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# Impact of COVID-19 on Remittances and Economic Well-Being: A Case Study of District Peshawar

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**Abstract:** *This study examines the impact of the COVID-19 pandemic on remittances and the economic well-being of households in district Peshawar. Due to rapid spread of the pandemic nationwide, the governments of almost all countries, in response to this, ordered a countrywide lockdown. Most migrants are from low and middle-income countries. Therefore, they are the ones severely affected. For this purpose, data was collected from the remittances recipient households from the district of Peshawar. To find the impact of a decline in remittances on the overall quality of life, six models were estimated using the Ordinary Least Square method. Thus, after estimation, it is concluded that the Covid-19 pandemic has a major impact on remittances and has a substantial impact on the economic well-being of the household through the decline in remittances. According to the results of the study, it is suggested that the government should develop that type of long-term strategy. That is, by application of these particular policies, the utmost affected clusters get income sustenance for some period of time.*

**Key Words:** Covid-19, Pandemic, Remittances, Economic Welfare, Peshawar

## Introduction

Because of the sudden and rapid spread of the pandemic worldwide, the governments of almost all countries, in response to this, ordered or imposed nationwide lockdowns. As a health crisis, COVID-19 came to this world, but now, as time passes, it has also become a great economic crisis. This pandemic will have much worse impacts on the whole world economy compared to the Great Depression and the 2008 financial crisis, according to the report of the International Monetary Fund (IMF 2020). In March 2020, the virus spread in many European and Asian countries; thus, some countries started taking action to stop the spread of the virus by locking down various social and economic activities and closing down their borders. These measures have badly affected the migrant worker's socioeconomic status since then (Chowdhury et al., 2022).

Murakami et al. (2020) examined the COVID-19 pandemic impacts on the household's welfare in a remittance-dependent country, which is likely to be severely exposed to external shocks. Because of the pandemic, a substantial reduction in the number of remittances is expected that migrants from developing countries can send home.

In April 2012, the World Bank notified a negative impact that remittances to low- and middle-income countries were supposed to, on average, decline by 19.7% in Europe and Central Asia, with the largest at 27.5% by region. Regarding these conditions, migrants and their families were observed as one of the most susceptible people in underdeveloped countries because of the nationwide economic crisis, which was created only due to the pandemic (Sirkeci et al. 2012).

For Pakistan, the potential decrease in remittance inflows will have a clear impact on the society and economy, which can be extensive. The living standard and savings of remittance-dependent families may fall, and at the same time, their expenditure on food, education, and health may be reduced. The enduring

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spread of the pandemic will have the same impression on the economy in all countries around the globe and may decrease remittance flows by more than 50 percent per year (Salik, 2020).

Plaza et al. (2019) argued that Pakistan is among the top 10 receivers of worldwide remittances. Pakistan received PRs 21.8 billion in foreign remittances in 2019, which donated to about 8 % of its Gross Domestic Product. Due to COVID-19, in 2020, the remittances declined due to the massive decline in remittances flows originating after remittances to Low and Middle-Income Countries (LMICs) like Pakistan, Philippines, Bangladesh, Bhutan, Nepal, Sri Lanka, etc. Reached a record $554 billion in 2019 (Salik, 2020).

The pandemic has exponentially spread across the globe since the first case was reported in Wuhan, China, in late December 2019. In order to 'flatten the curve' of growing numbers of infected people, governments around the world have been forced to impose a complete lockdown on their societies and businesses (Salik, 2020). Thus, due to low remittances and the lockdown situation because of COVID-19, household well-being is negatively affected because the majority of the people became unemployed due to businesses being closed, economic activities are stopped, too, and they are unable to feed their families. This study will point out the impact of low remittances due to COVID-19 on the economic well-being of the household.

According to researchers, COVID-19 spread out at an alarming speed, infected a large number of people, and brought almost all monetary actions to a nearby stoppage. Due to this situation, the countries forced national lockdowns or shutdowns of all borders to switch the speed of spread. Jain (2020) states that a worldwide decline predicted by economists will continue in the coming years. Remittances and migration will be much affected by this pandemic and thus will contribute towards a downturn. During the 2008 financial crisis and the Ebola epidemic of 2014, the remittance flowed, which was a vital portion of advance finance, provided comparatively robust. By the Covid-19 pandemic, however, they are currently at risk. The COVID-19 impact on remittance inflow in the designated South Asian countries and a major effect on wage earners' remittance inflows were analyzed by Shapan et al. (2020).

Alpaslan (2013) investigated the association between the effectiveness of migrants and sending remittances, as peroxide, by their subjective well-being. From a new survey on China, the data is used. The effect of remittances on the household welfare and the economy in Pakistan by means of a General Equilibrium agenda and microeconomic examination initiated that a decrease in the flow of remittances will decrease GDP, household consumption, and investments, which, as a result, will rise scarcity of all basic needs (Vaqar et al.; 2010).

This study has analyzed the impact of the COVID-19 pandemic on remittances and, hence, its impact on the economic well-being of the households in district Peshawar. To my knowledge, no such study has been conducted in Pakistan. An in-depth study of the impact of COVID-19 on remittance and, hence, on economic well-being is needed. The aim of this study is to estimate the decline in household remittances during the pre and post-COVID-19 pandemic and to quantify the impact of low remittances due to the COVID-19 pandemic on the economic well-being of the households.

## Theoretical Background

In 2008, developing countries remained fairly stable and flexible during the financial crisis due to remittances. In 2008 and 2009 (Taran, 2009), many migrant workers lost their jobs, but only 06% of global remittances declined. When associated with other external financings, this was comparatively insignificant, such as private debt, FDI, and portfolio equity flows that experienced a 40% to 80% decline (World Bank 2010). Remittances were reduced to some extent by 04% in Sub-Saharan Africa (World Bank 2010). Due to the crisis, migrants were capable of retaining remittances flowing in many different ways. First, migrants who become jobless use their savings for remittances until they are able to find another job, Orozco (2009) and support their families financially. Secondly, unemployed migrants switched from the pro-cyclical sectors such as manufacturing and construction to full-time or part-time employment in agriculture or retail trade (Sirkeci et al. 2012). Thus, this upholds a source of livelihood and sends remittances to their families. Thirdly, due to the financial crisis in 2008, some of the migrants decreased their expenditures so they could carry on sending remittances (Ratha et al. 2012). During the crisis, many

migrants were returned home who were badly affected (Rajan et al. 2014). Thus, some of them started businesses in their countries and used their savings carried with them (Cohen et al. 2011). As a result, many migrants were kept economically active and permitted to contribute to their country's economic recovery from the financial crisis.

## Data Collection

The process of assembling and measuring information on directed variables in a recognized system is data collection, which enables one to answer questions and evaluate different outcomes. Data collection is an important research component in all fields, including social sciences, humanities, and business. While methods differ by discipline, highlighting confirming exact and accurate collection remains the same. All data collection has a goal to internment quality evidence that also allows analysis to lead to the design of convincing and best answers to the questions that have been dispatched. *The data is collected through a questionnaire. A questionnaire is based upon desirable questions that are taken into account all questions related to the topic or to the main theme of research, that is, the impact of the Covid-19 pandemic on remittances and economic well-being. The rural and urban areas of district Peshawar are under consideration for research; thus, distribute the questionnaire among the households who have at least one family member out of the country for sending remittances and data collected on different aspects of the households.*

## Sample Size and Sampling Technique

The sampling is convenience sampling. The target population of district Peshawar is unknown. Because there is no record of those families who are remittance families, therefore used the Cochran formula, which takes 15% probability and derives a sample size.

$$n = \frac{Z^2_{\alpha/2}.P(1-P))}{(e)^2}$$

Where

$Z^2_{\alpha/2}$ = 1.96

P = proportion of population to be included in sample = 15% = 0.15

1-P = 0.8

e = 5% = 0.05

$$n = \frac{[(1.96)^2.0.15(1-0.2)]}{(0.05)^2}$$

n = 184, approximately 190

n =190

A sample size of 190 is selected from both urban and rural areas of district Peshawar.

## Research Area

*The study area of this research is the district of Peshawar. Specify the areas of district Peshawar into two clusters, urban and rural areas. Thus, in Rural areas, I have selected Nawa Kali, Sarband, and Pakha Ghulam, and in Urban areas, Gulbahar, Gulberg, and University Town are selected. These areas are selected for research because a large number of migrants belong to this area, and the impact of COVID-19 in this area is very large. Because of primary data, a questionnaire was developed, and data was collected through a questionnaire, which is based upon relevant questions regarding the research topic, that is, the impact of COVID-19 on remittances and economic well-being. The collection of data was quite a difficult task because most people who live in rural areas do not want to share their personal information related to income that is from where, who supports them financially, how much money they spend, and how they satisfy their wants in limited income, mostly were refused to share details regarding their income some of them were felt hesitation while sharing information they were not openly and confidently give answers of the questions. Some were unable to understand all these questions, so how to develop their interest and get their willingness by counseling them first and those who were illiterate translate them into their language, whether it's in Pushto, Hindko, or Punjabi. Thus, by following all possible ways, I have filled out the questionnaire from them.*

*The reason behind choosing this topic for research is that I want to know* the impact of the COVID-19 pandemic on remittances and, hence, its impact on the economic well-being of the households in the

district of Peshawar. So many researches, whether national or international, were conducted researches on remittances from different angles, *such as* the response of remittances to irregular price shocks of oil, examining the rising numbers of migrants remittances generated too much interest in the socio-economic significance of household migration for families and individuals in migrant-sending areas, the effect of exogenous shocks of remittances on imports, investment, output, and consumption in five Mediterranean countries, the effects of remittances on the GDP per capita and the *impact of low remittances on economic well-being regarding different aspects examined as well.* Thus, after deeply studying, I realized that no study has been conducted on remittances regarding COVID-19 and its impact on economic well-being in Pakistan. An in-depth study of the impact of the COVID-19 pandemic on remittances and, hence, on economic well-being is needed.

## Econometric Model

*The study applied six models to estimate the impact of the decrease in remittances due to the COVID-19 pandemic.*

## Remittances and Family Income

To measure the effect of remittances on family income. The impact of remittances on household income is direct because as the low remittances, the household income automatically becomes low as well. That is what households receive as income due to low remittances is also less in amount, and if the remittances are high, the household income will become high, too. The model followed by Prabel and Ratha (2012) is used;

$$FY = \beta_{\circ} + \beta_1 NEM + \beta_2 ESHH + \beta_3 EduHH + \beta_4 DR + \mu \ldots\ldots\ldots(1)$$

## Remittances and Family Food Expenditure

To measure the impact of remittances on family food expenditure, take into account the effect of remittances on family food expenditure, which is direct because as the remittances are high, the family expenses regarding food will be high too, and spend more on food expenditure and if remittances are low then automatically the household food expenditure will be low as well. The model developed by Carlos, Andrew, and Sjoblom (2006) is used;

$$F.Exp = \beta_{\circ} + \beta_1 FM + \beta_2 AR + \beta_3 FY + \beta_4 DR + \mu \ldots\ldots\ldots(2)$$

## Remittances and Family Housing Expenditure

To find the impact of remittances on family housing expenditure, the relation between remittances and housing expenditure of a family is direct because due to an increase in remittances, the household expenditure on housing will be obviously increased, and as per remittances decrease the household expenditure on housing will be decreased too. The model developed *by* Jorge N. Valero-Gil (2009) is used;

$$H.Exp = \beta_{\circ} + \beta_1 FM + \beta_2 AR + \beta_3 FY + \beta_4 NH + \beta_5 NR + \beta_6 DR + \mu \ldots\ldots\ldots(3)$$

## Remittances and Family Clothing

To measure the impact of remittances on family clothing expenditure, the relation between remittances and household clothing is direct because as remittances become higher, the household clothing demand is also going to be high directly, and if remittances are low, then the family clothing becomes low too. The following model developed by Mohisn, Masood, and Waqas (2015) is used;

$$CExp = \beta_{\circ} + \beta_1 FM + \beta_2 AR + \beta_3 FY + \beta_4 DR + \mu \ldots\ldots\ldots(4)$$

## Remittances and Family Health Expenditure

To measure the impact of remittances on family health expenditure, the impact of remittances on family health expenditure is direct because due to high remittances, the household expenses on health become high too, and if remittances are low then the household health expenditure will become low as well. The following model developed by Jorge N. Valero-Gil (2009) is used;

$$Health.Ex = \beta_{\circ} + \beta_1 FM + \beta_2 AR + \beta_3 FY + \beta_4 CDF + \beta_5 NH + \beta_6 DR + \mu \ldots\ldots\ldots(5)$$

## Remittances and Family Education Expenditure

To measure the effect of remittances on family education expenditure, the effect of remittances on household education expenditure is direct because due to an increase in remittances, the household expenditure on education will be high, and if the remittances are decreased, and the household expenses on education will also be low. The following model developed by Cynthia, Brian, and Giri (2015) is used;

$$\text{Edu.Exp}=\beta_{\circ}+\beta_1 FM+\beta_2 AR+\beta_3 FY+\beta_4 NS+\beta_5 EduHH+\beta_6 DR+\mu.....(6)$$

## Description of Variables

**FY =** Family income from all sources.
**EM =** Number of earning members of the family
**ESH =** Employment Status of the household head
**EduHH =** Education status of the household head.
**DR =** Difference of remittances before the pandemic and after a pandemic
**FExp =** Food Expenditure of all the members of the family
**FM =** Family members
**AR =** Area of residence
**HExp =** Total Housing Expenditure per month of the family
**NH =** Nature of Housing
**CExp =** Total Clothing Expenditure of the family per month
**NR =** Number of rooms
**HExp =** Total Health Expenditure of the family per month
**CDF =** Chronic Disease in the family
**NH =** Nature of Hospital
**Edu.Exp =** Total Education Expenditure of the family per month
**EduHH =** Education of the household head.
**NS =** Nature of School/College/University

## Estimation Technique

*Regarding primary data, descriptive statistics and cross tabulation are used to find the relation among different demographic variables and the decline in remittances due to the Covid-19 pandemic and to analyze the data,* Statistical Package for Social Sciences *(SPSS) was used to* find the impact of decline in remittances on overall quality of life, six models were estimated using Ordinary Least Square method.

## Results and Discussion

### Descriptive Statistics

In this stage, the collected data was analyzed using cross-tabulations to find the relation among different demographic variables and the decline in remittances due to COVID-19.

**Table 1**

*Age of the respondent with remittances before and during Covid-19*

| | | Income from remittances before the pandemic | | | | Total |
|---|---|---|---|---|---|---|
| | | 30000-50000 | 51000-71000 | 72000-92000 | 112000-312000 | |
| Age of respondent | 15-30 | 14 | 11 | 10 | 11 | 46 |
| | 31-46 | 28 | 9 | 13 | 16 | 66 |
| | 47-62 | 10 | 7 | 12 | 18 | 47 |
| | 63-78 | 3 | 6 | 13 | 6 | 28 |
| | 79-94 | 0 | 1 | 2 | 0 | 3 |
| Total | | 55 | 34 | 50 | 51 | 190 |

| | | Income from remittances during pandemic | | | | | Total |
|---|---|---|---|---|---|---|---|
| | | 10000-30000 | 31000-51000 | 52000-72000 | 73000-93000 | 94000-114000 | |
| Age of respondent | 15-30 | 10 | 12 | 16 | 5 | 3 | 46 |
| | 31-46 | 17 | 22 | 12 | 10 | 5 | 66 |

| | | Income from remittances before the pandemic | | | | | Total |
|---|---|---|---|---|---|---|---|
| | | 30000-50000 | 51000-71000 | 72000-92000 | 112000-312000 | | |
| | 47-62 | 7 | 14 | 11 | 10 | 5 | 47 |
| | 63-78 | 1 | 7 | 14 | 4 | 2 | 28 |
| | 79-94 | 0 | 2 | 1 | 0 | 0 | 3 |
| Total | | 35 | 57 | 54 | 29 | 15 | 190 |

*Pearson Chi-Square 19.596 df = 16 Significance = 0.039*

This study deals with the possible effects of the COVID-19 pandemic on household remittances, particularly immigrants from the USA. The pandemic has particular concerns with families of weak financial status, and so be having poor health status as well. As the pandemic is more threatening to the aged ones, luckily, migrants, who usually are young adults, are being less affected by this disease. During this wave, when businesses' shutdowns, estimated recessions, and declining economic affairs took place there, the migrants, usually working in service and creation industries, maybe the top ones to lose their jobs completely or by lots of reductions in their remunerations. Remittances are the most crucial economic tool for the recipients and are the top spending priority for the migrants. Thus, the age factor is affected throughout the pandemic, i.e., pre-, during, and after post COVID-19 pandemic (Manuel Orozco, 2020).

**Table 2**

*Gender of the respondent with remittances before and during Covid-19*

| | | Income from remittances before the pandemic | | | | Total |
|---|---|---|---|---|---|---|
| | | 30000-50000 | 51000-71000 | 72000-92000 | 112000-312000 | |
| Gender | male | 20 | 13 | 20 | 32 | 85 |
| | female | 35 | 21 | 30 | 19 | 105 |
| Total | | 55 | 34 | 50 | 51 | 190 |
| | | Income from remittances during pandemic | | | | Total |
| | | 10000-30000 | 31000-51000 | 52000-72000 | 73000-93000 | 94000-114000 | |
| Gender | male | 15 | 19 | 23 | 17 | 11 | 85 |
| | female | 20 | 38 | 31 | 12 | 4 | 105 |
| Total | | 35 | 57 | 54 | 29 | 15 | 190 |

*Pearson Chi-Square 10.371[a] df = 4Significance = 0.035*

As per according to the results above, it can be concluded that the pandemic affects the incomes of both genders, that is, male and female households, because of low remittances during the pandemic, which occurred as the organizations were trying to reduce the cost of production due to partial or full closures, they targeted those employees who were less experienced but taking high salaries. Thus, the purchasing power of the remittances dependent families becomes low. Those families whose family members have high experience faced little change in their working hours, and their income is affected by a very small amount. Thus, in this case, the remittance-dependent families are less affected. Though it is assumed in the literature, policies, and programs that the receiving and sending patterns of the remittances are gender neutral, in reality, gender is not only concerned with the migrants but also influences the frequency of the remittances sent to the families by their migrant family members and is also important for the spending of the migrants as well (Orozco et al. 2006).

**Table 3**

*Education of the respondent with remittances before and during Covid-19*

| | | Income from remittances before the pandemic | | | | Total |
|---|---|---|---|---|---|---|
| | | 30000-50000 | 51000-71000 | 72000-92000 | 112000-312000 | |
| Education of the H.H head | Literate | 10 | 4 | 16 | 12 | 42 |
| | Matric | 9 | 6 | 9 | 7 | 31 |
| | FA/FSc | 10 | 7 | 11 | 6 | 34 |
| | BA/BSc | 12 | 10 | 9 | 15 | 46 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | MA/MSc | 14 | 7 | 5 | 11 | 37 | |
| Total | | 55 | 34 | 50 | 51 | 190 | |
| | | Income from remittances during pandemic | | | | | Total |
| | | 10000-30000 | 31000-51000 | 52000-72000 | 73000-93000 | 94000-114000 | |
| Education of the H.H head | Literate | 4 | 12 | 11 | 11 | 4 | 42 |
| | Matric | 6 | 11 | 10 | 2 | 2 | 31 |
| | FA/FSc | 5 | 8 | 15 | 4 | 2 | 34 |
| | BA/BSc | 8 | 17 | 13 | 6 | 2 | 46 |
| | MA/MSc | 12 | 9 | 5 | 6 | 5 | 37 |
| Total | | 35 | 57 | 54 | 29 | 15 | 190 |

*Pearson Chi-Square 21.988[a] df=16 Significance=0.144*

According to the above results, it can be concluded that the pandemic affected those household heads who belong to low-income groups, whether they are illiterate, literate, or highly qualified because the workers abroad who send remittances to their families are affected by the pandemic. Due to reducing the cost of production, organizations targeted those employees who were less skilled and uneducated but took high salaries. On the other hand, those household heads who belong to high-income groups and are highly qualified are less affected by the pandemic because the workers who have already been abroad for years and have experience and skill faced little change in their working hours and their income is affected by a very small amount.

Zhunio Maria Cristina et al. (2012) have found common two-dimensional relationships between education and remittances, i.e., educational status influences one's decision to migrate and earn abroad and transmit some amount to his/her family and that transmitted amount of remittance, specifically a share of remittance spent on education, consequently affects the educational status of the new or future generation. Analyzed the influence of remittances on education. Education affects the migrants and the remittances because educated workers send more remittances to their families, and uneducated or unskilled are unable to send a large amount of remittances to their families.

**Table 4**

*Marital status of the respondent with remittances before and during Covid-19*

| | | Income from remittances before the pandemic | | | | Total |
|---|---|---|---|---|---|---|
| | | 30000-50000 | 51000-71000 | 72000-92000 | 112000-312000 | |
| Marital Status | single | 13 | 9 | 17 | 12 | 51 |
| | married | 26 | 17 | 18 | 31 | 92 |
| | widow | 8 | 3 | 10 | 3 | 24 |
| | separated | 4 | 3 | 2 | 4 | 13 |
| | divorced | 4 | 2 | 3 | 1 | 10 |
| Total | | 55 | 34 | 50 | 51 | 190 |
| | | Income from remittances during pandemic | | | | Total |
| | | 10000-30000 | 31000-51000 | 52000-72000 | 73000-93000 | 94000-114000 | |
| Marital Status | single | 10 | 15 | 12 | 10 | 4 | 51 |
| | married | 17 | 24 | 28 | 13 | 10 | 92 |
| | widow | 3 | 9 | 9 | 2 | 1 | 24 |
| | separated | 3 | 4 | 3 | 3 | 0 | 13 |
| | divorce | 2 | 5 | 2 | 1 | 0 | 10 |
| Total | | 35 | 57 | 54 | 29 | 15 | 190 |

*Pearson Chi-Square 19.995[a] df= 16 Significance = 0.037*

According to the above-given results, it can be concluded that the pandemic affected more married, widowed, separated, and divorced people as compared to unmarried because these people have no innovative ideas anymore and have no such creativity, just like unmarried and fresh-minded people have. Therefore, they got fired and were unemployed. Because the organizations were trying to reduce the cost

of production due to partial or full closures, they targeted those employees who had no new ideas that is how to improve the performance of the organization but were taking high salaries. Single or unmarried employees who have already been abroad for many years and have high experience face little change in their working hours, and their income is relatively affected by a very small amount. The study indicates that the migrant's family educational graph is one of the determinants of his skill disparity and remittance outcomes. If the migrant's family is tertiary-level educated, the chances of skill mismatch are lower for the migrant worker. Likewise, a developed educational attainment of the family will make the migrant able to send a greater amount of remittances back. However, many factors impact men and women migrants' decisions regarding remittances as per their family situation. Men's remittances are impacted by their marital status, the age of the household head, and their familial role back home (MacDonald James Ted et al., 2017).

**Table 5**

*Monthly expenditure on education of the respondent with remittances before and during Covid-19*

| | | Income from remittances before the pandemic | | | | Total |
|---|---|---|---|---|---|---|
| | | 30000-50000 | 51000-71000 | 72000-92000 | 112000-312000 | |
| Monthly expenditure on education | 0-10000 | 45 | 28 | 42 | 38 | 153 |
| | 11000-21000 | 5 | 4 | 4 | 9 | 22 |
| | 22000-32000 | 2 | 1 | 4 | 2 | 9 |
| | 33000-43000 | 1 | 0 | 0 | 0 | 1 |
| | 44000-54000 | 1 | 1 | 0 | 2 | 4 |
| | 66000-76000 | 1 | 0 | 0 | 0 | 1 |
| Total | | 55 | 34 | 50 | 51 | 190 |

| | | Income from remittances during pandemic | | | | | Total |
|---|---|---|---|---|---|---|---|
| | | 10000-30000 | 31000-51000 | 52000-72000 | 73000-93000 | 94000-114000 | |
| Monthly expenditure on education | 0-10000 | 27 | 48 | 44 | 24 | 10 | 153 |
| | 11000-21000 | 4 | 6 | 6 | 4 | 2 | 22 |
| | 22000-32000 | 2 | 1 | 3 | 1 | 2 | 9 |
| | 33000-43000 | 1 | 0 | 0 | 0 | 0 | 1 |
| | 44000-54000 | 0 | 2 | 1 | 0 | 1 | 4 |
| | 66000-76000 | 1 | 0 | 0 | 0 | 0 | 1 |
| Total | | 35 | 57 | 54 | 29 | 15 | 190 |

*Pearson Chi-Square 16.652[a] df = 20 Significance = 0.675*

According to the above results, it can be concluded that the pandemic affected more of those workers who belong to low-income groups; thus, they are unable to spend more on education in an efficient way and become less educated. Due to the pandemic, organizations were doing their best to overcome or reduce the cost of production; thus, they targeted those employees who have lack of knowledge and were not highly qualified. While, the workers who belong to the middle-income group and are highly qualified or have more experience face little change in their working hours, and their income is affected by a very small amount and can spent more effectively on education according to the current situation and requirements.

Covid-19 has carried the life of every individual to a standstill. The middle class is in majority in India. The skilled members of the family keep earning on a monthly basis, paying to the Monthly Household Income (MHI), and keep on dealing with the activities as per household budget. However, the COVID-19 outbreak interrupted the way the middle class was handling household financial doings before the outbreak. It is observed that the change in the level of housing price, household income, and population has a positive impact, while the cost of living and increasing interest rates negatively impact the mortgage debt in the long run (Khan et al., 2016) (Gupta Monika et al. 2020).

**Table 6**

*Impact of decline in remittances on family income*

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | | | Tolerance | VIF |
| (Constant) | 73.040 | 17.219 | | 4.249 | .000 | | |
| Number of earning members of the family | 5.685 | 2.735 | .030 | 2.065 | .002 | .944 | 1.059 |
| Employment status of the H.H head | 2.493 | .896 | .114 | 2.771 | .001 | .744 | 1.343 |
| Education of the H.H head | 4.721 | 1.552 | .019 | 3.041 | .014 | .771 | 1.298 |
| Difference in remittances | -.178 | .087 | -.149 | -2.039 | .043 | .980 | 1.020 |

*R2 = 0.357 F = 5.782 Significance = 0.014*

The earning status of the family head affects the family income positively. The coefficient is 2.493, which means that if the family head is employed, family income is higher. The coefficient is significant. The educational status of the household's head also affects the family income positively. This means that as the household heads are more educated, the total family income will be large. The coefficient of education of the household head is significant. The table shows that the difference in remittances due to COVID-19 affects the family income negatively. That is the larger the difference in the remittances due to COVID-19, the less the overall family income. This means the overall family income is negatively affected by the decrease in remittances due to covid-19 pandemic. The coefficient of the variable is significant. According to the World Bank's estimates, a 20% accelerated fall in remittances is expected in developing countries in 2020, while this fall is expected to be 19% in low and average-income countries. This may be due to job loss expectations or working on low wages because of the pandemic 2019. thus, in this case, the family income is negatively affected (Murakami Enerelt et al. 2021).

**Table 7**

*Impact of decline in remittances on Food Expenditure*

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 1281.447 | 3120.319 | | .411 | .682 |
| Residential area | -1.689 | .153 | -.016 | -11.023 | .000 |
| Monthly Income of the H.H head | -12.542 | 4.688 | -.020 | -2.670 | .002 |
| Difference in Remittances | -.129 | .024 | -.091 | -5.375 | .000 |
| Number of H.H members | 8.906 | 2.154 | .065 | 4.888 | .003 |

*R2 = 0.376 F = 7.614 Significance = 0.000*

The residential area of the family affects the difference in food expenditure negatively. The coefficient of the variables is -1.689. The residential area means whether it's a single-family or multiple-family residence. This shows the single-family effect is small on single-family residents and has more impact on multiple-family residents. The coefficient is statistically insignificant. The monthly income of the household head affects the food expenditure negatively. The coefficient is -12.542, which means that if the monthly income of the household head is affected because of the pandemic affected thus its impact on food expenditure will also be negative. This means that the coefficient is significant. The difference in remittances because of covid-19 pandemic also affects the food expenditure negatively. This means that as the difference in remittances due to the pandemic is large, the food expenditure of the family will be affected more. The coefficient of the variable is significant. The number of household members also affects food expenditure positively. This means that as the number of household members is more, the food expenditure will be large too and vice versa. The coefficient of the number of household members is significant. Zang L et al. (2022) examined the startling pandemic has provoked changes in all economic sectors universally. Covid-19 has had a direct and indirect effect on countries' development. Thus, the

pandemic limits the activities of labor forces among countries, limiting migrants' remittances. It provokes the reorientation of consumer behavior and changes in household expenditure. Considering the forecast of household expenditure until 2026, it was shown that due to changes in migrants' remittances, household expenditure in all categories tends to increase.

## Impact of Decline in Remittances on Housing Expenditure

### Table 8

*Impact of decline in remittances on Housing Expenditure*

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 280.237 | 2605.427 | | .108 | .914 |
| Number of H.H members | 170.019 | 47.519 | .017 | 3.578 | .002 |
| Residential area | 13.140 | 4.475 | .024 | 2.934 | .009 |
| Monthly Income of the H.H head | 605.229 | 74.885 | .122 | 8.082 | .000 |
| Nature of house | 284.311 | 415.432 | .054 | .684 | .495 |
| Total number of rooms in your house | -76.626 | 8.062 | -.190 | -9.489 | .000 |
| Difference in Remittances | -.129 | .019 | -.035 | -6.789 | .000 |

*R2 = 0.370 F = 7.399 Significance-F = 0.000*

The family size affects the difference in housing expenditure positively. The coefficient of the variables is 170.019. This shows that as the family size increases by one unit, the housing expenditure increases by 170.019 units. The coefficient is found to be statistically significant. The residential area of the family affects the housing expenditure positively. The residential area means whether it's a single-family or multiple-family residence. The coefficient is 13.140, which means that the single-family effect is small on the housing expenditure and has more impact on multiple-family residents. The coefficient is significant. Also, the household head's monthly income status positively affects the family's housing expenditure because as the monthly income of the head of the family is large, automatically, the expenditure on housing will be large as well. The coefficient of the household head's monthly income status is significant. The nature of the house also affects the housing expenditure of the family positively, and by nature of the house, we mean neutral families, Semi-detached families, joint families, and Apartments. The coefficient of the variables is 284.311. This shows that as the nature of the house is based upon the mentioned nature of housing, the housing expenditure increases by 284.311 units. The coefficient is found to be statistically significant. The total number of rooms in a house affects the housing expenditure of the family negatively. Because as the number of rooms in a house is more, the expenditure on housing will also be large. The coefficient of the total number of rooms in a house is significant. The above table shows that the difference in remittances due to COVID-19 affects housing expenditure negatively. That is, the larger the difference in the remittances due to COVID-19, the less will be the expenditure on housing. This means the housing expenditure is negatively affected by the decrease in remittances due to covid-19 pandemic. The coefficient of the variable is significant. Hua T.X et al. (2022) found the positive impact of remittances on housing expenditure.

## Impact of Decline in Remittances on Clothing Expenditure

### Table 9

*Impact of decline in remittances on Clothing Expenditure*

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 438.303 | 2472.222 | | .177 | .859 |
| Number of H.H members | 367.918 | 72.998 | .037 | 5.039 | .000 |
| Residential area | 78.953 | 37.128 | .044 | 1.955 | .005 |
| Monthly Income of the H.H head | 548.552 | 60.248 | .112 | 9.123 | .000 |
| Difference in Remittances | -.103 | .024 | -.013 | -4.291 | .000 |

*R2 = 0.389 F = 7.717 Significance-F = 0.001*

The family's size affects the difference in clothing expenditure positively. The coefficient of the variables is 367.918. This shows that as the family size increases by one unit, the clothing expenditure increases by 367.918 units. The coefficient is also found to be statistically significant. The family's residential area also affects the clothing expenditure of the family positively. The residential area means whether it's a single-family or multiple-family residence. The coefficient is 78.953, which means that the single-family effect is small on clothing expenditure and has more impact on multiple-family residents. The coefficient is insignificant. The monthly income of the household head of the family affects the clothing expenditure positively because as the monthly income of the head of the family is large, automatically, the expenditure on clothing will be large as well. The coefficient of the household head's monthly income is significant. The above table shows that the difference in remittances due to COVID-19 affects clothing expenditure negatively. That is, the larger the difference in the remittances due to covid-19, the less will be the expenditure on clothing. This means that clothing expenditure is negatively affected by the fall in remittances due to covid-19 pandemic. The coefficient of the variable is significant. Yamada Eiji et al. (2022) found that in male-dominated, old-aged, or little-educated households', in terms of household headship, consumption of remittance is very high. The study has also made comparisons of the estimated coefficients with the anticipated fall of remittance flow due to COVID-19 shock and found that this coronavirus pandemic has adversely affected the household spending patterns of the remittance.

## Impact of decline in remittances on Health Expenditure

### Table 10

*Impact of decline in remittances on Health Expenditure*

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 169.963 | 1883.365 | | .090 | .928 |
| Number of H.H members | 50.595 | 5.143 | .070 | 10.952 | .000 |
| Residential area | 5.594 | 4.965 | .031 | 1.421 | .047 |
| Monthly Income of the H.H head | 17.879 | 9.147 | .061 | 2.810 | .041 |
| Does any one of the members have a chronic disease? | 1110.025 | 747.063 | .109 | 1.486 | .049 |
| Nature of hospital | -108.369 | 666.341 | -.012 | -.163 | .871 |
| Difference in Remittances | -.064 | .014 | -.020 | -4.573 | .001 |

*R2 = 0.412 F = 6.627 Significance-F = 0.009*

The family size affects the difference in health expenditure positively. The coefficient of the variables is 50.595. This shows that as the family size increases by one unit, the health expenditure increases by 50.595 units. The coefficient is found to be statistically significant. The residential area of the family affects the health expenditure positively. The residential area means whether it's a single-family or multiple-family residence. The coefficient is 5.594, which means that the single-family effect is small on the health expenditure and has more impact on multiple-family residents. The coefficient is insignificant. The monthly income of the household head also affects the health expenditure of the family positively because as the monthly income of the head of the family is large, the health expenditure will be large as well. The coefficient of the household head's monthly income is significant. The nature of the disease also has a positive effect on the health expenditure of the family, and by nature of the disease, we mean whether the member of the family has a chronic disease or not. The coefficient is 1110.025, which means that in those families where a family member has a chronic disease, their expenditure on health will be more and vice versa. The nature of the hospital also affects the health expenditure of the family negatively, and by nature of the house, we mean private hospitals and government hospitals. The coefficient of the variables is -108.369. This shows that as the nature of the hospital is private, the health expenditure will be large in amount, and in the case of a government hospital, it would be less comparatively by -108.369 units. The coefficient is found statistically insignificant. The above table shows that the difference in remittances due to COVID-19 affects health expenditure negatively. That is, the larger the difference in the remittances due to COVID-19, the less will be the expenditure on health. This means that health expenditure is negatively

affected by the contraction in remittances due to covid-19 pandemic. The coefficient of the variable is significant.

## Impact of decline in remittances on Education Expenditure

### Table 11

*Impact of decline in remittances on Education Expenditure*

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 2389.492 | 4516.896 | | .529 | .597 |
| Number of H.H members | -702.848 | 746.671 | -.073 | -.941 | .348 |
| Residential area | -823.963 | 622.063 | -.099 | -1.325 | .187 |
| Monthly Income of the H.H head | 205.728 | 358.176 | .044 | .574 | .566 |
| Number of children in government school/college/university | 451.457 | 1441.151 | .024 | .313 | .754 |
| Number of children in private school/college/university | -135.464 | 3370.921 | -.003 | -.040 | .968 |

*R2 = 0.580 F = 6.702 Significance-F = 0.001*

The family size affects the difference in education expenditure negatively. The coefficient of the variables is -702.848. This shows that as the family size increases by one unit, the education expenditure decreases by -702.848 units. The coefficient is found statistically insignificant. The residential area of the family affects the education expenditure negatively. The residential area means whether it's a single-family or multiple-family residence. The coefficient is -823.963, which means that the single-family effect is small on the education expenditure and has more impact on multiple-family residents. The coefficient is insignificant. The monthly income of the household head also affects the education expenditure of the family positively because as the monthly income of the head of the family is large, automatically, the education expenditure will be large as well. The coefficient of the household head's monthly income is insignificant. The nature of schooling also affects education expenditure positively. The nature of schooling means whether children study in private school or in government school. The coefficients are 451.457 and -135.464, which means that due to a decrease in education expenditure, the abrupt change in the decision regarding children changing schoolsss is not possible. The education of the household head of the family has also affected the education expenditure positively because as the education of the household head would be high, then the expenditure of education will also be high. The coefficient of the education of the household head of the family is insignificant. The above table shows that the difference in remittances due to COVID-19 affects education expenditure negatively. That is, the larger the difference in the remittances due to COVID-19, the less will be the expenditure on education. This means that education expenditure is negatively affected by the decrease in the amount of remittances due to covid-19 pandemic. The coefficient of the variable is insignificant. Results of remittances on education are found to be insignificant in Albania (Cattaneo, 2010). The results may be caused by the regional low rate of observed returns due to the inadequate educational quality and the transmitter's directives on spending the money on exact provisions despite cation (Komla Amega, 2018).

## Conclusions

Covid-19 came to this world as a health crisis, but now it has become a great economic crisis for the world. This pandemic has much worse effects on the whole world's economy as compared to the Great Depression and the 2008 financial crisis, according to the International Monetary Fund (IMF 2020). The basic reason for this research work is to identify the low remittances impact of to COVID-19 pandemic on different variables and to know that, is the economic well-being was affected by the pandemic or not because due to the pandemic all countries did their best to control the spread of this virus they shut down their businesses, and close down their boarders and even though many organizations to reduce their cost of

production they referred to dismissed few of their employees or cut down the salaries of some of them. This study investigates the impact of low remittances due to the COVID-19 pandemic on different aspects of the household head in district Peshawar. The results are tabulated, explained, and linked with the past literature. To estimate the impact of the COVID-19 pandemic on remittances and economic well-being, conclude that the COVID-19 pandemic has a major impact on remittances and has a substantial impact on the economic well-being of households through the decline in remittances.

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