



COVID-19 VACCINE FACTS, MYTHS AND WAY FORWARD

INTAKE 37
SYNDICATE 04

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**COVID-19 VACCINE FACTS, MYTHS AND WAY
FORWARD.**



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INTAKE 37

SYNDICATE 04

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DS COMMENTS

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COVER SHEET

1. TOPIC - COVID 19 VACCINE
FACTS, MYTHS AND
WAY FORWARD
2. MILITARY DS - FG OFF ALAGIYAWADU
3. ACADEMIC DS - DR. AU GAMAGE
4. SYNDICATE LEADER - 5895 TUO MWS NAVOD
5. SYNDICATE MEMBERS -

SN	SVC NO	RANK	NAME	STREAM
1	5839	TUO	AMKGP Abeysinghe	ENG
2	5895	TUO	MWS Navod	MBBS
3	5789	C/SGT	KACN Kodithuwakku	MTS
4	5847	O/Cadet	JALM Jayaweera	ENG
5	5912	O/Cadet	MKBY Jayalath	MBBS
6	5913	O/Cadet	WADY Weeratunga	MBBS
7	5914	O/Cadet	AWVLB Weerakoon	MBBS
8	5915	O/Cadet	HD Ranasinghe	MBBS
9	5916	O/Cadet	KGHD Wijerathne	MBBS
10	5968	O/Cadet	PBSM Priyankara	CS

DECLARATION

We declare that this not incorporate, without acknowledgement, any material previously submitted for a degree or a diploma in any university and to the best of our knowledge and belief, it does not contain any material previously published and written by another person or ourselves except where due reference is made in the text. We also hereby give consent for our dissertation, if accepted, to be made available for photocopying and for interlibrary loans, and for the summary to be made available to outside.

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DEDICATION

We dedicate this dissertation to our officers, lecturers, instructors and all those who supported us encouraged us, and provided insight throughout this study project. We also pay special gratitude to our loving parents without whom we would not be here today. We appreciate all the troop commanders, squadron commanders, and all other military officers who were always behind us, guiding us on the right path forward and encouraging and showing us that anything is possible with hard work and integrity.

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AIM

The aim of this presentation is to make the understand about the facts, myths and way forward of COVID-19 vaccination.

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CHAPTER 1

INTRODUCTION

1. The Covid-19 was originated from the city of Wuhan, China has created a big revolution globally. The Covid-19 alias the coronavirus has spread all over the world impacting the nations' economy, life patterns, and all the other living conditions. The Covid-19 pandemic has kept a forceful full stop to the people's freedom and all the activities that have been performed by the people to tighten up their lives. Many lives have been buried by the covid and half of the world has to suffer a lot from this pandemic situation with the degrading economies, lives, and lifestyles.

2. However, the continuation of the pandemic has created a new normal where all the lifestyles have adapted to the new virus condition where all the manual meetings and processes have transferred into digitization with limited movements and activities.

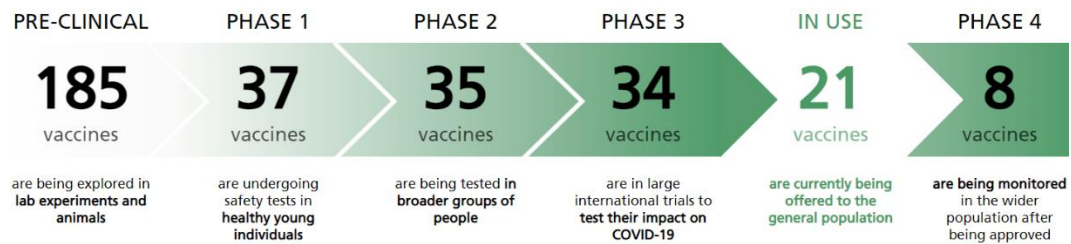
CHAPTER 2

COVID- 19 VACCINE; FACTS

WHAT IS COVID-19?

3. COVID-19 disease is caused by a coronavirus called SARS-CoV-2. You can get COVID-19 through contact with another person who has the virus. It is predominantly a respiratory illness that can affect other organs. People with COVID-19 have had a wide range of symptoms reported, ranging from mild symptoms to severe illness leading to death. Symptoms may appear 2 to 14 days after exposure to the virus. Symptoms may include fever or chills; cough; shortness of breath; fatigue; muscle or body aches; headache; new loss of taste or smell; sore throat; congestion or runny nose; nausea or vomiting; diarrhea.

THE COVID-19 VACCINE RACE.



THE DIFFERENT TYPES OF VACCINES.

4. There are three main approaches to designing a vaccine. Their differences lie in whether they use a **whole** virus or bacterium; just the **parts** of the germ that triggers the immune system; or just the **genetic material** that provides the instructions for making specific proteins and not the whole virus.

a. **Inactivated vaccine**

The first way to make a vaccine is to take the disease-carrying virus or bacterium, or one very similar to it, and inactivate or kill it using chemicals, heat or radiation. This approach uses technology that’s been proven to work in people – this is the way the flu and polio vaccines are made – and vaccines can be manufactured on a reasonable scale.

However, it requires special laboratory facilities to grow the virus or bacterium safely, can have a relatively long production time, and will likely require two or three doses to be administered.

b. Live-attenuated vaccine

A live-attenuated vaccine uses a living but weakened version of the virus or one that's very similar. The measles, mumps and rubella (MMR) vaccine and the chickenpox and shingles vaccine are examples of this type of vaccine. This approach uses similar technology to the Inactivated vaccine and can be manufactured at scale. However, vaccines like this may not be suitable for people with compromised immune systems.

c. Viral vector vaccine

This type of vaccine uses a safe virus to deliver specific sub-parts – called proteins – of the germ of interest so that it can trigger an immune response without causing disease. To do this, the instructions for making particular parts of the pathogen of interest are inserted into a safe virus. The safe virus then serves as a platform or vector to deliver the protein into the body. The protein triggers the immune response. The Ebola vaccine is a viral vector vaccine and this type can be developed rapidly.

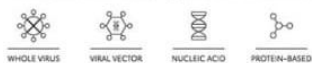
d. Messenger RNA (mRNA) vaccine

Messenger RNA (mRNA) vaccines use a technology that teaches cells to learn to produce the proteins of a virus to combat infection. For SARS-CoV-2, which causes covid-19, the mRNA contains the information about the Spike protein -or S protein- which is found at the virus crown. As biochemist Julià Blanco explained to Verificat, “it is not possible for mRNA to modify our genetic code”. According to the scientist, “our DNA is stored inside the nucleus as in a safe-deposit box and it is impossible for the mRNA to modify our genetic code”.

STATUS OF COVID-19 VACCINES.

COMPANY	NRA (region)	PLATFORM	EOI STATUS	ASSESSMENT STATUS	DECISION DATE*
Pfizer/BioNTech				Finalised	31.12.2020
Oxford/AstraZeneca				Finalised (non COVAX)	29.01.2021
Oxford/AstraZeneca				In progress	Mid-Feb 2021
Serum Institute of India**				In progress	Mid-Feb 2021
Sinopharm/Beijing Bio-Institute of Biological Products				In progress	Early March 2021
Sinovac				Not yet started	Early March 2021
Moderna				Not yet started	End of Feb 2021
Janssen				Not yet started	April-May 2021
The Gamaleya National Center				—	—
CansinoBio				—	—
Vector Insite				—	—
Zhifei Longcom				—	—
Institute of Medical Biology at the Chinese Academy of Medical Sciences				—	—
Sinopharm/ Wuhan Institute of Biological Products				—	—
Novavax				—	—

* Anticipated decision date: this is an estimate that depends on rolling submission of data and response to assessors' questions
 ** Serum Institute of India are producing doses of the Oxford/AstraZeneca vaccine under a technology transfer agreement



WHAT DOES OUR IMMUNE SYSTEM HAVE TO DO WITH VACCINE.

5. The immune system—our body’s defense system against infections—goes to work quickly against foreign germs like the virus that causes COVID-19 disease. When we are infected with a new virus that our body has not encountered before, our immune system can take a while to “catch up” to the virus and create enough virus-killing cells to combat COVID-19. Once the body creates enough virus-killing cells, your immune system puts them to work against the virus, eventually making you feel better.

6. One of the key types of cells doing the heavy lifting of fighting off the virus are T-lymphocytes—you may know them as T-cells. Remarkably, these T-cells can remember how it fought off a particular infection. In the case of COVID-19 disease, if someone who had COVID-19 encounters the virus again, those T-cells remember the virus and send viral antibodies to attack the virus much more quickly than the first time, providing partial immunity. Researchers are still discovering how long this natural immunity may last.

What is COVAX facility?

7. COVID-19 Vaccines Global Access, abbreviated as COVAX, is a worldwide initiative aimed at equitable access to COVID-19 vaccines directed by Gavi, the Vaccine Alliance (formerly the Global Alliance for Vaccines and Immunization, or GAVI), the Coalition for Epidemic Preparedness Innovations (CEPI), and the World Health Organization (WHO). It is one of the three pillars of the Access to COVID-19 Tools Accelerator, an initiative begun in April 2020 by the WHO, the European Commission, and the government of France as a response to the COVID-19 pandemic. COVAX coordinates international resources to enable low-to-middle-income countries equitable access to COVID-19 tests, therapies, and vaccines.[1] UNICEF is the key delivery partner, leveraging its experience as the largest single vaccine buyer in the world and working on the procurement of COVID-19 vaccine doses, as well logistics, country readiness and in-country delivery

What is The Cold Chain ?

8. Effective cold chain management of any COVID-19 vaccine is key to ensuring the success of the national vaccination programme. Organisations must prevent deviations in refrigerated storage temperature, and ensure that vaccines are used within their individual requirements. This page gives good practice advice for storage and transportation; additional articles (series guide above) cover other aspects.

What is The Cold Chain?

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CHAPTER 3

COVID- 19 VACCINE: MYTHS

10. Prior to COVID-19, a vaccine for an infectious disease had never been produced in less than several years. As multiple COVID-19 vaccines have been authorized or licensed for use, real-world vaccine effectiveness is now being assessed using case control and observational studies. When considering about the nature and the general understanding regarding the vaccine it is not a surprise to have myths. Some of these are coming from the tradition belief from the ancestors regarding this modern virus pattern.

11. Our concern is to highlight and male a discussion and reveal the correct scientific truth regarding following most popular myths. Inform the society about the general truth about the vaccination and the sweep up the unwanted horror about the vaccination procedure.

Does COVID-19 vaccines contain microchips?

12. COVID-19 vaccines do not contain microchips. Vaccines are developed to fight against disease and are not administered to track your movement. Vaccines work by stimulating your immune system to produce antibodies, exactly like it would if you were exposed to the disease. After getting vaccinated, you develop immunity to that disease, without having to get the disease first.

Receiving a COVID-19 vaccine will not make you magnetic.

13. Receiving a COVID-19 vaccine will not make you magnetic, including at the site of vaccination which is usually your arm. COVID-19 vaccines do not contain ingredients that can produce an electromagnetic field at the site of your injection. All COVID-19 vaccines are free from metals.

Do any of the COVID-19 vaccines authorized for use in the United States shed or release any of their components.

14. Vaccine shedding is the term used to describe the release or discharge of any of the vaccine components in or outside of the body. Vaccine shedding can only occur when a vaccine contains a weakened version of the virus. None of the vaccines

authorized for use in the U.S. contain a live virus. mRNA and viral vector vaccines are the two types of currently authorized COVID-19 vaccines available.

Will a COVID-19 vaccine alter my DNA?

15. COVID-19 vaccines do not change or interact with your DNA in any way. Both mRNA and viral vector COVID-19 vaccines deliver instructions to our cells to start building protection against the virus that causes COVID-19. However, the material never enters the nucleus of the cell, which is where our DNA is kept.

Will getting a COVID-19 vaccine cause me to test positive for COVID-19 on a viral test?

16. None of the authorized and recommended COVID-19 vaccines cause you to test positive on viral tests, which are used to see if you have a current infection. If your body develops an immune response to vaccination, which is the goal, you may test positive on some antibody tests. Antibody tests indicate you had a previous infection and that you may have some level of protection against the virus.

Can a vaccine make sick with COVID 19 symptoms?

17. None of the authorized COVID-19 vaccines in the United States contain the live virus that causes COVID-19. This means that a COVID-19 vaccine cannot make you sick with COVID-19. COVID-19 vaccines teach our immune systems how to recognize and fight the virus that causes COVID-19. Sometimes this process can cause symptoms, such as fever.

Vaccine effects menstrual cycle.

18. None of the authorized COVID-19 vaccines in the United States contain the live virus that causes COVID-19. This means that a COVID-19 vaccine **cannot** make you sick with COVID-19. COVID-19 vaccines teach our immune systems how to recognize and fight the virus that causes COVID-19. Sometimes this process can cause symptoms, such as fever. These symptoms are normal and are signs that the body is building protection against the virus that causes COVID-19.

Getting the COVID-19 vaccine means I can stop wearing my mask and taking coronavirus precautions.

19. The CDC continues to monitor the spread of COVID-19 and makes recommendations for wearing face masks, both for those who are fully vaccinated as well as those who are not fully vaccinated. The CDC also recommends that masks and physical distancing are required when going to the doctor's office, hospitals or long-term care facilities, including all Johns Hopkins hospitals, care centers and offices.

The AstraZeneca vaccine is dangerous because it causes blood clots.

20. Most of us have heard about the link between the AstraZeneca vaccine and blood clots. While this is true, there is an extremely rare but serious side effect to this vaccine, known as thrombosis in combination with thrombocytopenia. This rare side-effect impacts approximately four to six people in every million. The risk is marginally lower in older people, than it is for younger people. The experts at Australian Technical Advisory Group on Immunization continuously monitor any cases of this syndrome. Any incidences of this rare reaction to the AstraZeneca vaccine are made publicly.

The Covid-19 vaccine won't work because the virus keeps mutating.

21. COVID-19 is no different to any virus – all viruses mutate. There are now several strains of Covid-19, with the current dominant strain being the Delta variant. The evidence to date concludes that the Australian Technical Advisory Group on Immunization has approved COVID-19 vaccines that are effective against all currently known variants.

The Covid-19 vaccine was developed quickly, so it is not safe.

22. The vaccines that are administered in Australia have been developed without compromising any quality, safety or effectiveness. While it may seem that the development of the Covid-19 vaccines were rushed, the reality is researchers around the world have been working on vaccines for previous coronaviruses such as SARS in 2002 and MERS in 2012. This work gave researchers a valuable head start, when it came to developing the COVID-19 vaccines.

I already had COVID-19 and I have recovered, so I don't need to get vaccinated for COVID-19

23. There is not enough information currently available to say if or for how long after infection someone is protected from getting COVID-19 again. Due to the severe health risks associated with the virus and the fact that re-infection is possible, it's recommended you get vaccinated even if you've had COVID-19 previously. Because the risk of reinfection is believed to be low in the 90 days following COVID-19 infection, you may choose to delay the vaccine during the three months following your illness, but you may still choose to be vaccinated to prevent future infection. You should not get vaccinated if you are in quarantine after exposure or if you currently have COVID-19 symptoms.

Several traditional herbal medicines substitute the effect of vaccine.

24. As an example, in our country so called 'Dhammika Paniya' had been spread in no time. Sri Lankans believed it as soon as several people said so. Eventually the investigations proved it was a panned mafia to exploit money from innocent people.

The COVID-19 vaccine can affect women's fertility.

25. The COVID-19 vaccine will not affect fertility. The truth is that the COVID-19 vaccine encourages the body to create copies of the spike protein found on the coronavirus's surface. This "teaches" the body's immune system to fight the virus that has that specific spike protein on it.

26. Confusion arose when a false report surfaced on social media, saying that the spike protein on this coronavirus was the same as another spike protein called syncytin-1 that is involved in the growth and attachment of the placenta during pregnancy. The false report said that getting the COVID-19 vaccine would cause a woman's body to fight this different spike protein and affect her fertility. The two spike proteins are completely different and distinct, and getting the COVID-19 vaccine will not affect the fertility of women who are seeking to become pregnant, including through in vitro fertilization methods. During the Pfizer vaccine tests, 23 women volunteers involved in the study became pregnant, and the only one who suffered a pregnancy loss had not received the actual vaccine, but a placebo.

27. Getting COVID-19, on the other hand, can have potentially serious impact on

pregnancy and the mother's health. Learn more about coronavirus and pregnancy. Johns Hopkins Medicine encourages women to reach out to their medical providers to discuss other questions they have about COVID-19 as it relates to fertility or pregnancy.

The COVID-19 mortality rate is only 1-2%, so I don't need to be vaccinated against something with such a high survival rate.

28. People often equate COVID-19 to the seasonal flu, but the mortality rate is actually much higher. While the mortality rate may only be 1% in certain groups of people, it's much higher in other groups, especially among older adults. We've seen people with no underlying health conditions get very sick with COVID-19, or even die, so the truth is you just don't know how it's going to affect you.

The vaccine won't be effective against the many variants now circulating in the U.S., so I should wait until better vaccines are available.

29. You may have heard of new strains of the COVID-19 virus. Viruses mutate all the time, and that's another reason to get people fully immunized as quickly as possible. Viruses can't mutate as easily if they are not spreading and replicating. By receiving your vaccine, you'll not only protect those around you from getting the disease, but you may also help prevent the further emergence of variants. Although the vaccines we have today potentially could be somewhat less effective against new variants in terms of preventing all symptoms, we believe they do prevent many mild to moderate cases, and are effective against preventing severe cases, hospitalizations and deaths. I really think it's amazing to have a vaccine that is 94-95% effective. It's one of the best vaccines in terms of efficacy out there.

CHAPTER 4

COVID- 19 VACCINE; THE WAY FORWARD

30. As you have already clearly understood that, this RNA vaccine against is the most reliable option we have against the Corona virus. This vaccine is very versatile, allowing rapid updating possible as new variations of this virus emerge.

31. In summary, the ‘way forward’ with COVID-19 vaccine is indeed another term for ‘effective situation handling’. Being based on this way of thought, we have been able to look in to details regarding this situation with an enlarged scope; thus, opening the doorway for successful ideas, hopefully.

32. I decided to look at this matter as if it is during a war where there is a possibility that enemy may penetrate our defenses and they may capture my men. What quick as well as efficient measures will save my men from this situation?

33. First I must understand what are the basic tasks those should be fulfilled by my men, according to their priority. Clear understanding of these will lead to the overall success of my future actions.

There are 3 primary tasks to be fulfilled. They are,

- a. Establishing effective defense against the enemy in advance,
- b. If defense is somehow penetrated, stopping of further entering of the enemy (this includes offensive action against those who have not entered yet as well as the reorganization of the enemy)
- c. Acting against the already entered enemy (while taking advantage from them as much as possible),in priority order.

34. The way forward with the COVID-19 vaccine is quite similar to this. First we must observe the situation well. It will lead to understanding of the primary tasks to be fulfilled.

35. Like in the situation with the enemy, there are 3 primary tasks to be fulfilled. They are;

- a. Vaccinating
- b. Prevention of further spreading

c. Acting against future problems

Arranging our further actions based on the requirement of fulfilling these primary tasks, will eventually lead to effective situation handling.

36. But why do we need to accomplish the task of ‘prevention of further spreading’, when we have already completed the first task; vaccinating? When we look at the data of infected patients, we can clearly see that there is a tendency of vaccinated people also getting infected. Therefore we must continue adhering to the preventive measures even after vaccination is done. However, obviously there are so many aspects to be considered regarding the methodology of completing this task, also.

37. Having said that, our recommendations, ideas on methodology of the ‘COVID-19 vaccine; way forward’- or in other words, methodology of the situation handling with the COVID-19 vaccine, will be made clear under the topics, which are derived from those 3 tasks themselves.

Vaccinating

38. The whole ‘process of vaccinating’ must be done strictly considering the following points

- a. Importing - importing sufficient amounts of vaccines
- b. Storage - effective storage of the vaccines
- c. Distribution - effective distribution of the vaccines
- d. Vaccinating - the very act of vaccinating
- e. Handling challenges - measures for both foreseen and unforeseen Challenges arising from each phase above Should be taken into consideration

39. I have given great emphasis on the word ‘effective’ as there is a great importance on quality of the process of vaccinating while minimizing the wastage as much as possible.

40. In the presentation we will be giving and explaining our ideas for effective accomplishment of each phase mentioned above, while giving our own suggestions for facing challenges. For the sake of giving a rough idea of what will our ideas (for

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the accomplishment of each phase above) be based on, bellow follows a short description.

41. As currently our country does not produce any vaccine against COVID-19, we must pay great emphasis on maintaining a constant supply of vaccines, in bulk. For this we should consider about effective supply as well as effective storage. Effective storage and distribution ensures a constant supply of vaccines while reducing the wastage. Supply aids the constant supply. But we can't just order vaccines from anyone. There should be certain criteria for choosing products greatly considering about item quality, among other factors.

42. When distributing the vaccines among the population we should categorize people under groups, and then prioritize them according to various facts such as their age, physiological status, health...etc. But while considering these, we should ensure the ability of the other two tasks (prevention of further spreading and acting against new variations) to be completed, is not negatively affected. While vaccinating, if measures will not be taken to stop the spread of the virus by the process itself; then it won't become an effective situation handling.

43. In order to achieve best results, first of all we must understand the current status of each distinguished area of spreading. These areas can be classified as follows;

- f. An area where the spreading has just started (for example;10> confirmed cases)
- g. An area already affected, but majority is still not infected.
- h. An area already affected and majority has got infected.

44. After identifying the areas accordingly they should be further classified under following criteria. According.

- i. Food and water in the area
- j. Sanitary facilities in the area
- k. Health services in the area (nearby hospitals, number of ICU beds, oxygen machines, vaccination facilities...)

45. As we can see this clarification leaves us with 24 different scenarios to be treated respectively. This clarification will lead to the clear understanding of the

present situation of an area and it will cause the effective handling of the epidemic in that area. Therefore this clarification enables most effective way of usage of the precious resources currently available.

Prevention of further spreading

46. The whole process of vaccination mentioned above should be done with all the preventive measure being taken to stop further spreading from the vaccination process itself. But special actions are there, which can be taken all over the country to reduce the current spreading rate of the virus by various means. This task can be fulfilled if following points would be taken to consideration,

- i. Actions - which can be taken for stopping further spreading (ex; lockdown, basic healthy habits)
- ii. Handling challenges - what measures to be taken for the foreseen and the unforeseen challenges.

47. For example, it is certain that lockdown is one of the most effective ways of limiting the spread of the virus. But in a country like Sri Lanka there will be many problems arising with that. **How the people will survive during the lockdown, what do the poor people eat/drink, where will the homeless beggars/ gypsies will live, what do they eat** are the challenges to be handled. There will be always unforeseen challenges; such as **the picketing campaign held by the Teachers**. How do we face the complications arising by them should be considered. Our ideas on these points will be certainly help effective prevention of further spreading.

48. This task is about the long term movements against the pandemic. It involves ideas on how to face the long term challenges risen from the COVID-19 pandemic; in economic, health and security aspects, how and for what purposes should we get help from the scientific community and local pharmaceutical industries. As in the previous tasks, under this topic also challenges will be specially paid attention. Importantly how we should face the potential threat of the dangerous threat of New Variants; will be discussed under this topic.

Acting against future problems

49. We are hoping to give our audience a whole lot of new ideas to our audience regarding the way forward with the COVID-19 vaccine. We are hoping that this will further enlighten the whole process of fighting the pandemic, thus ensuring the prosperity of our nation and the wellbeing of our people.

50. Economic activities in various countries have been brought to a standstill due to the severity of the coronavirus and the lockdown measures implemented. Several businesses closed over an extended time period in an attempt to reduce the number of COVID-19 cases.

51. As a result, countries experienced higher unemployment rates, a fall in business sentiment and a contraction in Gross Domestic Product (GDP), plunging them into deep recession. According to forecasts of the World Economic Outlook Report (2020), COVID-19 is expected to cause the deepest economic downturn since the Second World War and global real GDP is predicted to decline by 4.9 percent in 2020.

52. The decline in real GDP is forecasted to be larger than during the 2008-2009 economic crisis: the decrease is expected to be larger for whole year 2020, and especially large between March and May. Projections for the economies of the Euro Area range from a decrease of around 9 percent to 10.2 percent (World Economic Outlook Report, 2020).

53. The GDP decline has led to profound repercussions on labor market outcomes and on several sectors in European countries. As shown by Fetzer et al. (2020), this, in turn, causes a substantial increase in economic anxiety during and after COVID-19. There is also a large dispersion in beliefs about the risk factors involved in the pandemic and these beliefs causally affect the economic anxiety of individuals. The increased uncertainty caused by the virus led many employers to adjust their workforce and has put millions of jobs at risk. In the following subsections, we will outline the effect of the pandemic on the manufacturing sector, labor market outcomes, in terms of increased part time work, higher costs of job search and job loss, and on trade.

1. Impact on Manufacturing Sector

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- i. COVID-19 has affected the manufacturing sector profoundly. Supply chains have been disrupted and industrial activity has declined, leading to a decrease in the revenue in this sector. In this subsection, we focus on the effect of COVID-19 on the manufacturing sector.
- ii. Small and medium enterprises (SME) are particularly affected by the current economic situation due to larger financial and liquidity constraints. The decline in demand poses problems for manufacturing SMEs because they often operate in markets with highly elastic demand and are, in general, bound to exclusive production agreements. For knowledge-based SMEs, the problem lies on the supply side, since no research can be done without access to appropriate facilities. Recently, the gradual relaxation of workplace restrictions has allowed these firms to take up work again, and EU programs, such as program for the Competitiveness of Small and Medium-sized Enterprises (COSME) and the European Scale-up Action for Risk capital (ESCALAR), provide financial support to facilitate this process. Juergensen et al. (2020) shows that in the longer term, manufacturing SMEs will have to reorganize their supply chains, strengthen digital sale channels and attempt to diversify their customer base in order to increase resilience to macroeconomic risks.
- m. Impact on labor markets.
 - i. The International Labor Organization (ILO) estimates that about 305 million full-time jobs will be lost globally during the second quarter of 2020. A survey by Euro found in April 2020 shows the percentage of individuals who lost their jobs permanently in the concerned European countries. Figure 4 illustrates a map with the degree to which countries in Europe are affected by job loss. Bulgaria, Poland and Hungary are more affected by job loss while the Nordic countries are less affected.
- n. Impact on trade.

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i. Commencing with the closure of the Hubei province and Chinese borders in January, national lockdowns directly affected global trade networks. The fear that COVID-19 will speed “slowbalization” - a term used to describe a decline in trade, multinational profits, and foreign investment- kicked in, especially due to the complexity of global supply chains (Economist 2020). Total merchandise exports from EU27 countries decreased by 30 percent between January and April 2020, but have come close to pre-pandemic levels in July (US\$ 467.3 billion; -7 percent compared to July 2019). Similarly, the US export volume has declined by 29.8 percent from January to a low in May, even though improvement has been slower than in the EU

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CHAPTER 5

CONCLUSION

54. COVID 19 pandemic is the widely spoken topic globally. A critical study on its impact on the present world will be thoroughly made by analyzing both quantitative and qualitative data found from reliable sources.

55. This presentation will undoubtedly enlighten the audience on how the world of health have been affected due to the pandemic. The main focus will be to present to the audience the facts and information as they are from a neutral perspective and let the audience conclude whether it's advantageous or not.

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CHAPTER 6

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