

Pazhanisamy, R.

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**Asymmetric Information and Global Market Failure:
Evidence and Policy Implications from Covid -19****Pazhanisamy.R**

(Assistant Professor of Economics -pazhani.swamy@jainuniversity.ac.in)

Abstract and the Purpose

The present pandemic covid-19 has changed the world in all the dimension of the human life. It has also changed the views of all discipline from individual attitude towards his health to the international trade. The life during the lockdown is an unforgettable experience to almost all in the world by creating defences in every walk of life for the survival. The time taken by the researched and scientist across the globe to invent the vaccine and its issues related to the general acceptability claimed the lives of many millions across the continents and still in the questions of how long will it take us in this journey.

Everything is a product in economics. When there is global demand for the vaccine for the virus, how global market failed to provide it on time. This compels to make an enquiry into how the world market failed to react with appropriate vaccine invention and what theories are working in background for the present situation and how long will the world would be like this. What economic theories can be applied to make a solution under what constraints? There are very few attempts are only available on the interlink ages of this global market failure and the causes, policy remedies both at the gross root as well as at the macro level. In this context this paper is attempted to probe into this issue and fill the gap in research.

Using the graphical approach first we have used the asymmetric information model for the accuses of market failure and then probed it towards the information's asymmetries and discover the combined impact on the Covid 19 policy response.

Key words: Market Failure, Coordination Failure, Asymmetric Information, Covid -19 and Global Market Failure, policy implication from Covid -19.

JEL Classification: D82, E32, I38, J22, P11,

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Rationale

The issues of corona virus has created multidimensional and irreversible impact on economies around the all over the globe. Attempts have also made by distinguished researchers towards invention of the vaccine which are still in the crux among the policymakers and the public.

Studies such as (DiLorenzo, Thomas, 2011) and (Sloman, John 2006), highlights about the asymmetric information's as the causes of market failure and can lead such a present situation. Some economist like (Peter Howitt 2001, Ferris .J. 2003, David de Meza and Ben Lockwood 2004) have also highlights that the similar kind of situation can be raised due to the coordination failure. On the basis of the two observations if can be inferred that both cab be a causes combined and create the lag to respond to the pandemic pushed the world economy to be locked without the avilableity of vaccine which calls for an attempt to test this propositions and identify a solution within the theoretical framework itself.

The review of literature on the interlink age of these three areas discussed above is available at very limited amount and absence of the future policy implications on this directions warrant this attempt to focus on the causes of the economic theories and its impact on the global market.

Conceptual and Theoretical Framework

For the purpose of present analysis the problem of time delay in the process and in the invention of Covid -19 the following assumptions are taken onto considerations

1. Information about the issues is available in the hands of few and after some time it becomes available to everyone.(This is the realistic assumption which is derived from the fact that initially the information about the virus was available to the china where it was started and it becomes available to everyone when it affect everyone, BBC news 2020).
2. There exist a complete absence of failure among the nations in terms of efforts to identify the vaccine due to the concentration of efforts to save their citizen at first using the traditional/already developed lifesaving drugs and the mode of vaccine with least cost thereby can avoid expensive efforts without certainty on the invention and the free rider attitude of third world countries (Grace Dean 2020).
3. The supply of labour around the globe is determined by the information available about the spread of virus. Higher the information availability in advance, lower would be the willingness to come to work and vice versa (Kar, Saibal & Datta, Debabrata 2015).
4. Demand for labour is not change up to the prefect information available.

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5. Internal and international transport is determined by the information's about the spread of virus (Jeremy Page, Wenxin Fan *and* Natasha Khan 2020).With this few realistic assumption let us discuss the rest of the set up as follows,

Global Market Failure as a Result of Asymmetric Information

There are two basic theories which are highlighted in the academic literature highlighting the cause of any market failure. The first one is asymmetric information about the harmful effect that can possibly impact the labour while they are in work.

For example a chemical industry in which if a labour works for a few hour more than the limited time permitted by the health department may cause certain disease in future. If this information is made available to everyone labour than there won't be any labour who will be ready to work even within the advised time limit and they claim additional wage for the risk it involved. Oppositely if the information is not made available to labours, the companies can higher as much as amount of labour without given any money for the compensation of possibility of the health problems to the labours and can make maximum possible production and profit. But the future labour force would be trouble.

This is what the theory of information asymmetry provides and claims that information if it is publicly available it will extend the spread of virus more than that of what actually it should affect around the globe.

This is what the exactly reason why the countries like USA, Canada, Germany, England's experiences high amount of spread of virus due to the lack of prior and correct information about the pandemic. There is no clear information was given to the world as china propagated that the virus is originated from the fish market first than it has evolved from pigs(destroyed millions and ,millions of living pigs citing as the source of virus). Information was neither purposively or any others cause not given to the world as it happened (even today), as a result these countries were delay in reaction to the virus transmission and becomes highly vulnerable later.

Global Market Failure as a Result of Coordination Failure

Due to the political /trade and economic policies framed aiming to capture the world markets for goods and services most the countries are not in smooth relations with rest of the countries in the world which makes an image of global coordination failure. In spite of the growing completions among the countries to develop the mechanism and utilise the world/space resources, they failed to develop the vaccine on time due to such coordination failure among the developed countries.

If all the human efforts are joined together to identify the solutions the vaccine can be identified in the early stages of the Covid itself and the total impact of the virus may be controlled within the minimal amount. The coordination failure has caused the

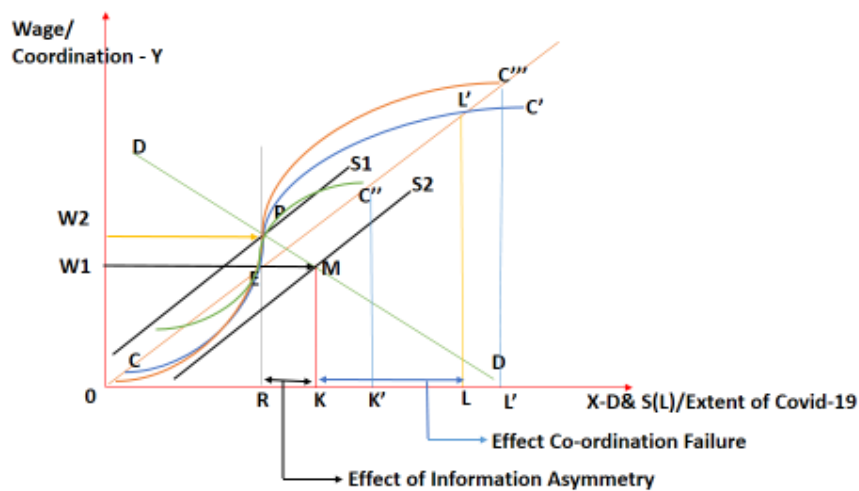
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nations to take extra time limit within which a considerable group of people would be additionally affected which may cause the impact higher globally.

Global Market Failure as a Result of Combined Effect

In order to explain the combined impact of the Covid virus on the global economy we have used the following diagram in which the theory of asymmetric information and the coordination failure model are incorporated by taking the demand for and supply of labour in the horizontal axis and the wage level of the labour on the vertical axis and the effort by one country is taken on the x axis while the same of the rest of the world is taken on the vertical axis simultaneously.

Combined effect of Asymmetric Information on the Supply of labour and the Co ordination Failure



First consider the impact of information asymmetry on the spread of virus across the nations by taking the demand labour and that of the supply of labour given by the X axis and by taking the wage for labour along the Y axis. The DD is the demand curve of the labour and the S2 represent the supply of it given that correct information to the labour market which form the equilibrium at the point P and set the wage competitive level of wage equals to W2 with the employment in the global employment of OR labours employed and the same amount of labour only will be affected by the virus. If the information about the possibility getting affected by the virus is not given on time some of the labour will come forward to work as a result the supply of labour will increase and the wage level will reduce from W2 to W1; But the amount of labour employed the market would be increased from the R to K and the amount of the virus also will affect the people up to the amount of OK which is higher than that of the OR.

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From this it can be identified that RK amount of additional labour are affected the virus due to the asymmetric information.

This conditions is possible in the in the presence of complete co operations among the economic agents and the policy makers in the globe. If there are coordination failure as witnessed by the world today due to the competition among the nations to achieve global market power. If the economies are cooperating with each other by sharing the true information and work collectively the world can produce the vaccine at the point of time of P or E which can stop the spread of virus within the OR. Due to lack of cooperation in sharing the true information and leads researchers to take additional time from the point P to L which can permit the spread of virus from K to L in addition to the virus extended by the information asymmetry RK.

Both impacts joined together and make the impact of the Covid 19 on the world economy to the extent of OL. It is noted from the figure that there are three curves are given to represent the various degree of coordination failure. CC' is the one with represent symmetric information and the possible virus impact of virus at OR level and the same impact would become OL if it is joined with the information asymmetry.

Similarly the curve C'' represents two kinds possibility of virus in the economy at OR with information symmetry and the sane would become OK' if it is joined with the asymmetric information. This curve shows that relatively more cooperation among the nations can mitigate the spread of virus effetely even in the presence of asymmetric information. The curve C'' is a coordination curve with relatively less degree of cooperation. If it is joined with the symmetric information it can stop the spread of virus within the level of OR and can extend the impact of the virus to the amount of L' even after the point of combined effect L. which represent the less degree of cooperation among the nations with asymmetric information will incur exorbitant amount of human lives around the globe.

Conclusion and Policy Implications

It is evident from the graphical analysis that these two factors are the responsible to the time delay in the developing the vaccine and prevent the spread of corona virus. The reviews of literature (Glavan, Bogdan 2007), (Andes Rodriguez Clare 2005), (Alicia Adsera and Debraj Ray 2015), (Glovan B 2008), reveals that coordination is possible and profitable in a free market system which require the responsible and positive state interventions.

Research works of (Bandana Preet Kaur Jolly 2017, Barbaroux, Pierre, 2014, Giovanni Dell Ariccia 1998) provides a clear way of how the information asymmetry can be best managed towards the innovation.

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Research works of (Leonard et al 2013, Francis Bloch 2017) proved that how the market with asymmetric information can be solved through a re formulated information exchange among the nations with a coordinated efforts aiming for the world efficiency. Such as system require the independent international institutions at the global level with sufficient power to interact with nations to ensure the coordination globe protection.

So it is evident that the present institutions like WHO, and the UN and their roles at the global level has to be revised so that their powers and functions can be widened from the political and administrative boundaries to the protection of all the human beings and the world.

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