The World Evidence on the Correlation of the Covid - 19 Pandemic Confirmed, Recovered and Death Cases

Nuhu A. Sansa
Email: nuhusansa09@gmail.com
Ph: - +86 135 1781 7904
Guangxi University, Economics Department, Nanning - China

Abstract:
The World Health Organization (WHO) has described the coronavirus pandemic as the "defining global health crisis of our time". Despite that no studies have been undertaken to determine the correlation of ongoing Covid - 19 Confirmed, Recovered and Death cases of the World population. The present study is undertaken to analyse the correlation between the Covid - 19 confirmed, recovered and death cases from dated 16th march 2020 to 25th march 2020 for the whole World. From that regard, the Simple regression model was used to determine the correlation between the Covid - 19 confirmed, recovered and death cases for the whole World. The study applied the time series data from China Covid - 19 daily reports from dated 16th march 2020 to 25th march 2020. To determine the correlation of the study variables the study assumes Covid - 19 confirmed cases to be independent variables while recovered and death cases to be an dependent variables of the study. The study's findings were in actual fact very impressive. The study findings manifested that there is a positive and significant relationship between the Covid - 19 confirmed cases and all study's dependent variables (Covid - 19 recovered and death cases) from dated 16th march 2020 to 25th march 2020 for the whole World.

Keywords: Covid - 19 Pandemic, Correlation, Covid - 19's Confirmed, Recovered and Death Cases.

INTRODUCTION

The COVID-19 crisis will go down in history as one of the worst the world has endured, this virus endangers an essential global public good, human health, and it will impact an already weakened global economy.

The recent Covid - 19 pandemic occurred at first in China Wuhan city during the period of december in the year of 2019. The following month january 2020 China has officially declared the OUTBREAK at Wuhan city, the following month of february the World health organisation declared the Covid - 19 to be the EPIDEMIC and given the name of COVID -19 from that point

the virus has already spreaded all over the china, and eventually the third month of march 2020 the Covid - 19 spreaded over many countries in the world. The Covid - 19 being spreaded all over the World the World Health Organisation (WHO) declared the Covid - 19 to be the PANDEMIC.

The Covid - 19 pandemic is spreading quickly all over the World and already affected a significant number of people while many have already been killed. The biggest challenge is that Covid - 19 has not obtained the vaccines. In addition to that the World Health Organisation has already declared that the success of vaccines will take one year or one year and half more to be successful. That means the World has to be prepared to fight the Covid - 19 without the presence of vaccines while the impacts have already started to occur in all aspects economically and socially in the World.

Economically it estimated the Covid - 19 will lead to the global recession where the world production will go down while unemployment will increase and mostly the revenue to different companies and governments will decline at a large extent. While socially it estimated the Covid - 19 will cause the death of the large part of the World population perhaps even severe compared to the past years global pandemics. (MPH, 2020) , clarified that,"Beginning in December 2019, in the region of Wuhan, China, a new ("novel") coronavirus began appearing in human beings. It has been named Covid-19, a shortened form of "coronavirus disease of 2019".

MOTIVATION AND STUDY OBJECTIVE

The World Health Organization (WHO) has described the coronavirus pandemic as the "defining global health crisis of our time". Despite that no studies have been undertaken to determine the correlation of ongoing Covid - 19 Confirmed, Recovered and Death cases of the World population.

The current Covid - 19 pandemic is estimated to be the worst pandemic in World history. World economic experts suggested that the recent Covid - 19 will affect the significant world public good and mostly the world population health, which is the top essential on the prosperity of the global economy and social aspects. The effects on the World public good and the health will eventually seriously affect the world economy which seems already affected by the world financial crisis of the year 2008 - 2009. Barcena, (2020, pg.1) discussed in detail the matter and argued that, " The COVID-19 crisis will go down in history as one of the worst the world has endured. She explained that this virus endangers an essential global public good, human health, and it will impact an already weakened global economy".

OBJECTIVE OF THE STUDY

The present study is undertaken to analyse the correlation between the Covid - 19 confirmed, recovered and death cases from dated 16th march 2020 to 25th march 2020 for the whole World.

SIGNIFICANCE OF THE STUDY

From existing literature the present study will generate new knowledge regarding the proper relationship between the Covid - 19 confirmed, recovered and death cases from 16th march 2020

to 25th march 2020 for the whole world. In addition to that the study will be useful in different study fields including Health studies, Social studies and economics studies.

LITERATURE REVIEW

The recent Covid - 19 pandemic is estimated to have severe effects on the World Population and social development prosperity at large. Literature suggests that as the Covid - 19 more spread will lead to the man power population of the World fall sick, as the results all production, economic activities and caring of the society development to be affected and eventually the most serious negative outcome for the World population is the death for many people. Death of a significant number of the World population will not only affect the economy of the world indeed will affect the social development prosperity of the World. (Evans & Werker, 2020), identify the effects of the Covid - 19 on the World population stated that, "As the disease spreads, it affects the economy with workers sick, caring for family members, and dying".

Slowing down of the Covid - 19 to the World population is mainly depending on the population of a particular country or society and the age composition of that society. It is believed that the young people generation behave very busy in their daily routine of life which force them to have many movements for their life which support the quickly spreading of the Covid - 19. While the old people and the children are not very busy with the low average movement which reduces the possibility of the spread of the Covid - 19 virus. (Beall, 2020, pg.1), insisted that, "The age of a population, as well as the way people live in a society, has a big impact on how Covid-19 is spreading".

Literatures revealed that the Pandemic Covid - 19 will cause the deaths of a significant number of the World population. This is due to the fact that up to present the World has never found the vaccines for the Covid - 19, however scientists have in a different investigations and trials to find the proper vaccines for the Covid - 19. Meanwhile the World has already witnessed the death of a significant number of people particularly in China and Italy. (Beall, 2020, pg.1), in his contribution, suggested that, "This paper found that without any measures at all the UK could face 510,000 deaths while the USA could expect 2.2 million from Covid - 19".

Literature revealed the experience of the world past pandemic on how they affect society by causing the death of a large number of the population. Literature suggested the Spanish Flu after the end of the first world war, the flu caused the quarter death of the world population. With the reference from the Spanish flu the World must be prepared to fight against the ongoing spread of the Covid - 19 as it will eventually take the big part of the World population and not properly estimated to how many or to what extent the World population will be lost. (Beall, 2020, pg.1), discussed the Spanish flu and argued that, "Near the end of World War One, a nasty flu started spreading around the world. The virus responsible for the disease, which became known as Spanish flu, infected over a quarter of the world's population".

History revealed that from the World past years pandemic, the Spanish flu which causes the death of the quarter of the World it is ranked the deadliest pandemic ever to happen in human history and livelihood. (Beall, 2020, pg.1), to support that fact, stating that, "With an estimated death toll of between 50 million and 100 million, it was one of the deadliest pandemics in human history".

Economically different literatures suggested that the present Covid - 19 will affect the global economy and eventually the global economy has already started to experience the recession of the economy. During the recession of the economy World production will go down while unemployment will increase, revenue to different companies will fall down same to the revenue of the government. (Ross, 2020), argued that, "Given the near-shutdown of many economies, the IMF is forecasting a global recession in 2020".

The current Covid - 19 pandemic is estimated to be the worst pandemic in World history. World economic experts suggested that the recent Covid - 19 will affect the significant world public good and mostly the world population health, which is the top essential on the prosperity of the global economy and social aspects. The effects on the World public good and the health will eventually seriously affect the world economy which seems already affected by the world financial crisis of the year 2008 - 2009. Barcena, (2020, pg.1) discussed in detail the matter and argued that, " The COVID-19 crisis will go down in history as one of the worst the world has endured. She explained that this virus endangers an essential global public good, human health, and it will impact an already weakened global economy".

The recent Covid - 19 has been named the as the recent world health crisis with that attention the World Health Organisation (WHO) has advised all the countries in the world to ensure that they maximise the testing of every individual who is suspecting affected the Covid - 19. Testing the health is one of the fundamental tool on fighting the Coronavirus fight because identifying the all and real patients will enable the proper control of the spreading the Covid - 19. Mayberry et al, (2020, pg.1), discussed that, "The World Health Organization (WHO) has described the coronavirus pandemic as the"defining global health crisis of our time", and urged countries to test all suspected cases of COVID-19".

Different literature and reporting news showed that the recent Covid - 19 has already killed and affected a significant number of the World population. In addition to that the World Health Organisation has alerted that the situation will eventually turn to the worse, therefore argued all countries over the World to be prepared on fighting and reduce the spread of the Covid - 19 mostly through social distancing by pushing their citizens to stay at home all the time. Mayberry et al, (2020, pg.1), discussed that, "Globally, the virus has infected 184,976 people and killed just over 7,500, according to the WHO".

The recent Covid - 19 pandemic occurred at first in China Wuhan city during the period of december in the year of 2019. The following month january 2020 China has officially declared the OUTBREAK at Wuhan city, the following month of february the World health organisation declared the Covid - 19 to be the EPIDEMIC and given the name of COVID -19 from that point the virus has already spreaded all over the china, and eventually the third month of march 2020 the Covid - 19 spreaded over many countries in the world. The Covid - 19 being spreaded all over the World the World Health Organisation (WHO) declared the Covid - 19 to be the PANDEMIC.

The Covid - 19 pandemic is spreading quickly all over the World and already affected a significant number of people while many have already been killed. The biggest challenge is that Covid - 19 has not obtained the vaccines. In addition to that the World Health Organisation has already declared that the success of vaccines will take one year or one year and half more to be

successful. That means the World has to be prepared to fight the Covid - 19 without the presence of vaccines while the impacts have already started to occur in all aspects economically and socially in the World.

Economically it estimated the Covid - 19 will lead to the global recession where the world production will go down while unemployment will increase and mostly the revenue to different companies and governments will decline at a large extent. While socially it estimated the Covid - 19 will cause the death of the large part of the World population perhaps even severe compared to the past years global pandemics. (MPH, 2020) , clarified that,"Beginning in December 2019, in the region of Wuhan, China, a new ("novel") coronavirus began appearing in human beings. It has been named Covid-19, a shortened form of "coronavirus disease of 2019".

The history revealed that the recent HIV aids have been identified at first in Africa at Democratic Republic Of Congo, at that point it has been declared a pandemic as some years later it has spreaded almost all over around the World and had a serious impact where by it has killed more than 36 million of the world population. However the vaccines have never been obtained but HIV have been under control since the scientists have managed to develop some medicines which makes the virus inactive for sometimes while the life of the affected one can proceed. (MPH, 2020) , clarified the background of the HIV and its impact to the world stating that,"First identified in Democratic Republic of the Congo in 1976, HIV/AIDS has truly proven itself as a global pandemic, killing more than 36 million people since 1981".

The current status of the HIV in the world is estimated that about 31 to 35 millions peoples in the world are living with the HIV in particular the disease is in Sub saharan African where the 5% of the population of that area is living with the HIV. (MPH, 2020) , clearly discussed that,"Currently there are between 31 and 35 million people living with HIV, the vast majority of those are in Sub-Saharan Africa, where 5% of the population is infected, roughly 21 million people".

Another Pandemic in human livelihood history is FLU PANDEMIC which was identified as caused by the Influenza. Flu Pandemic occurred in the year of 1968 which in actual fact led to the death of the large number of people in the world, however the good news is the vaccines of the flu pandemic were successfully obtained and made the end of the pandemic. It is sometimes referred to as the HONG KONG Flu pandemic caused by the H3N2 strain of Influenza A Virus. (MPH, 2020) , discussing the Flu Pandemic stating that,"Death Toll: 1 million, Cause: Influenza, A category 2 Flu pandemic sometimes referred to as "the Hong Kong Flu," the 1968 flu pandemic was caused by the H3N2 strain of the Influenza A virus, a genetic offshoot of the H2N2 subtype".

It is reported that the Hong Kong Flu is among the pandemic which has spread very quickly in the World, literature suggested that the virus took only 17 days to spread over Singapore and Vietnam from the first time reported outbreak at Hong Kong. And nearly three months later the virus had already become the pandemic since it has already spread to almost many countries in the world including Europe, America, India and Philippines. (MPH, 2020) , written that,"From the first reported case on July 13, 1968 in Hong Kong, it took only 17 days before outbreaks of the virus were reported in Singapore and Vietnam, and within three months had spread to The Philippines, India, Australia, Europe, and the United States".

Apart from HIV, Flu Pandemic and Hong Kong Flu as discussed early, the World has experienced the Sixth Cholera Pandemic. The sixth Cholera Pandemic originated from India during the year from 1910 to 1911 where the basic cause of the outbreak was said to be the Cholera. The Six Cholera Pandemic like the previous Pandemic it has quickly spread all over the world particularly middle east, north Africa Eastern europe and russia where it is estimated to cause the death of almost 800,000+ of the world population. The good outcome is the Pandemic was finally controlled and the vaccines obtained to stop the disease spread more and kill in the world. (MPH, 2020) , in detail discussed that,"Death Toll: 800,000+, Cause: Cholera, Like it's five previous incarnations, the Sixth Cholera Pandemic originated in India where it killed over 800,000, before spreading to the Middle East, North Africa, Eastern Europe and Russia".

In addition to that, the world experienced the Black Death Pandemic during the year from 1346 to 1353 which led to the loss of life to a significant number of the world population about 75 and 200 million peoples lost their lives. The black death spread quickly in the world particularly Europe, Africa and Asia. (MPH, 2020) , described the Pandemic and argued that,"Death Toll: 75 – 200 million, Cause: Bubonic Plague, From 1346 to 1353 an outbreak of the Plague ravaged Europe, Africa, and Asia, with an estimated death toll between 75 and 200 million people".

The all above discussed Pandemic the scientists manage to discover the real cause of the Pandemic, however during the period of 165 AD the World experienced another Pandemic named ANTONINE PLAGUE and failed to establish the cause of the pandemic. The pandemic caused the death of the world population almost 5 millions peoples dead especially to the areas where it spread much such as Asia, Egypt, Greece and Italy. (MPH, 2020) , made clear that,"Death Toll: 5 million, Cause: Unknown, Also known as the Plague of Galen, the Antonine Plague was an ancient pandemic that affected Asia Minor, Egypt, Greece, and Italy and is thought to have been either Smallpox or Measles, though the true cause is still unknown".

The literature suggested that this unknown disease caused by the soldiers returned to the Roma from Mesopotamia during 165 AD, and still to date the scientists have never established the real cause of the Pandemic. (MPH, 2020) , argued that, "This unknown disease was brought back to Rome by soldiers returning from Mesopotamia around 165AD; unknowingly, they had spread a disease which would end up killing over 5 million people and decimating the Roman army".

Different from the HIV Aids all the past global pandemics were managed by the World scientists through the development of the vaccines to end the Pandemic and make the World safe place to live for the human being. For example, Flu Pandemic which was caused by the influenza the scientists manage to develop the vaccine within the year since the outbreak occurred. (World Health Organisation Report, 2020, pg.1), clearly reported that,"For the first time, a pandemic vaccine was developed, produced and deployed in multiple countries during the first year of the pandemic".

About the vaccines of the recent Covid - 19, the managing director of the World Health Organisation has already declared that it will take one year or one year and half more to develop the approved vaccines. This means the world must be prepared to fight the spread of the Covid - 19 pandemic and contain its severe impacts in all aspects. It is already estimated that the world will face a recession economically where production will drop while unemployment will increase

and most worse the revenue collection to different companies and governments will drop at a large extent.

Economically, it has been discovered that from all the past global pandemics economics experts revealed that it is very difficult to establish the approach with consistency to determine and recommend the economic impact of the time being pandemic. This remains the food for thought even for the recent Covid - 19 Pandemic. Gallivan M, et al, (2017), clearly argued that, "There is no widely accepted, consistent methodology for estimating the economic impacts of pandemics".

In addition to that, it has become difficult to establish the costs used to overcome the pandemic and mostly no literature suggests the amount of preparedness of the world or countries to confront the whatever pandemic to come. This means even for the recent Covid - 19 it is difficult to estimate the costs to contain the pandemic even how to prepare never been properly identified. Gallivan M, et al, (2017), to support the matter, stating that, "Spending and costs specifically associated with pandemic preparedness and response efforts are poorly tracked".

In addition to that the most important lesson learned from the all past pandemics is that the Governments failed to support their citizens resulting from the imposed rules and regulation to contain the spread of the pandemic. Example the goverments is not responsible for the costs of the quarantined citizens after arriving to a certain country, with the recent Covid - 19 all governments make clearly the instructions that the citizens arrived from outside the country must be guaranteed for 14 days for their own costs. Apart from that while the schools and the workplaces closed the governments do not support the loss of employment or unpaid leave, this may be different to very few countries which recently confirm to support their citizens including china and USA. China and the USA have guaranteed their citizens the impacts of the pandemic, especially the outcome related to employment caused by the recent Covid - 19 pandemic. McDonnell, (2020, pg.1), clarified that,"Governments have often failed to anticipate and support citizens through the social and economic impacts of pandemics, from mandatory quarantines and travel restrictions to closing schools, workplaces, and local businesses".

The most precaution lesson learned from all the past global pandemics is the severe social impact to the World population. Experience and literature revealed that all the past global pandemics killed a significant large number of the world population. (The Guardian, 2020, pg.1) , clarified that, "Impact, Uncontrolled pandemics can be devastating. The 1918 influenza pandemic killed more than 50 million people within a year. HIV/Aids is estimated to have killed more than 39 million people since the first cases were reported in 1981".

In sum up from the lesson learned from the past global pandemics, particularly the 1918 influenza pandemic is the best way to contain the spread of the virus. From the literature review and the experience it is suggested that the best way and effective way to control the virus spreading is to exercise the so-called social distancing. That means all the countries must push their citizens to practice social distancing through banning all mass gathering, events or anything

associated with the meeting of the people. (Sara, 2020, pg.1), on discussing the matter in detail and argued that, "The 1918 influenza pandemic and 2002–2003 SARS outbreak suggest social distancing measures, communication and international cooperation are the most effective methods to slow COVID-19".

RESEARCH METHODOLOGY

The present study is undertaken to analyse the correlation between the Covid - 19 confirmed, recovered and death cases from dated 16th march 2020 to 25th march 2020 for the whole World. From that regard, the Simple regression model was used to determine the correlation between the Covid - 19 confirmed, recovered and death cases for the whole World. The study applied the time series data from China Covid - 19 daily reports from dated 16th march 2020 to 25th march 2020. To determine the correlation of the study variables the study assumes Covid - 19 confirmed cases to be independent variables while recovered and death cases to be an dependent variables of the study.

The study applied the Simple Regression in Double Log and Semi Log Linear Models to determine the correlation between the Covid - 19 confirmed, recovered and death cases for the whole World.   . The study design is descriptive and analytical using the quantitative method with the application of Excel (microsoft office excel 2007), EVIEWS (3.0 VERSION).

The study employed the following equation to establish the correlation between the Covid - 19 confirmed, recovered and death cases for the whole World. : -

$\ln Y_t = \alpha_0 + \beta_1\ CNF/C_t + e_{1t}$ …………………….……………….(1) Where, $\ln Y$ is the natural log of Dependent Variable, CNF/C is Covid 19 Confirmed cases . The α_0 is constant, and β_1, is the coefficient parameter.

The correlation between the Covid - 19 Confirmed cases and Death Cases were evaluated by using the following equation : -

$DC_t = \alpha_0 + \beta_1\ CNF/C_t + e_{2t}$ ………………………………….(2) Where DC_t is the natural log of the Worldwide Death cases.

The correlation between the Covid - 19 Confirmed cases and Recovered Cases were evaluated by using the following equation : -

$RC_t = \alpha_0 + \beta_1\ CNF/C_t + e_{3t}$ ………………………………….(2) Where RC_t is the natural log of the Worldwide Recovered cases.

EMPIRICAL RESULTS AND DISCUSSION

The present study applied the descriptive and analytical techniques to establish the correlation between the Covid - 19 confirmed, recovered and death cases for the whole World.

THE CORRELATION BETWEEN COVID - 19 CONFIRMED CASES AND DEATH CASES WORLDWIDE

The study regression results revealed that there is a significant positive correlation between the Covid - 19 Confirmed cases and death cases from dated 16th march 2020 to 25th march 2020 for the whole world.

The coefficient for the Covid - 19 Confirmed cases is 0.0504% which means that for each additional for the Covid - 19 Confirmed cases the death cases increased for the said percentage. (Table 1).

TABLE 1: REGRESSION RESULT BETWEEN THE COVID - 19 CONFIRMED CASES AND DEATH CASES FROM 16TH MARCH TO 25TH MARCH 2020 WORLDWIDE.

V	C	STD	T	P
COVID -19 CONF C	0.0504	0.0303	16.61	0
CN	0.014866			0
R-S	0.02272			
A.R.S	0.1306			
S.E.O	0.0885			
NOB =10				

Origin : Appendix 3

Where V is Variable, CONF COVID - 19 is the Confirmed Cases In China, C is the coefficient, STD is the Standard deviation, T is the T-statistic, P is the probability, CN is constant, RS is the R Square, A.R.S is the Adjusted R - Square , S.E.O is the standard error of estimation, and NOB is the number of observation.

APPENDIX 1: THE FOLLOWING TABLE SHOWS THE COVID - 19 CONFIRMED CASES, RECOVERED AND DEATH CASES FROM 16TH TO 25TH MARCH 2020 WORLDWIDE.

DATE	CON	DEATH	REC
15/3/2020	156509	5833	75912
16/3/2020	168857	6516	77760
17/3/2020	182566	7160	79852
18/3/2020	198222	7955	82722
19/3/2020	234436	10028	87211
20/3/2020	244286	10030	88300
21/3/2020	275695	11392	90886

INTERNATIONAL JOURNAL OF BUSINESS EDUCATION AND MANAGEMENT STUDIES (IJBEMS)
A Peer Reviewed (Refereed) International Journal

Vol.4.Issue 1. 2020 (April)

Impact Factor 4.308   http://www.ijbems.com   ISSN:2941-9638

22/3/2020	307740	13050	95498
23/3/2020	338908	14702	98897
24/3/2020	381226	16550	102143
25/3/2020	422634	18916	108602

Source: (China Daily Covid - 19 Reports, 2020)

APPENDIX 2: THE FOLLOWING TABLE SHOWS THE DAILY MARGINAL CHANGE FOR COVID - 19 CONFIRMED CASES, RECOVERED AND DEATH CASES FROM 16TH MARCH 2020 TO 25TH MARCH 2020 WORLDWIDE

	M/CHANGE		
DATE	CONF	DEATH	REC
15/3/2020			
16/3/2020	12348	683	1848
17/3/2020	13709	644	2092
18/3/2020	15656	795	2870
19/3/2020	36214	2073	4489
20/3/2020	9850	2	1089
21/3/2020	31409	1362	2586
22/3/2020	32045	1658	4612
23/3/2020	31168	1652	3399
24/3/2020	42318	1848	3246
25/3/2020	41408	2366	6459

Source : Appendix 1

APPENDIX 3: THE FOLLOWING TABLE SHOWS THE REGRESSION BETWEEN THE COVID - 19 CONFIRMED CASES AND DEATH CASES FROM 16TH MARCH 2020 TO 25TH MARCH 2020 WORLDWIDE

DATE	C/CASE	D/CASES	X^2	Y^2	XY
16/3/2020	12348	683	152473104	466489	8433684
17/3/2020	13709	644	187936681	414736	8828596
18/3/2020	15656	795	245110336	632025	12446520
19/3/2020	36214	2073	1311453796	4297329	75071622

20/3/2020	9850	2	97022500	4	19700
21/3/2020	31409	1362	986525281	1855044	42779058
22/3/2020	32045	1658	1026882025	2748964	53130610
23/3/2020	31168	1652	971444224	2729104	51489536
24/3/2020	42318	1848	1790813124	3415104	78203664
25/3/2020	41408	2366	1714622464	5597956	97971328
TOTAL	266125	13083	8484283535	22156755	428374318

Source: Appendix 2

THE CORRELATION BETWEEN COVID - 19 CONFIRMED CASES AND RECOVERED CASES WORLDWIDE

The study regression results revealed that there is a significant positive correlation between the Covid - 19 Confirmed cases and recovered cases from dated 15th march 2020 to 25th march 2020 for the whole world.

The coefficient for the Covid - 19 Confirmed cases is 0.11898% which means that for each additional for the Covid - 19 Confirmed cases the recovered cases increased for the said percentage. (Table 2).

TABLE 2: REGRESSION RESULTS BETWEEN THE COVID - 19 CONFIRMED CASES AND RECOVERED CASES FROM 16TH MARCH 2020 TO 25TH MARCH 2020 WORLDWIDE

Dependent Variable : Covid - 19 recovered cases

V	C	STD	T	P
COVID -19 CONF C	0.11898	0.0108	10.99	0
CN	0.0295			0
R-S	0.9309			
A.R.S	0.92235			
S.E.O	0.0108			
NOB =10				

Origin : Appendix 4

Where V is Variable, CONF COVID - 19 is the Confirmed Cases In China, C is the coefficient, STD is the Standard deviation, T is the T-statistic, P is the probability, CN is constant, RS is the

R Square, A.R.S is the Adjusted R - Square , S.E.O is the standard error of estimation, and NOB is the number of observation.

APPENDIX 4: THE FOLLOWING TABLE SHOWS THE REGRESSION BETWEEN THE COVID - 19 CONFIRMED CASES AND RECOVERED CASES FROM 16TH MARCH 2020 TO 25TH MARCH 2020 WORLDWIDE

DATE	C/CASE	R/CASES	X^2	Y^2	XY
16/3/2020	12348	1848	152473104	3415104	22819104
17/3/2020	13709	2092	187936681	4376464	28679228
18/3/2020	15656	2870	245110336	8236900	44932720
19/3/2020	36214	4489	1311453796	20151121	162564646
20/3/2020	9850	1089	97022500	1185921	10726650
21/3/2020	31409	2586	986525281	6687396	81223674
22/3/2020	32045	4612	1026882025	21270544	147791540
23/3/2020	31168	3399	971444224	11553201	105940032
24/3/2020	42318	3246	1790813124	10536516	137364228
25/3/2020	41408	6459	1714622464	41718681	267454272
TOTAL	266125	32690	8484283535	129131848	1009496094

 Source : Appendix 2

SUMMARY OF FINDINGS
The study findings manifested that there is a positive and significant relationship between the Covid - 19 confirmed cases and all study's dependent variables (Covid - 19 recovered and death cases) from dated 16th march 2020 to 25th march 2020 for the whole World.

LIMITATION OF THE STUDY
The study sample time frame is very short from dated 16th march 2020 to 25th march worldwide, the study recommends for the future and further studies to accommodate the long interval period of time especially at a time the Covid - 19 pandemic is already controlled and finished.

CONCLUSION
The present study is undertaken to analyse the correlation between the Covid - 19 confirmed, recovered and death cases from dated 16th march 2020 to 25th march 2020 for the whole World. From existing literature the present study will generate new knowledge regarding the proper relationship between the Covid - 19 confirmed, recovered and death cases from 16th march 2020

to 25th march 2020 for the whole world. In addition to that the study will be useful in different study fields including Health studies, Social studies and economics studies.

The study findings manifested that there is a positive and significant relationship between the Covid - 19 confirmed cases and all study's dependent variables (Covid - 19 recovered and death cases) from dated 16th march 2020 to 25th march 2020 for the whole World.

REFERENCE

Barcena. A, (2020). COVID - 19 Will Have Grave Effects On The Global Economy And Will Impact The Countries Of Latin America And The Caribbean. ECLAC Press Release 19th March, 2020.

Mayberry. K, Gadzo. M, & Siddiqui. U, (2020). Italy's Coronavirus Death Toll Surges Past 2500 - Live - Updated. AL JAZEERA NEWS.

Evans. D, & Werker. E, (2020). What A Population's Age Structure Means For Covid - 19's Impact In Low Income Countries. Center For Global Development.

Madhav N, Oppenheim B, Gallivan M, et al, (2017). Pandemics: Risks, Impacts, and Mitigation. In: Jamison DT, Gelband H, Horton S, et al., editors. Disease Control Priorities: Improving Health and Reducing Poverty. 3rd edition. Washington (DC): The International Bank for Reconstruction and Development / The World Bank; 2017 Nov 27. Chapter 17. Available from: https://www.ncbi.nlm.nih.gov/books/NBK525302/ doi: 10.1596/978-1-4648-0527-1/pt5.ch17.

Sara. G, (2020). Lessons from past outbreaks could help fight the coronavirus pandemic. SCIENTIFIC AMERICAN.

McDonnell. T, (2020). What we've learned from past pandemics . - QUARTZ.

The Guardian, (2020). Five Lessons We Should Have Learned From Pandemics.

World Health Organisation Report, (2020). Who Announced The Covid - 19 A Pandemic.

MPH, (2020). Outbreak: 10 Of The Worst Pandemics In History.

Ross. J, (2020). Covid - 19 Crash: How China's Economy May Offer A Glimpse Of The Future. VISUAL CAPITALIST.

Beall. A, (2020). Why Social Distancing Might Last For Some Times?. Covid - 19 - BBC FUTURE.

China Daily Covid - 19 Reports, (2020). Global Daily Statistics for Covid - 19.