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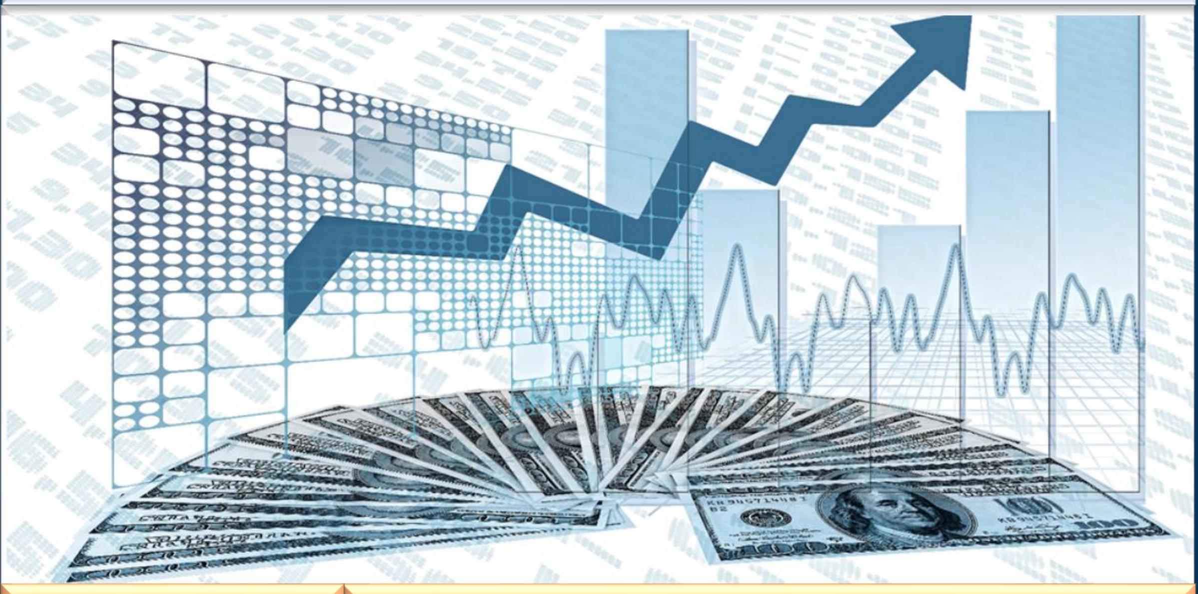

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Dr. Nand Kishore Garg

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Maharaja Agrasen Institute of Management Studies is one of the only four Institutes in GGSIP University, Delhi having a dedicated Department of Economics and offering BA (H) Economics Program. However, MAIMS is the only Institute in the University which is starting a dedicated Research Journal in the field of Economics titled 'MAIMS Economic Journal'. I welcome you all to the inaugural issue of this bi-annual peer reviewed economics Journal.

The main objective of this journal is to provide a platform to leading researchers and practitioners from academia and industry in India and abroad to share their innovative ideas, experiences, and cutting-edge research in the fields of economics and related areas.

Our vision is to establish this Journal as a high-quality publication that will be relevant, thought provoking and inclusive of a diverse range of voices and perspectives on socio-economic issues, including those of students, academic researchers and policy-makers.

I would like to take this opportunity to convey my best wishes to the Editorial Board for their collective efforts and dedication to bring out MAIMS Economic Journal. I am sure that the articles published in MAIMS Economic Journal will make a significant contribution in developing new knowledge and provide solutions to key economic problems.

I am delighted and thankful to you all for joining us as readers and hope that all of you will join us as authors and reviewers of this Journal also.

Warm wishes!

Message from Patron

Prof. (Dr.) S. K. Garg

Director General
Maharaja Agrasen Institute of Management Studies
Delhi India

It gives me immense pleasure in writing this message for the inaugural issue of 'MAIMS Economic Journal' launched by Department of Economics, Maharaja Agrasen Institute of Management Studies, Delhi.

This bi-annual refereed Journal intends to publish high quality research papers in various fields of economics like Agricultural Economics, Labour Economics, International Trade, Game Theory, Environmental Economics, Financial Economics, Macroeconomic Issues, Knowledge Economy and many others.

I am sure that the Journal will thrive to become a valuable source of information on various socio-economic issues for researchers, academicians and policy-makers. The articles published will help economists to navigate today's complex environment.

The launch of the Journal is a result of tremendous efforts of the entire Editorial Board and I convey my compliments to them. I would also like to express my gratitude to all the authors of this inaugural issue for showing their interests in MAIMS Economics Journal.

I am sure that the collection of papers published in this Journal will provide the readers an insight in recent trends and research directions in emerging areas of the global economy.

My good wishes for the success of this endeavour.

Message from Patron

Prof. (Dr.) G. P. Govil

Advisor
Maharaja Agrasen Technical Education Society
New Delhi India

I would like to congratulate the Department of Economics, MAIMS for their commitment in introducing MAIMS Economic Journal. In today's fast changing world, there is a constant demand for new technologies and innovations in every sphere of life. The ideas that feed the ever-growing demand for new designs and applications are derived from the intensive efforts put in by scientists and researchers all over the world who work enthusiastically to produce results.

I am sure the newly launched Journal by the Department of Economics will serve as a cutting-edge forum for researchers to discuss and present their research agendas and finding in the field of economics, which will further strengthen our relationships in knowledge sharing while at the same time provide the necessary thrust in joint research collaborations. The research Journal will guide us to know what other works have been done in the field as well as to undertake the work which has not been thought yet.

It is my strong aspiration that this Journal will be a foundation for the growth of new ideas towards a better tomorrow. The Journal is created with the intention of providing a space for the generation of knowledge, dialogue, critique, debate and collaboration among the international community of academicians, researchers and practitioners.

I wholeheartedly appreciate all the sincere efforts of the entire team of MAIMS Economic Journal. I also wish the Journal the very best to secure an incredible opportunity for networking and professional growth.

I hope you will find MAIMS Economic Journal enlightening.

My blessings to the team!

From the desk of Editor-in-Chief

Prof. (Dr.) Ravi Kumar Gupta

Director
Maharaja Agrasen Institute of Management Studies
Delhi India

I am very delighted to celebrate the launch of MAIMS Economic Journal, a new bi-annual peer reviewed Journal that publishes original research in the field of economics. It is a great initiative of the Department of Economics, Maharaja Agrasen Institute of Management Studies. The Institute, affiliated to Guru Gobind Singh Indraprastha University, Delhi, has established itself into a premier institution of excellence in the fields of Business Administration, Commerce, Economics, Journalism and Mass Communication and Law.

Research is an essential and integrated component of studies at MAIMS and Research Journal of the Department of Economics, 'MAIMS Economic Journal' is going to take academic standards of the Institute to the new heights. The Journal is meant for all who are pursuing the endeavour of research and policy design in the field of economics and its allied areas such as Quantitative Methods and Financial Economics etc. It provides a perfect opportunity to address critical socio-economic issues at the global level, exchange of new ideas and disseminate the advancements of the fast-growing field of economics. The Journal plays a valuable role in accumulating high quality theoretical and/or empirical research papers.

The Journal is served by very a competent Editorial Board comprising of faculty members of the Department of Economics, MAIMS under the guidance of its International Advisory Board comprising of distinguished academicians, researchers, policy makers and industry professionals from India and abroad. We strive to make MAIMS Economic Journal as a preferred platform to discuss and disseminate new dimensions of economic research.

Together, let us make this journal happen.

Best wishes!!

From the desk of Editor

Dr. Sanjay Kumar Mangla

Associate Professor and Head
Department of Economics
Maharaja Agrasen Institute of Management Studies
Delhi India

Research is an enduring field with persistent and focussed efforts leading to new knowledge and Department of Economics, Maharaja Agrasen Institute of Management Studies has started 'MAIMS Economic Journal' with objective to create and disseminate new knowledge in the field of economics and related areas to solve socio-economic problems.

MAIMS Economic Journal is a bi-annual referred Journal covering original research manuscripts on variety of socio-economic issues. The First Issue of the Journal comprises of five research papers and one reader's forum. The first paper titled highlights new virtual technologies that have evolved due to the Global Pandemic COVID-19. The second research paper titled analyses company's sustainable growth by using an extension of DuPont System of financial analysis. The third research paper explores the farmer's perception about indebtedness with special focus on South Haryana. The fourth research paper titled focusses on impact on COVID-19 on migration and remittances and how it might contribute to global recession primarily in low- and middle-income countries. The fifth research paper titled compares economic policies adopted by different countries to curb negative impacts of the current global pandemic. Further, the article in Reader's Forum talks about the issues generated from animals testing for scientific experiments.

On behalf of the entire Editorial team, I would like to extend a very warm welcome to all the readers. I also take this opportunity to thank the Honorary Members of the Maharaja Agrasen Technical Education Society for giving us this opportunity to bring the MAIMS Economic Journal. I also pay my sincere thanks to Authors, Reviewers and Advisory Board Members for their time and efforts to bring the inaugural issue of the Journal.

I am sure that this Journal will make significant contributions in promoting economic research and benefit scholars, academicians and policy makers around the world.

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Shivangi Sahay*
Anju Bharti**
Charu Mohla***

VIRTUAL APPLICATIONS USAGE FOR PURCHASING OF PRODUCTS: CHANGING TRENDS IN NEW ENVIRONMENT

ABSTRACT: The global pandemic COVID-19 is found to have a profound impact on lives of consumers and due to its fear the consumers are uncomfortable about visiting public places, shops, malls etc. E-commerce or online shopping is changing its trends to get ahead in the market on a fast pace in competitive scenario. Many online retail companies, amidst of the COVID-19, have come up with applications that provides the customers with their ability to try their products virtually. The 3D imaging technologies are used by the companies for facial recognition to deliver a life-like immersive try-on experience for customers to discover a different range of designs of various products. This includes eyewear trials, jewellery and a number of apparel retailers are opting for virtual fitting rooms as well. There are different tools and technology available now days which can provide consumers for purchasing purpose without going to the physical retail shops. For virtual face recognition, third party Desks or plugins are generally used. There are another few technologies like Virtual Reality (VR) technology along with its sister technology Augmented Reality (AR) technology. These are in the form of VR headset devices and AR smart glasses. Consumers have embraced this type of new environments for online purchasing of certain products. These changes are no doubt temporary according to the present situation. As the community has to move beyond the survival mode, the drive of digital adoption will carry forward to become permanent.

Key words: *Pandemic, Survival, Virtual, Online, Purchasing, Products, Adoption, Image, Technology*
JEL Codes: *D2, D7, H3, O3*

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INTRODUCTION

Virtual Stores are the new concept accepted everywhere now, even in most of the Asian countries due to various reasons. In the mid-1990s, the new phase of digital marketing started almost everywhere. The virtual concept was first implemented in South Korea by TESCO (Akbar Waqar, 2014). During 90s, online shopping was in initial stages via e- commerce. Most of the consumers are still unwilling to buy online because of certain reasons.

It was important for retailers to understand regarding online purchasing as to what motivates the consumer and the factors which acts as the barriers to make process smoother.

To encourage online purchase the process like tactics, messaging and incentives could be developed. The product which was ordered first time in 1995 online on Amazon was a book. Some of these digital changes will be temporary, others will be permanent. The momentum of digital adoption will move forward as the community moves beyond the survival mode, and may become permanent.

The retail market of India is categorized as organized and the unorganized retail sector. The organized sector where trading activities are undertaken by licensed retailers and registered for sales tax etc. It also includes the corporate-backed hypermarkets and retail chains along with online shopping sites (Halan, Dr. Deepak, 2020). Unorganized sector includes conventional family run neighborhood stores which are about 13.8 million in number. The organized retail sector is less than ten percent that is existing now. Some percentage of population still like to purchase from neighborhood stores as they are provided with touching and feeling of the products and negotiating discounts over-the-counter as well before buying it. As the B2C e-commerce sector in India is prospering, they have started offering bargains such as free delivery, discounts, buy-one-get-one-free and exchange offers etc. In India, a great majority of B2C ecommerce retailers now is attracting customers to shop online and the sales have picked up gradually. Indian shoppers are cost-conscious and conservative as a part of their value system, so they are not attracted towards promotions and advertisements easily. The online shoppers/consumers sometimes have faced problems related to product delivery timelines and from customer support services (Akbar Waqar,2014). The customers' perception of risk toward online web sites is due to the inferior IT set-up which have resulted in hacking of personal information.

There are various reason for using virtual application, no doubt, due to COVID-19, the use has been increased now as people are not allowed to move out. People are busy in their daily life and are finding new ways of shopping which is quite diversified (Akbar Waqar,2014). People are not usually interested because of lack of time for shopping at stores rather they prefer someone to do this work for them. The virtual store can be a great help to the consumers who do not wish to visit superstores and can do their shopping online. The people are excited to have such stores in their countries. This technology has changed world round the globe. This technology has helped system of every sector in industry making things easier and faster by its utilization.

Due to the breakdown of coronavirus pandemic (Halan, Dr. Deepak, 2020), being highly infectious in nature, which led persons to stay at home and work from home. The people were introduced to live with new normal that changed people's shopping habits. The fear of causing infection avoided people to shop outdoors.

In this period, there was much demand of online shopping for requirement of various things. The online shopping usage has increased globally. In India and in other countries, the first-time-e-commerce-users, i.e. FTUs, have suddenly increased, who were resisting shopping online before. Consumer behavior showing new trends may be due to changes in discretionary income, spare time, and reconsidered values and priorities.

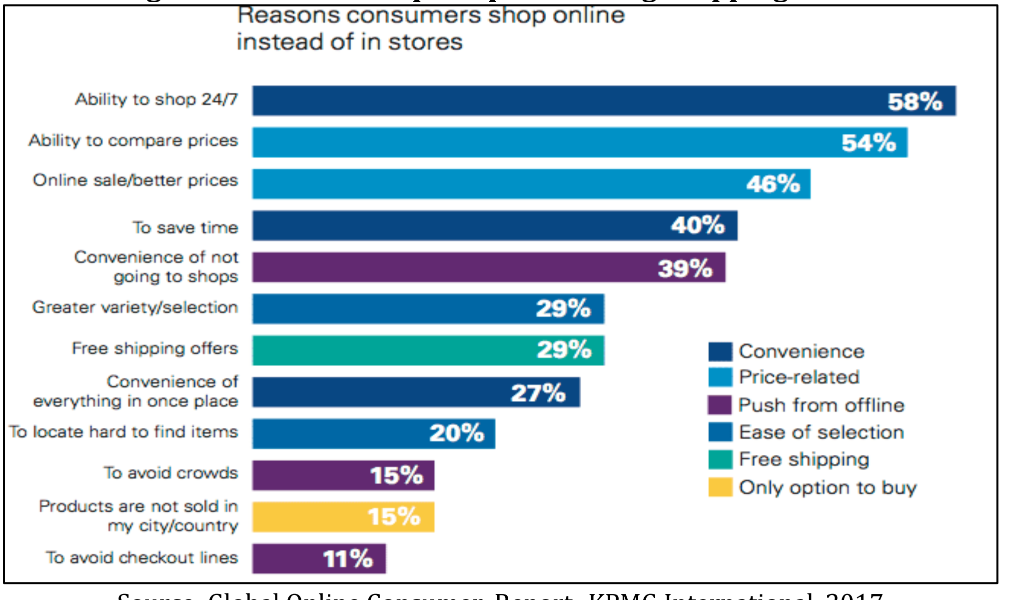
For example, Amazon, leading e-commerce site has informed their experience that the customers are trusting on their services during COVID-19 period of social distancing and self-quarantine efforts. This is not all; many retail companies have come up with applications that provides the customers with ability to try their products virtually. The facial recognition technology and 3D imaging technologies are being used by the retailers. This will provide consumer a life-like immersive try-on experience for customers to discover a range of different designs. This includes eyewear trials, jewellery and a number of apparel retailers are opting for virtual fitting rooms as well. For virtual face recognition, third party Desks or plugins are generally used.

Families are welcoming the opportunity to find new ways of socializing by connecting virtually. New normal environments have been accepted by the employees and they will continue work from home concept in the future. They are now eager to purchase online via virtual shopping. The working class people normally don't have enough time to go for shop. For them, these super stores may become virtual shopping stores. The world has been moving ahead.

Though, the new technology is at its development stage, this new idea of introducing virtual model shopping center is relatively new and imperative. These kind of superstores are introduced in many countries. These virtual stores provide customers smart phone friendly online shopping system, and goods will be provided to them at their door step.

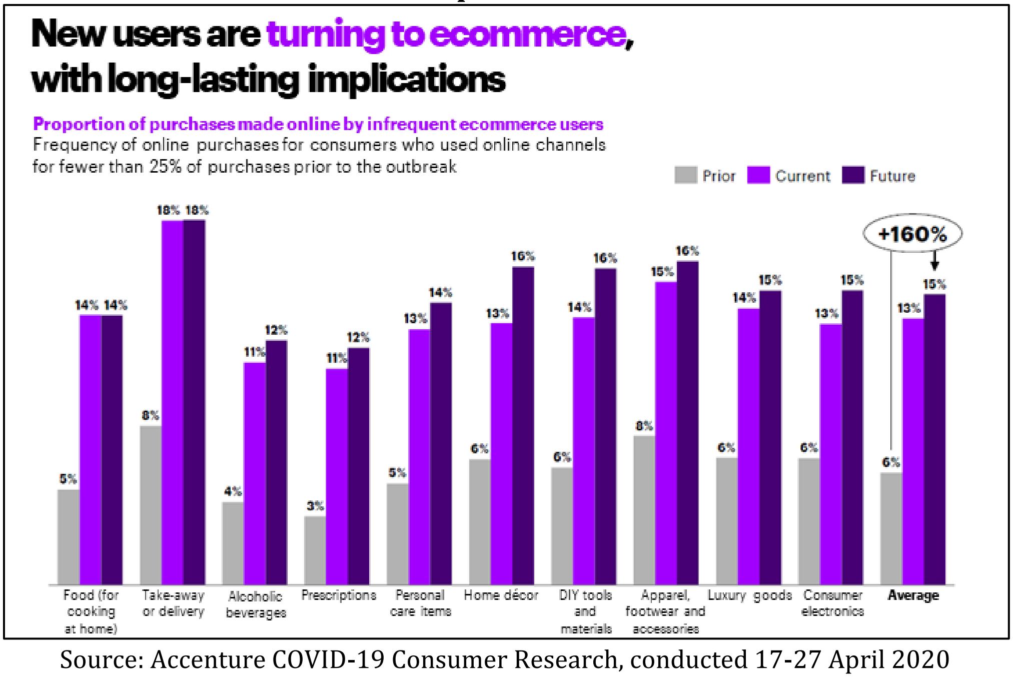
REASONS CONSUMERS SHOP ONLINE

Figure 1. Variation in perception during shopping online



Source: Global Online Consumer, Report- KPMG International, 2017

Figure 2: New users are turning to e-commerce with long lasting implications



Source: Accenture COVID-19 Consumer Research, conducted 17-27 April 2020

Acceptance of online purchasing has made industry easier to reach people and showcase their product (Chaffey Dave, 2017). There are certain categories of purchase, where consumer is still reluctant to buy online. Retailers, who are operating online are still working to encourage consumers for online conversion. The figure 1 above shows the main reasons of consumers for online shopping.

A new report from KPMG describes the most detailed research evaluating the consumer psychology of purchase, broken down by different countries, to understand consumer behaviour and motivations. This pandemic due to COVID-19 further boosted the requirement of online purchasing. This was the major shift in customer behavior, i.e., the reluctance to mingle in crowded public places and higher propensity for digital adoption (Global Online Consumer, Report- KPMG International, 2017). This is shown in figure 2.

Following are the other reasons for online purchasing:

1. Ability to shop anytime throughout the year.
2. Ability to compare prices of me-too products.
3. Online sale/better prices of competitive websites.
4. To save time to see products.
5. Convenience of not going to shops.
6. Greater variety/selection from different sites.
7. Comparisons of free shipping offers provided by various companies.
8. Convenience of getting everything in one place.
9. To locate products & hard to find items are easily available on websites.
10. To avoid crowds so online preferred.
11. Products not sold in city but available online.
12. To avoid checkout lines during payment etc., this is really cumbersome physically, so online preferably used.
13. Research by New global consumer shows that consumers have accepted new normal and their lives have changed in this pandemic period (Accenture.com, 2018).
14. There is a change in income and leisure time with consumers and this is influencing attitudes and behaviours of consumers ((Reddy Aneesh, 2014).
15. Consumers preferring to shop with greater awareness of the environment, health and cost. They are favoring locally-sourced products and neighborhood stores.

16. Huge rise in digital commerce was seen amongst new or low-frequency consumers. It is likely to continue post-pandemic. Around the world, changing attitudes, behaviours and habits of consumers was monitored. The consumers adapted to a new reality of purchasing virtually.
17. Retail consumers frequently have embraced digital commerce and omnichannel due to lock-downs when many stores were shuttered. Earlier, it was used as a way of modernization and status symbol. But, now days E-commerce has surged suddenly. Consumers have increased use of omnichannel services like contactless payment, social commerce, virtual consultations and curbside pickup. New behavior is reflected as a new normal that they have planned to continue.

6Cs OF ONLINE COMMERCE

This research has been presented and developed by Dave Chaffey (Chaffey Dave, 2017). Following are the 6Cs of Online Shopping or for motivating Consumer which has been adapted theoretically:

1. Content about the product
2. Customization of product according to preference of consumers
3. Community as a consumer
4. Convenience for all
5. Cost Reduction overall
6. Choice of consumers

E-COMMERCE INDUSTRY: FUTURE OF ONLINE BUSINESS

The e-commerce industry has made 2 trillion US dollars in sales worldwide in last two decades and it’s increasing day by day. E-commerce, no-doubt, has revolutionized the retail sector. E-commerce has progressed and meeting the needs of people. It is facilitating online shoppers. It has customer friendly characteristics, like, customization of products, policies of returning products, or improved integration, and virtual shopping, etc. have enhanced the world of e-commerce. And the year 2020 has further transformed the world of e-commerce. These e-commerce trends will prove that it is not only rapidly growing but it is here to stay. E-commerce developments ensure steady growth of online business store in future.

Following are the advantage of emerging trends in the e-commerce industry through online (oberlo.com, blog, 2020):

1. Online Sales Growth is going to be persistent : E-commerce sales have been growing constantly since a decade. As the websites have been made more customer-friendly, online shopping has become popular online activities. The online sale is showing growth because it is providing comfort to the consumers.

2. The Future of E-commerce after COVID-19 period: Due to the pandemic-COVID 19, the governments worldwide implementing lockdowns to restrict social movement for months to combat the coronavirus. So, people are mostly dependent on online shopping to purchase items. It has now been assumed that this new normal will bring behavioral shift towards digital purchases permanently.

3. Mobile Shopping is growing continuously: There is a parallel growth in e-commerce by the increase in mobile devices usage. People while shopping online, are also browsing and doing a survey before making their purchase. Mutual trust between seller and consumer in online shopping is increasing. Consumers are comfortable while shopping on mobile devices than ever before.

4. Rise of Voice Commerce among Users: Voice shopping is a new growing trend among Internet users. Voice shopping is a type of non-visual experience. For example, thirteen percent of U.S. smart speaker owners made purchases by voice during 2017.Growth will multiply to 55% by 2022 (OC&C Strategy Consultants, 2018). In this case, verbal description of the product is selected by customers which they want to purchase. This process save their time as the scope of browsing is restricted for a product before actually selecting it.

5. E-commerce: Role of Social Media: The social shopper's number is increasing very rapidly. For example, for shopping purposes, the consumers are asked to press the 'Buy' button on Facebook, and Instagram Checkout. Social media is important in the e-commerce world.

6. Environmental related topics influence Online Buyers: Green consumerism is increasing worldwide. There is a growing concerns of environment amongst the digital consumers which impact their purchasing decisions. As, various resources are being saved while avoiding visiting the shops physically. E-commerce businesses are striving to create more sustainable practices for future. Online businesses practices must ensure that it is environmentally friendly.

7. Role of Artificial Intelligence in E-commerce: According to the report of Business Wire 2018, the expenditure on Artificial Intelligence (AI) will reach $7.3 billion per annum by 2022 from $2 billion in 2018 (BusinessWire,2018). This is the result of the opportunities targeted by retailers to increase personalization of the customer experience. For example: virtual purchasing with face recognition, VR and AR etc. Research and survey convey that retailers are investing heavily to gain competitive advantage by serving customers by introducing various tools.

8. Augmented Reality transforms ways of Shopping: It has been estimated that Augmented Reality (AR) technologies will be used by many stores and providing much richer buying experience to consumers (prnewswire.com/, 2018). This application AR will get a boost only after motivating the retail workforce and online shoppers. People had concerns while shopping online, i.e. AR technology will help consumer to see and judge the product online. They can easily see the product which they want to buy. AR experiences will bring change in the perception of online customers. AR will help customers to know about products that they had planned to meet their demands.

9. The rise of Visual Commerce: E-commerce store has to face a great challenge so this app gave a chance to see product physically. This is where the visual commerce grabbed the opportunity. Visual commerce facilitates not only using product photos to market business, but it also incorporates other tools. The other visual tools to bring wider choice for consumers are:

- consumer-generated media,
- interactive content,
- engaging videos, and
- augmented reality.

10. Personalization is the Future: According to the survey. the shoppers prefers to have personalized online experience (Bazaarvoice,2018). More than seventy four percent of marketers believe that enhancing relationships with customer has a great impact in concept of personalization (Evergage,2018).

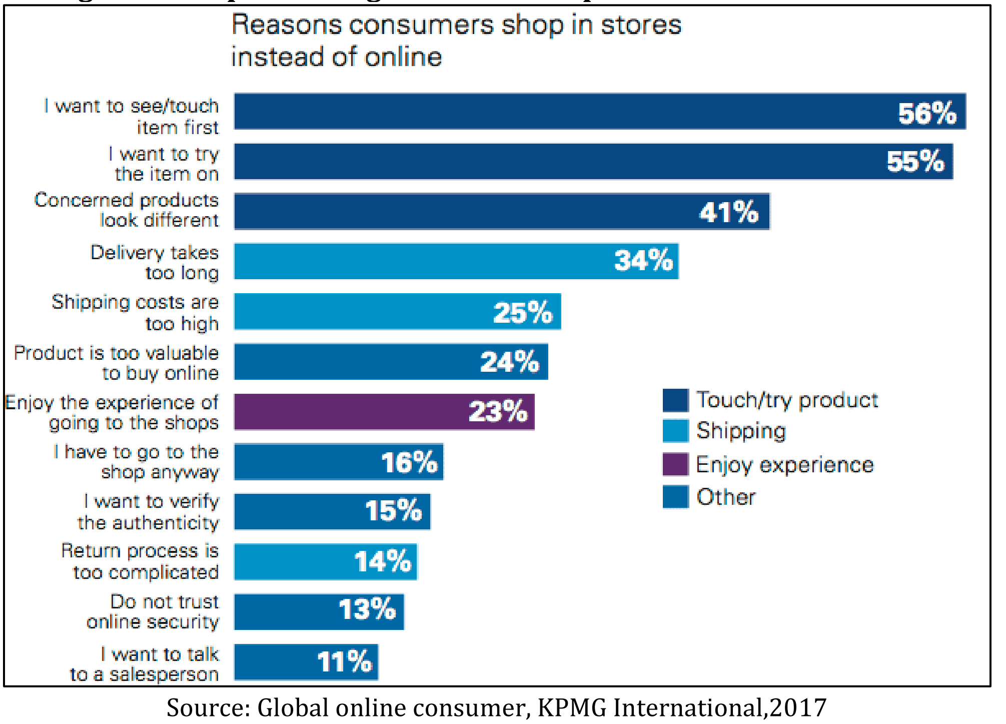
It is one way of keeping customers satisfied. People value this experience and respect product modified according to their need. Industry should promote the best product and store recommendations online for shoppers.

NEED OF VIRTUAL APPLICATIONS:

Reasons for shopping in-store

The consumers get satisfaction when they physically see the product of their choice and try to feel it via touching, testing, etc. before purchasing. This process was replaced by online merchandising techniques like interactive product shots, VR and AR which helped with the need to see/touch/try the product. It is about maintaining trust factor to reassure the credibility of the supplier and to provide human-assisted options online (Chaffey Dave, 2017).

Figure 3: Graph showing reasons to shop in store instead of online



Source: Global online consumer, KPMG International,2017

VIRTUAL APPLICATIONS: TECHNOLOGY

There is a rise in virtual applications where consumer would be able to purchase various products and can have a touch -feeling while sitting at home using 3 ways virtual reality which has transformed e-commerce. The retail industry will be creating a new field for itself with the introduction of mobile VR and AR technology (with head set). It is likely to be adapted by curious customers. To remain in competitive scenario of online commerce, the retailers as well as consumers has to learn and flourish at the same time.

In some of the case, Image processing is used. Image processing, the process where signal processing techniques is applied to the domain of Images i.e. two-dimensional signals such as photographs or video (ijesi.org, 2018). This application is widely used for processing digital images. The other meaning of this process- ‘Analyzing and manipulating images with a computer’.

The image processing has the following important applications in the field of science and technology which include computer vision, feature extraction, remote sensing, face detection, forecasting, optical sorting, optical character recognition, finger-print detection, argument reality, microscope imaging, lane departure caution etc. In this process, three widely used spatial-domain image processing algorithms is implemented: a) linear convolution, b) median filter, and c) anisotropic diffusion.

After the introduction of method by Viola and Jones (2019) to accurately and rapidly detect faces within an image, the technique was soon adapted for the same purpose. The area of the image to be analyzed for a facial feature is regionalized. It is regionalized to the location with the highest probability of containing the feature. False positives are eliminated while regionalizing the detection area. The detection speed is increased due to the reduction of the area to be examined.

The human face detection plays a basic role in many applications of computer vision like video surveillance, face recognition, image retrieval, etc. (Horak Karel, 2012). Colour transformations methods are used as advanced techniques such as boosted cascade of simple features or face symmetry detection. All these presented techniques are based on completely different principles and each method is suitable for specific applications.

For example, in Lenskart frame and lenses, the process used in virtual wearing and testing is called DITTO. It is a US based startup which provides 3D face mapping (Dow Jones, 2012). ‘DITTO’ is a company, sells software that aids eyewear companies. It sells products through online using virtual fitting. The company uses virtual fitting technology to let customers try on frames and order lenses too from a computer. The technology measures a user’s face by homing in on pupils, ears, cheekbones, ears and other facial landmarks. And, then come back with images of dozens of different pairs of glasses that might be a good fit. Lenskart has also invested US $1 million in DITTO.

The technologies like VR (Virtual Reality) and AR (Augmented Reality) will certainly help to improve online sales (Toptal.com, 2019).There is a need to understand these technologies which can be offered as a service with the product to enterprises and clients alike.

USAGE OF VIRTUAL APPLICATIONS IN PURCHASING VARIOUS PRODUCTS:

1. Experiencing try-on of 3D virtual jewellery by customers: The CaratLane retailer of online jewellery recently launched the CaratLane app that would deliver a 3D virtual jewellery try-on experience by customers. Now, this application will facilitate women to try out thousands of jewellery pieces with 3D virtual jewellery try-on app without visiting the store physically. Here, the application used will provide a life-like immersive try-on experience by facial recognition technology and 3D imaging technologies. In this manner, the customers were able to try –on and discover various jewelleries through CaratLane App and buy them (business-standard.com, 2020). This application has opened the door for other products too and would be shortly followed by try-on features soon. The CEO Mr. Sacheti said that this application will provide a life-like immersive try-on experience and will be an addictive experience for women especially for purchasing jewellery and garments.

2. Exploring virtual showrooms by consumers: Now, the retailers can explore more for building virtual showrooms or virtual stores to add a new level of online shopping experience for their customers. It provides the customers the same experience as they feel during physically getting into the stores and trying the products like jewellery etc. virtually from the comfort of their own home.

Lowe's Holoroom is performing in a major way in this emerging technology. Lowe's Innovation Labs can help its customers to visualize a home improvement project by using a virtual showroom to get a better result. This tool is leading and moving ahead in terms of virtual showrooms.

This application will enable the customers to view the first look or mocked-up version of their homes fitted with various items or products. The entire scene would be virtually generated version of a home, and will give the immersive experience as to how various products would work as one. Lowe's Innovation Labs technology has been available from 2014 and the VR product has steadily been growing since then in popularity.

3. Virtually visualization of product: This application will provide an opportunity for consumers for visualization of product before purchasing. It is like providing the facility of 'try before you buy' novelty to attract the customers which many companies are trying to tap into. The companies are exploring more into the realities of AR (Augmented reality) than on VR which is a completely computer generated world technology.

4. Difference between Augmented Reality and Virtual Reality: There is a difference between these two applications i.e. Augmented reality and VR, Virtual reality. In AR application, the user see is a video of reality and few overlaid virtual elements. For example, a consumer can see the room where they were standing instantly after putting on a headset in case of AR. AR application then allows products to be overlaid on top of their view. The consumers would be able to see either a dress or any other product which they have thought of, to buy. AR provide better visualization than physical items in physical stores and consumer can choose everything that fits into their day to day life. The retail giants like Converse and Lego is trying to motivate customers by the use of AR technology.

A new level of interaction for customers has been provided through these forms of virtual visualization. VR is a step ahead of AR. In VR, instead of simply reading out the product description on packaging, it also facilitates that how the product will look on them physically, like trying on a jewellery or any fashionable garments etc. by just pressing a button.

5. Visual application : a reason to visit store: It has been noticed by the marketers that preference of shopping by many consumers still is from a physical store. But statistically, the e-Commerce market is showing an increasing growth than the past. This means, that the trend is more towards experiencing the convenience of shopping by the customers. Now, the responsibility is on the e-Commerce leaders to present online shopping in a way that can imitate more like being physically inside a store.

6. VR online stores market: The trend of virtual version of stores is being accepted slowly and gradually as it was seen frequently during pandemic by COVID-19 when no one was allowed to go out and shops were shut down for longer time. The traders learnt to create a virtual version of their stores for the VR market. This version can either be a replica of a store or a fabricated environment to have complete control on application. Traders could design the space and could update it in line with customer trends and product preferences.

7. Presence of AR in physical stores: AR devices can offer in-store engagement to make the experience appealing to consumers. The app allow companies to launch additional content and extra information in their stores. An example in steps:

- A customer can walk into any given store.
- He can pick up an AR headset and can start to wander around.

- While looking at different items, description boxes will pop-up to tell them about the product they are looking for in virtual store.
- A contest box may appear on their device screen asking them to enter an in-store promotional game.

These features enhances the shopping experience than simple reality. It will be a heightened version of reality and an immersive experience.

8. Connecting VR and AR: E-Commerce companies is trying to attract customers to their store. Due to massive competition and sometimes pandemic like situation, the companies are using both VR and AR technologies to achieve goal either in a physical or online sense. These app allow shoppers to engage into the commerce experience. This app making the customers feel as if visiting both online and physical stores. The retailers and e-Commerce companies are in a position to incorporate these technologies into everyday customer service offerings. The pace of trends of VR and AR technology sound futuristic and soon will be available to the wider consumer base.

Figure 4: Virtual Applications on Mobile, AR

Source: Augmented Reality, shopify.in, 2018

From the past few years, Augmented reality (AR) has shown its presence and given solutions in retail sector (Forsey Caroline , 2018). According to the survey, 75% of consumers now prefer to experience augmented reality version of retail store (Forsey Caroline, 2018). In long term, the customers will get satisfaction through AR and the brands may take advantage of augmented reality to reach to more number of people. Assumptions are being made that AR will do wonders in retail sector in the years to come in various ways.

Following are the ways of transforming retail and strategy of retail through incorporation of AR:

1. To Try on 3D Products Virtually: There is a situation when any person feels quite embarrassing and uncomfortable in trying a new jeans when store is crowded with customers. It can discourage customers to try and check new products, AR can really help in this case.

Brands have started using AR to come out of these challenges. LCST Lacoste, for example, uses Lacoste AR app by which customers can try on their shoes virtually. There was a response from 30,000 users who had used this app.

2. Visualizing 3D Products in Home: Many a time, visiting and visualizing in a store does not give the idea that how it look at their homes. So, this problem can be solved by application of AR to see products in home in virtual way before purchasing by the customers. For eg; Magnolia Market and Shopify AR team jointly created an app to see looks of products in their homes. Magnolia Market's specifically with help of Augmented reality helped customers to see their furniture fixed at their homes.

3. To Gather In-Store Information about Product: Nowadays, for gathering product information and prices in stores, nearly 60% of shoppers explore using mobile phones. Augmented reality app providing answers to the problems of shoppers in easier way. For eg, an American Apparel created an AR app where customers can scan signs in-store for all information of products, reviews of customer, pricing and choosing color altogether.

4. Using Fitting Rooms Virtually: During festival shopping seasons, the fitting rooms, is limited for shoppers. The customers avoid checking and trying new clothes in a crowded store. All stores wants to increase the foot fall of customers.

Figure 5: Virtual Fitting Room

Source: AR DOOR Moscow, 2011

To avoid all these hassle marketers using app. For eg; Topshop and AR Door jointly used Kinect motion sensing technology at Moscow to create a virtual fitting room for customers. Customers could see themselves by standing in front of the camera and check if the clothes fit on them without trying physically. The picture given below speaks all about the app.

5. Building Brand Awareness through AR concept: AR concepts used as an innovative and modern tool had given advantage to many retail stores during 2018. Augmented reality is becoming unique and surprising increasingly. For eg; geolocation and AR app was used by Airwalk, an "invisible" pop-up shop was created. Another objective was to promote the relaunch of the Airwalk Jim. Customers would get an entry using Airwalk's app and purchase the shoe virtually. Building brand awareness of Airwalk through AR was successful.

CHALLENGES IN VIRTUAL SHOPPING

According to CCS Insight, 77.24% of shoppers just left the products before making a purchase. These challenge were faced by the retailers for convincing customers to purchase online. To bring end to this problem, VR app was used by retailers. AR, its sister technology, has the potential to reshape the world of retail. Nearly, a third of customers believe more investment required in these technologies as they will play an important role in shopping.

Following are the challenges in virtual applications:

1. Performance and availability suffer due to depleted resources (f5.com, 2008): Performance issues is created by a move from physical hardware to virtual hardware and VM saturation. It causes depletion of application networking resources at a faster rate.

2. Lack of application awareness at most places: Operating system, OS, virtualization does not virtualize the application. There is software included with Virtual infrastructure platforms that migrates running VM instances from one physical device but causes delay in app availability.

3. There is an additional and unanticipated cost of Virtual application, the cost of virtual solution is more than the physical problem.

4. The virtualization features almost remains unused, as the network limits implementation.

5. Overrun of storage network when growth exceeds the planning.

6. Congestion of storage network is a great challenge, as data pipes unable to handle the volume.

7. Management complexity: The management tool does not work together.

CONCLUSION

As the lifestyle and the trend is changing, people are becoming very busy in their day to day life specially earning for their livelihood. So, there is a change in various ways of shopping which is diversified. They have no interest in spending their time for shopping at stores and instead they would like this work to be done by someone else. This trend, in one way, brought the concept of virtual store. People can easily visit superstores online and can do their shopping through the app, VR and AR without any hassle. There is a vast change in the business IT market. The COVID-19 outbreak has further enhanced the use of virtual shopping online. We may finally see changes here and the current competition will undoubtedly force every solution to strive for the best possible use experience. We are very much optimistic about the future of usage of virtual application by the customers.

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SUSTAINABLE GROWTH MODEL: A CASE STUDY ON WALMART INC.

ABSTRACT: Purpose – The axle of this study is to estimate a company's sustainable growth by using an extension of DuPont System of financial analysis with the help of a case example of Walmart Inc.
Design/methodology/approach –The DuPont System is premised on return on equity of a firm, which is further decomposed into three components: net profit margin, total asset turnover and the equity multiplier. The extended DuPont System of financial analysis multiplies return on equity by the earnings retention rate to calculate sustainable growth, which is denoted by g1 and g2.
Findings – Results indicate that the Walmart is expected to grow at a rate of 13 percent. Sustainable growth is the highest level of growth in sales that a company can achieve using internally generated funds only. The retention rate and sustainable growth rate are stable from 2009 to 2018.
Originality/value – The study has attempted to measure the sustainable growth for Walmart by using sustainable growth model, which is primarily an extension of DuPont System. The study is very significant in the current situation when the economies worldwide are trembling. The study has used widely accepted sustainable growth model to assess the performance of Walmart Inc.

Key words: *Sustainable growth, DuPont system, Financial planning, Walmart*
JEL Codes: *G1, G2, L6, O4*

INTRODUCTION

A business that grows too quickly may find it difficult to fund the growth. A business that grows too slowly or not at all may stagnate. Finding the

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optimum growth rate is the goal for longevity of a business. Graham et al. (2002) say that when we refer to sustainable growth from financial analysis perspective, then the growth in sales revenue a company can achieve without raising any additional share capital is considered as sustainable growth. Which means the assets required to achieve growth in sales are funded by the retained earnings or by the debt only but not by any additional equity capital. Thus, the sustainable growth model talks about the growth, a company can sustain in long run because it is primarily funded by the retained earnings. In simple terms and with reference to a business, sustainable growth is the realistically attainable growth that a company could maintain without running into problems.

John C. Gardner et al (2011) discussed in their paper that "Sustainable growth is the maximum rate at which a company can increase sales while maintaining the target or optimal leverage ratio without any additional external equity financing. The sustainable growth model assumes that total owners' equity for a company can only increase when retained earnings increase. The impact of this limitation on sales growth can be derived from the fundamental equation of accounting which states that assets must be equal to liabilities plus owners' equity". They further discussed that "an increase in total revenue must be accompanied by a proportionate increase in total assets. Ross, Stephen A et al. (2008) concluded that since any increase in total revenue is limited by the increase in total assets, growth in total revenue is limited by the increase in retained earnings".

The basis for sustainable growth model is the extended DuPont system of financial analysis, where the return on equity, ROE, is decomposed into three components: net profit margins, total assets turnover and equity multiplier. Figure 2 exhibits a detailed analysis of DuPont system and interconnection of all the variables used for calculation of sustainable growth. If we carefully examine this figure, we can learn that any firm can prepare its proforma financial statements based on this extended DuPont[1] chart and also can calculate its sustainable growth with the help of these variables. The net profit ratio on the one hand helps financial analysts to forecast income statement and both vital components i.e. revenue and expenses and on the other hand can total asset turnover helps forecast the asset part of the balance sheet and the equity multiplier helps to forecast

[1] See Brigham, Eugene F. and Michael C. Ehrhardt. *Financial Management, Theory and Practice*, Twelth Edition and see Thomson/Southwestern, Mason, OH, 2008 and/or Ross, Stephen A., Randolph W. Westerfield, and Bradford D. Jordan. Fundamentals of Corporate Finance, Eighth Edition, McGraw-Hill Irwin, New York, 2008 for a detailed discussion of the DuPont system of financial analysis.

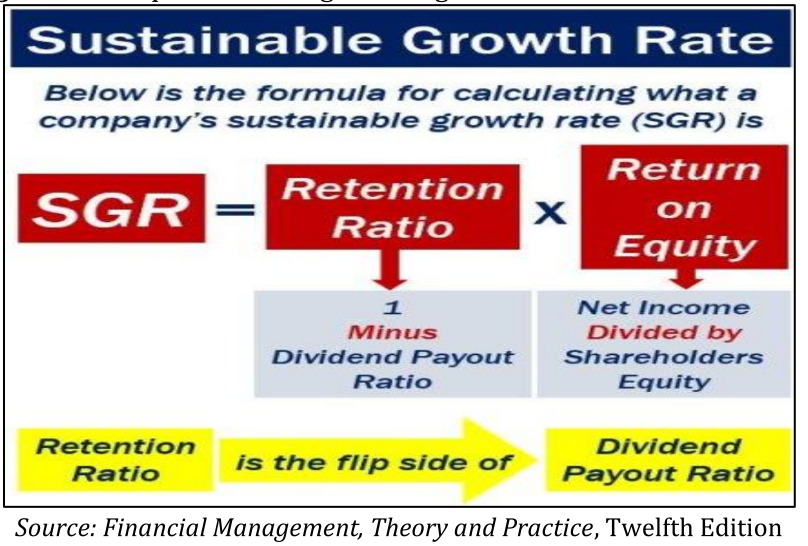
the liabilities and equity side of the balance sheet. We must mention that in proforma financial statements, the ROE is the beginning point where a firm need to decide its target returns on equity, based on which rest of the variables are forecasted.

Sustainable growth is the maximum growth rate that the firm can achieve without additional external financing beyond what is justified by the growth in retained earnings. The sustainable growth model assumes that the firm will maintain the target capital structure. The target capital structure will be the capital structure that minimizes the weighted average cost of capital for firm that maximizes the value of the firm, thus the total owners' equity for a firm can only increase when retained earnings increase.

COMPUTING SUSTAINABLE GROWTH

It is imperative for all businesses to pay serious attention to its growth which can be sustained in future as well. Since the long term growth is more important than only a short term bonanza. Calculation of Sustainable growth is shown in the figure 1 below.

Figure 1: Adopted from Brigham, Eugene F. and Michael C. Ehrhardt



Source: Financial Management, Theory and Practice, Twelfth Edition

Sustainable Growth (G) can be calculated with the help of 2 formulas shown below:

1. G = ROE * (RR)

$$\left[\frac{Net\ Income}{Owners'Equity}\right] * \left[1 - \frac{Dividends}{Net\ Income}\right]$$

OR

2. $G = ROE\ (Net\ Profit\ Margin * Total\ Asset\ turnover * Equity\ Multiplier) * RR$

Where, ROE= NPM * TAT * EM and RR (Retention Rate) calculation will be same as shown above

$$ROE = \frac{Net\ Income}{Sales} X \frac{Sales}{Average\ Total\ Assets} X \frac{Average\ Total\ Assets}{Average\ Owners\ Equity}$$

VARIABLES OF SUSTAINABLE GROWTH MODEL

Net Profit Margin (NPM): Is equal to net income or profits divided by total revenue, and represents how much profit each dollar of sales generates. The net profit margin illustrates how much of each dollar collected by a company as revenue translates into profit.

Total Asset Turnover (TAT): Is a ratio, which measures how well a company utilizes all of its current and fixed assets to generate revenue for the company. An accountant or analyst calculates the ratio starting with net sales and dividing by total assets.

Equity Multiplier (EM): Is total assets divided by stockholder's equity. Equity multiplier is a financial leverage ratio that evaluates a company's use of debt to purchase assets.

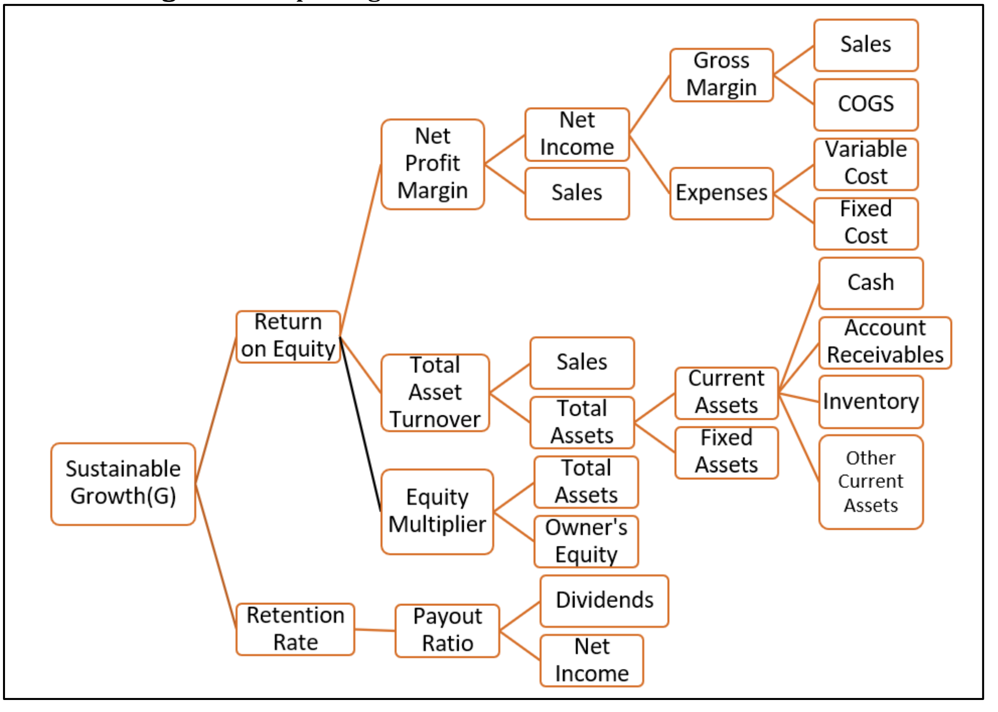
Assumptions of the Model

1. Total owners' equity for a company can only increase when retained earnings increase.
2. Any change in equity can only result from a change in retained earnings.

ABOUT WALMART INC.

Walmart Inc. (formerly Wal-Mart Stores, Inc.) is an American multinational retail corporation that operates a chain of hypermarkets, discount department stores, and grocery stores. Headquartered in Bentonville, Arkansas, the company was founded by Sam Walton in 1962 and incorporated on October 31, 1969. It also owns and operates Sam's Club retail warehouses. As of October 31, 2018, Walmart has 11,277 stores and clubs in 27 countries, operating under 55 different names. The company operates under the name Walmart in the United States and Canada, as Walmart de México in Mexico and Central America, as Asda in the United Kingdom, as the Seiyu Group in Japan, and as Best Price in India. It has wholly owned operations in Argentina, Chile, Canada, and South Africa. Since August 2018, Walmart only holds a minority stake in Walmart Brazil, with 20% of the company's shares, and private equity firm Advent International holding 80% ownership of the company.

Figure 2: Depicting Variables of Sustainable Growth Model



Walmart is the world's largest company by revenue—over US$500 billion, according to Fortune Global 500 list in 2018—as well as the largest private employer in the world with 2.3 million employees. It is a publicly traded family-owned business, as the company is controlled by the Walton family. Sam Walton's heirs own over 50 percent of Walmart through their holding company, Walton Enterprises, and through their individual holdings. Walmart was the largest U.S. grocery retailer in 2016, and 62.3 percent of Walmart's US$478.614 billion sales came from U.S. operations.

ANALYSIS OF ROE AND SUSTAINABLE GROWTH FOR WALMART

The following table contains the data and ratios for the DuPont system financial analysis of return on equity and the analysis of sustainable growth for Walmart based on the annual data for the years from 2009 to 2018. The first five lines from total revenue to dividends contain the raw data needed to compute the ratios used in the DuPont system of financial analysis and for the sustainable growth rate. Over the period from 2009 to 2018, total revenue for Walmart increased from $405,607million to $500,343 million. Net income rose from $13,400million to $10,523 million but did not increase every year, i.e. net income declined. Total assets rose from $163,429million to $204,522 million. Total owners' equity rose from $72648million in 2009 to $80,822 million in 2018. Dividends rose from $3,746 in 2009 to $6,124million in 2018. Dividends rose every year.

Table 1: Calculation of Sustainable Growth for Walmart Inc

Apple	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Average
Total Revenue	405607	408085	421849	446590	468651	476294	485651	482,130	485,873	500,343	458107.3
Net Income	13400	14883	16993	16387	16999	16022	16363	15080	14293	10523	15094.3
Total Assests	163429	170407	180663	193406	203105	204,751	203,706	199,581	198,825	204,522	192239.5
Total OE	72648	71247	71247	75761	81738	81339	85937	83611	80535	80822	78488.5
Dividends	3746	4217	4437	5048	5361	6139	6185	6,294	6,216	6,124	5376.7
NPM	0.033037	0.03647	0.040282	0.036694	0.036272	0.033639	0.033693	0.031278	0.029417	0.021032	0.033181
TAT	2.481855	2.394767	2.335005	2.30908	2.307432	2.326211	2.384078	2.415711	2.443722	2.446402	2.384426
EM	2.249601	2.391778	2.535728	2.552844	2.48483	2.517255	2.370411	2.387018	2.468802	2.530524	2.448879
RR	0.720448	0.716657	0.738892	0.691951	0.684629	0.616839	0.622013	0.582626	0.565102	0.418037	0.635719
ROE	0.184451	0.208893	0.238508	0.216299	0.207969	0.196978	0.190407	0.180359	0.177476	0.1302	0.193154
ROE	0.184451	0.208893	0.238508	0.216299	0.207969	0.196978	0.190407	0.180359	0.177476	0.1302	0.193154
G	0.132887	0.149705	0.176232	0.149668	0.142382	0.121504	0.118436	0.105082	0.100292	0.054428	0.125062

The next four lines in the table contain net profit margin (NPM), total asset turnover (TAT), the equity multiplier (EM), and the earnings retention rate (RR), which are the ratios needed to compute return on equity (ROE) and sustainable growth (G). ROE is computed by two methods. The first line of ROE is computed by dividing net income by total owners' equity. The second line of ROE is computed by multiplying NPM by TAT by EM. If the two computations for ROE are the same, then the analysis is correct and is verified. The last line in Table 1 is the value of sustainable growth, G, and is calculated by multiplying sustainable growth by the dividend retention rate.

The net profit margin rises from 0.03304% in 2009 to 0.03318% in 2018. The highest NPM is 0.0428% 2011 and the lowest NPM is in 2018. The average NPM is 0.03318%. The total asset turnover is 2.48 in 2009 and falls to 2.44 in 2018. The average TAT is 2.38. TAT is the most volatile of the three variables affecting ROE. The equity multiplier is 2.24 in 2009 and rises to 2.53 in 2018. The average EM is 2.44. ROE is as low as 0.18445 in 2009 and 0.1302 in 2018and averages 0.19315 for the entire analysis period.

The Figure 3 depicts ratio values for Net Profit Margin, Total Asset Turnover, Equity Multiplier and Return on Equity for 10 years for Walmart Inc. Return on Equity is almost constant whereas the Net Profit margin is almost constant over the period of study.

Figure 3: Depiction of ROE for Walmart

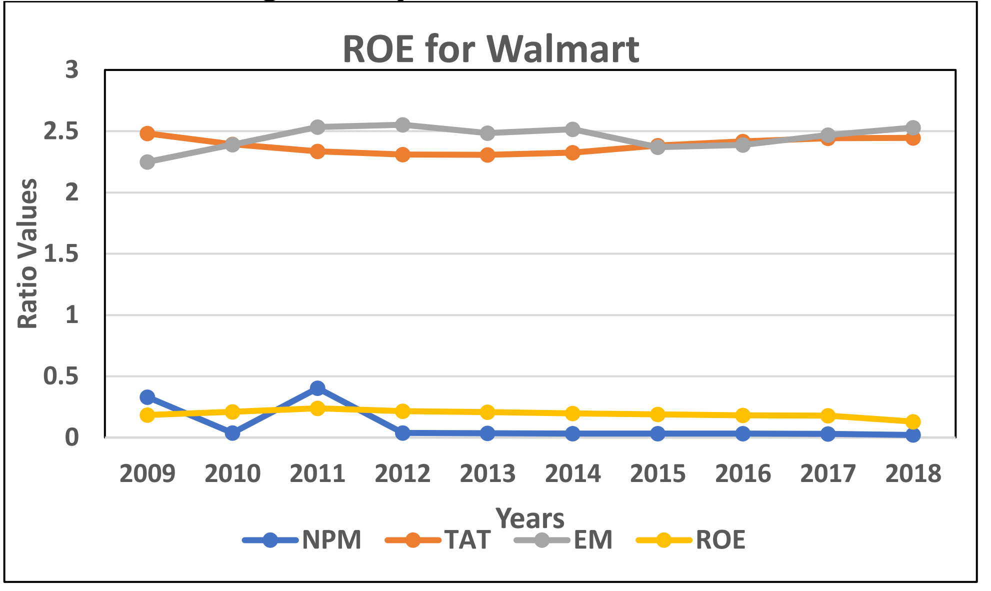
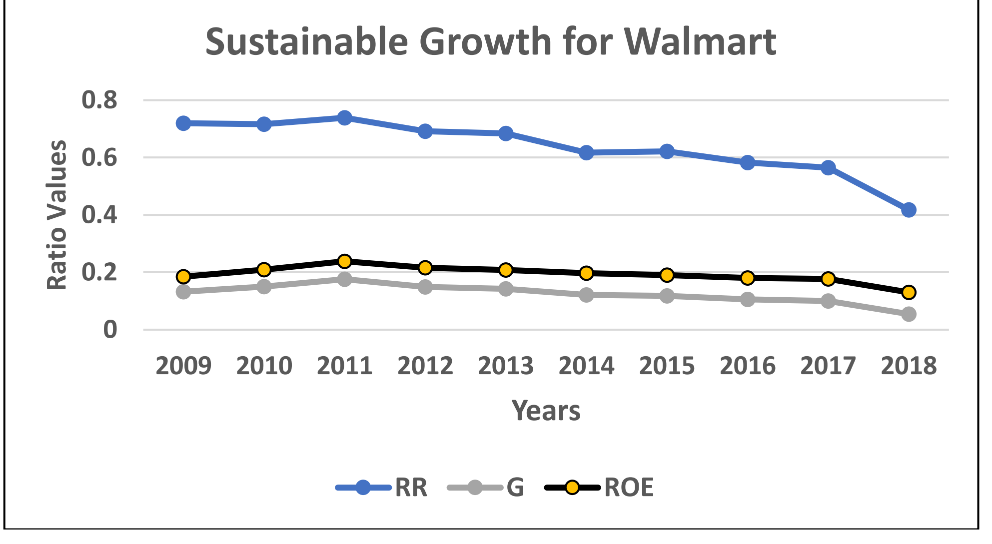


Figure 4: Depiction of RR, G and ROE for Walmart



The Figure 4 shows sustainable growth for Walmart and ROE and RR which are used to compute G. The retention rate is relatively stable from 2013 to 2018. Sustainable growth rate remains volatile over the analysis period.

CONCLUSION

Sustainable growth is the change in sale with respect to consistent financial policy. It is calculated using extended DuPont system which considers both return on equity and retention rate. Assets can only increase by the amount of retained earnings in the firm plus the additional debt that can be supported by the additional equity. In this study, we demonstrate how to compute sustainable growth for Walamart for the period from 2009 to 2018 and discuss the impact of the different variables on sustainable growth for Walmart. This paper uses actual financial data for Walmart Corporation to conduct the financial analysis and predict sustainable growth.

This model allow analysts to dissect a company to determine the efficiency of the company, to know where the company is weak or strong and to quickly recognise what areas of the business to look at. These factors analyse both the financing policy and the performance of the company. However, the measure is still broad and is not a substitute for detailed analysis.

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FARMER'S PERCEPTION ABOUT INDEBTEDNESS AND FARMING AS PROFESSION: A FIELD LEVEL EXPERIENCE FROM SOUTH HARYANA

ABSTRACT: There is a significant requirement to understand the indebtedness of farmers and farming as a profession in existing times in the country. If the Government provides necessary benefits and assistance, the agricultural sector and especially farmers, will be more efficient. The study highlights the disparate issues of small and marginal farmers in rural Haryana. This argument describes our farmer's perception about factors affecting indebtedness and obstacles faced by the farmers from benefiting the loans. The study also raises a principal question which further elaborates the perception of farmers about the choice of farming as a profession for the next generation. Upon doing a thorough research, the study found that cost of cultivation, crop failure, lack of irrigational facilities and high expenditure in capital and current farm expenditure were majorly the significant factors behind indebtedness, as narrated by few respondents. The study further explores that farmers have assorted concerns in regards to lack of marketing facilities and fragmentation of land. One of the most daunting realities of this argument is that the majority of farmers are not interested in continuing farming as a profession for their children, and the analysis suggests that there is a dire need to implement reforms in the agricultural sector in a variety of areas which makes farming a commercial success, and a worthwhile occupation. Rural indebtedness, an obstacle for development requires an in-depth analysis so as to address the problems in all its dimensions.

Key words: *Haryana, Indebtedness, Perception of Farmers, Distress*
JEL Codes: *Q13, Q14*

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INTRODUCTION

During the formation of a separate state in 1966, the main contribution in GSDP in Haryana was from the agricultural sector. Since 1966 to 2019, the Haryana's economy experienced structural transformation in various sectors, and presently, the driving force behind the growth of the Haryana economy is the service sector with a contribution of 50.6 percent in GSVA. A total of 32.8 percent contribution is from the manufacturing sector and agriculture, while the allied sector contributes 16.6 percent. Despite this, the agriculture sector still plays an important role in the state's economy as the major proportion of the state's population is directly and indirectly dependent on the agriculture sector. Sadly, the rising cost of cultivation, crop failure, rising indebtedness has lead to farmer's suicide; and collectively, these are the familiar and recurrent issues which farmers are being faced with in Haryana and nation as well. According to the NSS 70th round report, the level of incidence of indebtedness among rural households and cultivator households has increased substantially since 1991. The average size of holding in the state declined from 2.32 hectares in 2000-01 to 2.22 hectares in 2015-16 (Agricultural census). The extent of indebtedness among agricultural households was 42.3 percent in the state. Along with this, the study also incorporates the various aspects of farmers which are not only confined to their indebtedness concern, but beyond the realm of this harsh reality. The subject aims at studying farmers' perception and causes behind their outstanding loans that farms–agricultural households take to meet health issues, leaving them with diminished ability to invest in farming; which also leads them to not take farming as a profession.

REVIEW OF LITERATURE

The problem of indebtedness among farmers has become a common phenomenon in every part of the country off late, which ultimately ushers them into oblivion and deplorable situations. To analyse this deplorable condition among farmers, a detailed review of texts has been done that is more focused on factors of indebtedness, difficulties and issues related to farming etc. Several studies identified that factors responsible for indebtedness among farmers were their farm size, off-farm income, productivity, diary income, domestic expenditure, lack of education, irrigation facilities, rain-fed, low cropping intensity, climatic conditions, uncertainties, non-availability of credit, rise in input prices, cost of cultivation, level of yield, unbalance in food grains yield, crop failure, low remunerative returns from agricultural sector and economic conditions (Singh et.al, 2009; Kale et.al, 2012; Sajjad and Chauhan, 2012; Gaur, 2014; Pattanayak and Mallick, 2016 etc.). The level of indebtedness increased among farmers as credit facilities enhanced in those areas (Acharya, 2006). While farmers had the option to borrow loan amounts from both the sources; i.e. formal or informal, but they also struggled in availing the loan amount from them due to interest rates being fixed by administrative authorities. Eventually, farmers were forced to give bribes to the officials to avail loan from the formal sources so that they get timely credit; while in case of informal sector, the moneylender charged a higher rate of interest as compared to formal sources (Gupta and Chaudhary, 1997). These crucial aspects conclude that in hindsight, farmers are now prepared to leave this vocation as they are unable to generate adequate income for subsistence. Interestingly, during the research, it was brought to my awareness by Singh and Bhogal, 2014 that around 14.39 percent of farmers have already left the agricultural profession since 1991.

OBJECTIVES OF THE STUDY

The main objectives of the present study are:

1. To analyse the perception of farmers related to factors of indebtedness.
2. To study the difficulties faced by farmers in availing loan facility.
3. To understand the farming related issues in the study area.
4. To study their perception about farming as a profession for next generation.

DATA SOURCES AND RESEARCH METHODOLOGY

In this study, various sources such as journals, government records, books, annual reports of NABARD, NSSO data, Statistical Abstract of Haryana, All India Rural Debt and Investment Survey, Reserve Bank of India and Agricultural Census etc. were used. The primary data for the study was collected through a well-structured interview schedule from the indebted agricultural households of 360 respondents of Gurugram, Rewari and Mahendragarh districts of South Haryana. Simple statistical tools were used for the analysis of the study.

RESULTS AND DISCUSSIONS

Socio-Economic Characteristics of Respondents

It becomes imperative to study the socio-economic characteristics of the respondents. During the research, the study found that the majority (83%) of indebted respondents fall under the age group of 51-60 years. A total of 69 percent of small and marginal farmers belong to Other Backward Class (OBC) category. Majority (73%) of respondents were married, and in the case of education, the study found that 34 percent of respondents were illiterate and a total of 52 percent have attained only primary education.

Perceptions of Farmers related to Factors of Indebtedness

Several factors of indebtedness were listed and the responses of farmers are presented in the following table:

Table 1: Factors of Indebtedness among Small and Marginal Farmers

Factors of Indebtedness	**No of Respondents (Multiple Response)**	**Percentage**
Crop failure	254	70.56
Low income from agricultural sector	241	66.94
Low productivity	159	44.17
Rise in cost of cultivation	292	81.11
Unorganised pricing of commodities	169	46.94
Lack of irrigation facilities	258	71.67
Use of Traditional methods of farming	136	37.78
High Capital expenditure in farm business	264	73.33
High Current expenditure in farm business	255	70.83
Deficiency of rainfall	171	47.50
Lack of marketing support	192	53.33
Marriages and ceremonies	248	68.89
Educational expenditure	92	25.56
Medical expenditure	80	22.22
Loss in Non-farm business	63	17.50
Economic distress	60	16.67
Alcoholism	197	54.72
Consumption Expenditure	236	65.56
Growing new crop	179	49.72
Use of chemicals	248	68.89

Source: Field Survey

Table 1 outlines the factors of indebtedness according to farmer's perception. A total of 81.11 of indebted respondents believed that rise in cost of cultivation lead to indebtedness. Crop failure, lack of irrigation facilities, high capital and current expenditure in farm businesses were also predominant constituents behind indebtedness among small and marginal farmers of south Haryana. Educational expenditure, medical expenditure, loss in non-farm business, economic distress and so on are key factors responsible for farmer's indebtedness.

During interaction with these respondents, it was found that they've taken the institutional loan through Kisan Credit Card. To meet credit requirements of farmers, an innovative credit delivery system was introduced by the government of India in 1998. This scheme was implemented in the entire country through institutional credit agencies which includes commercial banks, cooperative and regional rural banks which gained wide acceptability amongst farmers. The main objective of this scheme was to provide hassle free, timely and adequate supply of credit to farmers by fulfilling their short and long term credit requirements. This loan amount was sanctioned for a period of five years. There were no curtailments in the number of credits and debit, but each withdrawal amount in a particular year had to be repaid within twelve months. No withdrawal instalments in account should remain outstanding for more than 12 months. After analysing the credit pattern of respondents; the below facets were identified based on their perception for availing the loan facility time and again. The research found that 14.28 percent of small and marginal farmers believed that their income was less than their expenditure; where else 21.94 percent of farmers apprised that rising cost of cultivation was responsible. A total of 17.22 percent of farmers agreed to crop failure, while 16.28 believed that their consumption expenditure was rising, and a total of 30.28 percent of respondents were of the opinion that all of the said above components were responsible for repeatedly availing of the loan facility by them.

Difficulties in Receiving Loan Amount

After discussing the perception of farmers regarding factors of indebtedness; some aspects in terms of difficulties in taking the loan by small and marginal farmers were also discussed. It is extremely disturbing that farmers experience even the trivial complications of documentation, corruption, and at times, both. The extent of debt and hurdles faced by small and marginal farmers in availing the loan in the study area is shown in the below table.

Table 2: Difficulties faced by Small and Marginal in Availing Loan

Small Farmers of South Haryana						
Districts	Gurugram		Rewari		Mahendragarh	
Problems	No. of Respondents	%	No. of Respondents	%	No. of Respondents	%
No Difficulty	36	60.00	39	65.00	47	78.33
Documentation	8	13.33	10	16.67	3	5.00
Corruption	7	11.67	5	8.33	9	15.00
Documentation & Corruption (Both)	9	15.00	6	10.00	1	1.67
Marginal farmers of South Haryana						
Districts	Gurugram		Rewari		Mahendragarh	
Problems	No. of Respondents	%	No. of Respondents	%	No. of Respondents	%
No Difficulty	35	58.33	34	56.67	48	80.00
Documentation	7	11.67	10	16.67	0	0.00
Corruption	7	11.67	11	18.33	10	16.67
Documentation & Corruption (Both)	11	18.33	5	8.33	2	3.33

Source: Field Survey

The table reveals the certain issues farmers run into while applying for credit through various institutions in the form of documentation and corruption. In the category of small farmers; 60 percent respondents from Gurugram district, 65 percent in Rewari district and 78.33 percent in Mahendragarh district did not face any kind of difficulties while availing loans. However, in case of marginal farmers; 58.33 percent in Gurugram district, 56.67 percent in Rewari district and 80 percent in Mahendragarh district farmers went through the smooth process of availing loan facility through different credit sources. It also became discernible that respondents from Rewari district came across the issues related with documentation relatively more than the respondents from Gurugram and Mahendragarh districts. A riveting contrast however came in the form of corruption faced by small farmers of Mahendragarh more than the other two districts, while the subject in question is similar for marginal farmers of Rewari district. The respondents from Gurugram district however endure both documentation and corruption snagging more as compared to respondents from Rewari and Mahendragarh districts.

Farmers-farming Related Issues

Farmers have raised several issues related to the farming profession in the study area. These issues were classified into four categories such as crop, market, land and irrigation. Crop related issues majorly covered the crop failure complications and rising cost of crop, however, in market related issues, farmers highlighted the unethical practice of commission agents in *mandis*, transportation cost from field to *mandis*, delay in getting payment after selling of the produce etc. In case of land related issues, farmers broached that the fertility of soil has declined with time and now they're forced to use chemicals in their fields. Fragmentation of operational holding due to distribution of property among children was another issue. In irrigation related issues, farmers brought up drawbacks of paying rent on water due to their incapability of constructing a new tube well and its exorbitant cost. The below table reveals the retaliation from the respondents regarding the above mentioned issues:

Table 3: Farmers-farming Related Issues

Districts	**Gurugram**		**Rewari**		**Mahendergarh**		**Total**	
Farming Issues	No. of Respondents (Multiple Responses)	%	No. of Respondents (Multiple Responses)	%	No. of Respondents (Multiple Responses)	%	No. of Respondents (Multiple Responses)	%
Crop Related	110	91.7	112	93.3	102	85.0	324	90.0
Market Related	96	80	103	85.8	99	82.5	298	82.7
Land Related	100	83.3	95	79.2	93	77.5	288	80.0
Irrigation Related	93	77.5	95	79.2	91	75.8	279	77.5

Source: Field Survey

Now, the above table depicts the percentage of Farmers perceptions related to their farming related issues. Upon investigation, it was found that in south Haryana, a total of 90 percent of respondents formed an assumption that they have crop related issues. In Rewari district, majority of farmers hold crop- related issues in comparison to Gurugram and Mahendragarh. A total of 82.78 percent of respondents underlined market-related issues from which the maximum respondents were found in Rewari district. A total of 80 percent of respondents have land related issues also among all three districts where the majority of the respondents were from Gurugram district as compared to Rewari and Mahendragarh. A total of 77.50 percent also believed that they have irrigation related issues and this is an issue brought forward by maximum respondents of Rewari. The survey eventually culminates that maximum respondents have crop related issues and Rewari district is at the forefront of all of them.

<u>Repayment and Distress</u>

In the previous analysis, we discussed factors that contribute to farmer's indebtedness, and diverse strains in availing the credit facilities by them.

And on the basis of these highlighted grounds, it puts farmers into a situation of not being able to repay the debt on time. An analysis was also done to understand the relationship between delay in repayment and distress among farmers. The study found that more than 90 percent of farmers in all districts formed an opinion that delay in returning the debt was a one of the major factors behind the distress among them. And to overcome this anguish, sometimes the respondents were forced to sell their assets to repay the borrowed amount. The study ultimately revealed that 13 percent farmers in Gurugram district, 13 percent of them in Rewari district and 8 percent farmers from Mahendragarh district sold their assets to repay the debt amount which again puts their grievous circumstances at the vanguard.

Preference to Farming as a Profession for their children

A significant question arises though after the above analysis in this scenario of indebtedness among farmers of south Haryana which is, whether they prefer farming as a profession for their children or not. The results could be discussed with the help of the table below:

Table 4: Preference to Farming as a Profession for their Children

District	Yes	Percentage	No	Percentage
Gurugram	2	2	118	98
Rewari	3	3	117	98
Mahendragarh	5	4	115	96
Total	10	3	350	97

Source: Field Survey

The statistics depict the percentage of farmers who wish to continue farming as a profession for their children, and the figures are drastic if compared with farmers who don't want farming as a profession for their upcoming generation. This study clearly manifests that only a total of 3 percent of respondents prefer to have their children in the farming profession, while the remaining 97 percent did not want their children in the same metier.

CONCLUSION & POLICY IMPLICATIONS

In Haryana, and other parts of the country, there has been a declining trend of the agricultural sector in the share of GSVA. And not just Haryana, but agricultural crisis prevail in form of low income from agricultural sector, declining average size of holding, increasing farmer's suicide, indebtedness throughout the country. This study only identified the varying factors of indebtedness such as cost of cultivation, crop failure, lack of irrigation facilities, high capital and current expenditure in farm activities in some selected districts of Haryana. If concluded, the survey found that farmers come across the pain of availing the borrowed amount through credit agencies in the form of corruption and documentation. It was also evident that more than 90 percent of respondents believed that inability in repaying the loan amount is a factor of distress among them which forces them to not choose this trade for their children even in worst scenarios. The study distinctly suggests that crop insurance schemes should be implemented properly, and loan utilization should be monitored. Government should develop irrigation projects especially in dry regions to improve productivity as farmers cannot afford investment from their own savings to transform agriculture. There should be a proper check on the problem of corruption, and remunerative prices of agricultural produce should be provided to them timely. Reduction in the cost of cultivation may help farmers in many ways. In order to increase the income level of farmers, comprehensive reforms in the agricultural sector should be implemented.

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COVID-19: REMITTANCES ON HOLD

ABSTRACT: According to the researchers and scholars, the world will be worse hit by the COVID-19 pandemics in last 100 years. It is spreading at an alarming speed, infecting millions on the way and bringing almost all economic activities to a near standstill as countries imposed nationwide lockdown to control the spread. Economists are predicting global recession which will continue till 2021. Migration and remittances will be much affected by this pandemic and thus will contribute towards recession. Most of the migrants are from low and middle income countries, thus they will be the ones severely affected. This study talks about the importance of remittances in the economy before the pandemic arrived. It further discuss the reasons as to why remittances will decline globally because of the pandemic. A detailed analysis of few low and middle income countries is also done to understand the impact of fall in remittance flows country wise. Finally some policies are suggested which can be employed to reduce the negativity of decline in remittance income flows.

Key words: *COVID -19, Migration, Remittances, Low and middle income countries, Lockdown, Pandemic, Economic Recession*

JEL Codes: *E2, E5, L5 O1*

INTRODUCTION

In December 2019, World Health Organization notified the spread of severe acute respiratory syndrome named corona virus 2 (SARS-CoV-2), commonly called COVID 19. It began in Wuhan city of China which is a capital city of Hubei province. Many adults started complaining of pneumonia at the same time and hospitals could not find cause of it. After

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continuous tests and investigations, it was found that the source of virus is probably bats but the research is in process.

The virus rapidly spread to different parts of the world. In response to this, government of many countries ordered a nationwide lockdown which bans people even from stepping out of their homes and temporarily shutting down all eCommerce while only essential services were in operation. It is very easy for people to catch COVID 19 from others, when comes in contact with the patient. The mucous membrane eyes, nose and mouth are the easiest pathways for virus to enter our bodies.

To control the spread, people all over the world are instructed to practice social distancing, wear masks, sanitization of all products before using, keep washing hands and avoid touching face. Following this prevents the direct entry of respiratory droplets such as coughs and sneezes into the body. The research is still going on to understand all the symptoms and to prevent its spread.

COVID 19 came to this world as a health crisis, but now it has also become a great economic crisis. According to the IMF, this pandemic will have much worse impacts on the entire world economy as compared to Great Depression and 2008 financial crisis. *(IMF, 2020)* Most of the governments in Global North has ordered complete lockdown as they are most affected regions due to this Corona Virus. Due to this, many businesses were forced to stop their operation temporarily. Employers started dismissing few of their employees and cutting down the salaries of the ones still in job, to reduce their business loss. Migrants are always the easy target for the employers, who faced lot of difficulties in surviving during this pandemic.

Global South is heavily dependent on remittances from migrants in Global North. With increase in unemployment due to this pandemic, remittances also faced a huge setback. We know that remittances, as of today, is one of the most important and stable source of external development finance, outpacing private capital flows, it stands second only to Foreign Direct Investment. Being non-debt creating, they are an essential safety net vehicle administered by families and local communities.

All the G8 countries in 2004 at their Sea Island summit decided to make an action plan to improve their remittance flows. Their action plan mainly includes various ways to reduce the costs of remittance services like promotion, innovation and increasing access. The better the flow of remittances, the more will be its impact on development of the remittance-receiving country. The receiving country should initiate the outreach policy as a part of their economic strategy. This policy should be directed to the people who have migrated and are now residing in the foreign country. The purpose of this policy will be to enhance the link between the people left behind in the origin country and the immigrant community in the abroad. (Lundius, et al., 2008)

Intriguing as it seems, the current study will thus be mainly revolving around the developmental contributions of the remittances and the impact of changes in remittance flows due to COVID 19 pandemic. In doing so, we'll be working upon certain established economic frameworks related to migration and the remittance pattern that it follows. Our aim will be to analyze the changing pattern of remittances especially in low and middle income countries and the need of altering stream of migration and remittances to survive with this pandemic.

ECONOMIC IMPLICATIONS OF REMITTANCES

International migration is one of the most important factors affecting economic relationship between developed and developing countries in the 21st century. (Adams & Page, 2003) The capacity of migration to generate positive human development outcomes is widely appreciated. Along with the potential to improve the lives of millions of poor and low skilled people across the world, migration is recognized as a phenomenon carrying the capability of bringing all round benefits to the receiving as well as sending countries. (Rajan, et al., 2011)

Migration is very closely related to inequality and is considered to have potential to reduce income inequality. Millions of people tend to migrate across borders and continents due to insecurity and economic crisis of the home country and the expanding global labour markets. Though only a small percentage of the total world's populations are migrants, still their impacts on economic development have become phenomenal. In this era of globalization, these migrants have formed a new transnational community who retain their varying social cultural linkages with their origin countries while also effectively adapting to the unfamiliar environment. (Jones, 1998)

The greatest product of the outgoing population known as emigrants is the incoming funds to the origin countries in the form of corresponding remittances. These transfers are unidirectional, from the migrant worker to his/her sending country and households. These funds are far more important to most countries than direct aid as these can affect the balance of trade and drive investments and thus influence development of country.

(Ratha, et al., 2012)
Studying many case studies introduced us to different factors behind differential impact of migration and remittances on the economy. One of the basic factors is network effect which once established, help to lower costs by providing potential migrants information about the economic conditions of destination country and support in the process of migration. (Rodrik & Rosenzweig, 2010) Good network of friends and relatives with previous migration experience helps in mitigating the hazards of crossing the border by showing them preferred routes, helping them in getting jobs faster and with better pays. (Mckenzie & Rapoport, 2007)

Selectivity is another important factor in the process of migration. It explains through a multi staged model that when people are migrating from lower income group, inequality falls leading to development of the economy. The impact on economic development differs according to the class of people migrating. If migration occurs from lower income groups then it will lead to a more equitable distribution of income while if it's the middle income group who is migrating, inequality will tend to rise. Another way is how and where the remittances received are spent. The low income families tend to spend their remittances more on consumption while for the better off families the remittances flow in savings and investment. (Jones, 1998)

It is interesting to know that remittances, as of today, is an important lifeline of many developing countries. They can also foster a dependency on outside flows of capital instead of prompting developing countries to create sustainable and local economies. The flow of remittances to developing countries in 2019 was US$ 550 billion. This was much larger than the flow of Foreign Direct Investment (FDI) and Official Development Assistance (ODA) to these developing countries. (Plaza, et al., 2019)

It has been observed that during boom and recession, capital flows tend to rise and fall respectively while the effect on flow of remittances is quite less. During the Asian Financial Crisis, 2001, private capital flows along with FDI and official flows which are considered to be more stable declined while remittance flows increased steadily in developing countries. Migrants, especially from low income countries, increase the income sent back to their families during economic downturns since these form the main source of income for their families at home. (Ratha, 2003)

Even when the remittances are invested instead of being consumed, the impact of adverse economic climate is marginal on them as compared to portfolio flows. Due to this relative stability, remittances can be used as collateral against borrowings from international capital markets. Thus remittances being less volatile have several positive economic implications. Flow of remittances increases the individuals' income as well as foreign exchange reserve of the recipient country. Remittances, if invested, increases the output growth and if consumed lead to positive multiplier effects. These positive impacts offset the losses associated with emigration of highly skilled workers from these countries. These income flows may also act as insurance against the risk associated with new production activities and thus facilitate the imports of scare inputs required for such production. (Ratha, 2003)

Remittances seem to have a positive impact on overall education status of the origin country. The remittance money received encourages the households to enroll their children in school who would otherwise have been working as additional earning hands, thus increasing the overall literacy rate. The transfers from migrants result in shifting the consumption of poorest families to the local goods and less poor families to the imported ones of the origin country. The impact of the former would be an increase in the domestic production while that of the latter would lead to an improvement in quality of the domestic goods so as to compete with the imported goods. (Hanson, 2010)

Remittances appear to be an effective instrument for income redistribution as it flows directly to the people really in need of it and without any costly bureaucratic procedure on the sending side. And there is no better "bottom-up" way of redistribution and welfare enhancement in developing countries than by way of remittances. (Haas, 2005)

As workers migrate from developing or less developed countries to developed or developing countries respectively, from Latin America to United States, from Africa to Europe, from Southeast Asia to Australia and so on, it tends to raise the wages in the sending countries and depress the wages in the receiving ones, thus reducing international differences in factor prices. (Rodrik & Rosenzweig, 2010)

However, all such assumptions and euphoria about the developmental impacts of migration and remittances are in fact over estimations in terms of magnitude. This is because international migrants form only small part of the total population in developing countries. Also as migration is a selective process, the direct benefits of remittances are also selective and most of the times do not actually flow to the poorest members of the communities, or to the poorest countries (Haas, 2005). In such cases it is expected that the income inequality would be worsened and the overall development of the economy would be adversely affected.

RESPONSE OF REMITTANCES TO COVID 19

The world has faced many pandemics before COVID 19. Besides the Spanish Flu of 1918-20, all other pandemics affected only small share of world population. Both Spanish Flu and COVID 19 has affected the world globally. Almost one third of the world population was infected with Spanish Flu between March 1918 and March 1920. The most affected countries were China, India, USA, Indonesia and Russia. On an average, 0.8% change was observed in GDP growth of these affected countries. It is predicted that COVID 19 will last longer than even Spanish Flu. (Plaza, et al., 2020)

COVID 19 virus is very contagious and spreading at a lightning speed. The fatality rate is quite high as the vaccine is not available as of now. Also the medical facilities are inadequate, especially in low and middle income countries. The governments of different countries was not prepared to prevent themselves from this virus as it fled so sudden. This unanticipated nature of the virus forced governments to opt for lockdown, social distancing and reduced business hours. Some severely affected states even went for complete lockdown and curfew for many days. (Plaza, et al., 2020)

There was complete ban in movement of people between countries and also within countries. People were not even allowed to return back to their native places. Many industries were shut down resulting in huge loss to the economy. Leaving beside only few sectors like healthcare and retail, all other sectors such as hospitality, tourism, manufacturing and construction are badly affected from this pandemic. Most of the migrants work in these other sectors and are thus struggling to even survive. (Bisong, et al., 2020)

COVID 19 has now become an economic crisis affecting the entire economy widely. IMF has predicted that economic recession will be continued till 2021 due to this pandemic. Also it is expected that the world economy will be contracted by around 3 percent in 2020. Advanced economies are predicted to slow down by on an average 6.1 percent, while low and middle income economies are expected to decline by 1.0-2.2 percent in 2020. (IMF, 2020)

The crisis is more serious if we take into account the difficulties associated with migration issues. In the host country, there is shortage of labour due to restrictions in international travel. This shortage is severely affecting the industries which relied mostly on migrant employees. During this time, more people are required mainly in health and information technology sector. As these two sectors need specifically trained people, it is difficult for the ones losing jobs to move to these sectors. Thus intersectoral movement is contained in this pandemic, in contrast with global financial crisis of 2009. (Plaza, et al., 2020)

Number of migrants will not fall in short term, but it is likely to decline in near future. In short run, remittances have declined due to job loss and cut in salaries. Also it is projected that this crisis will result in increasing the income inequality between high skilled and low skilled employees. This will adversely affect the world economy. Besides these economic impacts, some social tensions might increase. The discriminatory attitude that the migrants always face is likely to take a serious face during this pandemic as most governments are not providing any support to the migrants. (Plaza, et al., 2020)

The migrant communities are always part of marginalized and vulnerable groups who continuously face economic hardships in their host countries. The earnings of these people are usually limited especially in the initial years of their migration. From these limited earnings, they send some amount back to their families while struggling with daily expenses in the new country. As these migrants are not permanent residents of the host country, they are not eligible for the national health insurance schemes and also usually do not receive any employer insurance coverage. Thus they are at higher risk both in terms of economic and health safety in comparison to native born employees. In addition to this, governments also do not provide any safety nets as such to the migrants. They are excluded from all social welfare schemes and emergency relief programmes. (Gravesteijn, et al., 2020)

This COVID-19 pandemic has increased their difficulties and worsened the perilous nature of their livelihoods due to lockdowns and business closures. These migrants are generally the first ones who are dismissed from jobs during recessionary times or get reduction in salaries. This results in decline in remittances, with some migrants not able to remit anything. Thus, the families back home are hit hard, especially in the cases when remittances form the large share in their total family income. This pandemic is affecting the flow of remittances to a great extent. (Cao, et al., 2020)

Besides the factors discussed, restricted access to remittance services is also one of the important reasons resulting in decline in flow of remittances. Due to lockdown and mobility restrictions, migrants are not able to access the required services to remit their income back home. These services are either closed due to pandemic or their business hours have reduced. The only alternative now for transfer of remittances is using digital channels. But the problem is that some migrants do not have access to these channels as they are not citizen of that country. Some don't have ability to use digital payments so it is difficult to adapt to this new method immediately. Lastly, there are security issues associated with operating digitally. (Gravesteijn, et al., 2020)

All these challenges will lead to decline in remittance flows, which can be reduced by digitization of these transfers. This digitization is actually a positive change for the economy in the long run but it will be difficult to adapt in short run. The crisis is expected to further worsen globally. The actual impact of pandemic is still uncertain and very difficult to predict.

ANALYSIS OF LOW AND MIDDLE INCOME COUNTRIES

We know that global south is dependent on remittances to a great extent, which mainly consists of low and middle income countries. In 2019, the total flow of remittances to developing countries was US$ 554 billion. It is predicted to decline by almost 20 percent to US$ 445 billion. (Plaza, et al., 2020) Remittances contributed in the economic growth of these countries by helping in reducing poverty and food security. The actual impact of COVID 19 on remittances are still unclear but some predictions can be done. (Salomon, et al., 2020)

It is predicted that remittances will decline the most in Europe, Central Asia, South Asia and sub-Saharan Africa. The decline in remittances is expected to be less than the decline in other external sources of income, thus importance of remittances as a source of financing for government will increase. The data analysis conducted by World Bank of 2020 is the predicted one and does not use actual data. (Plaza, et al., 2020)

In the entire world, Asia tops the list of recipients of remittances, with India being on top. According to World Bank, in 2018 India received around $79 billion, followed by China which received $67 billion. Within India, the southern state of Kerala is the highest recipient of remittances. Kerala, alone receives almost 19 percent of the total remittances received by the country. (Salomon, et al., 2020)

Most of Indians had migrated to Kuwait in past years as the migrant cost to Kuwait was low in comparison to other countries. Thus, many unskilled people could easily migrate to Kuwait in search of a better standard of living and keep sending back their earned amount to their families living in India. The number of expats exceed the number of Kuwaitis, with Indians contributing to the maximum share in total expats. In June 2020, Prime Minister of Kuwait, Sabah Al-Khalid-Al-Sabah proposed changes in the expat quota Bill in response to current COVID 19 pandemic. The main reason for this Bill is the lower demand of oil and thus decline in oil prices, resulting in big loss to Kuwait. (As Kuwait Approves Expat Quota Bill, 8 Lakh Indians Might be Forced to Leave, 2020)

The bill proposes to reduce the total number of expats to 30 percent from 70 percent of the entire population. This Bill, if enforced will force around 8 lakh Indians to leave Kuwait. This will adversely affect the flow of remittances to India. Families dependent on remittances will have to struggle on daily basis. Remittances are also an integral part in the economic development of India. Thus decline in remittance flows will further contribute to economic slowdown. (As Kuwait Approves Expat Quota Bill, 8 Lakh Indians Might be Forced to Leave, 2020)

Pakistan is another country in the list of top 10 countries receiving remittances in Asia. Pakistan received foreign remittances of around Rs. 21.8 billion, contributing to 8 percent of its GDP in 2019. The flow of remittances is not much increasing in last few years due to fall in demand of Pakistani workers. This COVID 19 pandemic has further added to this backdrop. This necessitates government to interfere and regulate the flow of remittances. (Salik, 2020)

Different possibilities are predicted for Pakistan as nothing certain can be concluded at this time. All the possibilities project decline in remittance flows to Pakistan, the amount of decline differs. Most of the migrants are working in pandemic hit sectors so probability of job loss and decline in wages are high for migrants. This might result in 10 percent fall in remittances. There is a possibility that many migrants plan to return back to their native countries. This will lead to decline in remittances of around 30 percent. But due to travel ban, there is minor chance of this scenario. A very sharp decline of around 50 percent is expected in remittance if the pandemic sustain for a long period. If it persists, global recession might occur which further might results in stricter policies against migrants in the respective destination countries. (Salik, 2020)

Besides Asia, African continent is also much dependent on remittances. Remittance flows to sub-Saharan Africa was around $48 billion between 2018 and 2019. Most of the sub-Saharan migrants are working in construction, hospitality and other services sectors. These are the most prone sectors to COVID 19. A high percentage of sub-Saharan migrants reside in destinations like the United States, China, the United Kingdom, the European Union and the Middle East. These are the key affected areas from COVID 19 pandemic. (Plaza, et al., 2020)

The financial crisis of 2008 led to decline in remittances particularly in sub-Saharan Africa, but it declined by 4 percent only as migrants found different alternatives to cope up with the crisis. Even though some of the migrants were forced to return back home but still overall the effect was not that significant. The Ebola epidemic of 2014 affected mainly West Africa. During this pandemic, remittances remained steady since government helped people to receive remittances without any difficulty. (Bisong, et al., 2020)

COVID 19 pandemic resulting in closure of many businesses will lead to sharp decline in remittances globally, as pandemic has hit the major developed countries. World Bank project a decline of almost 23 percent of remittance flows in 2020 in sub-Saharan Africa. This high reduction will contribute to fall in economic growth of the country as well. (Bisong, et al., 2020) Some migrants will return back to their homes, people might start using their emergency cash with no savings left for daily survival. Remittances, in past have helped the country to reduce poverty and inequality. But with such a decline in its flows, remittances will fail to contribute to growth of the country, once the pandemic ends. (Woertz, 2020)

Another in line is the Egyptian economy which is dependent much on remittances. Recently, Egypt has moved to the fast paced road of success, with tourism being its most contributor to growth. Remittances also play an important role in its economic growth as many Egyptians work abroad and send money back to their families. In 2018-19 its contribution to total GDP was around 8.4 percent (USD 25.2 billion). This unanticipated pandemic will have worse impact on Egypt, being a new player on the path of growth. (Breisinger, et al., 2020)

Both tourism and remittances are projected to decline to a great extent due to COVID 19. Tourism is expected to face severe setback atleast in short run while revenue from remittances are expected to decline in between 10 to 15 percent. The remittances were considered to be comparatively stable in economic slowdowns but this pandemic does not seem to go easy on migrants and their incomes. (Breisinger, et al., 2020)

The section of people in Egypt which is most dependent on remittance incomes are rural and poor households. Most of the Egyptian migrants are employed in investment projects in the Gulf countries. As the prices of oil is declining due to low demand, these migrants will be most vulnerable as they might get unemployed or face salary cuts. Government must take some bold and immediate action to reduce the negative effects of decline in remittances due to COVID 19. (Breisinger, et al., 2020)

POLICY IMPLICATIONS AND SUGGESTIONS

Since the relation between remittances and development at the individual, household and community levels is very crucial, there is the scope of specific policies to be implemented which will increase the development potential of remittances even in the times of pandemic. There is certainly a need of innovative ideas and approaches to ensure that remittances keep on flowing with minimal disturbances.

Interference of government is the immediate requirement to support migrants. First thing which is needed is the complete information about the situation and problem of migrants that they are facing in the destination countries. Once the problem is understood, it becomes easier to find a solution. Government might coordinate with that of destination country to provide help to the migrants from their own country who are facing any kind of legal, social or economic issue.

Another potential policy by government is to extend support to migrants who are returning back. Government of the native countries of migrants should ensure safe return of those migrants during this pandemic. If these people have lost job due to this pandemic in their destination country, then some financial help must be provided to them for a certain period.
Self-dependency is a policy towards which every country tries to move. Each country should take this pandemic as an opportunity to work on this goal. Government should start improving the quality of their physical and human capital, start planning for better infrastructure, focus on sustainable development, motivate people to come up with new ideas and provide financial support to good ideas for their effective implementation. This will generate more jobs and provide migrant returnees with new opportunities to grasp.

Due to social distancing and lockdown, transfer of remittances is also a problem for some. Digitization is the good alternative for smooth transitions of remittance flows. Few remittance service providers have already started using digital channels to ease out the transactions for customers and preventing any delays. For this, employers are also required to shift to digital wage payments. Migrants will then receive their wages directly into digital account which can be directly transferred to their family member’s account in the native country, making the entire remittance journey of customer ideally digital. Adapting to this new method and learning it will take some time but it is a much needed change for the better prospects in future. (Cao, et al., 2020)

The host countries should not be allowed to discriminate against the migrants, especially in the situation of pandemic. These people not only contribute to the GDP of their origin country but also helps in the development of the destination country. Thus, in times of need it becomes the responsibility of the governments of the host country to support them and make them feel secure.

CONCLUSION

The literature on COVID 19 and remittances is lively and growing. This paper's heart lies in analyses of change in remittances due to pandemic on the development of only the origin country and not of the destination country. There are additional challenges for people living in developing countries. For this purpose, our focus is on low and middle income countries as these countries are highly dependent on remittances. Most of the developed economies willbe able to reallocate resources to help the needy ones, reducing the negative impact of pandemic. But the policymakers in developing countries will face a big trade-off between health and wealth. Thus, policies should be made keeping in mind both the factors to ensure pareto optimality.

As can be seen, COVID 19 pandemic might be the worse and strongest macroeconomic shock in the past 100 years faced globally engulfing both developed and developing countries. Being of unforeseen nature and spreading like wildfire, many governments ordered complete lockdown which led to shutting down many businesses temporarily. Thus, many sectors of the economy are affected badly leaving many employees jobless. People are struggling even for their daily survival due to less household incomes.

The decline in remittances due to pandemic will have detrimental consequences in receiving countries. Most vulnerable section is the poor households as for them remittances are like a lifeline. They use the remittance income for their daily survival needs like consumption of food and necessities, school fees, health care and savings. With this decline in remittance flows, these poor people will suffer and poverty might increase in the economy. This will further impact the growth of the entire economy. As these remittances are part of GDP, slump in them will reduce productive investments and consumption spending slowing down the process of growth. This necessitates policy makers to take an immediate action supporting migrants and their families so that the decline in flow of remittances can be controlled.

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Shaifali Bagga*

CROSS COUNTRY COMPARISON OF ECONOMIC POLICIES DURING COVID-19

ABSTRACT: Coronavirus disease (COVID-19) is now dominating the lives of everyone. It has already caused an unprecedented collapse in economic activities over the last few months in the world economy. The demand of the hour is to protect facing populations, and led to the stage for recovery. Research includes the economic responses governments have taken to limit the impact of the COVID-19 pandemic. It focuses on comparing some countries and the adopted policies. In the current situation, Policymakers must consider different measures to support governments to counter the deceleration with Fiscal and Monetary policies. It includes 4 major global economies and the policies adopted by these countries to reduce the economic repercussion. The countries are: INDIA, US, GERMANY, and JAPAN. These policies help us, as they create solution to conquer the effect of the pandemic, and regulate the impact on the economies. It further includes the background of these countries, major economic package announced by them and sectoral classification of these packages and their impact. Finally, the findings are significant for the Policy making decisions which can be adopted further on a larger scale as well as different perspectives to think and analyse the impact and the ideas which are adopted by various nations.

Key words: *COVID -19, Monetary and Fiscal policies, Economic package, Financial stability, Policy framework, Recession, Different CARE funds, Consumption patterns*

JEL Codes: *E6, J3, O1, O5*

INTRODUCTION

Coronavirus, has caused a major economic crisis for the economy around the world. It has impacted the whole world which is estimating costs and

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searching for the recovery. With the global cases rising sharply, the World Many Countries were facing slow growth patterns and this pandemic has worsen the circumstances. According to IMF the global economy will decline by 3%.

While the market started recovering losses, unemployment is still at worse and GDP growth is impacted. To contain the harming effects of crisis, governments and central banks have started providing Fiscal and Monetary stimulus measures to prevent the COVID-19 economic impact.

Different countries have different weights to their strengths and weaknesses around the globe. The focus is on strategic sectors such as medical equipment and pharmaceuticals to maintain the supply side factors.

Advanced economies are expected to have 7 percent decline. It will even worsen the situations for major developing markets, which are expected to contract by 2.5 percent. This is the slowest pace in the past 70 years. It has dominated the world but still expect global growth to rise of 5.8% in the following year. It is due to growth in major emerging markets which are India and China as they are expected to regain the growth potential with greater pace than developed countries due to their population dividend and significant characteristics which has more potential of growth than other developed countries which are at the full employment positions.

The research deals with the different methods adopted by major economies. Weak healthcare and recovery patterns, foreign capital investments, budget deficits, fiscal policy restrictions, effect on travel, economies have faced the following with hardest hit industry which has great surplus in previous years is now dwindling which is oil and energy markets. Agriculture is even impacted as due to various trade restrictions there were less demand and break in supply chains and consumption patterns has called for the sustained and the extensive recessions by the virus and it is expected to have major repercussions through declining investments, migrant workers problem, loss of education facilities, loss of labour markets, International linkages and production disruptions.

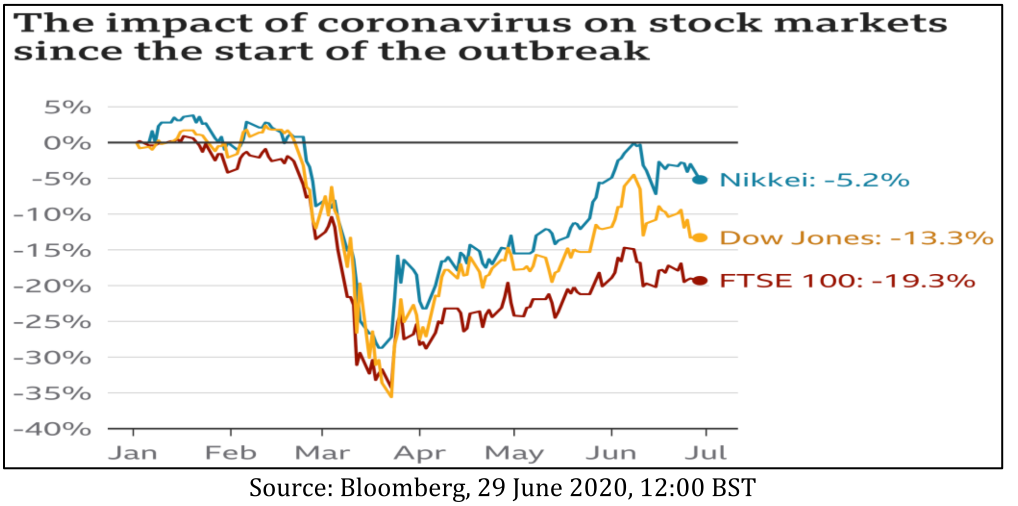
It further focuses on Different sectoral reforms adopted by countries and their statistics. The policies induce the injections by various governments to regulate the flow of credit and to build the spending capacity of individuals. The main focus is on the Monetary and Fiscal reforms for the pandemic recuperation. It helps to understand the difference in economic prospects of different countries relative to their specifications, different policy measure allows to focus on mitigation programmes by countries globally. The actions by various governments might not show the expected recovery as the impact is limited due to slow pace of macroeconomic formulations. To track the severity of the pandemic spread of disease and the starting point of the COVID 19, Reopening phase and the time of policy came into effect has been considered to further enhance the understanding of the Difference in Various models adopted by the countries. Finally, this research is relevant as it provides significant particulars of individual economies and the effect on the GDP and loss of income while concluding on the basis of global aspect and by drawing borderline solutions as the whole world is particularly at the same momentum.

And the rest of the paper is constructed as follows: Initially, presenting the Economic impacts on the global economy (Section- II), then discussing the measures and the Policy reforms under different sectors in India, US, Germany, and Japan (Section-III), And focusing on the role of relief policies during the lockdown and reopening. Further shown the analysis and conclude.

ECONOMIC IMPACT

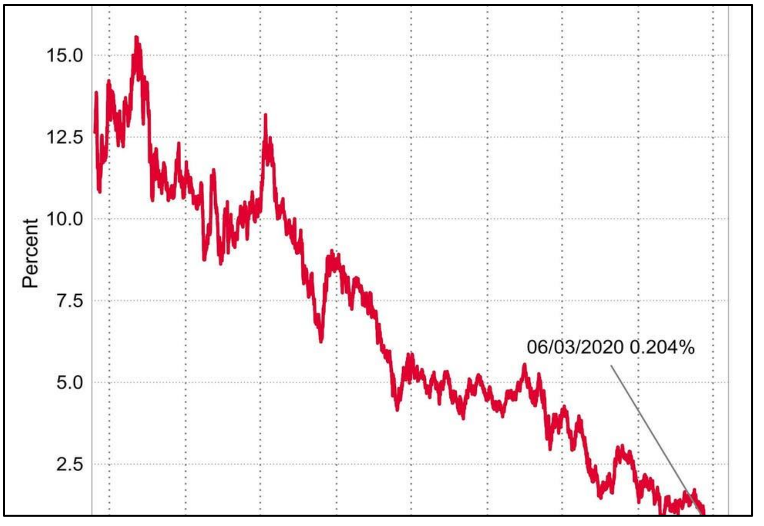
The points listed below are some Major Economic Effects due to Corona Virus:

1. Global Share Market: Global share market has contracted from the starting point of the pandemic which effects the money supply through Banks as there is uncertainty around the world. The investors are ready to hold money balances rather than investing in the share market, which has lowered demand for funds. The US share market which has reached significant levels is even showing downwards trends.



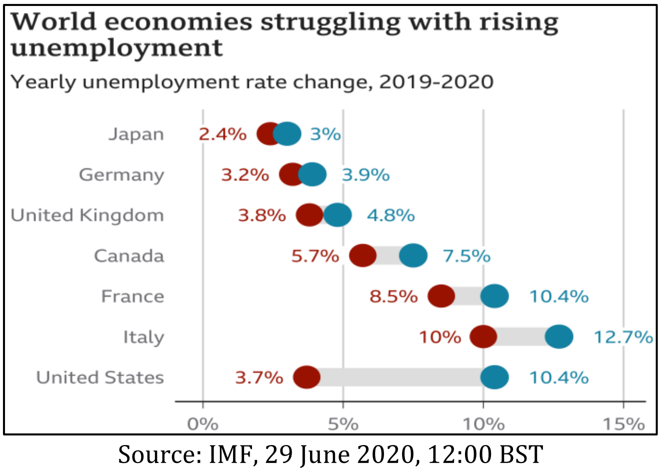
Source: Bloomberg, 29 June 2020, 12:00 BST

2. Lower Interest Rates: This is another major impact as global financial crisis is created due to the interest rates declining sharply. Governments in developed countries have major focus on the credit creation and they are providing various schemes under the policies to create demand for the money. Interest rates have been reduced to foster growth levels and to maintain consumption patterns by creating a supply through expansionary monetary and fiscal policies.



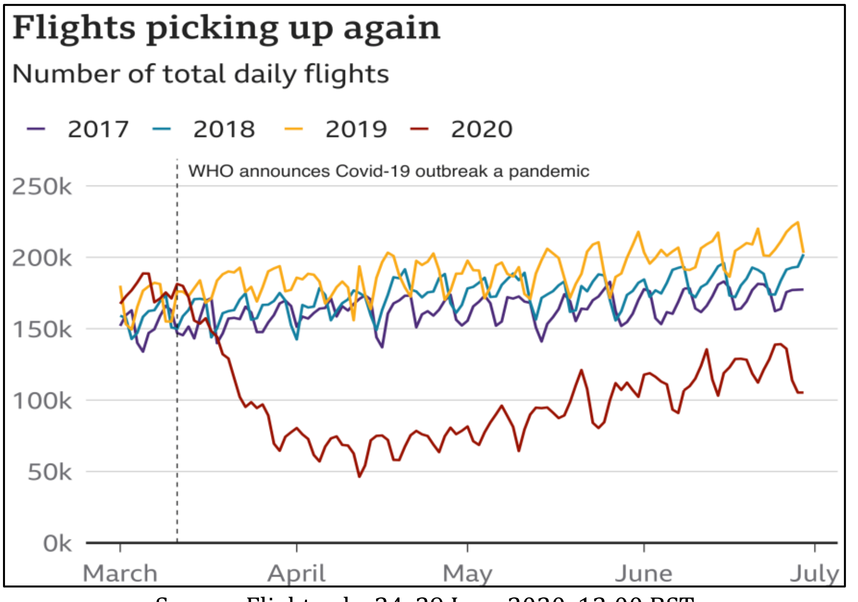
3. Drop in Labour Income: Labour income is forecasted to decline by $1.2 trillion to $1.8 trillion. Whereas Asia's income is expected to decline by $359 billion to $550 billion which is about 30% of the decline in world's income level.

4. Unemployment: There are huge job losses and incomes slashes due to the pandemic. As most economic activities were brought to stand still, resulting in loss of jobs for many.



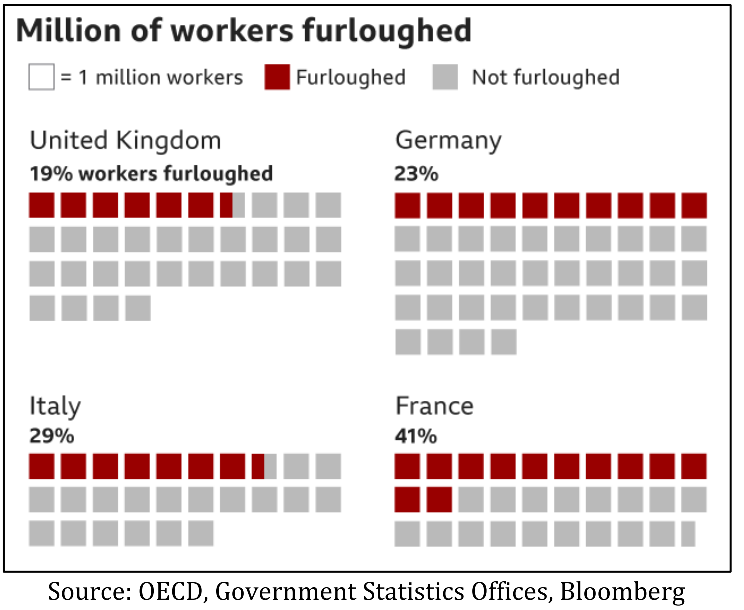
Source: IMF, 29 June 2020, 12:00 BST

5. Travel Industry: The travel industry has been damaged poorly, with airlines cutting flights and customers cancelling business trips and holidays. There were travel restrictions to try and contain the virus. Data from the flight tracking service Flight Radar 24 shows that the number of flights around the world took a huge hit in 2020.



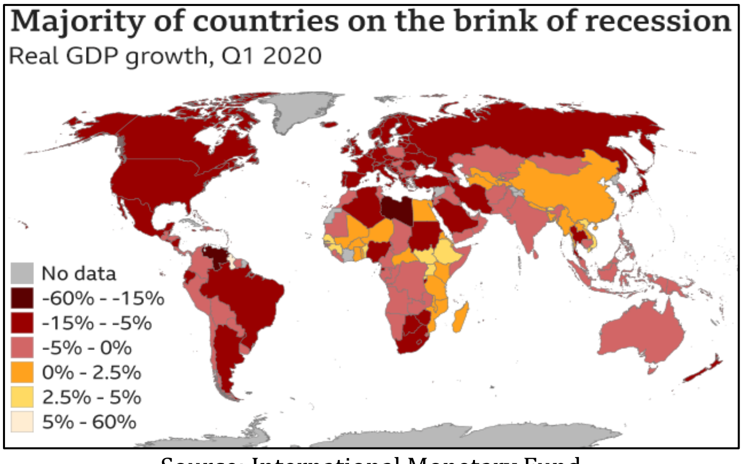
Source: Flightradar24, 29 June 2020, 12:00 BST

6. Migrant Workers Crisis: According to ILO, millions of migrant workers in developing countries, who have been forced to return home because of the COVID-19 pandemic after losing their jobs face unemployment and poverty in their home countries. This is a potential crisis within a crisis.



Source: OECD, Government Statistics Offices, Bloomberg

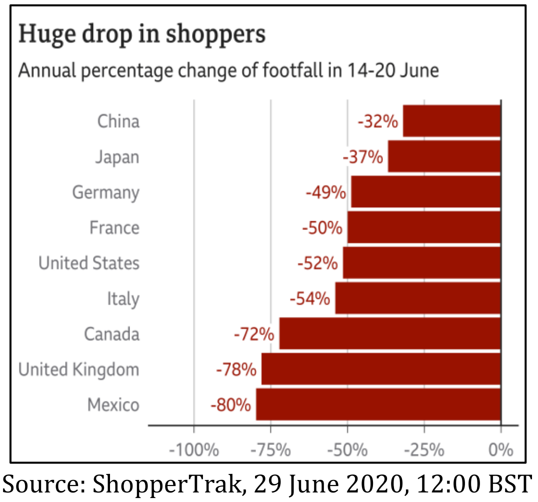
7. GDP Shrinking and Risk of Recession: The global economy is expected to contract by $5.8-8.8 trillion in losses due to the pandemic, the Asian Development Bank (ADB) said. Of this, the impact on South Asian gross domestic product (GDP) is expected to be $142-218 billion. The global economy is anticipated to decline between USD 5.8 trillion and USD 8.8 trillion in losses – which is approximately 6.4 percent to 9.7 percent of the global GDP. It is predicted that government's correct measure of policies could reduce its impact by 30 to 40 percent.



Source: International Monetary Fund

8. Oil Price Shrinking: Oil prices are hard hit due to the consumer demand falling as imposition of lockdowns further reduced world demands. This crisis further impacted the oil prices and dampen in production levels which caused reduced income in major oil exporting countries.

9. Decrease in Consumer Demand: Consumer demand dropped due to the virus contamination and the advisory to stay indoors, therefore except for food and other necessary items other industries have suffered badly.



Source: ShopperTrak, 29 June 2020, 12:00 BST

Now the need of the hour is to protect the economic stability which is at huge risk. Policymakers should think of various mechanisms to support these workers and businesses and through future expectations and work on the strategic reforms considering the growth and income prospects to decline the impact and foster the levels.

COVID-19 AND ECONOMIC POLICY

WHO has declared COVID-19 as an Public Health Emergency of International Concern on 30 January 2020, as it was spreading across countries. To restrict the spread of the corona virus countries imposed different measures like air-travel closure, border restrictions and lockdowns.

The measures adopted were significant according to the circumstances but it called for the break in the previous patterns. Almost all economic activities around the globe were at halt which in return causes loss of income and to reduce the impact of the suffering, governments announced various stimulus packages. In this, the vision is at the various relief and policy measures announced by different countries affected by corona virus.

Economic Policy in India

In India, the first case of COVID-19 was communicated on 30 January 2020 and the number of cases has increased continuously. Prime Minister announced lockdown on 24 March, which was extended for the third time to May 31.

On April 15, the government of India, communicated several relaxations. On May 12, the PM announced a relief package of approximately 10 percent of GDP, which includes previous monetary and fiscal policy packages also. On May 30, government reopened the economy naming it, ‘Unlock 1’ guidelines were issues for the sectoral re-opening of economic and commercial activities. However, states were given power to impose measure according to the spread of the disease.

The government introduced five-part Policy and Fiscal incentive package amounting Rs 20,97,053 crore, which includes measures announced for micro, small and medium enterprises (MSMEs), defence, agriculture, migrant workers, businesses, and others. To solve the problems caused by the pandemic and focus was laid on to self-sufficient economic perspective which is Atmanirbhar Bharat or “self-reliant India”.

The government injected amount of Rs 9,94,403 crore in the system through Monetary and Fiscal Policy measures which includes Rs 1.70 lakh crore relief package on May 26 and Rs 8,01,603 crore Monetary measures by the Reserve Bank of India (RBI) till March 27.

Direct Spending was reported 6.4% or Rs 12,95,450 crore which includes food security, direct cash transfer, money for rural job guarantee scheme, and guarantee to MSMEs with others. The monetary policy instruments which were 3.9% of GDP or Rs 8,01,603 crore were even injected into the Indian economy. The picture below shows the India's measures in terms of Fiscal and Monetary policy comparing with other major economies.

INDIA VS THE WORLD

Here is how India's measures – divided by fiscal aid and monetary and macro policy assistance – compare with some other key nations

	FISCAL	MONETARY AND MACRO FINANCIAL
US	**2.3%** of GDP in Paycheck Protection Program and Healthcare Enhancement Act	Rate cut by **150 bps** in March
	11% of GDP in CARES Act	Facilities to ensure flow of credit
	Another **1%** in Families First Coronavirus Response Act and supplemental budgetary allocation made thereafter	
CHINA	**2.5%** of GDP in fiscal measures	**3.2%** of GDP in liquidity infusion
	Of which **1.2%** of GDP measures already being implemented	**1.7%** of GDP in re-lending and rediscounting facilities
	Additional measures such as announcement of local bonds worth **1.3%** of GDP	Rate cuts in the range of 10-150 bps
JAPAN	Emergency economic package of **21.1%** of GDP. In this, **16%** aimed at protecting employment and business	Host of measures including liquidity provision by increase in size and frequency of Japanese government bonds and concessional loan facilities for small businesses
GERMANY	Supplementary budget of **4.9%** of GDP focusing on providing short-term work and preserve jobs	Additional asset purchases
	Using government guarantees to increase credit volume by at least 23% of GDP	Extension of ECB norms which inlcude prohibiting banks from paying dividends for FY 2019 and 2020 and/or buying back shares. Conserved capital to be used to support households, small businesses and other borrowers
	State government packages over and above this	Payment moratorium on consumer loans established before March 15th is granted until June 30th
INDIA	**6.4%** of GDP **(₹12,95,450 crore)** Includes food security, direct cash transfer, money for rural job guarantee scheme, and credit guarantee to MSMEs	**3.9%** of GDP **(₹ 8,01,603 crore)** Policy rates cut and other measures to boost liquidity

Source: Finance Ministry, India: IMF Policy Tracker.
Last updated May 15, 2020

India does not have strong money market instruments So, the focus of the policymakers was specifically at Fiscal instruments to control the credit creation and money expansion in the economy.

Monetary Policy

1. Rate Cuts: On March 27,the Reserve Bank of India (RBI) lowered its repo rate and the bank's benchmark interest rate, by 0.75% to 4.4%, It also decreases the reverse repo rate by 0.9% to 4%. RBI again made a decrease in reverse repo rates on April 17 further, by 0.25% to 3.75% which in turn reduced the repo and reverse repo rates by 115 and 155 basis points (bps). The three liquidity measures includes Long Term Repo Operations (LTROs), a cash reserve ratio (CRR) cut of 100 bps, and an increase in marginal standing facility (MSF) to 3 percent of the Statutory Liquidity Ratio (SLR).The bank inoculated $49 billion into the financial market on March 27 by a mixture of loosening capital restrictions and reserve ratios, and introduced "targeted Long-Term repo operation," (TLTRO).

2. Commercial Banks: The RBI asked commercial banks to permit three-month deferments of payment for loans on March 27 and Significant Refinancing for housing finance companies, rural banks, and MSME's. CRR, requirements were abolished and NBFCs were classified as priority sector. The Liquidity Coverage Ratio (LCR) has also been lowered. A collateral-free lending program was introduced with 100 percent guarantee with Partial and credit guarantee scheme for public sector banks on borrowings of NBFCs, housing finance companies (HFCs), and MSMEs. On June 21, it the banks were asked to assign zero percent risk weight on the credit facilities.

3. States: The RBI increased its lending facility for states on April 1 and it increased the ability of state governments to overdraft on April 7. An extension of the 90 days' time period for resolution timeline of large accounts under default. In addition, state's Ways and Means Advance (WMA) limits have been increased by 60 percent and the limit for the central government's WMA has been revised up to 2.0 trillion. the RBI undertook further regulatory easing, including the increase in the large exposure limit, relaxation of some of the norms for state government financing, credit support to the exporters and importers and extension of the tenor of the small business refinancing facilities. On June 4, it further extended the benefit of interest subvention and prompt repayment incentive schemes for short-term agricultural loans.

4. Other Sectors: $6.6 billion TLTRO, was introduced for MSMEs, Special Liquidity Facility for mutual funds (SLF-MF) with a fixed-rate 90-day repo operation for banks for the liquidity prerequisite of mutual funds. SEBI even lower broker turnover fees and filing fees on offer documents for public issue, rights issue and buyback of shares. Another additional debt for stressed MSMEs with partial guarantee was introduced. Fund of Funds for equity injections in small financial institutions, and a special purpose vehicle (SPV) to purchase short-term debt of the NBFCs and HFCs. It was further supported by Tax relaxations as GST council communicated that it would halve the interest rate charged on overdue filings of small businesses.

Fiscal Policy

India's Fiscal measures can be Classified as:

1. Food Related: Two-third of the population will be covered under the scheme of Pradhan Mantri Garib Kalyan Anna Yojana which is a food scheme of the central government.

2. Employment: MNREGA Wage increase from INR 182/- to INR 202/-. Such increase will benefit 50 million families. The wage increase will amount into an additional income of INR 2,000/- per worker.
30 million senior citizens, widows, disabled to get one-time ex-gratia amount of INR 1,000 in two instalments over the next 3 months.
200 million-woman Jan Dhan account holders to be given ex-gratia amount of INR 500 per month for the next 3 months.
Women in 83 million families below poverty line covered under Ujwala scheme will get free LPG cylinders for 3 months.
For 630,000 Self-help Groups (SHGs), which help 70 million households, the government is doubling collateral-free loans to Rs 200,000.

3. Taxes: The Tax relaxations were provided. Key provisions under the Ordinance include:

- Extension of time limits
- Interest and penalty
- Donations to PM CARES Fund
- GST compliances

4. Health: Government offers free of cost diagnosis to people with COVID-19 symptoms .150 billion rupees (about 0.1 percent of GDP) will be devoted to health infrastructure according to government's claim. Private laboratories are allowed to test individuals for COVID-19. The cost of screening in private labs was capped at Rs 4,500. And the government gave the authority to different states to regulate the treatment costs of private sectors.

5. Business And Other Sectors: Government directed states to utilize the welfare fund for building and construction workers. The District Mineral Fund, amounting INR 310 billion, will be used and $108 billion to buy equity stakes in drenching companies in the market.

Measures which are not direct, seek to provide credit support to businesses which is 1.9 percent of GDP, poor households, especially migrants and farmers with 1.6 percent of GDP, distressed electricity distribution companies 0.4 percent of GDP, and targeted support for the agricultural sector 0.7 percent of GDP, as well as other measures of about 0.3 percent of GDP was even included. Major elements of the relief package are for MSMEs and NBFCs whereas additional support to agricultural sector by providing concessional credit to farmers, and a credit facility for street vendors. Agricultural sector support is mainly for development of infrastructural institutions, which further escalate the growth potential.

6. PM CARES Fund: The central government has set up a national fund to deal with emergencies like the COVID-19 pandemic.

Sl No	Date	Details
1	06 March 2020	**$ 8.3 billion** – Corona Virus Preparedness and Response Supplemental Appropriations Act, 2020
2	18 March 2020	Paid Emergency Leave & Food Assistance along with Free Testing - Families First Corona Virus Response Act
3	25 March 2020	**$ 2 trillion** – CARES Act, 2020
4	23 April 2020	**$ 484 billion** – funding for Pay check Protection Program

Source:https://factly.in/explainer-COVID-19-economic-relief-packages-across-the-world/

Key Allocations of Aid Package under CARES Act	
$ 130 billion	Medical & Hospital industries
$ 500 billion	Economic Stabilization fund – for eligible business, states & municipalities i.e. Business with less than 10,000 employees and $ 2.5 billion in revenues.
$ 350 billion	Small Business Loans Program (Pay check Protection Program) i.e. Businesses less than 500 employees.
$ 250 billion	Unemployment Insurance (Additional $600 per week to unemployed, over and above the amount determined by the states.)
$ 250 billion	Assistance to individuals in the form of – tax rebates, tax credits & advances
$ 150 billion	Assistance to State & Municipal governments
$ 14 billion +	Relief on Student loans, creation of $ 14 billion Higher Education Emergency Relief fund to provide cash grants to college students

Economic Policy in USA

USA is the worst hit country by the corona virus. The US is facing an outbreak of COVID-19 that has claimed the lives of millions. President Trump's declared a Public Health Emergency on 31 January 2020, escalated further, a National Emergency was declared on 13 March 2020. The restrictions have adversely affected travel, restaurant, retail and other industries along with the financial markets. As on 16 April, around 22 million Americans have filed for unemployment since National emergency was declared. Reflecting the impact of the containment measures, the U.S. economy contracted at an annualized rate of 5 percent in the first quarter and the unemployment rate reached 11.1 percent in June. As of July 16, all states have begun the reopening process. The United States Congress has come up with multiple aid packages to address the situation. The images above explain the packages announces and the respective Amount.

Monetary Policy

1. Rate Cuts: Federal funds rate were lowered by 150bp in March to 0-0.25bp. Purchase of Treasury and agency securities in the amount expanded overnight and term repos. Lowered cost of discount window lending. Reduced existing cost of swap lines with major central banks and extended the maturity of FX operations, broadened U.S. dollar swap lines to more central banks, offered temporary repo facility for foreign and international Monetary authorities.

2. Treasury Buying: Committed to buy $700 billion of Treasury ($500 billion) and agency MBS ($200 billion) securities.

3. Credit Creation: It introduced facilities to support the flow of credit, backed by the Treasury using funds appropriated under the CARES Act. The facilities are: (i) Commercial Paper Funding Facility (ii) Primary Dealer Credit Facility (iii) Money Market Mutual Fund Liquidity Facility (MMLF) (iv) Primary Market Corporate Credit Facility to purchase new bonds and loans from companies; (v) Secondary Market Corporate Credit (vi) Term Asset-Backed Securities Loan (vii) Pay check Protection Program Liquidity Facility (PPPLF) (viii) Main Street Lending Program and (ix) Municipal Liquidity Facility

4. Banking And Others: Federal banking supervisors encouraged depository institutions to use their capital and liquidity buffers to lend, to work constructively with borrowers affected by COVID-19, and indicated COVID-19 related loan modifications would not be classified as troubled debt restructurings. Fannie Mae and Freddie Mac have announced assistance to borrowers, including providing mortgage forbearance for 12 months and waiving related late fees, suspending reporting to credit bureaus of delinquency related to the forbearance, suspending foreclosure sales and evictions of borrowers for 60 days, and offering loan modification options. Reduced banks' reserve requirements to zero. They were already very low and served no purpose in the "ample reserves" Monetary Policy regime now being implemented, drawing on liquidity and capital resources as banks meet the elevated credit needs of their household and business customers. Encouraged banks to borrow from the Fed's discount window, where it extends credit to banks backed by a wide range of collateral, by reducing the penalty banks pay above market rates and extending the maturity of the loans.

Fiscal Policy

Listed below are provided under Coronavirus Aid, Relief and Economy Security Act (CARES Act) estimated US$2.3 trillion (around 11% of GDP).

1. **Food:** US$25 billion to provide a food safety net for the most vulnerable.

2. **Employment:** US$268 billion to expand unemployment benefits.

3. **Tax:** US$293 billion to provide one-time tax rebates to individuals.

4. **Business:** US$483 billion Pay Check Protection Program and Health Care Enhancement Act.. The legislation includes US$321 billion for additional forgivable Small Business Administration loans and guarantees to help small businesses that retain workers; US$62 billion for the Small Business Administration to provide grants and loans to assist small businesses; US$75 billion for hospitals; andUS$25 billion for expanding virus testing.US$510 billion to prevent corporate bankruptcy by providing loans, guarantees, and backstopping Federal Reserve. US$349 billion in forgivable Small Business Administration loans and guarantees to help small businesses that retain workers.

5. **Health:** US$100 billion for hospitals.

6. **States And Local Governments:** US$150 billion in transfers to state and local governments and (viii) US$49.9 billion for international assistance (including SDR28 billion for the IMF's New Arrangement to Borrow).

7. **Others:** US$8.3 billion Coronavirus Preparedness and Response Supplemental Appropriations Act and US$192 billion Families First Coronavirus Response Act. They together provide around 1% of GDP for: (i) Virus testing; transfers to states for Medicaid funding; development of vaccines, therapeutics, and diagnostics; support for the Centres for Disease Control and Prevention responses. (ii) 2 weeks paid sick leave; up to 3

months emergency leave for those infected (at 2/3 pay); food assistance; transfers to states to fund expanded unemployment insurance. (iii) Expansion of Small Business Administration loan subsidies. And (iv) US$1.25 billion in international assistance. In addition, federal student loan obligations have been suspended for 60 days.

Economic Policy in Germany

As a Eurozone country, Germany's Monetary Policy is conducted by the European Central Bank. The only Germany-specific relief items passed by the government are related to Fiscal Policy. Its efforts are, by far, the largest of any country in Europe in overall size and as a percent of the country's overall GDP.

German stimulus package could help Europe's biggest economy recover swiftly from a deep slump triggered by the coronavirus pandemic. Germany registered the first confirmed COVID-19 case on January 27, 2020. Since early-April, new cases have been steadily decreasing and are stabilized at relatively low levels, with limited local outbreaks. On April 20, smaller shops re-opened subject to social distancing requirements. The country's biggest post-war package, worth around 130 billion euros (US$150 billion), includes cuts to the VAT, handouts to families, and subsidies for greener transport options.

It is not only the size of the packages which is remarkable but also the fact that the German government has made a complete U-turn in its approach to Fiscal Policy. This not only the case for Germany but also for Europe. From austerity champion to big spender.

Monetary Policy

The authorities extended all ECB-issued regulatory and operational relief to German banks under national supervision. In addition to measures at the euro area level. Release of the countercyclical capital buffer for banks from 0.25 percent to zero commercial bank: €100 billion to refinance expanded short-term liquidity provision to companies through the public development bank KfW, in partnership with commercial banks. A three-month payment moratorium on consumer loans established before March 15th is granted until June 30th 2020. . Loans issued under KfW guarantees are exempt from the calculation of lenders' own funds requirement, their leverage ratio, as well as the large exposure limit.

Business: €100 billion is allocated within the WSF to directly acquire equity of larger affected companies and strengthen their capital position. if the debtor is financially affected by the COVID-19 crisis.

Fiscal Policy:

Economic Stabilization Fund, announced on March 23, 2020. €156 billion (4.9 percent of GDP €156 billion (4.9 percent of GDP and €130 billion (4 percent of GDP) in June.

1. Health: Spending on healthcare equipment, hospital capacity and R&D (vaccine).

2. Employment: Subsidy to preserve jobs and workers' incomes, expanded childcare benefits for low-income parents and easier access to basic income support for the self-employed. Temporarily expanded duration of unemployment insurance and parental leave benefits.

3. Business: €50 billion in grants to small business owners and self-employed persons and in addition to interest-free tax deferrals until year-end and €2bn of venture capital funding for start-ups.

4. Taxes: The stimulus package in June comprises a temporary VAT reduction. The rate will be cut from 19% to 16% on all goods.

5. Local Government: They have announced €141 billion in direct support and €63bn in state-level loan guarantees.

6. Others: The authorities plan to issue €218.5 billion in debt this year to finance the packages. income support for families, grants for hart-hit SME's, financial support for local governments, expanded credit guarantees for exporters and export-financing banks, and subsidies/investment in green energy and digitalization.

7. WSF Fund: The newly created economic stabilization fund (WSF) and the public development bank KfW, the government is expanding the volume of credit. increasing the total volume by at least €757 billion (24 percent of GDP). The WSF and KfW also include facilities for public equity injection into firms with strategic importance.

Economic Policy in Japan

In Japan the state of emergency for seven states was declared on April 7 and expanded the coverage of the state of emergency to all Japanese prefectures on April 16, effective till May 6. On May 4, PM extended the nationwide state of emergency through May 31. The 2020 Tokyo Olympic Games have been postponed due to the current situation to July 23-August 8, 2021. On May 25, Japan reopened the economy.

Monetary Policy

1. Securities Purchase: The BoJ decided to purchase a necessary amount of JGBs without setting an upper limit on its guidance on JGB purchases. In addition, it raised the maximum amount of additional purchases of commercial paper and corporate bonds, lifting the upper limit of commercial paper and corporate bond holdings to ¥20 trillion (US$186 billion) in total.

2. Banks: The special funds-supplying operations have been scaled up by expanding the range of eligible counterparties and collateral to private debt (including household debt), as well as by applying a positive interest rate of 0.1 percent to the outstanding balances of current accounts held by financial institutions at the BoJ that correspond to the amounts outstanding of loans provided through this operation. The BoJ introduced a new fund-provisioning measure to support financing of mainly small- and medium-sized enterprises, providing funds against loans such as interest-free and unsecured loans made by eligible counterparties based on the government's emergency economic measures. The total size of the special funds-supplying operation and the new fund-provisioning measure amounts to about ¥90 trillion. The government expanded the volume of concessional loan facilities (interest free without collateral) primarily for micro, small and medium-sized businesses. The government will also enhance access to loans with the same conditions from local financial institutions, such as local banks.

3. Credit Creation: To support borrowers during this period of stress, the Financial Services Agency (FSA) has reassured banks that they can assign zero risk weights to loans guaranteed under public guarantee schemes, draw down their regulatory capital and systemically important bank buffers to support credit supply, and draw down their stock of high-quality liquid assets below the minimum liquidity coverage ratio requirement. The FSA has also asked banks to defer principal payments on mortgage loans as needed, and refrain from charging fees for modifying mortgage loan conditions.

4. Others: The BoJ in coordination with the Bank of Canada, the Bank of England, the European Central Bank, the Federal Reserve and the Swiss National Bank enhanced the provision of U.S. dollar liquidity on March 15, by lowering the pricing on the standing U.S. dollar liquidity swap arrangements by 25 basis points. Japan also has several important bilateral and regional swap arrangements with Asian countries.

Fiscal Policy

Japan is on top of the list of countries' spending and has announced an emergency economic package of 21.1% of GDP. In this, 16% aimed at protecting employment and business.

There has been a host of measures including liquidity provision by an increase in size and frequency of Japanese government bonds and concessional loan facilities for small businesses.

On April 7 the Government of Japan adopted the Emergency Economic Package Against COVID-19 of ¥117.1 trillion (21.1 percent of 2019 GDP. The package includes:

1. Health: To develop preventive measures against the spread of infection and strengthen treatment capacity an expenditure of 0.5 percent of 2019 GDP.

2. Employment And Business: 16.0 percent of 2019 GDP.

3. Others: To regain economic activities after containment, 1.5 percent of 2019 GDP and to rebuild a resilient economic structure 2.8 percent of 2019 GDP, To enhance readiness for the future 0.3 percent of 2019 GDP. The key measures comprise cash handouts to every individual and affected firms.

4. Tax: Deferral of tax payments and social security contributions, and concessional loans from public and private financial institutions.

On May 27, the Government of Japan announced the second FY2020 draft supplementary budget (passed on June 12). The package, worth ¥117.1 trillion (21.1 percent of 2019 GDP), covers (i) health-related measures, (ii) support to businesses, (iii) support to households, (iv) transfers to the local governments, and (v) raising the ceiling of the COVID-19 reserve fund. The specific measures include expansion of the work subsidies, provision of subordinated loans by the public financial institutions to affected firms, and subsidies to affected firms for their rent payments.

CONCLUSION

Local and in-country specific demands influence the financial packages across the countries. The developing countries have laid emphasis on providing financial and benefits-in-kind support to the marginalized sections of the society. Whereas, more developed countries have laid emphasis on providing tax reliefs for the work forces and incentives for employers to sustain in the business. Providing assistance to the unemployed who might have lost their jobs due to COVID-19 features primarily in any of the relief & stimulus packages announced by the governments. Key emphasis is also laid on providing assistance to businesses, especially small and medium scale ones which have lost revenue and do not have the resources to stay afloat. This would ensure that the businesses survive this pandemic. More Specifically, we find that European country (Germany) and US have larger packages announced but they are even less than Japan which has announced largest package. Focusing on the heterogeneous impact of the shock, find that countries that are poorer and have lower share of workers that can work from home are more vulnerable. In fact, the decline in economic activity or mobility precedes rather than follows the introduction of such mitigation policies. This evidence is a warning against optimistic projections that the economic recovery will start once. Moreover, there is no sharp acceleration in mobility and economic activity after the reopening. With entire sectors of the economy on a lockdown and the need to “flatten the curve,” millions of workers have immediately lost their jobs. These numbers are a call for an unprecedented Policy response, which is more similar in spirit to the reaction to wars and natural disasters, rather than a standard macroeconomic stimulus to support demand. A mix of Monetary, Fiscal, and financial measures are aimed at minimizing disruptions and scarring from the lockdown, by providing sizable, targeted support to households and businesses to cope with the “hibernation” of the economy and to be able to jump-start soon after the health crisis will be over.

Another observation is that the economy may not rebound unless workers and consumers feel safe about resuming their normal activities. As countries move forward with loosening of mitigation policies, analyses such as ours could guide decisions not only on the pace and breadth of lifting mitigation policies but also on other measures that may be needed to restore confidence and trust for people to get back to pre-COVID-19 behaviours.

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Reader's Forum

Mehak Lonial*

ANIMAL TESTING

"The greatness of a nation and its moral progress can be judged by the way its animals are treated."

-Mahatma Gandhi

There is a lot of debate going on around the globe whether animals should be used as an object of experimentation.

Animal testing is a scientific experiment where animals are used as subjects to test whether the products whether it be cosmetics, medicines or any other toxic chemicals, are safe for human use or not.

Considering that animal testing is a debatable topic, let's evaluate the statements in favor and against the animal testing.

People supporting animal testing considers human life superior to animals and therefore, believe that harmful products should be tested on animals before using them on human beings to save human lives. One of the statements supporting animal testing justifies that animals have a complex system and therefore, when products are tested on them, the results are more reliable as compared to the alternatives that offer simplicity. A reasonable justification is acceptable in cases where there are insufficient alternatives. As in the field of Endodontology, it becomes essential to conduct animal experiments due to the lack of alternatives available for animal testing. One of the interesting justifications to animal testing is that it is beneficial for not only human beings but also for animals preventing their death due to diseases like rabies, leukemia, etc. Vivisection has also played a significant role as it had protected endangered species from getting extinct such as the black-rooted ferret and the California condor.

Now, let's get to understand the viewpoint of people against animal testing. One of the major concerns of animal testing is the safety of animals. Millions of cats, dogs, rabbits, mice, etc. are captivated in different labs around the globe to be used for research. They emaciate due to pain, experience exasperation and aches with loneliness longing for freedom from the captivity.

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One of the statements justifying animal testing says that animals prove to be a reliable subject to test results. But this is a myth. A human being's structure is quite different from that of a 70kg mouse. This fact is proven in 2013 in the Archives of Toxicology which very clearly stated that since there is no direct comparison between human beings and mouse, the results are unreliable.

There have been instances where animal testing proves that the substance is safe for use by human beings but in reality it isn't.

Example : When thalidomide, a sleeping pill was tested on pregnant mice, rats and guinea pigs, the test proved it to be absolutely safe and no deformities were found in the new born except when given high dosage. But when pregnant mothers consumed this pill, it resulted in the born of babies with deformities. This pill affected around 10,000 babies who were born with different deformities.

Similarly, there have been instances where animal testing has proved that the products are not safe for human use, but in reality those products prove to be beneficial for human beings. Example : Aspirin which is remembered every time when we want relief from pain, failed when it was tested on animals as it caused malformations in dogs, rabbits, rats, cats, mice and monkeys.

Let's get down to some facts:

Every year, more than 100 million animals are disabled, poisoned and abused during the tests or after the tests. The animals are generally found in an emaciated condition.

Animals such as mice, rats, birds, reptiles and amphibians are excluded from the protection provided by the Animal Welfare Act.

Around 90% of the animals used for experiments in the U.S. labs are not considered in the official statistics related to animal use.

According to the data provided by the Humane Society, registration of a pesticide can be done only when it is supported by more than 50 experiments which lead to the use of more than 1200 animals.

While testing for potential carcinogens, animals are given a substance daily for 2 years. Other types of tests include killing of pregnant animals and then testing their fetuses.

After considering both the viewpoints and some facts, it can be concluded that animal testing is one of the major concerns in today's scenario. Researchers have proved that each year, between 115 million and 127 million animals are used for experiments. The concern is not only the sufferings of animals but also the disposal of animals. The disposal not only causes environmental harm due to animal decomposition but also strains the environment due to transportation and disposal of animal waste. The animals used for experiments generally don't survive and their disposal poses exposure to diseases, toxic chemicals, radioactive materials and other things.

Animal testing not only has a major impact on the environment but also on the society. One of the most intriguing statements is written in a Slate article, "Since the alternative [to animal testing] is to experiment on people, most everyone other than hardcore animal lovers accept animal testing. Periodically, however, a spectacular failure raises new questions about the enterprise – not for ethical reasons, but scientific ones."

One of the major dilemmas is faced by the caretakers of animals. These are professionals who take care of animals and feed them. They perform their job keeping in mind the benefits humans would receive from these animal experiments. ' They suffer from emotional trauma especially in those conditions where they are supposed to kill animals through neck breaking, suffocating them with carbon dioxide or by giving them lethal injection.

While many countries continue to ignore the seriousness of this issue, some have understood the gravity of this issue and have banned animal testing either wholly or partially in certain products like cosmetics. Countries like India, Turkey, Israel, South Korea, Sao Paulo, Brazil, New Zealand and in European Union have made laws that prohibit animal testing for beauty products, i.e., cosmetics.

This doesn't mean that the chemicals are not evaluated. Chemicals are evaluated by using various alternatives that give accurate results and protect the environment as well.

It could be implied that instead of investing resources on animal experimentations, the resources and efforts should be invested on various alternatives. Various alternatives available are :-

- Cell based tests (in vitro)
- Chemical based analytics tests (in chemico)
- Computer based modelling (in silico)
- Ethical human studies (in vivo)
- Tissue based tests where tissues are taken from dead animals or humans (ex vivo)

The earlier the countries understand the severity of this issue, the easier it would be to save the environment from getting damaged.

In the end, I would just like to highlight that various research papers have been published to either signify the importance of animal testing or signifying the pathetic conditions under which the animals survive, thereby, suggesting alternatives to animal testing. It is upon our discretion to understand the gravity of the issue and resolve things before it gets too late or let things go the way they are going and then later face the consequences.

Department of Economics

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- The author's name, affiliation and contact details along with title should appear on the cover page only.
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- The entire article should be written in A4 size, Times New Roman, Font Size 12 with 1.15 spacing with at least a one-inch margin on all sides. All pages should be numbered consecutively throughout.
- Manuscripts should be of 5000-7500 words including references.
- References and in-text citations must follow APA style of referencing.
- Tables and graphs should be the part of the main text.
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