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The Impact of COVID - 19 Pandemic on the Economy of the State of Pennsylvania from the Period of March 2020 - March 2021

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Abstract: The Covid 19 Pandemic changed the trajectory of polity, economics and trade as we know it; both from the local standpoint and on a global scale. This paper seeks to investigate the impact of the Covid 19 pandemic on the economy of the state of Pennsylvania from the period of March 2020 - March 2021. The purpose of this research is to establish the facts and values in perspective as regards the impact of the Covid 19 pandemic on the economy of Pennsylvania from the period of March 2020 - March 2021, to recognize and address the problems of reliability and validity, to clarify the meaning of concepts as wells as identify multidimensional concepts relating to this paper, to ensure an empirical analysis and controlled comparisons of variables, and data relating to the topical issue and to ensure that the quality and impact of this research is relevant and valid to the contribution of knowledge.

Key words: Apartheid, Bilateral Relations, Hegemony, Human Right, Nigeria, South Africa.

Introduction

The Covid-19 disease is defined as an illness that causes the severe acute respiratory syndrome. It was first identified amidst an outbreak of respiratory illness cases in the city of Wuhan, the Hubei province of China. On the 12th day of December 2019, a cluster of patients in Wuhan began to experience shortness of breath and fever. Thus, the variant was identified as “SARS-CoV-2” by the “WHO - World Health Organization.” The virus often causes some sort of “nose infection” as well as affects the respiratory functions of the nose and throat, hereby creating sinuses - a connected system of hollow cavities in the skull, making it difficult to breathe. The aspect which makes the virus deadly is the fact that it gets transferred from one host to the other. The common hosts for the virus include human beings and not any other living species. Thus, the “respiratory illness” caused as a result of coronavirus includes “SARS- Severe Acute Respiratory Syndrome,” “MERS- Middle East Respiratory Syndrome” and “common cold.” Starting from “China,” the “coronavirus” has spread to all parts of the world resulting in a great number of cases.

The pandemic has had a lot of “socio-economic” and “political” impacts on the world’s economy. It won’t be wrong to say that the increasing spread of the virus led to strict lockdowns in several areas to which trade activities, education, employment, and markets were

seriously affected. It suffered as a severe backlash for the entire economy because it gave rise to unemployment as activities were restricted. As a result, the world economy got affected in a major way. The Corona Virus caused direct impacts on income due to premature deaths, workplace absenteeism, and a reduction in productivity. The ripple effect of this is evident in the creation of a negative supply shock, which was also influenced by the slowing down of manufacturing production activities due to the disruptions in the global supply chain and the closures of businesses, factories, and companies. Everything has become unpredictable and policy-making on the part of the government is extremely volatile. In addition to policy formation, the effects of the Covid-19 have in no way decreased, but rather a continuous phenomenon. The emergence of the Omicron Covid-19 variant further deepens the possibility of a global economic crisis. Furthermore, thoughts on the metamorphosis of an incurable OMEGA VARIANT also inform the need to share the scientific and technological know-how of how to best tackle the virus. Increasing effects of “COVID-19” have also led to the disruption of the chain of supply, “population,” “financial markets” and overall the entire nation. On the contrary, some aspects have contributed to the decreased spread of the coronavirus. These aspects include some efficient policies on the part of the

government like “Following the SOPs” was made compulsory. Similarly, “Social Distancing” in public areas, banks, and other relevant financial institutes. Furthermore, “Work from Home” policies have also played a key role in lessening the impact.

Now, it is also important to realize that “sustainable development” and “green investments” are not at all dependent on “globalization” and “economic growth.” Other contributing factors include “resource consumption,” “waste management” and “wealth creation”

For this research, data will be obtained from multiple sources based on analysis from multiple documents. The main purpose of the research is to establish the related facts and values that are a result of the COVID-19 pandemic on Pennsylvania’s economy. The period for analysis is ‘March 2020’ till ‘March 2021.’ Thus, our research will reflect upon the economic aspects of how these have been affected in major ways. Moreover, the software that is to be used for the analysis of datasets is “IBM SPSS Statistics”.

Literature Review

Seeing that the Covid-19 pandemic is an evolving and continuous phenomenon, this makes it somewhat cumbersome to arrive at an absolute value of population as regards the degree of its impact on both the state of Pennsylvania and the world at large. This serves as a limitation of study seeing my analysis is

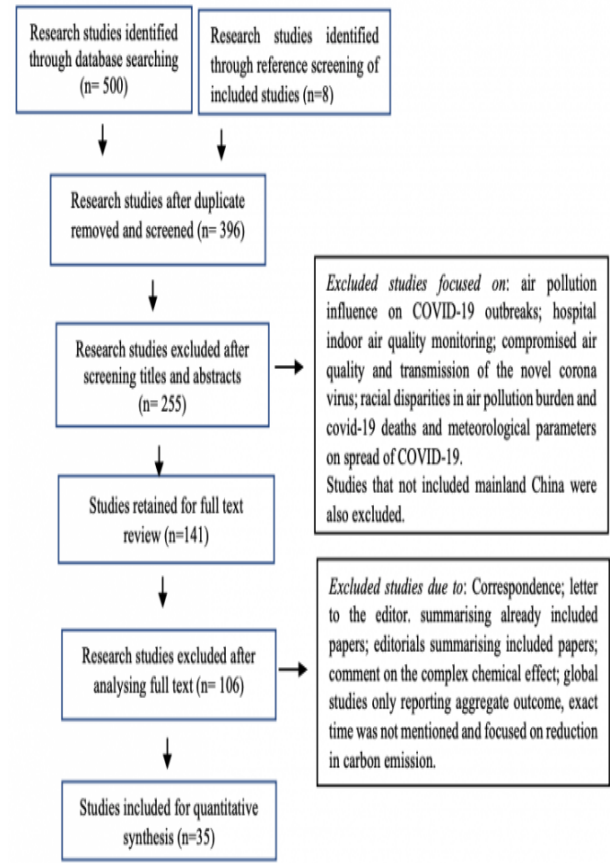
limited to previously existing and inconclusive data.

Given my analysis, certain considerations such as the various existing scientific research methods adopted by various scholars in addressing the socio-economic impacts of the virus as well as the steps and policies being implemented to mitigate the spread of the virus are being considered.

A lot of different findings have been presented by different committees and several other organizations. The “National Health Commission of China” has presented some features concerning the health rate. This includes that “2.1 %” was the rate for the positive cases in “China” whereas “0.2 %” was the rate for other countries outside of China. The admitted patients in hospitals had a mortality rate between “11 %” and “15 %.” So, the awareness about the virus is rising among the people in different parts of the world such that they are developing awareness regarding the “disease,” “diagnosis,” “causative agent” and “treatment.” “treatment”. Also, in my personal opinion, in some parts of the world, local remedies such as herbs are being created to reduce the effect of the virus on people, prevention strategies are also being developed among the people.

The studies by “McInnes et al” (2018) and “Shaffril et al” (2018) have utilized the “PRISMA” approach to analyze the different datasets for identifying the major changes in air quality reflecting upon the pollutants

that how these have polluted the nature in many ways. With the increase in technology and pollution, construction activities have increased in different parts of the world that have polluted human nature such that these have given rise to increased emission of “greenhouse gasses.” Some of the major activities include “curbing industrial; production,” “household consumption,” “engineering construction” etc. Another study by “Chen et al,” “Y. Bai,” “L.Yao” and several others have reflected upon the ages for which age groups are the virus common. Some of the common age groups include “34” till “59” years. “SARA-COV-2” also has a deadly impact on the “cardio-vascular” and “cerebrovascular” systems of an individual resulting in “diabetes.” In addition to this, it also won’t be wrong to say that such systems are majorly disrupted in individuals above sixty years of age. Highly severe cases also take place in individuals above sixty years of age that have resulted in deaths of individuals.



Recent studies by “C.Huang,” “Y.Wang ” and others (2020) have revealed the different levels of reactions of the immune system because a detailed analysis has been conducted in that regard. The immune system responses to “viral-infections” and “mediating inflammation” and “cellular antiviral” activity has been critical w.r.t “inhibit viral replication” and “dissemination.” Furthermore, “pathogenesis” will be a result of “virus lytic effects” on “host cells.” SO, collecting people’s and other survey data it won’t be wrong to say that common symptoms for individuals include suffering from “severe pneumonia”, “fever” and “dry cough.” Similarly, “ARDS - Acute

Respiratory Stress Syndrome” and “septic shock” have served as unique effects for the virus as these have resulted in malfunctioning of organs and immediate death. However, “10%” of the patients have died as a result of this. “Extensive damages” for the lungs as well as “ARDS progression” have been a major cause and source for the “COVID-19” because “ACE-2” is commonly a source for the “airway epithelium for ciliated cells” and “alveolar type II/pulmonary cells” in humans.

Study	Chen et al. [8]	Huang et al. [7]	Chung et al. [49]
Patient count	99	41	21
Age (mean, year)	55.5	49	51
Fever	83%	98%	67%
Cough	81%	76%	43%
Shortness of breath	31%	55%	-
Myalgia	11%	44%	3%
Haemoptysis	-	5%	-
Sputum production	-	28%	-
Confusion	9%	-	-
Sore throat	5%	-	-
Rhinorrhoea	4%	-	-
Chest pain	2%	-	-
Diarrhoea	2%	1%	-

Some of the common suspected cases for the “COVID-19” pandemic according to “WHO-World Health Organization” include “acute respiratory infections.” It also won’t be wrong to say that people or foreigners residing in China would have a higher possibility of acquiring the COVID-19 virus. Furthermore, an individual possessing the symptoms for a total of 14 days will have a higher possibility of acquiring the virus. He/she should get himself checked or treated. Considering the present day scenario, it is

necessary to isolate yourself because of the increasing effects and there is a higher possibility that other individuals are most likely to catch the virus from the positive individual. Furthermore, an absolute surety for a positive case is a result of a clinical report which shows that the individual is a confirmed “SARS-COV-2.”

“Bloom” and “Cadarette” (2019) have revealed that the “COVID-19” pandemic has been seriously devastating for the economy as well as health care because it has led to major challenges in the infrastructure thereby disturbing the overall structure leading to unpredictability and increased number of cases due to close contact of negative and positive patients. It also won’t be wrong to say that economic breakdowns have been a result of several factors including “latency,” “transmission rate” and “geographic spread.” In addition to this, this is not the first time that the world is suffering from a deadly pandemic. Such types of pandemics have occurred before that resulted in the decline of empires and states, etc. At that time the contributing factors included “disturbances in infrastructure,” “social unrest,” “economic dislocations” and “fragility.” Such sorts of pandemics also affected the world economy in an immense number of negative ways. “Bretescher et al” (2020) reveal that any threat to the health of one individual increases threats for other individuals too

because the risk factor increases in major ways. Hence, some of the pandemics of the past include “the great plague,” “the Justinian plague,” “the Black Death,” “the Third Plague pandemic,” “Spanish flu” etc. These also resulted in an immense number of deaths with threats to the entire economy.

Daata and Methodology

For data analysis and methodology, it won't be wrong to say that “IBM SPSS Statistics” software has been used for analyzing the datasets and also identifying the number of cases concerning each state. As our major focus is first of all identifying the number of COVID-19 cases from March 2020 till March 2021. Our focusing state is “Pennsylvania.”

The Research Methodology for this paper is the scientific approach. This research methodology is most suitable for this paper because it enables the ability to analyze political relationships and events. It deals with the use of empirical methods for inquiry and the acquisition of knowledge.

Due to the peculiarity of this paper, the scientific approach ensures the ethnographic study of people, culture, customs, and habits within the state of Pennsylvania before and during the outbreak of the Covid-19 Pandemic. It also ensures the study of both the dependent and independent variables through a phenomenological perspective in regards to the human

experience brought about by the Covid 19 pandemic as well as the reactions to the state of the economy from the period of March 2020 - March 2021.

The first data set that is being utilized reflects upon the data for all states such that what is the frequency and number of cases for each state. After that, the second dataset that has been utilized reflects upon the state “Pennsylvania” characteristics for the period of “March 2020- March 2021.” The main sources for the public data being presented include several positive and negative tests, clinical data, positive reported individuals, and negative reported individuals as well as other tests. In the first part of the results, a frequency descriptive analysis has been done that reflects upon the fact that at what frequency did COVID-19 had an impact on the state. Afterward, an aggregation concerning the “Pennsylvania” state was done for the data set containing only state data.

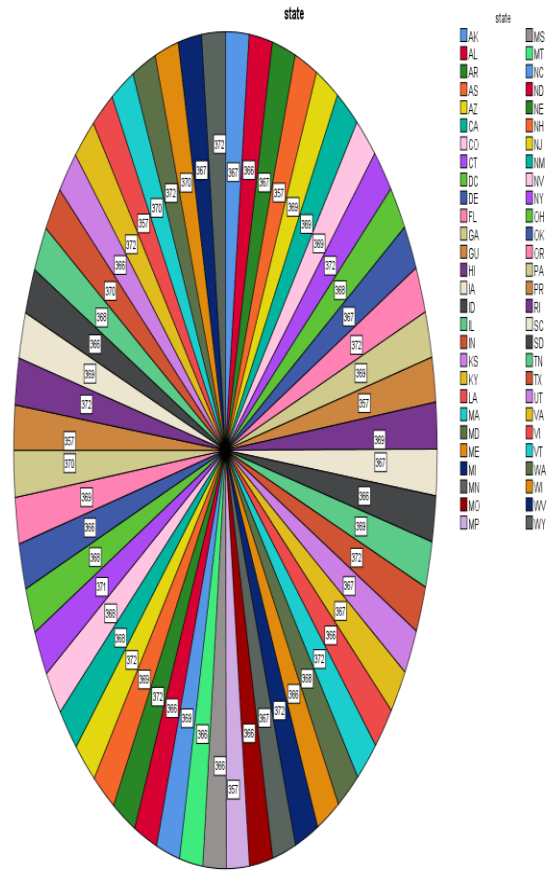
In addition to this, the characteristic data has been combined with the economic data to identify the relationship between the two. So, it won't be wrong to say that the relationships for the “labor force participation rate,” “employment-population rate,” “labor force,” “employment,” “unemployment” and “unemployment rate” have been reflected upon in the form of “scatter plots” with the use of “IBM SPSS Statistics.”

All the research data that is being utilized is public

survey data as well as other journal entries that shall contribute towards a better productive outcome and indicate a better economic impact that has resulted due to the present COVID-19 situation.

Results

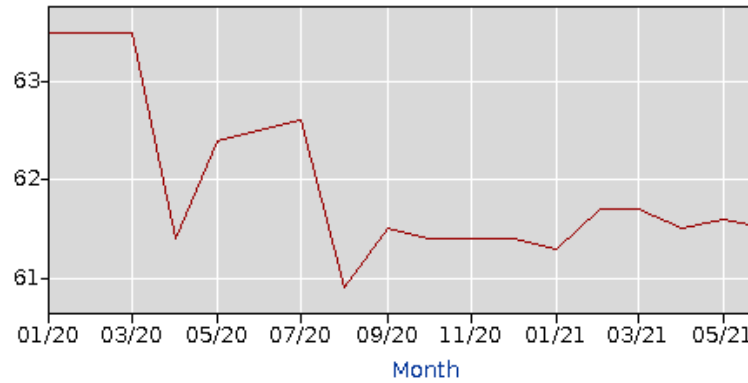
At first, a frequency analysis was conducted for the widespread of COVID-19 in different states of the “United States.” Thus, the pie graph attached below serves as a depiction of the frequency of different states. Our desired state “Pennsylvania” is at a frequency of 369. Moreover, it is an indication that COVID-19 is equally spread across the “United States.”



Before identifying the relationships between the different variables, it won't be wrong to say that the characteristic data and economic data has been merged in a major way. The merged data has been attached in the SPSS file attached below. It is as follows;

date	state	death	positive	recovered	month	laborforceparticipationrate	employmentpopulationrate	laborforce	employment	unemployment	unemploymentrate	year	id
03/03/2020	PA				Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/04/2020	PA				Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/05/2020	PA				Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/06/2020	PA	2			Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/07/2020	PA	4			Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/08/2020	PA	6			Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/09/2020	PA	10			Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/10/2020	PA	12			Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/11/2020	PA	16			Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/12/2020	PA	22			Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/13/2020	PA	41			Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/14/2020	PA	47			Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/15/2020	PA	63			Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/16/2020	PA	76			Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/17/2020	PA	96			Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/18/2020	PA	1	133		Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/19/2020	PA	1	105		Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/20/2020	PA	1	280		Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/21/2020	PA	2	371		Mar	63.5	60.3	6525913	6194061	331622	5.1		
03/22/2020	PA	2	470		Mar	63.5	60.3	6525913	6194061	331622	5.1		

labor force participation rate

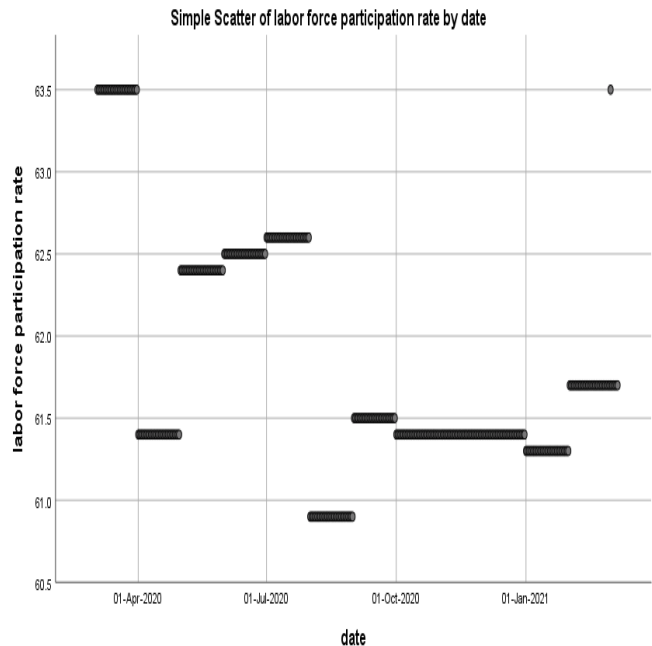


Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
date	Date	10	0		None	None	12	Right	Scale	Input
state	String	2	0		None	None	2	Left	Nominal	Input
death	Numeric	5	0		None	None	8	Right	Scale	Input
positive	Numeric	6	0		None	None	8	Right	Scale	Input
recovered	Numeric	6	0		None	None	8	Right	Scale	Input
month	String	4	0		None	None	4	Left	Nominal	Input
laborforcepa...	Numeric	4	1	labor force parti...	None	None	12	Right	Scale	Input
employment...	Numeric	4	1	employment-po...	None	None	12	Right	Scale	Input
laborforce	Numeric	7	0	labor force	None	None	12	Right	Scale	Input
employment	Numeric	7	0		None	None	12	Right	Scale	Input
unemploy...	Numeric	7	0		None	None	12	Right	Scale	Input
unemploy...	Numeric	4	1	unemployment ...	None	None	12	Right	Scale	Input

date	state	id
03/03/2020	PA	
03/04/2020	PA	
03/05/2020	PA	
03/06/2020	PA	
03/07/2020	PA	
03/08/2020	PA	
03/09/2020	PA	
03/10/2020	PA	
03/11/2020	PA	
03/12/2020	PA	
03/13/2020	PA	
03/14/2020	PA	
03/15/2020	PA	
03/16/2020	PA	
03/17/2020	PA	
03/18/2020	PA	
03/19/2020	PA	
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03/22/2020	PA	
03/23/2020	PA	
03/24/2020	PA	

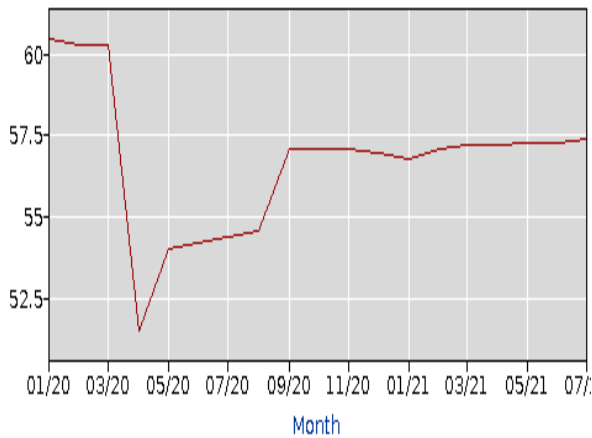
The “labor force participation rate” has been depicted in the following graph which indicates that due to the decreased number of jobs following COVID-19, there has been a major change in economic trends as it has led to a massive disruption in the economic structure. Decrease in the number of jobs have led to a decrease in the labor force participation rate.

laborforceparticipationrate
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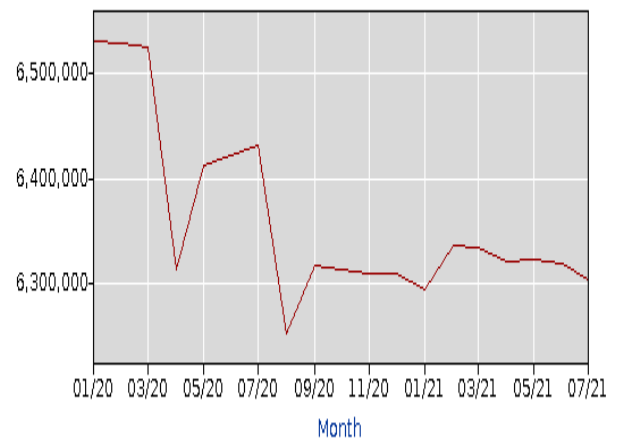
The second aspect which we reflected upon is the “employment-population ratio.” It won’t be wrong to say that the employment population ratio has been variable as it can clearly be seen that there have been a lot of changes and problems in that regard. So, the rate has not been constant and it has been fluctuating because a work from home policy was initiated by many companies whereas other companies became jobless.

employment-population ratio

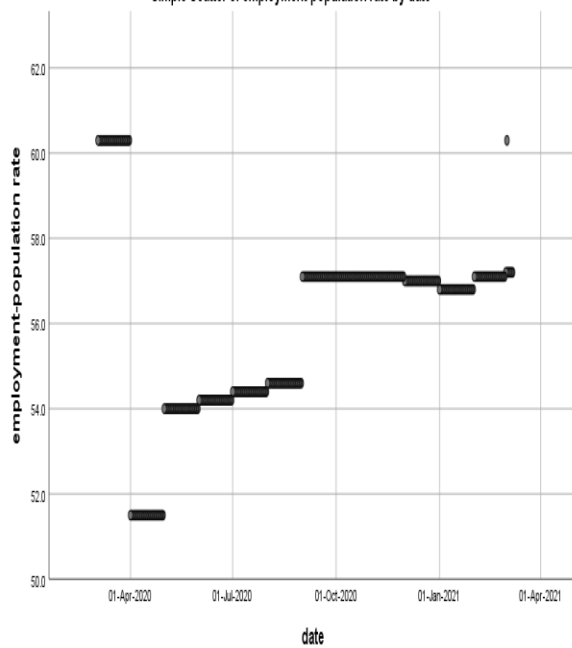


decline in the labor force is because of the increasing effects of COVID-19. Government had imposed strict lockdown policies due to which the trade activities as well as business activities were affected in a major way. This had led to a decrease in job posts and effectiveness and work from home policies couldn't be applied to every job. Hence, the labor force declined with the passage of time as the graph indicates. It has led to an unstable economy.

labor force



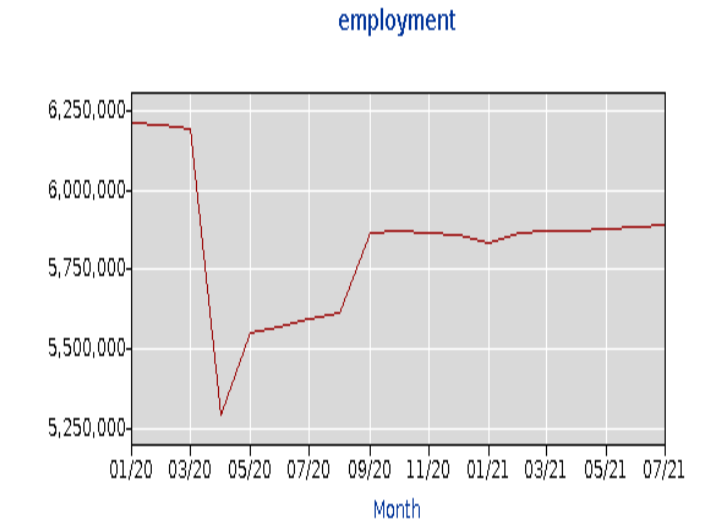
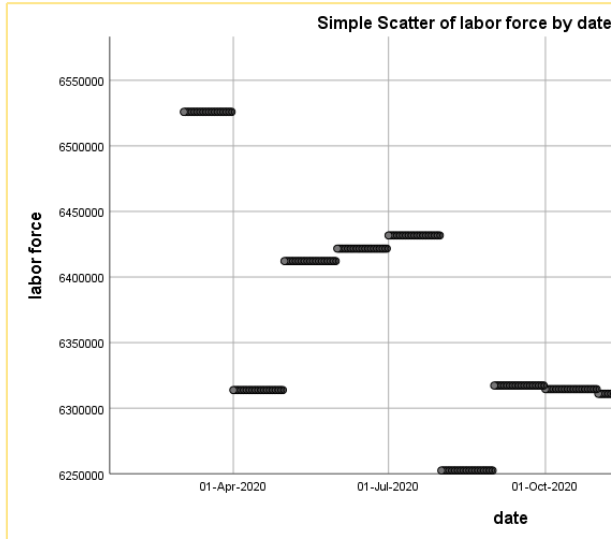
Simple Scatter of employment-population rate by date



The scatter plot for the relationship has also been indicated that clearly reflects upon the fact that this has led to major economic challenges leading to a major global crisis.

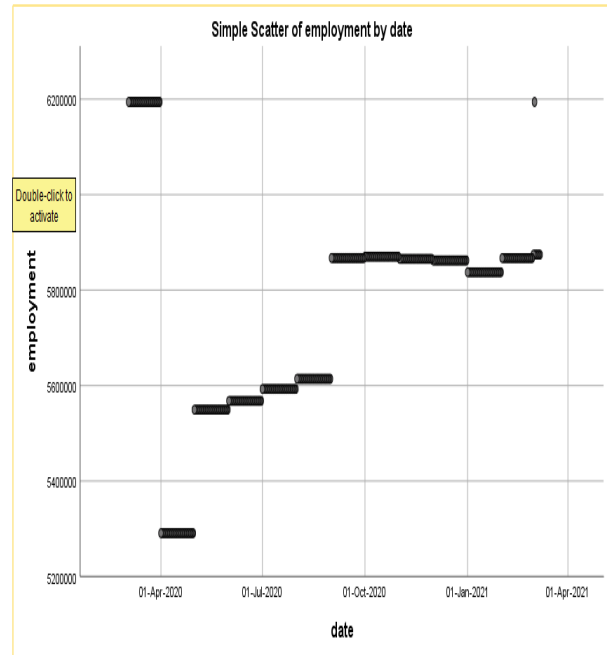
Furthermore, the scatter plot has also been defined which reflects upon the complete data as well as highlighting the relationship between “employment-population rate” and “date.”

Another proposition regarding the labor force has also been made. It won't be wrong to say that a major



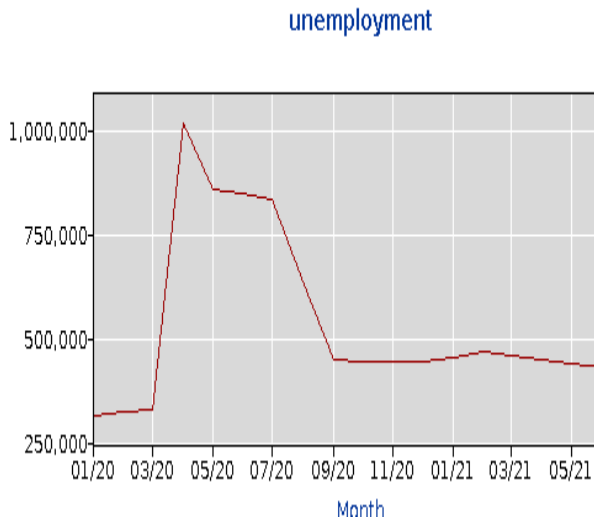
In addition to the above mentioned factors, the aspects of “employment” were reflected upon on an individual basis such as how employment individuals of “Pennsylvania’ have been affected as a result of the pandemic. It also won’t be wrong to say that at the start of the pandemic, the graph indicates that the employment levels and majorly reduced as these had fallen down but with the passage of time, the implication of several policies has led to increased employment due to which things are proceeding towards betterment. So, at this particular moment, lockdowns have been uplifted and vaccination based campaigns are currently in effect. So, this indicates that restoration of employment can be a possible outcome after some time. The employment graph is as follows;

The scatter plot is as follows;

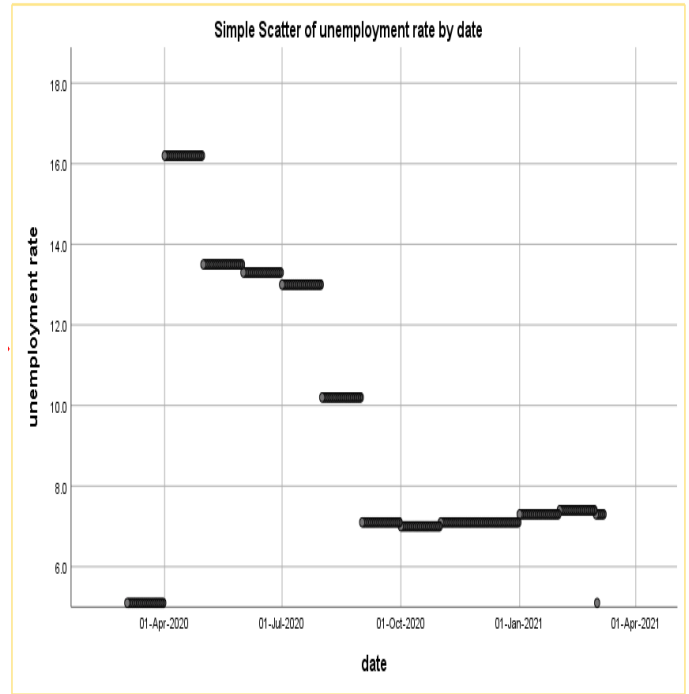


With respect to employment, another aspect has also been reflected upon which is “unemployment.” It won’t be wrong to say that policies like “Compulsory vaccination” and “Work from home” have led to a

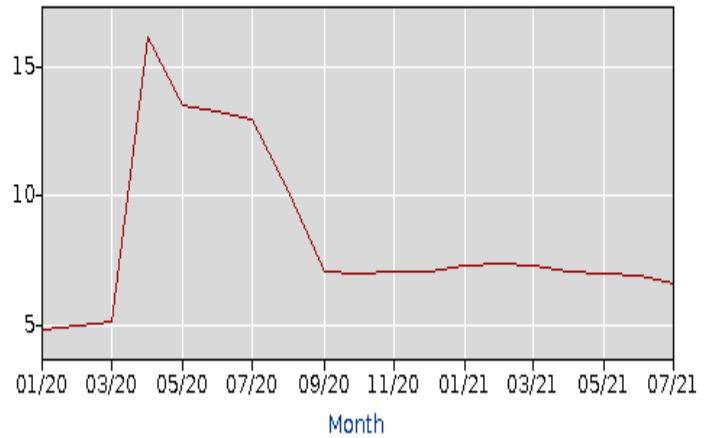
decrease in unemployment as the majority of the people have led to the restoration of their jobs and work facilities. The decreasing graph of unemployment is as follows;



The scatter plot also indicates the same results which are the same as mentioned in this line graph. However, the depiction for the data is in accordance with the per day basis.



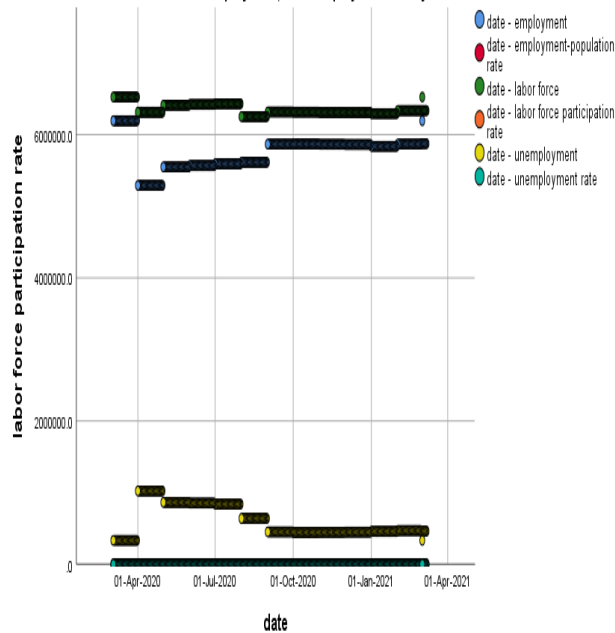
unemployment rate



Last but not the least in importance, a combined depiction of all the factors which have been correlated with respect to each date from “March 2020” to “March 2021” have been presented. It won’t be wrong

to say that all the results are the same as the results presented in the individualized findings with respect to each sector.

Simple Scatter of labor force participation rate, of employment-population rate, of labor force, of employment of unemployment, of unemployment rate by date



Conclusion

The paper aimed to reflect upon the major challenges to the economy of “Pennsylvania” that how it has been affected as a result of the pandemic and what the major challenges were faced. In short, it was important to reveal how these had an impact on the entire economy, serving as a major downtrend for the peoples’ jobs and

also affecting the entire “GDP-Gross Domestic Product.”

Thus, there are two methods for controlling inflation. Being considerate about the short run, inflation can be controlled in a major way by controlling the flow of money within a particular economy. For that purpose, it is necessary to increase the interest rates for controlling the purchasing power for a certain interval of time recognizing the market trends. In the long run, decreasing unemployment by paving ways for new opportunities can be a leading factor to inflation control. Furthermore, monetary policy for slow economic growth should be implemented for controlling inflation.

So, it is important to know about your priorities to uplift the entire economy. As per my perception, I would aim at following these seven approaches in that regard considering the drastic impact of COVID-19 on the entire economy.

My priority is for the enhancement of health care facilities. It is because with increased expenditure it often becomes difficult for the general public to cover their health needs especially in these difficult times of COVID-19 when everything in the economy is drastically damaged.

My second priority is regarding the innovation for the educational system as I would like to control different problems within this sector. These problems include

racism, mental health, etc. However, other necessary steps like providing the required counseling, etc. shall also be taken.

The third priority will be taking different steps for the regulation of a government budget. In this way, a more stable economy shall be generated. Moreover, I'd take necessary measures for a stable and equal distribution of budget.

The fourth priority will be taking steps for the prevention of global warming. The most important problem in the entire world is the damage of the ozone layer and is highly neglected. However, I'd prefer to take steps towards its betterment.

My fifth priority will be the establishment of a threat management system where different types of detected threats shall be minimized. Moreover, with my proposed system threats shall be classified into different levels based on the circumstances. So, by the detection steps shall easily be taken.

The sixth priority will be regarding the preservation of the environment. It is because ensuring eco-friendliness is also the most important. So, following the phenomenon, I'd implement strict laws against smoke-emitting vehicles and factories.

Nowadays, the coronavirus vaccine has also been introduced in the market which is now being followed. So, it is necessary to understand the role of a vaccine such that it is important in the lives of individuals.

vaccines play a pivotal role in putting an end to preventable child deaths if specific vaccination schedules are adhered to, in addition to protecting children from some infectious diseases and their serious complications. Although the presence of disease-causing bacteria and viruses continues, they have been controlled by vaccinations, and this is evidence of the importance and benefits of vaccinations. Moreover, when children are immunized, this helps protect others as well. This means that if the child is immunized, he will not contract infectious diseases and will not infect others because these vaccines contribute to protecting the entire community from the risk of epidemics. In addition, vaccines are very safe, easy to obtain, and safer than contracting the disease. Moreover, the side effects of vaccinations are very rare so that minor reactions such as fever, pain, and redness around the injection site, but these effects disappear within a few days. Another point is that vaccinations help prevent diseases that cause permanent damage to children for life, for example, polio and meningococcal disease, which damages brain cells and leads to limb loss in addition to whooping cough, German measles and many other diseases including "COVID-19" which is currently being tested. In conclusion, vaccinations are very important and useful for children, and their goal is to prevent diseases because prevention is much

easier and more effective than the cost of treatment.

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