertaken by the government during and after the pandemic. The present study suffers from some limitations, such as data relating to different variables not being available. So, identification of all the data relating to those variables was not possible and therefore remained unidentified.

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REFERENCE

Agrawal, S., Jamwal, A., & Gupta, S. (2020). Effect of COVID-19 on the Indian economy and supply chain. https://doi.org/10.20944/preprints202005.0148.v1

Alsamhi, M. H., Al-Ofairi, F. A., Farhan, N. H., Al-ahdal, W. M., & Siddiqui, A. (2022). Impact of Covid-19 on firms' performance: Empirical evidence from India. *Cogent Business & Management, 9*(1), 2044593.

Dev, S. M., & Sengupta, R. (2020). Covid-19: Impact on the Indian economy. *Indira Gandhi Institute of Development Research, Mumbai* April. http://www.igidr.ac.in/pdf/publication/WP-2020-013.pdf

Dhingra, S., & Ghatak, M. (30th June 2021). How has Covid-19 affected India's economy?. https://www.economicsobservatory.com/how-has-covid-19-affected-indias-economy

Fernandes, N. (2020). Economic effects of coronavirus outbreak (COVID-19) on the world economy. http://dx.doi.org/10.2139/ssrn.3557504

Jamwal, A., Bhatnagar, S., & Sharma, P. (2020). Coronavirus disease 2019 (COVID-19): Current literature and status in India. https://doi.org/10.20944/preprints202004.0189.v1

Ministry of Finance. (2019). Economic Survey 2018-19: Volume 1. https://www.indiabudget.gov.in/budget 2019-20/economicsurvey/doc/echapter.pdf.

doi: 10.31674/book.2022sseg.014

Impact of Novel Corona Virus: A Study on Indian Economy

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ABSTRACT

The outbreak of Novel Corona Virus (COVID 19), the new pandemic, has slowed down economic activity all over the world and put most of the economies of the world in front of another recession. The current pandemic situation evolved in Wuhan and spread all over the world. This medical crisis brings the whole world into an economic crisis. The macroeconomic outlook all over the world for the financial year 2020-21 has been adversely affected by COVID 19. The stock markets of emerging economies are affected adversely. The US stock market witnessed one of its worst quarters due to this situation. The Indian stock market also crashed due to the global economic shutdown and panic, but the Indian stock market bounced back gradually. The Indian stock market currently shows no such impact of COVID, but until May 22nd, 2020, the SENSEX was corrected by 23% following the outbreak of COVID-19 in India. This research paper focuses on the impact of the COVID-19 pandemic on the economy. The study mainly depends on secondary data. The present study tries to address the effect of various restriction measures on the economy. It has been evolved that during the period of COVID-19, there is a need for a free flow of adequate funds to the industry through the financial market to sustain economic development. The government should take proper initiative to make this easier.

Keywords: *Indian Economy; COVID 19; GDP; Lockdown*

INTRODUCTION

SARS-CoV-2 (COVID 19) is a health crisis, but this health crisis has transformed the world into an economic crisis. The COVID-19 pandemic is the biggest problem for mankind in recent modern history. It originated in Wuhan, Hubei province, China but has spread to all over the world, putting serious pressure on various sectors of the economy. Almost half the world's population is under strict restrictions imposed by respective governments on movements to control the spread of this highly infectious disease. On March 11, 2020, the World Health Organization (WHO) (Ghebreyesus & World Health Organization, 2020) declared COVID-19 as a global pandemic.

The global economy came to its knees due to this pandemic situation. The whole world is going through a remarkable economic situation. COVID-19 creates uncertainty in the world economy and in our country also. Everywhere in the world, people try to stop the spread of these infectious diseases, which leads to social distancing, shutdown of financial markets, corporate offices, business activities, social events, educational institutions, etc. In other words, lockdown of every activity excluding healthcare.

COVID 19 is a very serious public health emergency of international concern. It has disrupted global economic activity. As a result, various companies across the world, irrespective of their size, stop functioning and create supply-side and demand-side downtrends. Transport facilities among countries are limited or restricted. Consumption is the biggest component of GDP, but the consumption pattern of people has been distorted or changed due to COVID 19. The main focus of most nations is on saving lives because if there is life, there will be livelihood. For the time being, various countries have closed their international and national borders, and all economic activities have come to a halt. of India imposed a lockdown on the nation from 25/03/2020 for a period of 21 days initially. Prolonged and widespread restrictions on the movement, containment, and social distancing of people created uncertainty and led to disruption of every kind of business activity and created a demand and supply shock of goods and services, including crude oil, which fell below zero for the first time in world history.

The world economy has been facing difficulty for the last two years due to COVID-19. Various waves of infection impacted both vulnerable sectors of society and corporate sectors. As of February 28th, 2022, more than 59 lakh people in the world died due to these viral infections and in India 5, 13,843 people lost their lives (NSO, 2022).

The first confirmed case of COVID-19 in India was on January 30, 2020, in Kerala. On February 2nd and 3rd, 2020, another two cases were reported from Kerala. These first 3 cases of COVID were from returnees from Wuhan, China. The first claim of the virus was from Karnataka, where a man was 76 years old and had a travel history to Saudi Arabia. Before the start of lockdown in the whole nation on March 25, 2020, more than 600 people were infected by COVID-19, and the virus had claimed 10 lives.

With the announcement of a complete lockdown of 21 days from March 25th, 2020, economic activities all over the nation were stalled. People stayed at home and went out only for essential commodities. The government of India imposed a strict lockdown to restrict the spread of this virus and three times increased lockdown phases.

During the lockdown period, an estimated 12.2 crore people lost their jobs, according to the Centre for Monitoring Indian Economy (CMIE) (The Hindu, 2020). An estimate shows that the income of 45% of households across the country dropped drastically as compared to the previous year. We know one of the biggest components of GDP is consumption. But due to the economic activity shutdown, consumption of non-essential goods was brought down.

In our country, crores of migrant labourers are working in various sectors of the economy and staying away from their homes. The unprecedented shock of COVID-19 resulted in lockdown; as a result, major corporations such as Maruti, TATA Motors, and BHEL have temporarily ceased operations or reduced their activities significantly. Many small business houses and companies in the MSME sector have either stopped or reduced operations. As a result, a huge number of employees lost their jobs. According to CMIE data in April 2020 (Vyas, 2022), an estimated 12.2 crore people lost their jobs. But the recovery was fast. During May and June 2020, 31.5 million and 63.2 million jobs came back. India faces an additional 13.3 million job losses during the second wave of COVID-19. In the IT sector, 30,000 people lost their jobs and another 60,000 were working with less pay.

Another area of concern is the financial market, as this market is drastically affected by COVID 19 all over the world. A sound financial system plays an important role in the development of any country's economic growth. The financial system promotes savings and investment in the economy and accelerates the formation of financial assets. The financial markets are an integral part of this system and play an important role. The financial markets act as a link between the surplus sector and the deficit sector of financial resources. It also facilitates efficient mobilization of capital and proper allocation of financial resources among different sectors of the economy for productive use and long-term and sustainable development. The capital market provides the way through which it is possible. We know that long term economic growth is associated with the efficiency of the capital markets, but this unprecedented shock of COVID-19 affected the global capital markets. The crisis due to the outbreak of COVID-19 is not equal to the global financial crisis [GFC] of 2007. The magnitude of the impact of the coronavirus on both the segments of the capital market is unprecedented.

The article is divided into three sections. Section 2 depicts impact of SARS-COV-2 in Indian economy. Section 3 gives concluding observations.

LITERATURE REVIEW

Studies are growing rapidly on the impact of this pandemic on economy as well as on financial markets in India and abroad. Ramelli and Wagner (2020) analyzed the impact of COVID 19 on stock market. Mirza *et al.* (2020) examine the possible policy requirement to maintain solvency level before pandemic.

Zhang, Hu and Ji (2020) investigate country specific risks and system risks in the global financial market due to COVID 19 and concluded that due to pandemic situation global financial market risks have increased substantially. Markets become unpredictable and highly volatile. Liu *et al.* (2020) analyze the short-term impact of the corona virus outbreak on 21 leading stock market indices. Fallahgoul (2021) investigate investor beliefs, sentiment and disagreement, about stock market returns during the COVID-19 pandemic and concluded that sentiment has a sharp decline across all investors between February 19, 2020 and March 23rd, 2020. Klose and Tillmann (2021) analyze the effect of this pandemic on financial markets of European countries and concluded that some policy measures taken by government were effective for reassuring financial market. Varma *et al*. (2021) using event study methodology examine the short-term impact of COVID 19 on Indian stock market and found that this pandemic has increased the risk in the stock market but the sector wise impact was temporary. Various rating agencies and World Bank had initially revised global economic growth for fiscal year 2021.

Objective

The main objective of this article is

I) To know the impact of COVID 19 on Global economy and Indian economy

RESULTS AND DISCUSSION

Impact of COVID 19 on Economy

- **Global Scenario**

The global economy which was in turbulence in 2019 faces an unprecedented shock due to outbreak of COVID 19[Table 1]. The virus which was burst in Wuhan in china changed the lives and livelihood of world's people drastically.

Table 1: Global Economy before COVID 19

Real GDP Growth rates %				
Top 10 Countries by GDP		2017	2018	2019
1	U.S	2.4	2.9	2.3
2	China	6.9	6.7	6.1
3	Japan	2.2	0.3	0.7
4	Germany	2.8	1.5	0.6
5	U.K	1.9	1.3	1.4
6	France	2.4	1.7	1.3
7	India	6.5	6.7	5.3
8	Italy	1.7	0.7	0.3
9	Brazil	1.3	1.3	1.1
10	Canada	3.2	2.0	1.6

Source: KPMG, 2020

Each and every sectors of world economy have been affected by this pandemic. Previously world economy has faced worst economic recession in 1930. WHO in January 2020, declares COVID 19 as world health emergency and thereafter on March 11, 2020 declares it as pandemic. The mortality rate of COVID 19 as compared to earlier virus-related health crisis in the world is low but it spreads among the people rapidly than others [Table 2]. The numbers of cases double in every two to three days or even more quickly. Till now we have faced three waves of COVID 19. Already it has claimed 59, 44,342 lives and infected more than 43 crore peoples in the world.

Table2: Mortality Rates and Infection Rates of COVID-19 and Other Epidemics

Epidemics	Mortality Rate	Infections Rate (Per Infected Person
Ebola	50%	1.5–2.5
MERS	34.30%	0.42–0.92
SARS	10%	3
COVID 19	1% - 3.4%	1.5 – 3.5
Seasonal Flu	1% - 3.4%	1.3

Source: Asian Development Bank, 2020

Due to pandemic fears, uncertainty increases, and various policy measures adopted by most of the country in the world to control the transmission of disease, illiquid situation in the market have contributed to a global supply and demand shock in manufacturing as well as service sector. COVID-19 related lockdowns, maintenance of social distancing and quarantine across the affected countries has stopped global economic activity. As a result, expectations of shallow recovery from 2019 low economic condition of the world have been dashed.

Global economic growth which was projected at -3.00% by IMF (2020a) earlier this year in the month of April, is now downgraded by another 1.9 percentage to -4.9 as per World Economic Outlook (IMF, 2020b) forecast June 2020. This shows that impact of COVID 19 pandemic on world economic growth has more catastrophic than anticipated in April 2020 forecast. Advanced economies as a group are forecast to experience a negative growth of -8.0 % in 2020 which is 1.9 percentage point lower than earlier projection of April 2020 WEO. U.S. economy as projected by the IMF to decline by 8%, close to double the rate of decline experienced in 2009 during the global financial crisis. The rate of economic growth in the Euro area is projected to decline by 10.2% of GDP. Not only advanced economies, Emerging Market and Developing Economies and Emerging and Developing Asia group's projected growth shows downgraded compare to earlier projection of this year in April 2020. Maximum countries in the world are struggling to control the transmission of the disease. Table 3 shows the IFM projected growth.

Table 3: Projected Real GDP growth (Percent Change)

	Year over Year					
	Projections		Estimate		Projections	
	2020	2021	2020	2021	2022	2023
world Output	-4.9	5.4	-3.1	5.9	4.4	3.8
Advanced Economies	-8	4.8	-4.5	5.0	3.9	2.6
U.S	-8	4.5	-3.4	5.6	4.0	2.6
Euro Area	-10.2	6	-6.4	5.2	3.9	2.5
Germany	-7.8	5.4	-4.6	2.7	3.8	2.5
France	-12.5	7.3	-8.0	6.7	3.5	1.8
Italy	-12.8	6.3	-8.9	6.2	3.8	2.2
Spain	-12.8	6.3	-10.8	4.9	5.8	3.8
Japan	-5.8	2.4	-4.5	1.6	3.3	1.8
U. K	-10.2	6.3	-9.4	7.2	4.7	2.3
Emerging Market and Developing Economies	-3.0	5.9	-2.0	6.5	4.8	4.7
Emerging and Developing Asia	-0.8	7.4	-0.9	7.2	5.9	5.8
China	1.0	8.2	2.3	8.1	4.8	5.2
India	-4.5	6.0	-7.3	9.0	9.0	7.1

Source: IFM,2020a and IFM, 2022

It has been found from the above table that IFM projected a recovery of world economy in 2021, but the duration of this pandemic shock is unknown at the time of projection and the performance of world economy was better than estimated except India in 2020.

After the outbreak of COVID 19, almost all the countries announced nationwide lockdown to saves the life of the peoples. It creates uncertainty among the various sectors and the whole economy under the different kind of shock, such as labour shock, demand side shock, supply shock, shock in international trade cost, shock to international tourism etc. Almost we are in pandemic for two years. Projection of economic recovery in June 2020 was true for maximum economies. The present projection of economic recovery shows steady recovery of world economy.

World Trade

As a result of economic impact of COVID 19, world trade volumes expected to be reduced between 13% and 32% as initially projected by World Trade Organization (WTO) on April 08, 2020. In the recent press release on 4th October 2021, WTO projected world merchandise trade growth from 2020 as shown in Table 4. According to WTO this unexpected health crisis forced the government of every nation to take unprecedented measures to protect the lives of peoples. Again, the emergence of infectious Delta variant forced various countries to impose restriction once again impacted world trade.

Table 4: Merchandise trade volume and real GDP, 2017-2022, Annual % change

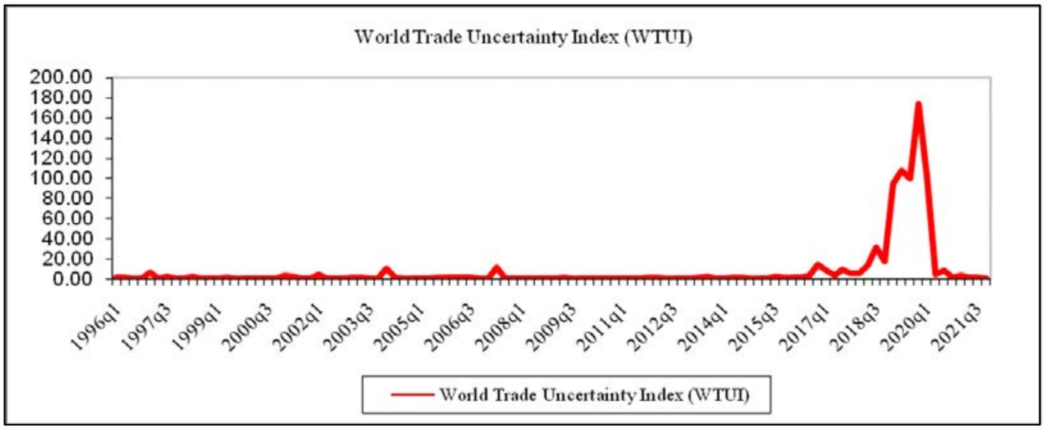
	2017	2018	2019	2020	2021p	2022p
Volume of world merchandise trade	4.8	3.1	0.1	-5.3	10.8	4.7
Export						
North America	3.4	3.8	0.3	-8.6	8.7	6.9
South and Central America, Caribbean	2.2	-0.2	-2.2	-4.7	7.2	2.0
Europe	4.1	1.9	0.6	-7.9	9.7	5.6
Asia	6.7	4.8	-2.2	-11.6	5.0	9.6
Import						
North America	4.4	5.1	-0.6	-6.1	12.6	4.5
South and Central America, Caribbean	4.4	5.6	-2.6	-9.9	19.9	2.1
Europe	3.9	1.9	0.3	-7.6	9.1	6.8
Asia	8.5	5.0	-0.5	-1.2	10.7	2.9
Real GDP at market exchange rates	3.2	3.1	2.4	-3.5	5.3	4.1
North America	2.3	2.8	2.0	-4.0	5.6	3.7
South and Central America, Caribbean	0.7	0.3	-0.5	-7.5	4.9	2.9
Europe	2.7	2.0	1.5	-6.4	4.3	4.0
Asia	5.0	4.7	3.9	-0.9	6.1	4.7

Source: WTO, 2021

Figures for 2021 and 2022 are projections, GDP projections are based on scenarios simulated with the WTO Global Trade Model

As per WTO wide range in forecasted merchandise trade is associated with the degree of uncertainty and economic impact of corona virus.

Figure 1 shows the World Trade Uncertainty Index form 1996 Q1 to 2021 Q4. World trade uncertainty is an equally GDP weighted average of 143 countries, measures the trade uncertainty across the world.

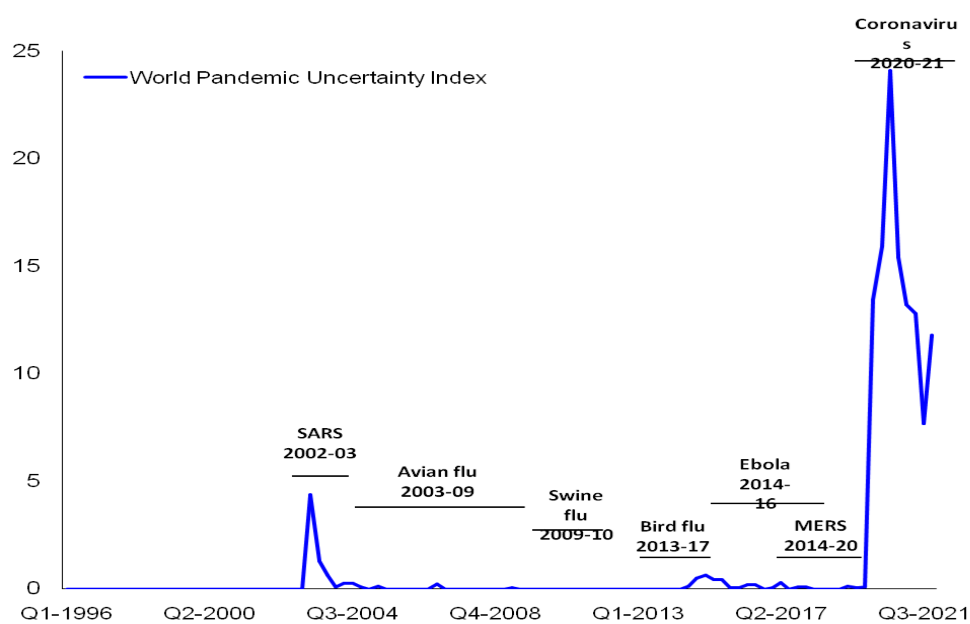


Source: Ahir, Bloom and Furceri, 2022

Figure 1: World Trade Uncertainty Index

Uncertainty

Economic uncertainty refers to an economic situation that can spoil the investment climate in an economy. The higher the economic uncertainty, the higher the systematic risk and the higher the cost of capital in the economy. Therefore, high economic policy uncertainty reduces investment or investment opportunities in the economy. The outbreak of COVID-19 is a new event and any information short of that was unavailable regarding its severity and the change of its mutation. Till date, the whole world has faced various waves of this pandemic. Uncertainty related to this pandemic has caught the whole world. This crisis-related uncertainty began with a public health emergency and has progressed to an economic emergency. Countries impose a nation-wide lockdown, and the uncertainty in the world increases. Figure 2 shows the uncertainty related to COVID-19 and another pandemic and epidemic in the world.



Source: https://worlduncertaintyindex.com

Figure 2: world Pandemic Uncertainty

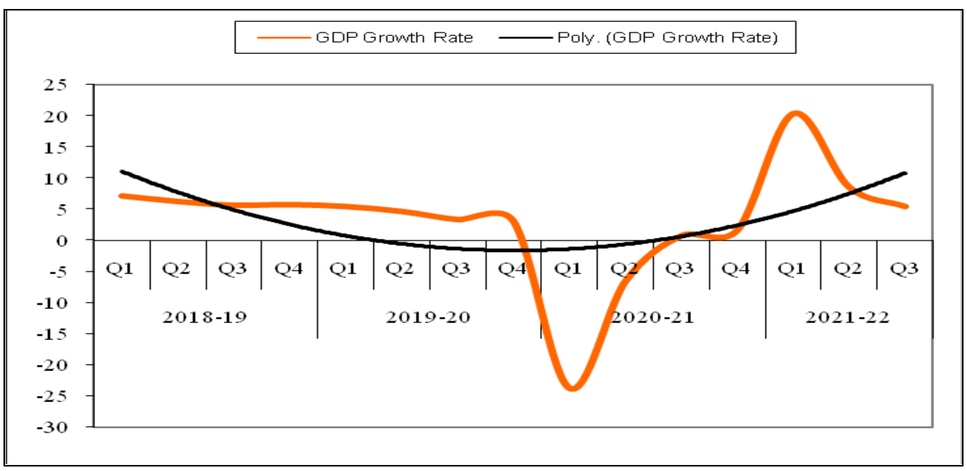
It has been shown from the above figure that the uncertainty related to COVID 19 is much higher than previous disease in the world such as Severe Acute Respiratory Syndrome (SARS), Ebola, Middle East Respiratory Syndrome etc.

Impact COVID 19 on Indian Economy

Before the outbreak of COVID 19, various rating agencies and the World Bank had forecasted India's economic growth with the lowest figures after India's economic liberalization in the 1990s. India has already faced 3 recessions in the economic sectors in the fiscal years 1958, 1966, and 1980. The present economic contraction due to COVID-19 is the fourth and seems to be more harmful to the Indian economy. As a result, India's GDP was expected to grow by 5% in the beginning of 2020, but after the outbreak of the coronavirus in India, various restriction measures taken by the government of India as a result have stalled economic activity across the country. Various rating agencies such as CRISIL, RBI, and IFM have anticipated that India's quarterly GDP will decline over 9% between April and June 2020. According to State Bank of India research estimates, a contraction of over 40% in GDP will be seen in Q1 FY21 (The Economic Times, 2020).

The Government of India on 24th March 2020, announced the first 21 days of complete lockdown from 25th March 2020, restricting 1.3 billion people. This restriction was extended 3 times up to 31st May 2020. During first 21 days of complete lockdown Indian economies has expected to lose more than 32,000 crore every day. From the 2nd phase of lockdown some areas of economies activities can function with 50% staff such as information and technology companies. Agricultural and horticultural activities will remain fully operational. Limited economic activities are getting permission to resume outside of the COVID 19 containment zones from phase 2, 3 and 4 of lockdown and from unlock 1, 2, 3 and 4 to revive economy.

The Figure 3 below shows the quarterly GDP growth rate of India for the last 15 quarters from Q1 2018-19 to Q3 2021-22.



Source: Compiled by author

Figure 3: Quarterly GDP Growth Rate

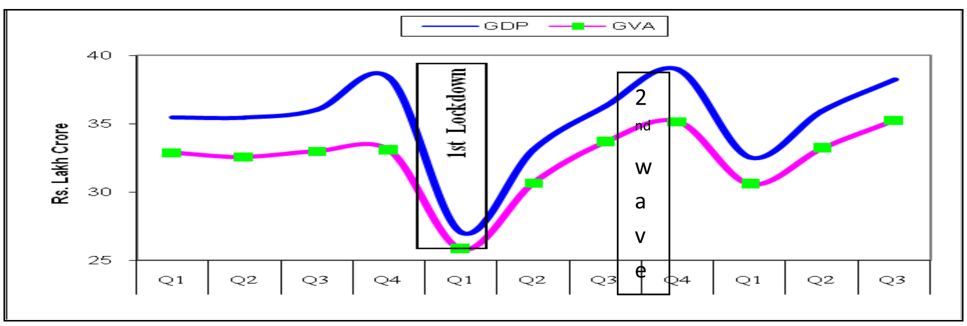
It has been clear from the above figures that the Indian economy is continuously losing its growth trend. India's economic growth slipped to 3 percent in the 4th quarter of 2019-20 [January-March]. This was due to the slowing down of overall economic activity in the world and also WHO's declaration of a public health emergency. Gross domestic product (GDP) at Constant Prices (2011-12) in Q1 of 2020-21 was estimated at 27.03598 lakh crore, as against 35.48958 lakh crore in Q1 of 2019-20, showing a contraction of 23.8 percent as compared to 5.4 percent growth in Q1 2019-20 and gross value added (GVA) also contracted by 8.4% during the period 2020-21 compared to previous year, according to National Statistical Organization [NSO] shown in Table 5 and Figure 4, Figure 5, shows the various waves of COVID 19 in India.

Table 5: Quarterly Estimates of GVA at Basic Prices

Industry	April –December (Rs. Crore)				
	2019-20	2020-21	2021-22	% change over Previous year	
				2020-21	2021-22
1.Agriculture, Forestry & Fishing	14,50,983	15,01,708	15,49,362	3.5	3.2
2.Mining & Quarrying	2,25,227	2,01,262	2,28,265	-10.6	13.4
3.Manufacturing	16,73,033	15,69,881	17,93,755	-6.2	14.3
4.Electricity, Gas, water Supply & Other Utility Services	2,27,743	2,14,471	2,32,905	-5.8	8.6
5. Construction	7,58,228	6,31,086	7,35,525	-16.8	16.5
6. Trade, hotel, Transport, Communication & Service related to Broadcasting	19,59,864	14,42,537	16,41,693	-26.4	13.8
7. Financial, real Estate & Professional Services	22,70,302	22,79,686	23,79,167	0.4	4.4
8. Public Administration, Defence & Other Services	12,76,492	11,74,401	13,46,016	-8.0	14.6
GVA at Basic Prices	98,41,873	90,15,032	99,06,688	-8.4	9.9

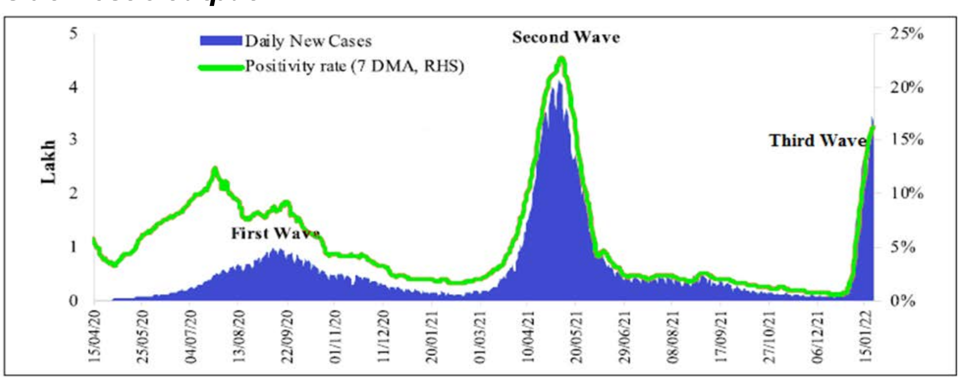
Source: NSO, 2022

Indian economy was in lockdown from 25th March 2020 for a period of close to two months. As a result, each and every sectors of the economy affected except agriculture, forestry and fishing shrank sectors which have been the least impacted by COVID 19. Impact of corona virus on Indian economy is unprecedented. As a results trade, hotel, transport, communication and service related to broadcasting sectors witnessed a massive negative growth of 26.4 % during the period 2020-21. COVID restrictions, panic among the people, increasing daily new COVID cases, case positivity rate death toll and new infectious variant played a catalyst role for economic downtrend in India. Form manufacturing sector to service sector, export, import, financial market, primary capital market every part of economy affected. After gradual withdrawal of COVID restrictions economy starts too bounced back.



Source: Compiled by author

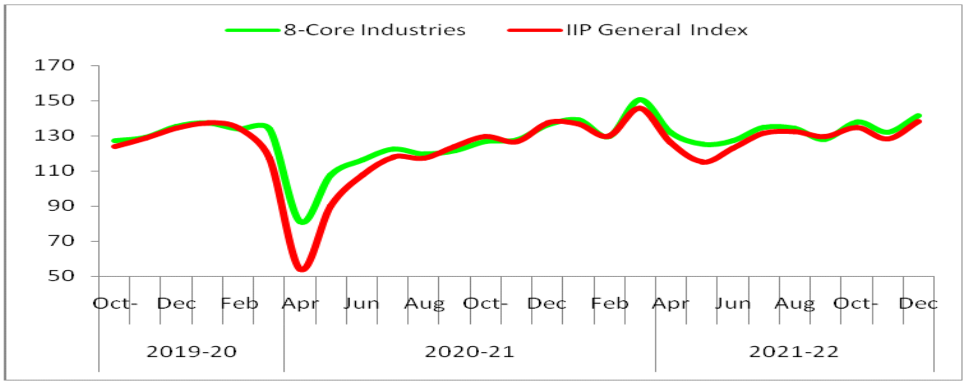
Figure 4: Gross domestic output



Source: Compiled by author

Figure 5: Waves of COVID 19 in India

To know the general level of monthly industrial activity in Indian economy Index of Industrial production [IIP] plays very important role. Through IIP data we can judge contraction and revival in industrial activity. Another valuable index is 8 Core industries Index. Figure 6 shows industrial output in Indian economy for the period 2019-20 to 2021-22 (Up to December 2021) through IIP index and 8 core industries index.

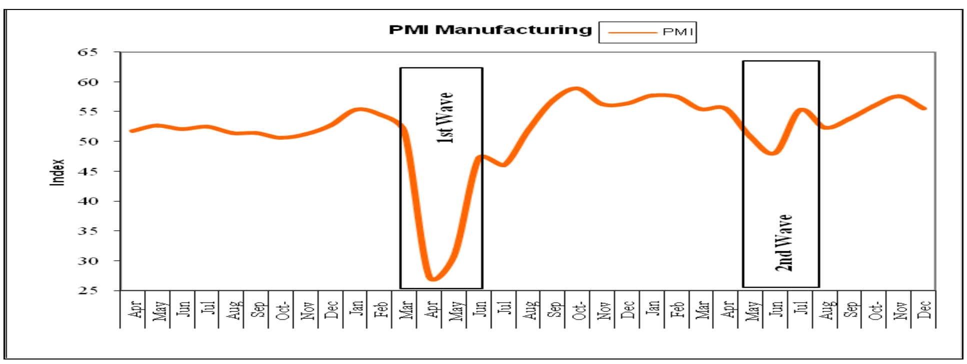


Source: Compiled by author

Figure 6: Industrial output

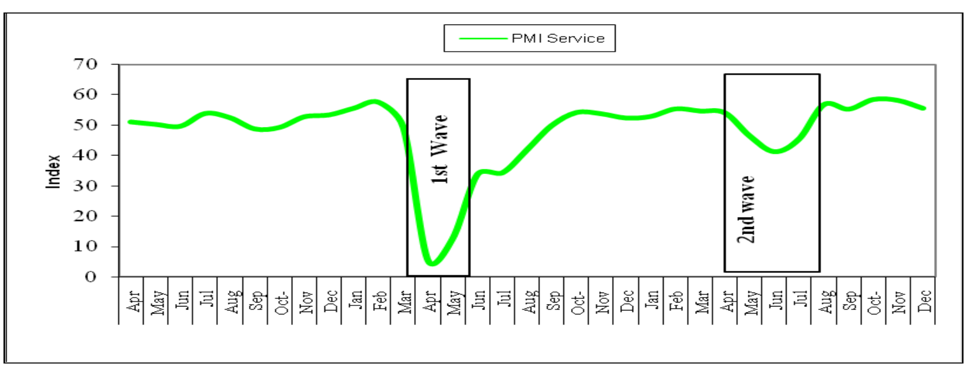
It has been clearly shown from above Figure that industrial output in Indian economy heavily affected during the 1st wave of COVID 19 as the lockdown measures imposed by the government. Thereafter industrial sectors gradually improve, but much not impacted when 2nd wave surge in our country as the vaccination drive started and restriction like complete nationwide lockdown not imposed.

Another area of concern regarding affect of COVID 19 is Purchase Manager Index (PMI). It is the most closely watched indicators of global business activity, both in manufacturing and service sectors. A figure of 50 and above in PMI index indicates expansion, while below 50 indicates contraction. PMI index for manufacturing sector declined to 27.4 in April 2020 and it showed some positive improvement in May 2020, but in July it contracted slightly to 46 from 47.2 in June 2020 (Figure 7 & 8). Service sector PMI contracted to 5.4 from 49.3 in March 2020. At the end of December 2021, it increased to 55.5.



Source: Compiled by author

Figure 7: India's Manufacturing Sectors PMI



Source: Compiled by author

Figure 8: India's Service Sectors PMI

Measures taken by Central Government

The government of India has taken various measures to tackle the economic situation arises due to outbreak of COVID 19. On 26th March 2020 a Rs. 1, 70,000 crore economic relief package announced to combat COVID 19 (India Today, 2020). On 12th May 2020, Prime Minister announced an overall economic package of Rs. 20 lakh crores, 10% of Indian GDP to overcome the pandemic crisis and emphasis on “economic self-reliance” (Misra, 2020). To reduce the affect of COVID in MSME (Micro & Small Industries) sectors government announces 6-month moratorium and deferment of interest for 1.3.2020 to 31.8.2020 and credit guarantee scheme. Government under public procurement policy increases market access of MSME sectors. Government of India approved Production Linked Incentive Scheme for 13 industrial sectors, such as pharmaceutical drugs, electronics, automobiles, telecom etc.

CONCLUSION

The Indian economy and global economies are also in contraction due to the Covid-19 pandemic. The global economy actually contracted by 3.1% compare to an estimation of a higher contraction. The Indian economy contracted more than estimated. It has contracted more than 23% during the 1st quarter of 2020–21.

The Indian economy shows negative growth during the 1st wave of COVID due to strong nationwide lockdown measures taken by the Indian government from the 25th of March 2020. From the IIP data to PMI index of manufacturing and service sector shows the effect of this health crisis in India. But after the easing of nationwide lockdown and various stimulus packages announce by central government and policy measures taken by Reserve Bank of India shows a 'V' shaped recovery of Indian economy.

The most important role in the economy's development was the development of the COVID vaccine and its free emergency use by the people of India under government supervision. Vaccination minimizes the loss of lives and increases confidence among people for the development of the economy.

Another positive sign is that the unemployment rate that increased to 23.5% in April and May after a nationwide lockdown was imposed, resulting in huge job losses in the country, came down to a pre-lockdown level of 8.5%.

A highly liquid secondary market, with normal volatility, low interest rates, and government stimulus packages, helped the Indian economic ecosystem to live with the virus and overcome the uncertainties of the COVID-19 pandemic. Increasingly positive investor sentiment all over the world market, including India's rebound economy.

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REFERENCES

Ahir, H., Bloom, N., & Furceri, D. (2022). *The World Uncertainty Index* (No. w29763). National Bureau of Economic Research. https://worlduncertaintyindex.com/data/

Asian Development Bank. (06th March, 2020). *The Economic Impact of the COVID-19 Outbreak on Developing Asia* [ADB Briefs no. 128]. https://www.adb.org/publications/economic-impact-covid19-developing-asia

Fallahgoul, H. (2021). Inside the mind of investors during the COVID-19 Pandemic: Evidence from the stocktwits data. *The Journal of Financial Data Science, 3*(2), 134-148.

Ghebreyesus, T. A., & World Health Organization. (2020). Coronavirus disease 2019 (COVID-19). WHO Director-General’s opening remarks at the media briefing on COVID-19–11 March 2020.

https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020

IMF (January, 2022). Rising Caseloads, A Disrupted Recovery, and Higher Inflation. *World Economic Outlook https://www.imf.org/en/Publications/WEO/Issues/2022/01/25/world-economic-outlook-update-j*anuary-2022

IMF, J. (June, 2020b). A crisis like no other, an uncertain recovery. *World Economic Outlook Update*. https://www.imf.org/en/Publications/WEO/Issues/2020/06/24/WEOUpdateJune2020

IMF. (April, 2020a). *World Economic Outlook*, April 2020: The Great Lockdown. https://www.imf.org/en/Publications/WEO/Issues/2020/04/14/weo-april-2020

India Today (2020). Coronavirus: FM Sitharaman announces package worth Rs 1, 70,000 crore for poor, daily wagers. *Retrieved March, 26*. https://www.indiatoday.in/business/story/finance-minister-nirmala-sitharaman-live-updates-economic-relief-package-india-coronavirus-1659912-2020-03-26

Klose, J., & Tillmann, P. (2021). COVID-19 and Financial Markets: A Panel analysis for European countries. *Jahrbücher Für Nationalökonomie Und Statistik, 241*(3), 297-347.

KPMG (19th March, 2020). COVID 19 Economic Impacts. https://assets.kpmg/content/dam/kpmg/cl/pdf/2020-03-kpmg-chile-advisory-coronavirus-mapping.pdf

Liu, H., Manzoor, A., Wang, C., Zhang, L., & Manzoor, Z. (2020). The COVID-19 outbreak and affected countries stock markets response. *International Journal of Environmental Research and Public Health*, 17(8), 2800.

Mirza, N., Rahat, B., Naqvi, B., & Rizvi, S. K. A. (2020). Impact of Covid-19 on corporate solvency and possible policy responses in the EU. *The Quarterly Review of Economics and Finance*. https://www.sciencedirect.com/science/article/abs/pii/S1062976920301125?via%3Dihub

Misra, U. (14th May, 2020). PM Modi's Atmanirbhar Bharat Abhiyan economic package: Here is the fine print. https://indianexpress.com/article/explained/narendra-modi-coronavirus-economic-package-india-self-reliance-6406939/

NSO. (28th February, 2022). Press note on second advance estimates of national income 2021-22 and quarterly estimates of gross domestic product for the third quarter (q3) of 2021-22. https://mospi.gov.in/documents/213904/416359/PRESS%20NOTE%20SAE%2028-02-2022M1646051035697.pdf/f0035128-6098-8329-3e7b-6d7df22e8b2d

Ramelli, S., & Wagner, A. F. (2020). Feverish stock price reactions to COVID-19. *The Review of Corporate Finance Studies, 9*(3), 622-655.

The Economic Times. (27th May 2020). Economy may contract by over 40% in Q1: SBI Research. https://economictimes.indiatimes.com/news/economy/indicators/economy-may-contract-by-over-40-in-q1-sbi-research/articleshow/76022260.cms?from=mdr

The Hindu. (7th May, 2020). Data | An estimated 12.2 crore Indians lost their jobs during the coronavirus lockdown in April: CMIE, https://www.thehindu.com/data/data-over-12-crore-indians-lost-their-jobs-during-the-coronavirus-lockdown-in-april/article61660110.ece

Varma, Y., Venkataramani, R., Kayal, P., & Maiti, M. (2021). Short-term impact of COVID-19 on Indian stock market. *Journal of Risk and Financial Management, 14*(11), 558. https://doi.org/10.3390/jrfm14110558

Vyas, M. (2022). Disproportionate fall in urban male jobs. *Centre for Monitoring Indian Economy Pvt. Ltd*. https://www.cmie.com/kommon/bin/sr.php?kall=warticle&dt=20210712171532&msec=220

World Health Organization (30th January, 2020). Statement on the second meeting of the International

Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV). https://www.who.int/news/item/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)

World Trade Organization (4th October, 2021). Global trade rebound beats expectations but marked by regional divergences. https://www.wto.org/english/news_e/pres21_e/pr889_e.htm

World Trade Organization (8th April, 2020). Trade set to plunge as COVID-19 pandemic upends global economy. https://www.wto.org/english/news_e/pres20_e/pr855_e.htm

Zhang, D., Hu, M., & Ji, Q. (2020). Financial markets under the global pandemic of COVID-19. *Finance Research Letters, 36*, 101528.

doi: 10.31674/book.2022sseg.015

Role of Self-Help Groups (SHGs) in India in Confronting the Pandemic

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ABSTRACT

The entire economy is undergoing a stage of acute crisis known as COVID-19. This infectious virus has imposed a serious threat on the survival of human being across the world. This global pandemic has huge impact on the world economy. Like many countries, India is also affected by this. The economy has been badly affected by the pandemic. Several policy measures have been announced by Government, for various sectors to recover from the crisis and regain growth. This paper is an attempt to throw light on the role of SHGs as a warrior against the ongoing pandemic. SHG members in the states of Chhattisgarh, Odisha, Coimbatore, West Bengal and others are actively participating in making masks and sanitizer – the two indispensable things for self-protection to fight COVID-19. Besides this, SHG members are also running community kitchens and handling the spread of misinformation. More than 3 crore masks and 1.2 lakh litres of sanitizers have been produced by SHGs across different states of India, during this period. The government, as a part of stimulus packages, has announced a financial package of Rs. 1.7 lakh crore for poor and vulnerable migrant labours, farmers, and construction workers to help them regain their livelihoods. In this package, the amount of collateral-free loans has been doubled to Rs. 20 lakh from Rs. 10 lakh for SHG members. The role of SHGs in combating the crisis is praiseworthy. The measures taken to come out of the ongoing crisis are expected to benefit many SHGs and in turn million households.

Keywords: *COVID-19; Pandemic; Stimulus Package; SHGs*

INTRODUCTION

The world economy is passing through tough times. The threat of COVID-19 has indeed made everyone's survival at stake. This was totally unpredictable. It has affected many countries across the world, among them the worst affected country is the USA, reporting the highest death toll, followed by countries like Italy, and Spain. China first reported the presence of the virus and has been affected. Gradually it has been reported in other countries also as mentioned above and it has been declared a pandemic. India too has been affected by the pandemic. Efforts are made to discover the vaccine for this virus. The current situation is very challenging for all countries affected by this pandemic. All the activities suddenly paused. The lifestyle changed drastically. Janata curfew has been declared in India as the first measure to arrest the spread of this life-threatening virus. Gradually lockdown has been implemented across different states. During this period of lockdown, work from home, online teaching-learning process, etc. are being followed. Every sector of the economy has been badly affected by this pandemic. India is trying her best to come out of this acute situation. Measures have been announced for various sectors of the economy. During this period of the pandemic, the role of SHGs across India is worth mentioning. This study has the following objectives:

- To discuss the role of SHGs in India in confronting the ongoing crisis period
- To discuss in brief the different measures taken to fight against the pandemic

The study is based on secondary data, which has been collected from different web resources like e papers, e-journal articles. The study is descriptive in nature; no statistical tools has been used.

LITERATURE REVIEW

Balakrishnan and Kalyani (2021) discussed the impact of COVID-19 on the Self-Help Groups. This paper tries to highlight the sufferings of Women Self Help Groups during the pandemic and its challenges and the various policy measures taken by Central Government. A feature story published by World Bank (2020) discussed the role of women's self-help group in combating the crisis. Yadav (2020) discussed about the pandemic and experience of social workers in Self Help Groups (SHGs). Puhazhendhi (1999) in his work tried to highlight the importance of micro-finance in alleviating poverty from the grass-root level in India, since poverty is a major constraint in the development of a country. Tankha (2012) attempted to examine the policy gaps and opportunities that exist for SHGs. He tried to examine the strategy adopted by National Rural Livelihoods Mission programme of Government of India and the role of National Bank for Agriculture and Rural Development in development of SHGs. He concluded the work by offering some suggestions. Vasantha (2015) mentioned that microfinance through self-help group is very effective tool for poverty reduction as well as women empowerment. Saravanan (2016) discussed microfinance and its role in poverty eradication. He concluded microfinance is having a great role in poverty reduction. According to Asian Development Bank (2020) microfinance to be the only cost effective and sustainable way of increasing banking outreach to rural poor people. He also discussed about the different advantages of micro finance and concluded that SHGs play an active role in livelihood promotion among urban poor.

RESULTS AND DISCUSSION

Role of Self-Help Groups

SHGs are a voluntary association of 10-12 people from the same socio-economic background who come forward for their mutual benefit. SHG pools the small savings of the members and arranges credit delivery for the members. SHGs in India form the largest chain of Microfinance Institutional Network. Some of the characteristics of SHGs that make them different from the traditional form of lending are collateral-free loans, loans without mentioning a specific purpose, and an informal lending system. SHGs during this Covid period are playing a vital role in supplying personal protective equipment, masks, and sanitizers. Statistics reveal that more than 12000 SHGs in India have already produced more than 3 crore masks and 1.2 lakh litres of sanitizer. SHGs across different states in India have come forward in this venture. SHGs during this crisis period, besides making masks and sanitizer were also involved in works like running community kitchen, making people aware of any misinformation and rendering them any assistance relating to financial decisions. SHGs across states namely Odisha, Jharkhand, West Bengal, Kerala, and many others are actively participating in manufacturing PPE, masks, and sanitizers. SHGs in Jharkhand are running more than 10,000 community kitchens and delivering food to the poor, elderly, and the quarantined (Ministry of Rural Development, 2020). In Bihar also the picture is the same. In Mysuru, many SHGs across the state are actively involved in manufacturing essential commodities viz masks, and sanitizers. Besides these, they are actively involved in creating awareness among the public regarding the importance of social distancing and the preventive measures to be taken to stay safe. SHGs are helping to identify the quarantined centre and elderly people and are supplying food to them. SHGs in the state of Maharashtra contributed Rs. 11 lakh to the Chief Minister Relief Fund.

As per the report of the Ministry of Rural Development, during April, 132 lakh masks have been produced by 65936 SHG members of 14522 SHGs across different districts in 39 Indian states, within a time span of 15 days. These were expected to reach the target group very easily with minimum transportation and logistics. The masks have been produced by the SHGs, in a decentralized way, by SHGs across different states in India. Besides this, 7200 SHGs have been formed in the urban area. SHGs during this pandemic period have come forward and emerged as great warriors in combating the deadly virus by supplying masks and sanitizer. According to a report by World Bank (2020), 19 million masks have been produced by 20,000 SHGs of various states in India. National Rural Livelihood Mission, the largest rural poverty alleviation program of the Government of India, launched in the year

2011 has formed many SHGs. It covers nearly 7 crore poor rural households in 6000 districts and 25.8 lakh million gram panchayats. The female members of the rural poor households have been bought under the SHGs. These SHGs are actively participating in making the personal protective equipment, masks, and sanitizers.

The following table will provide an overview of the total number of masks produced by SHGs across different Indian states:

Table 1: Mask Production by SHGs (As on 3rd April, 2020)

SL No.	State	No of Districts	No of SHGs	No. of SHG members	Total Masks produced (in Nos.)
1	Andhra Pradesh	5	4,281	21,028	25,41,440
2	Bihar	34	271	1,084	3,49,517
3	Chhattisgarh	24	932	2,674	5,49,712
4	Gujarat	33	367	1,470	10,49,319
5	Haryana	6	48	234	1,46,800
6	Himachal Pradesh	8	150	370	1,00,000
7	Jharkhand	21	131	394	3,00,215
8	Karnataka	12	139	581	1,56,155
9	Kerala	14	306	1,570	15,77,770
10	Madhya Pradesh	52	1,511	4,652	10,04,419
11	Maharashtra	25	602	2,558	3,62,332
12	Mizoram	1	1	1	100
13	Nagaland	5	48	475	6819
14	Odisha	12	202	1,388	2,78,076
15	Puducherry	2	143	303	1,20,380
16	Punjab	15	575	2,536	2,43,268
17	Rajasthan	6	1,206	6297	92,890
18	Sikkim	1	25	250	10,000
19	Tamil Nadu	32	1,927	10,780	26,01,735
20	Telangana	11	248	2,480	5,80,000
21	Tripura	4	45	173	4,650
22	Uttar Pradesh	49	968	2,027	3,64,894
23	Uttarakhand	10	112	421	4,74,490
24	West Bengal	17	284	2,190	2,91,794
Total		**399**	**14,522**	**65,936**	**1,32,06,775**

Source: rural.nic.in

As per the Ministry of Rural Development as of 12th April 2020, 2 crore masks have been manufactured by around 78000 SHGs of 27 State Rural Livelihood Mission in the country (Ministry of Rural Development, 2020). More than 5000 PPE kits have been manufactured by SHGs across various states. 900 SHGs in 9 states have produced 1 lakh litre of sanitizer. Apart from these, some SHGs have also produced liquid soaps for hand wash.

Detailed activities of SHGs of few States

In Bihar, women under the National Rural Livelihoods Mission, Jeevika platform of the state are involved in identifying vulnerable households. The SHG members are also playing an active role in creating awareness about the importance of maintaining personal hygiene like hand washing, social distancing, sanitization and quarantine. The network of 1.4 lakh SHGs in the state of Bihar is acting as a frontline warrior and also trying its best to explain the risk of this virus transmission.

In Uttar Pradesh, SHG members are manufacturing masks of Khadi material with the help of Khadi Gramodyog. In Kheri district of Uttar Pradesh, SHG members are working at a stretch to produce PPE kits for the frontline health workers and police personnel. Apart from this, the SHG women under Prerna platform used methods like rangolis, and songs through which they tried to spread awareness regarding handwashing and maintaining social distancing.

In the state of Jharkhand women of SHGs use a mobile app namely, Aajeevika Farm Fresh, to sell vegetables without violating the social distancing norm. Networks are used by them to identify vulnerable households trying to help the pockets in need of food. There is a 24 hours helpline run by State Rural Livelihoods Mission, which provides important information to the migrants who are returning. They have Mukhya Mantri Didi kitchen, which provides free food to the kitchen. At present, the state has 4185 community kitchens in Panchayat, with State Rural Livelihoods Mission, providing Rs. 20,000 to each SHG.

The SHGs in Ganjam district started manufacturing mask N-95, at a cost of Rs. 25 only, which is really praiseworthy. A good quality mask with better protection at a cheaper price is affordable for the economically backward section of the society also. Ganjam district Rural Development Authority (DRDA), in the state of Odisha, started making N-95 equivalent masks with the help of SHGs in the district. The mask is a six-layered mask. It is made with non-woven and hot air cotton, hydrophilic and melt-down fabric layers for air filtration that helps to protect against issues and bacteria. In the 1st phase, 10,000 masks have been produced. The Odisha Rural Development and Marketing Society and the Odisha Livelihoods Mission are supervising the production of the low-cost N-95 masks.

In the state of Chhattisgarh, 7,625 women from self-help groups, from different districts, under their state rural livelihoods mission are engaged in the task of producing masks and sanitizers during the period of the pandemic. As per statistics of Deccan Herald by Das (2020), as of May 2020, they have produced more than 39 lakh face masks and nearly 10,000 litres of hand sanitizers. Different districts in the state namely Koriya, Rajnandgaon, Bemetara, etc. are engaged in the production of masks and sanitizers. The masks produced are three-layered masks recommended by WHO at a price range of Rs. 10 to Rs. 20. 36.37 lakh masks were sold out of the total masks produced at a value of Rs. 4.52 crore. 7,690.35 litres of sanitizers worth Rs. 32.07 lakh has also been sold. Apart from producing sanitizers and masks, SHGs are also engaged in producing pattal and dona i.e., disposable plates and bowls made of dry leaves and paper and supplying them to quarantine centers for migrants.

RBL Bank, as a part of its corporate social responsibility, has provided training to the low-income women entrepreneurs in the state of Maharashtra and West Bengal to manufacture masks, which will help them earn their livelihoods. Following this, the women SHGs under West Bengal State Rural Livelihoods Mission, known as Anandadhara, manufactured 10,000 masks which have been distributed to the east and north-east states.

Apart from these SHGs of other states are also actively participating in the production of masks and sanitizer.

Again, during the Covid spike in 2021, around 23,000 members of Women SHGs are being trained under Uttar Pradesh State Rural Livelihood Mission (UPSRLM) to manufacture masks, PPE kits, etc. (Dixit, 2021).

Another initiative on part of the Government for SHG includes the initiative - The Saras collection, for the rural SHGs. This is a government e-market platform (GeM). The initiative will help the rural SHGs, to display their products on the government e-market platform (GeM). Listing of the products can be done in five categories - handicrafts, handloom, textiles, office accessories, grocery and pantry, personal care and hygiene. These products are for sale to the Government buyers. In the first phase, almost 913 SHGs from 11 states have registered as sellers and 403 products have been onboarded. This platform is of immense help for the rural SHGs in selling their products by showcasing them to the government buyers. For providing this facility to a large number of SHGs, GeM has developed an Application Programming Interface (API) based integration mechanism with the NRLM database.

Measures announced

Central Government has announced a financial package of Rs. 1.70 lakh crore for the migrant worker, labours, and poor, construction workers, disabled. This relief package of Rs. 1.70 lakh crore announced by the Central Government include doubling of collateral-free loan from Rs. 10 lakh to Rs. 20 lakh for SHGs which would help them to regain their livelihoods. Owing to this lockdown, many have suffered and lost their jobs.

This will benefit 63 lakh SHGs, which will help 7 crore families to earn their livelihoods. This package will provide benefits to the economically backward section of society. Among the beneficiaries of such relief packages which include Pradhan Mantri Kisan Kalyan Yojana, MGNREGA, Pradhan Mantri Jan Dhan Yojana, Pradhan Mantri Ujjawala Yojana, etc; SHGs are also expected to benefit from the package.

Apart from this, a relief package of 20 lakh crore announced has been by the central government for every Indian state affected by this pandemic. It is almost 10% of the country's GDP. It is just after countries namely the US and Japan, which is 13% and 21% of the country's GDP respectively. This 20 lakh crore package includes Rs. 1.7 lakh crore packages of free food grains to the poor and cash to poor women and elderly people. This package is likely to benefit the poor. RBI has announced liquidity measures and interest rate cuts. The measure of RBI accounted for about 3.2% of the GDP in May an increase from 0.8% of GDP in the month of March. The relief package announced by the Government of India is to make India self-reliant i.e., “Atmanirbhar Bharat”. The package will focus on the area of land, labour, liquidity and law. It will serve the needs of the various sections of the society like the cottage industry, MSMEs, labourers, middle class and industries. Tax reliefs allowed for small, micro, and medium enterprises to provide them relief, in the phase of such crisis. India also announced measures and incentives to boost domestic manufacturing. The government of India also targets to attract investments. The mission of self-reliant India has five important features like infrastructure, technology, vibrant demography, demand and a quantum jump in the economy. Apart from these, Rs. 34800 crore financial assistance using digital infrastructure was provided to 39 crore beneficiaries. Rs. 20 lakh crore includes - Rs. 8.01 lakh crore of liquidity measures and Rs. 1.92 lakh crore packages of free food grains and cooking gas to the poor and some sections.

The package includes a benefit for various sectors of the Indian economy like MSME, financial sector, banking, etc. The 1st tranche of 5.94 lakh crore is for the shadow bands, and electricity companies, the 2nd tranche of Rs. 3.10 lakh crore is for farmers, workers, migrant labours, the 3rd tranche of Rs. 1.5 lakh crore is for the agricultural and the allied sector, and the 4th and 5th tranche of Rs. 48100 crore is for the infrastructural development and structural reforms.

Table 2: Relief Package

Serial No.	Item	Rs (crore)
1.	Part 1	5,94,550
2.	Part 2	3,10,000
3.	Part 3	1,50,000
4.	Part 4 & 5	48,100
Total		11,02,650
5.	Earlier measures including the Pradhan Mantri Garib Kalyan Package (PMGKP)	1,92,800
6.	RBI Measures	8,01,603
	Sub total	9,94,403
Grand Total		20,97,053

Source: www.economictimes.indiatimes.com

The relief package announced by the Government of India will act as a life-saving medicine for the revival of the various sectors of economy affected by the crisis.

CONCLUSION

The sudden outbreak of the novel coronavirus has jeopardized the entire economic system of the country. The way of living changed drastically for all. All activities came to a sudden halt. This virus often has no symptoms. Scientists and medical practitioners are working hard to find out the vaccine to arrest the spread of this virus. Wearing masks and using sanitizer has become an indispensable part of human lives. There has been a massive increase in the demand for PPE, for the health workers during this pandemic period. The role of SHGs across the country to meet the sudden surge in demand for masks, sanitizers and personal protective equipment (PPE) is praiseworthy. SHGs during this period of crisis emerged as a great warrior. SHGs, across different states in the country, as discussed above, have come forward and extended their hand of cooperation, to encounter the situation of pandemic, which is indeed a need of the hour. Government has announced measures for every sector of the economy; SHGs are also likely to be benefitted from such measures. At present, it is indeed difficult to say, when the entire world can overcome this crisis but there is a ray of hope, that vaccine will be discovered surely very soon, and everything will be like before. People have already been accustomed to the 'new normal' situation but awareness among all regarding the Covid protocol is of utmost importance and this will help to win over the situation.

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REFERENCES

Asian Development Bank. (27th August, 2020). *How Microfinance is Helping Poor Households and Businesses Survive and Thrive: 6 Things to Know*. https://www.adb.org/news/features/how-microfinance-helping-poor-households-and-businesses-survive-and-thrive-6-things

Balakrishnan, B.S.D., & Kalyani, V. (2021). Impact of COVID 19 Pandemic on the Self Help Groups.

Das, S. (17th August, 2020). Social activists to distribute masks, sanitisers to 19 lakh slum dwellers in Kolkata. *Deccan Herald*. https://www.deccanherald.com/national/east-and-northeast/social-activists-to-distribute-masks-sanitisers-to-19-lakh-slum-dwellers-in-kolkata-874399.html

Dixit, K. (12th April, 2021). Over 5,000 women self-help groups stitch masks in UP. *The Times of India.* https://timesofindia.indiatimes.com/city/allahabad/over-5000-women-self-help-groups-stitch-masks-in-up/articleshow/82031858.cms

Ministry of Rural Development. (2020). *Community Kitchens run by SHG Women provide food to the most poor and vulnerable in Rural Areas during the COVID-19 lockdown*. https://pib.gov.in/PressRelease Page.aspx?PRID=1613866

Puhazhendhi, V. (1999). Rural Credit and Self-Help Groups: Micro-Finance Needs and Concepts in India. *Indian Journal of Agricultural Economics, 54*(4), 580.

Saravanan, M. (2016). The impact of self-help groups on the socio-economic development of rural household women in Tamil Nadu-A study. *International Journal of Research, 4*(7 SE), 22-31.

Tankha, A. (2012). *Banking on self-help groups: Twenty years on*. Sage Publications India.

Vasantha (2015)., Microfinance through Self Help Group as Catalyst for Poverty Reduction and Women Empowerment. *Asian Journal of Management Research, 6*(2), 243-257.

World Bank. (2020). *In India, Women's Self-Help Groups combat the Covid-19 pandemic*. https://www.worldbank.org/en/news/feature/2020/04/11/women-self-help-groups-combat-covid19-coronavirus-pandemic-india

Yadav, S. K. (2021). Self-Help Group (SHG) and COVID-19: response to migrant crisis in Haryana, India during the pandemic. *Social Work with Groups, 44*(2), 152-158.

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COVID - 19 an Epidemic to MSME: A Study on Assistance of Government of India to Overcome the Epidemic

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ABSTRACT

Tmicro, Small and Medium Enterprises (MSME) are considered as the growth engine of every economy, whether in developed or developing country. This sector plays an important role in removing the regional disparity in rural and backward areas. But currently these sectors are facing big challenges due to COVID-19. To overcome the situation, Government of India has declared various financial and non-financial packages for the MSME sector. The objectives of papers are to assess the negative and positive impact of COVID-19 on MSME sector and to evaluate the effectiveness of "Atmanirbhar Bharat Abhiyaan Relief Package". This study is exploratory as well as emperical in nature. Both primary and secondary data were used for the study. From the present study it can be concluded that MSME sector would be able to overcome the pandemic situation with the help of Government of India's assistant and Government's assistant are very effective to overcome this situation.

Keywords: *MSME; COVID-19; Packages; Assess*

INTRODUCTION

Micro, Small, and Medium Enterprises (MSME) are considered the growth engine of every economy, whether developed or developing. This is also true for the Indian economy and during the last few decades, MSME sector are playing a crucial role in the development of the overall economy. The contribution of this sector in the areas of employment creation, Gross Domestic Value addition, Exports, Contribution to GDP, and Investment in fixed assets are highly remarkable. Manufacturing and Service these sectors are developing under the umbrella of MSME. One of the main advantages of this sector is the more job creation power with comparatively lower capital investment than the large-scale sector (Desai, 2000). This sector also plays an important role in removing the regional disparity by industrialization in rural and backward areas (Sana & Kanrar, 2009). But currently, these sectors are facing big challenges due to Covid-19. Covid-19 is the other name of epidemic which widespread throughout the world and is a big curse to all sectors including MSME. As of 20th February 2022 more, than 244 countries are affected by this life destructive virus and more than 42,89,55,882 confirmed cases have been reported, resulting in more than 59,28,944 deaths and the situation of India for the same is 4,28,67,031 and 5,12,652.

The paper is written with the following objectives:

- To assess the negative and positive impact of COVID-19 on MSME sector and
- To evaluate the effectiveness of "Atmanirbhar Bharat Abhiyaan Relief Package" as declared by the Government of India to MSME sector to overcome their present adverse position.

METHODOLOGY

This study is exploratory as well as empirical in nature. Both primary and secondary data were used for the study. The emperical data have been mainly collected for analyzing the negative effectiveness of COVID-19 on MSME and the secondary data are used to analyze the effectiveness of various packages as declared by the Government of India to MSME to overcome their current position, although primary data were also used to analyses the opinion of MSME entrepreneurs and the general public regarding the impact of COVID-19.

Primary data from MSME units and the general public were collected by using a pretested and pre-coded questionnaires using Google Form. The Likert third scales have been used to collect the primary data from MSME sectors and the general public.

The secondary data were collected from books, journals, reports, and published documents of the district's industries center, SIDBI report on MSME, and various reputed websites like SIDBI, IDBI, EPW, RBI, etc. The entire collected data have been analyzed with the help of appropriate statistical tools and techniques.

Survey Period: August 2020 to June 2021

Tools of Analysis: Mainly the Chi- Square test has been used to analyses the primary data. Moreover cross-tabulation, Simple average method has been used to present and analyses the data with the help of SPSS statistical package.

Hypotheses of the Study:

Two sets of hypotheses have been formulated to know the effect of COVID-19 on MSME sector and also to know the real effectiveness of Financial Package under "Atmanirbhar Bharat Abhiyaan Relief Package" as declared by the Government of India for MSME sectors.

RESULTS AND DISCUSSION

Significant of MSME towards Nation

The role of MSME is highly remarkable in the development of the Indian economy. Its contributions towards GDP, Job creation, Export, Industrial Production, acting as an ancillary with large scale sectors, personal satisfaction regarding design or customer's needs, GVA, and Industrial Growth all are mentionable (Kanrar, 2012). Moreover, with a little capital, a small unit can be established which can satisfy local demand and at the same time provide job opportunities to skilled, semiskilled, and unskilled persons (Birajdar, 2011). MSME's contribution to our nation is clear from the below-given table.

Table 1: Contribution of MSME's in Country's Economy at Current Price

(Figures in Rs. Crores adjusted for FISIM at Current Prices)						
Year	**MSME GVA**	**Growth %**	**Total GVA**	**Share of MSME in GVA (%)**	**Total GDP**	**Share of MSME in GDP (%)**
2011-12	2622574	-	8106946	32.35	8736329	30.00
2012-13	3020528	15.17	9202692	32.82	9944013	30.40
2013-14	3389922	12.23	10363153	32.71	11233522	30.20
2014-15	3704956	9.29	11504279	32.21	12467959	29.70
2015-16	4025595	8.65	12566646	32.03	13764037	29.20
2016-17	4405753	9.44	13841591	31.83	15253714	28.90
Average	**3528221.33**	**10.956**	**10930884.5**	**32.325**	**11899929**	**29.733**

Sources: Ministry of MSME, 2018

GVA: Gross Value Added, GDP: Gross Domestic Product

Gross Value Added (GVA) and Gross Domestic Product (GDP) represent at current prices

MSME and COVID-19

COVID -19 is a life-destructive virus. As on 20th February 2022 more than 244 countries are affected by COVID-19 which is considered a life-destructive virus and more than 428.955 million cases have been reported, resulting in more than 5.928 million deaths. As an effect, the lockdown and social distancing have been started throughout the globe to save human life. Normal activities of all the sectors are being stopped for more than 90 days, whether in industrial or service, or other sectors. All the countries throughout the globe are being affected by this virus, whether developed or developing or more powerful. Every country became helpless and the situation has become totally out of control. MSME sectors are significantly affected by this lockdown, as most MSMEs are under micro and small umbrellas and they are not so organized as compared to the large sector. Thousands of MSME units are just waiting to close down their units due to the number of problems that mainly occurred during this lockdown period.

All India Management Organization (AIMO) has conducted a survey and as per the survey, about 25% of MSMEs may be closed down if a lockdown is imposed for more than 4 weeks and 43% of MSMEs may close down if a lockdown is imposed for more than 8 weeks. About 71% of MSMEs may not be able to pay salaries if lockdown is imposed for more than 8 weeks. We know that actual lockdown period was more than 9 weeks and so it is easy to understand the current position of MSME.

AIMO survey also exhibits that " among the surveyed people, 36% of self-employed stated that their biggest concern is pertaining to their ability to pay EMIs as they had issues with pending collections for work done earlier and also the receipts of new orders and profitable prices for the business".

"Several sectors such as aviation, hospitality, and consumer durable are among the worst hit by this epidemic. All the MSME/self-employed individuals/entrepreneurs associated or whose revenue depend either directly or indirectly on these sectors have been on the verge of a shutdown situation" said Shrikant Dalmia, Zonal Vice-President West, AIMO.

"Work from home for core MSME sector is possible only for 8% and due to Work from home productivity has reduced by 63% and due to this migration of labours has also increased in remarkable position" - S. Dalmia

K. E. Raghunathan, the immediate past president, of AIMO, said "The extent of the job loss will be more clear by the end of August' 2020, as most of the respondents were in process of gauging how many of their labour will return and also, they are currently worried about the optimum employee strength required to sustain their business soon".

"According to reports from our members and clusters of MSME sectors over the past few weeks, over 60 odd million MSME are in real danger due to market issues with over 92 percent drop in domestic sales compared to the same time last year. There is a 100 percent drop in export sales compared to the same time last year," said Sushil Vyas, Secretary, AIMO.

As per AIMA survey "At the time of unlock -1 the sector will face huge problem like visibility of demand, supply of raw material, future EMI payment, Collection of pending dues, interest burden on loan etc".

From the above it is clear about destructive negative impact of Covid-19 on MSME sector not only in India but also throughout the world. Till now it is not clear about how much day or month or years that effect will continue due to Covid-19. Day by day its spreading is going to increases throughout the globe. An uncertain timing is going on. No one knows when and how we will be able to overcome the above-mentioned problems.

Government's Assistant to MSME

Government of India/Central Government, State Government, Ministry of MSME and various other organizations have declared various financial and non-financial packages for the MSME sector, so that they can come back to their past position with significant role to Indian Economy. Here, an idea about the existing definition (Pooja, 2009)05 of MSME is given and what is revised definition of MSME to get the assistance from Government of India.

Table 2: Existing and revised definition of MSME

Existing MSMEs Classification			
Criteria: Investment in Plant & Machinery or Equipment			
Classification	**Micro**	**Small**	**Medium**
Manufacturing Enterprises	Investment <Rs.25 Lacks	Investment < Rs 5 Crore	Investment < Rs.10 Crore
Service Enterprises	Investment <Rs.10 Lacks	Investment < Rs.2 Crore	Investment < Rs.5 Crore

Revised MSMEs Classification			
Criteria: Investment in Plant & Machinery or Equipment			
Classification	**Micro**	**Small**	**Medium**
Manufacturing & Service Enterprises	Investment < Rs.1 Crore Turnover < Rs.5 Crore	Investment < Rs.10 Crore Turnover < Rs.50 Crore	Investment < Rs.50 Crore Turnover < Rs.250 Crore

On 1st June 2020 Monday, the Union Cabinet headed by Prime Minister Narendra Modi officially revised the MSME definition. It is noticeable that in new definition, the distinction between Manufacturing and Service sectors are eliminated. The new definition will bring about many benefits that aid to MSME to grow in size. The recent changes in the definition of micro, small and medium sized enterprises made as a part of the “Atmanirbhar Bharat Abhiyaan Relief Package”. The package announced on 12th May 2020, by Prime Minister Narendra Modi is to help mitigate ongoing Covid-19 crisis and to provide much needed boost towards achieving “Atmanirbhar Bharat”. The package is of Rs.20 lakhs crores- equivalent to 10% of India's GDP.

Brief about “Atmanirbhar Bharat Abhiyaan Relief Package” or self –Reliant Indian Movement discussed below:

Five pillars of Atmanirbhar Bhartat are:

- Economy – which brings quantum jump and not incremental change;
- Infrastructures - which should become the identity of India;
- System - based on 21st century technology driven arrangements;
- Vibrant Demography- which is our source of energy for self-reliant India;
- Demand - whereby the strength of our demand and supply chain should be utilized to full capacity.

The brief of packages is:

❖ Special economic and comprehensive packages of Rs.20 lakh crores equivalent to 10% of India's GDP as a part of Covid-19 relief measure, this package would emphasize on Land, Labour, Liquidity and Laws;

❖ Package covering various sectors including MSME; Labourers; Middle class; Industries; Among others

- Bold reform across sectors will drive the country's push towards self reliance;
- It is time to vocal for our local products and gradually make them Global;

Consequence of announcement of Atmanirbhar Bharat Abhiyaan relief package on 12th May 2020 by Prime Minister Narendra Modi, the finance minister Smt. Nirmala Sitaraman conducted a series of five press conferences and announced measures as follows:

Table 3: Overall Stimulus provided by Atmanirbhar Bharart Package

<table>
<tr><th>Sl. No</th><th>Date</th><th>Part</th><th>Focus Sectors & Posts</th><th colspan="2">Amounts
(Rs. Crores)</th></tr>
<tr><td>01</td><td>13.05.2020</td><td>Part - I</td><td>MSME, EPF Support, Gareeb Kalyan, NBFCs etc</td><td colspan="2">5,94,550</td></tr>
<tr><td>02</td><td>14.05.2020</td><td>Part –II</td><td>Farmers, Migrants Labours, Urban poor, Street Vendor etc</td><td colspan="2">3,10,000</td></tr>
<tr><td>03</td><td>15.05.2020</td><td>Part –III</td><td>Agriculture & Allied Sector</td><td colspan="2">1,50,000</td></tr>
<tr><td>04</td><td>16.05.2020</td><td>Part – IV</td><td>Coal, Minerals, Aviation, Defense, Space, Atomic Energy, Electricity Tariffs</td><td rowspan="2">48,100</td><td rowspan="2">Part –IV
&
Part-V</td></tr>
<tr><td>05</td><td>17.05.2020</td><td>Part -V</td><td>Ease of doing business, Health, Education, Support to state Government</td></tr>
<tr><td colspan="3">Sub Total (1)</td><td>52.58%</td><td colspan="2">11,02,650</td></tr>
<tr><td>06</td><td colspan="3">Earlier Measures including PMGKP</td><td colspan="2">1,92,800</td></tr>
<tr><td>07</td><td colspan="3">RBI measures (Actual)</td><td colspan="2">8,01,603</td></tr>
<tr><td colspan="3">Sub Total (2)</td><td>47.42%</td><td colspan="2">9,94,403</td></tr>
<tr><td colspan="3">Grand Total (1+2)</td><td>100%</td><td colspan="2">20,97,053</td></tr>
</table>

From the above table it is noticeable that in Part-1 total of Rs.5,94,550 crores allowed for MSME, EPF, Gareeb Kalyan and NBFCs and it is around 28.35% of total package.

Table 4: The details break up of Rs. 5,94,550 shown below

Focus Sectors	Amounts (Rs. Crores)
Collateral free automatic loans for Business including MSME	3,00,000
Subordinate debt for MSMEs	20,000
Equity infusion through MSME fund of funds	50,000
EPF support for business and workers for 3 more months	2,500
EPF contribution reduced for business and workers for 3 months	6,750
Liquidity facility for NBFC/HCs/MFIs	30,000
Partial credit Guarantee scheme 2.0 for NBFC	45,000
Liquidity injection for DISCOMs	90,000
Liquidity through TDS/TCS reductions	50,000
Others /Miscellaneous	300
Total	**5,94,550**

The focus areas are:

- Collateral free automatic loans for Business including MSME;
- Subordinate Debt for MSME;
- Infusion through fund of funds to MSME;

- ❖ EPF support for business and workers for 3 more months;
- ❖ EPF contribution reduced for business and workers for 3 months;
- ❖ Liquidity facility for NBFC/HCs/MFIs;
- ❖ Partial credit Guarantee scheme for NBFC;
- ❖ Liquidity injection for DISCOMs;
- ❖ Relief for Contractors;
- ❖ Extension of Registration and Completion Date of Real Estate Projects under RERA;
- ❖ Liquidity through TDS/TCS rate Reduction;

Other Measures for MSME:

- E-marketing linkage for MSME to be promoted to act as a replacement for trade fairs and exhibitions.
- Government has been continuously monitoring settlement of dues to MSME vendors from Government and Central Public Sector Undertaking.
- Fin-tech will be used to enhance transaction-based lending using the data generated by e-marketplace.
- Global tender to be disallowed up to Rs. 200 corers, as Indian MSME and other companies have often faced unfair competition from foreign companies.

All pending refunds to charitable trust and non-corporate business and profession including proprietorship, partnership, LLP and Co-operative shall be issued immediately.

Positive Impact of COVID-19 on MSME

No doubt COVID -19 has a strong negative impact on MSME but at the same time, COVID-19 also has some positive impact on the Indian MSME sector. Before COVID-19, Indian MSME has to face strong challenges from foreign products, particularly Chinese low-price products. Just for example in the light market, the manufacturer of Bulbs, Tube, and various decorating lights were in a strong completion with Chinese low-price light. MSME had to face strong competition to make product at a lower cost. Chinese products always pressing challenges to Indian manufacturers and gradually a major part of Indian MSME are going to wipe off the market. But after COVOD-19, our prime minister emphasized: that "Atmanirbhar Bharat" and our homemade products and services would get more preference and it is expectable that the import of Chinese products and services would be reduced. It is also expectable that Government will impose some restrictions on imports of low price, poor quality products to revive our indigenous products which manufacture by our MSME. Same competition just like Light manufacturers are also faced by household goods manufacturers, babies Toys manufacturers, kitchen appliance manufacturers, Small electric tools manufacturers, Fan manufacturers, Phone manufacturers, Software providers, Luxury products manufacturers like perfume, Deodorant, etc, Garment manufacturers, Soft drinks manufacturers and thousands of products and services manufacturers and providers were in a strong struggle with Chinese products and Services. After COVID-19 and P.M declaration about "Atmanirbhar Bharat", a new time is emerged about thinking of the MSME sector, now they and their products are getting much more important than the previous. People are going to emphasis the local market, and local manufacturers than products of MNC, Chinese low-price poor-quality products. It is the right time for the MSME sector to expose them local and gradually in the national market. They should utilize this biggest opportunity.

Before COVID-19 a major portion of MSME sectors are in hunk of finance. Lack of working capital is the base problem of MSME sector (Behera, 2006). Now MSME sectors can properly utilized the benefits as declared by P.M in “Atmanirbhar Bharat Abhiyaan Relief Package”.

A number of financial assistant's provision are available in this package for MSME sector and now they can avail this financial assistance more easily comparing to previous procedure. By utilising these packages, a sick unit also can revive. It is also right time for MSME sector to revive/ rejuvenations the units by properly utilising the advantages of “Atmanirbhar Bharat Abhiyaan Relief Package”.

Result of survey on Covid-19 and Atmanirbhar Bharat Abhiyaan relief package (Relating to MSME Sector)

A brief survey was conducted to know the effect of VID-19 on the MSME sector and also to know the real effectiveness of financial sackage as declared by the Government of India for the MSME sector. A survey was conducted among MSME entrepreneurs and the general public. We included the general public because they are the primary demand creators for MSME. The pretested questionnaire was used to collect the opinions of the aforementioned groups, and the data was collected using Google Form. The survey period was August 2020 to June 2021. More than 80 respondents were surveyed in this survey. A brief survey was conducted to know the effect of VID-19 on the MSME sector and also to know the real effectiveness of financial sackage as declared by the Government of India for the MSME sector. A survey was conducted among MSME entrepreneurs and the general public. We included the general public because they are the primary demand creators for MSME. The pretested questionnaire was used to collect the opinions of the aforementioned groups, and the data was collected using Google Form. The survey period was August 2020 to June 2021. More than 80 respondents were surveyed in this survey. The results are shown below:

Table 5: Types of respondent

Types of Respondent		Frequency	Percent	Valid Percent	Cumulative Percent
	MSME Entrepreneurs	59	72.8	72.8	72.8
	General Public	22	27.2	27.2	100.0
	Total	81	100.0	100.0	

Observation: 72.8% of the respondent belongs to MSME Entrepreneurs and 27.2% are general public. Maximum respondent is from MSME Entrepreneurs.

Table 6: Effect of COVID-19 and lockdown on MSME

Whether MSME Affected by COVID-19		Frequency	Percent	Valid Percent	Cumulative Percent
	Agree	78	96.3	96.3	96.3
	Neutral	3	3.7	3.7	100.0
	Total	81	100.0	100.0	

Observation : The study found that 96.3% respondents agreed that MSME sector badly affected by the situation arises due to COVID -19 and no one disagree about this situation.Table 7: Effect of special packages extended by the Government of India to MSME

Whether Financial Package Sufficient for MSME		Frequency	Percent	Valid Percent	Cumulative Percent
	Agree	12	14.8	14.8	14.8
	Neutral	30	37.0	37.0	51.9
	Disagree	39	48.1	48.1	100.0
	Total	81	100.0	100.0	

Observation : Only 14.8% respondents have agreed that special financial package as extended by the government of India to MSME is sufficient to overcome the current situation of the sector, 48.1 % respondents disagree about this matter and 37% remain Neutral about this matter.

Table 8: Effect of Covid 19 on demand of products and Services of MSME

Table 8: Effect of Covid 19 on demand of products and Services of MSME					
Demand of products & Services reduced due to COVID-19		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
	Agree	58	71.6	71.6	71.6
	Neutral	13	16.0	16.0	87.7
	Disagree	10	12.3	12.3	100.0
	Total	81	100.0	100.0	

Observation : From the above table it is found that 71.6% of respondents are agreed that demand of products and Services of MSME sector are drastically reduce due to COVID-19 .

Table 9: MSME sector would be able to overcome current financial problems or not

MSME sector be able to overcome current financial problems		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
	Agree	36	44.4	44.4	44.4
	Neutral	35	43.2	43.2	87.7
	Disagree	10	12.3	12.3	100.0
	Total	81	100.0	100.0	

Observation: 44.4 % of the respondents have agreed that MSME sector will able to overcome current financial problems/ situation and 43.2 % respondents are not interested to give any opinion about this matter.

Chi- Square Test:

A details Chi –Square test has been done to examine the impact of COVID-19 on current adverse position of MSME and to examine whether the MSME sector will be able to overcome their current adverse situation with the help of special financial packages as declared by the Government of India for MSME sector.

Hypothesis –I

H_o: There is no significant impact of decreasing of demand due to COVID-19 on current position of MSME sector (2 + 3 question).

H_I: There is a significant impact of decreasing of demand due to COVID-19 on current position of MSME sector (2 + 3 question).

Table 10: Relationship between impact of decreasing of demand due to COVID-19 and current position of MSME sector

Do you agree that the Micro, Small and Medium Enterprises (MSME) badly/ severely affected by the situation arise due to COVID-19 and lockdown? (Current Position)			**Do you agree that the demand of product & Services of MSME Sector drastically reduce due to COVID-19**			**Total**
			Agree	**Neutral**	**Disagree**	
	Agree	Count	58	13	7	78
		% of Total	71.6%	16.0%	8.6%	96.3%
	Neutral	Count	0	0	3	3
		% of Total	.0%	.0%	3.7%	3.7%
Total		Count	58	13	10	81
		% of Total	71.6%	16.0%	12.3%	100.0%

Table 11: Chi-Square Tests

	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	22.119	2	0.000
Likelihood Ratio	13.445	2	0.001
Linear-by-Linear Association	15.981	1	0.000
N of Valid Cases	81		

The Pearson Chi- Square or P value of the test at 5% level of significance is 0.000 which is less than 0.05. So, we can reject the null hypothesis and can accept the alternative hypothesis. Therefore, it can be concluded that the demand of product and Services of MSME Sector drastically reduce due to COVID-19 and for this reason the Micro, Small and Medium Enterprises (MSMEs) badly/ severely affected. COVID-19 and lockdown are one of the crucial reasons for current adverse situation of MSME sector. From the above cross tabulation, it is also found that 71.6% respondents agree that due to COVID-19, the demand of product and Services of MSME Sector drastically reduce whereas 96.3% respondents agree that MSME are badly/ severely affected by the situation arise due to COVID-19 and lockdown.

Hypothesis –II:

Ho: There is no significant relationship between overcoming of financial problems by the MSME sector and special financial packages for the MSME by the Government of India. (3+5 question)

HI: There is a significant relationship between overcoming of financial problems by the MSME sector and special financial packages for the MSME by the Government of India. (3+5 question)

Table 12: Relationship between the special financial packages extended by the Government of India to MSMEs and overcoming of current financial problems

Do you agree that the special financial packages extended by the Government of India to MSME for overcoming this situation is sufficient			**Are MSME sector be able to overcome current financial problems**			**Total**
			Agree	**Neutral**	**Disagree**	
	Agree	Count	12	0	0	12
		% of Total	14.8%	.0%	.0%	14.8%
	Neutral	Count	24	6	0	30
		% of Total	29.6%	7.4%	.0%	37.0%
	Disagree	Count	0	29	10	39
		% of Total	.0%	35.8%	12.3%	48.1%
Total		Count	36	35	10	81
		% of Total	44.4%	43.2%	12.3%	100.0%

Table 13: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	62.652	4	0.000
Likelihood Ratio	84.534	4	0.000
Linear-by-Linear Association	47.573	1	0.000
N of Valid Cases	81		

Sources: Compiled by Researcher

The Pearson Chi- Square or P value of the test at 5% level of significance is 0.000 which is less than 0.05. So we can reject the null hypothesis and can accept the alternative hypothesis. Therefore, it can be concluded that there is a significant relationship between overcoming of financial problems by the MSME sector and special financial packages for the MSME by the Government of India. From the above cross tabulation, it is also found that 44.4% respondents agree that MSME sector will be able to overcome the current financial problems in near future whereas only 14.8 % respondents agree that the special financial packages extended by the Government of India to MSME for overcoming this situation is sufficient. But in these two questions most of the respondents are not interested to provide any opinion about this matter and they remain neutral (43.2% and 37.0% respectively).

CONCLUSION

Based on the foregoing, it is clear that the MSME sector has played a vital role in the Indian economy since its inception, and it can be considered the most vibrant sector for overall economic development. This sector processes a large number of products and services, and only this sector can fulfil customers' personal needs and preferences. Its contributions towards GDP, Industrial production, employment creation, and contribution towards exports is highly remarkable. But recently, particularly after VID-19's pandemic situation, the sector is facing different problems. One of the most serious issues is the decline in demand for their products and services. According to various reports, the majority of MSMEs are unable to pay workers' wages and EMIs. More overdue to lockdown, problems relating to raw material procurement, worker problems, and communication problems are also mentioned. backdrop, the government of India has declared special financial packages for the MSME sector under "Atmanirbhar Bharat bhiyaan Relief Package" and the MSME sector can take advantage of this package to revive themselves from the adverse situation which arose due to VID-19. According to secondary data, the government of India has declared a number of relief packages for the MSME sector, which are easily available. According to the preliminary survey, the MSME sector is experiencing significant problems as a result of VID-19. The survey also reveals their marketing issues and other issues. According to MSME entrepreneurs, they will be able to overcome their current situation with the help of government assistants in the very near future. They have some doubts about how easily such an assistant would be available to them. Although all banks have been started their functions very effectively to make more effective the "Atmanirbhar Bharat Abhiyaan Relief Package". At the same time, VID-19 has some positive aspects, such as the government's announcement to prioritise indigenous products over foreign products, and for MSME, it is the right time to make their products more accessible to all. At present, restrictions have been imposed on the use of Chinese products. It's also having some positive impact on the demand of MSME products and services. So, overall, it can be sayed that the MSME sector would be able to overcome the effect of the pandemic situation and the government's aid to MSME to overcome.

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REFERENCES

Behera, K.K. (2006). *Finning Small - Scale Industry*. New Delhi, India; Discovery Publishing House, 05-28.

Birajdar, S.M (2011). A study of the small-scale industries in economic development in Kolhapur district, *Golden Research Thoughts, 1*(V) 21-52. http://oldgrt.lbp.world/ViewPdf.aspx?id=834

Desai, V. (2000). The Dynamics of Entrepreneurial Development and Management. *Himalaya Publishing House*.

Kanrar. S. (2012). Micro, Small and Medium (MSMEs)Enterprises and Indian Economy: An Empirical Study on Role of MSMEs, *International Journal of Research in Computer Application and Management*. 129-135.

Ministry of MSME. (2018). *Annual Report 2018-19*. Government of India. https://msme.gov.in/sites/default/files/Annualrprt.pdf

Pooja (2009) *Micro, Small and Medium Enterprises – in the Indian Economy*. New Delhi, India; New Century Publication. 01-88, https://www.ipgbook.com/new-century-publications-publisher-ISBS20760.php

Sana, A.K., & Kanrar, S. (2009). Role of State Financial Corporation in the Development of Micro, Small and Medium Enterprises: A Study with Special Reference to West Bengal Financial Corporation, *Business Studies*. Vol-XXX, 100-116.

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Changing Landscape of Indian Mutual Fund Industry: Role of Regulators

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ABSTRACT

A mutual fund is an investment vehicle that offers multifaceted benefits such as risk minimisation through diversification, management of investors' funds in a professional manner, lesser cost, transparent mechanism, flexibility, easy accessibility, regulatory control, and liquidity. The savings of all types of investors are pooled by the mutual fund. These savings are then invested by fund managers in different securities with the twin objective of risk minimisation and return maximisation. In this way, mutual fund plays a productive role in the Indian economy. Investors are the backbone of the mutual fund industry. As such, protecting investors' interest for ensuring their spontaneous participation in mutual funds is essential. The regulatory framework of the mutual fund industry of India is a globally competitive one. The year 1991 is a milestone because the function of regulating mutual funds was given to the Securities and Exchange Board of India (SEBI) in March 1991. During the period from 2008 to 2021, the capital market regulator has taken certain investor-friendly measures which are discussed in this paper. Assets under Management (AUM) for the quarter ended 31st December 2019 was Rs. 26.54 lakh crore whereas the AUM for the same period of 2020 was Rs. 22.26 lakh crore. This shows a downfall in AUM which may be due to the COVID pandemic. The assets held by individual investors were 52.1% of industry assets in April 2020 while the same was 54.7% in April 2019. Another shocking incident in the Mutual Fund Industry of India due to the COVID-19 pandemic was the shutting down of six debt mutual fund schemes on 23.04.2020 by Franklin Templeton which shocked the investor community. It resulted in huge outflows of over Rs. 8,000 crores in April 2020. The RBI quickly intervened and the RBI announcement of Rs. 50,000 crore special package was made for the interest of the mutual fund investors. The research paper endeavours to focus on the investor-friendly initiatives of the Indian mutual fund regulator SEBI since its inception to the pandemic (COVID-19).

Keywords: *COVID-19; Mutual Fund; RBI; SEBI*

INTRODUCTION

A mutual fund has become a main form of investment because of its multifaceted benefits such as risk minimisation through diversification, management of investors' funds in a professional manner, lesser cost, transparent mechanism, flexibility, easy accessibility, regulatory control, and liquidity. The savings of all types of investors are pooled by the mutual fund. These savings are then invested by fund managers in different securities with the twin objective of risk minimisation and return maximisation. In this way, mutual fund plays a productive role in the Indian economy. To ensure the smooth functioning of the mutual fund industry, the interests of mutual fund investors must be protected because investors are the main pillars of the mutual fund industry. Investor-friendly measures by Indian mutual fund regulators over the years have given confidence to the investors and all types of investors across the globe are attracted to invest in the Indian Mutual Fund Industry. Protecting investors from potential loss and correcting the failures are the main two objectives of any regulatory body. Regulators should not change their views indiscriminately because such things can adversely affect investor confidence and may create instability in the market. Two types of cost are associated with regulation: 'Direct Cost' and 'Indirect Cost'. Direct cost consists of administration and implementation cost, whereas the indirect cost consists of loss of economic welfare because of restrictions on competition. For a developing country and emerging market like India, Cost-Benefit

Analysis (CBA) should be followed before formulating regulation.

Objective of the Study and Data Source

The study endeavours to focus on the investor-friendly initiatives of Indian mutual fund regulators since inception to the pandemic (COVID-19).

The study is exploratory in nature. The exploratory part of the research paper is based on the current literature available in the market on this issue in the form of books, reports, articles, research studies and websites.

LITERATURE REVIEW

Somashekar (2009) examines the SEBI Mutual Fund Regulation and points out the benefits of these regulations from the Indian perspective. The researcher has compared the performance of the funds governed by the Unit Trust of India (UTI) Act Regulations with that of the funds governed by the SEBI Regulations. It is observed that the funds governed by SEBI outperformed the funds governed by UTI over time. Vasudevan (2010) provides a critical assessment of SEBI's declaration to have a uniform exit load—a fee charged for early redemptions—for investments through the lump sum route as well as systematic investment plans (SIPs). Kamble (2013) examines the mechanisms of the regulator (SEBI) regarding mutual funds in India. The purpose and objective of this article are to study the meaning and nature of mutual funds, the procedure, the importance of SEBI and its mechanism in India, and also to analyse the growth of mutual funds in India. Burugula (2016) observes that some AMCs are engaged in the practice of "dividend stripping." Investors put their money into funds that announce big dividends. They pocket the dividend and show a reduction in NAV as the capital loss is adjusted against capital gains from other investments. SEBI has been looking into the matter seriously so that this practice cannot evade tax. Balachandran and Panjavarnam (2017) attempt to highlight the different rules and regulations associated with regulating mutual funds in India. According to the study, the SEBI has taken significant steps toward ensuring due diligence and transparency in all investment decisions, but the regulator should implement corporate disclosure norms over a shorter time frame. Singh (2019) focuses on mutual fund regulations in India. She also states that the use of cryptocurrency should be allowed in mutual fund investments so that it becomes easier for investors to make instant transactions, though the use of cryptocurrency is illegal according to the foreign norms of the country. Jain (2020) observes that the ever-increasing number of accounts under 'Systematic Investment Plan' (SIP) is an indicator of increasing investors' confidence in mutual funds in India.

DISCUSSION

Single Regulator versus Multiple Regulators

In India, financial markets are supervised by many regulators such as RBI, SEBI, Forward Market Commission (FMC), Insurance Regulatory and Development Authority (IRDA), Pension Fund Regulatory and Development Authority (PFRDA). In the case of multiple regulators, there lies a possibility of overlapping between their functions. As such, some experts opine that a single regulator can ensure avoiding such overlapping possibilities. They are of the view that a single financial regulator can facilitate well-organized resource allocation by devoting regulatory resources (both financial and human resources) to where they are most needed. Another advantage of a single regulatory system is that it can share information about various regulatory divisions, which will help a lot in preventing fraud.

But a look at developing countries reveals that specialised business firms and institutions dominate the market to a great extent. The objectives and focus of those firms and institutions are different. As such, in India, multiple financial regulators can be more effective in developing the market. Flexibility is an advantage of multiple financial regulators.

Background of Mutual Fund Regulators

Before 1991, there were insufficient rules and regulations for controlling the performance of the Indian mutual fund industry. The Reserve Bank of India (RBI), in July 1989, came out with certain guiding principles to regulate all types of financial institutions including mutual funds. Later, in March 1991, the important function of regulating mutual funds in India was handed over to the SEBI. The SEBI initially formulated SEBI (Mutual Funds) Regulations 1993 and subsequently revised the existing regulations and circulated fresh guidelines entitled SEBI (Mutual Funds) Regulations 1996. From 1996 till date SEBI has traversed a journey of 24 years and the secondary markets have gone through various bull and bear phases. In protecting the interest of the investors, SEBI has taken various measures which have kept the Indian Mutual Fund Industry growing during this two and half decade as is evident from the AUM data which jumped from Rs. 25 crores in 1965 to Rs. 2,226,203 as of 31st March 2020.

Role of Regulatory Bodies in Indian Mutual Funds Industry

The three main functions of the SEBI, the capital market regulator, are (a) Protecting the investor community, (b) Promoting the development of the securities market, and (c) Regulating the securities market.

The SEBI has to play several crucial roles which are as follows:

- Regulatory Role: SEBI regulates the market intermediaries including rating agencies that come under the ambit of SEBI regulations. It has the power to seek any information from companies, institutions, and intermediaries to prohibit unfair and fraudulent trade practices.

- Role of Market Development: Educational and training programmes are conducted by the SEBI regularly to generate and magnify awareness amongst all the stakeholders. Research is also conducted by SEBI to regulate and develop the securities market and there also exists a dedicated SEBI website for investor protection.

- Compliance Role: If one is dissatisfied with any issues relating to market participants, one can take up the matter with SEBI and complaint forms are also available on the SEBI website.

- Punitive Role: SEBI can take correctional measures against anybody found guilty of protecting the investors and developing the securities.

Initiatives of SEBI

The regulatory landscape of mutual funds has witnessed dramatic changes throughout the world during the last few years starting from 2008. Perhaps, no other financial services sector has seen such major changes. India is no different in terms of regulatory reforms in case of mutual funds. The major initiatives of the SEBI for making the Indian Mutual Fund Industry investor-friendly are stated below:

Uniform Exit Load

SEBI has directed mutual funds to impose a uniform exit load for all the investments irrespective of the ticket size. It will lead to zero disparity among retail and institutional investors.

"ASBA"

SEBI's directive to introduce the Application Supported by Blocked Amount (ASBA) facility with effect from 1st October 2010 is an investor-friendly move because investors can earn interest on the amount blocked until mutual fund units are allotted to them.

No Dividend from Capital

Now, dividends can be declared by the fund houses only from booked profit on investment and not from the investor's money. It will result in a fall in the amount and frequency of dividends. As per regulation, dividends can be paid only out of realized gains. However, in some special cases (such as when the NAV of a fund is trading below the face value), the difference between the sale price and the face value will have to be debited to distributable reserve. When this reserve has become positive after adjusting the amount already debited to such reserve, the dividend can only be declared.

Investor Complaint Disclosure

Disclosing the nature of investors' complaints and resolution status of the same on the website of the fund houses and the website of the AMFI have been made compulsory in SEBI Regulations. These disclosures will also have to be made in the Annual Reports within two months of the close of the financial year.

Dividend in Rupee Terms

SEBI has directed that dividend must be declared in rupee terms and not in percentage terms to stop miss-selling of products by glorifying the percentage of dividend-pay-out to attract new investors.

Putting a Check on Dividend Stripping

Dividend stripping is the practice of buying units of mutual funds before the declaration of dividend and selling those units just after the dividend is received (when the NAV falls below the purchase price) to avoid tax. The regulator has taken measures to check such practices. The matter was also brought to the notice of Income Tax authorities. Accordingly, the provisions of the present Income Tax Act have disallowed the benefit of dividend stripping.

Shortening NFO period

Earlier the period for NFO Subscription was thirty days for open-ended funds and forty-five days for close-ended funds, but now the listing period of NFOs has been reduced to fifteen days. The allotment period is also reduced to five days from the earlier thirty days. This does not apply to ELSS schemes.

Listing of Mutual Funds on Stock Exchange

For making investments in mutual funds more convenient, the regulator allows the investors to use Stock Exchange platforms for mutual fund transactions. To widen the distribution network and to facilitate ease in the transaction, investors can now buy and redeem open-ended mutual funds on NSE and BSE through a broker.

Active Role in Corporate Governance

SEBI has directed equity mutual funds to reveal in their Annual Reports, what they did in each vote they were required to exercise in governance matters like appointment and removal of directors, management compensation, change in capital structure, merger, and other corporate restructuring etc. It is an important step because the interest of the unitholders is often associated with these matters. It will result in better accountability and transparency as well.

Direct Plan

With effect from January 1, 2013, mutual fund schemes have two plans: 'Direct Plan' and 'Regular Plan'. Before this, only 'Regular Plan' was there where investors have to pay more in the form of commission, brokerage etc. But with the introduction of the 'Direct Plan', the investors do not have to pay commission, brokerage etc. As a result, the expense ratio of 'Direct Plan' will be lower than that of 'Regular Plan' and accordingly the return from 'Direct Plan' will be higher. It is a welcome move for knowledgeable and experienced investors who follow the 'Do It Yourself (DIY)' strategy.

Cash Transaction Limit

The regulator has enhanced the cash transaction limit from Rs. 20,000 to Rs. 50,000 for every investor for each mutual fund in each financial year. However, the provisions of the Prevention of Money Laundering Act, 2012 must be strictly adhered to (Circular No. CIR/IMD/DF/10/2014 dated May 22, 2014).

Product Labelling

The regulator has classified the risks associated with mutual fund schemes into the following five categories: (i) Low Risk, (ii) Moderately Low Risk, (iii) Moderate Risk, (iv) Moderately High Risk and (v) High Risk. "Riskometer" associated with every scheme will indicate the risk level of that scheme (SEBI Circular No. CIR/IMD/DF/4/2015 dated April 30, 2015).

Unclaimed Redemption and Dividends

The regulator has directed that amount like unclaimed redemption and dividend must be transferred to a separate scheme. This can be either a liquid scheme or a Money Market Mutual Fund scheme. However, if an investor claims such an unclaimed amount within three years from the due date, then the investor will be entitled to both the principal unclaimed amount and the income earned on it. For investors claiming such an amount after three years from the due date, investors will be eligible for an amount equal to the principal unclaimed amount plus income earned on it for three years. In this case, the amount standing to the credit of the scheme after three years will be utilised for investor education (SEBI Circular No. SEBI/HO/IMD/DF2/CIR/2016/37 dated on February 25, 2016). The reason behind this move is to put a curb on mis-selling of mutual funds (Zachariah, 2016).

Categorization of Schemes

The regulator has decided to divide the mutual fund schemes into the following five categories: (i) Equity Schemes, (ii) Debt Schemes, (iii) Hybrid Schemes, (iv) Solution Oriented Schemes, and (v) Other Schemes (SEBI/HO/IMD/DF3/CIR/P/2017/114 dated October 6, 2017). The purpose of the regulator is to bring uniformity in practice by standardising the mutual fund schemes.

Green Initiative

To bring cost-effectiveness in disclosing and providing information to unitholders and as a green initiative measure, SEBI (vide Circular No. SEBI/HO/IMD/DF2/CIR/P/2018/92 dated June 05, 2018) has decided that MFs/AMCs shall prominently disclose the NAVs of all schemes under a separate head on their respective website and the website of AMFI.

Cyber Security and Cyber Resilience Framework

With rapid technological advancement in the securities market, there is a greater need for maintaining robust cyber-security and to have a cyber-resilience framework to protect the integrity of data and guard against breaches of privacy. As part of the operational risk management, the Mutual Funds/Asset Management Companies (AMCs) need to have a robust cyber-security and cyber-resilience framework. Based on the recommendation of SEBI's High Powered Steering Committee-Cyber Security, it has been decided that the framework prescribed vide SEBI circular CIR/MRD/DP13/2015 dated July 06, 2015, on cyber-security and cyber-resilience also be made applicable to all Mutual Funds/AMC (SEBI/HO/IMD/DF2/CIR/P/2019/12 dated January 10, 2019).

System Audit Framework

The requirement of system audit for mutual funds was introduced vide SEBI Circular SEBI/IMD/CIR No.9/176988/2009 dated September 16, 2009. Considering the importance of systems audit in technology-driven asset management activity and to enhance and standardize the systems audit, SEBI (vide Circular No. SEBI/HO/IMD/DF2/CIR/P/2019/57 dated April 11, 2019) has issued revised guidelines in this regard which are indicative and not exhaustive. Mutual Funds/AMCs are advised to conduct systems audits on an annual basis by an independent CISA/CISM qualified or equivalent auditor to check compliance with the provisions of this circular.

Technology Committee for Mutual Funds/AMCs

The role of technology-related aspects has become more critical in managing risk related to the asset management business. To deal with various technology-related issues, SEBI has advised AMCs (vide Circular No. SEBI/HO/IMD/DF2/CIR/P/2019/058 dated April 11, 2019) to constitute a Technology Committee comprising experts proficient in technology. Such committee shall have at least one independent external expert with adequate experience in technology in Mutual Fund Industry/BFSI. The committee shall review the cyber security and cyber resilience framework for Mutual Funds/AMCs.

Stewardship Code

The importance of institutional investors in capital markets across the world is increasing the world over. Such investors are expected to shoulder 'Stewardship Responsibilities' towards their clients/beneficiaries. 'Stewardship Responsibilities' are intended to protect the clients' wealth. Such increased engagement is also seen as an important step towards improved corporate governance in the investee companies and gives a greater fillip to the protection of the interest of investors in such companies. This code was scheduled to become operative from 01.04.2020. But due to the Covid-19 pandemic, SEBI has decided to make it operative from 01.07.2020.

Valuation of Money Market and Debt Securities

SEBI (vide Circular No. SEBI/HO/IMD/DF3/CIR/P/2020/70 dated 23.04.2020) has reviewed the provisions of valuation of money market and debt securities under the SEBI (Mutual Funds) Regulations, 1996 due to the COVID-19 pandemic and moratorium permitted by RBI. The valuation agencies appointed by AMFI recognize default of security as per SEBI Circular dated September 24, 2019. RBI (vide its Notification dated March 27, 2020) has allowed a three-month moratorium. Accordingly, if the valuation agencies appointed by AMFI are of the view that the delay in payment of interest or principal or extension of the maturity of security by the issuer has arisen solely due to COVID-19 pandemic lockdown or in light of the moratorium allowed by the RBI creating temporary operational challenges in servicing debt, then valuation agencies may not consider the same as a default for valuation of money market or debt securities held by Mutual Funds. This modification to circular dated September 24, 2019, shall be in force till the period of moratorium by the RBI.

Appointment of Auditor by the Trustees of Mutual Funds

This circular provides financial power to the trustees for appointing a professionally qualified independent person to function as an auditor of the AMC (SEBI/HO/IMD/DF4/CIR/P/2020/0000000151, Dated: Aug10, 2020)

Long Term Flexi Cap Fund

SEBI introduced a new category of scheme termed as "Flexi Cap Fund" which is an open-ended dynamic equity scheme where at least 65% of investment is in equity and equity-related instruments. The portfolio has a combination of large, mid, and small-cap stocks (SEBI/HO/IMD/DF3/CIR/P/2020/228 dated: 06/11/2020).

Inter Scheme Transfer

To reduce complexities SEBI has introduced Inter-scheme Transfer of securities. In partial modification of the modus operandi, SEBI has made it mandatory for the transfer of mutual fund units. Such transfers are done at the prevailing market price and transfer conforms with the investment objective of the scheme. To ensure that inter-scheme transfers conform with the objective SEBI has prescribed in case of close-ended schemes inter-scheme transfer purchase will be permitted within three business days of allotment to new fund offer. After the expiry of 3 business days no ISTs is permissible (SEBI/HO/IMD/DF4/CIR/P/2020/202 dated: 08/10/2020)

Guidelines With Regards to Trade Execution through Order Management System (OMS)

With regards to trade execution, the regulator has directed the AMCs to make use of an automated Order Management System (OMS) for placing orders of equity and equity-oriented instruments. Fund managers were provided with dedicated managers for the same. Dedicated managers working under fund managers were to assist them and following the OMS always was not compulsory. Powers were also assigned for appointing dealers for conducting the transactions. The audit was to be done for all types of transactions (SEBI/HO/IMD/DF2/CIR/P/2020/253, Dated: Dec 31, 2020).

COVID-19 and Franklin Templeton Crisis

The Covid-19 crisis caused panic amongst investors who tried to redeem units of mutual funds, particularly debt mutual funds. These behaviours of investors may have been induced due to volatility in capital markets. Six debt mutual fund schemes of Franklin Templeton AMC (Franklin India Low Duration Fund, Franklin India Ultra Short Bond Fund, Franklin India Short Term Income Plan, Franklin India Credit Risk Fund, Franklin India Dynamic Accrual Fund and Franklin India Income Opportunities Fund) came under pressure (Andrade, 2020).

Franklin's 'high yield approach' in credit management is responsible for the crisis. Post-2008-09 witnessed Franklin fund house go big on lower-rated bonds to pump the returns of its debt funds. If the markets were doing well, everything seemed to be fine with Franklin's debt funds. However, soon the risks started to materialise. A glimpse of this was visible in 2016, in the famous JSPL episode. After a series of downgrades of JSPL, Franklin Templeton decided to buy out the exposure on its books in tranches to protect the investors from losses. However, given the magnitude of the current situation, a similar option was not possible (Adajania, 2017). The lesson is that awareness is the key. Investors must learn from their mistakes and the regulator has a big role to play in investor awareness.

RBI came to the rescue of investors and announced a Special package of Rs. 50,000 crores on 27.04.2020. The intention was to provide funding concerning the crisis created on account of the winding up of the debt funds of Franklin Templeton. The sole objective was to supply money to the mutual funds. Another intention was to purchase investment-grade corporate papers held by mutual funds (Kansara, 2020).

To protect investors' interest, SEBI asked Franklin Templeton to stop the winding-up process. Further, SEBI directed that winding up may continue only if the unitholders of the schemes give their consent for winding up exercise. SEBI asked for repayment up to Rs. 2 lakhs to the investors. SEBI, on 20th May 2020, had issued a circular stating that listing on the stock exchange is mandatory for such schemes. But none of the schemes was listed. Investors said that SEBI should have put in place a 'regulatory mechanism for refunding investors' (Upadhyay, 2020a).

In response to the investor's petition, Madras High Court, on 26th May 2020, issued notices to Franklin Templeton Mutual Fund and SEBI. A Special Audit was also ordered after the initial assessment. It was further pointed out that certain investment of the funds was in contravention to the mutual fund's code of conduct. A report by Economic Times, Mumbai based, Chokshi and Chokshi LLP has been assigned to probe into the dealings of six mutual find schemes. SEBI asked the firm to submit a report in 30 days (Web Desk, 2020).

Franklin has issued e-voting notices for the six debt schemes that were scheduled between 9th and 11th June 2020. It was decided by FT that a meeting of unitholders for each of the schemes would be held on 12th June 2020 (Upadhyay, 2020b). The Gujrat High Court issued a stay order on the voting right of unitholders in connection with those six debt schemes, following a plea by Areez Pirozsha Khambatta, who is part of the business family that runs the popular Rasna juice brand. Apart from FT MF and FT Trustee, the plea has also made the SEBI and government respondents. According to experts, this could delay the winding-up process of monetising the scheme assets and distributing the pay-outs to investors (Kriplani, 2020).

Franklin Templeton's debacle caused panic amongst the investors. The fear of losing their hard-earned money during the Covid-19 crisis was especially observed in the debt mutual fund category. AMFI data revealed huge outflows for debt funds. Credit risk funds were the worst sufferer where total outflow exceeded Rs. 19,000 crores in April 2020 (Bazaz, 2020).

CONCLUSION

Mutual Fund Regulation should be balanced to ensure that mutual funds are properly managed to bring confidence among the investors and to make sure that the investors get accurate and adequate information. SEBI (Mutual Fund) regulations, 1996 covered extensive areas like governance structure, disclosure requirements, the ceiling on expenses, investment constraints etc. AMFI undertake pan-India awareness programmes at regular intervals for the investors.

Effects of lockdown and slowdown of economies of the world have undermined investors' confidence. Investors' ecosystem across the globe is largely affected as various stakeholders like consumers, regulators, distributors, and manufacturers face the pangs of a global slowdown of economic activities.

With markets slowly gaining momentum on the back of gradual resumption of economic activities, fiscal stimulus from the Centre and rising FPI flows following the novel coronavirus pandemic-induced slump, investors are looking to make the most of this opportunity to recover their recent losses. It is an opportune time for mutual fund investors to reassess their current portfolios and rejig their strategies. Every cloud has a silver lining. Similarly, future investors may get an opportunity to take advantage of market developments to diversify their corpus for achieving their financial goals.

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REFERENCES

Adajania, K.E. (12th May, 2020). Mystery buyer of troubled JSPL papers from Franklin Templeton schemes. *Livemint*. https://www.livemint.com/Money/gg4QSgKYI3g9shCDIihkJM/Mystery-buyer-of-troubled-JSPL-papers-from-Frankling-Templet.html

Andrade, S. (27th April, 2020). Covid-19: RBI announces Rs 50,000-crore facility for mutual funds after Franklin Templeton pullout. *Scroll.in*. https://scroll.in/latest/960326/covid-19-rbi-announces-rs-50000-crore-facility-for-mutual-funds-after-franklin-templeton-pullout

Balachandran, V., & Panjavarnam, A. (2017). Sebi rules and regulations of mutual fund in India: A study. *International Journal of Advanced Research in Management and Social Sciences, 6*(12), 76-84.

Bazaz, S. (9th May, 2020). Debt, hybrid mutual funds see large outflows in April; advisors blame Franklin fiasco. *The Economic Times*. https://economictimes.indiatimes.com/mf/mf-news/debt-hybrid-mutual-funds-see-large-outflows-in-april-advisors-blame-franklin-fiasco/articleshow/ 75627114.cms?from=mdr

Burugula, P. (14th January, 2016). Mutual Funds under Sebi scanner on dividend stripping. *The Economic Times*. https://economictimes.indiatimes.com/news/economy/policy/mutual-funds-under-sebi-scanner-on-dividend-stripping/articleshow/50578891.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

Jain, R. (14th June, 2020). Ways in which investors can rejig their mutual fund strategy amid COVID-19 fall. *Money Control*. https://www.moneycontrol.com/news/business/markets/ways-in-which-investors-can-rejig-their-mutual-fund-strategy-amid-covid-19-fall-5400401.html

Kamble, R. M. (2013). Mutual funds and SEBI regulations. *International Journal of Computational Engineering Research, 3*(5), 23-27.

Kansara, Y. (1st May, 2020). Market Jitters in Time of Corona: What Next After Collapse of Franklin Templeton Mutual Funds? *Outlook India*. https://www.outlookindia.com/magazine/story/business-news-market-jitters-in-time-of-corona-what-next-after-collapse-of-franklin-templeton-mutual-funds/303144

Kriplani, J. (4th June, 2020). Gujarat HC stays Franklin Templeton MF's voting process following plea. *Business Standard*. https://www.business-standard.com/article/markets/gujarat-hc-stays-franklin-templeton-mf-s-voting-process-following-plea-120060301425_1.html

Singh, R. (9th August, 2019). Mutual Funds Regulation in India. *IPleaders*. https://blog.ipleaders.in/mutual-funds-regulation-in-india/

Somashekar, T. S. (2009). Mutual Fund Regulation in India-Assessing its Benefits. *The International Lawyer, 43*(4), 1451-1468.

The Economic Times. (14th January, 2016) *Mutual funds under Sebi scanner on dividend stripping*. https://economictimes.indiatimes.com/news/economy/policy/mutual-funds-under-sebi-scanner-on-dividend-stripping/articleshow/50578891.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

Upadhyay, J.P. (28th May, 2020a). Franklin Templeton investors send legal notice to SEBI. *Livemint*. https://www.livemint.com/market/stock-market-news/franklin-templeton-investors-send-legal-notice-to-sebi-11590681110379.html

Upadhyay, J.P. (2020b, May 29) Franklin Templeton's legal troubles rise as Madras HC issues notice. *Livemint*. https://www.livemint.com/news/india/madras-hc-issues-notice-to-franklin-templeton-sebi-on plea-by-investor-group-11590749506500.html

Vasudevan, R. (2010). Financial intermediation and fragility: the role of the periphery. *International Review of Applied Economics, 24*(1), 57-74.

Web Desk (2nd June, 2020). Sebi orders probe into funds shut by Franklin Templeton. *The Week*. https://www.theweek.in/news/biz-tech/2020/06/02/sebi-orders-probe-into-funds-shut-by-franklin-templeton.html

Zachariah, R. (7th Jan, 2016). After JP Morgan crisis, Sebi set to change the way mutual funds invest in bonds. *The Economic Times*. https://economictimes.indiatimes.com/mf/analysis/after-jp-morgan-crisis-sebi-set-to-change-the-way-mutual-funds-invest-in-bonds/articleshow/50475188.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

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Impact of Covid-19 on the Agricultural Sectors of India with Special Reference to Dantan – I Block: Paschim Medinipur, West Bengal

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ABSTRACT

Agriculture has always been the backbone of the Indian economy and, despite the concentrated efforts on industrialisation in the last six decades, it still continues to be so. At present, it provides employment to a massive chunk of the total workforce in the country. The COVID-19 pandemic has resulted in an unprecedented health and economic crisis worldwide. Agriculture and allied sectors have been severely affected after the lockdown was declared by the government of India on March 25, 2020. In this paper, an attempt has been made to find out the impact on the agricultural sector in India due to the three-and-a-half-month lockdown period as declared by the Central Government. The current study also highlights the measures taken by the Indian government to tackle the critical situation in the agricultural sector along with a number of suggestive measures to improve and to save the small, marginal and landless farmers of the country from hunger and destitution.

Keywords: *COVID-19 Pandemic; Government of India; Small and Marginal Farmers; Minimum Support Price (MSP); Agricultural Product Market Committee (APMC)*

INTRODUCTION

A majority of Indian farmers are marginal and small farmers with less than 2 hectares of land or landless labourers and were severely affected. They contribute significantly to the nation's food security and productivity. The share of the agricultural sector in the Indian economy is 17%, which is higher than the manufacturing sector. If markets are kept intact and prices of agricultural products are prevented from crashing, agriculture alone will contribute more than 0.52% to the growth rate of the Indian economy. Agriculture is the only sector to register a positive growth rate of 3.4% (The Economic Times, 2020).

LITERATURE REVIEW

Mahajan and Tomar (2020): "Here Today, Gone Tomorrow: Covid-19 and Supply Chain Disruption" – The paper looks at the disruption of food supply chains due to the COVID-19-induced economic shutdown in India. From the novel dataset, the author points out that long distance food supply chains have been hit the hardest during the current pandemic, with welfare consequences for urban consumers and farmers.

Mishra and Rampal (2020): "The COVID-19 pandemic and food insecurity: A viewpoint of India" The paper highlighted the damages caused by COVID-19 and hunger, with implications for food insecurity, nutritional status, productivity, education, and wage earnings.

Reardon, Bellmare, and Zilberman (2020): "How COVID 19 may disrupt the food supply chain in developing countries" The paper highlights that small and medium-sized enterprises in urban areas will face significant problems. The government will have to frame policies to respond to these varied impacts to avoid supply chain disruption, higher food prices, and severe economic fallout.

Objective of the study:

1) Analyse the factors that have adversely affected the Rabi crop harvesting in the Lockdown

2) To present an analytical account of the Rabi crops derived from survey results of Dantan-I block

3) To highlight the measures taken by the Government of India to alleviate the plight of farmers till now

4) To suggest some measures to improve the condition of marginal and landless farmers

METHODOLOGY

The study is both theoretical and analytical in nature, based on primary as well as secondary data respectively. The secondary data has been collected from various related research articles, papers, and websites. The primary data has been collected from a field survey through a structured questionnaire. The survey has been conducted through telephonic interviews with respondents due to the pandemic and lockdown situation. 60 respondents from seven villages (Angua, Nekurseni, Manoharpur, Jamua, Malpara, Gholai, Tararui) situated in Dantan-I block, Paschim Medinipur, West Bengal. The study period was from 15/04/2020 to 28/07/2020. Small marginal farmers and landless farmers have been selected as samples for the study through a convenience non-probabilistic sampling technique to fill up the questionnaire.

Impacts of Covid-19 on the Agriculture:

- Crisis in Harvesting Rabi crops: When the lockdown was announced, the regions endowed with irrigation facilities had standing crops of wheat, paddy, vegetables, oilseeds, and pulses that were ready to be harvested. The regional variation of cropping patterns contributes to the movements of migrant workers in search of employment. The northern states of Punjab and Haryana depend during the harvesting on a large number of migrant labourers from the eastern states of Bihar and Jharkhand for the field operations and harvesting, which has not been possible this year. There has been a shortage of agricultural labourers in these states. It is estimated that during the Rabi season, Punjab and Haryana attract around 1.6 million migrant workers. Thus, harvesting was adversely affected and the cost of harvesting skyrocketed.

- Reduction in agricultural wage rate: The major supply of migrant labourers came from the states, where there was a major reduction in the daily wage rate of agricultural labourers due to the law of demand and supply. A disrupted agricultural labour market saw 45% of migrant labourers return home (Imbert, 2020).

- Complete disruption in supply chain: During the lockdown, major highways and entry points into the state were locked. Major numbers of vehicles are yet to receive their permits for transporting agricultural goods. Therefore, the pile of trucks has stopped, and the supply chain has been disrupted (Barrett, 2020; Carberry & Padhee, 2020). The supply chain has been completely disrupted across the country and the harvesting of Rabi crops is in crisis (Cariappa *et al.*, 2020).

- Crisis in marketing of agricultural crops: Due to a) disruption in the procurement of crops by the Government agencies b) blockade in the movement of transports c)limited operation or closure of APMC Mandies d) shutdown of retail agricultural markets e)shortage of migrant agricultural workers engaged in loading and unloading purpose the marketing has been severely hit.

Especially crops with low shelf life like sugarcane growers in Meerut and Saharanpur in Uttar Pradesh, banana cultivation in Trichi, pumpkin farmers of West Bengal and Odissa have been the most severely hit.

- Impact of the poor condition of hospitality industry: Shutdown of hotels, restaurants and allied sectors has resulted in further reduction in demand .According to a report published by the Indian Railways Ministry; freight loading has dipped from 10000 cargo rakes per day to 3000-4000 cargo rakes per day.

- Negative effect from MSMEs: MSME Sector is a large user of agricultural products as a raw material. Due to lockdown the MSME sector has been one of the worst hit and thus has been also an additional factor in demand reduction of agricultural products.

- Forced reduction in price level: As a result of all these cumulative factors, farmers have been forced to sell their agricultural commodities to local traders at a much lower price to recover as much as possible cost of the perishable items and sustain themselves in these difficult times.

- Reduction in export of agricultural commodities: India has been the major exporter of agricultural crops like rice, milk products, tea, honey, horticultural products etc. According to APDA India's exports in agricultural products in 2018-19 were $685 Billion USD. All the ports have come to a standstill during the lockdown and resulted in huge unsold stockpiles. Therefore, it is impossible now to achieve the target export in 2019-20.

- Delay in commencement of Kharif crop cultivation: Due to unavailability of seeds, tractors ancillary support and pesticides etc, cultivation of the Kharif crops have been delayed.

- Impact on floriculture : In India flowers are mainly produced for weddings and pilgrimages both of which are shut down due to the Lockdown .Therefore flower farmers and production companies were massively hit as flower is an extremely short lived commodity .Rose export to the Gulf States were also drastically reduced .

- Food security of the agricultural and returned migrant labourers is a great concern and challenge to the state. The presence of an additional member in household without income could worsen the nutritional security of the household. The solution is largely between the State and the Community. Skyrocketing prices may lead to social unrest. (Bellemare, 2015)

Also, it is the general practice in large sections of rural India to take food after the whole of the family has been fed. this would result in an added undernourishment of women under such circumstances.

RESULTS AND DISCUSSION

Dantan-I block has one Panchayat Samity , 9 Gram Panchayat ,124 Gram Parishad and 188 villages in total .According to 2011 census, the population was 1,72,107 of which 1,65,921 were rural and 6,186 were urban. Scheduled Cast population was 29,235 (16.99%) and Scheduled Tribe population was 28,183 (16.38%). 48.81% people lived below the poverty line. Agriculture is the main source of livelihood and revenue. Among the farmers distribution according to land owned1 were as follows:

Bargadar-4.96%

Patta holder-24.7%

Small farmers (1-2 hector landowners) -3.04%

Marginal farmers (owning up to 1 hector land)-31.58%

Landless labourers-35.71%

There are 8 commercial banks and 2 Grameen Banks serving the total population here

(Government of West Bengal, 2014).

From the above data it is clear that marginal and landless farmers make up the bulk of farmer population (67%). A large chunk of population depends on agriculture and allied activities.

From the survey the actual cost of production of current Rabi crops (paddy has been considered here as it is the chief Rabi crop in this area) per acre on an average is as follows:

Table 1: Statement of total cost and profit to cultivate Paddy in 1 acre of land

Particulars	Amount (Rupees)
Water (mainly from private pumps and shallow wells)	5000
Land preparation (by using tractors and power tillers)	2500
Seeds (from private traders)	1500
Plantations (using plantation machines on a hire basis)	2500
Pesticides	2300
Fertiliser	4918
Labour charges (used mainly for application of fertiliser and pesticides)	2400
Harvesting (mechanical operation-on a hire basis)	10000
Transport cost (from land to trader)	1200
Total Cost	32318
Profit	3082
Sales (30 Quintal*Rs 1180)	35400

**An average paddy production of 30 Quintal per acre of cultivated land has been used for calculations.*

Observations:

1) The minimum support price (MSP) for paddy was fixed at Rs 1815 per Quintal for the session 2019-20 (increased by 3.7% as compared to the MSP of Rs 1750 during the 2018-19 session) by the Government of West Bengal and to be procured from the farmers registered under the Krishak Bandhu Scheme .West Bengal Government procured 22% of the targeted paddy acquirement only .Farmers were forced to sell their products to the small traders (Goladars) at a much lower rate of Rs 1180 per Quintal because a) only 10% of the survey population has a capacity of long term storage of harvested crop and b) most of the farmers had to repay their loans to private moneylenders and banks .

2) Thus, amount lost due to non-received MSP is {(1815-1180) *30} =Rs 19,050 per acre of land straightaway.

3) Another important issue is cost of water during the Rabi season is born solely by the farmers themselves due to non availability of any irrigation infrastructure. Private facilities are provided at Rs 5000 per acre and the Government charge of the same is Rs 1000 per acre .But Government supplies have been largely unavailable due to lack of infrastructure required to support such a huge farmer population adding to the burden of the cost of production.

4) Seeds had to be procured from the private dealers at a rate of Rs 25 per Kg which is supposed to be provided by the Government at much lower rates. E-commerce suppliers, which could have been a boon to these underserved villages, are also unavailable.

5) Rabi crops are harvested by using mechanical help from Harvester machines .According to the respondents, the manpower needed to operate the machines are unavailable and the operators come from Punjab after their own Wheat harvesting is complete .But this year due to lockdown ,movements were restricted and operators could not arrive from Punjab .This resulted in much higher rates of operating the machines or manual harvesting .The cost of harvesting increased as much as 100% from the previous year (Rs 10000 per acre this year as compared to Rs 5000 previous year) adding to loses of farmers .

6) Due to restricted movement of transports, the cost of transport also increased 100% from the last year (Rs 1200 per Tractor load this year as opposed to Rs 600 per Tractor load previous year).

Cumulating all these points, a cost analysis can be made as follows:

Table 2: Comparative cost analysis

Particulars	Present cost (Rs)	Ideal Cost (Rs)	Extra incurred cost (Rs)	Remarks
Water	5000	1000	4000	If provided by Government pump services
Seeds	1500	1000	500	If provided at government rates
Harvesting	10000	5000	5000	Due to lockdown
Transport	1200	600	600	Due to lockdown
Fertiliser and Pesticides	7218	5000	2218	If provided by lower e -commerce rates or Government rates
Total	**24918**	**12600**	**12318**	

7) Thus, total amount lost is

Rs 19500(due to revenue lost due to not getting MSP) + Rs 12318(due to Lockdown and lack of Government initiatives as shown) = Rs 31818 per acre of land

8) Added to the observations is that only 40% of the study population cultivating their own land the others being landless. Therefore, they are also required to pay an amount of Rs 7000 per acre land to the landowner. This cost was not included in Table No. 1. If this is taken into account, the landless farmers will be actually incurring a loss of

Rs 7000 – Rs 3082(profit as obtained from Table 1) = Rs 3918.

Measures taken by the Government of India:

The Central Government is expecting that agricultural sector could be the silver lining of Indian Economy, as it is estimated that the growth rate would be 3% for the year 2020-21. According to NITI AYOG Member, Ramesh Chand (2019), the current rate of growth in Indian agriculture is 60% which is more than the non-agricultural sector, a rare phenomenon. NITI AYOG estimated the growth rate in agricultural sector in the normal monsoon this year is 40-60%, higher than the last year .In order to achieve the growth rate 3% and to save the marginal and landless labourers in the country the GOI has taken the following measures:

1) Since 24th March 2020, under the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) Scheme, Rupees 17986 Crores has been disbursed.

2) GOI has also announced that the first instalment of the PM-KISAN payment to farmers, Rs 2000/- will be paid.

3) Wages of MGNREGS will be raised from Rs 182/- to Rs 202/- per day and that will benefit approximately 5 crore families across the country.

4) The RBI has announced a moratorium of agricultural farm loan including crop loans for a period of 3 months.

5) The Government via the National Food Security Act and public distribution system has assured additional food grains, which will benefit around 800 million poor people across the country.

6) The GOI has announced that the agricultural activities and farming operations are in the essential list. Agencies engaged in the agricultural products including MPS, Mandies notified by the State Government, inter and intrastate movement of harvesting and sowing related machines and manufacturing packaging units of fertilisers, pesticides, seeds etc are also exempted during the lockdown period.

7) E-NAM, KISANRATH app and the All India Agritransport Call Centre has been launched for the benefit of the farmers. E-NAM is online trading platform for agricultural commodities. KISANRATH app helps to facilitate transportation of agricultural product across the country. All India Agritransport Call Centre was launched to facilitate interstate movement of perishable commodities during the period of lockdown.

8) The GOI has allotted Rs 2000 Crores for the computerisation of Primary Agricultural Credit Society (PACS) to ensure co-operatives are benefitted through digital technologies.

9) With an aim to boost up innovation and entrepreneurship in agriculture, GOI has introduced a new AGRI UDYAN Program to mentor start ups and to enable them to connect with potential investors.

10) The GOI has launched the Pradhan Mantri Krishi Sinchani Yojna (PM-KSY) with an investment of Rs 50000 Crore to support the irrigation sources for providing permanent solution during the Rabi season and draught so that the farmers can be protected from drought.

11) The GOI has allowed 100% FDI in marketing of food products and e-commerce under automatic route.

12) The GOI has also committed to invest Rs 600 Crore for mega food parks in the country as a part of the Scheme for Agro marine Processing and Development of Agroprecessing Clusters (SAMPADA).

13) The informal unemployed workers need a cash income support. The GOI has provided Rs 500 /- per month to the bank account of 200 million women through Jandhan Financial Inclusion Program, although it is not sufficient to feed their families.

14) The new agricultural export policy has been announced to increase Indian agricultural export to US $60 Billion by 2020 and US$100 Billion in the next few years.

15) Soil Health Card has been introduced to enhance the productivity of specific crops in sustainable manner and shall be issued to 14 crore holdings.

16) Price stabilisation fund with a corpus of Rs 500 crores has been established to support the price control of perishable commodities. This will regulate and mitigate price volatility.

17) Farm credit has been raised to Rs 8.5 Lakh crores ensuring convenient access to loans at concessional rates.

18) The Hon'ble Finance Minister has recently announced Rs 1 lakh crores Agri Infrastructure Fund for impetus development of farm gate and aggregation point affordable and financially viable post harvest management infrastructure.

19) Rs 10000 crore fund for formalisation of Micro Food Enterprises (MFE). This scheme promoting vision of PM "Vocal for Local" with global outreach will be launched to help 2 lakh MFE's who need technical upgradation to attain fssai standards .He focus will be on women and SC-ST owned units in aspirational districts and a cluster based approach e.g. mango in UP ,tomato in Karnataka ,chilli in Andhra Pradesh and orange in Maharashtra .

Suggestions and Recommendations:

The poor sector of the society is always the hardest hit in any disaster like Amphan or Covid-19 Pandemic situation. As 85% of the Indian farmers are small and marginal ones and a significant number of them are landless labourers, the central and state governments should take some initiatives to protect those people from hunger and destitution. Definitely the sincere implementation of the programs by the government is also essential. The following measures are recommended to save this section of people:

1) People engaged in agriculture and allied activities have to be provided sufficient amount

(minimum Rs 10000/- per month) cash transfer per family till the economy bounces back.

2) Investment in key logistics should be enhanced to sustain the demand for agricultural activity.

3) In order to make strong the delivery channels of agricultural products e-commerce and delivery companies and start ups need to be encouraged.

4) In order to sustain the agricultural and rural economy the MSME sectors should be given special attention both by the Central and State Governments, because most the MSME sectors are running with raw materials from agricultural and allied activities.

5) Institutional crop loans should be expanded and facilitated to the farmers. There should be sufficient and smooth flow of credit to the farmers and agricultural product investors, as the Kharif (rainy) crops are knocking at the door.

6) Agricultural inputs like seeds, fertilisers, pesticides etc has to prepositioned for easy availability to the farmers. In that case the government and private sectors should play vital role with suitable program and policies.

7) Government can opt for a staggered procurement and pricing strategy which accounts for the threshold level in the cost of storage (Ramasundaram *et al.*, 2020).

8) There should be relaxation of the norms by the Agricultural Produce Market Committee (APMC) allowing the farmers to sell their product beyond the designated mandies so as to fetch good market price for their products.

9) Case Studies show that respective State Government must gear up their machineries for smooth procurement of marketable surplus from the farmers at Minimum Support Price (MSP) or through other support schemes as this has been a complete failure by the State Government .Marginal and landless farmers are adversely affected as they are not getting the MSP and they are forced sell their product to small traders and brokers .As a result they are losing huge amount of profit and sometimes they incur huge loss leading to non repayment of their loans to the bank or private moneylenders , a significant factor in farmer suicides .

10) There should be focus on the agricultural sectors as a growth engine and to bring resilience in food and nutrition security.

11) Huge amounts should be invested in research and innovation in agricultural sectors to fight in the global market.

12) Post Covid situation offers unique opportunity to the existing food and agricultural policies for a healthier population. The Government and private sectors should develop a suitable model for the stronger nutrition of the agricultural workers and farmers.

13) India is the top producer in milk and second largest in wheat and rice in the world and India having a trade surplus of agricultural products like rice ,dairy products ,tea , honey and horticultural products. It is a matter of concern that restrictions on export of agricultural commodities are speculated or put in place by few countries . Suitable and stable agricultural policy should be undertaken by the GOI to explore the opportunity by exploring such products. It is important to mention here that India's agricultural exports valued at $38 Billion in 2018-19 and it can increase further with suitable policies.

14) Development of export of the agricultural product would require export supportive infrastructure and logistics by the private sector also. Therefore, Government and private sectors should join hand to save the farmers and thereby the country in this critical juncture.

15) It is an opportunity and great challenge to engage the returned migrant labourers in a gainful employment, specially the labour intensive sectors like livestock, fisheries, food processing etc . They

can be engaged in the creation and revamp of the rural infrastructure like construction of new goodwons ,maintenance of existing goodowns and cold storages ,water management in dry areas e.g. in the districts of Purulia, Bankura ,Jhargram etc of West Bengal by digging new ponds for rainwater harvesting through MGNREGS .

16) Crop loans are repaid between April and May after harvesting and selling the Rabi crops and fresh loan is granted at the onset of new Kharif (monsoon) crop season. Recent crisis arises due to the fact that three and a half months of lockdown has prevented the farmers from harvesting their crops and higher costs involved in harvesting procedures. Therefore the cost of production has escalated. On the other hand lack of access to the market during lockdown period ,they have not been able to sell their products as the wholesale markets and mandies are also shut down .They are being forced to sell their products to the local traders at much lower prices . The Government is recommended to reschedule the loan where the existing short-term loan should be converted into long term loans.

17) The government should consider waiving the interests of all outstanding crop loans and ensure fresh flow of credit to the small and marginal farmers for the kharif season 2020 to prevent them from borrowing at much higher interest rates from local moneylenders.

18) If the crisis prolongs, the Government should take over the procurement and supply of essential food items from the private sector including transport, warehouse and establishments.

19) There should be immediate extension of Pradhan Mantri Fasal Bima Yojna (PMFBY) to ensure the payment of compensation to the affected farmers.

20) In this scenario, the e-commerce players can assume a big role to save the agricultural sector. The forecast of normal monsoon this year would increase the crop area and consumption of fertilisers, pesticides and other agricultural inputs. E-commerce can help in meeting these demands and doorstep delivery of the required commodities. The Government should provide active encouragement in the form of incentives and tax relief.

CONCLUSION

Growth rate of Indian Economy has been projected to be 3% , but due to the pandemic ,the projection has come down 0.4% .But it is expected that India will remain the fastest growing economy in the world .The consumption pattern of average Indian consumer will presumably change , They may cut down the consumption of discretionary items e.g. luxury brands ,posh restaurant and hotels etc and focus to spending over organic and fitness products . There is also expected to be an increased demand for animal proteins and other nutritionally fortified food from the organised sectors .The relief package and other measures taken by the Government and implemented correctly will give necessary supports to the farmers to get back on the track .The agricultural sector in India is expected to generate therefore better momentum in the next few years due to thus expanded market and increased investment in infrastructure .India is also expected to be self sufficient in pulses in the coming few years due concentrated effort from scientists to procure early maturity variety of seeds and increase in MSP .Climate forecasts predict a favourable monsoon in the year 2020 which is indeed a good news for the Indian agriculture . As Martin Luther King once said," We are caught in an inescapable network of mutuality, tied in a single garment destiny. Whatever affects one, directly affects all." The truth of this statement is more so in the context of Indian agricultural system and the greater population of India.

As is evident, all is not gloom and doom ahead. Although the disaster that struck was severe, Indian agriculture has the promise to come out of it and come out stronger than before. The unique opportunities and challenges posed require careful evaluation and strategies that can take India many steps ahead towards reaching APJ Abdul Kalam's vision of 2020.

REFERENCES

Barrett, C. B. (2020). Actions now can curb food systems fallout from COVID-19. *Nature Food, 1*(6), 319-320.

Bellemare, M. F. (2015). Rising food prices, food price volatility, and social unrest. *American Journal of Agricultural Economics, 97*(1), 1-21.

Carberry, P., & Padhee, A. K. (2020). Containing COVID 19 impacts on Indian agriculture. *Agri-buzz. ICRISAT-April, 18*, 2020.

Cariappa, A. G., Acharya, K. K., Adhav, C. A., & Ramasundaram, P. (2020). Pandemic led food price anomalies and supply chain disruption: evidence from COVID-19 incidence in India. *Kamlesh Kumar and Adhav, Chaitanya Ashok and R, Sendhil and Ramasundaram, P., Pandemic Led Food Price Anomalies and Supply Chain Disruption: Evidence from COVID-19 Incidence in India (August 27, 2020)*. http://dx.doi.org/10.2139/ssrn.3680634

Chand, R. (2019). Transforming Agriculture for Challenges of 21st Century. *Indian Economic Journal, December*, 27-29. https://www.niti.gov.in/sites/default/files/2020-01/Presidential_Address.pdf

Government of West Bengal (2014). *District statistical hand book*. Department of Statistics and Programme Implementation. Tables 2.1, 2.2.http://www.wbpspm.gov.in/publications/District%20 Statistical% 20Handbook

Imbert, C. (2020). Webinar on inter-state migration in India in the time of COVID-19. India

Mahajan, K., & Tomar, S. (2020). Here today, gone tomorrow: COVID-19 and supply chain disruptions. *Forthcoming, American Journal of Agricultural Economics*, pp 1-39.

Mishra, K., & Rampal, J. (2020). The COVID-19 pandemic and food insecurity: A viewpoint on India. *World Development, 135*, 105068.

Ramasundaram, P., Subash, S. P., Ram, S., Kumar, A., Singh, S., & Singh, G. P. (2020). Policy Imperatives for Wheat Procurement.

Reardon, T., Bellemare, M. F., & Zilberman, D. (2020). How COVID-19 may disrupt food supply chains in developing countries. *IFPRI book chapters*, 78-80.

The Economic Times (2nd September, 2020) GDP growth at-23.9% in Q1; first contraction in more than 40 years. https://economictimes.indiatimes. com/news/economy/indicators/gdp-growth-at-23-9-in-q1worst-economic-contraction-on-record/articleshow/77851891. cms

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The Impact of Covid-19 Pandemic on Minerals in India: An Overview

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ABSTRACT

The COVID-19 pandemic has caused global disruption in various segments as of early 2020. sector is one of them in India. India is endowed with major and minor minerals. These minerals are used as raw materials for manufacturing as well as for construction purposes. For instance, the supply of minerals has a negative effect in this pandemic. For instance, the lockdown effect smashed the global supply chains, factory closures, etc. On the demand side, the closure of non-essential economic activities has significantly reduced consumption. The study tries to explore the mineral resources available in India and the effect of COVID-19 on mineral production in the financial year 2020–21. The outcome shows that the pandemic and the country's wide lockdown have negatively impacted on mineral production and national income.

Keywords: *Minerals Resources; Metallic; Non-metallic; Royalty;* COVID-19*ers; Disruption; Irish Centre for Research in Applied Geosciences (iCRAG)*

INTRODUCTION

Mineral resources are the resources that can naturally exist on the planet. The prosperity of human beings mostly depends on a healthy ecosystem, as it provides every eventual element of living. In natural resources, minerals play an important role in industrial as well as social development, growth, poverty reduction, etc. (Gałaś *et al.*, 2021). Mineral resources refer to all types of metallic, non-metallic, and fuel minerals that exist in the environment's assets and incorporate the wide range of services provided by ecosystem assets. Minerals can constitute the essential raw material, which can help many industries in their manufacturing process (Anser *et al.*, 2021). The extensive availability of minerals provides an opportunity for economic growth, employment, and the welfare of a country. Minerals' most important properties are those that have improved our standard of living and well-being. They are particularly non-renewable resources, which require protecting these resources from illegal activities.

The performance of the mining sector is incomparable in the Indian economy (KPMG, 2020). The country has a large supply of both metallic and nonmetallic minerals. Since independence, the country has experienced incremental growth in mineral production both in terms of quantity and value. This study demonstrates how the COVID-19 pandemic hampered mineral production and revenue from mineral resources.

LITERATURE REVIEW

Gałaś *et al.*, (2021) analysed that, "Impact of Covid-19 on the Mining Sector and Raw Materials Security in Selected European Countries" and revealed that, the COVID-19 have a long term effects on exploration and development of new mines and having potentiality of disrupted the supplies of raw materials. Anser *et al.*, (2021), studied that, "Environmental and natural resource degradation in the wake of COVID-19 pandemic: a wake-up call" and said that how COVID-19 pandemic effects the environmental sustainability rating by destroyed the minerals resources process and population growth. Hitzman *et al.,* (2020) evaluated that, "Impact of the COVID-19 Pandemic on the Minerals Sector: A Real Time Survey" and observed effects of Covid-19 pandemic on minerals sector workface, global development, employment such as lost job or temporarily place off or reduced working hours. It was discussed that, "Impact of COVID-19 on The Mining Sector India" and reported that negative implications on Indian mining companies, lower mineral revenue which affects government exchequers and also entire business eco-system (KPMG, 2020). Ramdoo (2020), described in her study, "The Impact of COVID-19 on Employment in Mining" and find out that extended lockdown has negative impact on employment, productivity, and future investment plans.

Objectives of the Study

The objectives of this study are the indicate major mineral resources in India and the impact of COVID-19 on mineral production as well as revenue from mineral resources.

METHODOLOGY

The research work is based on secondary sources and is empirical in nature. The time period used for the comparison is from the years 2016–17 to 2020–21, for which the diagram has been formed. The analysis part is done on the basis of secondary data that was collected from various reports on environmental accounting of mineral resources, particularly annual reports of the national mineral inventory (ministry of mines) of the government of India.

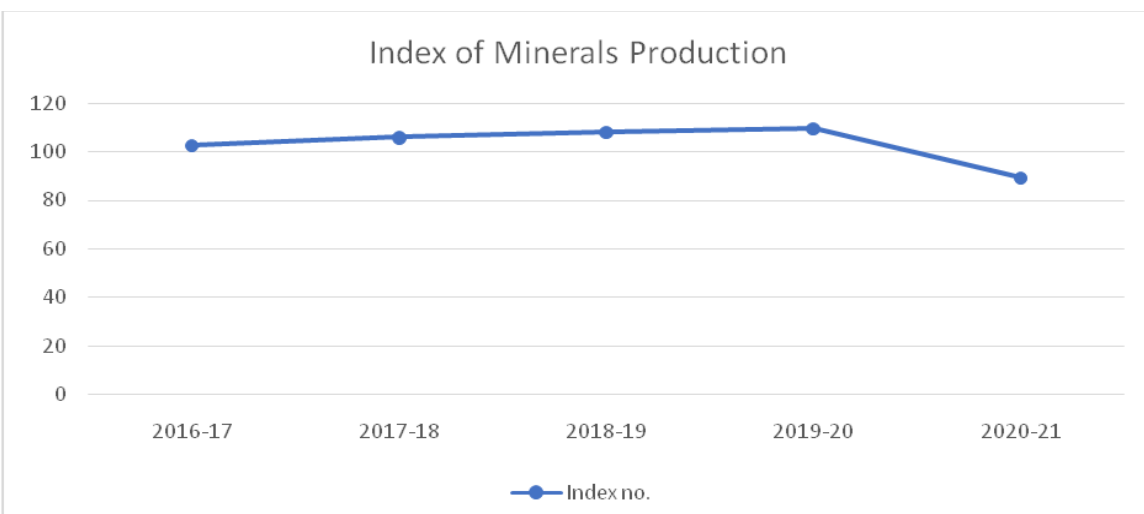
RESULTS AND DISCUSSION

India is possessed of a variety of mineral resources which provide the country with a dynamic industrial base. The country is especially wealthy both in reserves and production of metallic minerals such as bauxite, chromite, iron ore, manganese ore, zinc concentrate, etc. Besides, among the non-metallic minerals, mica is the most important one in India, along with some other non-metallic minerals like limestone, magnesite, and phosphorite. In another way, mineral fuels include coal, petroleum, and natural gas etc.

Table1: Index of Minerals Production (Base year 2011-12=100)

Year	Index no.
2016-17	102.50
2017-18	105.90
2018-19	108.10
2019-20	109.60
2020-21	89.20

Source:https://mines.gov.in/writereaddata/UploadFile/Mines_AR_2017-18_English_Final%2017052021.pdf



Source: https://mines.gov.in/writereaddata/UploadFile/Mines_AR_2017-18_English_Final%2017052021.pdf

Figure 1: Index of Minerals Production

Based on overall trend, the index of mineral production (base year 2011-12 = 100) for the year 2017-18 is estimated to be 105.90 as compared to 102.50 of previous year 2016-17, which shows a positive growth of 3.32%. Therefore, the index for the year 2018-19 is estimated to be 108.10 which is excess of 105.90 for the previous year 2017-18, exhibiting improvement of 2.08%. After that, the index for the year 2019-20 is estimated to be 109.60 which is surplus of 108.10 of the previous year 2018-19 and point out increasing of 1.39%. Finally, the index of mineral production for the year 2020-21 is estimated to be 89.20 as compared to 109.60 of previous year 2019-20, indicating a negative growth of18.61% due to COVID-19 pandemic.

Table-2: Number of Reporting Mines (excluding atomic, fuel and minor minerals)

Year	Metallic Minerals	Non-metallic Minerals	Total
2016-17	644	864	1508
2017-18	638	792	1430
2018-19	597	767	1364
2019-20	566	737	1303
2020-21	545	684	1229

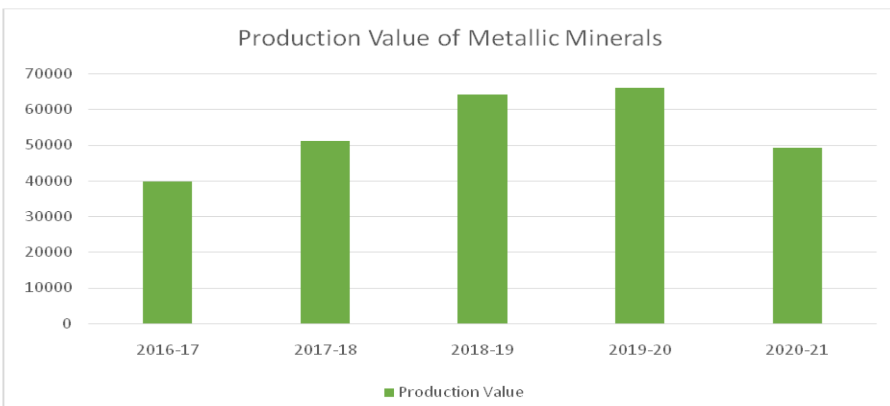
Source: https://mines.gov.in/writereaddata/UploadFile/Mines_AR_2017-18_English_Final%2017052021.pdf

According to National Mineral Inventory (Ministry of Mines), the number of mines which reported mineral production (except atomic, fuel, and minor minerals) in India gradually reducing over the year 2016-17 to 2020-21.

Table- 3: Production of Selected Metallic Minerals in India (excluding atomic and minor minerals) (Value in crore.)

Metallic minerals	Unit	2016-17		2017-18		2018-19		2019-20		2020-21 (Estimated)	
		Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value
Bauxite	Thousand tonnes	24745.49	1486.55	22786.11	1578.42	23687.72	1716.84	21823.79	1578.56	21239.97	1629.02
Chromite	Thousand tonnes	3727.78	3193.75	3480.94	3203.70	3970.69	3583.61	3929.26	3332.66	1250.25	712.72
Copper Conc.	Thousand tonnes	134.79	650.61	141.99	770.66	155.44	939.52	124.69	844.58	100.94	796.47
Gold	Kg.	1595.00	436.24	1650.00	476.98	1664.00	524.17	1724.00	643.10	1193.00	589.08
Iron Ore	Million tonnes.	194.58	25229.18	201.42	34713.10	206.45	45184.14	246.08	48107.41	188.63	34508.61
Lead Conc	Thousand tonnes	268.05	966.93	306.40	1142.94	358.37	1631.68	351.27	1807.28	405.47	1889.39
Manganese Ore	Thousand tonnes	2395.14	1624.84	2599.81	1990.75	2820.23	2270.25	2904.37	1941.64	2120.20	1494.40
Zinc Conc	Thousand tonnes	1484.24	4338.56	1539.66	4979.93	1457.17	5608.38	1446.82	6023.12	1655.46	6637.94
Other Met. Minerals			1832.95		2119.04		2583.86		1805.67		1027.59
Total			39759.61		50975.52		64042.45		66084.02		49285.22

Source: https://mines.gov.in/writereaddata/UploadFile/Mines_AR_2017-18_English_Final%2017052021.pdf



Source: https://mines.gov.in/writereaddata/UploadFile/Mines_AR_2017-18_English_Final%2017052021.pdf

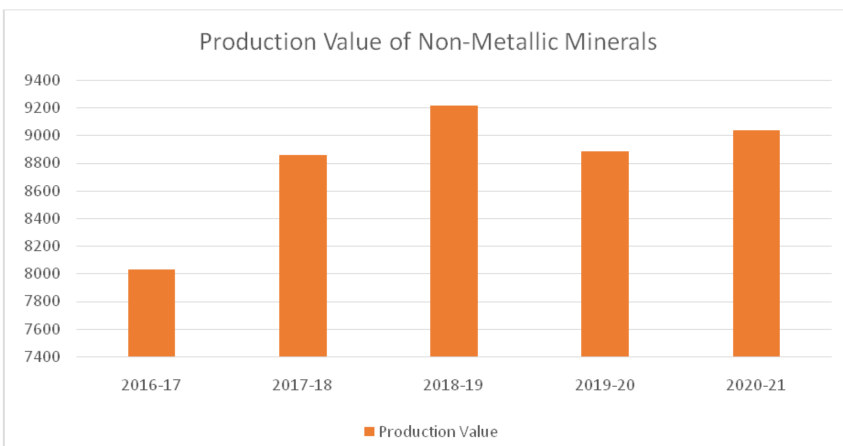
Figure 2: Production Value of Metallic Minerals

As per report, total value of metallic minerals production during the year 2017-18 increased by 28.21% as compared to 2016-17. Therefore, during the year 2018-19 the value of metallic minerals production excess of 25.63% as compared to 2017-18. After that in the year 2019-20 shows slightly increasing rate of 3.19% over the year 2018-19. Finally, during the year 2020-21, total value of metallic minerals production decreased by 25.42% as compared to the previous year 2019-20. As well as we can see, most of the quantity production of metallic minerals (Chromite, Copper conc, Gold, Iron Ore and Manganese ore) decreased during the year 2020-21 due to COVID-19 pandemic and lockdown.

Table 4: Production Selected Non-Metallic Minerals in India (excluding atomic & minor minerals) (Value in crore.)

Non-metallic minerals	Unit	2016-17		2017-18		2018-19		2019-20		2020-21 (Estimated)	
		Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value
Coal	Tonne mn	689.810	-	711.681	-	760.407	-	753.937	-	756.494	-
Crude oil	Barrel/day	720.842	-	719.877	-	695.619	-	654.584	-	615.664	-
Natural gas (consumption)	Cub ft/day	4.901	-	5.199	-	5.620	-	5.733	-	5.751	-
Mica	Metric tons	14000.00	-	14000.00	-	15000.00	-	15000.00	-	15000.00	-
Diamond	Carat weight	36491.00	63.96	36491.00	37.41	36491.00	58.11	36491.00	39.81	36491.00	30.04
Garnet	Thousand tonnes	85.413	78.73	158.28	161.89	123.40	156.82	0.55	0.47	1.14	0.51
Limeshell	Thousand tonnes	12.344	3.48	14.77	5.14	7.54	2.78	4.60	1.87	0.00	0.00
Limestone	Million tonnes	314.669	7387.84	340.42	8099.57	379.05	8484.11	359.33	8312.02	353.47	8340.91
Magnesite	Thousand tonnes	299.149	74.93	195.06	59.37	146.58	39.66	97.68	35.03	73.55	28.62
Phosphorite	Thousand tonnes	1124.44	299.67	1515.65	366.83	1284.58	354.76	1400.19	431.91	1648.00	572.24
Sillimanite	Thousand tonnes	68.131	53.59	81.64	67.17	69.03	55.98	13.24	3.63	17.52	4.31
Wollastonite	Thousand tonnes	166.186	15.88	153.05	12.60	184.06	17.40	124.66	11.91	116.14	10.81
Other Non-Met. Min			51.10		45.48		45.30		45.12		50.52
Total			8029.18		8855.46		9214.92		8881.77		9037.96

Source: https://mines.gov.in/writereaddata/UploadFile/Mines_AR_2017-18_English_Final%2017052021.pdf



Source: https://mines.gov.in/writereaddata/UploadFile/Mines_AR_2017-18_English_Final%2017052021.pdf

Figure 3: Production Value of Non-Metallic Minerals

Based on above report, total value of non-metallic minerals production during the year 2017-18 increased by 10.29% as compared to 2016-17. Afterwards, during the year 2018-19 the value of non-metallic minerals production excess of 4.06% as compared to 2017-18. Thereafter in the year 2019-20 shows diminishing rate of 3.62% over the year 2018-19. Lastly during the year 2020-21, total value of non-metallic minerals production slightly raised by 1.76% as compared to the previous year 2019-20. As well as we can see, most of the quantity production of non-metallic minerals especially crude oil, garnet, magnesite, Lime shell decreased during the year 2020-21 due to COVID-19 pandemic and lockdown.

Table 5: Share of states in percentage of mineral production

States	2016-17	2017-18	2018-19	2019-20	2020-21
Rajasthan	12%	20.25%	17%	17%	17%
Odisha	11%	17.77%	24%	25%	14%
Chhattisgarh	7%	8.80%	9%	8%	8%
Jharkhand	7%	-	-	-	-
Gujarat	7%	5.66%	5%	5%	6%
Andhra Pradesh	6%	9.45%	9%	8%	13%
Madhya Pradesh	6%	-	-	-	6%
Uttar Pradesh	-	4.98%	5%	5%	4%
Telangana	5%	6.06%	7%	7%	8%
Assam	4%	-	-	-	-
Karnataka	-	7.83%	8%	9%	7%
Maharashtra	-	4.67%	4%	4%	4%
Bihar	-	3.77%	3%	3%	-
Off-shore	20%	-	-	-	-
Other states	15%	10.75%	9%	9%	13%
Total	100%	100%	100%	100%	100%

Source: https://mines.gov.in/writereaddata/UploadFile/Mines_AR_2017-18_English_Final% 2017052021.pdf

The above (Table-5) shows percentage of minerals production as per states of India from the year of 2016-17 to 2020-21 reported by National Mineral Inventory (Ministry of Mines) which indicate that Rajasthan and Odisha have major mineral production as compared to other states.

Table 6: State wise Royalty Accrual of Major Minerals (excluding fuel, atomic and minor minerals) (Value in lakhs.)

States	2016-17	2017-18	2018-19	2019-20
Andhra Pradesh	33647.00	33492.00	41797.00	N/A
Assam	528.00	464.00	503.00	710.00
Bihar	152.00	153.00	589.00	N/A
Chhattisgarh	111533 .00	165130.00	221167.00	218472.00
Goa	31475.00	23961.00	2231.00	510.00
Gujarat	27044.00	26366.00	27041.00	21832.00
Himachal Pradesh	7082.00	13175.00	N/A	N/A
J & K	946.00	1544.00	928.00	N/A
Jharkhand	69037.00	125559.00	N/A	N/A
Karnataka	103433.00	127140.00	128324.00	142483.00
Kerala	645.00	851.00	535.00	N/A
Madhya Pradesh	37792.00	46166.00	53880.00	N/A
Maharashtra	14562.00	17146.00	19598.00	18273.00
Meghalaya	4470.00	5592.00	8639.00	N/A
Odisha	249634.00	347041.00	758117.00	784351.00

Rajasthan	236612.00	264897.00	290859.00	N/A
Telangana	20126.00	22927.00	23578.00	20743.00
Tamil Nadu	20210.00	15067.00	N/A	N/A
Uttarakhand	32.00	26.00	40.00	N/A
Uttar Pradesh	628.00	1919.00	N/A	N/A
Total	969588.00	1238616.00	1577826.00	1207374.00

Source: https://mines.gov.in/writereaddata/UploadFile/Mines_AR_2017-18_English_Final%2017052021.pdf

Loss estimation during the year 2020-21 due to COVID-19 pandemic:

In the COVID-19 pandemic, there was a nation-wide lockdown. The reduced demand forced the miners to run the production either by utilising lower capacity or shutting down the operations temporarily. This situation blows the production operation that affects the royalties as well as the tax income of the government. For example, during this pandemic in Odisha's state, the production functions were conducted at 40% or 50% capacity. As a result, production of iron ore and chromite ore was reduced by 5.0 and 0.15 metric tonnes in the starting month (Apr'20-Jun'20) of 2020–21 and this caused a loss of about 400 cr per month to the state exchequer (KPMG, 2020).

Impact on minor minerals:

The COVID-19 pandemic has significantly impact on minor minerals. Minor minerals are those which have been taken an important role in part on national income. The revenue generated from minor minerals was INR54,569 crore in financial year 2019-20 which amounted 44% of the total revenue from minerals in India. Among the top minerals production states, the large portion of the value of minor minerals production collected from Andhra Pradesh (89%) and Rajasthan (47%). Minor minerals can be classified in to two categories (based on usage):

a) Minor minerals such as barytes, calcite, felsite, quartzite which are used in manufacturing sector.

b) Minor minerals such as granite, shingle, road metal etc which are used in construction sector.

Therefore, this pandemic situation significantly disrupted the manufacturing and construction activities in the country. Also, the COVID-19 pandemic disrupted the global trade as well ae humbled the global markets. For example, barytes (used as oil and gas drilling), which is usually exported to Middle East and U.S. Likewise, granite (used as decorative stone), which is basically exported to China, USA etc. Hence, the COVID-19 pandemic impact on demand as well as production of minor minerals (KPMG, 2020).

Worldwide Responses of COVID-19 Impact:

On 31st December 2019 corona virus was first reported from Wuhan, China and the disaster started all over the globe. At the end of April 2020, researchers of Irish Centre for Research in Applied Geosciences (iCRAG) experiment the effects of COVID-19 pandemic on minerals sector. The survey provides that the novel global events are disrupted by the impact of pandemic at its eventual moment of development. After the starting of pandemic, the World Health Organizations agreed that COVID-19 pandemic had significant effect on their employment and confirm that pandemic has negative impacts on their work life like lost job, furloughed, temporarily shut down or reduced hours (Hitzman *et al.*, 2020).

Table 7: Worldwide Responses

Continent	Pct. (%)	Commodity	Pct. (%)	Employment type	Pct. (%)	Employment status	Pct. (%)	Age group	Pct. (%)
Asia	07	Base metals	32	Employed	55	Job ended	09	18-30	17
Africa	06	Industrial metals	07	Unemployed	04	Reduced hours	18	31-45	32
Australia	05	Precious metals	47	Consultant	27	Furloughed	05	46-60	24
Europe	14	Others	14	Student	10	No change	65	61+	27
North America	49	-	-	Retired	04	No opinion	03	-	-
South America	06	-	-	-	-	-	-	-	-
Others	13	-	-	-	-	-	-	-	-

Source: https://www.segweb.org/pdf/publications/discovery/2020/SEG-Discovery-122-2020-July-COVID-Articles.pdf

According to the survey respondents, the report says most of the respondents from North America (49%) are conform the significant impact of COVID-19 pandemic. The minerals sector from different continent are suffered from this pandemic mostly on production of minerals such as base metals (32%), precious metal (47%). The most important fact is that the respondents from employment sector agreed that their work life has smashed during this pandemic due to continuous lockdown such as job ended (9%), reduced hours (18%), furloughed (5%). As per the source report, in Africa where respondents are reported highest rate of negative impact on employment status along with the different age group (Hitzman *et al.*, 2020).

CONCLUSION

Mineral resources are an integral part of modern society because they are critical to industrial development, economic improvement, and the smooth operation of daily life.It is gaining importance gradually as it ensures sustainable development by creating a linkage between the environment and the economy. The paper has tried to highlight the impact of the COVID-19 pandemic on different mineral resources and production in India. The study found that in most cases, the production of minerals (metallic and non-metallic minerals) and fuel minerals (crude oil) decreased in the years 2020–21, as well as it is estimated that revenue from mineral resources would decrease in the years 2020–21 due to the COVID-19 pandemic and the continuously lockdown situation in India.

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REFERENCES

Anser, M. K., Nassani, A. A., Zaman, K., & Abro, M. M. Q. (2022). Environmental and natural resource degradation in the wake of COVID-19 pandemic: a wake-up call. *Environmental Science and Pollution Research, 29*(7), 10456-10466. https://doi.org/10.1007/s11356-021-16259-2.

Gałaś, A., Kot-Niewiadomska, A., Czerw, H., Simić, V., Tost, M., Wårell, L., & Gałaś, S. (2021). Impact of Covid-19 on the Mining Sector and Raw Materials Security in Selected European Countries. *Resources, 10*(5), 39. https://doi.org/10.3390/ resources 10050039.

Hitzman, M., Kaeter, D., Doran, A., Boland, M., Zhou, L., Drejing-Carroll, D., ... & McAuliffe, F. (2020). Impact of the COVID-19 Pandemic on the Minerals Sector: A Real Time Survey. *SEG Discovery*, (122), 26-33.https://www.researchgate.net/publication/343008245.

KPMG (May, 2020), Impact of COVID-19 on the mining sector in India.https://assets.kpmg/content/dam/kpmg/in/pdf/2020/05/impact-of-covid19-on-mining-sector .pdf

Ramdoo, I. (2020). The impact of COVID-19 on employment in mining.

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Role of Government to Boost up the Food Processing Industry - A Study with Reference to COVID-19 Pandemic

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ABSTRACT

Micro, Small and Medium Enterprises (MSME) are facing several problems due to the pandemic. The Food Processing Industry (FPI) is considered the sunrise sector of MSME. FPI establishes linkages and synergy amongst the primary, secondary, and tertiary sectors. More than 40000 registered and 25 lakh unregistered food processing units exist in India, in which 7 million labours are engaged. Due to the sudden lockdown, huge quantities of raw materials and finished products have started to rot, and many units have been forced to shut down, and a huge number of workers in this industry have lost their jobs. The industry needed strong Government intervention to survive this crisis. The study has tried to focus on the impact of lockdown on FPI and the role of the government in boosting this industry during the current crisis period. The study is based on secondary data. The Central Government has tried to boost the industry by announcing a financial package of Rs. 10,000 crores for the establishment of micro food enterprises, changing the definition of MSME and providing relaxation in tax and other laws. A positive approach by the Central Government will definitely support the food processing industry to turn around under this critical situation.

Keywords: *COVID-19; Food Processing; MSME; Central Government*

INTRODUCTION

The food processing sector is one of the largest employment sectors in India. Due to lockdown, unemployment has increased very fast. According to the Centre for Monitoring the Indian Economy (CMIE, 2022) report, India's unemployment rate stood at 23.48 % in May 2020, which was 8.75% in March 2020. The International Monitory Fund (Noronha, 2020) has projected India's growth rate will come down by 1.91% in 2020 for COVID-19. The Government of India (GoI) has taken a number of steps to revive the economy. The Finance Minister (Ministry of Finance, 2020) announced a relief package of Rs. 1.70 lakh crore under the Pradhan Mantri Garib Kalyan Yojna (PMGKY) for the poor and also announced another relief package of Rs. 20 lakh crores, which includes the Rs. 8.01 lakh crore announced by the Reserve Bank of India for liquidity measure. GoI has placed special emphasis on Micro, Small and Medium Enterprises (MSME) in view of rising unemployment. The government has sanctioned Rs. 5.94 lakh crore in various sectors for MSME and agriculture and its allied Rs. 1.50 lakh crore, of which Rs. 10000 crores for micro food enterprises, Rs. 15000 crores for animal and husbandry, and Rs. 500 crores for beekeeping.

Agriculture and industry are linked by the Food Processing Industry (FPI). During the lockdown, FPIs played an important role and carried on their activities. For an uninterrupted supply of food grains and food products throughout the country, the government has declared that food supply and all the activities related to food are included under the Essential Commodities Act, 1955. FPIs have faced several problems regarding the supply of raw materials, labour, finances, and rules and regulations due to lockdown, but GoI has helped the FPIs in every possible way so that the industries can continue their operation without any hindrance.

LITERATURE REVIEW

Kumar, Thombare and Kale (2020) highlighted that India's trade will suffer an estimated loss of $348 million due to the impact of COVID-19, and according to the UN report, that will be estimated at $387 million. According to the Asian Development Bank, the chemical sector will suffer a maximum loss of $129 million, while textiles and apparel will lose $64 million. The electronic sector will suffer a huge loss because China is the major supplier of electronic goods. A rumour was spread that the coronavirus can be transmitted through the consumption of chicken, so consumption and prices also dropped. Gupta and Chandak (2020) explained the importance of seasonality in the case of the spice industry. January to April is the main season of India's major spice harvest. Due to the announcement of lockdown, pre-harvesting and post-harvesting were hampered by major spices. Marketing and sales were also hampered because "mandi", where the majority of spices are sold, was closed for lockdown. Processing operations were disrupted due to the restriction of lockdown and limited logistics. Exports were halted because coronavirus had spread to the majority of export destinations. Halder (2020) has observed that under the lockdown situation, demand for processed and packaged food has doubled but no sudden inflation was found. He has concluded that the industry will turn around and will grow with 25% annual growth in the next two years, but for this, food processing companies should adopt a more safe and secure manufacturing process and packaging. He has also concluded that India is going to be the kitchen of the world post COVID-19. Dev (2020) has argued that a nationwide lockdown was the right step for the government. He has pointed out some measures to keep the agricultural sector and supply chains working smoothly. He has appreciated the government's relief package of food grains distribution through Pradhan Mantri Garib Kalyan Yojna (PMGKY), cash transfer to 200 million women's bank accounts and has suggested arranging transport facilities for migrant labour so that they can return home. Shukla and Bhattacharya (2020) have concluded that the pandemic has massively impacted the poultry industry. Due to logistic problems, the supply chain was disrupted, but the rumour which was spread on social media was the main cause of the projected loss of Rs. 22500 crores. They have observed that with the combined effort of industry and the government at the time of crisis for consumer awareness, consumers have gained confidence and consumption has increased. Still, the industry had some problems, but they were expected to be resolved quickly by government intervention.

Objectives of the Study

The major research objectives of the study are

i. To understand the impact of COVID-19 on different sectors of the Food Processing Industry.

ii. To find out the problems of food processing industries due to COVID-19.

iii. To show how government has tried to boost up the Food Processing Industry.

METHODOLOGY

The study is based on secondary data. Secondary data has been collected from various sources like FICCI, Techno Serve, UNCATD, KPMG, ASSOCHAM, and CRISIL, and many news articles, research papers, and government orders and guidelines of FASSAI. All these survey and study reports, articles, newspaper reports, government orders and guidelines were published during the pandemic.

Impact of COVID-19 on different sectors of food processing industry

(a) Grain processing / Milling industry

India is the largest producer of pulses, the second-largest producer of rice and wheat, and the largest exporter of Basmati rice. Due to sudden lockdown, grain mills were forced to reduce their normal production and for those, huge quantities of raw materials were wasted, which were stored in warehouses. The supply chain was also disrupted because farmers were unable to collect food grains for lockdown, and there has been a lot of crop damage due to falling in the field. As per the Central Government's guidelines for the COVID-19 pandemic, mills have run their operations with a 40–50% labour force, and because of labour shortages, production and packaging processes were also hampered, and because of transport problems, it was not possible to deliver the finished products to the market at the right time, and the export of Basmati rice was also disrupted. As a result, mills have suffered huge financial losses.

(b) Fruits and vegetables processing industry

India is called the "fruit basket of the world." Verities of fruits and vegetables are produced in India, but the processing percentage is very low compared to other countries, so post-harvest losses are usually very high. During the lockdown, post-harvest losses of fruits and vegetables were estimated to be Rs. 20,000 crores (Mishra, 2020). The problems of fruit and vegetable processing are the same as grain processing. In addition, there are some other problems like cold chain, testing labs, and export. Due to a shortage of cold chain facilities, raw materials and finished products were damaged. There was a delay in getting the quality testing report because most of the quality testing laboratories were closed due to a lack of employees. As a result, delays in delivery of products to the market and the markets' being open for a specific time during lockdown, maximum hotels and restaurants were closed, and many countries had cancelled their export orders, so the sales were decreased.

(c) Dairy industry

India is the highest producer of milk in the world and contributes around 20% of the total production of milk. At the beginning of the lockdown, demand for milk and milk products was high, but suddenly it was reduced because all the coffee shops, tea stalls, hotels, restaurants, canteens, and sweet shops were closed for lockdown. Milk is perishable in nature. Due to lack of proper preservation and a shortage of cold storage, huge quantities of milk are wasted. Some industries sold milk in the local areas at a cheap rate, and some converted it into milk products, but a large number of milk products are in storage. If the products are not sold in time, then they will also be wasted. The dairy industry has suffered a huge financial loss.

(d) Meat and poultry industry

The rural economy depends on livestock. India is the third highest exporter of meat. This industry has suffered the most during lockdown. On one hand, all the restaurants and canteens were closed, and export orders were cancelled. On the other hand, a rumour or misinformation was spread through social media that the meat of goats and poultry birds is being sourced for coronavirus. Due to this, a strong impact has fallen on the meat and poultry industries. Many poultry farm owners were forced to sell or burn crores of live poultry birds to reduce their loss, which was raised due to maintaining poultry birds. Many abattoirs tried to fight the situation by reducing the selling price, but the rest were forced to shut down. According to the India Poultry Breeders Association (AIPBA), the estimated loss in the poultry industry at the time was about Rs 22500 crore, and the livelihoods of about 5 crore people who were directly or indirectly involved in this industry were in jeopardy (Singh, 2020).

(e) Fish and marine processing industry

India is the third-highest fish-producing country next to China and Indonesia. The two main sources of fisheries collection are inland and marine. Marine products which are exported from India are frozen shrimp, frozen fish, frozen squid, dried items, live items, and chilled items. Japan, the USA, and the European Union are the major importers of these products. Before the announcement of the lockdown, so many boats were sent out to catch fish, but when they came back to shore, they found it difficult to send their marine products to the market and processing units, so huge quantities of marine products were thrown away. According to the Central Institute of Fishing Technology (CIFT), India's fishing sector made a loss of around 28 million euros a day (Buitenland, 2021).

RESULTS AND DISCUSSION

Problem of food processing industry due to COVID-19

FPI had many problems even before the outbreak of the pandemic in India. But after the lockdown old problems have become apparent and so many new problems have arisen. All the problems are discussed in detail below:

(a) Disruption in supply chain

Due to the sudden announcement of lockdown, labour movements have been restricted, so post-harvest procedures for cereals, pulses, oilseeds, fruits and vegetables have been stopped. Huge quantities of crops, fruits, and vegetables were damaged due to not harvesting at the right time, and so the supply chain has been disrupted. Another reason is that failure to sow the new seeds on time has resulted in disruption of new crop production. While collecting the crops, the labourers had to work while maintaining social distancing. That is why enough time has been spent to collect the crop and disrupt the supply chain.

(b) Problems of labour force

FPI has suffered the most from the problems of the labour force. Under the lockdown situation, as the government has announced that no wages will be deducted from labour, they are not willing to come. Migrant labourers have returned to their homes and will not be able to return for lack of communication. Laborers who live near the units had transportation issues when they first started working. As per government guidelines, labour must maintain social distance and maintain hygiene at the time of work and will come rotationally, so the industry can run with only 40% to 50% of its workforce daily (ASSOCHEM,2020). So, the production process will be lengthy, and the cost of labour will be increased. So many seasonal food processing industries are forced to shut down due to a lack of labor.

(c) Problems related with infrastructure

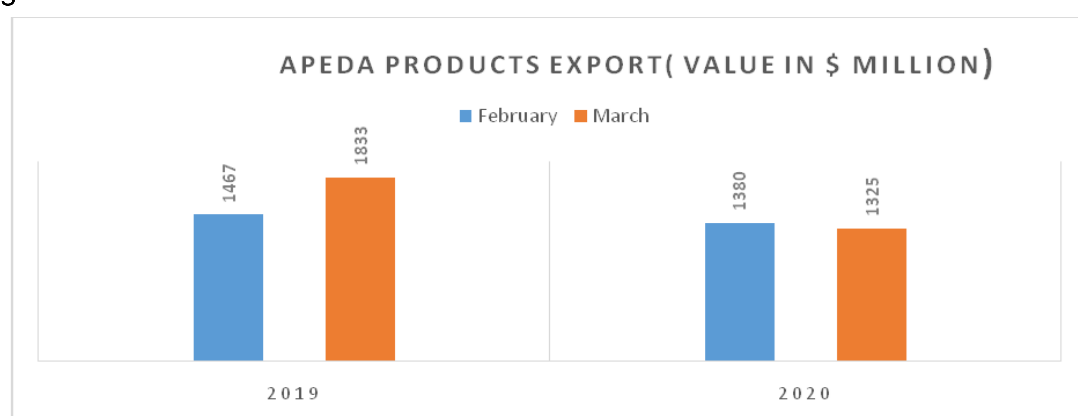
Infrastructure related problem was a serious issue to the FPI's before the pandemic but in current situation the problem has become more evident. Huge quantities of fruits and vegetables have been wasted, meat, fish and other marine products have been rotten due to lack of modern and high capacity of cold storage facility. The available cold storage are less in number and not well equipped. Milk also wasted. Food testing laboratories were closed due to absence of employee. Training programme also postponed due pandemic.

(d) Problem of distribution

The government announced that foods are essential commodities yet, there was disruption in distribution of processed food because truck drivers were not willing to go to long distance and all inter-state borders were closed. Rail and flight service also stopped.

(e) Export and import problem

The outbreak of the pandemic started in the middle of February in India, but COVID-19 had spread by then to other countries. All the export orders were cancelled by Indian food processing companies, and they also cancelled their import orders. Due to this Indian food processing companies had to bear a huge amount of financial loss.



Source: file:///C:/Users/User/Desktop/COVID%2019%20sana%20sir/IMPACT_OF_COVIDI19_ON_APEDA_EXPORT.pdf

Figure 1: Products exported by Agricultural & Processed Food Products Export Development Authority (APEDA) for the months of February and March of the year 2019 and 2020

Export of agricultural and processed food products was increased by 24.9% from February to March 2019 but Export of such products decreased by 4% from March than February 2020 due to COVID-19 in India.

(f) Huge financial burden

In India, most of the FPIs are unregistered and small enterprises. Industries reduced their production capacity due to several problems. Due to market volatility and a decrease in demand, sales were also reduced. But every unit has its fixed cost which cannot be avoided. The units are unable to meet its cost for that financial burden increased.

(g) Complication of laws and regulations

Aiming for food safety and packaging every FPI unit has to follow enormous laws to take permission from different ministries and then get the license. This process is very lengthy. Processed food products also pass through several tests in the laboratories. Under this situation, it is more time consuming to get a license and the permit from the laboratory.

(h) Problems related with rumours

Consumers always have several quarries about the food safety of processed food. If any rumour spread about any food product, then it would spoil the demand for the product in the market. A rumour was spread on social media and in newspapers that poultry birds are the source of the coronavirus. Due to this, the demand for eggs and poultry meat has fallen. The producers reduced the price, but the demand was not increased. So many poultry birds were forced to be buried alive. But the government announced that it was a rumour and misinformation spread on social media.

Government support for food processing industry during the COVID-19 situation

The central government has always given special priority to the food processing industry. Due to the sudden outbreak of COVID-19, food processing industries also faced huge problems like other industries. To protect the industry from the current crisis, the central government has taken a number of steps and given several supports to boost the industry.

(a) Food processing declared as essential commodities

At the beginning of the 1st phase of lockdown, the government of India considered food processing essential commodity. As per the order of the Ministry of Home and affairs that the ration shop or any other shop which are dealing in grocery food, fruits and vegetables, fish and livestock and other food products also included under essential commodities during lockdown.

(b) Established a Grievance Redressal Cell

Ministry of Food Processing Industries (MoFPI) has formed a Special Task Force and established a Grievance Redressal Cell to resolve all the issues regarding food processing activities as early as possible during the lockdown. Any member of this industry if faces any kind of problem-related to operation or distribution can send their queries and the task force will help the member for smooth operation.

(c) Smooth supply chain

MoFPI took the initiative and assured the transport unions that no disruption will come, and trucks can freely move with food products and raw materials. Farmers are allowed to continue their work with 50% of the required labour force and maintain social distance. GoI has assured FPIs that raw materials, packing materials, and cold chain facilities will be available under lockdown. Ministry has ensured a smooth supply chain for the general people.

(d) Financial relief package for the industry

A large number of food processing industries are registered under MSME. The central government announced a huge amount of financial package to combat the situation and turn it around in the near future (GoI,2020).

Table 1: Relief Package under Atmanirbhar Bharat

Sl. No	Items	(Rs. Crore)
1	Emergency working capital facility for business, including MSMEs	3,00,000
2	Subordinate debt for stressed MSMEs	20000
3	Fund of funds for MSMEs	50000
4	EPF support for Business & worker	2800
5	Reduction in EPF rates	6750
6	Special liquidity scheme for NBFC/HFC/MFIs	30000
7	Partial credit guarantee scheme 2.0 for liabilities of NBFCs/MFIs	45000
8	Micro Food Enterprise	10000
9	Pradhan Mantri Matsya Sampada Yojana	20000
10	TOP to Total: Operati on Green	500
11	Agri infrastructure Fund	100000
12	Animal Husbandry Infrastructure Development Fund	15000
13	Promotion of Herbal Cultivation	4000
14	Beekeeping Initiatives	500

Source: Government of India (2020)

Key Highlights:

➢ The industry can take term loans at a concessional rate of interest and without a guarantee for additional working capital of 20% of its outstanding credit. But upto outstanding credit of Rs. 25 crore and turnover of Rs. 100 crores.

➢ The government has announced total of Rs. 20000 crores for the MSME which is under stress.

➢ GoI has sanctioned Rs. 1 lakh crore for agricultural infrastructure development.

➢ Rs. 11000 crores sanctioned for activities in marine and inland fisheries and Rs. 9000 crores for infrastructure through the scheme of Pradhan Mantri Matsya Sampada Yojna (PMMSY).

➢ To encourage private investment in the dairy industry, the government has announced a package of Rs. 15000 crores for infrastructure development and incentives for establishing new plants and cattle feed infrastructure.

➢ To promote the honey processing industry government has declared Rs. 500 crores as incentives for beekeeping and it is expected that around 2 lakh beekeepers will be benefited.

➢ Reserve Bank of India has offered 3 months moratorium period on payment of instalments and interest on all types of term loans.

➢ To provide financial support to the start-up enterprises under MSME, Government has set up funds under SIDBI.

(e) Changed the Definition of MSME

To support the MSME government also changed the definition of MSME by increasing the investment limit and merged the manufacturing and service sector. According to new definition Investment limit has extended for Micro < Rs. 1 crore, Small < Rs. 10 crore and Medium < Rs. 20 crore and also Turnover limit extended for Micro < Rs. 5 crore, Small < Rs. 50 crore and Medium < Rs. 100 crores.

Table 2: Comparison of existing and revised definition of Medium Small and Micro Enterprises

Existing MSME classification			
Criteria: Investment in Plant & Machinery			
Classification	Micro	Small	Medium
Manufacturing Enterprise	Investment < Rs. 25lac	Investment < Rs. 5 cr.	Investment < Rs. 10cr.
Service Enterprise	Investment< Rs. 10lac	Investment< Rs. 2 cr.	Investment< Rs. 5 cr.
Revised MSME Classification			
Composite Criteria: Investment and Turnover			
Classification	Micro	Small	Medium
Manufacturing Enterprise & Service Enterprise	Investment < Rs. 1cr. & Turnover < Rs. 5cr	Investment < Rs. 10cr. & Turnover < Rs. 50cr	Investment < Rs. 20cr. & Turnover < Rs. 100cr

Source: Government of India (2020)

(f) Relaxation in tax liability

The government has extended the due date of filling income tax returns for the Assessment Year 2020-2021 till 30th November 2020 and also extended the due date of tax audit till 31st October 2020. The income tax authority will be paid the pending tax refund to the business including proprietorship, partnership, and cooperatives immediately. The government has extended the due date of filling Goods and Service Tax (GST) return till 30th June 2020 and no penalty will be charged if fail the due date.

(g) Relief in electricity charges

FPIs needed an uninterrupted power supply for the preservation of raw materials and processed food during this lockdown, for the huge number of electric charges have due to the power supply companies. In this situation, Union Food Processing Minister has requested all the Chief Ministers to provide relief in electricity charges.

(h) Formalisation micro food processing enterprises

MoFPI has launched a new scheme during the lockdown “Formalisation of Micro food processing Enterprises” for the benefit of nearly 25 lakh unorganised food processing units which are based on rural areas. The main objectives of the scheme are to provide financial assistance, increase the revenue of the organisation, encourage women's entrepreneurship, produce minor forests in tribal districts and transform from the informal sector to the formal sector. Central Government has sanctioned Rs. 10000 crores for the scheme.

(i) Encourage home delivery and E-commerce

Under the lockdown situation, the government has allowed restaurants to open only for home delivery of cooked food and also allowed food delivery companies like Swiggy, Zomato, etc. to continue their activities. It has been found that during this period, demand for online groceries and home delivery of other food products also increased. So, the Government also allowed retail shops for home delivery of groceries and e-commerce to encourage and promote the trend.

(j) Food Safety and Standards Authority of India (FSSAI) facilitates food businesses

FASSAI has taken several initiatives to facilitate the food business in response to the COVID-19 (FASSAI, 2020a). FASSAI set several guidelines for food businesses regarding food safety and food hygiene during the pandemic. FASSAI has waived the penalty on renewal of license for the business whose renewal dates were from 22nd March to 31st May 2020 and also provided a grace period till 30th June 2020, due dates of return extended till 31st July 2020 (FSSAI, 2020b). FASSAI also established a dedicated contact number and email id in each to resolve any compliant and set up an online portal for licensing.

(k) Support to the employees of the industries

Hon'ble Prime Minister has assured the employees about their job security. Employees got free food grains from the ration shop under the scheme of PMGKY. The government also reduced the provident fund contribution rate from 12% to 10% for three months.

(l) Campaign against Rumours

The government has strongly handled the rumours spread on social media regarding the meat and poultry industry. The government immediately earthling the rumour and campaigned against such types of rumour (FICCI, 2020). Consumers understood the fact and after a few weeks poultry industry recovered its 80% of losses.

CONCLUSION

The present number of Corona cases is increasing very fast in India, and experts are saying it will reach its peak at the end of August. Due to lockdown, industries are closed, exports are not possible, and the unemployment rate is also growing very fast. Economically, India is not in a good position. In this situation, it is not possible to continue lockdown for too long. In keeping view of this situation, GoI has announced a financial relief package, which is around 10% of India's total Gross Domestic Product (GDP) value. Through this relief package, the Government of India has placed a special emphasis on the MSME sector, agriculture, and related sectors. The food processing industry is one of the important sectors of MSME and the agriculture sector also depends very much on this industry. The government of India is ready to provide more support to this industry in all aspects. It is expected that with the help of the financial relief package and other support from the government, this industry will cover all the losses in the near future that have been incurred due to the COVID-19 pandemic.

Recommendations and Suggestions

GoI has offered a relief package and has taken several positive steps in favour of the food processing industry. There are more issues that the GoI should take on, like setting up a large number of new cold storage facilities with modern facilities, new quality testing laboratories, and training institutes after the removal of lockdown. Interest for the next 6 months starting from March 2020 shall be exempted and the interest rate shall be reduced for the next two financial years. To reduce the GST rate on processed food products. To promote the export of food products and capture more foreign markets, reduce the customs duty and make the process easy. To attract and encourage new entrepreneurs in the food processing industry, reduce the processing and licencing fees, make the registration process easy and fast, and provide loans at a subsidised rate of interest. Provide more grants for packaging and distribution procedures. Introduce a health scheme for the employees of this industry free of charge under this pandemic situation. Government should be running a campaign and requesting the citizens to purchase more and more Indian processed food products to keep this industry alive in this crisis situation.

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REFERENCES

ASSOCHEM (2020). *Consolidated recommendations to manage the impact of COVID-19*. https://www.assocham.org/covid19/Untitled%20attachment%2000022.pdf

Buitenland, A. (2021). Impact of Covid-19 on India's Agrifood sector. https://www.agroberichtenbuitenland.

nl/actueel/nieuws/2020/05/12/covid-19-impact-on-indian-agriculture

CMIE. (26th May, 2022). Unemployment Rate in India. https://unemploymentinindia.cmie.com/

Dev, S. M. (8th April, 2020). Addressing COVID-19 impacts on agricultural, food security and livelihoods in India. *IFPRI Blog*. https://www.ifpri.org/blog/addressing-covid-19-impacts-agriculture-food-security-and-livelihoods-india

FICCI (20th March, 2020b). *Impact of COVID-19 on Indian Economy*. https://ficci.in/spdocument/23195/Impact-of-COVID-19-on-Indian-Economy-FICCI-2003.pdf

FSSAI (23rd April 2020a). FSSAI ensures uninterrupted food business operations during the COVID-19. https://www.fssai.gov.in/upload/uploadfiles/files/Press_Release_COVID_23_04_2020.pdf

Government of India (2020). Atmanirbhar Bharat, Part-1: Business including MSMEs. https://msme.gov.in/sites/default/files/AtmanirbharPresentationPart-1BusinessincludingMSMEs13-5-2020_0.pdf

Gupta, S., & Chandak, A. (2020). Impact of COVID-19 on spices sector in India- Situational Analysis. *Research Gate*. https://www.researchgate.net/publication/341151979_Impact_of_COVID-19_on_spice sector_in_India-_situational Analysis

Halder, P. (2020). Indian Food Processing Sector in light of COVID-19. *FnBnews.com*. http://www.fnbnews.com/Top-News/indian-food-processing-sector-in-light-of-COVID19-55798

Kumar, S., Thombare, P. B. & Kale, P. A. (2020). Impact of coronavirus (COVID-19) on Indian economy. *Agriculture & Food: e-Newsletter, 2*(4) https://www.researchgate.net/publication/340137009_Impact_of_coronavirus_COVID-19_on_Indian_economy

Ministry of Finance. (2020). Finance Minister Announces Rs 1.70 Lakh Crore Relief Package under Pradhan Mantri Garib Kalyan Yojana for the Poor to Help Them Fight the Battle against Corona Virus. *Press Information Bureau*.

Ministry of Finance. (n.d.). Aatma Nirbhar Bharat Package. https://www.indiabudget.gov.in/anbp/

Mishra, P. (11th May, 2020). Farmers lose Rs. 20, 000 crore as fruits and veggies perish. Financial Express.https://www.financialexpress.com/economy/farmers-lose-rs-20000-crore-as-fruits-and-veggies-perish/1954449/

Noronha, G. (2020). IMF projects India's growth rate at 1.9% in 2020, forecasts global recession due to COVID-19. *Economic Times*. https://www.economictimes.indiatimes.com/news/economy/indicators/imf-projects-indias-growth-rate-at-1-9-in-2020-forecasts-global-recession-due-to-COVID-19/articleshow/75142792.cms?from=mdr

Shukla, P.K., & Bhattacharya, A. (11th May, 2020). Impact of COVID-29 on Indian Poultry Sector. *Poultry Punch*. https://www.thepoultrypunch.com/2020/05/impact-of-COVID-19-on-indian-poultry-sector/

Singh, A. (2020). COVID-19 Rumours, Fake News Slaughter Poultry Industry; Rs. 22,500 Crore Lost; 5 Crore Jobs at Stake. SME FUTURES. https://smefutures.com/covid-19-rumours-fake-news-slaughter-poultry-industry-rs-22500-crore-lost-5-crore-jobs-at-stake/

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COVID-19 Pandemic and Stock Markets: The Case of Select Asian Economies

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ABSTRACT

Introduction: The present study attempts to capture the dynamic connection between the outbreak of the COVID-19 pandemic and stock indices of select Asian emerging economies like China, India, South Korea, Indonesia, Hong Kong, and Thailand, along with the volatility in the select stock markets occurring out of the COVID-19 pandemic. **Methodology:** The study period begins on January 1, 2019 and continues up to April 6, 2022. The Bai-Perron test for the identification of structural breaks and the Wald test for the determination of short-run causality are used. Granger causality test measures the existence of uni-directional or bi-directional causality. To capture the volatility, Dummy-GARCH (1,1) along with EGARCH are used. **Results:** The results reveal the existence of causality over the short-run among the indices and COVID-19, as well as the existence of ARCH and GARCH effects in most of the stock indices, which may have occurred due to the external shock of the pandemic. **Conclusion:** The stock markets across the globe are experiencing depressed sentiment, which is replicated in the numerous crashes in the stock indices in all parts of the world.

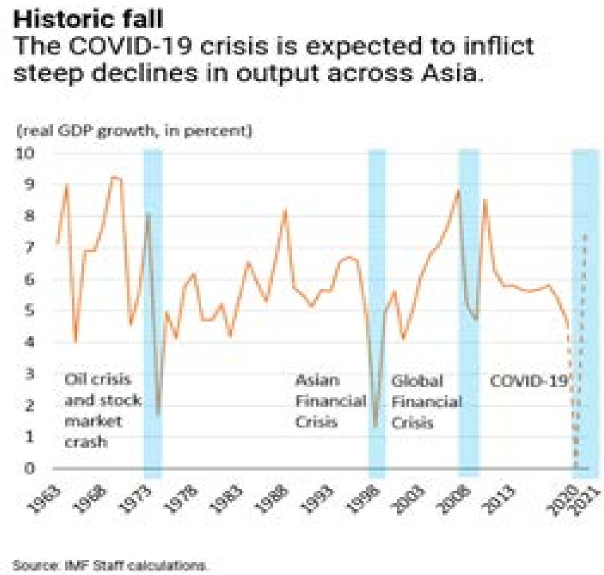
Keywords: *Stock Markets; Asian Emerging Economies; GARCH-Dummy; EGARCH Model; COVID-19*

JEL Classification: G10, G14, G15, C23

INTRODUCTION

As the world continues to grapple with ways to respond to the virus, the performance of Asian emerging economies remains murky and pretty bleak, and the stock markets of these emerging economies are certainly not immune to the convulsions of the current crisis. The marketplaces are expatriate, and the business segments and supply chains of numerous prominent nations will experience a wave, particularly because most of the nation's import grossly from China to implement their manufacturing procedure. The outbreak of the pandemic obligated the Chinese administration to declare the biggest quarantine instruction in history, upsetting 513 million humans globally. SARS-CoV-2 has wreaked havoc on the world's demographics, resulting in more than 6 million deaths worldwide as of March 2022, making it the most serious global health crisis since the 1918 influenza pandemic (Cascella *et al.*, 2022).

The influence of the pandemic on the emerging Asian economies is immense, and the estimated GDP growth in 2020 and 2021 is beyond ascertainment. There is no doubt, that the aftermath is severe. As per the IMF, the development in Asia remains at 0 per cent in 2020 which is unprecedented. Exhibit 1 displays the global financial crisis of 4.7% with the Asian Financial Crisis of 1.3% (Rhee, 2020). But, in spite of such occurrences, the IMF is of the opinion that Asian economies are still in a better position than other regions in the world in the context of their business and economic activity.



Source: International Monetary Fund Blog

Figure 1: Decline in output of Asia

Previously, authors like Guo, Kuai and Liu (2020), Alsaifi, Elnahass and Salama, (2020), Kowalewski and Śpiewanowski (2020), Bash and Alsaifi (2019), Shanaev and Ghimire (2019), Buhagiar, Cortis and Newall, (2018), Chen, Jang and Kim, (2007), Chen *et al*., (2009), Ichev and Marinč (2018) and others have studied the impact of different events like disasters, sports, news, political events, and the outbreak of epidemics like SARS (Severe Acute Respiratory Syndrome) and EBD (Ebola Virus Disease) on stock market returns. Very recently, Al-Awadhi *et al.* (2020) examined the influence of the pandemic on the returns of the stock market of Chinese enterprises using a panel regression model along with correlation analysis and found that the high spread of the pandemic has a substantial negative impact on Chinese enterprises' returns among all the sectors. Again, Chen, Qian, and Wen (2021) analyzed the effect of the Coronavirus on consumption by using daily data of businesses in 214 towns and opined that the expenditure on goods and services is severely affected. However, no literature has been found on the volatility and dynamic association among the COVID-19 contagion and the Asian emerging stock markets.

In this background, an attempt has been made to examine and evaluate the consequences of the COVID-19 pandemic on the Asian emerging stock markets, including the Shanghai Composite from China; KOSPI from South Korea; BSE Sensex from India; JKSE Composite from Indonesia; Hang Seng from Hong Kong and SET 100 from Thailand. The present paper delves into measuring the dynamic connection amongst the COVID-19 pandemic and stock indices of the Asian emerging economies as well as the volatility of the stock indices from the eruption due to the COVID-19 pandemic.

LITERATURE REVIEW

There is a dearth of studies made on the effects of the COVID-19 occurrence pertaining to the different stock markets along with the economy. So, the authors have decided to survey the existing research works on the different epidemics that occurred globally in the past which have been summarised below.

He *et al.* (2020) using conventional t-tests and Mann-Whitney tests tried to introspect the effect of COVID-19 on several stock markets and found no evidence of an adverse effect on the selected stock markets. Zhang, Hu, and Ji (2020) investigate to identify the overall forms of systemic risks and country-specific risks in the equity markets across the globe due to the outbreak of COVID-19. The paper furthermore studies the possible magnitude of various strategy interferences. Sharif, Aloui, and Yarovaya (2020) attempt to explore the connection between volatility in the prices of oil including stock markets, economic policy uncertainty, and geopolitical risks amid the COVID-19 outbreak in the United States by using the coherence wavelet method. Ashraf (2020) analyses the response of stock markets to the outbreak of novel coronavirus in sixty-four nations and witnessed that the stock markets respond adversely to the surge in COVID-19 confirmed cases. Huo and Qiu (2020) examine how China's stock market counters the sudden outbreak of COVID-19 mainly to the declaration of the pandemic lockdown. Moser and Yared (2021) measured the rate of success that can be achieved by introducing lockdown at the cost of a comparatively lower economic output. Huang *et al*. (2020) have tried to analyze coronavirus eruption in China and the government's answer. Again, authors like, Ru, Yang, and Zou (2020) proposed that the impression of the early familiarity with similar viruses is a basic mechanism causing timely responses to COVID-19. Caballero and Simsek (2020) in their paper presented a model of endogenous asset price twist and stern combined demand reductions subsequent to a huge real (non-financial) setback.

METHODOLOGY

Dataset and econometric modelling

The present study is centred on daily frequency data of the closing Asian emerging stock market indices like the Shanghai Composite from China; KOSPI from South Korea; BSE Sensex from India; JKSE Composite from Indonesia; Hang Seng from Hong Kong and SET 100 from Thailand. The daily data of these stock indices has been retrieved from the DataStream database. The authors also created a dummy variable that specifies the occurrence of the pandemic. Hence, the phase of the occurrence of the COVID-19 pandemic is denoted using a dummy variable, '1' inferring the phase from December 31, 2019, and '0' otherwise, because the disease erupted on December 31, 2019. To get a clear view of the movement of stock indices before and after the outbreak of the pandemic, the authors commence the period one year prior to the occurrence, i.e., from January 1, 2019, to April 6, 2022. The authors observe several analyses of the COVID-19 pandemic where the literature up to January, 2019 has been considered. The structural breaks in the study period are identified through the Bai-Perron Test. Subsequently, the Granger Causality Test and Wald Test are implemented to measure the short-run dynamic association between the variables used in the study. To capture the impact on volatility, dummy models like GARCH (1,1) and EGARCH are used.

The GARCH-dummy variable model

The GARCH models with dummy variables are framed by Lu and Chen (2011). Though, there is a limitation of short event windows, the GARCH-dummy methodology delivers valuable advice and statistical implications.

Opposing to CLRM which undertakes volatility as constant and time-invariant, GARCH models reflect that one-step-ahead restricted variance is reliant on prevailing accessible indications (Lu & Chen, 2011). The mean model as propounded by Lu and Chen (2011) is provided hereunder:

$$X_t = \beta_0 + \sum_{I=1}^{k} \beta_i Y_{it} + \mu_t, \mu_t \mid I_{t-1} \sim M(0, h_t) \quad \ldots\ldots (1)$$

where, Y's are lagged endogenous and/or exogenous variables; I_{t-1} is the information accumulated up to time t-1. Then, GARCH (q, p) regression model additionally postulates a restrictive variance regression model which is as follows:

$$N_t = \gamma_0 + \sum_{j=1}^{q} \gamma_i \mu^2_{t-j} + \sum_{k=1}^{p} \delta_k N_{t-k} \quad \ldots\ldots (2)$$

where, Y's are lagged endogenous and/or exogenous variables; I_{t-1} is the information accumulated up to time t-1. Then, GARCH (q, p) regression model additionally postulates a restrictive variance regression model which is as follows:

$$N_t = \gamma_0 + \sum_{j=1}^{q} \gamma_i \mu^2 t\text{-}j + \sum_{k=1}^{p} \delta_k N_{t-k} \ldots\ldots (2)$$

In eqn. 8.γ_i and δ_k are subject to the constraints: $\sum_{j=1}^{q} \gamma i + \sum_{k=1}^{p} \delta k < 1$ and γ_ič > 0. French, Schwert, and Stambaugh, (1987), Franses and Van Dijk (1996), and Chong, Ahmad, and Abdullah, (1999) have already demonstrated the effectiveness of the GARCH (1, 1) model in measuring economic time series data. At par with the above-mentioned studies, Lu and Chen (2011) also used this model in defining commercial and financial time-series data. Researchers like Edison and Reinhart (2001), Bologna and Cavallo (2002), Mazouz and Bowe (2009), and Lu and Chen (2011) applied a dummy model in studying the events.

$$X_t = \lambda_0 + \sum_{i=1}^{1} \lambda i\, Yi + \mu t, \mu t \,\big|\, It - 1 \sim M(0, ht) \ldots\ldots (3)$$

$$N_t = \gamma_0 + \sum_{j=1}^{p} \gamma_i \mu^2 t\text{-}j + \sum_{k=1}^{q} \delta_k N_{t-k} + \beta d_t \ldots\ldots (4)$$

where, d_t is defined as the dummy variable for a specific event window $\{s_1, s_2\}$ ($d_t = 1$, if $s_1 \leq t \leq s_2$; $= 0$ else).

RESULTS AND DISCUSSION

Granger Causality Test and Wald Test

Amongst the different VAR models, the Granger Causality test is quite popular. In this study, the Granger causality test is applied to conclude whether one cross-section time series is beneficial in estimating another thereby noting the way of the association between the variables of the study (Bagchi, 2016). However, while running this test we will only examine the existence of unidirectional causality if any, from COVID-19 to the Asian emerging stock indices, and not bidirectional causality. Therefore, in order to find out unidirectional causality from the explanatory variable COVID-19 to each of the dependent variables (Shanghai Composite, KOSPI, BSE Sensex, JKSE, Hang Seng, and SET 100), the following equation is estimated:

$$X_t = \lambda_0 + \sum_{j=1}^{n} \lambda_j X_{t-i} + \sum^{n} \delta_j COVID19_{t-j} + \mu_{2t} \ldots\ldots (5)$$

In equation 5, X implies any variables like, Shanghai Composite, KOSPI, BSE Sensex, JKSE, Hang Seng, and SET 100. It is also anticipated that the turbulences µ1t and µ2t are not correlated. Equation 5 hypothesizes that each of the stock indices is related to lagged values as well as that of COVID-19.

Table 1 shows the values of F-statistics for Granger-causality tests using the lag length of 2. The null hypothesis is rejected in all the cases either at 1 per cent level or at 5 per cent level thus implying that COVID-19 Granger causes all the select stock indices.

Table 1: Granger Causality Test

Null Hypotheses	f-statistic	*p*-value	Remarks
COVID-19* does not Granger Cause Shanghai Composite	0.62428	0.0372	Reject
COVID-19 does not Granger Cause KOSPI	0.85410	0.0279	Reject
COVID-19 does not Granger Cause BSE Sensex	1.35662	0.040	Reject
COVID-19 does not Granger Cause JKSE Composite	1.46764	0.0341	Reject
COVID-19 does not Granger Cause Hang Seng	1.36985	0.0076	Reject
COVID-19 does not Granger Cause SET 100	1.12098	0.0089	Reject

**COVID-19 is a dummy variable with '1' representing the outbreak from 31 December, 2019 onwards and '0' otherwise.*

Now, to check the occurrence of the causality between COVID-19 and Asian emerging stock indices over a short-run time horizon, the Wald test has been applied. COVID-19 is taken as an independent variable and stock indices like Shanghai Composite, KOSPI, BSE Sensex, JKSE Composite, Hang Seng, and Set 100 are taken as dependent variables. It has been found that the values of F-statistic, t-statistic, and chi-square are significant for all the stock indices and hence short-run causality exists between COVID-19 and the Asian emerging stock indices and they move jointly over a short-run time horizon. Results of the Wald test are displayed in table 2 below.

Table 2: Wald Test

Dependent Var.	Independent Var.	f-statistic	t-statistic	Chi-square	*p*-value
Shanghai Composite	COVID-19*	173.471	13.170	173.471	0.000
KOSPI		171.327	13.089	171.327	0.000
BSE Sensex		170.649	13.063	170.649	0.000
JKSE Composite		168.510	12.981	168.510	0.000
Hang Seng		172.698	13.141	172.698	0.000
SET 100		166.246	12.893	166.246	0.000

**COVID-19 is a dummy variable with '1' representing the outbreak period from 31 December, 2019 onwards and '0' otherwise.*

Bai-Perron Test

Identification of multiple structural changes in Asian emerging stock indices that occurred due to the outbreak of COVID-19 is made through the Bai-Perron test. Shanghai Composite has a breakpoint in its structure on 14-Sep-20, KOSPI has a breakpoint on 20-Mar-20, BSE Sensex has a breakpoint on 24-Mar-20, JKSE Composite has a breakpoint on 25-Mar-20, Hang Seng has a breakpoint on 18-Feb-21, SET 100 has a breakpoint on 24-Mar-20 and the COVID-19 bears a breakpoint on 31st December, 2019. The variation in a time-series data specifies a modification in the character of a data occurring from the worldwide developments. Table 3 below showcases the results of the Bai-Perron Test.

Shanghai Composite	KOSPI	BSE Sensex	JKSE Composite	HANG SENG	SET 100	COVID-19*
Sep 14, 2020	Mar 20, 2020	Mar 24, 2020	Mar 25, 2020	Feb 18, 2021	Mar 24, 2020	Dec 31, 2019

**COVID-19 is a dummy variable with '1' representing the outbreak period from 31 December, 2019 onwards and '0' otherwise.*

GARCH Estimates

The parameter estimates of the GARCH (1, 1) model are presented in table 4 below, which are all found to be statistically significant at 1% and 5%. α and β coefficients are positive for both indices. The summation of α and β in the model is nearer to 1 (one), which lies from 0.934 to 0.983 with an average value of 0.955, which implies the presence of ARCH and GARCH effects, as indicated by Lu and Chen (2011). This necessitates that the existing volatility of stock market returns can be explained by some external shocks which can be COVID-19 in our case.

Table 4: GARCH (1, 1) Test Results

	Shanghai Composite	KOSPI	BSE Sensex	JKSE Composite	HANG SENG	SET 100
ω (constant)	3.488** (0.031)	3.339* (0.000)	4.582* (0.000)	3.767* (0.000)	4.491* (0.000)	3.170* (0.000)
α (arch effect)	0.045* (0.000)	0.165* (0.001)	0.167* (0.000)	0.067** (0.034)	0.121** (0.019)	0.157* (0.000)
β (garch effect)	0.903* (0.000)	0.818* (0.000)	0.798* (0.000)	0.882** (0.023)	0.813** (0.009)	0.793* (0.000)
α + β	0.948	0.983	0.965	0.947	0.934	0.950
AIC	4.644	0.444	3.593	3.327	3.341	2.840
SIC	4.727	0.526	3.675	3.410	3.423	2.923

** represent significance at 1%; ** represents significance at 5%*

EGARCH Estimates

To inspect the asymmetries of information on volatility and the leverage effect, this study implements EGARCH (1,1) model. The asymmetries restricted by the parameter (γ) in the EGARCH model are negative and statistically noteworthy values specify the presence of leverage effects to disclose that positive effects have a smaller amount of effect on the conditional variance when compared to the negative effects. Table 5 points out the purpose of volatility, as computed through the summation of α and β in the GARCH (1,1) model, ranges from 3.077 to 1.26 with an average of 2.009, which is greater than one, thus representing a robust existence of ARCH and GARCH influences on volatility. The test results of EGARCH (1,1) additionally approve that the sum of ARCH (α) and GARCH (β) is more than one in the incident of Asian emerging stock markets, which designates that the conditional variance is volatile and the coefficients of ARCH and GARCH are noteworthy at 1% and 5% levels. The gamma parameter (γ), which is regarded as the indicator for asymmetric volatility, it is negative and significant at the 1% level for all the stock markets, which implies that the leverage effect in Asian emerging stock markets is observed. Moreover, this signifies that the impact of a progressive return to the select stock markets and crude oil makes lesser volatility than the impact of a negative return, as suggested by Premaratne and Balasubramanyan (2003).

Table 5: EGARCH (1, 1) Test Results

	Shanghai Composite	KOSPI	BSE Sensex	JKSE Composite	HANG SENG	SET 100
ϖ (Constant)	2.202	2.132	2.775	2.399	2.698	2.056
p-value	0.006*	0.001*	0.009**	0.000	0.007**	0.002*
α (ARCH Effect)	1.148	1.067	1.069	2.068	1.165	1.163
p value	0.003*	0.005*	0.000	0.005*	0.008**	0.009**
β (GARCH Effect)	0.112	1.008	1.008	1.009	1.003	0.233
p-value	0.000*	0.000*	0.000*	0.000*	0.000*	0.000*
$\alpha + \beta$	1.26	2.075	2.077	3.077	2.168	1.396
γ (Leverage Effect)	-0.22	-0.072	-0.075	-0.073	-0.232	-0.174
p-value	0.000*	0.000*	0.004*	0.003*	0.000*	0.000*

**denotes significance at the 1%; ** denotes significance at the 5% level.*

CONCLUSION

The stock markets across the globe are experiencing a depressed sentiment which is reflected in the frequent crashes in the stock indices in all parts of the world. Due to noteworthy ambiguity about the economic outlook and the connected shortcomings, it is problematic to enumerate the monetary effect, and an unanticipated expansion in ambiguity can put both economic growth and monetary steadiness at threat.

Granger causality test results prove the uni-directional causality running from COVID-19 to all the select stock indices which are further supported by the Wald test results that reveal the existence of the short-run relationship between COVID-19 and the Asian emerging stock markets. Both GARCH and EGARCH estimates disclose the presence of ARCH and GARCH effects that has an influence on the unpredictability of stock markets. Furthermore, in EGARCH, the value of γ is negative and significant at the 1 per cent level implying the existence of a leverage effect in all the Asian emerging stock markets.

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REFERENCES

Al-Awadhi, A. M., Alsaifi, K., Al-Awadhi, A., & Alhammadi, S. (2020). Death and contagious infectious diseases: Impact of the COVID-19 virus on stock market returns. *Journal of Behavioral and Experimental Finance, 27*, 100326.

Alsaifi, K., Elnahass, M., & Salama, A. (2020). Market responses to firms' voluntary carbon disclosure: Empirical evidence from the United Kingdom. *Journal of Cleaner Production, 262*, 121377.

Ashraf, B. N. (2020). Stock markets' reaction to COVID-19: Cases or fatalities? *Research in International Business and Finance, 54*, 101249. https://doi.org/10.1016/j.ribaf.2020.101249.

Bagchi, B. (2016). Volatility spillovers between exchange rates and Indian stock markets in the post-recession period: an APARCH approach. *International Journal of Monetary Economics and Finance, 9*(3), 225-244.

Bash, A., & Alsaifi, K. (2019). Fear from uncertainty: An event study of Khashoggi and stock market returns. *Journal of Behavioral and Experimental Finance, 23*, 54-58.

Bologna, P., & Cavallo, L. (2002). Does the introduction of stock index futures effectively reduce stock market volatility? Is the'futures effect'immediate? Evidence from the Italian stock exchange using GARCH. *Applied Financial Economics, 12*(3), 183-192.

Buhagiar, R., Cortis, D., & Newall, P. W. (2018). Why do some soccer bettors lose more money than others? *Journal of Behavioral and Experimental Finance, 18*, 85-93.

Caballero, R. J., & Simsek, A. (2020). *A Model of Asset Price Spirals and Aggregate Demand Amplification of a" Covid-19" Shock*. National Bureau of Economic Research.

Cascella, M., Rajnik, M., Aleem, A., Dulebohn, S. C., & Di Napoli, R. (2022). Features, evaluation, and treatment of coronavirus (COVID-19). *Statpearls [internet]*.

Chen, C. D., Chen, C. C., Tang, W. W., & Huang, B. Y. (2009). The positive and negative impacts of the SARS outbreak: A case of the Taiwan industries. *The Journal of Developing Areas, 281*-293.

Chen, H., Qian, W., & Wen, Q. (May, 2021). The impact of the COVID-19 pandemic on consumption: Learning from high-frequency transaction data. In *AEA Papers and Proceedings* (Vol. 111, pp. 307-11).

Chen, M. H., Jang, S. S., & Kim, W. G. (2007). The impact of the SARS outbreak on Taiwanese hotel stock performance: an event-study approach. *International Journal of Hospitality Management, 26*(1), 200-212.

Chong, C. W., Ahmad, M. I., & Abdullah, M. Y. (1999). Performance of GARCH models in forecasting stock market volatility. *Journal of Forecasting, 18*(5), 333-343.

Edison, H., & Reinhart, C. M. (2001). Stopping hot money. *Journal of Development Economics, 66*(2), 533-553.

Franses, P. H., & Van Dijk, D. (1996). Forecasting stock market volatility using (non-linear) Garch models. *Journal of forecasting, 15*(3), 229-235.

French, K. R., Schwert, G. W., & Stambaugh, R. F. (1987). Expected stock returns and volatility. *Journal of financial Economics, 19*(1), 3-29.

Guo, M., Kuai, Y., & Liu, X. (2020). Stock market response to environmental policies: Evidence from heavily polluting firms in China. *Economic Modelling, 86*, 306-316.

He, Q., Liu, J., Wang, S., & Yu, J. (2020). The impact of COVID-19 on stock markets. *Economic and Political Studies, 8*(3), 275-288. https://doi.org/10.1080/20954816.2020.1757570

Huang, Y., Lin, C., Wang, P., & Xu, Z. (2020). Saving China from the coronavirus and economic meltdown: Experiences and lessons. *Available at SSRN 3570696*. http://dx.doi.org/10.2139/ssrn.3570696

Huo, X., & Qiu, Z. (2020). How does China's stock market react to the announcement of the COVID-19 pandemic lockdown? *Economic and Political Studies, 8*(4), 436-461. https://doi.org/10.1080/20954816.2020.1780695

Ichev, R., & Marinč, M. (2018). Stock prices and geographic proximity of information: Evidence from the Ebola outbreak. *International Review of Financial Analysis, 56*, 153-166.

Kowalewski, O., & Śpiewanowski, P. (2020). Stock market response to potash mine disasters. *Journal of Commodity Markets, 20*, 100124.

Lu, Y., & Chen, W. (2011). Unreliable inference for business and economic event studies based on variance dummy variable in a GARCH regression model. *Journal of Applied Business and Economics, 12*(5), 45-53.

Mazouz, K., & Bowe, M. (2009). Does options listing impact on the time-varying risk characteristics of the underlying stocks? Evidence from NYSE stocks listed on the CBOE. *Applied Financial Economics, 19*(3), 203-212.

Moser, C., & Yared, P. (2021). Pandemic lockdown: The role of government commitment. *Review of Economic Dynamics*. https://doi.org/10.21034/sr.627

Premaratne, G., & Balasubramanyan, L. (2003). Stock Market Volatility: Examining North America, Europe and Asia. *National University of Singapore, Economics Working Paper.* https://dx.doi.org/10.2139/ssrn.375380

Rhee, C. Y. (15th April, 2020). COVID-19 Pandemic and the Asia-Pacific Region: Lowest Growth Since the 1960s. *International Monetary Fund.* https://blogs.imf.org/2020/04/15/covid-19-pandemic-and-the-asia-pacific-region-lowest-growth-since-the-1960s/

Ru, H., Yang, E., & Zou, K. (2020). What do we learn from SARS-CoV-1 to SARS-CoV-2: Evidence from global stock markets. *Available at SSRN, 3569330.* http://dx.doi.org/10.2139/ssrn.3569330

Shanaev, S., & Ghimire, B. (2019). Is all politics local? Regional political risk in Russia and the panel of stock returns. *Journal of Behavioral and Experimental Finance, 21*, 70-82.

Sharif, A., Aloui, C., & Yarovaya, L. (2020). COVID-19 pandemic, oil prices, stock market, geopolitical risk and policy uncertainty nexus in the US economy: Fresh evidence from the wavelet-based approach. *International Review of Financial Analysis, 70*, 101496. https://doi.org/10.1016%2Fj.irfa.2020.101496

Zhang, D., Hu, M., & Ji, Q. (2020). Financial markets under the global pandemic of COVID-19. *Finance research letters, 36*, 101528. https://doi.org/10.1016/j.frl.2020.101528

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India's Performance in the Achievement of SDG – 8: An Inquest with Special Reference to Employment Generation and Labour Force Participation

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ABSTRACT

In the last five years, since the adoption of the SDGs, India has been trying to improve in all aspects according to the set targets. Significant progress has already been made in India in recent years. India has taken several SDG initiatives in recent times. Most of the initiatives of the Government of India (GoI) are aligned with the SDG framework to steer development activities. At present, we have 17 UN Sustainable Development Goals (SDGs), and the specific targets for each goal are there. SDG – 8 for economic growth and decent work is one of them. The research question is how far India has achieved the targets of SDG–8 because this goal is directly related to economic growth. In this context, the paper attempts to analyse the performance of India in the achievement of SDG–8, presenting the trends of employment generation and labour force participation rate. These two indicators are analysed in this study with the help of the International Labour Organisation (ILO) database. It is possible to conclude from this analysis that the improvement in India's employment rate and labour force participation rate over the last decade has been insufficient.

Keywords: *SDG-8; Economic Growth; Employment Generation; Labour Force Participation Rate*

INTRODUCTION

Sustainable Development Goals (SDGs) are the most paramount development agenda ever produced in the World. Through these, the progress in developed and developing countries may be measured against the same parameter. These goals bring the Government sector, private sector, and common people together under common pursuit.

In the last five years, since the adoption of the SDGs, India has been trying to improve in all aspects according to the set targets. Significant progress has already been started in India in recent years (Sharma & Chaturvedi, 2020). India has taken several SDG initiatives in recent times. Most of the initiatives of the Government of India (GoI) are aligned with the SDG framework to steer development activities.

At present, the world has 17 United Nations Sustainable Development Goals (SDGs) with their specific targets. These 17 SDGs are interconnected and the failure of one can affect the success of the other goals (Bangera & Gandhi, 2021; Comyn, 2018). One of them is descent work. SDG – 8 encourages inclusive and sustainable economic growth, full and productive employment, and decent work for all (Frey, 2017). It encourages innovation, jobs, entrepreneurship, and job creation. It tries to implement effective measures to eradicate forced labour, modern slavery, and human trafficking. It also protects labour rights, which ensures safe and secure working environments. With these targets in mind, the goal is to achieve full and productive employment and decent work for all women and men by the coming decade. Ultimately, SDG–8 improves living standards.

The rate of employment growth has suffered stagnation at various time periods from 2000 to 2013 (Papola, 2013), and therefore a positive shift in this sector is required to help India in the coming years.

Among the nine indicators, as per the report of NITI Aayog (2021), only two factors, namely the employment generation and labour force participation, are considered here. In this context, the paper attempts to analyse the performance of India in the achievement of SDG–8 with the help of these two factors. In India, employment and labour force are always regarded as indicators of development (Sudhakar, Kumar, & Padmavathi, 2012).

Issue-specific hindrances

Two issues that ensures that fulfilment of SDG target is far from satisfactory, are discussed below -

India's Position in SDG Index

Since 2018, the National institution for Transforming India (NITI Aayog) has been publishing SDG Index in India. Here, countries are ranked by total score. The total score measures a country's overall progress towards all 17 SDGs. This score can be interpreted as a percentage of SDG achievement. A score of 100 means all SDGs have been achieved. As per Table – 1, India ranked 113th in SDG Index with a score of 60.07 in the year 2021, whereas China's rank was 57 with a score of 72.06.

Table 1: SDGs Index Ranking of East and South Asian Countries in 2021

Country	Score
Thailand	74.19
Vietnam	72.85
China	**72.06**
Malaysia	70.88
Bhutan	69.98
Singapore	69.89
Maldives	69.27
Brunei Darussalam	68.27
Sri Lanka	68.10
Nepal	66.52
Indonesia	66.34
Myanmar	64.95
Cambodia	64.54
Philippines	64.51
Mongolia	63.79
Bangladesh	63.45
Lao PDR	63.01
India	**60.07**
Pakistan	57.72

**Arithmetic Mean of SDG scores of each country.*

Source: Sachs et al. (2021)

Low Improvements in General Awareness on Sustainable Development Goals (SDGs)

The web search intensity, i.e. the number of searches as a proportion to the overall searches in a country across time, is extracted here to establish the degree of awareness for the keywords SDGs, labour force participation rate, and unemployment rate. It is considered to analyse the popularity of search terms among Internet users.

Figure 1 shows the intensity of Google searches related to the SDGs in India. However, evidence-based on Google Trends (Google Trends can be a powerful tool for understanding the pattern of Google searches made in different locations at different points in time). Google Trends provides access to a largely unfiltered sample of actual search requests made to Google. This allows us to display interest in a particular topic from around the globe or a particular country. suggests an increase in awareness of SDGs during the last six years, but it was not so satisfactory in comparison to other countries.

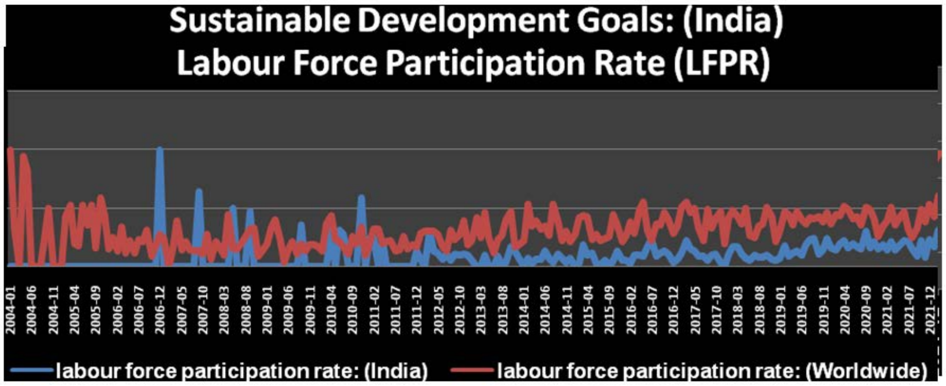


Figure 1: Google Trend of Searches on 'SDGs' and 'LFPR' in India and Worldwide during last 17 years

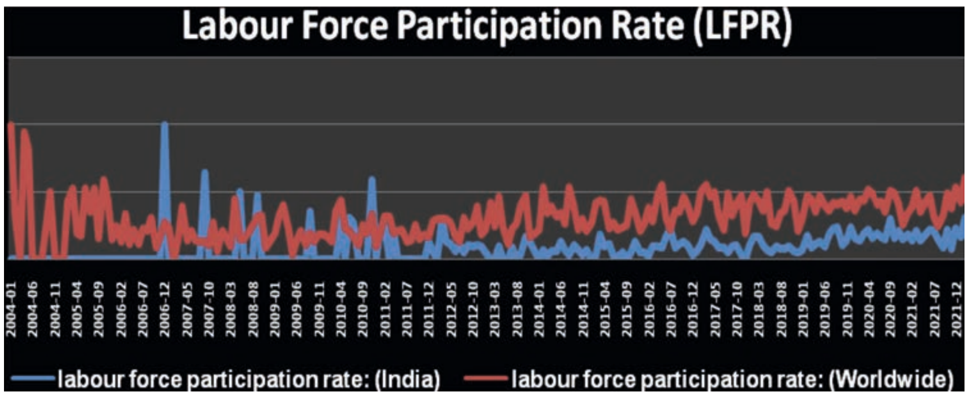


Figure 2: Google Trend of Searches on 'LFPR' in India and Worldwide during last 17 years

Figure 2 shows the intensity of Google searches related to the LFPR in India and Worldwide.

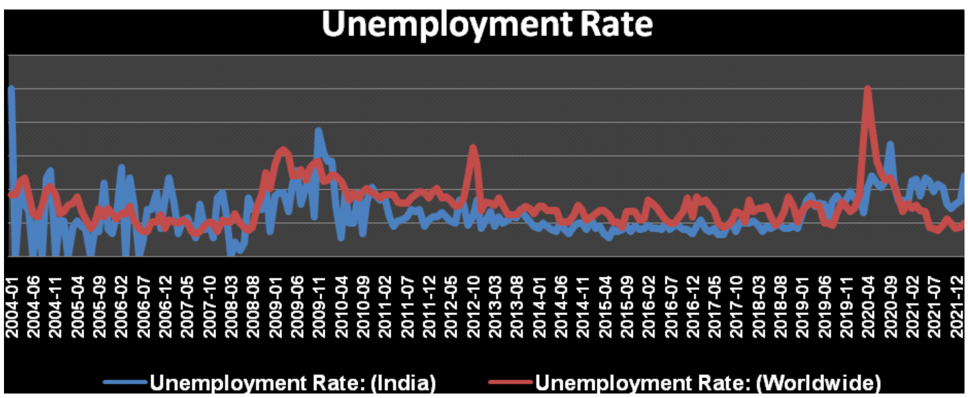


Figure 3: Google trend of searches on 'Unemployment Rate' in India and Worldwide during last 17 years

Figure 3 shows the intensity of Google searches related to the Unemployment Rate in India and Worldwide.

Figures 2 and 3 both show that general awareness for the keywords - labour force participation rate and unemployment rate in India are not satisfactory. So, general awareness of these two issues should be improved.

METHODOLOGY

The data are collected from the ILOSTAT (last updated on 6th February 2022) database of International Labour Organization (ILO). The time period of collected data is the last decade (2010 onwards). To measure India's performance towards the goal of decent work and economic growth, nine national level indicators are there (NITI Aayog, 2021). Out of them, four indicators are analysed as variables in this study.

Table 2: Analysis of four indicators

Indicator	Aligned with SDG – 8	
• **Unemployment Rate** • **Youth Unemployment-to-Population Ratio**	SDG 8.5 aims to achieve full and productive employment.	ILOSTAT
• **Labour Force Participation Rate (LFPR)** • **Proportion of Youth not in Education, Employment or Training**	SDG 8.5 aims equal pay for work of equal value and equal opportunity.	ILOSTAT

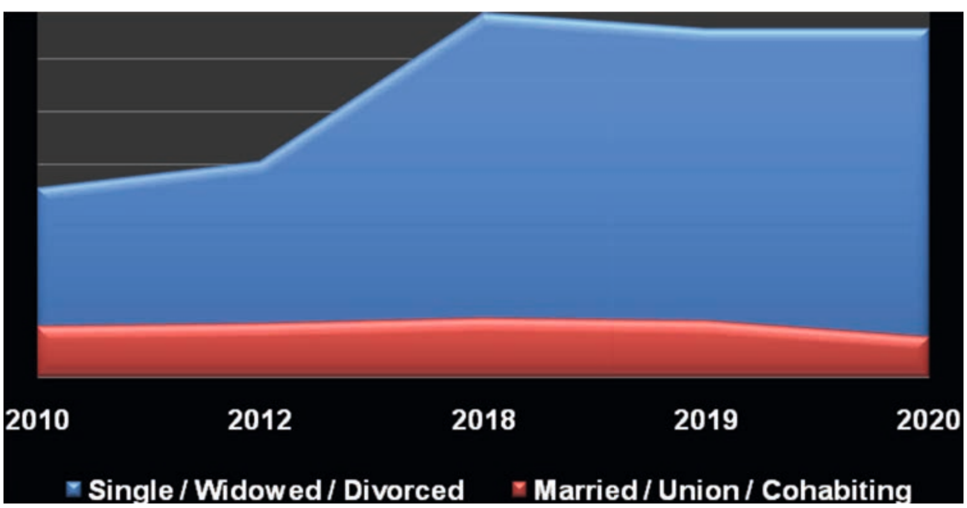
RESULTS AND DISCUSSION

The unemployment rate is a useful measure of the underutilization of the labour supply. It reflects the inability of an economy to generate employment for those persons who want to work but are not doing so, even though they are available for employment and actively seeking work (ILO, 2017). As per the formal definition given by ILO, the unemployment rate is the number of persons who are unemployed as a per cent of the total number of employed and unemployed persons (i.e., the labour force).

Table 3: Unemployment rate by sex and marital status (%) - Female

Year	Total	Single / Widowed / Divorced	Married / Union / Cohabiting
2010	3.3	7.1	1.9
2012	3.7	8.1	2.0
2018	5.3	13.7	2.2
2019	4.9	13.1	2.1
2020	4.4	13.1	1.5

Source:https://www.ilo.org/shinyapps/bulkexplorer56/?lang=en&segment=indicator&id=SDG_0852_SEX_AGE_RT_A



Source: Author's Own Presentation

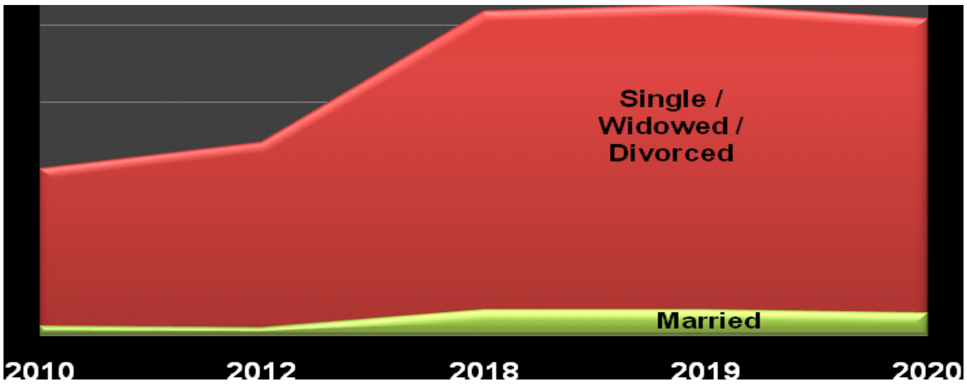
Figure 4: Allied area diagram to represent table - 3

In India, the unemployment rate of the single women category is more than the married women category during the last decade.

Table 4: Unemployment rate by sex and marital status (%) - Male

Year	Total	Single / Widowed / Divorced	Married / Union / Cohabiting
2010	2.2	8.2	0.4
2012	2.4	9.5	0.4
2018	5.3	19.5	1.2
2019	5.4	19.6	1.2
2020	4.8	17.7	0.9

Source:https://www.ilo.org/shinyapps/bulkexplorer56/?lang=en&segment=indicator&id=SDG_0852_SEX_AGE_RT_A



Source: Author's Own Presentation

Figure 5: Allied area diagram to represent table - 4

In India, the unemployment rate of the single men category was more than the married men category during the last decade. Actually, most of the Indian people first get employed then they marry. Now, the question is how marriage factor works in the case of employability. So, married men and women have a higher probability to be in the labour force than the single. Unemployment rate is higher in the case of the single men and women in comparison to married.

Table 5: Unemployment rate by sex, marital status and domicile (%) – Female

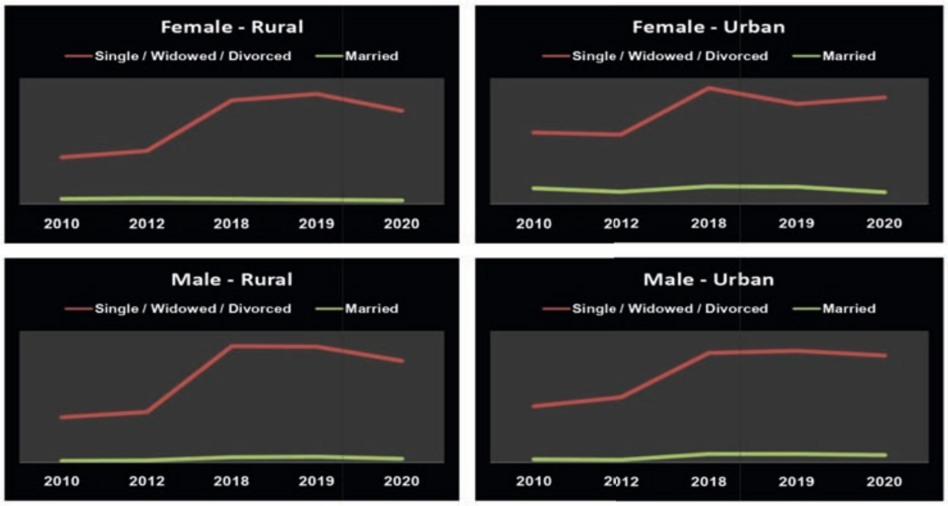
Year	Total	Single / Widowed/ Divorced	Married / Union / Cohabiting	Total	Single / Widowed/ Divorced	Married / Union / Cohabiting
	Rural			Urban		
2010	2.4	**13.0**	**1.4**	7.0	**19.9**	**4.4**
2012	2.8	**14.8**	**1.6**	6.6	**19.3**	**3.4**
2018	3.5	**28.8**	**1.4**	9.8	**32.2**	**4.9**
2019	3.4	**30.6**	**1.2**	8.9	**27.8**	**4.8**
2020	2.9	**25.9**	**1.0**	8.8	**29.6**	**3.3**

Source:https://www.ilo.org/shinyapps/bulkexplorer56/?lang=en&segment=indicator&id=SDG_0852_SEX_AGE_RT_A

Table 6: Unemployment rate by sex, marital status and domicile (%) – Male

Year	Total	Single / Widowed/ Divorced	Married / Union / Cohabiting	Total	Single / Widowed/ Divorced	Married / Union / Cohabiting
	Rural			Urban		
2010	1.9	**8.6**	**0.3**	3.0	**10.7**	**0.6**
2012	2.1	**9.6**	**0.4**	3.2	**12.4**	**0.5**
2018	5.0	**22.1**	**1.0**	6.2	**20.8**	**1.6**
2019	4.9	**22.0**	**1.1**	6.4	**21.2**	**1.6**
2020	4.2	**19.3**	**0.7**	6.0	**20.3**	**1.4**

Source:https://www.ilo.org/shinyapps/bulkexplorer56/?lang=en&segment=indicator&id=SDG_0852_SEX_AGE_RT_A



Source: Author's Own Presentation

Figure 6: Allied line diagrams to represent table –5 and 6

Almost the same pattern is observed for both men and women between rural and urban. The unemployment rate in rural India has been following decreasing trend during last three years. The probable reason of that rural areas got less affected by Covid – 19.

As per the definition given by ILO, the unemployment-to-population ratio is the number of persons who are unemployed as a per cent of working age population. Data are provided by school attendance status, student or not student.

Table 7: Youth Unemployment-to-Population ratio by age and school attendance status (%)

Age	Year	Total	Attending	Not attending
15-29	2010	1.8	0.4	2.3
15-29	2012	1.8	0.6	2.2
15-29	2018	2.5	0.2	3.6
15-29	2019	2.5	0.2	3.5
15-29	2020	2.8	0.1	4.0

Source: https://ilostat.ilo.org/data/

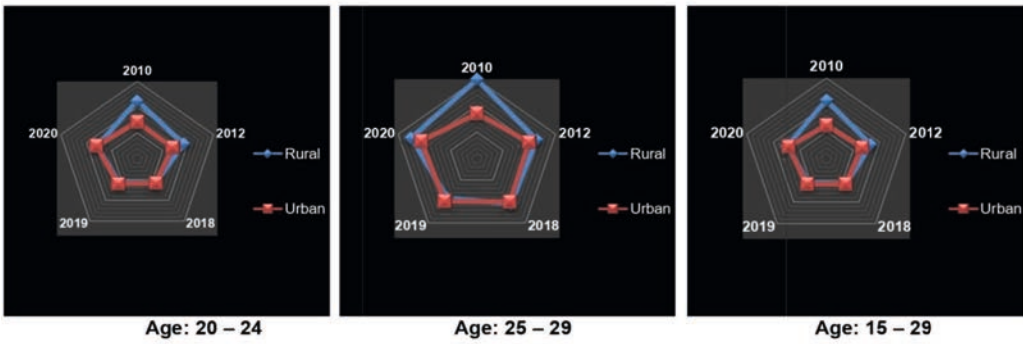
Here, 15-29 age group is considered. Among youth unemployed population under 15-29 age group, most are belonging to 'not attending' school. Total youth unemployment-to-population ratio for the same age group in India has been increased from 1.8% in 2010 to 2.8% in 2020.

As per the definition given by ILO, the employment-to-population ratio is the number of persons who are employed as a per cent of the total of the working age population.

Table 8: Youth Employment-to-Population ratio by age and domicile areas (%) - Female

Year	National	Rural	Urban	National	Rural	Urban	National	Rural	Urban
	20-24			25-29			15-29		
2010	20.0	**22.5**	**14.2**	26.2	**29.9**	**17.0**	19.1	**21.8**	**12.4**
2012	16.9	**18.3**	**14.0**	21.9	**22.8**	**19.9**	15.8	**16.8**	**13.4**
2018	11.7	**11.7**	**11.8**	20.8	**21.1**	**20.2**	11.8	**11.8**	**11.8**
2019	11.7	**11.5**	**12.1**	18.9	**18.4**	**19.9**	11.2	**11.0**	**11.8**
2020	15.8	**15.7**	**16.0**	23.9	**25.1**	**21.3**	14.7	**14.9**	**14.3**

Source: https://ilostat.ilo.org/data/



Source: Author's Own Presentation

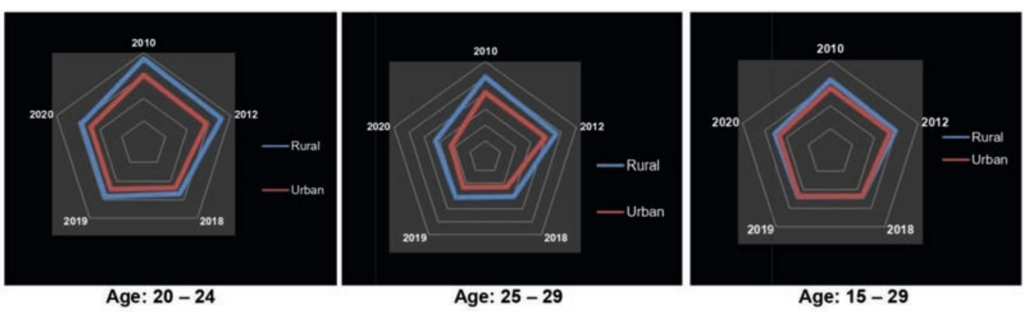
Figure 7: Allied radar diagrams to represent table – 8

The percentage of rural Indian employed women is higher than urban. India has been experienced more rural women at work than urban women during the last decade and the same pattern is found for all the youth age groups. The gap between rural and urban is more visible for the age group of 25-29. The most alarming is that youth employment of women is gradually decreasing in India. But it is also true that the number of women working in rural India is declining at a greater pace than that among women in the urban workforce. As per Table – 8, female youth employment-to-population ratio for the age group, 20-24 in rural areas has been decreased from 22.5% in 2010 to 15.7% in 2020. The same for the age group, 25-29 in rural areas has been decreased from 29.9% in 2010 to 25.1% in 2020 and for the age group, 15-29 in rural areas has been decreased from 21.8% in 2010 to 14.9% in 2020.

Table 9: Youth Employment-to-Population ratio by age and domicile areas (%) - Male

Year	National	Rural	Urban	National	Rural	Urban	National	Rural	Urban
	20-24			25-29			15-29		
2010	70.1	**74.7**	**60.4**	93.6	**95.2**	**90.3**	60.5	**62.6**	**55.6**
2012	66.9	**71.5**	**57.8**	92.2	**93.4**	**89.9**	57.8	**59.3**	**54.6**
2018	51.5	**53.5**	**47.1**	84.0	**85.2**	**81.5**	47.4	**47.5**	**46.9**
2019	53.9	**56.7**	**48.6**	84.2	**85.5**	**81.6**	47.5	**47.7**	**47.0**
2020	54.1	**56.9**	**48.5**	84.6	**86.3**	**81.2**	49.4	**50.6**	**46.7**

Source: https://ilostat.ilo.org/data/



Source: Author's Own Presentation

Figure 8: Allied radar diagrams to represent table – 9

The percentage of rural Indian employed men is higher than urban. India has always been experiencing more rural men at work than urban during the last decade and the same pattern is found for all the youth age groups. The gap between rural and urban is highly visible for the age group of 20-24. For the most alarming is that youth employment of men is also gradually decreasing in India. India has witnessed a steep fall in both men and women employment during last decade and the number of men working in rural India is declining at a greater pace than that among men in the urban workforce. As per Table 9, the male youth employment-to-population ratio for the age group 20-24 in rural areas has been decreased from 74.7% in 2010 to 56.9% in 2020. The same for the age group 25-29 in rural areas has been decreased from 95.2% in 2010 to 86.3% in 2020 and for the age group 15-29 in rural areas has been decreased from 62.6% in 2010 to 50.6% in 2020.

As per the definition given by ILO, the labour force comprises all persons of working age who furnish the supply of labour for the production of goods and services during a specified time-reference period. It refers to the sum of all persons of working age who are employed and those who are unemployed and Labour Force Participation Rate (LFPR) is defined as the percentage of population in the labour force (Ministry of Statistics & Programme Implementation. (2022).

Table 10: Female labour force participation rate -- ILO modelled estimates (%)

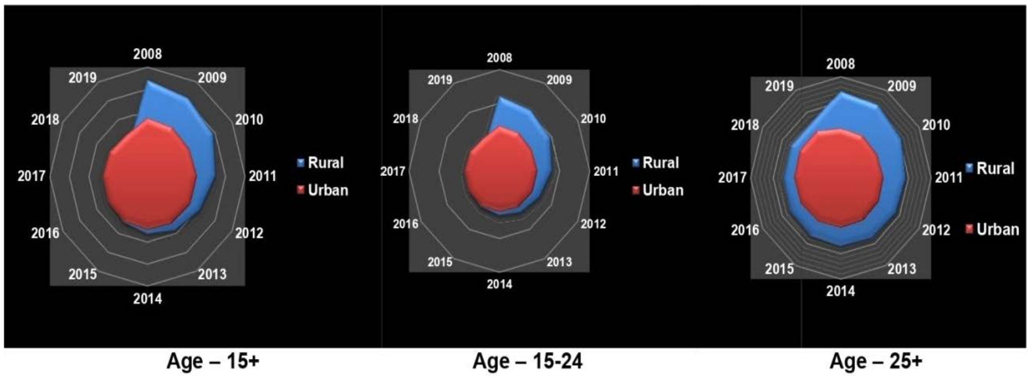
Time	National	Rural	Urban	National	Rural	Urban	National	Rural	Urban
	15+			15-24			25+		
2008	28.1	**32.0**	**18.0**	19.8	**22.2**	**13.5**	31.3	**35.7**	**19.7**
2009	27.0	**30.7**	**17.4**	18.6	**20.8**	**13.0**	30.1	**34.4**	**19.1**
2010	25.9	**29.4**	**16.9**	17.5	**19.5**	**12.5**	28.9	**33.1**	**18.5**
2011	24.4	**27.4**	**17.2**	16.1	**17.5**	**12.7**	27.4	**30.9**	**18.9**
2012	23.0	**25.4**	**17.6**	14.7	**15.6**	**12.7**	26.0	**28.9**	**19.3**
2013	22.6	**24.7**	**17.8**	13.8	**14.3**	**12.5**	25.7	**28.3**	**19.6**
2014	22.2	**24.0**	**18.0**	12.9	**13.2**	**12.2**	25.4	**27.7**	**19.9**
2015	21.8	**23.3**	**18.2**	12.1	**12.2**	**12.0**	25.1	**27.2**	**20.2**
2016	21.4	**22.7**	**18.4**	11.4	**11.2**	**11.7**	24.7	**26.6**	**20.6**
2017	21.1	**22.1**	**18.6**	10.7	**10.4**	**11.5**	24.4	**26.0**	**20.9**
2018	20.7	**21.5**	**18.9**	10.1	**9.6**	**11.3**	24.1	**25.5**	**21.2**
2019	20.8	**21.6**	**19.0**	9.8	**9.3**	**11.0**	24.3	**25.6**	**21.4**

Source: https://ilostat.ilo.org/data/

Table 11: Male labour force participation rate -- ILO modelled estimates (%)

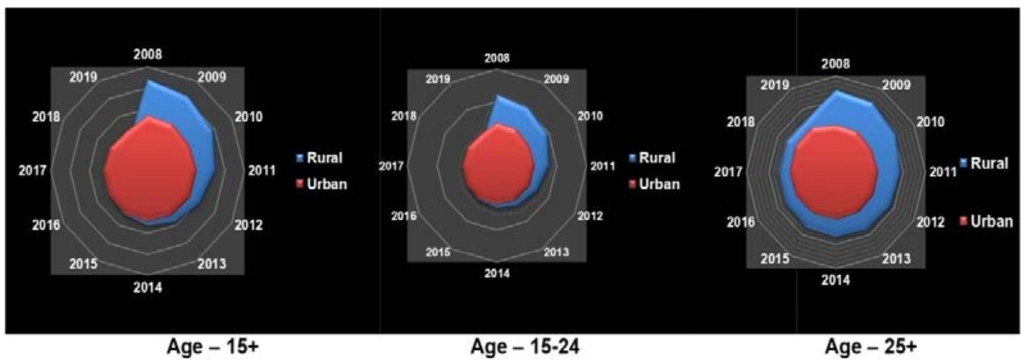
Time	National	Rural	Urban	National	Rural	Urban	National	Rural	Urban
	15+			15-24			25+		
2008	81.6	**83.4**	**77.0**	57.7	**60.6**	**50.6**	91.2	**92.6**	**87.7**
2009	81.1	**83.0**	**76.7**	55.8	**58.6**	**49.0**	91.2	**92.6**	**87.7**
2010	80.7	**82.5**	**76.3**	53.9	**56.7**	**47.3**	91.1	**92.6**	**87.6**
2011	80.3	**81.9**	**76.4**	52.2	**54.6**	**46.6**	91.0	**92.4**	**87.7**
2012	79.8	**81.3**	**76.5**	50.5	**52.5**	**45.9**	90.9	**92.2**	**87.9**
2013	79.2	**80.6**	**76.2**	49.3	**51.0**	**45.2**	90.4	**91.7**	**87.5**
2014	78.7	**79.8**	**76.0**	48.0	**49.5**	**44.5**	89.8	**91.1**	**87.1**
2015	78.1	**79.1**	**75.8**	46.8	**48.1**	**43.9**	89.3	**90.5**	**86.7**
2016	77.4	**78.3**	**75.5**	45.6	**46.6**	**43.2**	88.7	**89.8**	**86.3**
2017	76.8	**77.5**	**75.2**	44.4	**45.2**	**42.5**	88.1	**89.1**	**85.8**
2018	76.2	**76.7**	**74.9**	43.2	**43.8**	**41.8**	87.4	**88.4**	**85.3**
2019	75.9	**76.5**	**74.7**	42.4	**43.0**	**40.9**	87.2	**88.2**	**85.2**

Source: https://ilostat.ilo.org/data/



Source: Author's Own Presentation

Figure 9: Allied radar diagrams to represent table – 10



Source: Author's Own Presentation

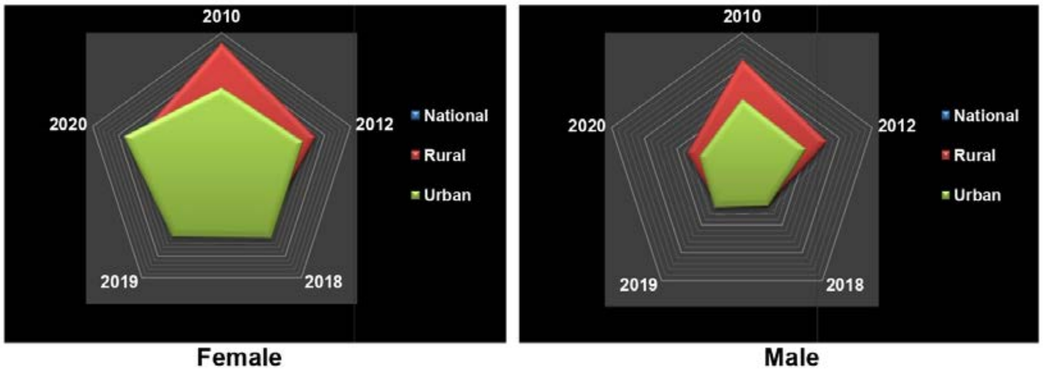
Figure 10: Allied Radar Diagrams to Represent Table – 11

Labour Force Participation Rate (LFPR) for both female and male are higher in rural than urban. LFPR decline rate is more marked for rural female and male. Table 10 shows that female LFPR for the age group 15+ in rural areas decreased from 32.0% in 2008 to 21.6% in 2019. For the age group 15 – 24, in rural areas, it is decreased from 22.2% in 2008 to 9.3% in 2019 and for the age group 25+, in rural areas, it is decreased from 35.7% in 2008 to 25.6% in 2019. As per Table 11, male LFPR for the age group 15+ in rural areas decreased from 83.4% in 2008 to 76.5% in 2019. For the age group 15 – 24, in rural areas, it is decreased from 60.6% in 2008 to 43% in 2019 and for the age group 25+, in rural areas, it is decreased from 92.6% in 2008 to 88.2% in 2019.

Table 12: Youth Labour Force Participation Rate (%) for the Age Group 15-29

Year	National	Rural	Urban	National	Rural	Urban	National	Rural	Urban
	Female			Male			Total		
2010	20.9	**23.3**	**15.0**	64.4	**66.2**	**60.4**	43.4	**45.3**	**38.9**
2012	17.5	**18.3**	**15.9**	62.1	**63.1**	**59.9**	40.5	**41.2**	**39.1**
2018	14.3	**13.6**	**15.9**	56.4	**56.3**	**56.6**	36.0	**35.7**	**36.8**
2019	13.7	**12.8**	**15.6**	56.5	**56.3**	**56.9**	35.6	**35.0**	**37.1**
2020	17.5	**16.8**	**19.0**	57.8	**58.4**	**56.6**	38.2	**38.1**	**38.5**

Source: https://ilostat.ilo.org/data/



Source: Author's Own Presentation

Figure 11: Allied Radar Diagrams to Represent Table – 12

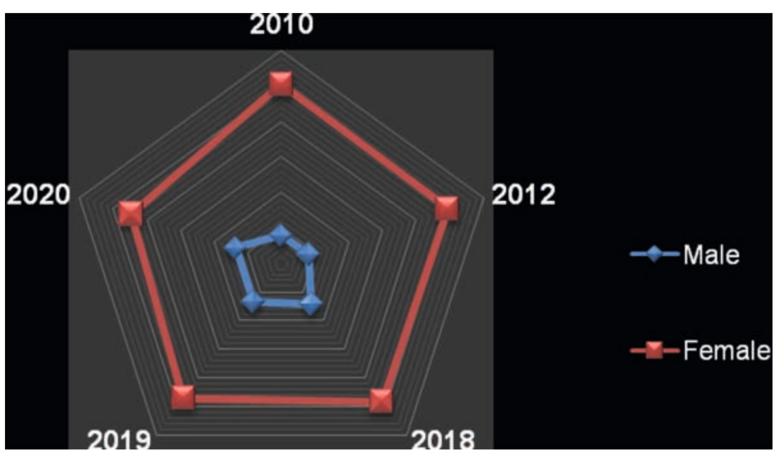
Table 12 and Figure 10 showed the LFPR for Indian youth including male and female both. Here, rural youth LFPR has been decreased remarkably. LFPR decline rate is more marked for rural youth. Female youth labour force participation rate in rural areas from 23.3% in 2010 to 12.9% in 2019 then again increased by 4% in 2020. Male youth labour force participation rate in rural areas from 66.2% in 2010 to 56.3% in 2019 then again increased by 2% in 2020.

In addition, the researcher checked the SDG indicator 8.6.1 – the proportion of youth (aged 15-24 years) not in education, employment or training (%). As per ILO definition, the share of youth not in education, employment or training (also known as 'the NEET rate') conveys the number of young person's not in education, employment or training as a percentage of the total youth population. It provides a measure of youth who are outside the educational system, not in training and not in employment, and thus serves as a broader measure of potential youth labour market entrants than youth unemployment, since it also includes young person's outside the labour force not in education or training.

Table 13: Proportion of Youth (Aged 15-24 Years) not in Education, Employment or Training (%)

Time	Total	Male	Female
2010	27.9	**7.8**	**50.4**
2012	27.5	**8.0**	**49.3**
2018	30.4	**14.3**	**48.3**
2019	29.5	**13.5**	**47.0**
2020	28.2	**13.6**	**44.5**

Source: https://ilostat.ilo.org/data/



Source: Author's Own Presentation

Figure 12: Allied Radar Diagram to Represent Table – 13

In India, 44.5% of female youth who are outside the educational system, not in training and not in employment in 2020 which was 50.4% in 2010. During the last decade, it decreased only by 6%. On the other hand, the percentage of male youth who are outside the educational system, not in training and not in employment is increased from 7.8% in 2010 to 13.6% in 2020.

Table 14: Summary of Findings

Findings	Probable Reasons
The unemployment rate for both single men and women are higher than married (Table – 3 and 4)	In India, men first make themselves employed then they get married.
Married women are more unemp loyed than married men. (Table – 3 and 4)	Factors like marriage (OECD, 2011), motherhood reduce women's probability of joining the labour force.
Rural women are less unemployed than urban. (Table – 5)	Most of these women are illiterate and engaged in agricultural work and the need for money is the only factor for women in rural areas to work. In rural India, the MGNREGA job is a lifeline for rural women.
Rural men are less unemployed than urban (Table – 6)	Most of these men are illiterate agricultura l labourers and they need money. In rural India, the MGNREGA job is a lifeline for rural men also (Chahal & Kumar, 2020).
The unemployment rate in rural Indi a has been following a remarkable decreasing tre nd during the last three years. (Table – 5 & 6) Youth employment of women is gradually decreasing in India. (Table – 8 & 9) Rural youth LFPR has been decreased remarkably. LFPR decline rate is more marked for rural youth. (Table – 12) LFPR decline rate ismore marked for rural female and male. (Table – 10 & 11). For SDG 8, the UN estimates that incomes of informal employment and migrant workers have fallen by 60% globally ***(UN, 2020)***.	Formalisation of work. The mechanisation of agricultural work. Better edu cation always increases employment for rural women – It's not true (Salve, 2019). Covid – 19 Pandemic is partly responsible. In the Asia and Pacific region, the lack of decent work opportunities for young people in the pre-COVID-19 period is evident ***(ILO, 2020, p.4 and p.7; UNESCO, 2021, p.12)***. Now, young girls opting to continue their edu cation rather than join the labour force early. Less non-agricultural employment in the rural areas.
Youth unemployed po pulation under 15-29 age group, are not serious about their school education. (Table – 7)	They need money for their family, specifically, low-income class population.
The p ercentage of Indian employed men and women is higher in rural areas than urban. (Table – 8 & 9) In India, rural youth (both men a nd women) are more employed than urban. (Table – 8 & 9) LFPR for both female and male are higher in r ural than urban. (Table – 10 & 11)	The scope of unskilled or semi-skilled jobs is higher in rural areas. They need money for their family, specifically, lo w income class population. Rural youth are becoming more familiar with physical jobs.

CONCLUSION

Based on the findings above, it is possible to conclude that the improvement in employment and labour force participation rates in India over the last decade has been insufficient. The recent decline in labour force participation and employment is largely due to the COVID-19 Pandemic. To achieve the target of SDG-8, i.e., to foster economic growth and decent work, the government of India should give more importance to the empowerment of women, which is aligned with SDG-5. The Indian government has already undertaken some programmes and policies which are closely aligned to the SDG priorities.

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REFERENCES

Bangera, S. & Gandhi, U.P. (2021). A study on progress of sustainable development goals by India. *Conference Paper*. https://www.researchgate.net/publication/351156000.

Chahal, M., & Kumar, P. (2020). Impact of Mgnrega on Employment Generation in Haryana. *Journal of Economic Policy and Research, 16*(1), 56-63.

Comyn, P. J. (2018). Skills, employability and lifelong learning in the Sustainable Development Goals and the 2030 labour market. *International Journal of Training Research,16*(3), 200-217. https://doi.org/10.1080/14480220.2018.1576311

Frey, D. F. (2017). Economic growth, full employment and decent work: The means and ends in SDG 8. *The International Journal of Human Rights, 21*(8), 1164-1184. https://doi.org/10.1080/13642987.2017.1348709

International Labour Office. (2017). *World Employment and Social Outlook – Trends 2017* Research Department. https://www.ilo.org/global/research/global-reports/weso/2017/lang--en/index.htm

International Labour Organization. (2020). ILO Monitor: COVID-19 and the World of Work. *Updated Estimates and Analysis*. Int Labour Organ.

Ministry of Statistics & Programme Implementation. (6th May, 2022). *Periodic Labour Force Survey (PLFS) – Quarterly Bulletin [October-December 2021]*. https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1823289

NITI Aayog (2020). *SDG India index & dashboard 2019-20*. https://www.niti.gov.in/sites/default/files/SDG-India-Index-2.0_27-Dec.pdf

OECD. (2011). Doing Better for Families. Chapter - 1: Families are changing. pp.17-53. https://www.oecd.org/els/family/47701118.pdf

Papola, T. S. (2013). Employment growth during the post-reform period. *Indian Journal of Labour Economics, 56*(1).

Sachs, J., Kroll, C., Lafortune, G., Fuller, G., & Woelm, F. (2021). *Sustainable development report 2021*. Cambridge University Press.

Salve, P. (2019). Why Rural Women Are Falling Out of India's Workforce at Faster Rates Than Urban Women, India Spend. https://www. catalyst. org/research/women-in-the-workforce-india.

Sharma, H. P., & Chaturvedi, A. (2020). The performance of India in the achievement of sustainable development Goals: A way forward. *International Journal of Modern Agriculture, 9*(4), 1496-1505.

Sudhakar, P., Kumar, N. B. K., & Padmavathi, A (2012). A study on employment trends in India. *Global Advanced Research Journal of Management and Business Studies. 1*(6),173-180.

UNESCO. (2021). Situation Analysis on the Effects of and Responses to COVID-19 on the Education Sector in South Asia. https://www.unicef.org/rosa/media/16451/file/Situation%20Analysis%20Report%20-%20South%20Asia.pdf

United Nations (UN). (2020). The Sustainable Development Goals Report, 2020. https://unstats.un.org/sdgs/report/2020/The-Sustainable-Development-Goals-Report-2020.pdf

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Effect of Covid 19 Outbreak on Hospitality Sector Stock Prices of top two Asian Tourist Destination Countries: A Beta Stationarity Methodology

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ABSTRACT

The COVID-19 pandemic has brought about an unthought of catastrophe to all aspects of life and has halted social, political, economic, religious, academic, and all other activities. The hospitality sector is one of the worst affected. This novel study investigates whether the COVID-19 outbreak has significantly changed the hospitality stock index sensitivity of the top two Asian tourist destinations. Outcome states that the COVID-19 outbreak has adversely affected the hospitality sector's stock volatility. However, while two countries displayed a significant increase in riskiness, the beta of China remained stationary while that of Turkey was stationary. Also, a regressor trend in beta was observed for four of five countries. Finally, the study further brings out that information absorption due to the pandemic was triggered at different points of time for different countries. This study attempts to enquire into the nature of stationarity of beta of hospitality industry securities and also assess the extent of additional impact on the hospitality industry stocks because of the COVID-19 outbreak, if any.

Keywords: *Covid-19; Hospitality; Volatility; Beta; Stationarity*

INTRODUCTION

Humanity is facing an unprecedented health crisis. The COVID-19 pandemic, also known as the coronavirus pandemic, has staggered life, the economy, employment, education, and society like never before.

As tumbling stock markets indicate growing fears about the potential economic impact of the coronavirus, the IGM Forum at Chicago Booth invited its panel of leading economists in the US and Europe, which concluded that of all the industries, the hospitality industry is and will continue to remain the hardest hit (UNWTO, 2020). Amongst the initial steps for preventing the spread of viruses, apart from basic hygiene measures of sanitation and social distancing, another crucial step most countries have taken is a ban or restrictions on travel, both international and domestic.

As for research work on the hospitality, tourism, travel, and leisure industries, much work has already been done on the current state of affairs of these industries and the impact that they are facing due to lockdowns and restrictions (Hoque *et al*., 2020; Zhanga, Hu & Ji, 2020; Chinazzi *et al.*, 2020a; Kasare, 2020).

However, we could not find any work on the impact of COVID-19 on the'stocks' of the hospitality, tourism, travel, and leisure industries. Although the common belief is that due to the sudden slowdown/lockdown of the activities of the hospitality, tourism, travel, and leisure industries, their stocks are also witnessing a sharp decline in prices, there is no research to support this view. There is an urgent necessity for research to examine the impact of this pandemic and its handling mechanism on the financial performance of hospitality, tourism, travel, and leisure industry stocks. The magnitude of the known adverse impact on hospitality-related industries needs to be assessed and quantified on the basis of stock market reactions since investors in hospitality, tourism, travel, and leisure stocks are an extremely important stakeholder in the hospitality industry and investor sentiment is a significant driver of stock markets (Verma & Soydemir, 2006). Given the current situation, a crucial question is what the extent of this impact has been and whether this impact has altered the fundamental nature or the degree of riskiness of the hospitality stocks.

Hospitality stocks are presumed to be riskier than other categories of stocks (Park, 2013). Owing to this, the extent of the fall in the prices of hospitality stocks is expected to be more than the extent of the fall in the prices of the overall market index. This observation is expected to hold true for any emergency, be it COVID-19 or any other crisis. However, if due to the outbreak of COVID-19, the riskiness of the tourism stocks changes (increases or decreases), then the change in prices of hospitality stocks would be significantly different than expected (higher or lower). An assessment of the impact of the COVID-19 pandemic on the hospitality industry is necessary to not only understand the nature and extent of the impact but also to gain key insights regarding the path to recovery.

The term "riskiness" mostly refers to market-related risk. The most common measure of this is the beta coefficient (Sharpe, 2018; Babcock, 1972; Jagannathan & Wang, 2002). Conceptually speaking, beta is a measure of the percentage price change of a stock or portfolio given a one per cent change in the market index (Levy, 1971). Beta is widely used in financial analysis and investment decision-making. Various empirical tests on the assessment of financial models and their applications to investment decisions rely to a significant extent on the stationarity of volatility measurements. Hence, the usefulness of such models depends largely on the realization of the stationarity of beta. Because if beta is non-stationary, then beta should be adjusted for its "regression tendencies" and for expected market trends to correctly reflect its non-stationary properties (Gooding & O'Malley, 1977).

An analysis of the existing literature on beta stationarity does not reveal any work focused on industry specific beta analysis. All of the research focuses on the beta of diversified portfolios and/or the beta of individual securities. The findings of this research work are essentially skewed towards the existence of strong evidence of stationarity of portfolio beta across different market phases (bear, bull, and neutral). Regarding the stationarity of beta of individual securities, there is mixed evidence. Another prominent finding is that the beta of high-risk and low-risk portfolios has a tendency to regress to their average value (s) with time.

Research objectives

The purpose of this study was to explore the multi-faceted effects that the coronavirus pandemic had and is having on various sectors of the economy. We have especially looked into the hospitality sector by focusing on the top two tourist destinations in Asia and assessing the stock price reactions in the hospitality industry of these two countries. We specifically assess whether there has been any significant change in the sensitivity (i.e., riskiness) of the hospitality, tourism, travel, and leisure stocks of the two Asian countries that are among the world's top international tourist destinations as a result of the COVID-19 outbreak.

However, instead of assessing the beta stationarity of individual hospitality stocks, we have assessed the beta stationarity of the hospitality index (which can be considered as a portfolio of hospitality stocks). We have chosen two Asian tourist destinations (on the basis of international tourist arrivals) in the world (World Tourism Organization, 2016), namely China and Turkey. Also, since the national stock exchanges of these countries have travel and tourism indices, that would be an appropriate basis of comparison with an overall market index. In addition, these two countries are within the top 20 worst affected countries due to the COVID-19 outbreak as per the total number of affected cases (Worldometer, 2020).

Research questions

This study has clearly investigated the impact of Covid-19 outbreak on the different aspects of living and economy. It has also studied the sensitivity of hospitality, tourism, travel and leisure stock indices of the top two tourist destinations of Asia that are also the most affected by Covid-19 pandemic. Based on the above-mentioned scope, our paper tried to answer the following research questions:

- ***How the different sections of existence were affected due to Covid 19?***
- ***Was the stationarity of the beta of the hospitality index for selected top two Asian tourist destination countries impacted due to Covid 19 pandemic?***
- ***Were the time points of impact on hospitality stocks same across both the countries selected?***
- ***Do any of the key events signalling Covid-19 outbreak lead to any structural breaks in the relationship between hospitality index and market index returns.***

This study is expected to be exemplary in nature, since this work, to the best of our understanding, is a novel attempt in performing an enquiry into the nature of stationarity of beta of hospitality industry securities.

Effect of Covid-19 outbreak on the hospitality sector

A quick analysis of the movement in hospitality indices for 2020 of two top Asian tourist destination (China and Turkey), two top European destinations(Italy and Spain) and the most travelled USA it was observed that Turkey showed a 50% annualised growth while China registered a modest 2% annualised loss. United States registered the second lowest drop in returns i.e. -22% while the two European countries, Italy and Spain, listed significant drop in returns: -58% and -70% respectively. (See Table 1 below)

The relative rankings of these five countries regarding returns generated by the hospitality indices in 2019 had been a bit different compared to 2019. Although Turkey had been the top performing country (much like 2020), Italy was the second-best performing country followed by China, Spain and United States. (See Table 2 below)

Table 1: Annualized Returns of Hospitality and corresponding Broad-Based Market Indices for 2020

SL No	Country	Continent	CAGR (Hospitality Index)	CAGR (Market Index)
1	Spain	Europe	-70%	-39%
2	United States	North America	-22%	-13%
3	China	Asia	-2%	3%
4	Italy	Europe	-58%	-31%
5	Turkey	Asia	50%	-9%

Source: https://www.investing.com/

Table 2: Annualized Returns of Hospitality and corresponding Broad-Based Market Indices for 2019

SL No	Country	Continent	CAGR (Hospitality Index)	CAGR (Market Index)
1	Spain	Europe	18%	12%
2	United States	North America	16%	26%
3	China	Asia	20%	17%
4	Italy	Europe	25%	28%
5	Turkey	Asia	77%	31%

Source: https://www.investing.com/

From the perspective of returns generated by the hospitality indices, Asian countries were the least affected and European countries the worst affected due to the COVID-19 outbreak. We have studied the beta stationarity of hospitality stocks in the Asian countries (in terms of returns generated) during this period, in the expectation of deriving valuable insights regarding whether the extent of the impact of the COVID-19 outbreak was similar or different for the overall market vis-à-vis the hospitality industry for the Asian countries. Also, since the hospitality sector is perceived to be more volatile (i.e., high-risk investment), it will be interesting to observe whether the regression tendency in betas, as was evident in the studies for diversified portfolios, also holds true for hospitality stocks/portfolios during the period of study.

METHODOLOGY

Sample period considered

This study has been conducted for the period 1 January 2019 to 5 Jun 2020. The first nine months and next three months of calendar year 2019 has been regarded as base period and pre Covid-19 period respectively. Two trigger points regarding outbreak of Covid-19 have been considered:

- Reporting of Covid-19 by China to WHO China office and
- Declaration of Cobid-19 as a pandemic by WHO.

Accordingly, for performing the analysis, the overall time period of study has been divided into four distinct stages (See Table 3 below).

Table 3: Sample Period and different Stages considered in the Study

Stage	Time Period	Details
Stage 0	1st Jan 2019 – 30th Sep 2019	9 months period prior to Stage 1
Stage1	1st Oct 2019 – 31st Dec 2019	3 months period immediately prior to reporting of COVID-19 by China to WHO, China
Stage2	1st Jan 2020 – 11th Mar 2020	2.5 months period between China reporting to WHO and WHO declaring COVID-19 as a pandemic
Stage3	12th Mar 2020 – 5th Jun 2020	3 months period post WHO declaring COVID-19 as a pandemic

Data sources and sample details

The United Nations World Tourism Organization compiles the World Tourism rankings as part of their World Tourism Barometer publication. Information regarding the hospitality index was found for 5 countries. The data for this was obtained from investing.in. Since the analysis had to be done in the context of COVID-19 incidence, it was also necessary to check the degree of impact of COVID-19 on these shortlisted countries. Information regarding the country-wise impact of COVID-19 was sourced from Worldometer (n.d.). The daily closing prices of the hospitality index and the broad-based market index were collected from Tables 4 and 5 below.

Table 4: Ranking of the shortlisted countries regarding International tourist arrivals and the impact of Covid-19 pandemic

Sl No	Country	Tourism Statistics		Coronavirus Statistics			
		Rank (2018)	Rank (2017)	Rank (Total Cases)	Rank (Total Cases/1M Pop)	Rank (Total Death)	Rank (Total Death/1M Pop)
1	China	4	4	18	178	18d	134
2	Turkey	6	7	11	52	16	41

Data as on 7th June 2020.
Sources: https://www.worldometers.info/coronavirus/

Table 5: Country wise listing of the indices considered for analysis under this study

Sl No	Country	Hospitality Index	Broad-Based Market Index
1	China	FTSE China A 600 - Travel & Leisure	Shanghai Composite
2	Italy	FTSE Italia All Share Travel & Leisure	FTSE Italia All Share

Data as on 7 June 2020.
Source: https://www.investing.com

The daily closing prices were used for calculating the daily returns for both the hospitality index and the broad-based market index. The formulae used for the same was as follows:

$$R_t = LN\left(\frac{P_t}{P_{t-1}}\right)$$

Where R_t = Returns of the index on trading day t

P_t = Closing Price of the index on trading day t

P_{t-1} = Closing Price of the index on the trading day prior to day t

The daily closing returns of the hospitality index and the broad-based market index were first checked for stationarity based on the following criteria:

- Augmented Dickey Fuller test
- Lag order: 16
- Criterion: AIC
- Equation type: Test without constant
- Test statistic: Tau

Note: The daily closing returns of the hospitality index and the broad-based market index were found to be stationary for all the countries studied.

Thereafter, closing returns for each day of the hospitality index were regressed on the broad-based market index with the OLS method (for the overall time period of study) to determine the linear relationship between these two variables. For this, the initial form of equation considered was as follows:

$$E(r)_{HI_t} = \alpha + \beta \times E(r)_{MI_t} + \varepsilon$$

Where $E(r)_{HI_t}$ = Expected daily returns of the hospitality index on trading day t

α = Intercept i.e. Trend

β = Beta of the hospitality index

$E(r)_{MI_t}$ = Expected daily returns of the broad-based market index on trading day t

ε = Error term

The validity of the regression model, as derived above, was evaluated based on the following criteria:

1 No autocorrelation between the residuals

- Breusch-Godfrey test for autocorrelation
- Lag order: 5
- Test statistic: LM

2 No heteroscedasticity of the residuals

- Breusch-Pagan test for heteroscedasticity (robust variant)
- Test statistic: LM

For validation of regression model, we did not consider the test for normality of residuals because of the following reasons:

- It has been empirically observed that data on stock returns seldom follow normal distribution
- The sample size was significantly large in size (more than 350 paired data points)
- The test for fixed variance of residuals was instead considered

If either of the above two criteria were not satisfied, then the regression model was modified by adding lagged regressors. The autocorrelation and partial autocorrelation plots of the daily closing returns of the hospitality index and the broad-based market index were considered for identifying the lags to be included in the model. The optimum regression model was determined on trial and error approach based on the statistical significance of the coefficients of the lagged regressors added to the model.

Once a valid regression model was determined, the model was rebuilt by removing all regressors (including intercept) whose coefficients were statistically not different than zero.

Then the beta stationarity of the hospitality index was evaluated based on the following criteria:

- Chow test for structural break
- Test statistic: F
- Structural break was studied at the beginning of each of stages 1, 2 and 3
  - a Stage1: 1st Oct 2019 or next available trading day
  - b Stage2: 2nd Jan 2020 or next available trading day
  - c Stage3: 12th Mar 2020 or next available trading day

Absence of structural break in the overall data set meant stationarity of beta of the hospitality index thereby suggesting that spread of Covid-19 did not have any significant impact on the sensitivity of the hospitality index (and stocks) of that particular country.

On the contrary, presence of structural break indicated non stationarity of beta of the hospitality index which, as per the design of the study, could be attributed to the spread of Covid-19 in that particular country.

For countries, where beta was found to be non-stationary, we did a comparative analysis of the beta values for the pre and post Covid-19 incidence to assess the nature and extent of change in the sensitivity of the hospitality indices.

RESULTS

China

Summary Statistics:

Table 6: Summary statistics of the daily returns of the hospitality index and the broad-based market index for the overall time period of study (China)

	Mean	Median	Minimum	Maximum	SD	Correlation with Market
Market Index	0.050135	0.067411	-8.0391	5.4493	1.2429	1.0000
Hospitality Index	0.060422	0.058058	-10.498	5.2983	1.7308	0.8015

Interpretation:

- The hospitality index demonstrated higher volatility and higher returns compared to the broad-based market index.

- The average daily returns for the broad-based market index as well as the hospitality index were both positive.
- The daily returns of the hospitality index were strongly positively correlated with the daily returns of the broad-based market index.

FINDINGS

The finalized regression model was as follows:

$$E(r)_{FTL_t} = 1.11 \times E(r)_{SC_t} + \varepsilon$$

Where, $E(r)_{FTL_t}$ = Expected daily return of FTSE China A 600 - Travel & Leisure Index on trading day t

$E(r)_{SC_t}$ = Expected daily return of Shanghai Composite Index on trading day t and

ε = Error term

The Chow (1960) test revealed no structural break at beginning of any of the three stages. This was also validated when the finalized regression model was re-run using periodic dummy variables.

(See Figure 1 below)

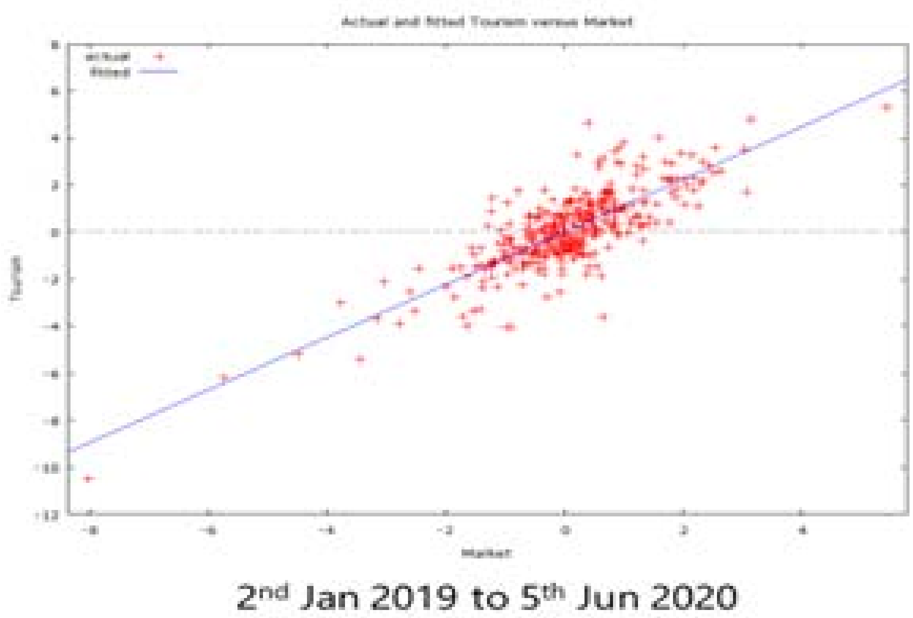


Figure 1: Time Series Plot of returns of Hospitality Index (Tourism) and broad-based Market Index (Market) – both actual and predicted values (China)

Interpretation:

- Beta was stationary for the overall time period of study.
- There was no significant change in the sensitivity of the hospitality index (vis-à-vis hospitality stocks) to market movements due to incidence of Covid-19.

Turkey

Summary Statistics:

Table 7: Summary statistics of the daily returns of the hospitality index and the broad-based market index for the overall time period of study (Turkey).

	Mean	**Median**	**Minimum**	**Maximum**	**SD**	**Correlation with Market**
Market Index	0.060158	0.15242	-8.4160	5.8104	1.5422	1.0000
Hospitality Index	0.21150	0.36487	-15.746	8.0420	2.5215	0.6883

Interpretation:

- The hospitality index demonstrated higher volatility and higher returns compared to the broad-based market index.
- The average daily returns for the broad-based market index as well as the hospitality index were both positive.
- The daily returns of the hospitality index were positively correlated with the daily returns of the broad-based market index.

Findings:

The finalized regression model was as follows:

$$E(\bar{r})_{BT_t} = 1.10 \times E(r)_{B100_t} + 0.12 \times E(r)_{BT_{t-1}} + \ 0.11 \times E(r)_{BT_{t-3}} + \ \varepsilon$$

Where, $E(r)_{BT_t}$ = Expected daily return of BIST Tourism Index at time period t

$E(r)_{B100_t}$ = Expected daily return of BIST 100 Index on trading day t

$E(r)_{BT_{t-1}}$ = Expected daily return of BIST Tourism Index on trading day t-1

$E(r)_{BT_{t-3}}$ = Expected daily return of BIST Tourism Index on trading day t-3 and

ε = Error term

The Chow (1960) test revealed structural breaks at beginning of all the three stages. Based on statistical significance of coefficients of periodic dummy variables, Stage3 was identified to have a significant impact on the overall relationship.

Hence, the regression model for pre Covid-19 incidence was as follows:

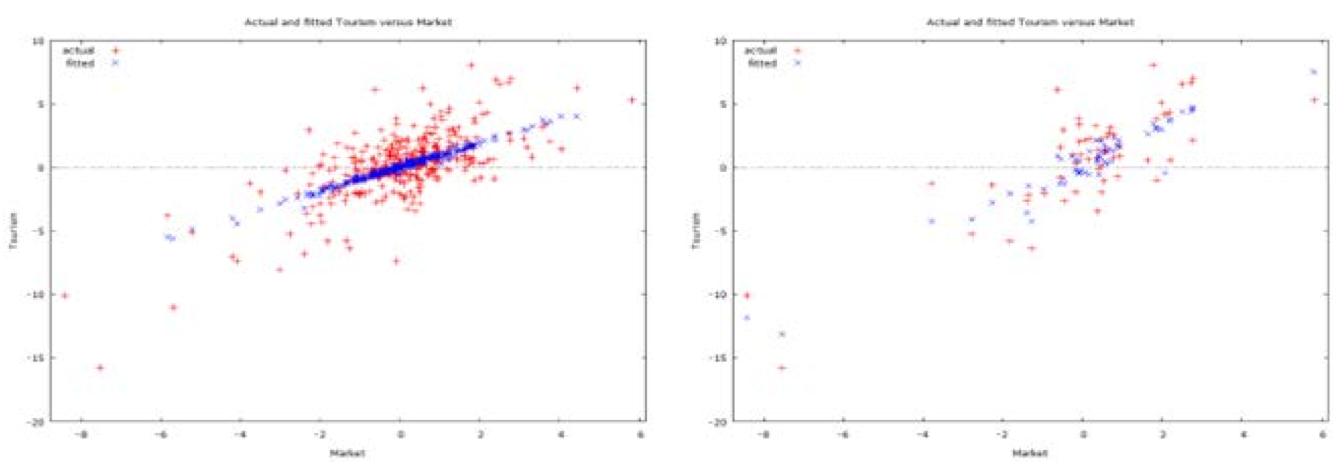
$$E(r)_{BT_t} = 0.94 \times E(r)_{B100_t} + 0.08 \times E(r)_{BT_{t-1}} + \varepsilon$$

Where, time period considered was 8 Jan 2019 to 11 Mar 2020

In addition, the regression model for post Covid-19 incidence was as follows:

$$E(r)_{BT_t} = 1.52 \times E(r)_{B100_t} + 0.22 \times E(r)_{BT_{t-1}} + \varepsilon$$

Where, time period considered was 12 Mar 2020 to 5 Jun 2020



8th Jan 2019 to 11th Mar 2020 12th Mar 2019 to 5th Jun 2020

Figure 2: Time Series Plot of returns of Hospitality Index (Tourism) and broad-based Market Index (Market) – both actual and predicted values (Turkey).

Interpretation:

- Beta was not stationary for the overall time period of study.
- There was a structural break in the relationship between daily returns of the hospitality index and the broad-based market index after WHO declared COVID-19 as a pandemic.
- Post incidence of Covid-19, there was a significant rise (62%) in the beta value for the hospitality index thereby indicating increase in sensitivity of hospitality stocks to market movements.

Regressory trend of observed beta values

Irrespective of the fact, whether beta of the countries studied were stationary or not, the following two trends were strongly evident for beta of the hospitality indices of each country studied:

- Beta for both countries displayed an upward trend across all the four stages studied
- Beta for Turkey showed a regressory trend across all the four stages studied

(See Table 8 below)

Table 8: Beta of hospitality indices for each country over the total period studied and each individual stage

Country	Total Period	Stage 0	Stage 1	Stage 2	Stage 3
China	1.11626	1.04716	1.07539	1.12358	1.3845
Turkey	1.11638	0.54552	0.954493	1.75223	1.52055

Overall Analysis

Beta remained stationary for China. This signified that the drop in prices of the hospitality index and stocks for China was in line with the drop in prices for the overall securities market as triggered by Covid-19 pandemic outbreak.

However, there was a significant change in beta of the hospitality index for Turkey. For Turkey beta values increased significantly (62%) respectively. Further, for Turkey the declaration of the disease as a pandemic by WHO triggered a shift from the existing beta.

DISCUSSION

A study evaluated the distribution and stationarity of beta coefficients for 500 common stocks across bear, bull, and neutral market periods. The evidence indicated that beta was remarkably stationary for large portfolios, less stationary for smaller portfolios, and unpredictable for individual securities (Levy, 1971).

Another study demonstrated that estimated beta coefficients tend to regress towards the grand mean of all betas over time (Blume, 1975). Blume also demonstrated that though measurement error existed, it did not significantly influence the stationarity/ non-stationarity nature of betas.

Gooding and Malley (1977) examined the stationarity of beta coefficients in up-markets, down-markets, and markets of negligible change. Their findings revealed that the betas for individual securities were higher during the two bull markets than they were during the two bear markets.

In the same year, in another study, Fabozzi and Francis (1977) assessed the stationarity of alpha and beta for individual stocks across both bull and bear markets by using dummy variables. Their findings revealed that neither alpha nor beta is significantly different between bear and bull markets.

In 1978, Bey re-assessed beta stationarity by using statistical techniques that addressed the shortcomings of the techniques used in the previous studies. He commented that the time trending tests showed that the betas of the extremely low (high) risk portfolios became larger (smaller) over time.

Hsu in his 1984 paper showed shifts in market return and instability of the single-index beta coefficient. He concluded that stock market risk is evolutionary and not stationary.

Simon, Pagini, and Decourt (2002) performed correlation studies between 52-week betas and the following 52-week betas of selected Brazilian publicly traded companies and found little to no evidence of strong correlation, either for individual stocks or industry portfolios. They concluded that their evidence pointed to a very low level of stationarity in the beta coefficients of companies.

Dash and Sundarka (2015) tested the stationarity of beta for Automotive and Auto-Ancillary sector stocks in the Indian stock market using a univariate ANCOVA/General Linear Model. The results of their study supported the hypothesis of beta stationarity.

COVID-19 has severely impacted the global economy and becomes the most critical challenge for any country worldwide. Investors in the hospitality industry who wish to better deploy their assets should make predictions based on variations of the COVID-19 outbreak for better accuracy (Lee, Lee & Wu, 2021). So, it is seen that Coronavirus disease (COVID-19) has affected the economy and has caused increasing uncertainty in stock markets of China and Turkey. Therefore, knowledge of present beta stationarity methodology can enable policymakers to evaluate and implement effective policies to stabilize the stock markets and help investors to make appropriate investment strategies.

Limitations

In spite of a holistic research design, there are certain open areas that could not be addresses as part of the current research scope:

- In this study, only a linear relationship between the daily returns of hospitality index and the broad-based market index was considered.
- In addition, this study did not consider presence of any other economic event(s) that simultaneously affected the stationarity of beta of the hospitality industry for the time period studied.

CONCLUSION

From the perspective of returns, an interesting observation has been that tourism stocks of Asian countries had limited to no fall in prices in 2020. However, the results strongly indicate that Covid-19 outbreak has adversely affected the hospitality sector stocks volatility. Across the countries studied, this has either led to shifts in volatility (beta values trending upwards without change in beta stationarity) signifying temporary departures from existing volatility levels or change in volatility (change in beta stationarity with upward rise) signifying permanent departures from existing volatility levels. A higher beta may aid in generating higher returns and achieving faster recovery, but the investors' perception towards these stocks are bound to alter given the dynamics of change, which will influence demand and supply of this stocks that in turn will influence the recovery trend of these stocks. Needless to mention that would be an interesting area of further research.

The study also revealed that absorption of information regarding Covid-19 outbreak in the hospitality share prices was triggered at different points of time in different countries. No country experienced price adjustment on a priori basis; it was either announcement of Covid-19 cases by China or declaration of Covid-19 as a pandemic that triggered the price adjustments, with the second one being more pertinent as per the findings of the study.

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REFERENCES

Babcock, G. C. (1972). A note on justifying beta as a measure of risk. *The Journal of Finance, 27*(3), 699-702.

Bey, R. P., & Jahankhani, A. (1978). The stationarity of beta: a re-examination of recent findings/BEBR No. 467. *Faculty working papers; no. 467*.

Blume, M. E. (1975). Betas and their regression tendencies. *The Journal of Finance, 30*(3), 785-795.

Chinazzi, M., Davis, J. T., Ajelli, M., Gioannini, C., Litvinova, M., Merler, S., ... & Vespignani, A. (2020a). The effect of travel restrictions on the spread of the 2019 novel coronavirus (COVID-19) outbreak. *Science, 368*(6489), 395-400.

Chow, G. C. (1960). Tests of equality between sets of coefficients in two linear regressions. Econometrica: *Journal of the Econometric Society,* 591-605.

Dash, M., & Sundarka, S. S. (2015). Testing the stationarity of beta for automotive and auto-ancillary sector stocks in Indian stock market. *Journal of Applied Management and Investments, 4*(2), 76-81.

Fabozzi, F. J., & Francis, J. C. (1977). Stability tests for alphas and betas over bull and bear market conditions. *The Journal of Finance, 32*(4), 1093-1099.

Gooding, A. E., & O'Malley, T. P. (1977). Market phase and the stationarity of beta. *Journal of Financial and Quantitative Analysis, 12*(5), 833-857.

Hoque, A., Shikha, F. A., Hasanat, M. W., Arif, I., & Hamid, D. A. (2020). The Effect of Coronavirus (COVID-19) in the Tourism Industry in China. *Asian Journal of Multidisciplinary Studies*.

Hsu, D. A. (1984). The behavior of stock returns: is it stationary or evolutionary?. *Journal of Financial and Quantitative Analysis, 19*(1), 11-28.

Investing.com (n.d.). https://www.investing.com

Jagannathan, R., & Wang, Z. (2002). Empirical evaluation of asset-pricing models: a comparison of the SDF and beta methods. *The Journal of Finance, 57*(5), 2337-2367.

Kasare, K. S. (2020). Effects of coronavirus disease (COVID-19) on Tourism Industry of India. *Studies in Indian Place Names, 40*(35), 362-365.

Lee, C. C., Lee, C. C., & Wu, Y. (2021). The impact of COVID-19 pandemic on hospitality stock returns in China. *International Journal of Finance & Economics.*

Levy, R. A. (1971). On the short-term stationarity of beta coefficients. *Financial Analysts Journal, 27*(6), 55-62.

Park, J. H. (2013). Calendar effect: Do investors overreact to the seasonality of the US hotel Industry?. *International Journal of Tourism Sciences, 13*(1), 80-102.

Sharpe, W. F. (31st Decemeber, 2018). Risk, Market Sensitivity and Diversification. *Financial Analysts Journal,* 74-79. doi:https://doi.org/10.2469/faj.v28.n1.74

Simon, D. S., Pagini, M. L., & Decourt, R. F. (2002). An analisys of the beta coefficient's stationarity regarding brazilian public companies traded between 2002 and 2011.

UNWTO. (2020). Impact assessment of the COVID-19 outbreak on international tourism. *World Tourism Organization*.

Verma, R., & Soydemir, G. (2006). The impact of US individual and institutional investor sentiment on foreign stock markets. *The Journal of Behavioral Finance, 7*(3), 128-144. https://doi.org/10.1207/s15427579jpfm0703_2

World Tourism Organization. (2016). UNWTO World Tourism Barometer and Statistical Annex. https://www.unwto.org/global/publication/unwto-world-tourism-barometer-and-statistical-annex-november-2018

Worldometer. (8th June, 2020). Covid-19 coronavirus pandemic. https://www.worldometers.info/coronavirus/

Worldometer. (n.d.). https://www.worldometers.info/coronavirus/

Zhanga, D., Hu, M., & Ji, Q. (2020 April, 16). Financial markets under the global pandemic of COVID-19. *Finance Research Letters*. doi:https://doi.org/10.1016/j.frl.2020.101528Get

doi: 10.31674/book.2022sseg.024

Healthcare System of India and the Covid-19 Pandemic: A Study on the Challenges and Road Map Ahead

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ABSTRACT

The world is currently experiencing the Covid-19 pandemic in more than 200 countries and territories all over the globe. India is one of the worst-hit countries by this pandemic. The healthcare sector is one of the worst affected by this pandemic. The lack of protective equipment, including N95 face masks, sanitizers and poor sanitizing process, poor medical facilities, shortage of ICU beds and ventilators, and excessive healthcare costs have made the situation more dangerous and revealed the weakness in our healthcare system. Low investment in the public healthcare sector creates a challenge for India's COVID-19 containment strategy. A huge variation in the healthcare system can also be found across the different states in India. These variations create challenges for the country's disease containment strategy. Though a well-structured health care system and well-established infrastructure are needed to counter this pandemic, India is far behind compared to the other developed and developing countries. However, new opportunities have evolved for India to develop newer drugs and vaccines to stand against this pandemic.

Keywords: *Global Emergency; Healthcare; Health Insurance; Pandemic; WHO*

INTRODUCTION

Now the whole world is witnessing the devastating effect of the COVID-19 pandemic. The World Health Organization (WHO) has declared the Covid-19 outbreak as a global emergency on January 30, 2020. According to WHO, 43.73 crores of confirmed cases and 59.61 lakhs of deaths were reported to WHO as of March 2, 2022. The situation has led to an economic crisis and recession worldwide. India is the worst-hit country in this pandemic. As declared by the Ministry of Health and Family Welfare (MoHFW), Government of India, over 4.29 crore confirmed cases and 5.14 lakh deaths have been registered as of March 2nd, 2022. In response to this epidemic, the government has imposed travel restrictions, border shutdowns, and quarantine to mitigate the spread of the pandemic. But these actions had a negative impact on the economy and also caused a reduction in the workforce across the different sectors and resulted in many job losses.

Though all sectors have been affected by this pandemic, the healthcare industry is the most affected one. To survive this epidemic, we need a strong health infrastructure, but India's healthcare system and capacity are insufficient to deal with it. One of our country's major drawbacks is a lack of doctors. medical and pharmaceutical supplies and the inability to provide adequate testing facilities. The government's investment in the public health care system is very low in India. The majority of Indians finance their healthcare expenses by themselves. As per the National Health Profile 2019, about 65% of total healthcare spending is household out-of-pocket expenditure. Higher population density, poor socioeconomic status, low public healthcare investment, and a low literacy rate have all harmed India's healthcare system.

LITERATURE REVIEW

Talib and Rahman (2013) found that a considerable portion of healthcare establishments in India, consisting of private hospitals and government hospitals, are quality-certified and government accredited.

Wani, Taneja, and Adlakha (2013) suggest that providing primary healthcare is the responsibility of the government and also an objective to create 'equal society," which is repeatedly emphasised in the Preamble and Directive Principles of the Constitution of India. In this context, significant progress can be found in India's healthcare system.

Ganesan and Veena (2018) suggest that the private healthcare sector and the government need to work hand in hand as a team to make progress and achieve the required development in the healthcare sector. This move can transform our country into a global hub of innovation, health services, and manufacturing healthcare equipment.

Kasthuri (2018) found five main challenges in the Indian healthcare sector: awareness or the lack of it; access to healthcare or the lack of it, absence or the human power crisis in healthcare, affordability or the cost of healthcare; and accountability or the lack of it.

According to Kapur (2019), the public health care system in rural India is underdeveloped in comparison to urban areas. Illness and disease spread are more vulnerable in rural areas due to contaminated water, a lack of sanitation and hygiene, a lack of health awareness, and so on.

Singh, Ravi, and Chakraborty (2020) found that the availability of hospital beds in government hospitals is extremely low in India. Among the total government hospital beds, only 5%-8% are ICU beds, and of the total ICU beds, assuming only 50% have ventilators.

Gopalan and Misra (2020) suggest that India should emphasize on National Health Programs to counter the possible outburst of communicable and non-communicable diseases.

Iyengar *et al.* (2020) claim that Covid 19 pandemic is a learning opportunity for India to strengthen its health care infrastructure. It helps to understand the drawbacks and limitations in the health system and helps in optimizing the available resources.

Objectives of the study:

The objectives of the study are as follows:

i. To overview the current scenario of the Indian healthcare sector.

ii. To assess the needs and urgency of healthcare reboot in India.

METHODOLOGY

Based on secondary data, the current study is descriptive and analytical in nature. The data has been collected from various related research papers, reputed journals and magazines, annual reports of the Ministry of Health and Family Welfare, National Health Profile data, Global Health Security Index and various websites. The collected data has been analyzed with the help of tables, charts, and other diagrams to present the data in a more comprehensive manner.

Following methodology has been used for state wise estimation of Hospital beds, ICU beds and Ventilators –

1. National Health Profile, 2019 provides:

a. State/UT wise number of government hospitals in India.

b. State/UT wise number of government Hospital beds in India.

2. National Sample Survey (NSS) 75th Round Report, 2019 provides a percentage break-up of hospitalization cases by type of hospital across government/public hospital, charitable/trust/NGO-run hospital, and private sector hospital, for India and States/UTs (Ministry of Statistics and

Programme Implementation, 2019).

Based on the above data (1& 2), following assumptions has been made:

- Based on the percentage break up of hospitals (as provided in NSS) and number of government hospital (as provided in NHP), an estimation has been made for number of private hospitals in states/UTs.

- The same percentage break-up as to calculate the number of private hospitals, has been used here also to estimate the number of hospital beds in states/UTs.

3. Among the total government hospital beds, only 5%-8% are ICU beds (Singh, Ravi & Chakraborty, 2020). COVID-19: Is India's health infrastructure equipped to handle an epidemic.

4. Among the total ICU beds assuming only 50% have ventilators (Singh, Ravi & Chakraborty, 2020). COVID-19: Is India's health infrastructure equipped to handle an epidemic.

Based on the above data (3 & 4), following assumptions has been made:

- ICU bed strength is at 5% of total hospital bed strength.

- 50% of ICU beds are equipped with ventilators.

RESULTS AND DISCUSSION

Global Health Security Indicators

Table 1: Table showing Global Health Security indicators

Country	Overall	Prevention	Detection	Respond	Health	Norms	Risk
United States (Rank 1)	75.9	79.4	80.1	65.7	75.2	81.9	73.3
United Kingdom (Rank 7)	67.2	63.5	70.8	64.8	68.3	62.5	73
Italy (Rank 41)	51.9	47.2	49.7	43.2	40.2	65.3	65.9
Brazil (Rank 43)	51.2	49.7	53.6	56.3	50.3	41.7	55.9
China (Rank 52)	47.5	43.9	48.5	38.5	51.8	38.9	63.4
India (Rank 66)	42.8	29.7	43.5	30.3	46.1	47.2	60.2

Source: Global Health Security Index, 2021

Note:

1. 'Higher rank and lower score indicate higher vulnerability.
2. GHS index is an aggregate score of 6 indicators. –
   i. Prevention of the emergence or release of pathogens
   ii. Early detection and reporting for epidemics of potential international concern
   iii. Rapid response to and mitigation of the spread of an epidemic
   iv. Sufficient and robust health system to treat the sick and protect health workers
   v. Commitments to improving national capacity, financing plans to address gaps and adherence to global norms
   vi. Overall risk environment and country vulnerability to biological threats'

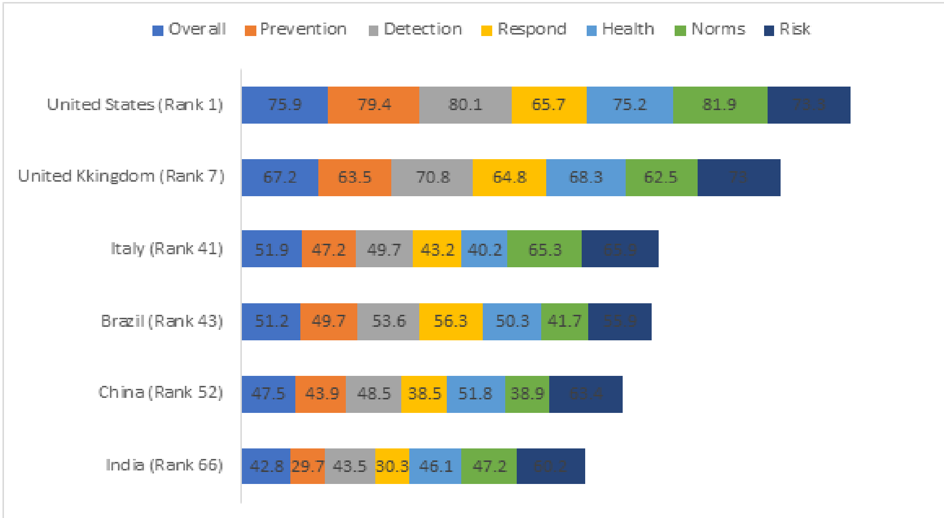
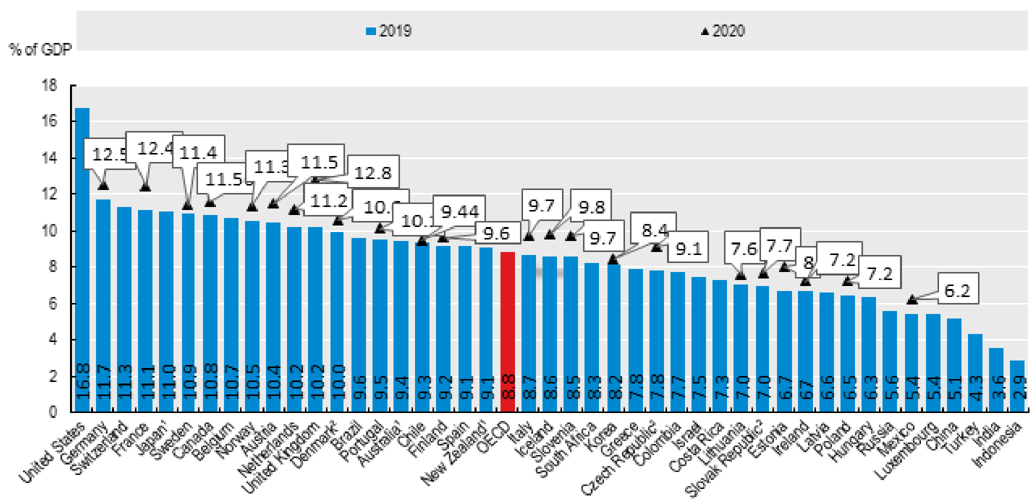


Figure 1: Global Health Security indicators

The Global Health Security Index (Figure 1) measures pandemic preparedness of countries on a score of 1-100.The score is based on the ability to prevent, detect, mitigate and cure of diseases. India ranks at 66 out of 195 countries. The above data indicate that we may be more vulnerable than China (at 52), Brazil (at 43), Italy (at 41), United Kingdom (at 7) and the United States (at 1). The above result clearly indicates the lack of health security in India and also suggests an improvement in its health facility and health infrastructure.

Health Expenditure

The following graphs shows the health expenditure as share of GDP (Figure 2), Government expenditure on health as percentage of GDP in India (Figure 3) and the per capita health expenditure of different countries across the globe (Figure 4).

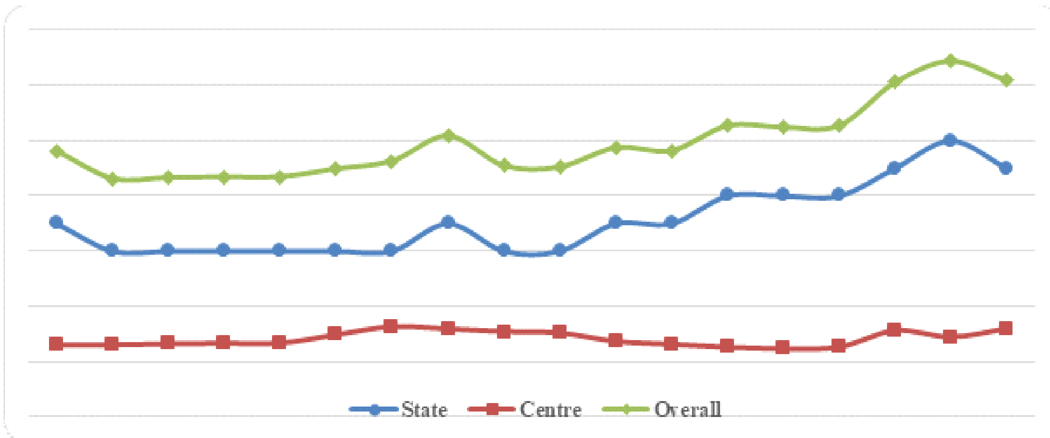


Source: OECD iLibrary, 2021

Figure 2: Health Expenditure as share of GDP

The above graph (Figure 2) shows that OECD countries spent on average 8.8% of GDP on healthcare in 2019 (prior to the COVID 19 pandemic). The health expenditure of the United States was the most at 16.8% of its GDP, followed by Germany (11.7%) and Switzerland (11.3%). The health care expenditure of France, Japan, Canada, Austria, United Kingdom etc. are more than 10% of their GDP. India spent only 3.6% of GDP on health care, which was one of the lowest among the developed and developing countries. Even it is lowest among the BRICS countries also, where the health expenditure as percentage of GDP for Brazil (9.6%) is the most, followed by South Africa (8.6%), Russia (5.6%), and China (5.1%). To combat the epidemic of Covid 19 India needs to increase investment in the health care sector.

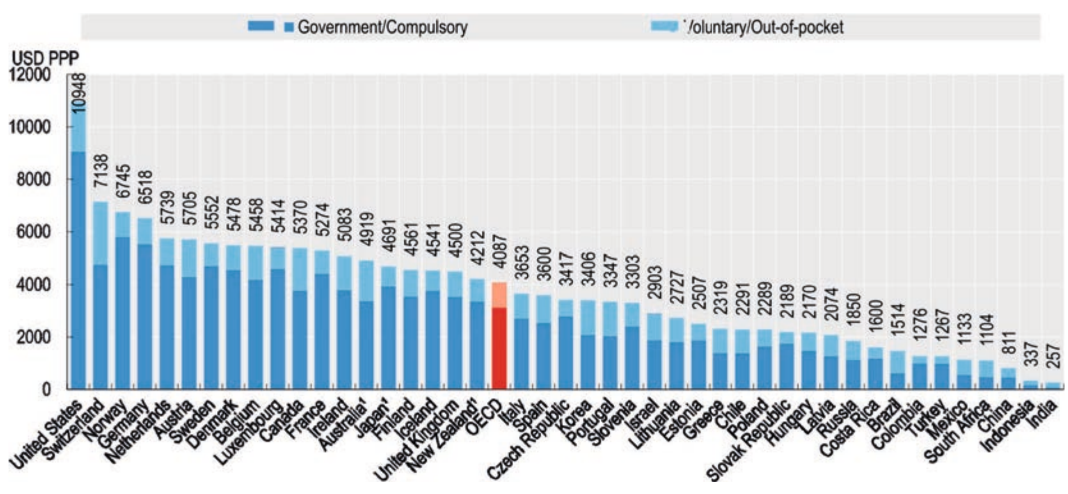
In 2020 a significant growth in the ratio of health spending to GDP can be experienced for a number of OECD countries. Specially those countries which were worst affected by the pandemic, reported remarkable growth in health expenditure as percentage of GDP (e.g. United Kingdom, France, Italy etc.).



Source: RBI, 2020

Figure 3: Government Expenditure on Health as Percentage of GDP in India

India is suffering from its under-funded healthcare investment by the central government. Centre's stagnated contribution makes state driven healthcare spending in India. The above graph (Figure 3) depicts that Central government's health expenditure as percentage of GDP has grown only 23% in last eighteen years, starting from 0.26% in 2002-03 to 0.32% in 2019-20, compare to overall spending growth of 27% starting from 0.96% in 2002-03 to 1.22% in 2019-20. State government's spending on health is maximum in the year 2018-19 at 1%, where the centre's contribution is only 0.29%, which accounts for almost 78% states driving health expenditure in the public healthcare system in India.



Source: OECD iLibrary, 2021

Figure 4: Per Capita Health Expenditure

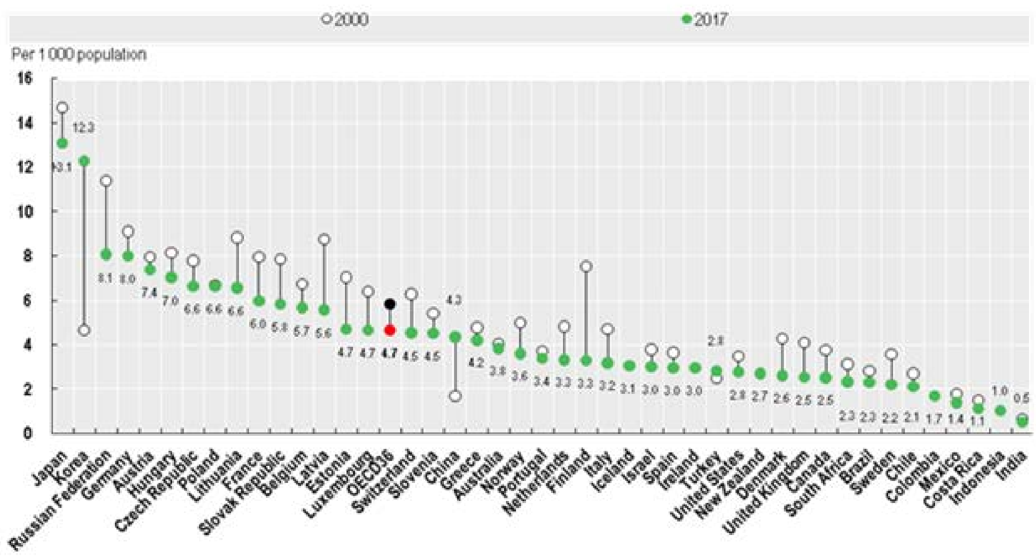
Figure 4 shows that average per capita health expenditure of OECD countries was estimated at USD 4,087 in 2019.The expenditure reached at USD 10,948 in the United States for every US citizen. Switzerland (USD 7,138) spends the next highest in per capita health among the OECD countries, followed by Norway (USD 6,745), Germany (USD 6,518), Netherlands (USD 5,739) and Austria (USD 5,705). While the health expenditure of other countries, such as Japan, United Kingdom, New

Zealand etc. were almost the same as the OECD average. The per capita health expenditure of China was below 20% of the OECD average, while Indonesia and India spent only 8% and 6% of this figure. Even, India's per capita health expenditure is lowest among the BRICS countries also, where per capita expenditure of Russia is the most (USD 1,860), followed by Brazil (USD 1,514), South Africa (USD 1,104), and China (USD 811). The results signify that India needs more investment in its healthcare system.

The above Figure 4 also shows the classification of health expenditure on the basis of type of health care coverage. Across the OECD countries, on an average more than 75% of health expenditure is financed by government schemes or other compulsory insurance schemes. This share is very high in the United States (83%). In India the picture is quite different. Here, only 27% of health expenditure is financed by government insurance schemes and the rest of the portion is from voluntary/ out of pocket health expenditure. That very low government health expenditure in this pandemic moment will create an extra burden in the pocket of the common people.

Health Care Activities and Health Workforce

Health care activities and health workforce are an indicator of the resource available for delivering services to the patient. The following graphs shows the hospital beds per 1,000 population (Figure 5), practising doctors per 1,000 population (Figure 6) and practising nurses per 1,000 population (Figure 7) across the globe.

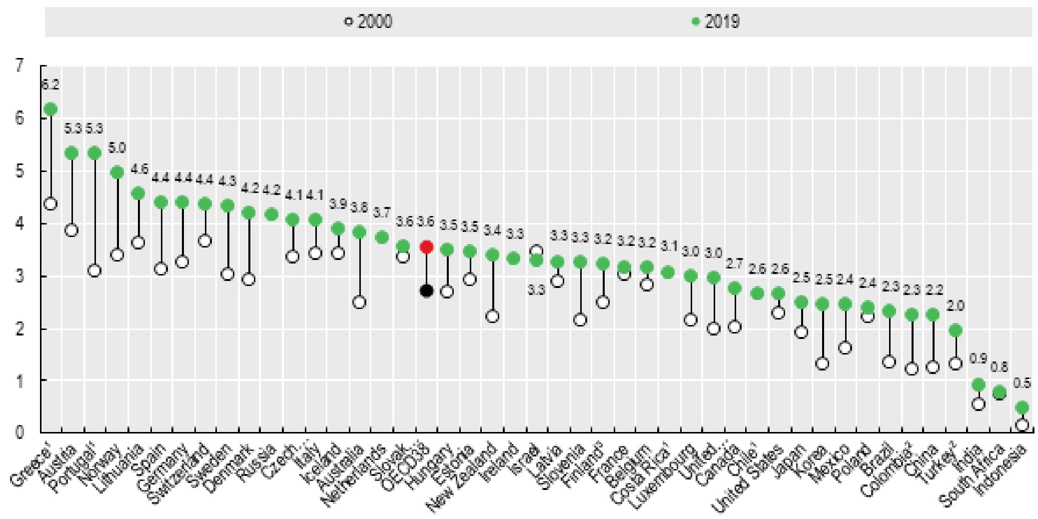


Source: OECD iLibrary, 2019

Figure 5: Hospital Beds (per 1,000 population)

Figure 5 shows the number of hospital beds per 1000 population across the globe. Across the OECD countries, there were on an average 4.7 hospital beds per 1,000 population in 2017.In Japan and Korea, the rates are extremely high with 13.1 and 12.3beds per 1,000 people respectively. In India, there is a major problem in availability of hospital beds. There are only 0.5 beds available per 1,000 people. Which is the sign of low healthcare investment and confirming the health backwardness in India. The result proves that India needs more healthcare spending to curve down the inequality.

The number of hospital beds per capita has decreased in almost all OECD countries since 2000. In India, it has decreased from 0.7 beds per 1 000 people in 2000 to 0.5 people in 2017 (with a sharp fall of 40%). The figure signifies the necessity of an increase in the number of hospital beds all over India to strengthen our health infrastructure.

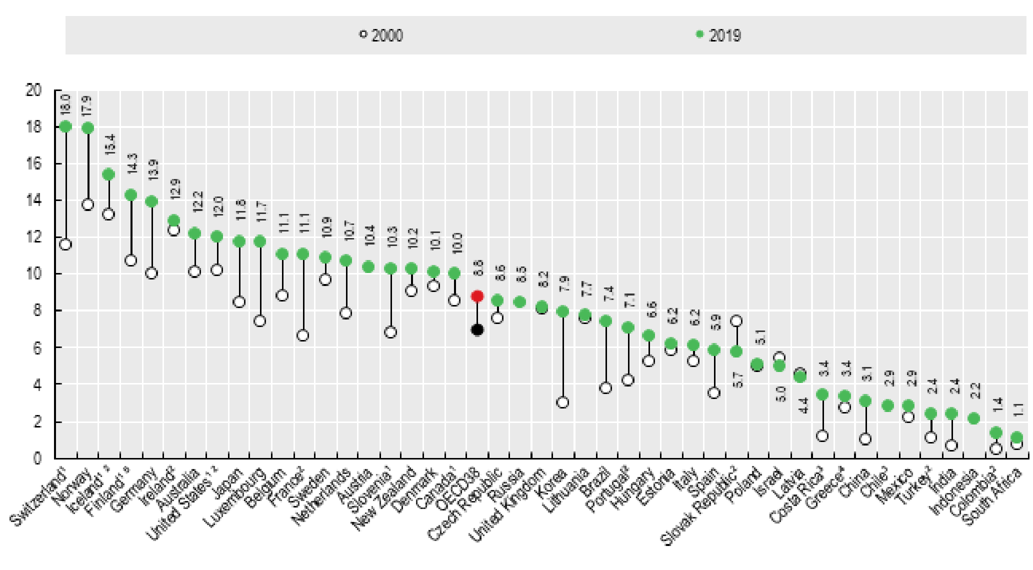


Source: OECD iLibrary, 2021

Figure 6: Practising Doctors per 1,000 population

Figure 6 shows the practicing doctors per 1,000 population all over the world. The average number of practicing doctors in OECD countries was 3.6 per 1,000 population in 2019. The number of practicing doctors in Greece was 6.2 per 1,000 population and stood first position, followed by Austria and Portugal with 5.3 doctors for the same. India has only 0.9 practicing doctors per 1,000 population, which is very few compared to the world scenario. Here also India is lowest among the SAARC countries. Due to shortage of doctors, to some extent Indian people deprived from the proper treatment and it's also creates a financial burden for the poor people. Shortage of doctors creates an overburden for the existing practicing doctors, to devote their time to serve a huge number of patients.

The number of doctors per 1,000 population have grown in almost all the OECD countries between the year 2000 and 2019. In India, it has increased by 80% in this time period, from 0.5 doctors per 1,000 population in 2000 to 0.9 doctors per 1,000 population in 2019. Though the number has increased a lot, a gap between the demand and supply of doctors still exists in India. The above data signify that we need a greater number of doctors to overcome these limitations and to provide better services.



Source: OECD iLibrary, 2021

Figure 7: Practising nurses per 1,000 population

From the above figure (Figure 7) it is observed that in 2019 there were on an average 8.8 nurses per 1,000 population in OECD countries, ranking from almost 18 per 1,000 population in Norway and Switzerland to 1.1 in South Africa. India have only 2.4 nurses per 1,000 population in 2019. India needs to maximize its number of nurses and need to implement advanced roles for them, as the doctor population ratio is very low there. To counter the problem of shortages of doctors, nurses can play an advanced role to ensure proper care of patients.

The number of nurses has increased in almost all OECD countries since 2000. It increased from 7.0 per 1 000 population in 2000 to 8.8per 1 000 population in 2019. In case of India, the figure is more than double, comparing from 0.7 nurses per 1,000 population in 2000 to 2.4 nurses per 1000 population in 2019. In spite of this steady growth, we still have a shortage in the total required number of nurses. Hence, India needs more improvement in that particular aspect.

Health Infrastructure in India

The following tables shows the state wise health infrastructure in India - number of hospitals per states/UTs (Table 2), number of hospital beds per states/UTs (Table 3) and number of ICU beds / Ventilators per states/UTs (Table 4).

Table 2: Number of hospitals per states/UTs

States/UT's	Number of hospitals in public sector	Number of hospitals in private sector	Total (public + private)
Uttar Pradesh	4635	2468	17103
Karnataka	2842	7842	10684
Rajasthan	2850	2794	5644
Telangana	863	3247	4110
Kerala	1280	2062	3342
Maharashtra	711	2492	3203
Bihar	1147	1887	3034
Odisha	1806	695	2501
Tamil Nadu	1217	1222	2439
Punjab	682	1638	2320
West Bengal	1566	697	2263
Haryana	668	1480	2148
Assam	1226	503	1729
Gujarat	438	970	1408
Jharkhand	555	809	1364
Uttarakhand	460	829	1289
Himachal Pradesh	801	235	1036
Madhya Pradesh	465	506	971
Andhra Pradesh	258	670	928

Chhattisgarh	214	182	396
Arunachal Pradesh	218	20	238
Meghalaya	157	28	185
Delhi	109	67	176
Tripura	156	8	164
Jammu & Kashmir	143	14	157
Mizoram	90	23	113
Goa	43	22	65
Nagaland	36	13	49
Sikkim	33	8	41
Manipur	30	8	38
Andaman Nicobar Island	30	6	36
Daman & Diu	5	21	26
Puducherry	14	6	20
Dadra & N Haveli	12	6	18
Lakshadweep	9	4	13
Chandigarh	9	4	13
India Total	**25,778**	**43,487**	**69,265**

Source: Researcher self-calculation (Based on Ministry of Health and Family Welfare, 2020)

Table 3: Number of hospital beds per states/UTs

States/UTs	Number of hospital beds in public sector	Number of hospital beds in private sector	Total (public + private)
Uttar Pradesh	76260	205142	281402
Karnataka	69721	192388	262109
Maharashtra	51446	180293	231739
Tamil Nadu	77532	77843	155375
West Bengal	78566	34969	113535
Telangana	20983	78936	99919
Kerala	38004	61223	99227
Rajasthan	47054	46122	93176
Andhra Pradesh	23138	60092	83230
Madhya Pradesh	31106	33833	64939
Gujarat	20172	44690	64862
Punjab	17933	43064	60997

Delhi	24383	15072	39455
Haryana	11240	24901	36141
Bihar	11664	19193	30857
Jharkhand	10784	15712	26496
Odisha	18519	7131	25650
Assam	17142	7036	24178
Uttarakhand	8512	15331	23843
Chandigarh	9412	8018	17430
Himachal Pradesh	12399	3641	16040
Jammu & Kashmir	7291	704	7995
Chandigarh	3756	1875	5631
Meghalaya	4457	787	5244
Puducherry	3569	1603	5172
Tripura	4429	238	4667
Goa	3012	1572	4584
Arunachal Pradesh	2404	220	2624
Nagaland	1880	681	2561
Mizoram	1997	499	2496
Sikkim	1560	392	1952
Manipur	1427	363	1790
Andaman Nicobar Island	1075	219	1294
Daman & Diu	240	1010	1250
Dadra & N Haveli	619	322	941
Lakshadweep	300	126	426
India Total	**7,13,986**	**1,18,242**	**18,99,228**

Source: Researchers self-calculation (Based on Ministry of Health and Family Welfare, 2020)

Table 4: Number of ICU beds / Ventilators per states/UTs

States/UTs	Number of ICU beds in public sector	Number of ICU beds in private sector	Total (public + private)	Number of Ventilators in public sector	Number of Ventilators in private sector	Total (public + private)
Uttar Pradesh	3813	10257	14070	1907	5129	7036
Karnataka	3486	9619	13105	1743	4810	6553
Maharashtra	2572	9015	11587	1286	4508	5794
Tamil Nadu	3877	3892	7769	1939	1946	3885

West Bengal	3928	1749	5677	1964	875	2839
Telangana	1049	3947	4996	525	1974	2499
Kerala	1900	3061	4961	950	1531	2481
Rajasthan	2353	2306	4659	1177	1153	2330
Andhra Pradesh	1157	3005	4162	579	1503	2082
Madhya Pradesh	1555	1692	3247	778	846	1624
Gujarat	1009	2235	3244	505	1118	1623
Punjab	897	2153	3050	449	1077	1526
Delhi	1219	754	1973	610	377	987
Haryana	562	1245	1807	281	623	904
Bihar	583	960	1543	292	480	772
Jharkhand	539	786	1325	270	393	663
Odisha	926	357	1283	463	179	642
Assam	857	351	1209	429	176	605
Uttarakhand	426	7667	1193	213	384	597
Chandigarh	471	401	872	236	201	437
Himachal Pradesh	620	182	802	310	91	401
Jammu & Kashmir	365	35	400	183	18	201
Chandigarh	188	94	282	94	47	141
Meghalaya	223	40	263	112	20	132
Puducherry	179	80	259	90	40	130
Tripura	221	12	234	111	6	117
Goa	151	79	230	76	40	116
Arunachal Pradesh	120	11	131	60	6	66
Nagaland	94	34	128	47	17	64
Mizoram	100	25	125	50	13	63
Sikkim	78	20	98	39	10	49
Manipur	72	18	90	36	9	45
Andaman Nicobar Island	54	11	65	27	6	33
Daman & Diu	12	51	63	6	26	32
Dadra & N Haveli	31	16	47	16	8	24
Lakshadweep	15	6	21	8	3	11
India Total	**35702**	**59267**	**94969**	**17861**	**29643**	**47504**

Source: Researchers self-calculation (Based on Ministry of Health and Family Welfare, 2020)

The above tables (Table 2, 3 & 4) show the insufficiency of health infrastructure in India. The above estimates suggest that an approximate India have 19,00,000 hospital beds, 95,000 ICU beds and 48,000 ventilators. The result shows an inadequacy in the healthcare infrastructure in India. Again, inequality exists in distribution of healthcare facilities among the different states. Top five states comprise almost 55% of total healthcare facilities of the country in terms of availability of hospital beds, ICU beds and ventilators – Uttar Pradesh (14.8%), Karnataka (13.8%), Maharashtra (12.2), Tamil Nadu (8.1%), West Bengal (5.9%). To counter this pandemic and to provide essential healthcare facilities to every Covid-19 patient we need rapid expansion in healthcare capacity and also, we should focus on removing the inequalities in distribution of healthcare facilities.

Findings

- The healthcare spending of India is very low compared to the other developed or developing countries. India's total healthcare expenditure is only about 3.6% of GDP, far lower comparing with the average healthcare expenditure of OECD countries at 8.8% of GDP in 2019.
- India's public healthcare expenditure accounts for only about 1%, which is one of the lowest around the world. Even it is lowest among the BRICS countries also.
- India's overstrained public health infrastructure forces millions of Indians to the costly private healthcare sector.
- Shortage in number of hospitals and availability of hospital beds are the major crises in the Indian health sector. There are only 0.5 beds available per 1,000 population, comparing to average 4.7 hospital beds per 1,000 population in OECD countries.
- The number of doctors per capita is very low in India at 0.8 practicing doctors per 1,000 population, against the WHO stipulated standard of doctor-population ratio 1:1000. The average per capita doctors in OECD countries are 3.5 doctors per 1,000 population.
- The number of nurses per capita in India is just 1.5 nurses per 1,000 population, comparing to average of OECD countries at 8.8 nurses.

Recommendations

- India needs to increase the budget allocation towards the healthcare sector and effective utilisation of existing budgets to strengthen the countries healthcare system.
- Government needs to invest more in the public healthcare system to make it efficient and reduce over dependence on the private healthcare system.
- India needs to smooth implementation of all the existing policies announced by the government.
- India needs to make an efficient public health infrastructure, with all modern facilities and essential elements of health.
- India needs to open new hospitals and increase the number of hospital beds so that the benefits of the health system can reach to every patient.
- The number of doctors and nurses per capita should be increased.
- India needs to implement the universal public health insurance schemes for all to reduce the healthcare cost borne by the poor.

CONCLUSION

In spite of the centuries-old heritage of medical science, a shortage of healthcare infrastructure at almost all levels exists all over India. There is a great discrepancy in the quality and coverage of medical services across the nation. Government expenditure on health in India is one of the lowest in the world. An overstretched public healthcare system forces millions of Indians to move towards the costly private health-care sector. Under-investment in the public healthcare system, poor health infrastructure, and variations in healthcare systems among the different states may create special challenges for the country's Covid-19 containment strategy. India needs to increase investment in the public healthcare sector and should focus on opening new hospitals, increasing the number of hospital beds, number of doctors and nurses etc. The Covid-19 pandemic has made India learn about how to find healthcare drawbacks and to rediscover those which may trigger public health reforms. It has also taught us the necessity of rebooting the healthcare system in India.

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REFERENCES

Ganesan, L., & Veena, S. R. (2018). 'Make in India'for healthcare sector in India: a SWOT analysis on current status and future prospects. *International Journal of Health Science and Research, 8* (2), 258-265.

Global Health Security Index. (2021). Advancing Collective Action and Accountability Amid Global Crisis. https://www.ghsindex.org/wp-content/uploads/2021/12/2021_GHSindexFullReport_Final.pdf.

Gopalan, H. S., & Misra, A. (2020). COVID-19 pandemic and challenges for socio-economic issues, healthcare and National Health Programs in India. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 14*(5), 757-759.

Iyengar, K., Mabrouk, A., Jain, V. K., Venkatesan, A., & Vaishya, R. (2020). Learning opportunities from COVID-19 and future effects on health care system. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 14*(5), 943-946.

Kapur, R (2019). The Public Health System in India. *Acta Scientific Nutritional Health, 3*(11), 130-133.

Kasthuri, A. (2018). Challenges to healthcare in India-The five A's. *Indian Journal of Community Medicine: Official Publication of Indian Association of Preventive & Social Medicine, 43*(3), 141.

Ministry of Health & Family Welfare. (4th October, 2021). *National Health Profile 2021. Government of India*. https://cbhidghs.nic.in/showfile.php?lid=1160

Ministry of Health and Family Welfare. (16th October 2020). *Health and family welfare statistics in India 2019-20*. https://main.mohfw.gov.in/sites/default/files/HealthandFamilyWelfarestatisticsinIndia201920.pdf

Ministry of Statistics and Programme Implementation. (November, 2019). Key Indicators of Social Consumption in India: Health. NSS 75th Round. http://164.100.161.63/download-reports?main_cat=NzIy&cat=All&sub_category=All

OECD iLibrary. (7th November, 2019). Heath at a Glance 2019: OECD Indicators. https://doi.org/10.1787/4dd50c09-en

OECD iLibrary. (9th November, 2021). Heath at a Glance 2021: OECD Indicators. https://doi.org/10.1787/ae3016b9-en

Reserve Bank of India (2020). State Finances: A Study of Budgets of 2019-20. https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/STATEFINANCE201920E15C4A9A916D4F4B8BF01608933FF0BB.PDF.

Singh, P., Ravi, S., & Chakraborty, S. (2020). COVID-19: Is India's health infrastructure equipped to handle an epidemic. https://www.brookings.edu/blog/up-front/2020/03/24/is-indias-health-infrastructure-equipped-to-handle-an-epidemic/.

Talib, F., & Rahman, Z. (2013). Current Health of Indian Healthcare and Hospitality Industries: A Demographic Study. *International Journal of Business Research and Development, 2*(1), 1-17.

Wani, N. U. H., Taneja, K., & Adlakha, N. (2013). Health System in India: Opportunities and Challenges for Enhancements. *IOSR Journal of Business and Management (IOSR-JBM), 9*(2), 74-82.

World Health Organization (2nd March, 2022). WHO Coronavirus (Covid-19) Dashboard. https://covid19.who.int/

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