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Social Protection Approaches to COVID-19: Expert Advice

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Economics of Early Response and Resilience to COVID-19: Ethiopia

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Executive summary

Summary of Key Findings:

- Routine support already provided under the Ethiopia Productive Safety Net Programme (PSNP) and Humanitarian Assistance (HA) is estimated to have saved $859m in one year in reduced aid costs as well as avoided income and livestock losses. An increased investment in cash+/resilience investments would have increased savings to $871m.
- The economic model suggests that a timely response to expanded caseloads under COVID-19 could have saved upwards of $269m, depending on the scale of expansion. Savings to programme costs alone would have allowed the programme to reach an additional 3.1m people in need. Investment in a package of cash+/resilience building measures would have yielded a return on investment up to $3.5 for every $1 spent.
- The findings suggest that investment in models that can deliver a timely response, complemented by longer term resilience, is critical for delivering effectiveness gains. Crisis financing, shock responsive social protection systems, complemented by delivery via networks of local actors and cash delivery, are fundamentally required.

Context

The 2013 and 2018 Economics of Early Response and Resilience (TEERR) studies demonstrated the significant economic gains of investing in a more proactive response to crises. The first study was funded by DFID in 2013, followed by a more in-depth analysis in 2018 with USAID in three countries – Ethiopia, Kenya and Somalia. The studies estimate the relative cost of a late humanitarian response, and compare this with an early humanitarian response, a safety net response and a resilience building scenario (each of these scenarios build on each other and the findings are cumulative), and were seminal in changing the way that both donors fund crises.

The basic premise is that more proactive response scenarios will generate two kinds of savings: (1) reductions in the costs of humanitarian interventions by reducing the humanitarian caseload (both numbers in need as well as the size of that need); and (2) avoided income and asset losses by households who, in the absence of early interventions, resort to negative coping strategies like distress sales of productive assets (e.g. livestock). Early intervention alone can allow households to avoid a descent into a poverty trap. A safety net response that provides early and predictable transfers can reduce this descent even further and avoid household losses. A more pro-active approach that invests in cash+ [1] and resilience activities can offset a significant amount of loss.

[1] Cash+ programming refers to layered and sequenced activities that are provided alongside cash to augment the effectiveness of the response and contribute to longer term resilience building.

This paper builds on those seminal studies to understand what the economic gains could have been of the COVID-19 social protection and humanitarian response, primarily focusing on the Productive Safety Net Programme (PSNP) in Ethiopia. This is one of the largest national social safety net programmes in Africa, with a budget availability of approximately $650 million per year, operating in seven regions, and benefiting 8.8m people with both food and cash assistance. It is complemented by humanitarian assistance: the January 2020 Humanitarian Response Plan (HRP) targeted food/cash assistance to 4.6m, and this number was revised upwards to 5.9 in the August 202 revision to the HRP in light of COVID-19. For the purposes of this analysis, the IDP caseload is not included in this analysis (due to a lack of impact data for the micro-simulations), and hence the routine caseloads for food/cash assistance is estimated at 3.3m, bringing the total routine coverage of caseloads to 12.1 million. During COVID-19, routine caseloads were planned to expand by 18% to a further 2.6 million, bringing total *planned* caseloads to 14.7 million. However, it is not evident from existing research how much of the *planned* expansion was actually realised and/or delivered in a timely manner due to implementation delays and lack of funding.

Methodology

The analysis uses the modelling from the TEERR studies, combined with micro-simulation analysis on the predicted impacts of COVID-19 in Ethiopia conducted by SPACE, to estimate the overall cost of response and cost-saving of early action.

The Ethiopia micro-simulation conducted by SPACE had several important findings on needs, programme coverage and gaps. It found that the number of people below the poverty line and therefore in need of assistance to meet basic needs as a result of COVID-19 will increase by 49% in Ethiopia, from 30 million to 45 million people, largely as a result of price impacts, reductions in remittance income and reductions in wage earnings. Clearly, only a fraction of the number of people in need of assistance actually receive assistance, with routine coverage provided for 12.1 million people. We use the data from the micro-simulation, combined with the TEERR data and approach, **to model three scenarios:**

I. **Pre-existing Caseloads:** What are the estimated economic cost savings as a result of ongoing support to pre-existing caseloads for the 8.8m who receive support through the PSNP and the 3.3m who receive humanitarian cash/food assistance?

II. **Post COVID-19 Planned Expansion:** What would have been the economic cost savings of the *planned* expansion in caseloads from 12.1m to 14.7m people?

III. **Post COVID-19 Proportional Expansion:** What would have been the economic cost savings if the caseload had been expanded to cover 18m (those that should have been covered if assistance had increased at the same rate (+49%) as those falling under the poverty line and estimated by the microsimulations)?

Key Findings

The findings suggest significant savings as a result of a more proactive response, i.e. through a more timely response and an expansion in caseloads:

- **Pre-existing Caseloads:**
  - The economic model suggests that routine support already available under the PNSP and humanitarian assistance has saved $859m in one year in reduced aid costs as well as avoided income and livestock losses;
  - Savings to programme costs are 54% of total savings (the remainder are avoided losses to households);
  - An increased investment in cash+/resilience investments would have increased savings to $871m in one year.

- **Post COVID-19 Planned Expansion:**
  - The economic model suggests that a timely response would have generated *an additional* $135m in savings by scaling up beyond pre COVID-19 levels;
  - Savings to programme costs are 55% of total savings (the remainder are avoided losses to households); this would equate to an additional 1.5m people that could have been reached through the PSNP;
  - Investing in a package of resilience building measures through cash+ programming would have increased savings by a *further* $148m. **This represents a return on investment of $3.2 for every $1 spent.**

- **Post COVID-19 Proportional Expansion:**
  - A timely response could have saved an *additional* $134m (in addition to the savings in the post COVID-19 Planned Expansion) by scaling up to the full caseload equivalent from the outset, rather than leaving over 3.4 million who are likely to need humanitarian assistance later;
  - Savings to programme costs are 54% of total savings; this would equate to an additional 1.6m people that could have been reached through the PSNP;
  - Investing in a package of resilience building measures through cash+ programming would have added an *additional* $145m in savings. **This represents a return on investment of $3.5 for every $1 spent.**

It is also important to stress the following:

- **Post COVID-19 Full Expansion:** If we were to extend the findings to the full 45m in Ethiopia estimated to be below the poverty line according to the micro-simulations (rather than the expansion of the existing routine caseload to 18 million), we would have increased the savings estimated here by a *further* $333, and generated a further $665m through resilience/cash+ programming;
- These findings corroborate with World Bank/IFPRI research in Ethiopia that has just come out. The study uses statistical analysis of PSNP and non-PSNP beneficiaries and finds similar increases in the percentage of people affected by COVID-19, as well as similar estimates on the change in impact as a result of receiving assistance via the PSNP;
- If we were to extend the findings here to the full 10 countries in the earlier needs analysis undertaken by SPACE, which estimates an additional 42m people in need who are not covered by any social transfer, **we could have saved approximately $2.6 billion on the cost of response and avoided losses by responding early through social transfers in 10 countries.**

Policy Implications

- The analysis indicates **substantial possible cost savings – comprised of both cost savings for donors/government as well as avoided losses for households** – as a result of investing in a proactive response to the COVID-19 crisis.
- **These savings are realised as a result of a timely response and further increased with a layered approach** that combines cash/food transfers with cash+ and resilience building activities that help people to cope with a shock. These findings have important policy implications.
  - **Investment in models that are most successful at delivering a timely response is critical: Crisis financing** can speed up the time it takes for international and national funding streams to reach beneficiaries;
  - Unlocking funding is the first step; this funding then needs to be channelled into systems that can effectively and rapidly reach those in need, such as **shock responsive social protection (SRSP) systems, complemented by networks of local actors.**
- **A shift to transfer modalities that are most successful at delivering a timely response is also key. A greater use of cash will realise significant efficiency and effectiveness gains**, where markets are able to support cash;
- **The effects of COVID-19 will have long lasting consequences, and social transfers need to be complemented by cash+ and wider resilience building measures for economic recovery.** The data suggests that investment in a package of resilience building measures would double the cost savings from a more proactive response.

1. Background

1.1 Context

The economic impact of COVID-19 is driving a global surge in poverty. In response to the pandemic and related lockdowns, there has been a large increase in social transfers – via both social protection and humanitarian cash and in-kind assistance – with over $800bn in social transfers released globally in response to COVID-19 at the time of writing.[2]

At the same time, fiscal space for supporting those in need is already being squeezed, in both donor and recipient countries. Further, analysis suggests that the crisis has started a recession[2], and that ongoing needs to protect those most vulnerable as well as invest in economic recovery will be significant.

Within this context, there is an even greater imperative to maximise the value of any investment in response to this crisis to ensure that limited funds achieve the maximum return on investment. While significant funding flows have been released, much of this has come late, well after households have been forced to sell productive assets and engage in negative coping strategies. Ensuring that we continue to move towards a more timely and proactive system is critical.

1.2 Economics of Early Response and Resilience

The Economics of Early Response and Resilience (TEERR) studies[4] demonstrated the significant economic gains of investing in a more proactive response to crises. The studies were first funded by DFID in 2013, followed by a more in-depth analysis in 2018 with USAID in three countries – Ethiopia, Kenya and Somalia. The studies were seminal in changing the way that both donors fund crises.

The studies estimate the relative cost of a late humanitarian response, and compare this with an early humanitarian response, a safety net response and a resilience building scenario (each of these scenarios build on each other and the findings are cumulative). **The basic premise is that more proactive response scenarios will generate two kinds of savings:** (1) reductions in the costs of humanitarian interventions by reducing the humanitarian caseload (both numbers in need as well as the size of that need); and (2) avoided income and livestock losses by households who, in the absence of early interventions, resort to negative coping strategies like distress sales of productive assets. Early intervention alone can allow households to avoid a descent into a poverty trap. A safety net response that provides early and predictable transfers can reduce this descent even further and avoid household losses. A more pro-active approach that invests in cash+[5] and resilience activities can offset a significant amount of loss. But equally the study sought to measure whether the investments required to ensure a more proactive response were offset by the gains realised.

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2 https://www.ugogentilini.net/?paged=5
3 Archibald, E et al. (2020). Social protection in the COVID-19 Recovery: Opportunities and Challenges
4 Cabot Venton, C (2018). "The Economics of Resilience to Drought". USAID.
5 Cash+ programming refers to layered and sequenced activities that are provided alongside cash to augment the effectiveness of the response and contribute to longer term resilience building.

The study found that donors could save 30% on humanitarian aid spending through an earlier and more proactive response; this is equivalent to savings of US$1.6 billion when applied to U.S. Government spending between 2003 and 2018 in these three countries alone. When the avoided losses to household income and livestock are incorporated, the overall savings increase to US$4.2 billion. Put another way, every US$1 invested in building people's resilience will result in up to US$3 in reduced humanitarian aid and avoided losses.

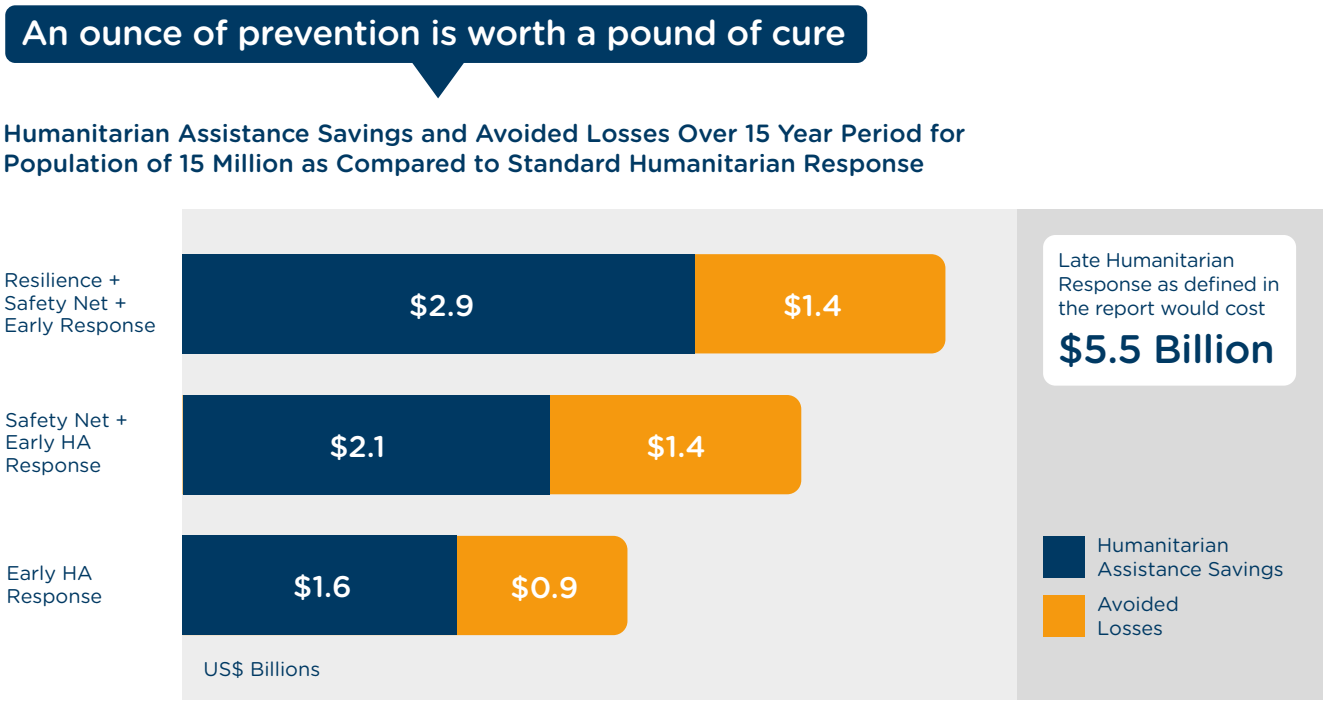

Figure 1. Humanitarian Assistance Savings and Avoided Losses Over 15 Year Period
Adapted from Cabot Venton, C (2018). "The Economics of Resilience to Drought". USAID.

1.3 Aim of this analysis

The analysis presented here aims to assess how the economics of early response and resilience might look in response to COVID-19. The TEERR findings were seminal because they were able to use modelling to look at the cost savings to donors, as well as the avoided losses to those affected by crises, as a result of different response modalities.

New micro-simulations[6] undertaken by FCDO estimate the change in number of people falling below the poverty line as a result of COVID-19, including an in-depth analysis for Ethiopia. This analysis therefore uses Ethiopia as a case study, combining the estimated changes in caseloads (numbers of people in need), size of deficit (the magnitude of that need) and cost of response for different response scenarios (estimated in the TEERR), with the estimate in the change in numbers in need as a result of COVID-19 (estimated in the micro-simulation models), to estimate the economics of response to COVID-19.

[6] Wylde et al (2020) Social Protection and Humanitarian Cash and Food Responses to COVID-19: Needs, Coverage, and Gaps. SPACE.

The following report is structured as follows:

- Section 2 presents the methodology for the analysis;
- Section 3 presents the findings;
- Section 4 presents a short discussion based on these findings.

2. Methodology

2.1 Context

The Productive Safety Net Programme (PSNP) in Ethiopia has been the core of the social protection system for the last 15 years.[7] The programme is one of the largest national social safety net programmes in Africa, with a budget availability of approximately $650 million per year, operating in seven regions, the most drought-prone woredas, and benefiting over eight million people with both food and cash assistance. The goals of the PSNP are twofold: (1) eliminate the food gap, the number of months the household cannot satisfy its food needs; and (2) prevent distress sales, that is to stabilise household asset holdings.[8] It is complemented by humanitarian response system that addresses needs that fall outside of the PSNP. The urban PSNP (UPSNP) was established in 2016 to address increasing levels of poverty and food insecurity in urban areas of Ethiopia.[9]

The methodology combines micro-simulations for Ethiopia that estimate the magnitude of need as a result of COVID-19, with the evidence from the TEERR reports on the economic impact of a more proactive combination of early humanitarian response, safety net transfers and resilience building measures.

This analysis looks specifically at the caseload associated with the PSNP and humanitarian assistance. However, it is worth noting that this caseload falls far below the full number of people in need. 30m people sit below the poverty line, but only 8.8m of these are regular beneficiaries of social transfers, and 3.3m are covered by food/cash transfers as part of Humanitarian Assistance (HA) (excluding IDPs, due to a lack of data for the micro-simulation), for a total of 12.1m covered by some kind of regular social transfer. The additional caseloads estimated in this analysis indicate that an even larger proportion of the population is not receiving any assistance, and hence the concept of 'savings' on funds that are not being spent can be misleading.

This analysis specifically looks at the *economic* impact of an earlier and more proactive response. A financial assessment will only look at the savings on actual monies spent. However, we also know that people who cannot meet basic needs suffer from a whole range of impacts that affect their wellbeing over their lifetime. A lack of response can result in significant losses to health, nutrition, education, and livelihoods, that have lifetime impacts on household economies and ultimately on GNI/GDP. One way to account for these losses is to estimate the cost of what it would take to mitigate these losses as a proxy value. This study takes such an approach by estimating the savings that can be realised by a more proactive response. The full cost of not responding with assistance would therefore likely be much higher than the figures presented here, as loss of health and ultimately life have significant weightings beyond the values used in this analysis.

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[7] European Commission, SPaN (Supporting People through Crisis) Ethiopia case study.

[8] Knippenberg, E. and Hoddinott, J. (2017), Shocks, social protection, and resilience: Evidence from Ethiopia. ESSP Working Paper 109. International Food Policy Research Institute (IFPRI) and Ethiopian Development Research Institute (EDRI), Addis Ababa.

[9] The REACH project (2019). "Ethiopia's Productive Safety Net Programme: Addressing food insecurity with food and cash transfers."

2.2 Micro-Simulations of COVID-19 poverty impacts

As part of its COVID-19 response, FCDO funded SPACE to undertake a rapid assessment of the impacts of COVID-19 in ten countries, with micro-simulations in three countries, to specifically assess the:

- level and distribution of the number of people in need (defined as those falling below the poverty line) both before and after COVID-19-induced recessions;
- nature and distribution of existing cash transfers and food assistance, both before COVID-19 and in response to it to mitigate these effects; and
- gaps in provision: what is the gap between the number of people in need and the actual coverage through existing cash and food assistance, how many, who, and where?

The micro-simulations seek to build on existing estimates of COVID-19's impact on poverty, while addressing the fact these are typically based on very high-level projections and homogenous assumptions. For example, many use estimates of reductions in GDP and/or inequality, and project that onto a total increase in the number of people below the poverty line. By undertaking more detailed micro-simulations, SPACE aimed to provide a more nuanced estimate of heterogeneous needs across different population groups.

The micro-simulations use detailed household surveys, combined with World Bank high frequency survey data on the impacts of COVID-19, to model the impact of COVID-19 on poverty, and combine that with actual coverage (via existing safety net and humanitarian transfers) to estimate gaps in provision. The micro-simulations estimate the number of people in need, the magnitude of that need, as well as the split in data between urban and rural populations. Out of the ten country studies, detailed and in-depth simulations were conducted for Ethiopia, Bangladesh and Zimbabwe. The data from Ethiopia is used for this analysis.

The full report and methodology for the micro-simulations can be found here.

2.3 The Economics of Early Response and Resilience

The Economics of Early Response and Resilience studies estimated the total cost of responding to shocks in three countries, including Ethiopia. The impacts of shocks on household economies are complex and interrelated, with spikes in need arising from a combination of changes to rainfall, fodder and vegetation, price changes in local markets, as well as other factors such as the quality of institutional response and conflict, for example. Further, high impacts in one year can have strong effects on the ability of households to cope in subsequent years. It is very hard to measure this complex web of interactions and outcomes empirically. Hence the study used the Household Economy Analysis (HEA) to model the impact of shocks on a wide population. In Ethiopia, the study modelled a population of 8.7 million people in Tigray and Somali regions, representing approximately 1/3 of the total population in need in the country.

The methodology for the TEERR can be summarised as follows:

- The HEA model uses actual baseline data on household economies, combined with actual price, production and rainfall data for the last 15 years, to estimate two measures for a largely pastoral and agro-pastoral population:

  I. the number of people in need – how many people require assistance because they are unable to meet basic needs; and

  II. the size of that need, or the household "deficit" – how big is the gap between what people need and how far they fall.

- Deficits are calculated by comparing total income to an emergency intervention threshold, the livelihoods protection threshold (LPT). The LPT is a measure of a household's ability to cover the bare minimum requirements for survival – to obtain and prepare basic food and, if necessary, purchase water, combined with basic costs to sustain local patterns of livelihood, including covering the costs of productive inputs (seeds, livestock drugs, etc.) and basic expenditure on health and education. Income in this context includes both food (e.g. crop and milk production that is consumed) and cash (sale of livestock, crops, sale of labour, etc.).

- The HEA model is run for four scenarios. Importantly, each of these scenarios builds on the previous (i.e. the safety net response assumes that any remaining deficit not filled by the safety net is provided with an early humanitarian response).

  I. The first assumes a late humanitarian response, at the point where prices have destabilised, and negative coping strategies have been engaged.

  II. An early humanitarian response assumes that humanitarian assistance is provided earlier, at a lower cost to humanitarian agencies, and using HEA modelling to estimate the decrease in the deficit as a result of providing assistance before people engage in negative coping strategies, as well as the avoided losses to income and livestock.

  III. A safety net transfer, where consumption support is provided to all people in need to mitigate a food deficit. The amount of deficit that exceeds the transfer value is assumed to be met with an early humanitarian response, alongside an estimate of income and livestock avoided losses.

  IV. A cash+/resilience scenario where additional support is provided, and the number of people in need as well as the size of the deficit are adjusted based on HEA modelling.The HEA model provides estimates of the number of people with a food deficit and the size of that deficit for each of the 15 years modelled, for each of the four scenarios. This shows how humanitarian need changes with each scenario, and weightings for changes in the number of people in need as well as the change in the size of that need are applied in the model.

- The HEA model also generates estimates of total income and average livestock holdings for each scenario. Differences in these outcomes from one scenario to the next are then used to measure avoided losses.

The economic model then estimates the economic cost of each scenario. While humanitarian need is reduced under each successive scenario, this needs to be offset by the cost of providing the safety net transfer and resilience inputs, to determine the scenario that is most cost effective. Data on the cost of humanitarian response (differentiated depending on whether it is provided late or early), and the cost of safety net transfer/resilience programming, is combined with the HEA data on estimated deficits and avoided income and livestock losses, to create an economic model that estimates the total net cost of each scenario considered.

It is also critical to note that the findings presented are predicated on a *timely* response. The model assumes that an early humanitarian and/or safety net response provides people with assistance before they engage in negative coping strategies, which in turn leads to greater income, and lower livestock losses. Hence the savings estimated will only hold true in the instance that assistance was provided shortly after the onset of a shock.

Much greater detail on the methodology and assumptions for the TEERR report can be found here.

Several parameters of the model were further adjusted for this analysis as follows:

- The previous TEERR analysis modelled a population of 8.7m people, including very poor, poor, middle and better off groups. Out of this, 2.7m were part of the PSNP, represented by very poor and poor groups. For the purposes of this analysis, estimations of the change in number in need and change in the size of the household food gap, or "deficit", use relevant data from the HEA analysis for the very poor and poor populations that are the recipients of the transfer. Benefits of an early and more proactive response will also accrue to the middle and better off populations, but those are not the focus of this analysis.
- The previous TEERR analysis focused on agro-pastoral and pastoral households and estimated avoided livestock losses using a purpose-built livestock model for East Africa. We only apply livestock avoided losses as modelled under HEA to the rural population as estimated in the micro-simulation model, excluding the urban population.
- We have adjusted the previous TEERR study to reflect the current split between food and cash assistance. The analysis estimates caseloads for both humanitarian and safety net assistance, and assumes that the following splits between cash and food are applied to these caseloads:
    - the PSNP provides cash to 60% of its caseload; and
    - according to the food security cluster, cash made up 37% of transfers via HA in 2020 (with the remainder in-kind). All cash is assumed to have multiplier effects in the economy of 0.84 as documented in the LEWIE assessments referenced in the FCDO business case[10].
- The cost of assistance is based on 2015 data from WFP and FCDO and includes the cost of a food basket including cereals, pulses and oil, and both imported optimised, imported peak and local procurement costs. International peak prices are used for the late humanitarian response scenario, international optimised prices are used for the early humanitarian response scenario, and ocean, landside, transport, storage and handling costs are removed to estimate cash costs.

[10] DFID Ethiopia Productive Safety Net Programme Phase 4 Business Case

Table 1. Summary of Scenarios and Assumptions

Scenario	Description	Assumptions
Late humanitarian response	• Used as the counterfactual, HEA is used to estimate the cost of response of a typical humanitarian response that arrives once a crisis has been declared. • The number of people with a food deficit, and hence requiring humanitarian assistance, is combined with the cost of response, to estimate the total cost.	Number of people in need: Modelled by micro-simulations. Unit cost of humanitarian assistance: • Food: $91 per person ($899 per Metric Ton (MT)); 63% of caseload • Cash: $43 per person; 37% of caseload Multiplier effects: 0.84 for cash delivery only
Early humanitarian response	• The magnitude of the deficit is reduced primarily as a result of stabilised food prices. • The number of people requiring assistance is modelled to decrease with successive years of intervention, but because this model is only run for one year of COVID-19 response, the number of people requiring a response is assumed to be equivalent to the late response. • These data are combined with the cost of response based on optimised food/cash, to estimate the total cost of humanitarian response. • The HEA is also used to estimate the avoided income and livestock value losses as a result of an earlier response.	Number of people in need: Modelled by micro-simulations. Unit cost of humanitarian assistance: • Food: $83 per person; 63% of caseload • Cash: $38 per person; 37% of caseload Deficit Weighting: Cost of humanitarian aid revised downwards based on decrease in food deficit modelled by HEA: 0.73 deficit weighting Avoided Losses: Increase in income and livestock value as modelled in HEA. Additional income is only counted as a surplus/benefit where it exceeds the food deficit (otherwise income assumed to be covering food needs) Multiplier effects: 0.84 for cash delivery only
A safety net response	• This scenario assumes that a safety net transfer for consumption support is used to help prevent a food deficit. • HEA modelling is used to estimate the change to the number of people in need of humanitarian assistance as well as the change in the magnitude of need (food deficit) as a result of a safety net transfer. Any residual gap is assumed to be filled by an early humanitarian response.	Number of people in need of a safety net transfer: Modelled by micro-simulations. 60% receive cash. Number of people with a residual deficit that requires humanitarian assistance: Modelled by micro-simulations; adjusted by HEA model changes in number of people in need. 0.15 population weighting. Unit cost of humanitarian assistance: • Food: $83 per person; 63% of caseload • Cash: $38 per person; 37% of caseload

		Deficit Weighting: Cost of humanitarian aid revised downwards based on decrease in food deficit modelled by HEA: 0.04 deficit weighting Cost of Transfer Program: $315 per household ($254 transfer plus 24% admin and overhead costs). Avoided Losses: Increase in income and livestock value as modelled in HEA; livestock only applied to rural population Multiplier effects: 0.84 for cash delivery only
Cash+/Resilience Building	This scenario assumes that investments in resilience building increase household income in addition to the safety net transfer.	Number of people with a residual deficit that requires humanitarian assistance: Modelled by micro-simulations; adjusted by HEA model changes in number of people in need. 0.04 population weighting. 60% receive cash. Unit cost of humanitarian assistance: • Food: $83 per person; 63% of caseload • Cash: $38 per person; 37% of caseload Deficit Weighting: Cost of humanitarian aid revised downwards based on decrease in food deficit modelled by HEA: 0.02 deficit weighting Cost of Transfer Program: $315 per household ($254 transfer plus 24% admin and overhead costs). Cost of resilience program: $27 per person (based on return of 4.4:1[11]) Avoided Losses: Increase in income and livestock value as modelled in HEA; livestock only applied to rural population Multiplier effects: 0.84 for cash delivery only

[11] This estimate is based on an impact evaluation that estimated benefit to cost ratios for a wide range of different types of activities implemented under PNSP 3.

2.4 Limitations

- **The micro-simulation model relies on the best available evidence and data but is necessarily based on a whole host of assumptions within a rapidly changing context** and one we have not experienced before. A great deal of uncertainty exists about how lockdown experiences will ultimately translate into experiences during COVID-19-induced recessions, and while the micro-simulations are based on the latest surveys, the situation is still unfolding;
- **The HEA model is a representative agent model,** that groups people into poverty and livelihood categories and estimates impacts based on these categories, and therefore may miss out on some of the nuanced impacts within these categories. Having said this, the findings of the HEA are broadly in line with the World Bank/IFPRI findings described in greater detail below, offering a point of triangulation and convergence around key findings;
- **The HEA analysis modelled impacts for a population of 8.7m people in Tigray and Somali regions, representing 33% of the total caseload. These data are used as a proxy for the whole population** but there are likely to be differences between these two regions and the rest of the country that may result in either over- or under-stating findings. There are significant differences between Tigray and Somali themselves: one is highland, the other lowland; one relatively developed compared to the other; and they have very different basic service outcome indicators, e.g. health outcome indicators, implying a difference in resiliency of the basic service systems. Both Tigray and Somali are largely rural regions. However, while the largest percentage increase in caseloads is in urban areas, the largest total number of people in need is by far rural, and hence these analyses should present a good approximation for the full caseload. If we exclude the urban population from the analysis to mitigate any potential overstatement of impacts, the magnitude of impact is still very large due to the sheer weight of numbers of people in rural areas who are in need of assistance;
- **The costing data is reliant on the WFP 2015/2016 data used in the 2018 TEERR study,** which was the most comprehensive data available at the time. More recent cost data was not readily identified, and updates could provide a more timely assessment, including accounting for relatively high inflation in the intervening years. Having said this, the HEA model is specifically calibrated to reflect a transfer amount that meets family household needs based on actual price data, and hence any change to costing data would be reflected with a commensurate increase in the poverty threshold and hence may not impact on the analysis presented here.
- The change in the magnitude of the deficit is reduced primarily as a result of stabilized food prices, but also results from the ability of households to maintain productive activities such as wage labour, and this **assumption may not be as relevant in COVID-19.** The change is primarily attributable to stabilising food prices, and therefore we do not expect this to have a significant impact on the findings.

3. Findings

3.1 Introduction

This section describes the findings that result from the combination of the micro-simulation for Ethiopia, with the HEA and economic models from the TEERR analysis.

- The first section describes the micro-simulation estimates for the number of people in need of assistance as a result of COVID-19, and specifically how that affects existing caseloads;
- The second section describes the estimated impacts of alternative response scenarios, as estimated in the TEERR, to the new caseload numbers projected by the micro-simulations, to estimate the potential cost savings to both response costs as well as avoided losses to beneficiaries.

3.2 Micro-simulations on COVID-19 impacts

The micro-simulations for Ethiopia estimate the following:

- **Pre COVID-19:** 30m were below the poverty line (BPL). Of this 30 million, 8.8m were covered by the PSNP, and 3.3m were covered by food/cash transfers as part of Humanitarian Assistance (HA)[12], for a total of 12.1m covered by some kind of social transfer;
- **Post COVID-19:** 45m are estimated in the micro-simulations to be BPL. As of July 2020, it was *planned* to expand the PSNP to cover 10.1m, and HA was actually reaching 4.6m people[13], for a total of 14.7m covered, as a result of COVID-19.

Table 2. Number of People in Need and Coverage, Pre and Post COVID-19

	Pre COVID-19	Post COVID-19
# People BPL	30,014,209	44,701,522
# Covered by PSNP	8,797,190	10,068,262
# Covered by HA	3,300,000	4,600,000
Total # Covered	12,097,190	14,668,262

These figures indicate several significant gaps in coverage:

- Clearly, only a fraction of the number of people in need of assistance actually receive assistance, with routine coverage provided for 12.1 million people (approximately 40% of the 30 million living under the poverty line). We use this figure in the analysis that follows (as opposed to the full number of people below the poverty line) to be conservative and in line with current levels of assistance. If we inflate the 12.1 million people receiving routine coverage in line with the

[12] According to the January 2020 HRP, 4.6m people were targeted with food/cash. 1.3m of these were IDPs, who are not included in the microsimulation estimates and therefore are not included in the economic analysis. Therefore, 3.3m of the general population were targeted with food/cash assistance.

[13] According to the August 2020 HRP, 5.9m people were receiving food/cash assistance. The HRP does not report on the number of IDPs, therefore we assume the same number as the January HRP and assume that 1.3m of these were IDPs and these are excluded for the same reason as above.

micro-simulation estimate that needs will increase by 49% due to COVID-19, we estimate that at least 18.0m would require assistance under COVID-19, an increase of 5.9 million people in need beyond existing caseloads as a result of COVID-19;

- According to the gap analysis, the planned expansion in caseloads as a result of COVID-19 would have extended the number covered by the PSNP by 1.3m (from a routine caseload of 8.8 million to a revised caseload of 10.1m). The number covered by HA as of July 2020 actually increased by 1.3 million (from 3.3 million to 4.6 million), for a total expansion of 2.6 million (from 12.1 million to 14.7 million). The planned expansion in caseloads is only 18%, meaning assistance has not increased in line with need, and in fact has fallen significantly short of the total estimated proportional expansion in need by +49% to 18 million, leaving 3.4 million people affected by COVID-19 lockdowns without any assistance;
- A *full* expansion would support the 45m estimated to fall under the poverty line as estimated by the microsimulations.

The micro-simulation model also presents these data for urban and rural, which is important for the analysis that follows.

Table 3. Micro-Simulation Model, Number of People in Need, Urban/Rural

Pre COVID-19			
	Urban	***Rural***	***Total***
Total BPL	2,405,103	27,609,106	30,014,209
Covered by SP	769,058	8,028,132	8,797,190
Covered by HA	2,929	3,297,071	3,300,000
Covered Total	771,987	11,325,203	12,097,190
Post COVID-19			
	Urban	***Rural***	***Total***
Total BPL	8,952,534	35,748,988	44,701,522
Covered by SP	1,308,708	8,759,554	10,068,262
Covered by HA	662,033	3,937,967	4,600,000
Covered Total	1,970,741	12,697,521	14,668,262
Weighted Post COVID-19			
	Urban	***Rural***	***Total***
% increase BPL	272%	29%	49%
Covered by SP - weighted	2,862,671	10,395,034	13,102,054
Covered by HA- weighted	10,901	4,269,134	4,914,840
Covered Total - weighted	2,873,572	14,664,168	18,016,893

3.3 Economics of Early Response and Resilience

As noted in the analysis that follows, it is not clear that the planned expansion in caseloads was actually realised, and where assistance has been provided, it has arrived months after lockdown. Therefore, the analysis described below refers to the savings that *could have been saved had a timely response been provided* to those most affected.

We combine the micro-simulation data with the economic model of the TEERR study, to estimate the economic cost for several scenarios:

- **Pre-existing Caseloads:** First we replicate the TEERR study for the full social transfer caseload in Ethiopia that already receives regular support via the PSNP and humanitarian assistance. We compare the cost of response for one year, estimating the cost of a late humanitarian response, an early humanitarian response, a safety net scenario and a resilience building scenario. We use this to estimate the cost savings that result from having routine coverage already in place for the 12.1m already covered under existing programmes;
- **Post COVID-19 Planned Expansion:** We estimate the economic cost savings based on the *planned* scale up in social transfers, by comparing:
  - the counter-factual scenario where no scale up took place. The existing caseload of 12.1m people receiving routine coverage, and the additional 2.6m people for whom assistance was planned, are provided with a late humanitarian response;
  - the planned response where those 2.6m would have been provided with humanitarian and social protection transfers, as well as resilience building measures;
- **Post COVID-19 Proportional Expansion:** We then estimate the cost savings that could be made if social transfers were scaled up proportional to the estimated increase in need (+49%) to a caseload of 18m, by comparing:
  - the counter-factual scenario that estimates a scaled-up version of the planned response: 10.1m SN, 4.6m early HA, and 3.4m late HA;
  - a potential response scenario that estimates a more complete scale-up of response to the expanded caseload estimated by the micro-simulations: 10.1m SN, 8.0m early HA.

Table 4. Scenario Caseloads

	Pre COVID-19		Post COVID-19 Planned		Post COVID-19 Proportional	
	Counter-factual	**Actual Response**	**Counter-factual**	**Planned Response**	**Counter-factual**	**Proportional Response**
# Covered by late HA	12,097,190	0	2,571,072	0	3,348,631	0
# Covered by early HA	0	3,300,000	3,300,000	4,600,000	4,269,134	7,948,631
# Covered by SN	0	8,797,190	8,797,190	10,068,262	10,068,262	10,068,262
Total # Covered	12,097,190	12,097,190	14,668,262	14,668,262	18,016,893	18,016,893

The findings for each scenario suggest the following, assuming a timely response (before people have engaged in negative coping strategies), that further targets those most in need:

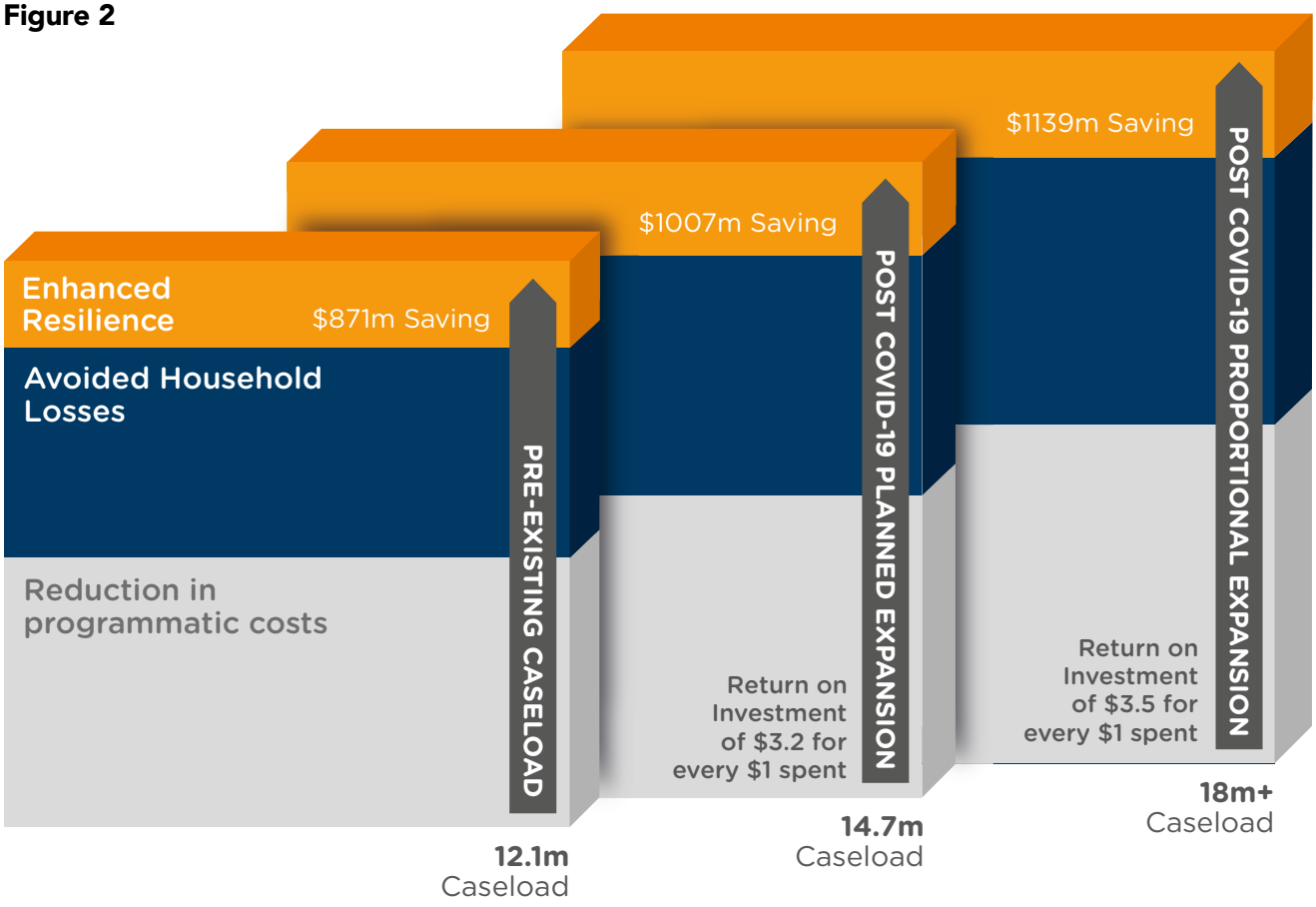
- **Pre-existing Caseloads:** This scenario estimates the savings that are already being realised by having regular support via the PSNP and HA to 12.1m people. The estimates indicate the amount of money that is already being saved through routine coverage.
    - The economic model suggests that routine support already available under the PNSP and humanitarian assistance has saved $859m in one year in reduced aid costs as well as avoided income and livestock losses;
    - Savings to programme costs are 54% of total savings (the remainder are avoided losses to households);
    - An increased investment in cash+/resilience investments would have increased savings to $871m in one year.
- **Post COVID-19 Planned Expansion:** This scenario compares a scenario with no scale up in assistance (Pre COVID-19 Business as Usual, 12.1m routine caseload) with the economic impact of the *planned* COVID-19 response to extend support to an additional 2.6m people.
    - **This scenario suggests that a timely response would have increased overall savings to $994m, representing an additional $135m in savings by scaling up beyond pre COVID-19 levels;**
    - Savings to programme costs are 55% of total savings (the remainder are avoided losses to households); **this would equate to an additional 1.5m people that could have been reached through the PSNP using savings to donor/government budgets;**
    - **Investing in a package of resilience building measures through cash+ programming would have increased savings to $1,007m, adding an additional $148m in savings above pre COVID-19 savings. This represents a return on investment of $3.2 for every $1 spent.**
- **Post COVID-19 Proportional Expansion:** We then estimate the cost savings that could have been made if social transfers were scaled up to the full 18m caseload.
    - **This scenario suggests that a timely response could have increased overall savings to $1,127.8m, representing an additional $134m (in addition to the savings in the post COVID-19 Planned Expansion) by scaling up to the full caseload equivalent from the outset, rather than leaving over 3.4 million who are likely to need humanitarian assistance later;**
    - Savings to programme costs are 54% of total savings; **this would equate to an additional 1.5m people that could have been reached through the PSNP;**
    - **Investing in a package of resilience building measures through cash+ programming would have increased savings to $1,140m, adding an additional $145m in savings above pre COVID-19 savings. This represents a return on investment of $3.5 for every $1 spent.**

Table 5. Net Cost and Savings by Scenario and Intervention

Interventions	Late Hum. Response	Early Hum. Response	Safety Net	Cash + / Resilience Building
Pre-existing Caseloads	$1,035.6	$424.8	$176.6	$164.8
Savings compared with late hum		*$610.9*	*$859.0*	*$870.9*
Post COVID-19 Planned Expansion	$1,255.7	$499.2	$262.0	$248.4
Savings compared with late hum		*$756.5*	*$993.7*	*$1,007.3*
Post COVID-19 Proportional Expansion	$1,542.4	$641.1	$414.6	$403.5

Relative scale of savings in different COVID-19 response scenarios - Ethiopia

Figure 2



These findings are only applied to a sub-section of the population. Approximately one-third of the population living below the poverty line in Ethiopia actually receives social transfer assistance, and the number in poverty is expected to increase by 49% under COVID-19, suggesting that the savings estimated here could be substantially larger if social transfers were extended to a larger portion of the population in need. Additionally the estimates presented here are only for one year of impacts, and yet we know that the impacts of COVID-19 will be felt

for subsequent years and hence the benefits of a proactive response will continue to reverberate into the future. Further, the analysis presented here is likely to be very conservative. The numbers of people in need in the revised HRP are significantly more than those presented here, because the HRP assesses those in need based on a whole range of factors including the locust invasion, drought and COVID-19, whereas this analysis focuses on the scale up due to COVID-19 only as estimated in the micro-simulation.

Further, this depth of data from the micro-simulation model and the Economics of Response model is only available for Ethiopia. Clearly the impacts of COVID-19, and the cost and impact of response, will differ by country, and hence caution has to be used when extrapolating the findings.

In order to give a sense of the order of magnitude of scale, extrapolating findings wider and beyond Ethiopia:

- If we were to extend the findings here to the full 45m in Ethiopia to be estimated in need, we would have increased the savings estimated here by a *further* $333m and generated a further $665m through resilience/cash+ programming.
- If we were to extend the findings here to the full 10 countries in the micro-simulations, which estimates an additional 42m people in need who are not covered by any social transfer, **we would have saved approximately $2.6 billion in the cost of response and avoided losses by responding early through social transfers in 10 countries.**

To corroborate findings, we analysed the findings presented here against a recent World Bank/IFPRI study[14] assessing the impact of the PSNP on COVID-19 effects, using pre-pandemic in-person household survey data and a post-pandemic phone survey with 1,497 households. The analysis uses a difference-in-differences approach to assess the impact of the PSNP on food security outcomes. There is little analysis on the effects of safety nets and other programming on mitigating the effects of COVID-19, and it is encouraging to see that the modelling presented here is closely aligned with the findings from the World Bank study, using very different methodologies:

- **The World Bank study finds that household food insecurity increased by 11.7% (from 49.1% to 60.7% in the study areas,** and the size of the food gap by 0.47 months (from 1.2 to 1.7 months) as a result of COVID-19. By comparison, the micro-simulations find that households below the poverty line increase by 13.6% (from 27.3% to 41.0%) for the entire population (the two analyses do not use comparable metrics for the size of the food gap).
- **The World Bank study further finds that participation in the PSNP offsets virtually all of the adverse change** – the likelihood of becoming food insecure for PSNP households increases by only 2.4% (equivalent to only 20% of households experiencing food insecurity with PSNP as compared to without) and the food gap by only 0.13 months (equivalent to a reduction in the food gap of 72% for PSNP households), consistent with the findings presented here that the safety net is able to reduce the number of people in need of assistance to 15% and a reduction in the food gap by 96%.
- **The World Bank study also found that the PSNP reduced the likelihood that households adopted negative coping strategies,** including reduced expenditures on education, health and agricultural inputs, again underpinning the assumptions used in this analysis.

[14] Abay, K, G Berhane, J Hoddinott, and K Tafere (2020). "COVID-19 and Food Security in Ethiopia: Do social protection programs protect?". World Bank Group.

4. Policy Implications

The analysis indicates substantial cost savings – comprised of both cost savings for donors/ government as well as avoided losses for those affected – as a result of investing in a proactive response to the COVID-19 crisis. It indicates that routine coverage is already savings millions of dollars in program costs as well as avoided losses to households. These savings are realised as a result of a timely response and increase with a layered approach that combines cash/food transfers with cash+ and resilience building activities that help people to cope with a shock. These findings have important policy implications.

Investment in models that are most successful at delivering a timely response – for example through crisis finance, shock responsive social protection systems, and networks of local actors – is critical. The model is predicated on the potential impacts of a more timely response, namely before negative coping strategies have been employed and assets eroded, which in turn decreases the household deficit as well as the number of people in need. It also relies on the assumption that targeting is accurate and reaches those most in need. **This suggests that having a well-funded and well-functioning system in place is key, particularly in a time of crisis where the protective function of an existing system can prevent significant levels of loss.**

Yet timeliness of response is an issue countries have been grappling with globally in the COVID-19 response, with notable exceptions. The International Policy Center for Inclusive Growth (IPC-IG) has been tracking transfer programmes in response to COVID-19 globally. The following data come from a very preliminary analysis of their data and hence should be interpreted with some caution. Nonetheless, the analysis find that that the average response time in Africa is the slowest globally, with one of the highest percentages of programs that have not yet been administered. It also shows significant variation across programmes globally in speed of response based on source of funding: local funding (typically community funds) shows the fastest response time, with an average 1.4 months from the start of the crisis, followed by government funded (1.9 months), World Bank (2.7 months) and other international funding sources (3.4 months). If programmes not yet administered are incorporated into the analysis, the World Bank has the longest lead time, with an average of 5.6 months from onset of crisis to delivery of funds – often due to an explicit prioritisation of medium-term system building over timeliness.[15]

The PSNP annual review[16] highlights that performance on timeliness of funds as well as predictability have compromised effectiveness and require further work, citing delayed transfer of funds from Ministry of Finance to regions due to lack of funds, and delays in e-payments to beneficiaries. Food transfers are even more unpredictable than cash due to delays in procurement of commodities and distribution to woredas, exacerbated by security challenges in parts of Oromia, SNNPR and Somali regions. In the context of the COVID-19 response, work requirements for the PSNP were waived quite early on, and some rural PSNP participants received a larger payment (though that was only issued within a few weeks of the time of writing – more than 6 months after the onset of lockdown).

[15] Internal analysis not yet published.
[16] FCDO Annual Review, Ethiopia PSNP Phase 4, December 2019.

The urban PSNP included a very small increase in transfer amount to pregnant women, while a planned horizontal expansion to an additional 1m people did not receive funding. Some INGOs have initiated smaller cash transfer programmes – for example Save the Children provided 30k people with a cash transfer funded by USAID, but this only disbursed in August.[17]

A number of policy shifts could help to improve the speed and hence cost effectiveness of the system:

I. **Crisis financing can speed up the time it takes for international funding streams to reach beneficiaries.** The international crisis financing system is discretionary, highly unpredictable, and fragmented, and is not configured to meet either current or future crisis financing demand.[18] The current system operates on an "opt in" model – donors choose to opt in on financing a crisis, by which point investment is late. Risk financing mechanisms aim to shift the system to an "opt out" model, where financing is triggered as soon as thresholds are met using pre-agreed criteria. The Center for Disaster Protection has outlined a new vision for crisis financing that would trigger pre-agreed financing based on predictable needs and modellable risk. The findings from this study suggest that such a system is imperative to realise significant economic cost savings and improve the effectiveness of the overall system. The recently approved World Bank Project Appraisal Document includes a component ($42.5m in funding) that will invest in building the system for greater shock responsiveness, including a financing strategy that has identified potential financing and how and when this financing will be triggered, with clearly articulated procedures and an enhanced system of operational planning.[19]

II. **Unlocking funding is the first step; this funding then needs to be channelled into systems that can effectively and rapidly reach those in need - thinking about both 'money in and money out'** as the Centre for Disaster Protection have been stressing.

    a. **Shock responsive social protection** (SRSP) aims to bring together social protection actors with those mandated to prepare for and respond to shocks, to jointly and comprehensively address needs, and pre-empt the needs of potential future shocks[20]. The COVID-19 crisis has required a massive horizontal and vertical expansion in meeting people's needs, and the systems that have been able to provide the fastest response are those that have had strong government SRSP systems in place to leverage. As evidenced by the World Bank report cited previously, where the PSNP was already operating, it was able to significantly mitigate losses. This study in turn estimates that those mitigated losses would save millions of dollars. Where systems weren't in place, significant numbers of people have fallen through the gap.

[17] Personal communication, Karin Seyfert, Oxford Policy Management (OPM)
[18] Poole, L, D Clarke and S Swithern (2020). "The Future of Crisis Financing: A Call to Action", Brief, Centre for Disaster Protection, London.
[19] World Bank Project Appraisal Document, November 3, 2020 "Strengthen Ethiopia's Adaptive Safety Net Project".
[20] See more within TRANSFORM (2020) Shock responsive social protection; SPaN (2019) SPaN (2019). Social Protection across the Humanitarian-Development Nexus. A Game Changer in Supporting People through Crises. European Commission Tools and Methods Series.

b. **Networks of local actors:** We know that working through local actors can dramatically speed up response, and is critical to ensuring that the right beneficiaries receive assistance, and that exclusion errors – particularly for those most vulnerable – are minimised. Evidence on timeliness is anecdotal, but compelling. For example, in addition to the IPC-IG data cited above:

   - GiveDirectly in Kenya has been able to cut their average time to pay by 50%, and increase enrolment 10x, by working through a large community of local organisations, and an automated SMS system, that help with inclusion and sensitisation/registration.[21]
   - In India, within a matter of weeks, the network of women's Self-Help Groups produced and distributed more than 19m masks, 100,000 litres of sanitizer, and established over 20,000 community kitchens across 27 states.[22]
   - The NGO Unbound used its community networks to deliver more than $8m in direct cash support through local mother's groups in multiple countries, within a month of lockdown.[23]
   - Fidelity Charitable – the US' largest grant maker – channels over $6 billion a year from individual grant making to charities. They found an increase of 16% in grant making – upwards of $500m – by April 2020 in response to COVID-19.[24]

The localisation agenda has remained empty rhetoric for far too long. COVID-19 has highlighted the absolutely critical role that local actors play in ensuring a timely response, as well as providing critical avenues for sensitisation, last mile registration, wrap-around services, and accountability and transparency. The ability of Community Based Organisations (CBOs) and other community based actors such as private sector and local government to provide a rapid response far outcompetes the speed of any other actors in the system, and their engagement is foundational to ensuring that crisis finance delivers the highest levels of effectiveness by reaching those most in need.

A shift to transfer modalities that are most successful at delivering a timely response is also key. A greater use of cash will realise significant efficiency and effectiveness gains, where markets are able to support cash. Cash plays a significant role in the analysis: the use of cash over food reduces the cost of response, creates multiplier effects in the local economy that are documented to be significant, and helps to enhance timeliness. Gains from cash are unlikely to be realised in markets where integration is poor. However, there is significant scope to expand the use of cash in Ethiopia and this will enhance the cost savings estimated here. The model uses existing cash caseloads – 27% of humanitarian caseload and 60% of social protection caseload; clearly there is scope to extend this. Roll out of e-payments, and more competitive contracting to incentivise improved performance, is expected to improve cash efficiency further.

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[21] Personal communication, GiveDirectly Kenya office.
[22] https://www.worldbank.org/en/news/feature/2020/04/11/women-self-help-groups-combat-covid19-coronavirus-pandemic-india.
[23] https://www.unbound.org/Stories/2020/April/cashandcommunity
[24] https://www.fidelitycharitable.org/content/dam/fc-public/docs/insights/communities-in-crisis-how-donors-are-responding-to-covid-19.pdf

The effects of COVID-19 will have long lasting consequences, and social transfers need to be complemented by cash+ and wider resilience building measures for economic recovery. The data suggests that investment in a package of resilience building measures would double the cost savings from a more proactive response. There is an inherent trade off in a fiscally constrained system, with a response as large as the COVID-19 response, between providing many people with a cash transfer to meet basic needs, and investing in the ability of the cash to maximise impact through complementary measures (see e.g. this SPACE paper on the topic of Cash+). The analysis presented here suggests that investment in a proactive response would improve the effectiveness and Value for Money of the response, allowing more people to be reached via transfers, or provided with a more in-depth response (see also this SPACE paper on VfM of COVID-19 responses). Wherever possible, investment in cash+/resilience programming should be prioritised to maximise effectiveness of social transfers, and further analysis is required to determine how best to spend a limited resource envelope.

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