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CHAPTER SEVENTEEN

The impact of COVID-19 on regional poverty: Evidence from Latin America

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1. Introduction

The concept of sustainable development, which is expressed as “meeting the needs of the present generation while not compromising the ability of future generations to meet their own needs,” was first used within the Brundtland Report published in 1987.¹ In 2015 a global call to action called the Sustainable Development Goals, was made by the United Nations. Sustainable development goals consist of 17 different targets that are aimed to be achieved by 2030. Ending all forms of poverty in all parts of the world is the first of the Sustainable Development Goals. Poverty is one of the key elements of the 2030 Agenda with the motto “Leave No One Behind.”²

People in all countries and at all income levels are affected to varying degrees by the health and economic consequences of the COVID-19 pandemic. Various studies conducted during the pandemic period show that these effects lead to more serious problems for the poor and vulnerable people.³ This situation is caused especially by the fact that the people in this group have lower income and education levels, are in precarious employment conditions, and are in lower-skilled occupational groups.⁴,⁵

Latin America is the region most affected by the COVID–19 pandemic. This health crisis has emerged after slow economic growth and limited progress in social indicators over the past few years. For this reason, it has led to sharp contractions in growth, which has a social and economic impact. All these negativities have caused some important social unrest in some countries in the region, especially in late 2019. Latin America, where vaccines and hospital beds are scarce, has been severely damaged by the intensity of the
pandemic and the deepest recession in the last two centuries. Although it corresponds to 8% of the population of the region, deaths from COVID-19 in the region constitute 30% of the deaths from COVID-19 in the world. In this context, the country’s economy contracted by 7%. This rate is more than double when compared the declines in other regions.5–7

The most unequal region of the world is Latin America. From 2019 to 2020, 22 million people in the region are included in the category of the poor who cannot meet their basic needs. In total, about a third of Latin America’s 600 million residents live in poverty. In other words, it is in the group defined by the United Nations as extreme poverty. Extreme poverty is defined as living on less than $1.90 per day. According to the UN (2020) report, due to the pandemic, Latin America has reached the worst level of extreme poverty in the last 20 years. The number of poor in the region increased by 22 million in 2020 and reached 209 million. This situation is considered the highest level of poverty in the last 12 years.

The main purpose of this study is to examine the impact of COVID-19 on poverty in the Latin American region. In the light of the explanations earlier, it is possible to list the main reasons for choosing Latin America in the study as follows.

- Latin America is one of the regions with the highest income inequality and poverty.
- Latin America is among the regions with the highest number of cases and deaths due to COVID-19.
- The negative effects of COVID-19 in the labor market have been predominantly on the informal sector. In this context, Latin America is one of the countries with the highest unregistered employment.

The remainder of the study is planned as follows: After the introduction, the second section gives brief information about COVID-19 in Latin America. The third section examines the impact of COVID-19 on poverty and some related macroeconomic indicators. The fourth section discusses recovery policies that can be implemented to reduce poverty in the post-COVID-19. Finally, the fifth section gives concluding remarks.

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5 Since 1999, the number of people living in extreme poverty worldwide has dropped by more than 1 billion. This achievement in reducing poverty has been turned back due to the COVID-19.8

6 Poverty is not having enough money or access to resources to enjoy a decent standard of living.9

7 Latin America is the region experiencing the highest income inequality in the world while 8 out of the world’s top 20 countries are Latin American.11
2. COVID-19 in Latin America

An epidemic of unknown cause was reported in Wuhan, China, in December 2019. On February 11, 2020, the outbreak was named as COVID-19 by the World Health Organization (WHO). COVID-19 has gained a global dimension as of February 2020. Novel coronavirus (COVID-19) is a new type of coronavirus that had impacted countries at a global scale. COVID-19, which is highly contagious and causes death rates, was declared a pandemic by the World Health Organization in March 2020. With the declaration of COVID-19 as a pandemic by the World Health Organization, governments have started to implement social distance and flexible working policies.

The management of public health is extremely important during the pandemic period. Many restrictions are in place to control transmission within the population. In a process where there is no vaccine, these policies have been evaluated as effective solutions to prevent the spread of the pandemic. It has exacerbated the current situation of disadvantaged poor households, where informal work is common and there is no possibility to work from home. This process, in which restraint policies are implemented, has increased the risk of increasing absolute poverty in poor regions of the world.

The World Health Organization declared Latin America as the epicenter of the pandemic in May 2020. More than 40% of the world’s COVID-19 deaths occurred in this region. At the same time, the total infection rate has exceeded 6.5 million cases.

Table 1 presents the number of COVID-19 cases and deaths from COVID-19 in selected Latin American countries. Brazil is the most affected Latin American country by the COVID-19. As of June 2021, the country reported nearly 16.8 million cases. It was pursued by Argentina, with 3.88 million confirmed cases of the pandemic. In total, the region registered over 33 million diagnosed patients, besides a growing number of fatal coronavirus cases. As of June 2021, a total of 1.2 million people died because of COVID-19 in Latin America and the Caribbean. Specially, Brazil reported approximately 470,000 deaths. In consequence of the COVID-19, Brazil’s GDP forecast is expected to drop by nearly 6% in 2020. Also, Mexico ranked second in number of deaths, with 228,000 cases.
When the prepandemic period is examined, it is seen that the goal of ending poverty by 2030 is far from the target. Forecasts made in the pre-COVID-19 period show that 6% of the global population will live in extreme poverty by 2030. It is also predicted that an additional 71 million people will live in extreme poverty due to COVID-19. Although the policies implemented within the scope of the sustainable development goal reduce income inequality in some countries, the economic recession caused by the pandemic will push millions into poverty and inequality.\(^{17}\)

In the prepandemic period, the slowdown in the progress of the goal of ending poverty, which is the first of the sustainable development goals, was remarkable. With the pandemic, the whole world has been facing the biggest economic recession since the Great Depression. This is expected to

| Country        | Number of cases | Number of deaths |
|----------------|-----------------|------------------|
| Brazil         | 16,803,472      | 469,388          |
| Argentina      | 3,884,447       | 79,873           |
| Colombia       | 3,488,046       | 90,353           |
| Mexico         | 2,426,822       | 228,362          |
| Peru           | 1,968,693       | 185,380          |
| Chile          | 1,403,101       | 29,598           |
| Ecuador        | 429,817         | 20,706           |
| Bolivia        | 380,457         | 14,832           |
| Panama         | 380,207         | 6388             |
| Paraguay       | 364,702         | 9498             |
| Costa Rica     | 325,779         | 4124             |
| Dominican Republic | 297,119     | 3642             |
| Uruguay        | 304,411         | 4460             |
| Venezuela      | 238,013         | 2689             |
| Honduras       | 240,382         | 6415             |
| Guatemala      | 258,633         | 8238             |
| Nicaragua      | 7481            | 187              |
| Cuba           | 145,852         | 985              |
| El Salvador    | 74,141          | 2260             |
| Jamaica        | 48,638          | 951              |

Statista. Number of confirmed cases of the novel coronavirus (COVID-19) in Latin America and the Caribbean. 2021. [https://www.statista.com/statistics/1101643/latin-america-caribbean-coronavirus-cases/]. [Accessed 5 June 2021].
make stable developments in poverty reduction even worse. Therefore the goal of ending poverty by 2030 is not likely to be achieved.

Health-related problems such as pandemics have an impact on the socio-economic status of countries. Given that, the health problems experienced by individuals affect their productivity and lead to a decrease in employment rates. Income losses in parallel with these developments increase poverty rates. In Latin America, one of the most unequal regions of the world, COVID-19 has deepened the deterioration in macroeconomic indicators. Table 2 presents the extreme poverty rates over various years in the pre- and during COVID-19 periods.

According to Table 2, there has been a steady decline in poverty rates over the pre-COVID-19 period (2010–2019). The poverty rate, which was calculated as 15.7% in 2010, was calculated as 8.2% in 2019. In the pre-COVID-19 era, poverty rates are expected to be 7.4% and 7.2%, in 2020 and 2021, respectively. According to the poverty rate estimations based on the developments during COVID-19, the poverty rate is expected to increase to 8.8% in 2020. In 2021 it is foreseen that the poverty rate will be 8.7. Fig. 1 illustrates the mobility to workplaces by levels of regional poverty. In this figure, poverty is measured as the share of people in region living below national/international poverty lines. As can be seen in the figure, poverty groups follow similar mobility patterns during the early COVID-19 era. Subsequent to COVID-19 measures taken, a sharp mobility drop has been experienced in particular for regions with lower poverty rates.

### Table 2 Proportion of people living below $1.90 a day, 2010–2015, 2019 nowcast, and forecast before and during COVID-19 (percentage).

| Years         | Forecast before COVID-19 | Current forecast |
|---------------|---------------------------|-----------------|
| 2010          | 15.7                      |                 |
| 2011          | 13.7                      |                 |
| 2012          | 12.8                      |                 |
| 2013          | 11.2                      |                 |
| 2015          | 10                        |                 |
| 2018          | 8.4                       |                 |
| 2019 forecast | 8.2                       | 8.2             |
| 2020 forecast | 7.7                       | 8.8             |
| 2021 forecast | 7.4                       | 8.7             |

United Nations. Sustainable development goals (SDGs) Report. 2020. [https://unstats.un.org/sdgs/report/2020/goal-01/](https://unstats.un.org/sdgs/report/2020/goal-01/). [Accessed 20 June 2021].

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*d* Low % of poor is defined if region’s poverty is below 25th; medium % of poor is defined if region’s poverty rates is between 25th and 75th; high % of poor is defined if region’s poverty rate is above 75th percentile.\(^{14}\)
Fig. 1 Mobility to workplaces by levels of regional poverty.
It is very important for effective policy choices to determine what factors lead to poverty or which factors deepen poverty. These factors may vary from country to country. Poverty is a complex phenomenon which leads to many problems such as income inequality, high vulnerability to disasters, unemployment, poor health, and lack of education. Poverty is also affected by these problems. Therefore only macroeconomic indicators affecting poverty will be included herein.

3.1 Economic growth

When the negative effects of the pandemic began to appear in Latin America, the region was already facing some difficulties. Over the period 2014–2019, economic growth was 0.4% and this was the lowest level recorded since 1951. The expectations for the rise in poverty rates after COVID-19 are closely related to the economic growth rates in the region. For this reason, providing information about GDP rates in the region will contribute to a better understanding of the situation. Table 3 presents the gross domestic product (GDP) growth in selected Latin American countries.

Table 3 Gross domestic product (GDP) in Latin America.

| Countries          | 2019  | 2020  | 2021  | 2022  |
|--------------------|-------|-------|-------|-------|
| Argentina          | −2.09 | −9.96 | 5.84  | 2.48  |
| Brazil             | 1.41  | −4.06 | 3.66  | 2.57  |
| Chile              | 1.02  | −5.84 | 6.17  | 3.82  |
| Colombia           | 3.28  | −6.85 | 5.15  | 3.62  |
| Costa Rica         | 2.17  | −4.8  | 2.6   | 3.3   |
| Dominican Republic | 5.05  | −6.73 | 5.48  | 4.96  |
| Ecuador            | 0.01  | −7.5  | 2.5   | 1.3   |
| El Salvador        | 2.38  | −8.58 | 4.2   | 2.84  |
| Guatemala          | 3.85  | −1.5  | 4.5   | 4     |
| Honduras           | 2.65  | −8    | 4.5   | 3.3   |
| Mexico             | −0.06 | −8.24 | 5     | 3     |
| Nicaragua          | −3.88 | −3    | 0.24  | 2.7   |
| Panama             | 3.04  | −17.95| 12.05 | 5     |
| Paraguay           | −0.03 | −0.9  | 4     | 4     |
| Peru               | 2.23  | −11.12| 8.5   | 5.16  |
| Uruguay            | 0.33  | −5.7  | 3     | 3.1   |
| Venezuela          | −35   | −30   | −10   | −5    |

Statista: Impact of the novel coronavirus (COVID-19) on gross domestic product (GDP) growth in selected countries in Latin America. 2021. https://www.statista.com/statistics/1105099/impact-coronavirus-gdp-latin-america-country/. [Accessed 28 June 2021].
According to Table 3, Mexico’s GDP was forecasted to rise by 5% during 2021. Mexico was one of the Latin American countries that encountered the worst recession after the pandemic, as its GDP dropped 8% in 2020. Among the biggest economies in Latin America, Brazil was anticipated to experience one of the least GDP growth in 2021, about 3.7%.

The socioeconomic effects of the COVID-19 pandemic have led to some unprecedented developments in the region. Despite the heterogeneity between countries across the region, all countries have been affected by the COVID-19 crisis. On average, GDP growth declines by more than 9% in 2020. However, poverty rates will increase by 4.4% on average. The crisis in question will cause loss of income especially for approximately 40% of the workers who do not have any social assistance support and for the small firms that do not have the capacity to cope with this shock. 2.7 million businesses, mostly smaller ones, are likely to close. This will result in the loss of 8.5 million jobs. Due to the sharp decline in economic growth, the decline in poverty and income inequality is expected to reverse in 2020. Under the expectation of a 9% contraction in GDP, poverty in Latin America and the Caribbean is projected to increase by 6.9% year-on-year. Extreme poverty is likely to increase by 4.5%.

3.2 Unemployment and labor sector

Job and income losses result in an increase in poverty. The economic contraction experienced during the pandemic has also an impact on the labor market. The quarantines, restrictions applied within the scope of the fight against COVID-19, and the resulting economic contractions have led to an increase in unemployment rates. It is important to consider the changes in the labor market while investigating the increase in poverty in the region.

One of the reasons why the pandemic crisis differs across countries is the rate of informal employment and the economic support mechanism provided to workers in this sector. In most Latin American countries, more than half of the workforce works informally. According to ILO estimations, the average informality rate in the region is 54%. This is an indication that the labor market has not been able to play a functional role. However, the low productivity performance of the region in the early 1990s draws attention as a characteristic feature that distinguishes Latin America from other developing regions in the world. Most of the workers in this sector lack access to quality healthcare. They are also at greater risk of infection due to the nature
of their jobs. In the pre-COVID-19 period (in 2019), the economy and labor market of the region were performing poorly (Table 4).\textsuperscript{10,20,21}

In 2019 the unemployment rate in the region was 8%. In 2020 when the effects of the pandemic began to be seen, the unemployment rate rose to 10.3%. Unemployment rate is predicted to rise to 11.1% in 2021. The postpandemic recovery in the labor market is expected to take place in 2022. Although the unemployment rate is expected to be 8.9% in 2022, it is observed that unemployment rates have not returned to prepandemic conditions. While the employment to population ratio was 59.2% in 2019, it was 52.9% in 2020. Although this rate is expected to increase in 2021 and 2022, it is estimated that prepandemic rates will not be reached. While the potential labor force participation rate\textsuperscript{e} was 4.9% in the prepandemic period, it increased to 7.2% in 2020. This rate, calculated when the effects of the pandemic began to be seen in 2020, is remarkable. The potential labor force participation rate, which was 7.2 in 2020, is expected to gradually decrease in 2021 and 2022. Extreme working poverty\textsuperscript{f}, which was calculated as 3% in 2019, increased to 3.8% in 2020.

The contraction in economic activities resulting from the pandemics has particularly affected vulnerable groups. Most of these people are self-employed. Therefore these people are at risk of facing poverty. In the prepandemic period, 40% of total workers are not protected by safety nets such as labor-based social security insurance and basic supports. This situation has brought the risk of rising poverty and income inequality rates, which have been stable since 2014.\textsuperscript{19}

\begin{table}[ht]
\centering
\caption{Estimates and projections for labor market.}
\begin{tabular}{lcccc}
\hline
 & 2019 & 2020 & 2021 & 2022 \\
\hline
Unemployment rate (percentages) & 8.0 & 10.3 & 11.1 & 8.9 \\
Employment-to-population ratio (percentages) & 59.2 & 52.9 & 54.7 & 58.1 \\
Potential labor force rate (percentages) & 4.9 & 7.2 & 6.1 & 5.0 \\
Extreme working poverty ($\leq$US$1.90$ PPP) (per day) & 3.0 & 3.8 & – & – \\
\hline
\end{tabular}
\end{table}

International Labour Organization (ILO). World employment and social outlook: trends 2021. 2021. https://www.ilo.org/global/research/global-reports/weso/trends2021/lang–en/index.htm. [Accessed 30 June 2021].

\textsuperscript{e} The potential labor force refers to nonemployed persons who are looking for a job but would become available to work only within a short subsequent period, or who are not currently looking but want to be employed and are available to do so.\textsuperscript{22}

\textsuperscript{f} Extreme working poverty rates refer to the shares of workers living in households with a daily per capita income or consumption less than US$1.90 in purchasing power parity (PPP).\textsuperscript{22}
The impacts of the COVID-19 on the people’s living conditions are deepened by the gradual rise in poverty and extreme poverty and the slowdown in the reduction of inequality in the 5 years prior to the pandemic. In spite of the development made in the reduction of poverty and inequality between 2002 and 2014, economic and social progress of region was already showing distinct indications of stagnation before the COVID-19.23

In some countries women may be suffering more exposure to the COVID-19 due to their overrepresentation in frontline health worker and their care liabilities in many households. Women meet other specific health risks as part of the coronavirus, because strict lockdown precautions may cause high levels of domestic violence.24

Considering the traditional and sexist role distribution, women have taken on a greater burden both physically and mentally than men during the pandemic period. Women are primary care providers in the region. At the same time, the daily time they allocate to unpaid home and care services is three times more than men. However, in some countries in the region, women are more likely to be employed in informal work. For this reason, they are more affected by decreases in economic activities. For example, in Mexico, 50% of men work in informal jobs, while 58% of women work in informal jobs.16

4. Postpandemic economic recovery for reducing poverty

Implementation of various economic policies is a necessity to reduce the poverty that has deepened with COVID-19. Sustainable development goals for poverty eradication should be addressed first in order to make policy implications for poverty alleviation after COVID-19. In this context, it is possible to summarize the sustainable development goals aimed at ending poverty as follows18:

- By 2030, reduce at least half the proportion of all men, women and children of all ages living in poverty in all its dimensions, according to national definitions.
- Implement nationally social protection systems and measures for all and achieve substantial coverage of the vulnerable and poor by 2030.
- By 2030, ensure that all women and men, particularly the poor and their defences, have equal rights over economic resources, access to basic services, ownership and control of land and other forms of property, inheritance, natural resources, new technologies and financial services.
Within the scope of sustainable development goals, improvement measures to reduce poverty that can be taken after COVID-19 can be listed as follows:

- COVID-19 has affected the most poor and vulnerable groups in the region. Among this poor group, especially women, children, and immigrants have been the most affected segment. Therefore social protection and support assistance should be implemented for women, children, and underserved groups.

- In Latin America, one of the regions with the highest informal employment, labor policies, curfews, and restrictions applied due to COVID-19 have affected those employed in the informal sector the most. For this reason, policies that will reduce informal employment and provide new job areas that provide occupational safety and health support to these people should be implemented. In this context, investments in labor-intensive sectors should be increased.

- Reducing poverty should not be evaluated only from an economic perspective. Investments in human capital such as health and education also directly or indirectly affect poverty. Latin America is the region where schools are closed the most during the pandemic period. In this context, compensatory education programs should be given to groups that cannot achieve equal opportunities in education.

- The COVID-19 pandemic has highlighted the importance of health infrastructure in a country. For this reason, investments should be made in the health sector for both physical and human capital.

- During the pandemic period, contractions were experienced in many branches of economic activity for various reasons, especially the disruptions in the global supply chain. This situation, which caused an increase in costs, led to contractions in production. At the end of this process, some workplaces were closed, while others reduced the number of employed workers. These sectors should be supported through subsidies.

5. Conclusion

COVID-19, which is an ongoing transmission across the globe, has directly or indirectly caused many economic and social problems.

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Health investments in human capital increase the productivity of labor. The productivity of healthier individuals and thus their contribution to production is higher. Health problems can lead to increased poverty. The inability of people to work due to health problems may affect their economic status and lead to inequalities.
Although the COVID-19 pandemic affects all countries of the world, these socioeconomic effects have been felt more deeply, especially in developing countries. In this context, the aim of this study is to examine the impact of COVID-19 on poverty in Latin America given the worst income distribution and poverty across the globe as well as being the most affected region by COVID-19.

The region’s economy, which was already fragile in the pre-pandemic period, experienced an economic contraction, as in the whole world, with the outbreak of the COVID-19 pandemic, and unemployment rates increased. The measures taken within the scope of combating the pandemic have had more negative effects, especially on the poor and vulnerable groups. The large number of labor force working in the informal sector can be seen as the reason of this situation.

With the gradual increase in poverty and extreme poverty and the slowdown in the reduction of inequality over the 5 years before the outbreak, the pandemic further deepened the deterioration in the living standards of the population across the region. Despite the positive developments such as the progress made in reducing poverty and income inequality and the expansion of the middle-income class over the 2002–2014 period, the economic development in the region was already in a stagnation period over the pre-pandemic period. These socioeconomic disruptions that emerged with the pandemic have led to the move away from the goal of ending poverty by 2030, which ranked first in sustainable development goals.

Experiences during the pandemic show that it is necessary to prioritize an inclusive development strategy. It is also noteworthy that the policies implemented either at the global or at the national level are less in solidarity with poorer nations and poorer people. It can be suggested that the policies to be implemented within the scope of the goal of “ending poverty” should be sustainable policies that embrace all segments of the society.

In the post-pandemic period, several policies should be implemented for economic recovery, primarily to reduce poverty. The first of these policies should be the social support and aid policies, especially for the poor and disadvantaged groups. The second should be devoted to labor market policies. In particular, policies that create new employment opportunities should be implemented. In this way, unregistered employment can be reduced and job opportunities that provide social security can be increased. Third, policies that support human capital, such as education and health, should be implemented. These policies will be effective in reducing poverty directly or indirectly. Finally, support should be given to sectors experiencing
economic contraction. These support policies will be effective in both creating employment opportunities and reviving production.

References

1. Halkos G, Gkampoura E-C. Where do we stand on the 17 sustainable development goals? An overview on progress. Econ Anal Policy 2021;70:94–122.
2. Filho WL, Lovren VO, Will W, Salvia AL, Frankenberger F. Poverty: a central barrier to the implementation of the UN sustainable development goals. Environ Sci Policy 2021;125:96–104.
3. Mousazadeh M, Naghdali Z, Rahimian N, Hashemi M, Païtal B, Al-Qodah Z, et al. Management of environmental health to prevent an outbreak of COVID-19: a review. In: Environmental and Health Management of Novel Coronavirus Disease (COVID-19); 2021. p. 235–67.
4. Attanasio O, Rajan R. The invisible COVID-19 graveyard: intergenerational losses for the poorest young people and actions to address a human development pandemic. In: UNDP Covid-19 policy document series; 2020. LAC C19 PDS No. 26.
5. Lustig N, Tommasi M. Covid-19 and social protection of poor and vulnerable groups in Latin America: a conceptual framework. In: UNDP Covid-19 policy document series; 2020. UNDP LAC C19 PDS No. 8.
6. The Commonwealth Fund. Latin America’s COVID-19 crisis and implications for the rest of the world; 2021 https://www.commonwealthfund.org/blog/2021/latin-americas-covid-19-crisis-and-implications-rest-world. [Accessed 25 September 2021].
7. Pan American Health Organization. PAHO warns that only one in four people in Latin America and the Caribbean has been fully vaccinated against COVID-19; 2021 https://www.paho.org/en/news/1-9-2021-paho-warns-only-one-four-people-latin-america-and-caribbean-has-been-fully-vaccinated. [Accessed 12 July 2021].
8. Mahler DG, Yonzan N, Lakner C, Aguilar RAC, Wu H. Updated estimates of the impact of COVID-19 on global poverty: turning the corner on the pandemic in 2021? World Bank Blogs; 2021. https://blogs.worldbank.org/opendata/updated-estimates-impact-covid-19-global-poverty-looking-back-2020-and-outlook-2021. [Accessed 6 June 2021].
9. Habitat for Humanity Great Britain. What is poverty?; 2022 https://www.habitatforhumanity.org.uk/blog/2018/09/relative-absolute-poverty/. [Accessed 18 September 2021].
10. United Nations (UN). Policy brief: the impact of COVID-19 on Latin America and the Caribbean; 2020 https://guyana.un.org/sites/default/files/2020-07/SG%20Policy%20brief%20COVID%20LAC%20English%29_10%20July.pdf. [Accessed 1 July 2021].
11. Amarante V, Galván M, Mancero X. Inequality in Latin America: a global measurement. CEPAL Rev 2016;118:25–44.
12. Mousazadeh M, Naghdali Z, Rahimian N, Hashemi M, Païtal B, Al-Qodah Z, et al. Management of environmental health to prevent an outbreak of COVID-19: a review. In: Dehghani MH, Karri RR, Roy S, editors. Environmental and health management of novel coronavirus disease (COVID-19). Academic Press; 2021. ISBN: 978-0-323-85780-2.
13. Lim SA, Lim TH, Ahmad AN. The applications of biosensing and artificial intelligence technologies for rapid detection and diagnosis of COVID-19 in remote setting. In: Chandra P, Roy S, editors. Diagnostic strategies for COVID-19 and other coronaviruses. Medical virology: from pathogenesis to disease control. Singapore: Springer; 2020.
14. Bargain O, Aminjonov U. Poverty and COVID-19 in Africa and Latin America. World Dev 2021;142, 105422.
15. Dastidar MG, Roy S. Public health management during COVID-19 and applications of point-of-care based biomolecular detection approaches. In: Dehghani MH, Karri RR,
16. OECD. Tackling Coronavirus (Covid-19) contributing to a global effort, COVID-19 in Latin America and the Caribbean: regional socio-economic implications and policy priorities; 2020 https://read.oecd-ilibrary.org/view/?ref=129_129904-k3xp17iqbl&title=COVID-19-in-Latin-America-and-the-Caribb. [Accessed 15 July 2021].

17. The Lancet Public Health. Will the COVID-19 pandemic threaten the SDGs? Lancet Public Health 2020;5(9), e460.

18. United Nations. Sustainable development goals, goal 1: no poverty; 2022 https://www.un.org/sustainable-development-goals#no-poverty. [Accessed 13 July 2021].

19. OECD. Overview: digital transformation for an inclusive and sustainable recovery post Covid-19. In: Latin American economic outlook 2020: digital transformation for building back better. Paris: OECD Publishing; 2020. https://doi.org/10.1787/329ec061-en [Accessed 19 June 2021].

20. Levy S. Poverty in Latin America: where do we come from, where are we going? ; 2016 https://www.brookings.edu/opinions/poverty-in-latin-america-where-do-we-come-from-where-are-we-going/. [Accessed 3 June 2021].

21. Economic Commission for Latin America and the Caribbean (ECLAC)/International Labour Organization (ILO). Employment situation in Latin America and the Caribbean, work in times of pandemic: the challenges of the coronavirus disease (COVID-19); 2020 https://repositorio.cepal.org/bitstream/handle/11362/45582/4/S2000306_en.pdf. [Accessed 7 June 2021].

22. International Labour Organization (ILO). World employment and social outlook: trends 2021; 2021 https://www.ilo.org/global/research/global-reports/weso/trends2021/lang-en/index.htm. [Accessed 30 June 2021].

23. Economic Commission for Latin America and the Caribbean (ECLAC). Social Panorama of Latin America 2020. (LC/PUB.2021/2-P/Rev.1), Santiago; 2021.

24. World Bank Group. Poverty and shared prosperity 2020: reversals of fortune; 2020 https://openknowledge.worldbank.org/bitstream/handle/10986/34496/211602ov.pdf. [Accessed 13 July 2021].

25. Shulla. The COVID-19 pandemic and the achievement of the SDGs. Virtual inter-agency expert group meeting on implementation of the Third United Nations decade for the eradication of poverty (2018–2027). In: Accelerating global actions for a world without poverty; 2021.

26. Gupta J, Bavinck J, Ros-Tonen M, Asubonteng K, Bosch H, Van Ewijk E, et al. COVID-19, poverty and inclusive development. World Dev 2021;145, 105527.