PERCEIVED EFFECT OF COVID-19 ON INCREASE OF POVERTY IN PAKISTAN: EMPIRICAL ANALYSIS THROUGH OPINION OF LEADING ECONOMISTS

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ABSTRACT

There are many causes of poverty like recession, money devaluation, trade deficits, lack of technology, infrastructure, and industrialization. In recent times studies that focus on the effect of COVID-19 are in the headlines; among them, very few are focused on the impact of COVID-19 on poverty. Specifically, there is minimal research work on the effect of the pandemic on the outbreak of poverty concerning Southeast Asia and Pakistan. Therefore, this study has been conducted explicitly with reference to Pakistan to estimate the effect of COVID-19 on the increase of poverty through collecting data from leading economists. The study is one of the initial studies; thus, it is focused primarily on primary data in order to show the perceived impact of COVID-19 on the increase in poverty in Pakistan. The study findings and in-depth analysis could help devise relevant economic policies that may address poverty concerns burgeoning from pandemic-like situations and create a ripple effect of disturbing macroeconomic indicators and socio-economic variables in developing countries. The study uses SMART-PLS for data analysis, indicating that pandemics such as COVID-19 significantly impact the increase of poverty in Pakistan. Thus, robust policies are required to eradicate poverty and combat the causes which stem poverty issues in developing economies, specifically during pandemics where socio-economic activities become halted and income generating opportunities are ceased.

Keywords: COVID-19; Poverty; Pandemic; Economic Growth; Pakistan.

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INTRODUCTION

The world has precariously faced the disastrous outbreak of COVID-19. To date, more than twenty-seven hundred thousand people have suffered from the deadly virus in almost every country of the world, and more than two hundred thousand lives have succumbed to the harsh brutality of COVID-19. It has triggered unprecedented quarantine impositions, stock market upheavals, and economic disasters. The contagion has conceded devastating effects on the economies and human lives at an immeasurable scale. The spread of the contagion has traumatized every aspect of human life and fragmented economic and sustainable developmental goals.

COVID-19 was initially traced from Wuhan, China, in December 2019 and was propagated to 18 other countries till January 2020 (Suryahadi, Al-Izzati & Suryadarma, 2020a). In fact, by March 2020, less than ten countries were free from COVID-19; but by June, the virus had resulted in more than 450,000 deaths all over the globe. Viruses may also result in severe economic downturns, which may exceed the impact of the global economic recession of 2008-2009. Moreover, it also indicated that an outbreak of contagious disease, which resembles SARS, may cause a decrease of $9 trillion in world GDP. Thus, millions might be shoved into poverty as the pandemic spreads across 138 developing and 26 high-income countries (Suryahadi et al., 2020b).

Analogous repercussions are valid for Pakistan, as a recent study shows that COVID-19 significantly impacted Pakistan’s economy. (Abid et al., 2020). As a point of fact, Pakistan experienced the highest number of cases in a single day, i.e., 6825 in June 2020 (Noreen et al., 2020). Thus, it is appropriate to assert that the threat of contagious disease and economic downturn have existed simultaneously in the country. The country cannot be in the state to bear extensive lockdowns as it is significantly deficient in resources, and most citizens rely upon daily wages (Noreen et al., 2020). Similar research has been indicated by Valensisi (2020), quoting the International Labor Organization (ILO), which suggests that 1.6 billion workers from the global informal economy are at the doorstep of deprivation of their basic needs and livelihood. Corresponding claims were made by PIDE COVID-19 Bulletin (2020) that pandemics might drastically affect those heavily dependent on their daily earnings. However, the ominous wave in Pakistan started to decline in July 2020 (Noreen et al., 2020). After meeting with susceptible countries, the government decided to implement a partial lockdown (Abid et al., 2020). In October 2020, the government of Pakistan officially announced the onset of the second wave of COVID-19 across Pakistan. The announcement was made to address the
widespread disease that reported a 700 daily increase in COVID-19 cases, which was 400 to 500 earlier. Hence the number of active cases reached 11,000 from 6,000 during a short span of time (Junaidi, 2020).

**PROBLEM STATEMENT AND STUDY SIGNIFICANCE**

Valensisi (2020), indicated a massive need to focus more on the economic downturn caused by COVID-19, especially in some countries where the fallout is more drastic, even than the health emergency. In fact, in many developing countries, the spread of COVID-19 is also accompanied by adverse terms of trade shocks, reductions in remittances and FDI flows, heightened debt vulnerability, and capital bankruptcy. Moreover, viruses may also harm the rate of poverty reduction in South Asia, East Asia and the Asia Pacific. However, researchers from developed countries have to wait until the repercussions of the pandemic stabilize for reliable data regarding poverty and income (Han, Meyer & Sullivan, 2020). However, there are very limited quantitative studies on the effect of pandemics on local economic, social, and political conditions associated with specific locations (Jedwab, Khan, Damania, Russ & Zaveri, 2020). Therefore, the importance increases extensively for Pakistan, which faces a high risk of an increase in poverty (Noreen et al., 2020), especially after the recurring episodes of COVID-19 waves (Junaidi, 2020).

Thus, this research is valid to be conducted to investigate the effect of contagion concerning Pakistan, like similar studies undertaken by Arruda (2020) in USA & Han et al. (2020) in Brazil. However, considering the last census date of Pakistan, devising research methodology and implementation of pre-post analysis with accurate predictive analysis, in this case, is challenging. Thus, this study has emphasized more research through a theoretical base and economic analysis through clues available in the literature (Jedwab et al., 2020). However, the need to assess the subject area has become more appropriate with reference to Pakistan, as COVID-19 was predicted to increase poverty to many folds in the country (ILO, 2020). Hence this study on the effect of poverty on developing countries like Pakistan would be considered as pervasive & potent for the country and policy formulation.

**THEORETICAL FRAMEWORK & DE-LIMITATIONS**

Han et al. (2020) indicated that due to a lack of data sources, it is impossible to gauge the real effects of the pandemic. The study also revealed that most recent studies provide parameters for the proper conduction of future research. The limitation is profound in the scenario of Pakistan, where the last census was conducted in 2017 (Pakistan Bureau of Statistics, n.d.).
Hence, using augmented poverty line and pre-post analysis, as used by Valensisi (2020), is not possible. Moreover, the pandemic also resulted in continuous change in the circumstances of the population in each and every country; thus, every country prefers remote surveys for measuring the extent of probability (UNECE, n.d.).

Thus, the idea must also be initiated in Pakistan, although it requires up-to-date census data. Therefore, by considering individual researchers, e.g., Arruda (2020), Martine et al. (2020) and Han et al. (2020), researchers are initiating this study on Pakistan's economy. Valensisi (2020) indicated that in Brazil, poverty had been measured through unemployment and underutilization of human resources. Although the estimation was based on the consensus of 2019, which showed there were 106.2 million economically active citizens & among them, 11.6 million people were unemployed. Thus, using only these two variables appeared unjustified, although the prevailing situation and severity of COVID-19 will obviously result in further unemployment and poverty (ILO, 2020; PIDE COVID-19 Bulletin, 2020).

Similarly, fewer earnings, as indicated by Han et al. (2020), are also included in the causes of poverty. However, the model of the study uses reduced working hours, confinements and high uncertainty, which are compelling enough to cover the underutilization of human resources and less earnings. Thus measures, e.g., lockdown & quarantine, as indicated by Diwakar (2020), are not included as these are covered by confinements and high uncertainty. Correspondingly, disruption in the supply chain is not included as the model is majorly studying the demand side as the reason for the increase in poverty. Thus, this study model is consistent with Valensisi (2020) to include a decrease in demand as the mediator between poverty and the results of COVID-19. Hence, the model effectively measures poverty caused by natural or social incidents, as indicated by Arruda (2020). The model also accompanied the loss of full-time jobs as a mediator between poverty. However, this is the only variable that directly affects poverty, while the rest affect poverty with the mediation of an aggregate decrease in demand.

**LITERATURE REVIEW**

COVID-19 has already affected millions of people and also tends to affect more all over the globe. Hence it is also estimated to bring severe negative impacts on the global economic conditions, forcing millions into poverty (Suryahadi, Al Izzatu & Suryadarma, 2020a). Thus, it is appropriate to consider the assertion by Diwakar (2020) that researchers and policymakers need to pay attention to those who live just above the poverty line as COVID-19 has the extensive capability of increasing the number of the poor, affecting those living near the
poverty line. Furthermore, severe supply shocks have been caused by a lack of staff and production ability, resulting in the limited availability of skilled labor. Moreover, efforts to decrease social contacts may hamper the spread of disease but cause a decrease in production, international trade, tourism and other productive outputs (Suryahadi et al., 2020). Relatedly, Valensisi (2020) indicated that COVID-19 quarantines resulted in reduced working hours, layoffs, confinements and extreme uncertainties, which ultimately decreased aggregate demand.

On the contrary, governmental efforts to increase public spending to reduce the downturn put pressure on government budgets which will be reflected in the bankruptcy of the highly leveraged service sectors. Thus, COVID-19 resulted in severe social and economic harm, which would be significant in terms of social and economic outcomes. In fact, according to the Global Economic Prospect Report, the baseline scenario of poverty caused by COVID-19 will push 71 million people into extreme poverty. This is the first-ever increase in extreme global poverty since 1998, also wiping out all the measures made to reduce poverty across the globe (World Bank, 2020). Similar research has been indicated by Valensisi (2020) that COVID-19 may stretch the number of people earning below than least earning, i.e., $1.90/day, from 40 million to 100 million. The prevailing condition may also cause unemployment, in addition, to an increase in poverty across the globe (ILO, 2020 & PIDE COVID-19 Bulletin, 2020), thus will decrease the world's production output by 5% (Valensisi, 2020). In this essence and based on the literature discussed above, the following are the hypotheses proposed for this study:

**H1a:** There is no relationship between the spread of COVID-19 and the loss of full-time jobs.

**H2a:** There is no relationship between the loss of full-time jobs and the increase in poverty.

**H3a:** There is no relationship between the spread of COVID-19 and reduced working hours.

**H4a:** There is no relationship between the spread of COVID-19 and confinements.

**H5a:** There is no relationship between the spread of COVID-19 and high uncertainty.

**H6a:** There is no relationship between the loss of full-time jobs and a decrease in aggregate demand.

**H7a:** There is no relationship between reduced working hours and a decrease in aggregate demand.

**H8a:** There is no relationship between confinements and a decrease in aggregate demand.

**H9a:** There is no relationship between high uncertainty and a decrease in aggregate demand.
CONCEPTUAL FRAMEWORK

This study's conceptual framework (figure 1) has been devised based on previous studies and literature to ascertain the variables and their correlations.

![Conceptual Framework Diagram]

Figure 1. Conceptual Framework

RESEARCH METHODOLOGY

The lack of data sources hinders measuring the real effects of the pandemic, and most of the recent studies act only as data for further research associated with the dilemma (Han et al., 2020). These limitations are profound in the scenario of Pakistan, where the last census was conducted in 2017 (Pakistan Bureau of Statistics, n.d.). Hence, it is not possible to use the augmented poverty line and pre-post analysis as used by Valensisi (2020), and according to the last census, the total population of Pakistan was 207,774,000, and the level of poverty was 9.4% (Pakistan Bureau of Statistics, n.d.).

Although with available data, we may not be able to predict the current population as well as the level of poverty. On the contrary, we may not induce a relationship between a change in economic growth and a change in average per capita expenditure, as indicated by Suryahadi et al. (2020a). Moreover, we cannot identify the short-term effect of poverty on the economy as the previous studies like Hoy and Ortiz-Juarez (2020) due to limited data and methodological issues. The reason for non-compliance is that studies on the effect of COVID-19 on poverty in developing countries do not incorporate parameters from the local labor market like fiscal and
social policy etc. Hence, it looks appropriate to use studies that gauged short-term impacts that were not from specific countries; therefore, the preferred research method is suggested by Arruda (2020). Arruda (2020) used an online questionnaire circulated among the leaders of Christian communities residing in Brazil through Google docs to predict the pandemic's effect on the entire Christian community. Therefore, this study used the reference of Arruda (2020) to collect data on the impact of the pandemic on poverty, as residents were found to be unaware of pandemics in a detailed manner (Wang & Tang, 2020).

**Sampling Design**

There is massive scope for future studies regarding social cohesions caused by COVID-19, especially in developing countries (Jedwab et al., 2020). Following Arruda (2020), the type of sampling was non-probability, and the method was quota sampling to include leaders of the Christian community. In the same way, this study uses the same approach to include leading economists from renowned newspapers & magazines in Pakistan. The reason to include economists is to follow Arruda (2020) and to predict economic change effectively, as economists are always part of the discussion on economic outcomes (Sinding, 2009). Therefore, data would be adequate to devise appropriate knowledge regarding the effect of COVID-19 on poverty. Although data collection was much more difficult due to the busy schedules of the respondents and COVID-19 restrictions, therefore questionnaires were circulated through Google docs. Initially, 200 questionnaires were distributed, although some of the questionnaires were inappropriately filled, and some were never returned; thus, the sample size for the study is 135.

**Research Instrument**

This study uses the reference of Smith-Carrier, Leacy, Bouck Justrabo and Decker Pierce (2019). However, some qualitative criterion is transformed into a Likert scale from Arruda (2020) and Valensisi (2020) to make the data collection method coherent with Smith-Carrier et al. (2019). However, the analysis was made through SMART-PLS as recommended for the analysis of complex as well as immature models. SMART-PLS also has the ability to work on non-normal data sets (Sinkovics, Richter, Ringle & Schlagel, 2016). Especially when the purpose of the study is to predict (Hair Jr. et al., 2017), the software is termed best deal with inferential testing. The software has two forms of models, i.e., inner (structural) and outer (measurement) models, while measurement models are further bifurcated into reflective and formative models (Sinkovics et al., 2016).
Statistical Testing and Analysis

Structural Equation Modeling (SEM) was used by SMART-PLS, as indicated by (Sinkovics et al., 2016), while SEM is a second-generation multivariate data analysis method (Wong, 2013). The upcoming section will provide an analysis of inner and outer models, which will be made through descriptive and inferential statistics according to the criterion of Hair et al. (2019).

Table 1 is used to reflect outer loadings, and the purpose of outer loadings is to reflect the reliability of each element. The threshold value must be 0.70 or above (Hair Jr et al., 2016). However, in the case of an exploratory study, values of 0.5 and above might also be included by Afthanorhan (2014) though Wong (2013) indicated the least value is 0.6. However, this study has no value of outer loading, 0.732. Therefore, it fulfills the criterion of Hair Jr. et al. (2016) and is consequently valid to declare the outer loading effective enough to be included in the part of the analysis.

**Table 1. Outer Loading**

| COVID-19 | Confinements | Decrease in Agg. demand | High Uncertainty | Increase in Poverty | Loss of Full-Time Job | Reduced Working Hours |
|----------|---------------|--------------------------|------------------|---------------------|-----------------------|-----------------------|
| CO1      |               | 0.941                   |                  |                     |                       |                       |
| CO2      |               | 0.944                   |                  |                     |                       |                       |
| CO3      |               | 0.964                   |                  |                     |                       |                       |
| CO4      |               | 0.922                   |                  |                     |                       |                       |
| CO5      |               | 0.897                   |                  |                     |                       |                       |
| COV1     |               |                         | 0.826            |                     |                       |                       |
| COV2     |               |                         | 0.866            |                     |                       |                       |
| COV3     |               |                         | 0.848            |                     |                       |                       |
| COV4     |               |                         | 0.769            |                     |                       |                       |
| DA1      |               |                         |                  |                     |                       |                       |
| DA2      |               |                         |                  |                     |                       |                       |
| DA3      |               |                         |                  |                     |                       |                       |
| DA4      |               |                         |                  |                     |                       |                       |
| HU1      |               |                         |                  |                     | 0.829                 |                       |
| HU2      |               |                         |                  |                     | 0.836                 |                       |
| HU3      |               |                         |                  |                     | 0.837                 |                       |
| IP1      |               |                         |                  |                     | 0.915                 |                       |
| IP2      |               |                         |                  |                     | 0.930                 |                       |
| IP3      |               |                         |                  |                     | 0.947                 |                       |
| IP4      |               |                         |                  |                     | 0.855                 |                       |
| LFT1     |               |                         |                  |                     |                       | 0.760                 |
| LFT2     |               |                         |                  |                     |                       | 0.782                 |
| LFT3     |               |                         |                  |                     |                       | 0.731                 |
| LFT4     |               |                         |                  |                     |                       | 0.767                 |
| RWH1     |               |                         |                  |                     |                       |                       |
| RWH2     |               |                         |                  |                     |                       |                       |
| RWH3     |               |                         |                  |                     |                       |                       |

**Table 2. R Square-Quality Criteria (Predictive Accuracy)**

|                          | R Square   | R Square Adjusted |
|--------------------------|------------|-------------------|
| Confinements             | 0.712      | 0.709             |
| Decrease in Agg. demand  | 0.770      | 0.764             |
| High Uncertainty         | 0.624      | 0.622             |
| Increase in Poverty      | 0.617      | 0.611             |
| Loss of Full-Time Job    | 0.528      | 0.526             |
| Reduced Working Hours    | 0.633      | 0.631             |

*Source: This Study*
Figure 2. CFA and Outer Loadings

Table 2 indicates predictive accuracy and quality criteria through R-Square. According to Benitez Henseler Castillo and Schuberth (2020), the tool is used to highlight the variance caused by independent variables through ordinary least squares. The method of analysis is (OLS), ordinary least square (Andreev, Heart, Moaz & Pliskin, 2009) and the minimum value for indicating the relationship is 0.26 (Cheah, Memon, Chuah, Ting & Ramayah, 2018).

Table 3. Construct Reliability and Convergent Validity

|                      | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extracted (AVE) |
|----------------------|------------------|-------|-----------------------|----------------------------------|
| COVID-19             | 0.988            | 0.992 | 0.991                 | 0.965                            |
| Confinements         | 0.963            | 0.966 | 0.972                 | 0.872                            |
| Decrease in Agg. demand | 0.849          | 0.866 | 0.897                 | 0.685                            |
| High Uncertainty    | 0.782            | 0.784 | 0.873                 | 0.696                            |
| Increase in Poverty  | 0.932            | 0.933 | 0.952                 | 0.833                            |
| Loss of Full-Time Job| 0.757            | 0.759 | 0.845                 | 0.578                            |
| Reduced Working Hours| 0.913            | 0.930 | 0.945                 | 0.852                            |

Source: This Study

Table 3 indicates construct reliability through Cronbach’s Alpha (α), Goldstein rho, and Composite Reliability. Although the table also has AVE, which, combined with composite
reliability, highlights convergent validity (Sijtsma, 2009a). According to Ab Hamid Sami and Sidek (2017), AVE alone can predict convergent validity if the value is 0.5 or above. Similarly, the value of 0.7 or above is required for α; Goldstein rho & convergent validity in order to predict construct reliability (Ringle, Da Silva & Bido, 2015 & Sijtsma, 2009 a&b). Thus table 3 seems to assure construct reliability, and convergent validity as the values of reliability indicators are more than 0.7. Values of reliability indicators also follow hierarchical progression as CR>rho>α (Sijtsma, 2009 a, b & c) & justifiable to indicate values are adequate for highlighting construct reliability.

Table 4 indicates discriminant validity through the Heterotrait-Monotrait ratio (HTMT). The purpose of discriminant validity is to indicate that all the variables are different from each other, concerning the understanding of respondents and the theoretical perspective. On the other hand, HTMT is the most preferred and fundamental tool for assessing discriminant validity (Henseler, Ringle & Sarstedt, 2015). HTMT uses correlation among variables to highlight discriminant validity (Cheung & Lee, 2010); the maximum permissible value of correlation is 0.85 (Hair Jr., Sarstedt Ringle & Gudergan, 2017). Therefore, in the light of these criteria, the study has discriminant validity as neither of the values is higher than 0.85 and, therefore, is effective in pursuing inferential testing.

Table 4. Heterotrait-Monotrait Ratio (HTMT)- Construct Reliability and Convergent Validity

|                | COVID-19 | Confinements | Decrease in Agg. demand | High Uncertainty | Increase in Poverty | Loss of Full-Time Job | Reduced Working Hours |
|----------------|----------|--------------|-------------------------|------------------|----------------------|-----------------------|-----------------------|
| COVID-19       |          |              |                         |                  |                      |                       |                       |
| Confinements   | 0.109    |              |                         |                  |                      |                       |                       |
| Decrease in Agg. demand | 0.232 |              |                         |                  |                      |                       |                       |
| High Uncertainty | 0.177  |              |                         |                  |                      |                       |                       |
| Increase in Poverty | 0.131 |              |                         |                  |                      |                       |                       |
| Loss of Full-Time Job | 0.193 |              |                         |                  |                      |                       |                       |
| Reduced Working Hours | 0.191 |              |                         |                  |                      |                       |                       |

Source: This Study

Table 5. Path Coefficients

|                          | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (O/STDEV) | P Values |
|--------------------------|---------------------|-----------------|----------------------------|------------------------|----------|
| COVID-19 -> Confinements | 0.108               | 0.109           | 0.030                      | 3.600                  | 0.000    |
| COVID-19 -> High Uncertainty | 0.155     | 0.160           | 0.063                      | 2.485                  | 0.013    |
| COVID-19 -> Loss of Full-Time Job | 0.168   | 0.169           | 0.055                      | 3.042                  | 0.002    |
| COVID-19 -> Reduced Working Hours | 0.183   | 0.185           | 0.057                      | 3.184                  | 0.002    |
| Confinements -> Decrease in Agg. demand | 0.149  | 0.149           | 0.061                      | 2.451                  | 0.015    |
| Confinements -> Increase in Poverty | 0.587   | 0.584           | 0.065                      | 9.025                  | 0.000    |

374
| Event Sequence | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (|O/STDEV|) | P Values |
|----------------|--------------------|-----------------|---------------------------|--------------------------|----------|
| COVID-19 -> Confinements -> Decrease in Agg. demand | 0.016 | 0.017 | 0.013 | 1.214 | 0.225 |
| COVID-19 -> High Uncertainty -> Decrease in Agg. demand | 0.050 | 0.051 | 0.023 | 2.215 | 0.027 |
| COVID-19 -> Loss of Full Time Job -> Decrease in Agg. demand | 0.029 | 0.009 | 0.008 | 3.222 | 0.001 |
| COVID-19 -> Reduced Working Hours -> Decrease in Agg. demand | 0.039 | 0.039 | 0.017 | 2.322 | 0.021 |
| COVID-19 -> Confinements -> Increase in Poverty | 0.064 | 0.064 | 0.039 | 1.613 | 0.107 |
| Confinements -> Decrease in Agg. demand -> Increase in Poverty | 0.008 | 0.007 | 0.010 | 0.759 | 0.448 |
| COVID-19 -> Confinements -> Decrease in Agg. demand -> Increase in Poverty | 0.001 | 0.001 | 0.002 | 0.539 | 0.590 |
| High uncertainty -> Decrease in Agg. demand -> Increase in Poverty | 0.017 | 0.018 | 0.022 | 0.757 | 0.450 |
| COVID-19 -> High Uncertainty -> Decrease in Agg. demand -> Increase in Poverty | 0.003 | 0.003 | 0.004 | 0.641 | 0.522 |
| Loss of Full Time Job -> Decrease in Agg. demand -> Increase in Poverty | 0.000 | 0.000 | 0.004 | 0.006 | 0.995 |
| COVID-19 -> Loss of Full Time Job -> Decrease in Agg. demand -> Increase in Poverty | 0.022 | 0.000 | 0.009 | 2.444 | 0.023 |
| Reduced Working Hours -> Decrease in Agg. demand -> Increase in Poverty | 0.011 | 0.013 | 0.016 | 0.706 | 0.481 |
| COVID-19 -> Reduced Working Hours -> Decrease in Agg. demand -> Increase in Poverty | 0.002 | 0.002 | 0.003 | 0.637 | 0.524 |
| COVID-19 -> High Uncertainty -> Increase in Poverty | 0.007 | 0.006 | 0.011 | 0.578 | 0.563 |
| COVID-19 -> Loss of Full Time Job -> Increase in Poverty | 0.043 | 0.003 | 0.002 | 2.150 | 0.031 |
| COVID-19 -> Reduced Working Hours -> Increase in Poverty | 0.007 | 0.007 | 0.014 | 0.516 | 0.606 |

Source: This Study
Table 5 indicates path coefficients and, in association with figure 2, highlights the impact of one variable over others. There are two criteria available for predicting the relationship, i.e., t-values (Duarte & Amaro, 2018) and p-values (Hair, Ringle & Sarstedt, 2011).

Although to posit relationships, we need to ensure both criteria with a minimum t-value of 1.97; an increase in the value highlights better relationships (Hair et al., 2019) and a maximum p-value of 0.05 as higher values reflect no relationship. (Duarte & Amaro, 2018). Thus, following these criteria, no relationship exists between the spread of COVID-19 and confinements. Relatedly, there is also no relationship between the loss of full-time jobs and the decrease in overall demands. Although in comparison to the first and second tiers, the last tiers resulted in three insignificant relationships, i.e., a decrease in aggregate demand, high uncertainty and reduced working hours with an increase in poverty.

Table 6 indicates a specific indirect effect (mediation) for the loss of full-time jobs, confinements, high uncertainty, and reduced working hours on the decrease in overall demands.
and then its reflection on the increase in poverty. Although very few relations are found to be significant, e.g., the relationship of COVID-19 -> Loss of Full-Time Job -> Decrease in aggregate demand reflects mediating role. Likewise, the relationship between COVID-19 -> High Uncertainty -> Decrease in aggregate demand also reflects a mediating role. Lastly, the relationships between COVID-19 -> Reduced Working Hours -> Decrease in aggregate demand also reflect the mediating role. However, these effects reveal the mediation of outcomes of COVID-19 and are only valid till 2nd and 3rd tier. Therefore, to validate the model, there is a requirement of mediation which is evident in the serial mediation & that has been founded in COVID-19 -> Loss of Full-Time Job -> Decrease in aggregate demand -> Increase in Poverty. Moreover, this study also highlighted that inclusion of serial mediators of aggregate demand is significant. Potent to state as the t-value and p-value for the serial mediation are better as compared to the relation of COVID-19 with aggregate demand through loss of full-time jobs

**CONCLUSION AND DISCUSSION**

The study's results highlight several similarities and dissimilarities with the prior researchers. One reason for this unique formulation of results is research is based on primary data rather than on secondary parameters, e.g., poverty line etc. However, initially, the findings are found to be consistent with most of the significant contributors of literature like Diwakar (2020), Han et al. (2020) and Valensisi (2020). The claim is valid that repercussions of pandemics create huge fluctuations in macroeconomic indicators, resulting in loss of full-time jobs, confinements, reduced working hours and uncertainty, as indicated by major contributors of the study. Although, as per the findings of the study, among the major outcomes of COVID-19, two variables, i.e., loss of full-time jobs and confinements, tend to procreate increased poverty. In contrast, variables like reduced working hours and an increase in uncertainty do not have a tendency to stimulate poverty.

This means the study is consistent with Diwakar (2020) as the study indicated lockdown and quarantine are the major outcomes of COVID-19, and the study suggests the same as confinements. However, findings are not entirely consistent with Han et al. (2020) and Valensisi (2020), as the latter indicated the effect of COVID-19 on the loss of jobs and underutilization of the workforce, i.e., reduced working hours. However, their findings suggest only the impact of the loss of full-time jobs, which affects poverty, whereas there is no effect of underutilization (reduced working hours) on the increase of poverty. The same is valid for Han et al. (2020), who specifies confinements, high uncertainty and reduced working hours as
the determinant of poverty. Adding further, the loss of full-time jobs is the only outcome of COVID-19, which is applicable for mediation as well as serial mediation to reflect the impact on aggregate demand and increase in poverty, which validates the assertions of previous studies.

AREA FOR FUTURE RESEARCH

This study has been conducted through primary data from economists to gauge predictors of increased poverty due to COVID-19. However, a better analysis might be accomplished through secondary data available after the pandemic. Correspondingly, research after the census may aid in comparing the outcomes of the pandemic with the poverty line. However, the recent unavailability of these parameters fosters the need to conduct sophisticated and technical studies with policymakers to gain knowledge about these outcomes of COVID-19 and their relationship with the increase in poverty.
REFERENCES

Ab Hamid, M. R., Sami, W., & Sidek, M. M. (2017, September). Discriminant validity assessment: Use of Fornell & Larcker criterion versus HTMT criterion. In Journal of Physics: Conference Series (Vol. 890, No. 1, p. 012163). IOP Publishing. https://doi.org/10.1088/1742-6596/890/1/012163

Abid, K., Bari, Y. A., Younas, M., Tahir Javaid, S., & Imran, A. (2020). Progress of COVID-19 Epidemic in Pakistan. Asia Pacific Journal of Public Health, 32(4), 154-156. Doi: https://www.doi.org/10.1177/1010539520927259

Afthanorhan, W. M. A. B. W. (2014). Hierarchical component using reflective-formative measurement model in partial least square structural equation modeling (Pls-Sem). International Journal of Mathematics, 2(2), 33-49.

Ali, M. A., & Aqil, M. (2022). Nexus Between Real Exchange Rate Misalignment and Economic Growth: A Case of Pakistan. Journal of Entrepreneurship, Management, and Innovation, 4(1), 188-209. https://doi.org/10.52633/jemi.v4i1.171

Arruda, G. A. (2020). The impact of the pandemic on the conception of poverty, discourse, and praxis of Christian religious communities in Brazil from the perspective of their local leaders. International Journal of Latin American Religions, 4(2), 380-401. https://doi.org/10.1007/s41603-020-00122-2

Atkeson, A. (2020). What will be the economic impact of COVID-19 in the US? Rough estimates of disease scenarios (No. w26867). National Bureau of Economic Research. https://doi.org/10.3386/w26867

Benitez, J., Henseler, J., Castillo, A., & Schuberth, F. (2020). How to perform and report an impactful analysis using partial least squares: Guidelines for confirmatory and explanatory IS research. Information & Management, 57(2), 103168. https://doi.org/10.1016/j.im.2019.05.003

Cheah, J. H., Memon, M. A., Chuah, F., Ting, H., & Ramayah, T. (2018). Assessing reflective models in marketing research: A comparison between pls and plsc estimates. International Journal of Business & Society, 19(1).

Cheung, C. M., & Lee, M. K. (2010). A theoretical model of intentional social action in online social networks. Decision support systems, 49(1), 24-30. https://doi.org/10.1016/j.dss.2009.12.006

Diwakar, V. (2020). From pandemics to poverty: Hotspots of vulnerability in times of crisis. Emerging analysis and ideas.

Duarte, P., & Amaro, S. (2018). Methods for modelling reflective-formative second-order constructs in PLS: An application to online travel shopping. Journal of Hospitality and Tourism Technology. https://doi.org/10.1108/JHTT-09-2017-0092

Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). A primer on partial least squares structural equation modeling (PLS-SEM). Sage publications. https://doi.org/10.1007/978-3-030-80519-7
Hair Jr, J. F., Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2017). Advanced issues in partial least squares structural equation modeling. Sage publications.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed, a silver bullet. Journal of Marketing Theory and Practice, 19(2), 139-152. https://doi.org/10.2753/MTP1069-6679190202

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. European business review, 31(1), 2-24. https://doi.org/10.1108/EBR-11-2018-0203

Han, J., Meyer, B. D., & Sullivan, J. X. (2020). Income and Poverty in the COVID-19 Pandemic (No. w27729). National Bureau of Economic Research. https://doi.org/10.3386/w27729

Hausmann, R. (2020). Flattening the COVID-19 curve in developing countries, project syndicate, 24 March.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the academy of marketing science, 43(1), 115-135. https://doi.org/10.1007/s11747-014-0403-8

Jedwab, R., Khan, A. M., Damania, R., Russ, J., & Zaveri, E. D. (2020). Pandemics, Poverty, and Social Cohesion: Lessons from the Past and Possible Solutions for COVID-19. The George Washington University, Institute for International Economic Policy Working Papers, (2020-13).

Junaidi, I. (2020). The second Covid wave is underway in Pakistan. The Daily Dawn, https://www.dawn.com/news/1587316.

Monitor, I. L. O. (2020). COVID-19 and the world of work. Updated estimates and analysis, 27.

Noreen, N., Naveed, I., Dil, S., Niazi, S., Saleem, S., Mohiuddin, N., ... & Khan, F. (2020). Trend Analysis of exponential increase of Covid-19 cases in Pakistan: An interpretation. Global Biosecurity, 2(1). Doi: http://doi.org/10.31646/gbio.66

Pakistan Bureau of Statistics, (n.d). Population Census, https://www.pbs.gov.pk/content/population-census

PIDE COVID-19 Bulletin. (2020). COVID-19 in Pakistan: Caring for the Poor and Vulnerable. Report number: PIDE COVID-19 Bulletin No. 1.

Richter, N. F., Sinkovics, R. R., Ringle, C. M., & Schlägel, C. (2016). A critical look at the use of SEM in international business research. International marketing review. 33(3),376-404. https://doi.org/10.1108/IMR-04-2014-0148

Ringle, C., Da Silva, D., & Bido, D. (2015). Structural equation modeling with the SmartPLS. Brazilian Journal of Marketing, 13(2). http://doi.org/10.5585/remark.v13i2.2717

Sijtsma, K. (2009a). On the use, the misuse, and the very limited usefulness of Cronbach’s alpha. psychometrika, 74(1), 107-120. https://doi.org/10.1007/s11336-008-9101-0
Sijtsma, K. (2009b). Correcting fallacies in validity, reliability, and classification. *International Journal of Testing, 9*(3), 167-194. https://doi.org/10.1080/15305050903106883

Sijtsma, K. (2009c). Reliability beyond theory and into practice. *Psychometrika, 74*(1), 169-173. https://doi.org/10.1007/s11336-008-9103-y

Sinding, S. W. (2009). Population, poverty and economic development. *Philosophical Transactions of the Royal Society B: Biological Sciences, 364*(1532), 3023-3030. https://doi.org/10.1098/rstb.2009.0145

Smith-Carrier, T., Leacy, K., Bouck, M. S., Justrabo, J., & Decker Pierce, B. (2019). Living with poverty: A simulation. *Journal of Social Work, 19*(5), 642-663. https://doi.org/10.1177/1468017318766429

Sumner, A., Hoy, C., & Ortiz-Juarez, E. (2020). *Estimates of the Impact of COVID-19 on Global Poverty* (No. 2020/43). WIDER working paper. http://hdl.handle.net/10419/229267

Suryahadi, A., Al Izzati, R., & Suryadarma, D. (2020a). Estimating the impact of covid-19 on poverty in Indonesia. *Bulletin of Indonesian Economic Studies, 56*(2), 175-192. https://doi.org/10.1080/00253753.2020.1779390

Suryahadi, A., Al Izzati, R., & Suryadarma, D. (2020b). The impact of COVID-19 outbreak on poverty: An estimation for Indonesia. *Jakarta: The SMERU Research Institute, 12*, 3-4.

UNECE. (n.d.). Poverty in the Pandemic: UNECE study examines how countries track COVID-19 impacts, https://unece.org/general-unece/news/poverty-pandemic-unece-study-examines-how-countries-track-covid-19-impacts

Valensisi, G. (2020). COVID-19 and global poverty: Are LDCs being left behind? *The European Journal of Development Research, 32*(5), 1535-1557. https://doi.org/10.1057/s41287-020-00314-8

Wang, G. Y., & Tang, S. F. (2020). Perceived psychosocial health and its sociodemographic correlates in times of the COVID-19 pandemic: a community-based online study in China. *Infectious diseases of poverty, 9*(05), 59-68. https://doi.org/10.1186/s40249-020-00770-8

Wong, K. K. K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin, 24*(1), 1-32.

World Bank, (2020). *Projected poverty impacts of COVID-19 (coronavirus)*. Tech. Rep.