The global recession caused by COVID-19 will lead to the first increase in global poverty in decades. The extent of the increase in poverty depends on the availability and effectiveness of social assistance. In the benchmark scenario, that takes no account of social assistance, when ranking countries most affected by the pandemic’s resulting recession, the top half (most affected) countries make up 15% of the world population and 19% of the world’s poor. However, these figures change substantially when we adjust the ranking to incorporate, alongside the recessionary effects, dimensions of each country’s social assistance programmes. When we adjust the recession ranking to incorporate the generosity of social assistance in each country, the top half (most affected) will constitute 39% of the total population and 45% of the world’s poor. Individual countries’ expected poverty levels are also strongly affected by which dimension of social assistance is considered in the calculation. This highlights the important role that social assistance plays in mitigating the effects of such a sharp and unexpected negative economic shock for the world’s poorest people. Unfortunately, many countries do not provide social assistance that is sufficiently generous and inclusive of, or targeted at, their poorest quintile. Consequently, these vulnerable segments of their populations are likely to suffer severely as a result of the recession.

Keywords: coronavirus; COVID-19; poverty; social assistance; recession

1. Introduction: The pandemic has caused a global recession, but what are its implications for poverty?
COVID-19 has led to major disruptions all over the world, including the triggering of the worst global recession in decades, with an estimated 5.2% contraction in global GDP [1]. The degree to which individual countries will suffer from this global recession will vary, but an inevitable consequence will be an increase in poverty through job losses, decreased incomes, and reduced access to food, and other goods and services. The World Bank predicts that the pandemic will result in the first increase in extreme poverty (the number of people living on an income below the international poverty line- $1.90 per day) to take place in the last 20 years. This will essentially wipe out the progress made since 2017, and push between 71 to 100 million people into extreme poverty [2].

In this article, we consider how the COVID-19 pandemic is likely to affect the poverty rates of developing countries across the globe, analysing which nations are likely to effectively mitigate the impact of the recession on their poverty rates and which are likely to see their poverty rates rise. Importantly, alongside the traditional measures of GDP change used in this type of analysis, we also incorporate key features of each country’s pre-COVID social assistance programmes. To do this, we focus on three elements of social assistance – coverage, generosity, and targeting – and how they operate in relation to the poorest quintile (20%) of each country. We focus on the poorest quintile of people because they are the most income vulnerable, given they are either already in poverty or are most likely to be on the brink of poverty. Also, these individuals are likely to be employed informally, and so are at greater risk of losing their jobs during strict lockdowns and/or a recession [3]. Alongside this, they probably also have limited resources and savings to tide them over this uncertain period.

Estimating the impact of the recession in terms of the numbers of people who will find themselves living in poverty and the depth of poverty they will experience is not straightforward. To calculate the impacts of the recession on poverty levels, the World Bank uses historical estimates from household surveys that indicate a .85 percentage point
reduction in poverty for each one percentage point increase in national economic growth. The same principle, but
inverted, is used to estimate how poverty will increase in circumstances where there is national economic decline. By
using standard positive variation in growth to measure the relationship between growth and poverty rates, rather than
unexpected large drops in growth, users of this approach are essentially relying on the idea that if a particular propor-
tion of people move out of poverty when GDP grows by a certain amount, then a similar relationship will hold in reverse
(here, with people moving into poverty) when GDP contracts. This might not hold true. Further, looking at the change
in growth alone, without considering social assistance, fails to consider social assistance’s role in directly alleviating pov-
erty and shielding individuals against the uncertainty caused by recessions such as this one. In this paper, we explore
how the effects of the recession on poverty would change if one considers different dimensions of social assistance.

To understand the practical implications of the pandemic on poverty and the role of social assistance, let us consider
Bangladesh – whose GDP is expected to grow by 1.6% in 2020. This positive growth projection disguises the pandemic’s
impact on households, as shown by Rahman and Matin who conducted a survey of over 5,000 respondents before and
during the pandemic [4]. They found that 63–65% of breadwinners had lost their jobs, and that households below the
lower poverty line2 experienced a 73% decrease in income and spent 27% less on food. Government support was close
to non-existent, with only 4% of households receiving any government support as of April 2020. Most Bangladeshis
(34%) coped with this income loss through their savings, although on average they only had enough saved to last for 8
days [4]. In the presence of stronger social assistance, the ability of Bangladesh’s poorest people to withstand the eco-
nomic fallout might have been very different. This example serves to illustrate that poverty projections based on growth
estimates alone are insufficient, and that such projections need to take into account the crucial role of the government
in providing widespread and generous social assistance to the poor in such circumstances.

In Part 1 of this article, we set out the context of our work. In Part 2 we define three dimensions of social assistance
that are important to incorporate into estimates of the current recession on poverty rates – generosity, coverage, and
targeting – and explore how they relate to GDP. In Part 3, we highlight our methodology for incorporating these ele-
ments into poverty projections. Part 4 presents our results, and we conclude with policy recommendations.

2. Three dimensions of social assistance

The forms that social assistance takes, and the groups it is offered to, vary widely. It can range from universal assistance
for all citizens to precisely targeted support, such as to those with disabilities. We define social assistance schemes as
non-contributory interventions (i.e. the government or other providers pay the full amount of the assistance) designed
to help individuals and households cope with chronic poverty, destitution, and vulnerability. Examples include uncon-
tional and conditional cash transfers, non-contributory social pensions, food and in-kind transfers, school feeding
programmes, public works, and school fee waivers. To assess how such programmes benefit the poorest quintile, we
distil the effectiveness of social assistance programmes into three elements – generosity, coverage, and targeting. We
then use these three measures to build a greater understanding of how poverty will be affected by the COVID-19
induced recession.

Generosity is the amount of transfers received by poorest quintile (20%) as a proportion of their total income or
consumption (also known as adequacy of social assistance), coverage refers to the percentage of the poorest quintile
that receive social assistance; and targeting is the percentage of total social assistance benefits received by this quintile.

An important caveat about the social assistance data we use is that as of the 10th of July 2020, 176 countries have
planned or put in place 638 social assistance measures in response to COVID-19 [5]. Our analysis does not consider
these measures due to lack of access to country-level data. But as the average duration of these response measures is 3.1
months and given the recession is likely to last much longer, these measures are unlikely to be sufficient to weather the
recession and to temper its effects on poverty.

In Figure 1, below, we plot these three dimensions of social assistance– generosity, coverage, and targeting – against
countries’ GDP per capita in a scatter graph, colour coded by income level. This provides a broad view as to whether, and
to what degree, GDP is correlated with each of these factors. It shows that generosity has the weakest relationship with
GDP per capita (0.01), followed by targeting (0.26) and then coverage (0.53). Importantly, Figure 1 shows that effec-
tive social assistance, in terms of successfully addressing poverty through these dimensions, is not strongly correlated
with a country’s wealth. Therefore, using a country’s GDP alone to analyse the effect of the recession on poverty will
not provide an accurate estimate. These different levels of correlation also highlight that these are distinct elements, so
incorporating each of these dimensions into our analysis will change estimates of how countries’ poverty levels will be
affected. Figure 1 also shows how these three dimensions of social assistance programmes vary wildly across countries
and income groups, and therefore that abilities of these programmes, as currently implemented, to effectively shield
the poor from the probable consequences of the recession are likely to vary equally wildly.

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2 Lower poverty line is at $3.20 per day.
3 The figures in brackets are the correlation coefficients. These indicate to what extent and in which direction one variable changes when the
   other changes in value. The coefficients range from –1 to 1 and the greater the absolute value of the correlation coefficient, the stronger the
   relationship.
3. Methodology: Incorporating social assistance into poverty estimates

As argued above, in order to analyse, at a country-level, the impact of the COVID-19 induced recession on poverty rates, we need to understand (a) the depth of recession experienced by different countries and (b) to what extent each country’s social assistance programs can shield the poor from the recession. To do this, we create four measures. First, using the GDP growth forecast for 2020, we create a recession measure, assessing how badly a country is predicted to be hit by the recession in 2020. We use 2020 GDP growth estimates for 123 countries from the World Bank as of June 2020, which have been revised since January 2020 to account for the impacts of the pandemic and resulting economic restrictions. To ensure comparability across different recession measures, we restrict the countries discussed to those we have social assistance data on.

We then classify each country based on the intensity of the recession effects on them into four categories: (whether they are estimated to experience) very severe negative effects, severe negative effects, moderate negative effects, or low negative effects. We then weight this recession measure by the three dimensions of social assistance – generosity, coverage and targeting – creating three further measures.

**Figure 1**: Generosity, coverage and targeting of social assistance schemes in different countries against their GDP per capita, purchasing power parity (PPP).

Source: Based on authors’ own calculations using the World Bank ASPIRE database, 2019 and World Bank GDP per capita data.

**Notes:**
1. The figure represents generosity, coverage and targeting of social assistance from 123 developing and transitioning countries.
2. Generosity is the amount of transfers received by the poorest 20% as a proportion of their total income or consumption.
3. Coverage is the percentage of the poorest 20% of the population that receives any form of social assistance.
4. Targeting is the percentage of total benefits received by the poorest 20% of the population.
5. GDP per capita figures are the latest available for each country and represent GDP per capita, PPP (constant 2017 international $).
To create the weighted/adjusted recession measures, we first calculate an inadequacy measure for each of the three elements of social assistance previously discussed: generosity, coverage and targeting. These inadequacy measures are calculated as one minus the social assistance dimension measure. As each social assistance dimension measure was expressed as a proportion, where 100% would indicate a ‘completeness’ for the dimension in question, this new measure tells us how far the dimension of social assistance falls short of this ‘completeness’, giving us a method of gauging its adequacy, or lack thereof. Although we do not necessarily advocate for 100% generosity, targeting, and coverage across all contexts, the inadequacy measures give us a simple way of seeing where countries have major gaps in the provision of social assistance across our selected dimensions. For example, for coverage, the inadequacy measure tells us what proportion of people in the poorest quintile do not receive social assistance.

Next, we multiply these inadequacy measures with the recession measure for each country to create a measure of how badly each country will be affected by the recession, compounded by inadequate social assistance. We call these adjusted recession measures. We then rank the countries along these new adjusted recession measures. By comparing against a benchmark ranking of the uncompounded, recession-only measure, we can see whether, and by how much, a given country’s social assistance measures are likely to mitigate or exacerbate the effects of the recession on poverty.

4. Results: Changes in poverty based on the efficacy of social assistance

To provide a baseline sense of how the recession, absent any social assistance, might affect poverty, we first present a map showing which countries should be most affected by the recession based on their GDP, without taking into account any ameliorating social assistance measures. We then present maps showing which countries would be most affected after adjusting for different dimensions of social assistance. These maps have an associated scatterplot that shows the state of the recession and social assistance in each country, as opposed to a country’s relative ranking as shown in the maps.

**Recession (unadjusted)**

When we look solely at the impact of the recession on poverty, Latin America is the region predicted to be the worst affected. Peru is predicted to be the developing world’s worst-off country, with a projected 12% contraction of GDP, followed by Lebanon and Zimbabwe with contractions of 11% and 10% respectively. Figure 2 shows the severity of the recession in 2020 on a range of countries, along with a table of the worst affected countries with populations above one million.

**Figure 2:** World Bank Estimates of Recession.

Note: We have limited the countries represented to those for which we have both GDP and social assistance data.

**Recession and generosity of social assistance**

We are now concerned with how countries’ social assistance schemes will reduce or intensify the effects of this recession on the poorest members of their societies. Figure 3 presents a scatterplot of generosity – the amount of transfers received by the poorest 20% as a proportion of their total income or consumption – against predicted GDP growth, colour coded by national income level. In other words, the generosity measure tells us how much of the poorest’s total income pre-COVID was made up of social assistance transfers. When we adjust the recession intensity for generosity of social assistance, we see that most countries lie in the south-west quadrant. This is particularly unfortunate, as these countries are the worst-off, in that their benefits cover less than 50% of a recipient’s previous income, making them particularly vulnerable to the recession. For these countries, even if all of the eligible poor receive this assistance, the value of the transfers will fail to compensate for the income losses that they will suffer.
In Figure 4, we present a map which takes into account the generosity of the social assistance provided by countries. Compared to the map in Figure 2, while there has been substantial alleviation of poverty in some areas, little has changed for some of the worst affected areas. The adjusted recession effects are still worst in Latin America, and Peru continues to be the worst affected country. In Southern Africa, by contrast, the generosity of pre-COVID social assistance programmes in South Africa and Zimbabwe have moved these countries from the ‘very severe’ to, respectively, the ‘low’ and ‘moderate’ effects zones of impact. Similarly, some countries in eastern Europe are better off when we factor in the generosity of social assistance, while others remain as badly off as in Figure 2 due to their low levels of social assistance generosity.

Recession and coverage of social assistance

In Figures 5 and 6, we adjust our recession measure for coverage— the percentage of people in the poorest quintile that receive social assistance. Based on GDP estimates, upper income countries are likely to suffer the most in terms of GDP growth, with most predicted to experience negative growth. However, the poorest 20% in these countries, unlike the equivalent group in poorer countries (green and orange in Figure 5) will likely be better shielded from the recession’s adverse effects due to the more effective coverage of social assistance schemes across this segment of the population. In contrast, while the poorer countries are not estimated to suffer as dramatically in terms of GDP growth, their rates of poverty are more likely to increase as a result of limited social assistance coverage. However, as Figure 3 showed, even those in the countries with broader coverage are unlikely to be completely shielded against poverty due the inadequate generosity of the transfers.

Alongside this, the map in Figure 6 also shows us that coverage alters the regions that will suffer most significantly—in terms of impact on the poorest quintile—from the recession, with central and parts of southern Africa now suffering more severely. Moreover, due to its coverage, Peru is no longer the worst affected, or even in the top five worst affected countries, with 88% of its poorest benefiting from its social assistance scheme.
Recession and targeting of social assistance

Finally, we look at how targeting – the proportion of total social assistance transferred to the poorest quintile – will influence the effect of the recession on a country. In Figure 7, there is a cluster of countries in the south-west quadrant, with only a few countries lying in the south-east quadrant, suggesting that many countries do not adopt an approach to social assistance that strongly targets the poorest quintile. The countries in the south-west quadrant will suffer doubly, from the recession and from most of their schemes failing to reach the poorest 20% of the population. In these countries, even if the generosity of existing social assistance benefits is increased, it would fail to reach the poorest people.

In Figure 8, we find that sub-Saharan African countries struggle with targeting the poorest. Though some of these countries, like Zimbabwe and South Africa, have high coverage and generosity of social assistance, their programmes are not oriented towards supporting their poorest. However, they are not the only regions that struggle here, with Lebanon likely to be the worst affected country. Latin America, in aggregate, and India now fall under the ‘severe negative effects’ category, and will be worse off here then when we were considering the coverage of social assistance, as opposed to its targeting efficacy.
Summary: How social assistance changes the poverty effects of the recessions

To summarise, we present two graphs which show what proportion of the world’s population and world’s poor will suffer most as a result of the pandemic, first, considering the poverty effect of the recession alone, and second, the effect of the recession adjusted for generosity and coverage of social assistance programmes. We only consider countries with populations of over one million. Figures 9 and 10 show us that if we consider the effects of only the recession, the worst affected countries make up 15% of the world’s population (1.2 billion people) and 19% of the world’s poor (206 million people). However, when we consider the effects of the recession adjusted for generosity of social assistance, the top half of the worst affected countries host 39% of the world population (3 billion people) and 45% of the world’s poor (487 million people). Further, when we factor in the impact of the recession adjusted for coverage of social assistance, we estimate that the worst affected countries would constitute 19% of the world population (1.5 billion people) and 28% of the world’s poor (311 million people).

Figure 7: GDP growth forecast and social assistance targeting.

Figure 8: The recession effects on countries weighted for inadequate targeting of social assistance.
5. Conclusion and policy recommendations
The effect of the impending recession on poverty in different countries will depend on the state of social assistance. We have shown how different dimensions of social assistance change the impact of the recession across countries and continents, with many countries struggling to provide social assistance that is sufficiently generous towards, inclusive of, or targeted at their poorest quintile. As such, these vulnerable segments of their populations are likely to suffer severely as a result of the recession.

As data on the impacts of the pandemic and resulting restrictions on GDP growth, income levels, hunger, and poverty rates trickle in from across the world, they paint a dismal picture. However, new evidence supports our analysis on the importance of social assistance in these circumstances. For example, South Africa’s economy shrank by over 16% between the first and second quarters of 2020 (Stats SA) and 2.8 million people lost jobs [6]. However, the effects could have been worse in the absence of any social assistance. During this period social assistance in South Africa substantially cushioned the poverty impact on job losers, with approximately one-third of those who lost jobs living in a household with at least one grant recipient [7]. Similarly, new evidence from Kenya highlights the importance of pre-existing transfers in building resilience to the pandemic. The study found that beneficiaries of a universal basic income before and during the pandemic in Kenya experienced better food security and physical and mental health than those who had not received transfers, along with some positive impacts on public health indicators [8].
Our analysis, together with the micro-evidence available, shows that firstly, the current estimates of the impact of the pandemic, and the resulting recession on the levels and depth of poverty, are unlikely to be accurate when based upon GDP change alone. Secondly, it shows that a supplemental income is crucial to building resilience and surviving large shocks, such as the COVID-19 pandemic.

The diversity of contexts and problems faced by governments trying to minimise the effects of the pandemic on peoples’ lives and livelihoods means that a one-size-fits-all strategy will be ineffective. However, it is still possible to find some, general principles that will aid the creation of effective policies to address our current situation. They include:

1. **The quick and sustained expansion of social assistance schemes.** While many countries have already introduced new schemes, or expanded their current ones for (on average) three months, to deal with the short-term effects of the pandemic, the pandemic and global recession are likely to have long-term effects on poverty. Where possible, a long-term expansion of these responses will be required in order to avoid enormous poverty increases and grave impacts on the poorest members of society.

2. **The creation of new and leveraging of existing infrastructure to effectively disburse grants.** The distribution of cash transfers will likely require digital transfer mechanisms to ensure limited physical contact and/or the use of existing public networks in order to reach the relevant people quickly while the citizen data needed to support digital transfers is not available or is still being gathered. For example, in Togo, in response to the pandemic, a digital cash grant targeted to households in the informal sector used the voter ID database from the February 2020 presidential elections [9], which contained precise location and occupation information, to identify beneficiaries. In India, many argued that existing social welfare measures, such as the mid-day meal scheme [10] – a programme which supplies free lunches to children in primary and upper primary classes in government and government aided schools – should have been continued during the lockdown and school closure to shield children from lower-income households from increased hunger and malnutrition induced by the pandemic and its associated economic restrictions. In essence, this was a call to use existing data and infrastructure to provide relief to those affected by the COVID-19 pandemic.

3. **Shifting the targeting strategy to maximise inclusion rather than minimise mis-targeting.** Given scale of the effects of the pandemic, it is very important to increase coverage to ensure that all those at risk receive benefits, even if it means that some with more wealth also receive such benefits.

4. **Building long-term responsiveness of social assistance.** The coronavirus pandemic is an unprecedented event in our times, but it is likely one of many disasters we will come to face, particularly as the effects of climate change become more pronounced. The current crisis highlights the need for infrastructure capable of effectively providing social assistance to a large proportion of the population in response to unanticipated crises.

The COVID-19 pandemic and its resulting recession will likely impact the world’s poorest people for many years to come. While we do not provide precise poverty level estimates, this article highlights the importance of considering social assistance when exploring the effects of the recession on poverty levels, as social assistance plays a strong role in mitigating the effects of such a sharp and unexpected negative economic shock for the world’s poorest people. This article also demonstrates how analysing a single dimension of social assistance may provide an incomplete picture of the efficacy of social assistance.

Unfortunately, many countries do not have social assistance programmes that are sufficiently generous and inclusive of, or targeted at, their poorest quintile. Consequently, these vulnerable segments of their populations are likely to suffer severely as a result of the recession, even if they do not reside in countries that will suffer from the worst recession.

**Data appendix**

1. **Data sources**

   **GDP data**

   We use 2020 GDP growth estimates for 136 countries from the World Bank as of June 2020. These estimates have been revised since January 2020 to account for the impacts of the pandemic. The latest figures can be found in the World Bank Global Economic Prospects, June 2020 [11]. We also use the latest GDP per capita, PPP (constant 2017 international $) numbers in Figure 1 from the World Bank data bank.

   **Social Assistance Data**

   We use data from the World Banks’ ASPIRE (The Atlas of Social Protection Indicators of Resilience and Equity) 2019 database which provides indicators for 123 countries on various dimensions of social assistance. This data is based on both program-level administrative data and national household survey data. Of the 123 countries’ data, 101 have at least one of the three dimensions of social assistance we are interested in – generosity, coverage and targeting.

   An important caveat is that as of the 10th of July 2020, 176 countries have planned or put in place 638 social assistance measures in response to COVID-19 [5]. Our analysis does not consider these measures due to lack of access to country-level data. But as the average duration of these response measures is on average 3.1 months and the recession is likely to last much longer, these measures are unlikely to be sufficient to weather the recession and temper its effects on poverty.
Poverty and Population data
We use the latest figures on poverty headcount levels and population from the World Bank’s World Development Indicators database. We accessed population data on all 101 countries for which we have relevant social assistance data and poverty data on 99 of the 101 countries.

2. Data measures used
• GDP per capita: We use the latest GDP per capita, PPP (constant 2017 international $) data for each country. This data is sourced from the World Bank data bank.
• Dimensions of social assistance:
  ◦ Generosity: Generosity is the amount of transfers received by the poorest 20% as a proportion of their total income or consumption. This is also known as adequacy of social assistance.
  ◦ Coverage: Coverage is the percentage of the poorest quintile (20%) that receive social assistance.
  ◦ Targeting: Targeting is the percentage of total social assistance benefits received by the poorest 20%.
• Recession: Using the GDP growth forecast for 2020, we created a recession measure which shows how badly a country is predicted to be hit by the recession in 2020. Each country is classified based on the intensity of the recession effects into the following categories:
  ◦ Low: if GDP growth forecast for 2020 is between 0 to 5%.
  ◦ Moderate: if GDP growth forecast for 2020 is between 0 to –5%.
  ◦ Severe: if GDP growth forecast for 2020 is between –5 to –10%.
  ◦ Very severe: if GDP growth forecast for 2020 is between –10 to –15%.
• Recession adjusted for generosity: Recession*(1-Generosity)
• Recession adjusted for coverage: Recession*(1-Coverage)
• Recession adjusted for targeting: Recession*(1-Targeting)
• Population share: Percentage of the world’s population in a country. Our sample of 100 countries constitutes 77% of the world’s population.
• Poverty headcount: This is the number of people who live on less than $1.90/day (extreme poverty line) in low-income and lower middle-income countries, or on less than $3.20 (lower poverty line) in upper middle-income and high-income countries.
• Poverty share: Poverty share is the percentage of global poverty headcount that resides in each country. Our sample of 100 countries constitutes 84% of the world’s poverty.

Competing Interests
The authors have no competing interests to declare.

References