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The impact of the COVID-19 crisis, and its emergency response programmes, on poverty and inequality in Guatemala, El Salvador, and Honduras

Jose Andrés Oliva
Carolina Alas de Franco
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Preface

COVID-19 has reshaped the world and radically changed the way people, institutions and systems function. Pre-existing economic, social and institutional vulnerabilities have aggravated the impacts of the crisis, especially on less developed and emerging economies and on their vulnerable populations.

Southern Voice has partnered with both member and non-member think tanks across the Global South to generate evidence of the pandemic's impact in distinct contexts. Through this research programme, teams have produced evidence-based analyses that embody perspectives of the Global South.

Three core themes guided this research initiative: social impact, economic and fiscal recovery, and accountable and inclusive institutions. It puts forth evidence-based policy solutions and recommendations to mitigate the middle and long-term challenges of the crisis and to inform a better and sustainable recovery.

The present study focuses on the estimated impacts of COVID-19 on poverty and inequality in Guatemala, Honduras, and El Salvador. Using a microsimulation approach, the paper explored the distributional impact of the health crisis on income losses, as well as how efficient emergency response programs were in the three countries. We hope that this joint publication by Southern Voice, FUSADES, and the Commitment to Equity Institute (CEQI) will be useful in crafting appropriate responses to confront the medium-to-long-term challenges presented by the pandemic.

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and

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Abstract

This study used a microsimulation approach to examine the estimated impacts of COVID-19 on poverty and inequality in Guatemala, Honduras, and El Salvador. The analysis considered the entire household income distribution and contemplated among all scenarios two possible extremes: "concentrated losses" and "dispersed losses". Safety net programmes implemented in the three countries were insufficient, even though they helped to prevent greater losses. Findings suggest that El Salvador was the most affected among the three countries. Evidence shows a deterioration from the pre-pandemic status or baseline after comparing the situation before and after the new safety net measures were implemented. Thus, it is possible to conclude that the programmes alone did not substantially improve the conditions that existed prior to the COVID-19 crisis.

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Content

Preface	iv
Acknowledgement.....	v
Abstract.....	vi
Content.....	viii
List of figures.....	ix
List of tables	ix
Acronyms and abbreviations	x
Introduction.....	11
Literature review	14
Methodology	20
Findings.....	27
Conclusions and implications.....	39
Recommendations.....	43
References	45
Appendices	48



List of figures

Figure 1. Pre-crisis composition of income 25



List of tables

Table 1. COVID-19 new and expanded safety net programmes by country 19

Table 2. Poverty and inequality estimates 29

Table 3. Efficiency indicators of public policies 33

Table 4. Inter-income mobility 39



Acronyms and abbreviations

IMF	International Monetary Fund
GDP	Gross Domestic Product
GIC	Growth Incidence Curve
PPP	Purchasing Power Parity
SDGs	Sustainable Development Goals
SI	Spillover Index
VEE	Vertical Expenditure Efficiency

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Introduction

This study estimates the poverty and inequality effects of COVID-19 in Guatemala, El Salvador, and Honduras. It further examines how the new safety net programmes implemented in response to the COVID crisis, have helped to mitigate the social impacts of the pandemic.

Before COVID-19, the people living in these countries were already suffering some of the worst conditions of social vulnerability, human development¹, and violence² in Latin America due to their weak public systems³. Subsequently, COVID-19 hit Latin America hard on two fronts: the pandemic itself and the lockdowns put in place to contain the spread of the virus. Together these shut down a significant portion of the region's economy, substantially affecting the flow of commerce that is critical to these countries. The result has been less domestic trade, falling exports, and declining tourism (Lustig & Mariscal, 2020). These conditions deserve special attention, given that the consequences for the population affect its ability to achieve the 2030 Agenda adopted by the United Nations (UN) and its Sustainable Development Goals (SDGs).


1 The Human Development Index rankings indicate that out of 189 countries El Salvador's position is 124, Guatemala's is 126, and Honduras's is 132. See <http://hdr.undp.org/en/content/2019-human-development-index-ranking>

2 The homicide rates per 100,000 habitants in El Salvador and Honduras have been among the highest worldwide, and Guatemala and Honduras have experienced one of the highest rates of firearm-related homicides. See <https://igarape.org.br/en/apps/homicide-monitor/>

3 All of the countries have bad performance records in terms of the World Bank Governance Indicators. El Salvador is in the bottom third for corruption and the rule of law; Guatemala and Honduras are in the bottom 20% among all countries included in that analysis. See <https://datacatalog.worldbank.org/dataset/worldwide-governance-indicators>.

Specifically, due to the pandemic, by 2030 this part of Central America may be unable to achieve SDG 1 (no poverty), SDG 2 (zero hunger), SDG 10 (reduced inequalities), and SDG 5 (gender equality). Hence, it is crucial to assess how the policy responses to the crisis have helped to offset the negative effects of COVID on peoples' well-being. The new social protection policies have the potential to reduce poverty and inequality. They have been quantitatively analysed for each of the three countries, taking a comparative approach.

The key questions for each of the countries are as follows: 1) What is the potential impact of the COVID-19 crisis on poverty and inequality? 2) What is the potential impact on income movement and inter-income group mobility? 3) How heterogeneous is this shock in terms of region, gender, rural versus urban, informality, and ethnicity? 4) Will the emergency protection measures implemented by the subject governments be enough to mitigate the impact on poverty and inequality?



Central America may be unable to achieve the 2030 Agenda and reduce differences between its rural and urban areas due to the pandemic.

Social protection mechanisms have a role to play in mitigating catastrophes and addressing macroeconomic shocks, such as those produced by natural disasters and the aftermath of COVID-19. Properly implementing such mechanisms is especially crucial when there are limited public resources and governments are unable to sustain their spending (as in the cases of El Salvador and Honduras), or when tax collection levels are low (e.g., Guatemala). This aspect is relevant because the COVID-19 crisis has materially affected tax collection, and the forecasted recovery suggests that it will be slow and uncertain.

This study used microsimulations to explore the distributional impact of COVID-19 on 2020 income loss. To do this, the impact of the economic recession on household income was replicated. The results show the amount of income placed at risk due to the lockdown regulations, identifying each sector that was closed by government decree.

Different income loss scenarios were adopted to assess COVID's impact on poverty and inequality. Then governmental social safety nets were examined for their effects. These effects were broken down by the entire population and then for vulnerable

groups in El Salvador and Honduras, (e.g., female-heads of households), and indigenous households in Guatemala.

According to the International Monetary Fund (IMF), in 2020 the world economy experienced its worst recession since the Great Depression. In 2020, the Central American region experienced a contraction of gross domestic product (GDP). The IMF (2020) estimated that, collectively, the economies of the eight Central American countries would shrink by 5.8%. Individually, El Salvador's GDP was projected to be -9.0%, Honduras's was expected to be -6.5%, and Guatemala's was predicted to be -2%⁴.

This would negatively affect employment, income, and poverty in these countries, where the situation was already problematic before the crisis. Even before the pandemic, these countries lacked the social protection networks needed to cope with the effects of COVID-19. Further, they had, and continue to have, limited fiscal space within which to mitigate or neutralise the economic effects of COVID-19.

The analysis performed in this study shows that the lockdown policies aimed at containing COVID-19 also caused substantial income loss across the populations of these Central American countries. In this regard, this work is one of the first to produce findings for these countries, taking a microsimulation approach. The findings suggest that poverty and inequality, in almost all cases, increased. In addition, in all three countries, most households considered as vulnerable before the pandemic faced the highest losses. Concurrently, they had lower income floors to mitigate the shock.

This study shows the estimated impacts of COVID-19 on poverty and inequality in these countries using microsimulation. First, the assumption is relaxed that all households experienced equal loss. Then distributional changes are incorporated into the analysis, applying the methodology of Lustig et al. (2020). The simulation scenarios show the economic consequences of COVID-19 induced income loss, the lockdowns, and the restrictions on economic activities. Second, the findings describe the distributional consequences of the governments' expanded social assistance in response to the crisis, and the extent to which that assistance offset the effects on poverty. Quantitative estimates suggest how effective the social safety nets have been, considering the narrow fiscal margins in each country. Third, the impacts of both the lockdowns and social assistance are estimated based on race and ethnicity (for Guatemala), the rural-urban divide, the informal work sector, and gender.

⁴ The above projections are considered preliminary, while the macroeconomic figures are still subject to revision.

There are multiple combinations of possible scenarios. However, the analysis in this study used two: the share of households losing income and the share of income lost by each household (i.e., "concentrated losses" and "dispersed losses"). El Salvador experienced the greatest increase in extreme poverty among the three countries. The concentrated losses scenario suggested a 9.8% increase in extreme poverty; with 3.3% from among the moderate poor; 5.6% from among the "vulnerable stratum"; and 0.8% from among the middle class. In Honduras, there was a 5.5% increase in extreme poverty; with a 2.7% increase from among the moderate poor; 2.1% from among the vulnerable; and 0.7% from among the middle class. In Guatemala, there was a 2.1% increase in extreme poverty; with 1.1% from among the moderate poor; 0.9% from among the vulnerable and 0.1% from among the middle class.

Literature review

According to different 2020 estimates, COVID-19 was projected to cause a significant decline in production in El Salvador, Honduras, and Guatemala (Anglade et al., 2020; Economic Commission for Latin American and the Caribbean [ECLAC], 2020; IMF, 2020). Among the three countries, El Salvador's economy was projected to experience the deepest decline (-9%) (IMF, 2020). It currently has the lowest headcount ratio among the three countries, (25.7% based on the international poverty line, i.e., USD 5.5 purchasing power parity [PPP] per day), and has registered one of the lowest average rates of economic growth in Latin America since 2000. The Honduran and Guatemalan economies are projected to decline by close to -6.5% and -2.0% respectively.

The Inter-American Development Bank (2020) estimated that the number of poor people in Central America, Panama, and the Dominican Republic will increase by 4.3 million from the effects of the COVID-19 lockdowns during the year 2020. A large share of the population that is currently classified as vulnerable is likely to fall into poverty. For example, according to these estimates, poverty in El Salvador will increase by 8% to 10%, accompanied by deep and unfavourable social mobility. The lack of job opportunities in the three countries is already leading to population emigration to the United States, despite the recent harsh immigration policies.

The crisis is expected to affect the population with less access to social safety nets, such as informal workers living in economic vulnerability or those who are poor (Busto et. al., 2020). In El Salvador, only 30% of the economically active population contribute to social security, and in Guatemala and Honduras it is less than 20% (ECLAC, 2020). According to the Organisation for Economic Co-operation and Development

(2020a), informal workers face particular challenges. Pandemic-generated job loss equates with lost income, no possibility of receiving unemployment benefits, and lack of access to official social protection measures. Further, the lockdowns prevent these workers from engaging in activities that previously provided them with income.

A major challenge has been mitigating the income lost from lockdowns by identifying and prioritising the households that are eligible for monetary transfers. This is especially urgent for informal workers. As Busso and Messina (2020, p. 298) explained, "identifying and transferring relief income to informal workers has been, and still is, one of the region's biggest fiscal and social challenges in managing the COVID-19 pandemic." If the transfers do not reach those affected, even if the resources are available, their effectiveness is lost.



Pandemic generated job loss equates with lost income, no possibility of receiving unemployment benefits, and lack of access to official social protection measures.

New social safety net programmes in El Salvador, Guatemala, and Honduras

Each of the three countries in this study took different social protection measures to lessen the negative impact of COVID-19 on household income. The main features of these programmes are summarised in Table 1.

Table 1. COVID-19 new and expanded safety net programmes by country

Country	Program	Number of transfers	Target population	Amount (LCU Millions 2020)	Amount (USD PPP 2011 Million)	Fiscal cost (% of GDP)	Total Beneficiaries
El Salvador	Monetary transfer program	1	Vulnerable households (mainly gas subsidy recipients; households whose electricity consumption is lower than 300 KWh per month) subsidy	300	665	1.4 -1.5	1 200 000 households
	Food aid programme	2	Vulnerable households	35/50	76/110	0.6 - 1.2	1 700 000 households
Guatemala	Bono familia	3	Vulnerable households whose electricity consumption is lower than 200 KWh by month, or do not have electricity	1 000	253	1.02	2 475 707 households
	Bono al comercio popular	1	Informal workers	1 000	257	0.02	100 000 workers
	Electric subsidy	3	Households whose electricity consumption is lower than 300 KWh by month	The amount of subsidy depends on the household consumption	--	0.05	Not available

Honduras	Honduras Solidaria (food packages)	3	Poor households in six municipalities	140	14	0.11	863 780
	Aporte Solidario Temporal	Up to 6	Suspended workers belonging to the RAP (private Contribution Regime), AHM (Honduran Association of Maquiladoras) and the tourism sector	6 000	585	0.08	106 636
	Honduras Solidaria Descentralizada	2	Poor households in 292 municipalities	94	9	0.11	1 532 079

Source: based on data from official information from electronic reports and public information portals for Guatemala Government (Ministry of Finance, Ministry of Economy, Ministry of Labour), for Honduras Government (Sefin and public information), and for El Salvador (Ministry of Finance, Ministry of Agriculture and Livestock, The National Comptroller Institution).

El Salvador

By August 2020, El Salvador had implemented two social assistance programmes to help the families whose income had been affected by COVID-19, named the "cash transfer programme" and the "food aid programme". The monetary transfer (USD 300 per family) began on 28 March 2020 and ended (for the most part) in April 2020. A total of USD 350 million⁵ was distributed to 1,200,000 households⁶.

he families were initially selected from the Ministry of Economy's database for gas subsidy beneficiaries⁷. Filters were then applied to this database to identify the households with no regular salary, but a partial or complete loss of income. The Secretariat for

⁵ The controller institution report presented to the Legislative Assembly of El Salvador (3 May 2020) indicated that USD 350 million was distributed to families; however, data from the Fund for Civil Protection, Prevention and Mitigation of Disasters and from the Ministry of Treasury show that the cost of this programme was USD375 million. The difference could be due to logistics costs. The Ministry of Agricultural and Livestock report to the Finance and Special Budget Commission of the Legislative Assembly, 13 July 2020.

⁶ As a reference, according to the EHPM 2019 there were 1,938,530 Salvadoran households in that year.

⁷ The gas subsidy beneficiaries are intended for households where the electricity consumption is less than 200 kWh per month and its inhabitants are poor. This database has been enhanced over the years, but there are still errors of exclusion and inclusion.

Innovation of the Presidency selected the families, and the Ministry oversaw the delivery of aid. Subsequently, another 1.5 million claims were identified, and 85,000 persons were added to the list of beneficiaries. Field visits were later instituted to identify poor families that were not in the gas subsidy database.

There were complaints over the selection and distribution process. In some cases, more than one household member received a transfer. A report from the National Comptroller Office identified 100,000 beneficiaries whose selection criteria were unknown. In an updated report, the National Comptroller Office found 21 anomalies (Magaña, 2021).

The "food aid programme" started at the end of May; however, the government of El Salvador did not disclose the selection criteria, products, package cost, or the number of beneficiaries. The National Comptroller Office experienced difficulties and delays in auditing this programme. In May 2020, the Ministry of Agriculture and Livestock declared in reserve all documents and information related to the purchase of food and its distribution.

Several factors made it difficult to obtain information, thereby obfuscating the process: a) not all packages cost the same or had the same items; b) one family could receive more than one package during the course of the programme; c) the aid was distributed through different institutions, and the selection criteria were unclear or different; and d) the programme was ongoing.

The aid was distributed to needy communities throughout the country, in both urban and rural areas. However, it was also delivered to middle-class residential areas. At the beginning, the authorities said that 1.7 million food aid would be delivered through this programme. Later this was increased to 3.4 food baskets. The total cost was estimated to be USD 300 million. According to the Ministry of Agriculture and Livestock, as of 9 July 2020, USD 136.3 million had been disbursed for the acquisition of the food basket products. Later, the Ministry of Agriculture and Livestock work report for 2019–2020, presented to the Legislative Assembly, showed that the cost of the first phase of food aid deliveries amounted to USD 151.9 million (La Prensa Gráfica, 2020).

Guatemala

To mitigate the COVID-19 crisis in Guatemala, the cash transfer programmes "Bono Familia," "Bono al Comercio Popular," a temporary electricity subsidy, and "Fondo de Protección al Empleo," were created. These social programmes aimed to protect the most vulnerable people from the adverse effects of the lockdowns.

The Bono Familia programme had a budget of GTQ 6 billion, divided into monthly transfers of GTQ 1,000. It focused on households that consumed less than 200 kWh per month, prioritising people in poverty, single-parent households, the elderly, the disabled, people with chronic or degenerative diseases, and families with children in a state of malnutrition.

Bono al Comercio Popular was explicitly designed to help informal traders. The budget established for this programme was GTQ 100 million, distributed in monthly transfers of GTQ 1,000 to each beneficiary.

The "electricity subsidy," in effect before the pandemic, covered consumers whose electricity consumption was in the range of 101 to 300 kWh per month. Due to the impact of COVID-19, the original budget was expanded to GTQ 270 million. It was intended to reach households living in poverty conditions that were not covered by the existing electricity subsidy scheme. This subsidy was a compensatory measure to mitigate economic effects of lockdowns.

Fondo de Protección al Empleo was designed to provide a temporary daily income of GTQ 75 to formal workers that were furloughed during lockdown measures. It was aimed to prevent that the employees were fired, by reducing costs assumed by companies. This programme had a budget of GTQ 1,850 million. Due to lack of enough information about this programme, it was not included in the simulations.

The public criticised the execution of the programmes. Some said that the disbursements arrived too late. In addition, the government's information was insufficient, and public records were insufficient to identify potential beneficiaries. The government did not have the resources to execute its social policy or to plan and prioritise the use of funds. Thus, it used electricity receipts to identify the beneficiaries. The result was that poor households without electricity were excluded from the programmes and opportunities were created for some non-poor to claim benefits. Further, programmes targeting furloughed formal workers, and credits intended for small businesses, were too bureaucratic and did not distribute all of their available funds.

Honduras

In March 2020, the Honduran government launched the transfer programmes "HondurasSolidaria," "AporteSolidarioTemporal," and "HondurasSolidariaDescentralizada," to address the COVID-19 pandemic. This was part of a larger attempt to minimise the adverse effects of long lockdowns and other measures taken to contain the spread of the disease. All three programmes aimed to mitigate the decline in household income through cash and near-cash transfers.

Honduras Solidaria was established with a budget of HNL665 million and was divided into three stages to provide food aid to vulnerable groups in six specific municipalities (Distrito Central, San Pedro Sula, Choluteca, La Ceiba, Choloma y Villanueva). The food aid consisted of four servings. They were delivered by the Honduran Armed Forces with the help of other institutions.

Aporte Solidario Temporal started with a budget of HNL 500 million. It provided a monthly cash transfer of HNL 6,000 granted by the government and employers to suspended workers in both the maquila sector (duty and tariff-free factories) and the tourism sector affiliated with the Private Contribution Regime. The period of suspended employment contracts was extended to (a maximum of) 180 days, considering that operations could not be immediately reactivated once the emergency period ended.

Honduras Solidaria Descentralizada also made cash transfers, but it focused on the extremely poor. The budget established for the first two stages was HNL 705 million. This contemplated that 292 municipalities would receive monetary transfers to be used exclusively for the purchase of food and grooming kits.

Methodology

The information in this study was derived from secondary sources. The team had access to publicly available household surveys in each country, macroeconomic information, and the administrative records of programme beneficiaries. In the case of household surveys, for El Salvador, we used the Multiple Purposes Household Survey (EHPM) for 2019; for Guatemala we used the National Living Conditions (ENCOVI) survey for 2014; and for Honduras we used the Multiple Purposes Survey for 2011 (EPMP). All of the surveys are nationally representative and come from the national statistics offices of each country⁸. The Guatemalan survey information is available on the National Statistical Office's website. El Salvador's information is publicly available upon request. The Honduras government does not provide free or on-demand access to their household survey microdata; however, the Commitment to Equity (CEQ) Institute had access to the Honduras EPMP 2011⁹, collected by the Honduran National Statistical Institute in June

⁸ General Directorate of Statistics and Census, El Salvador; National Statistics Institute, Guatemala; National Statistics Institute, Honduras.

⁹ This is the latest survey publicly available and includes all of the variables relied on. It is nationally representative information, and it was updated using Ravallion (2003) methodology to reflect the pre COVID-19 scenario.

and July 2011. For the macroeconomic estimations on the likely impact of the crisis, we relied on the IMF World Economic Outlook, October 2020. Finally, to assess the impact of safety nets, the publicly available administrative government records for each country were used.

To produce the pre-COVID distribution of income, this study relied on the most recent household survey available in each country. However, in Guatemala, there was a lack of updated household surveys, and in Honduras there was a paucity of publicly available household survey microdata. To overcome this, we adjusted the real value of the income using the real per capita GDP growth between the base year of the last survey available and 2019. The underlying assumption was that the original income distribution remained unchanged from the survey's base year¹⁰.

Information for the three countries was initially acquired from what was available or estimated for 2019. Thereafter, simulations were carried out for 2020 to estimate the impact of COVID-19, the lockdowns, and the economic crisis.

The model we used was based on Lustig et al. (2020), following the work of the CEQ Institute. The household survey information was used to estimate the distributional consequences of income lost from the COVID-19 lockdown policies.

First, we identified which sectors were restricted by the lockdown policies. To do this we used the information published by each government on its lockdown regulations. These reports specify which economic sectors are considered essential and which are viewed as non-essential¹¹. Then, these sectors were matched with the International Standard Industrial Classification of All Economic Activities (ISIC) included in the household survey information. With that, we identified which workers were affected by the lockdown policies, considering all labour income for workers in the non-essential sectors¹² as "income at risk". In addition, we assumed that: (i) all labour income for those who worked on the street was at-risk; and (ii) all managers had no income at risk even if they worked in a sector that was under lockdown.

10 Even though this could be a strong assumption, one could assume that changes to income distribution were not significant in Guatemala and Honduras over the course of ten years, given that those countries had one of the lowest social mobility indicators in Latin America. The factor expansion was adjusted to convert GDP growth into household gross income growth, as Ravallion (2003) suggested. See the income distributions in Appendix 2.

11 We identified these sectors using the regulations imposed by each government.

12 See Appendix 2 for more detail.

Thereafter, we aggregated the income at risk at the household level, and we randomly selected households that lost their income at risk. We did not know in advance how many households would lose their income or how much each household would lose. To address this, we generated a set of scenarios varying the share of households with income at risk that lost income and the share of income lost by each of those households. We allowed these two parameters to range from zero to one, which yielded a ten-by-ten matrix of potential losses and distributional impact. In the extreme case, all households with income at risk lost all of their income. The maximum loss is expressed as follows:

$$\text{Min}\{Y_i^{\text{after}}\} = Y_i^{\text{before}} - Y_a^{\text{max}}$$

Where:

Y_i^{after} is the income earned by individual "i" after the shock,

Y_i^{before} is the income earned by the same individual before the shock, and

Y_a^{max} is the total at-risk income.

To focus our posterior analysis, we chose a subset of scenarios from the income losses matrix (see Appendix 1). We selected those that yielded an overall loss of per capita income similar to the decline estimated by the IMF in its World Economic Outlook, October 2020. We corrected the income losses from the survey using the approach Ravallion (2003) suggested, and Lakner et al. (2020) applied. These two scenarios constitute two extreme cases. In one, a smaller proportion of households lose relatively large amounts of at-risk income; in the other many households lose a relatively smaller amount. Lustig et al. (2020) called these scenarios "concentrated losses" and "dispersed losses," respectively.

In the remainder of the analysis, we used gross income as a welfare measure to assess the distributional impacts of the lockdown:

$$\text{Gross income} = \text{Labour income} + \text{Capital income} + \text{Private transfers} + \text{Pensions} + \text{Direct transfers}$$

In addition to assessing the lockdown effects on income distribution, we constructed another income distribution model simulating the new social programmes created to help households cope with the effects of the COVID-19 lockdown policies.

Based on the foregoing, we could compute poverty and inequality indicators for pre-COVID and post-COVID periods with and without the new social assistance programmes. For each one, we computed the changes to the following indicators:

the additional percentage of poor; the changes in the Gini coefficient; the changes in the percentage of poor households headed by a woman; the change in the percentage of poor households in rural and urban areas, and in the formal and informal labour sectors. We also explored the effect on indigenous populations in the case of Guatemala, and we analysed the efficiency of the new social programmes created, together with each safety net, using a number of spending efficiency indicators (Beckerman, 1979; Immervoll et al., 2009)¹³.

The three countries' results were compared. For this purpose, the international poverty lines used by the World Bank (USD 3.2 and USD 5.5 per day in PPP) were relied on. To perform the measurements for social mobility, the following definitions were used: lower-middle-income or vulnerable poverty class, between USD 5.50 and USD 11.50 per day; and middle class, between USD 11.50 and USD 57.60 per day¹⁴.

Our results should be viewed with caution for four reasons. First, they do not account for general equilibrium effects; our results yield first-order effects. Second, we concentrated most of the macroeconomic downfall on the non-essential sector, which could be more or less accurate in each country. Third, for comparison reasons, we used the IMF (2020) forecasts; however, the effective per capita growth could be different and, as a result, changes in poverty and inequality could be higher or lower than our results indicate. Fourth, in our simulations, we did not include all of the new programmes implemented in each country when such information was not available, or when benefits could not be allocated to households. In addition, the impacts of disasters caused by storms Eta and Iota and rain were not considered, even though they would modify the results. Importantly, the results of this study are not quite comparable with the headcount poverty rates based on national poverty lines because the basis for this analysis, (i.e., estimated or simulated per capita gross income), is not comparable to the official income or consumption aggregates used to measure poverty by national statistics offices.

13 Vertical expenditure efficiency (VEE) measures how much of the resources available to a programme or new social protection network reach the poor; Spillover Index (SI), measures how much of what reaches the poor is above what is necessary to reach the poverty line; Poverty Reduction Index (PRI), measures 100% of the programme resources reaching the poor up to the poverty line; Poverty gap efficiency, measures how much of the total resources dedicated to the programme that have effectively reached the poor, are related to those necessary to fill the poverty gap. In other words, it measures the coverage of the gap.

14 The default poverty lines in USD PPP are USD 1.90, USD 3.20 and USD 5.50. Specifically, there are three income class-specific poverty lines: USD 1.90 a day for low-income countries, USD 3.20 a day for lower-middle-income countries and USD 5.50 a day for upper middle-income countries. The USD 11.50 and USD 57.60 cut offs correspond to the vulnerable and middle-class populations suggested for the 2005-era PPP conversion factors by López-Calva and Ortiz-Juárez (2014). Those values were updated by the CEQ Institute to PPP 2011.

Pre-composition of income: El Salvador, Guatemala, and Honduras

The lockdown measures resulted in a drastic shock to the economies of all three countries. Inactivity and closed borders severely damaged economic activity. To account for their influence on poverty and inequality, in this study, the situation before (ex-ante) the crash was compared to the situation after the crash (ex-post). In the resulting income distribution, the weights of the new mitigation programmes were established, starting with the pre-income composition.

Figure 1 shows the average composition of the household per-capita income distribution based on six categories: income at risk due to lockdown policies that come from activities restricted by the government during the lockdowns; income not at risk; government salaries; social security pensions; direct transfers; and private transfers (including remittances).

There are several aspects to highlight in Figure 1. First, across countries, the share of income at risk is not uniform, going from the poorest to the richest.

The gradient of income at risk is positive in Guatemala. For Honduras the proportion of income at risk increases until USD 5.5 PPP, from that threshold it begins to decrease. Hence, in El Salvador the centiles with the highest share of income at risk are over USD 5.5 PPP and below USD 11.5 PPP on average 40% of income is at risk, whereas in Guatemala, the biggest losers are located above USD 11.5 PPP.

Second, both the private transfers, and primarily the direct transfers, represent a higher share of income for the poorest households, operating as an income floor. Direct transfers at the bottom 20% of the income distribution represent 19.3% in El Salvador, 11.7% in Guatemala, and 13.7% in Honduras. In contrast, for households between the USD 5.5 poverty line and below the USD 11.5 line, the direct transfers represent 8.1% in El Salvador, 3.9% in Guatemala, and 4.2% in Honduras. In a similar vein, whereas private transfers represent 8.3% in El Salvador, 8.5% in Guatemala, and 12.5% in Honduras, in the bottom 20%, this share declines to 8.1%, 6.4%, and 4.2% respectively for centiles above USD 5.5 PPP and below USD 11.5 PPP. Finally, for the richest centiles, government salaries, and social security pensions form the equivalent income floor. However, this last component is not relevant to Guatemala.


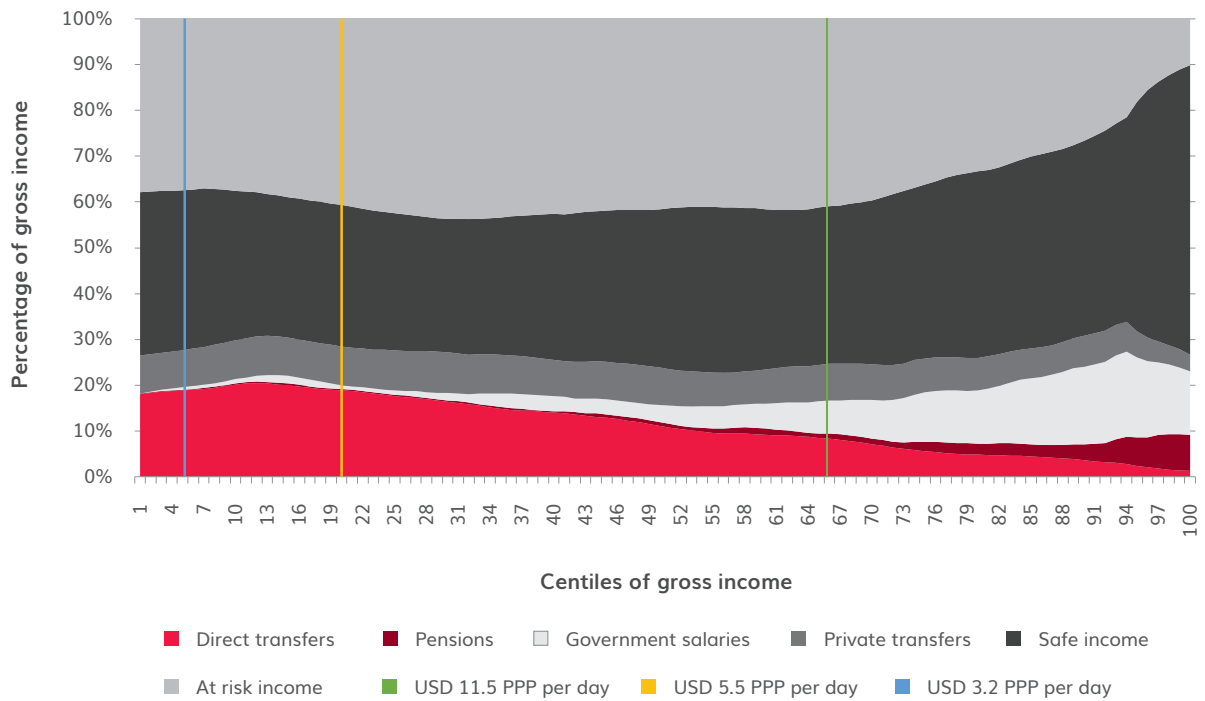
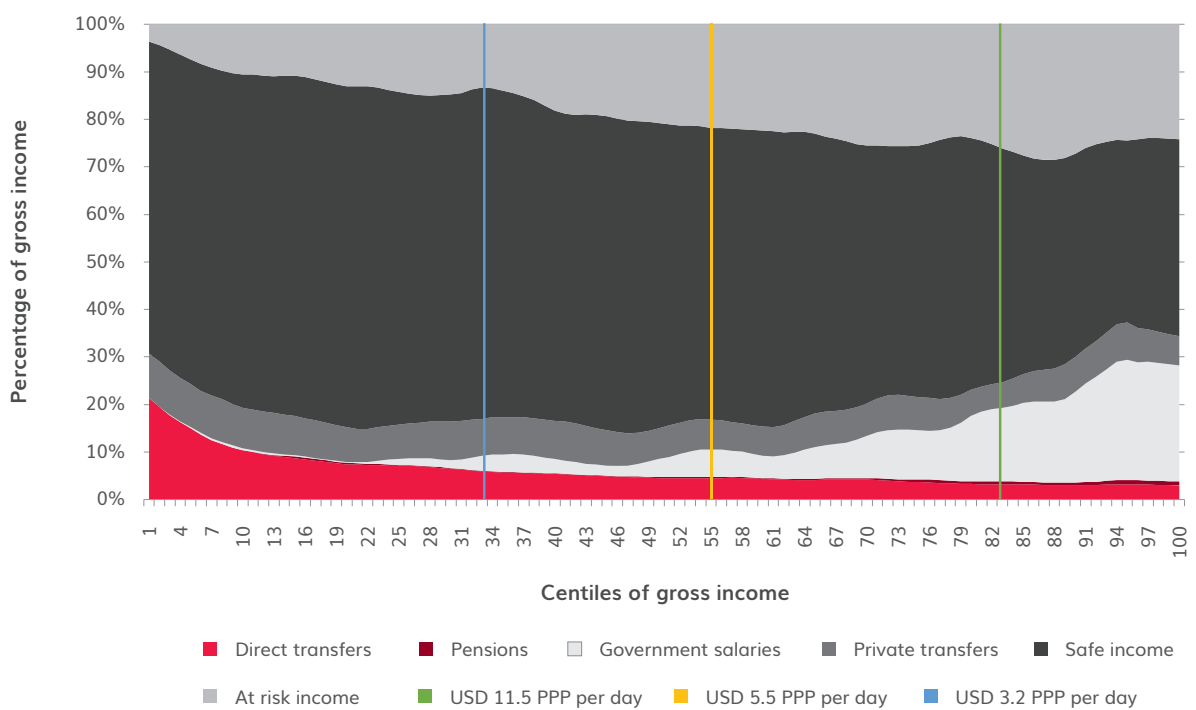
 **The increase in poverty was higher in El Salvador than it was in either Honduras or Guatemala.**

Figure 1. Pre-crisis composition of income

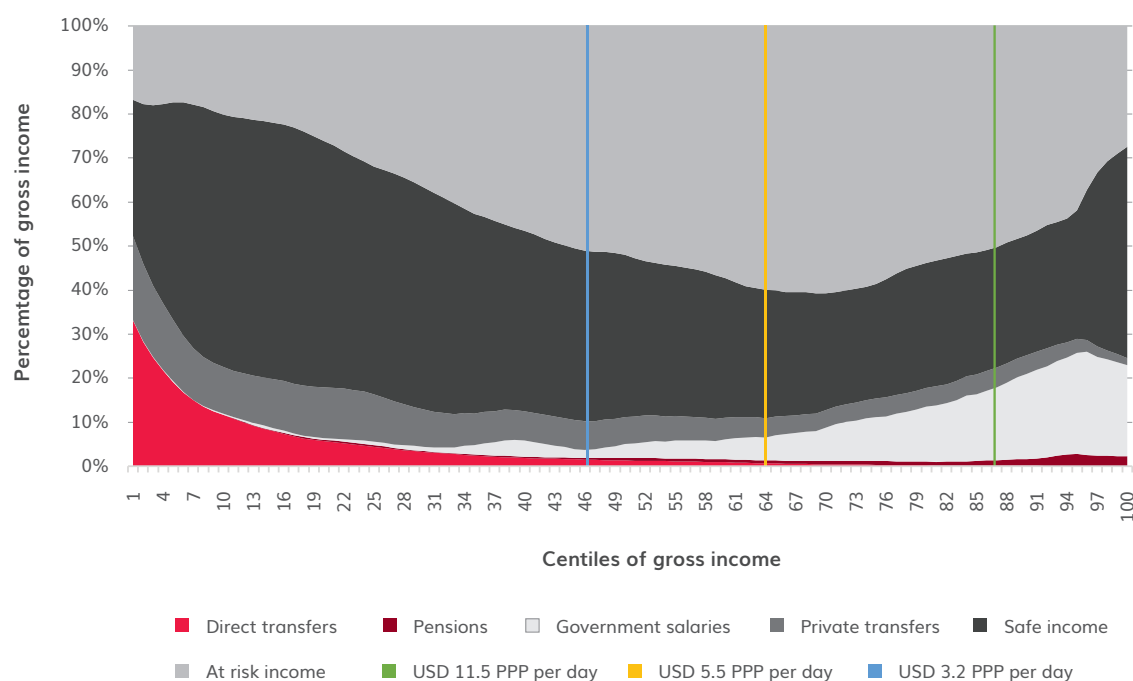
Panel a. El Salvador



Panel b. Guatemala



Panel c. Honduras



Note. The blue solid line is the USD 3.2 PPP poverty line, the yellow solid line is the USD 5.5 PPP poverty line and the green solid line is the reference value of USD 11.5 PPP for the limit of vulnerable poor population.

Source: Authors' calculations based on ENCOVI (2014), EPMP (2011), EHPM (2019).

Given the structure of pre-crisis incomes, Appendix 1 presents the range of potential losses for household per-capita gross income as a share of pre-crisis gross income, varying the share of households losing at-risk income (rows) and the share of income lost (columns). The range of losses varies from 0.2% to 40%. All of the coloured cells in Appendix 1 indicate scenarios in which the income losses are similar to the IMF projections. As Lustig et al. (2020) suggested, this subset constitutes an iso-loss curve showing combinations of the share of households losing income and the share of income lost that implies similar aggregate income losses. Because it is difficult to choose only one scenario, we chose the two extreme combinations of the parameters. Even though they are not necessarily the most likely cases, we contend that they provide relevant information on the potential distributive effects of the current crisis (yellow cells in Appendix 1)¹⁵.

¹⁵ The extreme nature of these combinations shows that income losses were extreme at the individual level. In the first case, almost everyone lost a share of their income. In the second case, fewer people lost income than they did in the first case. However, in both cases, the aggregate income losses were approximately equal.

Findings

Impact on poverty and inequality

When the pandemic started, the governments of El Salvador, Guatemala, and Honduras, implemented lockdown measures to stop the spread of COVID-19. These nearly paralysed their economies. El Salvador closed its borders and schools on 11 March 2020, and imposed a mandatory quarantine a few days later. On 15 March, Honduras declared a national curfew. On 16 March, Guatemala closed its borders and suspended all non-essential activities. The lockdowns restricted businesses in all three countries and lasted for approximately four months. There were severe consequences for families' well-being. Further, shutting down a significant portion of the region's economy negatively impacted the flows these countries rely on to survive. Domestic trade, exports, and tourism all declined (Lustig & Mariscal, 2020).

El Salvador began phase one of its reopening in early June 2020. On 12 July 2020 Honduras commenced the progressive reopening of its activities. Guatemala re-booted its economy on 26 July 2020. The Central American economies and their economic partners have subsequently suffered through a slow-paced recovery.

To analyse how COVID-19 has affected poverty and inequality, based on the methodology described above, we estimated two income loss scenarios: "concentrated losses" and "dispersed losses". Table 2 summarises the impact of both scenarios on the three Central American countries in this study. It presents the poverty headcount for the ex-ante income distribution (before COVID-19); the ex-post economic crisis income distribution with the shock effect in 2020¹⁶; and the ex-post distribution combined with the new COVID-19 safety nets, thereby producing an alternate income distribution for each country. We measured poverty using two international poverty lines: USD 3.2 and USD 5.5 PPP per day, because El Salvador and Honduras are lower-middle-income countries and Guatemala is an upper-middle-income country.


The economic crisis caused by COVID-19 exacerbated the existing high poverty and inequality found in El Salvador, Guatemala, and Honduras. In the concentrated losses scenario, for all countries the changes in poverty were higher than they were in the

¹⁶ As discussed in the Methodology section, the aggregate income losses in the survey are consistent with the per capita decline in GDP forecasted by the IMF: -9.0% for El Salvador, -2% for Guatemala and -5.8% for Honduras.

dispersed losses scenario. Based on these results, it is possible to see that even after incorporating the effects of the new social safety net programmes, poverty and inequality were higher than they were in the pre-COVID-19 scenario. Therefore, public policies did not restore the ex-post shock situation back to the pre-COVID-19 situation.

The increase in poverty was higher in El Salvador than it was in either Honduras or Guatemala. In most cases, the concentrated losses scenario resulted in greater poverty than the dispersed losses scenario (panel "e" vs panel "b," Table 2). The only exception was Honduras¹⁷. In the dispersed losses scenario using the USD 3.2 PPP poverty line (panel "d," Table 2), the increase in poverty was slightly higher for El Salvador than it was for Honduras.

On one hand, these changes were the result of different shock sizes (i.e., the decline in GDP per capita was a determinant of increased poverty under both scenarios and with different poverty lines). This explains why El Salvador showed the highest increase in poverty. On the other hand, the nature of the losses (dispersed or concentrated) substantially changed the magnitude of the impacts based on the proximity of the vulnerable population's income to the poverty line. This was the case in Honduras, where a dispersed losses scenario created more poor people than a concentrated one, which was the case in Guatemala and El Salvador. The pre-COVID income distribution also explains why poverty increased. For example, in El Salvador, the concentrated losses scenario showed a 9.8% increase in extreme poverty: 3.3% from among the moderate poor; 5.6% from the "vulnerable stratum"; and 0.8% from the middle class¹⁸. The 5.5% increase in Honduras included 2.7% from among the moderate poor; 2.1% from among



The new safety net programmes helped to alleviate the effects of the economic crisis but they were conceived as temporary measures and a mitigation policy.

17 The dispersed losses scenario resulted in higher poverty (panel "e" vs panel "b," Table 1) because a large proportion of the vulnerable population was close to the USD 5.5 poverty line. With the widespread income reduction, more people became poor compared to the concentrated losses scenario.

18 Extreme poverty: people living with incomes below USD 3.2 PPP per day. The moderate poor are people living with incomes below USD 5.5 PPP per day; the vulnerable are people living with incomes above USD 5.5 PPP and below USD 11 PPP per day; the middle class consists of people living with incomes above USD 11 and below USD 57.5 PPP per day.

the vulnerable; and 0.7% from among the middle class. Guatemala's 2.1% increase consisted of 1.1% from among the moderate poor, 0.9% from among the vulnerable, and 0.1% from the middle class. The reader can see the entire set of transition matrices in Appendix 1.

Table 2. Poverty and inequality estimates

Concentrated losses scenario							
Columns	1	2	3	4	5	6	7
Country	Ex-ante	Ex-post	Change	New poor (In millions)	Ex-post + new safety nets	Change	New poor (in millions)
Panel (a) Headcount Ratio (3.2 USD PPP Poverty line)							
El Salvador	4.6	14.3	9.8	653,744.0	11.5	6.9	541,103.0
Guatemala	32.3	34.4	2.1	340,227.0	33.6	1.3	331,661.0
Honduras	45.8	51.3	5.5	445,733.4	50.9	5.1	443,645.2
Panel (b) Headcount Ratio (5.5 USD PPP Poverty line)							
El Salvador	20.3	32.4	12.1	812,850.0	29.6	9.3	767,748.0
Guatemala	55.5	57.7	2.1	336,683.0	57.1	1.6	333,129.0
Honduras	64.9	68.4	3.4	279,562.6	68.2	3.3	279,562.6
Panel (c) Estimated Gini Coefficient							
El Salvador	40.6	45.8	5.2		44.3	3.7	
Guatemala	51.8	52.3	0.5		51.9	0.1	
Honduras	59.8	62.5	2.7		62.3	2.5	
Dispersed losses scenario							
Columns	1	2	3	4	5	6	7
Country	Ex-ante	Ex-post	Change	New poor (In millions)	Ex-post + new safety nets	Change	New poor (in millions)
Panel (d) Headcount Ratio (3.2 USD PPP Poverty line)							
El Salvador	4.6	8.0	3.4	226,623.0	5.5	1.0	124,673.0

Guatemala	32.3	33.3	1.0	162,445.0	32.4	0.1	121,003.0
Honduras	45.8	48.9	3.1	251,845.9	48.6	2.8	239,071.8
Panel (e) Headcount Ratio (5.5 USD PPP Poverty line)							
El Salvador	20.3	30.4	10.1	679,234.0	26.7	6.4	536,650.0
Guatemala	55.5	57.1	1.6	251,503.0	56.6	1.0	210,433.0
Honduras	64.9	69.1	4.2	340,758.9	68.9	3.9	320,872.4
Panel (f) Estimated Gini Coefficient							
El Salvador	40.6	43.4	2.9		42.0	1.4	
Guatemala	51.8	51.6	-0.2		51.2	-0.6	
Honduras	59.8	60.3	0.5		60.1	0.3	

Source: Authors' calculations based on ENCOVI (2014), EPMP (2011), EHPM (2019).

Using the USD 5.5 line, the increase in poverty was similar under both the concentrated and dispersed losses scenarios. The registered rise with concentrated losses was 12.1%, 2.1%, and 3.4% for El Salvador, Guatemala, and Honduras, respectively; and with dispersed losses it was 10.1%, 1.6%, and 4.2%, for the same order (panel "d" y "e," Table 2).

Although El Salvador suffered the greatest drop in its GDP per capita, and its number of new poor was the highest among the three countries using the USD 5.5 PPP poverty line, in the ex-post scenario, poverty in El Salvador still presented the lowest rate among the three countries (29.6%). Honduras had the highest poverty headcount ratio both before and after COVID-19. The difference is that the pandemic made this situation worse. More than half of the population was poor in the ex-post scenario based on the USD 3.2 PPP poverty line. With the poverty line at USD 5.5, ex-post poverty reached up to two-thirds of the population, in both the concentrated and dispersed losses scenarios (panel "b" and "e," Table 2). Guatemala had less of an increase in poverty after COVID-19 and the new safety net programmes. Nonetheless, there were more than 300,000 new poor under the concentrated losses scenario.

Under both scenarios, inequality increased in El Salvador and Honduras due to COVID-19. However, in Guatemala, it only occurred in the concentrated losses scenario. This might be explained by the income at risk structure in these countries. In Guatemala, the potential losses were higher moving from the poorest to the richest centile. In contrast, in Honduras and El Salvador, the share of income at risk was higher among the

population with income above the poverty line of USD 5.5 PPP. Inequality in Guatemala did not increase in the dispersed losses scenario because the proportion of income at risk and losses are among the highest income centiles.

Therefore, if almost everyone lost a constant share of their household income, in the case of the Honduras and El Salvador, the losses should have had more effect on the population vulnerable to poverty and less effect on the middle class. The share of income at risk was higher in the richest percentiles. Hence, the income losses should have been positively correlated with the relative income position. It is possible that inequality diminished in this case.

In this analysis, the estimated rise in poverty was similar to the World Bank's (2020) statistics. In Guatemala, the increase in poverty ranged from 1.6% to 2.1%, comparable to the 2.1 pp. estimated by the World Bank for the deepest economic contraction. Applying a similar economic scenario, in this analysis, poverty in El Salvador increased in the range of 9.8% to 12.1%. In the World Bank report, it increased by 10.1%. In Honduras, poverty increased in the range of 3.4% to 4.2% and the World Bank estimated 3.7%¹⁹.

Comparing conditions after the COVID-19 shock including, the new safety nets, there was a deterioration from the previous situation or baseline. From this, it is possible to conclude that the programmes, by themselves, did not regress conditions to the poverty level that existed before the COVID-19 generated crisis. In both the concentrated and dispersed losses scenarios, the final poverty levels with the programmes included (column 5, Table 2) were lower than those registered with the COVID-19 shock alone (column 2), but they were greater than the levels before the crisis (column 1).

The findings set forth above are related to several factors. Among them are the nature and depth of the shock and the characteristics of the countries. Added to this is a high degree of uncertainty over the scope of the health crisis and the duration of lockdowns in these countries and globally. The new safety nets were conceived as temporary measures, and only as part of a mitigation policy resulting from an unknown shock. They were not intended to become a public insurance scheme covering most of the losses. Nonetheless, as discussed below, there was some space for increasing the effectiveness of the programmes, such as having the ability to access better information to target beneficiaries. There were also some transparency issues, for example, missing criteria that would help to identify beneficiaries.

¹⁹ The starting points were different because El Salvador, using the same survey, showed 25.4% for the World Bank and in this study, it was 32.4%. Using estimates from the same survey, the starting point for poverty was 55.5% in this analysis and 45.7% for the World Bank. Finally, using estimates from different surveys, World Bank poverty for 2019 was 48.8% and in this analysis, it was 64.9%.

Efficiency of the policies designed to overcome the crisis

Efficiency is the rational use of fiscal resources that are scarce in relation to needs and restrictions. Policies can be efficient or successful at alleviating poverty, whenever they consider the needs of the poorest and resources are available to implement them. Therefore, governments should ensure the highest return on each dollar.

The new safety net programmes helped to alleviate the effects of the COVID-19 economic crisis. However, poverty was still higher in the ex-ante scenario. In column 6 of Table 2, it is possible to see and appreciate the impact of the new safety nets. In this column, the ex-post Headcount Index for the new safety nets was subtracted from the Headcount Index prior to the shock, (column 1, ex-ante situation). Among the three countries, El Salvador's programmes were the most successful at attenuating poverty (2.8% after the impact). This was followed by Guatemala at 0.5%, and Honduras at 0.1% (Table 2, panel "b," column 6 subtracted from column 3).

Interestingly, the effect of reducing poverty was higher in the dispersed losses scenario because the size of the transfers was higher with respect to the average loss. In Guatemala, for example, the new social safety net programmes left poverty at a slightly higher level than the ex-ante scenario for the USD 3.2 PPP poverty line, and in El Salvador poverty increased by only 1.0 with safety nets compared to 3.4 without them.

The effects of the new safety nets might be explained by the level of resources (see Table 1) and targeting mechanisms. El Salvador and Guatemala had similar budgets to cope with the effects of COVID-19. Honduras dedicated fewer resources to its safety nets, but they were allocated to several programmes. Thus, compared with Guatemala and El Salvador, the impact was less in Honduras in terms of reducing the poverty effects of the 2020 economic crisis. In addition, Guatemala used electricity consumption to target its beneficiaries. El Salvador used gas subsidies²⁰ and its targeting mechanisms were opaquer.

Based on the above, we propose four efficiency indicators based on Beckerman (1979). The first is vertical expenditure efficiency (VEE), which measures the degree to which the resources available to a programme or a new social protection network reach the poor (higher is better). The second is the Spillover Index (SI), measuring how much of what reaches the poor is above what is necessary to reach the poverty line (lower

20 It is important to consider that the Bono Familia programme in Guatemala has ignored the population that lacks access to electricity, around 10% of the population, and that most of these individuals are among the poorest in the country.

is better). The third is the Poverty Reduction Index (PRI), which measures 100% of the programme resources reaching the poor up to the poverty line (higher is better). The fourth is poverty gap efficiency, which looks at how much the resources dedicated to a programme that effectively reaches the poor, are related to those necessary to fill the poverty gap. In other words, it measures the coverage of the gap (higher is better).

Table 3 lists the efficiency indicators²¹ for El Salvador, Guatemala, and Honduras for both dispersed losses and concentrated losses. Two results are seen. First, Guatemala and Honduras achieved higher VEE and PRI. Likewise, both countries have less SI than El Salvador in terms of leakage of resources, i.e., benefits surpassed the poverty gap. In addition, although Honduras had lower results for poverty reduction, its use of resources appeared to be efficient.

Table 3. Efficiency indicators of public policies (using USD 5.5 PPP as poverty line)

Indicators	Dispersed losses scenario			Concentrated losses scenario		
	El Salvador	Guatemala	Honduras	El Salvador	Guatemala	Honduras
Vertical expenditure efficiency	0.27	0.39	0.53	0.30	0.40	0.54
Spillover index	0.06	0.01	0.02	0.06	0.01	0.01
Poverty reduction index	0.20	0.38	0.51	0.24	0.39	0.53
Poverty gap efficiency	0.22	0.03	0.01	0.18	0.03	0.01

Source: Authors' calculations based on ENCOVI (2014), EPMP (2011), EHPM (2019).

Of the three countries, Honduras gave more benefits in proportion to its poor population. There are three results under both scenarios. First, in El Salvador, only about 27% (VEE) of resources reached the poor, whereas in Honduras and Guatemala, this percentage rose to 53% and 39% respectively. The VEE and PRI in Honduras, with a better design, was the highest among the countries. However, Honduras was also the

21 See Beckerman (1979).

country that allocated the least amount of resources to its programmes, only 0.3%. In contrast, El Salvador allocated 1.5% of their GDP and Guatemala allocated 1.1%. (Table 1).

Second, the broad coverage in El Salvador's new social programmes meant that the share of money spent on poor households after the crisis exceeded what was strictly necessary to bring those households out of poverty. El Salvador had an SI of 6%, which was higher than Guatemala's SI of 1%, and Honduras' at 2%. Finally, the poor who managed to receive programme benefits, represented a significant percentage of the poverty gap: 22% in El Salvador, 3% in Guatemala, and 1% in Honduras.

The social safety nets had heterogeneous effects across countries for two reasons. The first was coverage. The two programmes we simulated in El Salvador were almost universal. In contrast, the programmes in Guatemala, and especially Honduras, had lower rates of coverage. The second factor was the number of new social safety nets.

Differential impact

The crisis affected disparate sectors of the population in different ways. For example, although agriculture was not a restricted sector during the shutdown, the pandemic caused poverty to rise in rural areas, as seen in El Salvador. Conversely, the number of poor people increased more in urban areas than in rural areas, and the number of new poor was higher in urban areas. This was seen in Honduras and Guatemala, although the impact on El Salvador did not appear to be different. One explanation for this is the vulnerability of rural areas to shocks.

The new safety net programmes reduced poverty in rural areas more than in urban areas. However, in the case of Honduras, the effect was negligible for rural poverty at the USD 5.5 PPP line and significant at the USD 3.2 PPP line. In contrast, in El Salvador, poverty reduction from the new social programmes was greater in rural areas when the poverty line was USD 5.5 PPP instead of USD 3.2 PPP. In urban areas, the effect of the safety net programmes on alleviating poverty was greater at a poverty line of USD 3.2 PPP than a poverty line at USD 5.5 PPP.

In Guatemala and Honduras, the impact was greater in the formal sector, whereas in El Salvador, the greatest impact was seen in the informal sector. Analysing the type of job the head of household was employed in, using USD 3.2 PPP, the increase in poverty was greater in the informal job sector. However, in El Salvador the increase in poverty was higher only when the USD 3.2 PPP poverty line was used. In the case of Honduras and Guatemala, the increase in poverty among households headed by formal workers was

slightly higher than those headed by informal workers. This can be explained by the initial poverty headcount ratio for households headed by informal workers, which was higher in both countries. In both scenarios (dispersed and concentrated losses), informal workers remained poor but existed at a lower income level. Among formal job holders, vulnerable populations (income higher than USD 5.5 and lower than USD 11.2) experienced an income contraction that situated them under the poverty line.

The new safety net programmes were more favourable to informal workers. However, in the concentrated losses scenario for Guatemala and Honduras, the increase in the number of new poor among households headed by informal workers was at least twice as high compared to the number of new poor in households headed by formal sector employees. In El Salvador it was fivefold. Under the dispersed losses scenario, the situation was even worse for households headed by informal workers. The number of new poor was more than four times higher in all three countries and fourteen times higher in El Salvador, when the poverty line was USD 3.2 PPP.

Initially, poverty was higher in female-headed households than it was male-headed households. The only exception was Honduras, where at USD 5.5 PPP, the poverty level was almost the same and was virtually equal for both types of households. Poverty increased more in male-headed households in Guatemala and Honduras, unlike El Salvador, where female households became poorer. This can be explained by the participation rate of women in the labour force, which was higher in El Salvador than it was in Honduras and Guatemala.

Notwithstanding the foregoing, no evidence was produced to suggest that the effects of the new safety-net programmes were more favourable to either household type.

In Guatemala, the ethnicity effects varied according to the different scenarios. Appendix 6 shows that, for concentrated losses, poverty increased more in households headed by non-indigenous people. However, even though the number of new non-indigenous poor was nearly double the number of indigenous poor, in the dispersed losses scenario, the poverty effects were higher among households headed by indigenous people using the USD 3.2 PPP poverty line. Headcount poverty and vulnerability to poverty



Although agriculture was not a restricted sector during the shutdown, poverty increased in rural areas of El Salvador.

were high among the indigenous population. Consequently, the crisis may have had a greater effect on those who were already poor before COVID-19.

Impact on economic mobility

The impact of COVID-19 altered the income distribution and proportion of the population in poverty, not only among the poor, but also from the bottom 1% to the top 1%. However, the poorest households received direct transfers, and at the same time, they benefited from the new safety net programmes. At the other extreme, the richest households had higher income. Thus, in general, it is reasonable to assume that they had more mechanisms to mitigate the crisis. Households located directly above the line were the ones that were more likely to fall into poverty. In other studies²², this stratum has been classified as the “lower-middle-income stratum” (those with income greater than USD 5.5 but less than USD 11.5). Arguably, the new poor could also come from the middle-class stratum (up to USD 57.5), at least in part.

To understand the distribution of income, one must observe the loss or contraction of the losses across the income centiles, and then assess how these losses changed the relative positions of the households. To achieve this, we used anonymous and non-anonymous growth incidence curves (GIC). Anonymous curves compute the percentage of change in average income by each centile before and after a shock (Ravallion & Chen, 2001). This comparison is anonymous because it does not consider which households are in each decile before and after the shock.

However, as Bourguignon (2011) stressed, this approach assumes that the relevant position is in the post-shock order, which means that the income has already been affected by the crisis. Hence, to consider households' income trajectories, we used the non-anonymous GIC. We fixed the initial position of the income distribution, and we computed the percentage of change in income for each household.

Appendix 7 shows the percentage of loss for each centile (one-hundredth of income) for the three countries, presenting the results for both curves. It distinguishes between an anonymous measurement, such as poverty and inequality, and a non-anonymous measurement. In the second “non-anonymous” version, based on Bourguignon (2011), the initial position of the distribution is used as a reference.

There are three relevant results. First, in every scenario, all of the households lost income, and hence, they were worse off than they were before the crisis. Second, the

²² For example, López-Calva & Ortiz-Juárez (2014).

losses were more concentrated among the lower middle class. These included households around USD 5.5 PPP in El Salvador and Honduras and USD 11.5 PPP in Guatemala.

Finally, the difference between the curves suggests that the nature of the losses could alter the distributional impacts of COVID-19. In the dispersed losses scenario, the anonymous and non-anonymous GIC are similar. This means that before and after the shock, the relative order of the households remained approximately the same. Thus, even though everyone became poorer after the shock, inequality changed only slightly. In contrast, in the concentrated losses scenario, there are significant differences between curves. The anonymous curve is lower than the non-anonymous curve in all countries; however, it is clearer in El Salvador than it is in Guatemala and Honduras. This common feature suggests that households in the vulnerable stratum were in the poorest centiles after the shock. This common feature suggests Both poverty and inequality increased in this case.

The anonymous curves indicate that the households perceived a strong fall, leading a large proportion of the population to a lower position in the distribution. However, with the non-anonymous curves, considering their initial position, the slopes changed and decreased. This is related to the low-income households, which did not experience a greater reduction. Part of their income was not viewed as being at risk because it was derived from the direct transfers previously established by the social protection networks the countries had in place. The strongest changes to the curves were for El Salvador and Honduras.

Regardless of the initial position, the COVID-19 shock influenced most of the population. Many households moved to a lower income position. This can be seen between the two curves, compared with the initial and final distribution. It is apparent to a greater extent in the concentrated losses scenario. The anonymous curve is lower than the non-anonymous curve, and it is more distinct in El Salvador and Guatemala.

The segments most affected were located in the vulnerable stratum before the shock. The most marked decrease among the lowest income households was in El Salvador. Unlike Guatemala and Honduras, the incomes were assessed as being at risk and their decrease was similar to households with higher incomes.

As previously discussed, the Gini coefficient revealed a greater increase in the case of El Salvador, indicating that the resulting income distribution after the shock was more unequal than it had been before (5–8 points higher), depending on the scenario. In Honduras, the Gini index was less: 1.4–1.3 points (panel "f," Table 2).

Although inequality increased in El Salvador and Honduras, in Guatemala, the effect was not as clear. The GIC was lower, and the direction of the change in income distribution was different between the scenarios. In the case of concentrated losses, the Gini index increased, but with the "dispersed losses", it decreased (panel "f," Table 2).

New safety nets and income mobility

Appendix 8 presents the change in income for each percentile in the ex-ante income distribution. The solid gray line is the non-anonymous GIC after the COVID-19 shock. The solid red line is the non-anonymous GIC considering the effects of the new safety net programmes in each country.

In all cases, the new safety nets reduced the income losses across the income distribution. This is particularly relevant in the ex-ante poorest households. There are three reasons why this happened. First, they faced a lower share of income at risk, given the income floors established by the existing direct and private transfers. This was different in El Salvador, where people in the lowest centiles of the income distribution were severely affected by the income loss.

Second, in general, the amounts distributed through the new social programmes were equal across all of the recipients. Transferring the same amount based on a lower gross income suggests that there was a greater change in the percentage of the lowest household gross income after the transfer. Finally, in Guatemala and El Salvador, the targeted programmes went to the poorest households.

The gradient of the losses did not change for households around USD 11.5 PPP (vulnerable class). Thus, the vulnerable and middle class suffered higher losses and there were fewer new safety net programmes for the rest of the population.

Table 4 shows the income transitions matrix with and without the safety net effects. In both scenarios, the reduction in the percentage of poor who fell into extreme poverty with safety nets was lower in El Salvador than it was in Guatemala and Honduras. Notably, this reduction changed dramatically in the scenarios within El Salvador. A similar situation occurred when we considered the percentage of lower middle-class households who fell into poverty using the USD 5.5 PPP poverty line. In contrast, the transition for middle-class households benefiting from the new safety nets was not significantly different from those without them. This feature is relevant to the concentrated losses scenario, in which a proportion of middle-class households became poor (USD 5.5 PPP).

Table 4. Inter-income mobility

Country	Without Safety Nets				With Safety Nets			
	% of moderate poor who fall to extreme poverty	% of vulnerable who fall to moderate poverty	% of middle class who fall to moderate poverty	% of middle class who fall to vulnerable	% of moderate poor who fall to extreme poverty	% of vulnerable who fall to moderate poverty	% of middle class who fall to moderate poverty	% of middle class who fall to vulnerable
	Panel a. Dispersed losses				Panel a. Dispersed losses			
El Salvador	21.6%	22.2%	0.0%	19.4%	11.9%	17.6%	0.0%	18.1%
Guatemala	4.4%	5.8%	0.0%	8.2%	3.3%	4.9%	0.0%	7.6%
Honduras	16.1%	19.4%	0.0%	13.4%	15.3%	18.3%	0.0%	13.4%
Country	Panel b. Concentrated losses				Panel b. Concentrated losses			
El Salvador	21.6%	22.2%	0.0%	19.4%	11.9%	17.6%	0.0%	18.1%
Guatemala	4.4%	5.8%	0.0%	8.2%	3.3%	4.9%	0.0%	7.6%
Honduras	16.1%	19.4%	0.0%	13.4%	15.3%	18.3%	0.0%	13.4%

Source: Authors' calculations based on ENCOVI (2014), EPMP (2011), EHPM (2019).

Conclusions and implications

This study considered the impact of the COVID-19 crisis on poverty and inequality in El Salvador, Honduras, and Guatemala, and examined the effects of the lockdowns implemented to stop the spread of the virus. It also considered the influence of public policy in the form of new social protection networks, which all three countries put into practice.

The study made it possible to compare what happened between the three countries. On one hand, applying the increase in income, the sources for different years were homogenised until 2019. For El Salvador, we used the EHPM for 2019; for Guatemala we relied on the National Living Conditions survey (ENCOVI) for 2014; and for Honduras we used the Multiple Purposes Survey for 2011 (EPMP). On the other hand, the same poverty line was used.

Our analysis relied on two combinations of the share of households losing income and the share of income lost by each household (i.e., "concentrated losses" and "dispersed losses"). In the case of El Salvador, the highest increase among the three countries, the concentrated losses scenario showed a 9.8% increase in extreme poverty; with a 3.3%

increase among the moderate poor; a 5.6% increase among the vulnerable stratum; and an 0.8% increase among the middle class. Honduras experienced a 5.5% increase, 2.7% of which was among the moderate poor; 2.1% was among the vulnerable, and 0.7% was among the middle class. In Guatemala, there was a 2.1% increase, 1.1% of which was among the moderate poor; 0.9% was among the vulnerable and 0.1% was among the middle class.

The main finding of this study is that the three countries experienced setbacks in their development process, moving them further away from achieving the Sustainable Development Goals set forth in the 2030 Agenda: SDG 1 (no poverty); SDG 2 (zero hunger); and SDG 10 (reduced inequalities). In 2020, using a poverty line of 3.2%, El Salvador, Guatemala, and Honduras presented poverty rates of 11.5%, 33.6%, and 50%, respectively, after the social protection policies were implemented. Inequity in the distribution of income is expected to worsen (SDG 10) to 0.44, 0.52 and 0.62, respectively, based on the Gini index.

Comparing the ex-post situation after the new safety nets were added, shows greater deterioration from the previous situation or base line. From this, it is possible to conclude that the programmes by themselves did not revert back to the situation that existed before the COVID-19 crisis. Using the USD 5.5 PPP poverty line, the new poor could increase by 1.3 million or 1.1 million across all three countries.

The COVID-19 economic crisis increased poverty, and in almost all cases, inequality also increased. In the concentrated losses scenario, the poverty changes were higher than in the dispersed losses scenario for all three countries. Even after incorporating the effect of the new social safety net programmes, poverty and inequality were higher than they were in the pre COVID-19 scenario. Therefore, public policy did not absorb all of the impact. Due to the size of the economic shock in each country, the resources and design of the new safety net programmes were insufficient to completely mitigate the impact on the population. The effects produced by the lockdowns were experienced by a high proportion of the population, from the poorest 1% to the middle stratum.

Although El Salvador suffered the steepest decline in GDP per capita, and the number of new poor was the highest among the three countries (using the USD 5.5 PPP poverty line), in the ex-post scenario, the poverty in El Salvador was only half of that observed in the other countries. Honduras had the highest poverty headcount ratio before and after COVID-19. The difference is that the pandemic made this situation worse. More than half of the population was poor in the ex-post scenario based on the USD 3.2 PPP poverty line, and with the line at USD 5.5, ex-post poverty grew to two-thirds of the population in both the concentrated and dispersed losses scenarios.

Guatemala registered the lowest increase in poverty. However, the population living below the poverty line of USD 5.5 PPP increased by more than 300,000 in the concentrated losses scenario. There were even more new poor than in Honduras: close to 250,000 in the dispersed losses scenario.

The COVID-19 crisis also caused inequality to increase in El Salvador and Honduras under both scenarios. However, in Guatemala, it increased only in the concentrated losses scenario. This might be explained by the structure of income at risk in those countries. In Guatemala, the potential losses were higher going from the poorest to the richest centile. In contrast, in Honduras and El Salvador, the share of income at risk was higher in the population with income above a poverty line of USD 5.5 PPP. Arguably, inequality in Guatemala did not increase in the dispersed losses scenario because the distribution of losses affected was proportionally higher.

According to our simulations, the new safety net programmes helped to prevent greater losses. However, they were insufficient to return to the poverty levels observed before the impact, and they were not enough to offset the initial effects of the crisis. The policies were insufficient to cope with the economic shock from COVID-19, they were designed as temporary mitigation alternatives to address an unknown shock of uncertain duration. Importantly, the estimated losses were not necessarily the same as the real observed net losses resulting from the impact of the crisis and net safety programmes.

Relative to the above, there is evidence to suggest that the programmes in Honduras were more effective at reducing poverty. However, overall, the few resources that were distributed had a limited impact. Among the three countries, the new safety net programmes using the USD 5.5 PPP poverty line reduced El Salvador's poverty by 2.8%, Guatemala's by 0.5%, and Honduras' by 0.1%, when comparing the situation with COVID-19 shock without the safety net programmes.

Honduras was the poorest country before COVID-19, and it has remained so. It implemented the most efficient programmes (looking at the four efficiency indicators in Table 3), but it was also the country with fewer resources allocated to the programmes. In terms of efficiency, covering the poverty gap and leaking less, the Honduran programmes had the greatest influence. However, in allocating resources pursuant to public policy, El Salvador spent 1.5% of its GDP, and Guatemala spent up to 1.1%. Honduras spent only 0.3% of its GDP.

The evidence also suggests that all of the previous results have been heterogenous between groups. In all three countries, even though poverty increased in both rural and urban areas, the impact was higher among urban households. Further, the negative

effects from the crisis were higher in households headed by formal workers, and in the case of Guatemala, headed by indigenous people. Contrary to our expectations, no systematic evidence of gender bias was found among the negative effects of the lockdown.

The new safety-net programmes were more favourable to informal workers. However, in the concentrated losses scenario the increase in the number of new poor among households where the primary earner was an informal worker, was at least twice as high in Guatemala and Honduras compared to the number of new poor in formal sector households, and five times as high in El Salvador. In the dispersed losses scenario, the situation was even worse for households headed by informal workers. The number of new poor was more than four times higher in all countries and fourteen times higher in El Salvador, when the poverty line was USD 3.2 PPP.

The lockdown policies were responses aimed at containing the coronavirus. However, they could produce substantial losses across the income distribution. To the best of our knowledge, this study is the first to produce results for El Salvador, Guatemala, and Honduras. The findings suggest that poverty and inequality, in almost all cases, increased. Further, in all countries, most of these changes affected people from the lower middle-income level or the vulnerable stratum in the ex-ante income distribution. In general, they have incurred the greatest losses, and at the same time, they have had fewer income floors to mitigate the shock.



In all three countries, even though poverty increased in both rural and urban areas, the impact was higher among urban households.



Recommendations

- Strengthening beneficiary registrations: Quick and more effective responses to crises like COVID-19 require the prioritisation of emergency response actions. Aid to the most vulnerable was needed to mitigate the negative impact of COVID-19 on the well-being. Given the gravity of the situation, as anticipated, the responses did not fully offset the damage inflicted on the lowest-income families. The pandemic's impact on the vulnerable middle class should lead to the design of policies that lift these individuals out of poverty. It should also prevent them from becoming vulnerable again. In countries that are highly vulnerable to natural disasters, which have now been severely impacted by the pandemic, the social protection system must be strengthened to manage future natural disasters, or other crises, in the best way.
- Identifying the most affected groups to implement a precise targeting mechanism should be a priority: Governments should strengthen or create beneficiary identification registration schemes that help to prioritise the most vulnerable populations and avoid distributing too many resources to those who do not need help. This may include carrying out a new census in such countries and developing new poverty maps.
- Improving multi-annual financial programming: In addition to health emergencies, the Central American countries are highly vulnerable to recurrent economic shocks, e.g., natural disasters. Accordingly, in the context of a compromised fiscal situation, it is important for budget managers to provide funds to address these emergencies. Financial stability should not be compromised and funds should not be diverted from priority public spending programmes. In view of limited resources and serious debt problems, especially in the case of El Salvador, it is critical that these policies be more focused. The efficient use of resources and increased transparency is needed to obtain the best results. The aid to vulnerable families should continue, but due to the fiscal situation, these measures should not be treated as permanent. Having said that, this temporary aid should help families that have experienced a deterioration in the quality of life during the period of economic recovery. The support of allied governments and multilateral organisations in financing social programmes and economic recovery is key. Bearing in mind that although there are similarities between the three countries, there are also differences, and each programme must take these particularities into account.

- Investments in public health systems: The recent crisis has highlighted the precarious situation of health systems and how they are unprepared to deal with critical situations such as those caused by COVID-19. To reduce the economic effects resulting from the COVID crisis, it is necessary to improve public health systems. They should be designed to prevent greater damage to the health of the population, and to serve the health needs of the people, without excluding those who cannot afford health care services. This is also relevant because future health crises cannot be ruled out and the sustainable development of El Salvador, Guatemala, and Honduras should be promoted.
- A policy of economic and social recovery is essential. However, this moment should be used to develop a strategy that truly allows sustainable development and overcomes the economic and social gaps that existed before the pandemic. Policies designed to move into the future should not aim to return to the situation that existed before the emergency, with large social gaps. Instead, they should aim to achieve sustainable and inclusive progress. National plans and investment attraction strategies, together with social programmes, are needed. This requires leadership and a strategic plan for economic recovery.

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Appendices

Appendix 1. Income losses matrix

Panel a. El Salvador

Share losing income	Share of income lost									
	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10%	0.3%	0.6%	0.9%	1.2%	1.5%	1.8%	2.1%	2.4%	2.7%	3.0%
20%	0.6%	1.2%	1.8%	2.5%	3.1%	3.7%	4.3%	4.9%	5.5%	6.1%
30%	0.9%	1.8%	2.7%	3.7%	4.6%	5.5%	6.4%	7.3%	8.2%	9.1%
40%	1.2%	2.5%	3.7%	4.9%	6.1%	7.4%	8.6%	9.8%	11.1%	12.3%
50%	1.5%	3.1%	4.6%	6.1%	7.7%	9.2%	10.7%	12.2%	13.8%	15.3%
60%	1.8%	3.6%	5.5%	7.3%	9.1%	10.9%	12.7%	14.6%	16.4%	18.2%
70%	2.1%	4.2%	6.4%	8.5%	10.6%	12.7%	14.8%	16.9%	19.1%	21.2%
80%	2.4%	4.9%	7.3%	9.7%	12.1%	14.6%	17.0%	19.4%	21.8%	24.3%
90%	2.7%	5.5%	8.2%	10.9%	13.7%	16.4%	19.1%	21.9%	24.6%	27.3%
100%	3.0%	6.1%	9.1%	12.1%	15.1%	18.2%	21.2%	24.2%	27.3%	30.3%

Panel b. Guatemala

Share losing income	Share of income lost									
	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10%	0.2%	0.4%	0.6%	0.8%	1.0%	1.2%	1.4%	1.6%	1.8%	2.0%
20%	0.4%	0.8%	1.2%	1.7%	2.1%	2.5%	2.9%	3.3%	3.7%	4.1%

30%	0.7%	1.4%	2.2%	2.9%	3.6%	4.3%	5.0%	5.8%	6.5%	7.2%
40%	0.9%	1.9%	2.8%	3.8%	4.7%	5.6%	6.6%	7.5%	8.5%	9.4%
50%	1.2%	2.4%	3.6%	4.8%	5.9%	7.1%	8.3%	9.5%	10.7%	11.9%
60%	1.4%	2.9%	4.3%	5.7%	7.1%	8.6%	10.0%	11.4%	12.8%	14.3%
70%	1.6%	3.2%	4.8%	6.4%	8.0%	9.6%	11.2%	12.8%	14.4%	16.0%
80%	1.8%	3.6%	5.4%	7.2%	9.0%	10.9%	12.7%	14.5%	16.3%	18.1%
90%	2.0%	4.0%	6.1%	8.1%	10.1%	12.1%	14.1%	16.2%	18.2%	20.2%
100%	2.2%	4.5%	6.7%	8.9%	11.1%	13.4%	15.6%	17.8%	20.0%	22.3%

Panel c. Honduras

Share losing income	Share of income lost									
	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10%	0.3%	0.6%	0.9%	1.2%	1.5%	1.8%	2.1%	2.4%	2.7%	3.0%
20%	0.6%	1.2%	1.8%	2.5%	3.1%	3.7%	4.3%	4.9%	5.5%	6.1%
30%	0.9%	1.8%	2.7%	3.7%	4.6%	5.5%	6.4%	7.3%	8.2%	9.1%
40%	1.2%	2.5%	3.7%	4.9%	6.1%	7.4%	8.6%	9.8%	11.1%	12.3%
50%	1.5%	3.1%	4.6%	6.1%	7.7%	9.2%	10.7%	12.2%	13.8%	15.3%
60%	1.8%	3.6%	5.5%	7.3%	9.1%	10.9%	12.7%	14.6%	16.4%	18.2%
70%	2.1%	4.2%	6.4%	8.5%	10.6%	12.7%	14.8%	16.9%	19.1%	21.2%
80%	2.4%	4.9%	7.3%	9.7%	12.1%	14.6%	17.0%	19.4%	21.8%	24.3%
90%	2.7%	5.5%	8.2%	10.9%	13.7%	16.4%	19.1%	21.9%	24.6%	27.3%
100%	3.0%	6.1%	9.1%	12.1%	15.1%	18.2%	21.2%	24.2%	27.3%	30.3%

Notes. The coloured cells correspond to income losses similar to the per-capita growth projections of the IMF (2020).

Source: Authors' calculations based on ENCOVI (2014), EPMP (2011), EHPM (2019).

Appendix 2. Transition matrix

Post-shock

		Income category	Post shock dispersed losses					Total	
			Y<3.2	3.2<Y<5.5	5.5<Y<11.5	11.5<Y<57.5	Y>57.5		
El Salvador	Pre Shock	Y<3.2	306 966	0	0	0	0	306 966	
		3.2<Y<5.5	226 623	824 870	0	0	0	1 051 493	
		5.5<Y<11.5	0	679 234	2 378 343	0	0	3 057 577	
		11.5<Y<57.5	0	0	430 240	1 792 402	0	2 222 642	
		Y>57.5	0	0	0	6 120	55 037	61 157	
	Total		533 589	1 504 104	2 808 583	1 798 522	55 037	6 699 836	
			Income category	Post shock concentrated losses					Total
				Y<3.2	3.2<Y<5.5	5.5<Y<11.5	11.5<Y<57.5	Y>57.5	
			Y<3.2	306 966	0	0	0	0	306 966
			3.2<Y<5.5	219 714	831 779	0	0	0	1 051 493
			5.5<Y<11.5	377 147	260 254	2 420 176	0	0	3 057 577
		11.5<Y<57.5	56 883	118 566	137 263	1 909 930	0	2 222 642	
		Y>57.5	0	0	0	3 287	57 870	61 157	
Total		960 710	1 210 599	2 557 439	1 913 217	57 870	6 699 836		
Guatemala		Income category	Post shock dispersed losses					Total	
					Y<3.2	3.2<Y<5.5	5.5<Y<11.5		11.5<Y<57.5
	Pre Shock	Y<3.2	5 166 360	0	0	0	0	5 166 360	
		3.2<Y<5.5	162 445	3 559 014	0	0	0	3 721 459	
		5.5<Y<11.5	0	251 503	4 048 348	0	0	4 299 851	
		11.5<Y<57.5	0	0	222 451	2 476 040	0	2 698 491	
		Y>57.5	0	0	0	648	114 019	114 667	
	Total		5 328 805	3 810 517	4 270 799	2 476 688	114 019	16 000 828	
			Income category	Post shock concentrated losses					Total
				Y<3.2	3.2<Y<5.5	5.5<Y<11.5	11.5<Y<57.5	Y>57.5	
			Y<3.2	5 166 360	0	0	0	0	5 166 360
		3.2<Y<5.5	171 519	3 549 940	0	0	0	3 721 459	
		5.5<Y<11.5	141 710	141 744	4 016 397	0	0	4 299 851	
		11.5<Y<57.5	26 998	26 231	91 771	2 553 491	0	2 698 491	
		Y>57.5	0	0	0	4 295	110 372	114 667	
Total		5 506 587	3 717 915	4 108 168	2 557 786	110 372	16 000 828		

Income category		Post shock dispersed losses					
		Y<3.2	3.2<Y<5.5	5.5<Y<11.5	11.5<Y<57.5	Y>57.5	Total
Pre Shock	Y<3.2	3 741 105	0	0	0	0	3 741 105
	3.2<Y<5.5	251 846	1 309 330	0	0	0	1 561 176
	5.5<Y<11.5	0	340 759	1 413 213	0	0	1 753 972
	11.5<Y<57.5	0	0	140 249	905 564	0	1 045 813
	Y>57.5	0	0	0	3 439	58 420	61 859
Total		3 992 951	1 650 089	1 553 463	909 003	58 420	8 163 926
Income category		Post shock concentrated losses					
		Y<3.2	3.2<Y<5.5	5.5<Y<11.5	11.5<Y<57.5	Y>57.5	Total
Pre Shock	Y<3.2	3 741 105	0	0	0	0	3 741 105
	3.2<Y<5.5	217 810	1 343 366	0	0	0	1 561 176
	5.5<Y<11.5	168 337	44 277	1 541 359	0	0	1 753 972
	11.5<Y<57.5	59 586	7 362	22 744	956 120	0	1 045 813
	Y>57.5	0	0	1 786	2 066	58 007	61 859
Total		4 186 839	1 395 005	1 565 889	958 186	58 007	8 163 926

Post-shock & safety net

Income category		Post shock & safety nets dispersed losses					
		Y<3.2	3.2<Y<5.5	5.5<Y<11.5	11.5<Y<57.5	Y>57.5	Total
Pre Shock	Y<3.2	246 418	60 548	0	0	0	306 966
	3.2<Y<5.5	124 673	821 647	105 173	0	0	1 051 493
	5.5<Y<11.5	0	536 650	2 456 055	64 872	0	3 057 577
	11.5<Y<57.5	0	0	402 720	1 819 614	308	2 222 642
	Y>57.5	0	0	0	6 120	55 037	61 157
Total		371 091	1 418 845	2 963 948	1 890 606	55 345	6 699 836
Income category		Post shock & safety nets concentrated losses					
		3.2<Y<5.5	5.5<Y<11.5	11.5<Y<57.5	Y>57.5		Total
Pre Shock	Y<3.2	230 623	76 343	0	0	0	306 966
	3.2<Y<5.5	202 708	704 870	143 915	0	0	1 051 493
	5.5<Y<11.5	307 926	297 873	2 359 301	92 477	0	3 057 577
	11.5<Y<57.5	30 469	131 480	146 798	1 913 587	308	2 222 642
	Y>57.5	0	0	0	3 287	57 870	61 157
Total		771 726	1 210 566	2 650 014	2 009 351	58 178	6 699 836

Income category		Post shock & safety nets dispersed losses					
		Y<3.2	3.2<Y<5.5	5.5<Y<11.5	11.5<Y<57.5	Y>57.5	Total
Pre Shock	Y<3.2	5 056 109	110 251	0	0	0	5 166 360
	3.2<Y<5.5	121 003	3 552 271	48 185	0	0	3 721 459
	5.5<Y<11.5	0	210 433	4 064 650	24 768	0	4 299 851
	11.5<Y<57.5	0	0	205 417	2 492 896	178	2 698 491
	Y>57.5	0	0	0	648	114 019	114 667
Total		5 177 112	3 872 955	4 318 252	2 518 312	114 197	16 000 828
Income category		Post shock & safety nets concentrated losses					
		Y<3.2	3.2<Y<5.5	5.5<Y<11.5	11.5<Y<57.5	Y>57.5	Total
Pre Shock	Y<3.2	5 037 836	128 524	0	0	0	5 166 360
	3.2<Y<5.5	169 411	3 473 639	78 409	0	0	3 721 459
	5.5<Y<11.5	136 817	145 654	3 981 698	35 682	0	4 299 851
	11.5<Y<57.5	25 433	25 225	94 253	2 553 402	178	2 698 491
	Y>57.5	0	0	0	4 295	110 372	114 667
Total		5 369 497	3 773 042	4 154 360	2 593 379	110 550	16 000 828
Income category		Post shock & safety nets dispersed losses					
		Y<3.2	3.2<Y<5.5	5.5<Y<11.5	11.5<Y<57.5	Y>57.5	Total
Pre Shock	Y<3.2	3 732 636	8 470	0	0	0	3 741 105
	3.2<Y<5.5	239 072	1 322 104	0	0	0	1 561 176
	5.5<Y<11.5	0	320 872	1 427 890	5 210	0	1 753 972
	11.5<Y<57.5	0	0	139 671	906 142	0	1 045 813
	Y>57.5	0	0	0	3 439	58 420	61 859
Total		3 971 708	1 651 446	1 567 560	914 792	58 420	8 163 926
Income category		Post shock & safety nets concentrated losses					
		Y<3.2	3.2<Y<5.5	5.5<Y<11.5	11.5<Y<57.5	Y>57.5	Total
Pre Shock	Y<3.2	3 714 061	27 044	0	0	0	3 741 105
	3.2<Y<5.5	217 810	1 333 135	10 231	0	0	1 561 176
	5.5<Y<11.5	166 249	46 365	1 530 314	11 044	0	1 753 972
	11.5<Y<57.5	59 586	7 362	22 744	956 120	0	1 045 813
	Y>57.5	0	0	1 786	2 066	58 007	61 859
Total		4 157 706	1 413 907	1 565 075	969 231	58 007	8 163 926

Source: xxxxxxxx

Appendix 3. Poverty estimates by geographic sector

Concentrated losses

Columns	1	2	3	4	5	6	7
Country	Urban						
	Ex ante	Ex post	Change	New poor (in millions)	Ex post + new safety nets	Change	New poor (in millions)
Panel a) Headcount Ratio (3.2 USD PPP Poverty line)							
El Salvador	2.6	12.1	9.5	390,910	9.6	7.0	321,387
Guatemala	15.4	18.3	2.9	229,019	17.5	2.1	220,768
Honduras	26.9	34.9	8.0	294,613	34.6	7.7	292,525
Panel (b) Headcount Ratio (5.5 USD PPP Poverty line)							
El Salvador	12.7	24.5	11.8	486,227	22.5	9.7	463,875
Guatemala	36.5	39.7	3.2	251,054	39.0	2.5	249,335
Honduras	47.8	53.2	5.4	199,085	53.0	5.2	199,085
Columns	1	2	3	4	5	6	7
Country	Rural						
	Ex ante	Ex post	Change	New poor (in millions)	Ex post + new safety nets	Change	New poor (in millions)
Panel (c) Headcount Ratio (3.2 USD PPP Poverty line)							
El Salvador	7.7	18.0	10.2	262,834	14.5	6.8	219,716
Guatemala	48.9	50.3	1.4	111,208	49.3	0.4	110,893
Honduras	61.3	64.7	3.4	151,120	64.3	3.0	151,120
Panel (d) Headcount Ratio (5.5 USD PPP Poverty line)							
El Salvador	32.4	45.1	12.7	326,623	41.1	8.7	303,873
Guatemala	74.2	75.3	1.1	85,629	74.9	0.7	83,794
Honduras	79.0	80.8	1.8	80,477	80.8	1.8	80,477

Dispersed losses

Columns	1	2	3	4	5	6	7
Country	Urban						
	Ex ante	Ex post	Change	New poor (in millions)	Ex post + new safety nets	Change	New poor (in millions)
Panel a) Headcount Ratio (3.2 USD PPP Poverty line)							
El Salvador	2.6	5.2	2.6	106,772	3.5	0.9	59,661
Guatemala	15.4	16.5	1.1	85,256	15.6	0.2	55,691
Honduras	26.9	31.2	4.3	157,116	30.9	3.9	146,228
Panel (b) Headcount Ratio (5.5 USD PPP Poverty line)							
El Salvador	12.7	22.1	9.4	388,045	18.9	6.1	303,261
Guatemala	36.5	38.5	2.0	161,289	37.9	1.4	134,461
Honduras	47.8	54.0	6.2	226,738	53.7	5.9	218,168
Columns	1	2	3	4	5	6	7
Country	Rural						
	Ex ante	Ex post	Change	New poor (in millions)	Ex post + new safety nets	Change	New poor (in millions)
Panel (c) Headcount Ratio (3.2 USD PPP Poverty line)							
El Salvador	7.7	12.4	4.7	119,851	8.9	1.1	65,012
Guatemala	48.9	49.8	1.0	77,189	48.8	0.0	65,312
Honduras	61.3	63.4	2.1	94,730	63.2	1.9	92,844
Panel (d) Headcount Ratio (5.5 USD PPP Poverty line)							
El Salvador	32.4	43.7	11.3	291,189	39.3	6.9	233,389
Guatemala	74.2	75.4	1.1	90,214	74.9	0.6	75,972
Honduras	79.0	81.5	2.5	114,021	81.3	2.3	102,705

Source: Authors' calculations based on ENCOVI (2014), EPMP (2011), EHPM (2019).

Appendix 4. Poverty estimates by type of job, head of household

Concentrated losses

Columns	1	2	3	4	5	6	7
Country	Formal						
	Ex ante	Ex post	Change	New poor (in millions)	Ex post + safety net	Change	New poor (in millions)
Panel (a) Headcount Ratio (3.2 USD PPP Poverty line)							
El Salvador	0.1	7.6	7.5	105,615	6.4	6.3	89,104
Guatemala	9.4	11.8	2.4	100,210	11.4	2.0	96,495
Honduras	15.1	22.4	7.4	116,032	22.2	7.2	116,032
Panel (b) Headcount Ratio (5.5 USD PPP Poverty line)							
El Salvador	4.7	14.7	10.0	140,951	13.1	8.4	135,557
Guatemala	28.5	31.0	2.6	104,477	30.4	1.9	102,653
Honduras	37.6	43.2	5.6	88,211	42.9	5.3	88,211
Columns	1	2	3	4	5	6	7
Country	Informal						
	Ex ante	Ex post	Change	New poor (in millions)	Ex post + safety net	Change	New poor (in millions)
Panel (c) Headcount Ratio (3.2 USD PPP Poverty line)							
El Salvador	5.8	16.1	10.4	548,129	12.9	7.1	451,999
Guatemala	40.2	42.2	2.0	240,017	41.2	1.0	235,166
Honduras	53.2	58.2	5.0	329,702	57.8	4.6	327,614
Panel (d) Headcount Ratio (5.5 USD PPP Poverty line)							
El Salvador	24.4	37.1	12.7	671,899	34.0	9.6	632,191
Guatemala	64.9	66.8	1.9	232,206	66.3	1.5	230,476
Honduras	71.5	74.4	2.9	191,352	74.3	2.8	191,352

Dispersed losses

Columns	1	2	3	4	5	6	7
Country	Formal						
	Ex ante	Ex post	Change	New poor (in millions)	Ex post + safety net	Change	New poor (in millions)
Panel (a) Headcount Ratio (3.2 USD PPP Poverty line)							
El Salvador	0.1	1.0	0.8	11,726	0.7	0.6	8,071
Guatemala	9.4	9.9	0.5	19,371	9.5	0.1	13,056
Honduras	15.1	18.1	3.0	47,759	17.7	2.7	42,526
Panel (b) Headcount Ratio (5.5 USD PPP Poverty line)							
El Salvador	4.7	12.9	8.2	116,328	10.0	5.3	89,014
Guatemala	28.5	30.2	1.7	71,423	29.7	1.3	63,408
Honduras	37.6	44.2	6.6	103,480	43.6	6.0	94,309
Columns	1	2	3	4	5	6	7
Country	Female						
	Ex ante	Ex post	Change	New poor (in millions)	Ex post + safety net	Change	New poor (in millions)
Panel (c) Headcount Ratio (3.2 USD PPP Poverty line)							
El Salvador	5.8	9.8	4.1	214,897	6.8	1.1	116,602
Guatemala	40.2	41.4	1.2	143,074	40.2	0.0	107,947
Honduras	53.2	56.3	3.1	204,087	56.0	2.9	196,546
Panel (d) Headcount Ratio (5.5 USD PPP Poverty line)							
El Salvador	24.4	35.1	10.6	562,906	31.2	6.8	447,636
Guatemala	64.9	66.4	1.5	180,080	65.8	0.9	147,025
Honduras	71.5	75.1	3.6	237,279	74.9	3.4	226,563

Source: Authors' calculations based on ENCOVI (2014), EPMP (2011), EHPM (2019).

Appendix 5. Poverty estimates by sex of household head

Concentrated losses

Columns	1	2	3	4	5	6	7
Country	Formal						
	Ex ante	Ex post	Change	New poor (in millions)	Ex post + safety net	Change	New poor (in millions)
Panel (a) Headcount Ratio (3.2 USD PPP Poverty line)							
El Salvador	4.3	13.3	9.0	210,397	10.2	5.9	161,750
Guatemala	23.6	26.3	2.7	76,954	25.4	1.8	75,586
Honduras	45.3	51.5	6.1	155,859	51.2	5.8	155,859
Panel (b) Headcount Ratio (5.5 USD PPP Poverty line)							
El Salvador	18.9	32.1	13.3	308,212	29.1	10.2	288,230
Guatemala	48.6	51.4	2.8	79,580	50.6	2.0	79,482
Honduras	65.1	68.6	3.5	87,952	68.4	3.3	87,952
Columns	1	2	3	4	5	6	7
Country	Male						
	Ex ante	Ex post	Change	New poor (in millions)	Ex post + safety net	Change	New poor (in millions)
Panel (c) Headcount Ratio (3.2 USD PPP Poverty line)							
El Salvador	4.8	14.9	10.1	443,347	12.2	7.5	379,353
Guatemala	34.2	36.2	2.0	263,273	35.3	1.2	256,075
Honduras	46.1	51.2	5.2	289,874	50.8	4.8	287,786
Panel (d) Headcount Ratio (5.5 USD PPP Poverty line)							
El Salvador	21.0	32.6	11.5	504,638	29.9	8.8	479,518
Guatemala	57.1	59.0	2.0	257,103	58.6	1.5	253,647
Honduras	64.9	68.3	3.4	191,611	68.2	3.3	191,611

Dispersed losses

Columns	1	2	3	4	5	6	7
Country	Female						
	Ex ante	Ex post	Change	New poor (in millions)	Ex post + safety net	Change	New poor (in millions)
Panel (a) Headcount Ratio (3.2 USD PPP Poverty line)							
El Salvador	4.3	6.8	2.5	59,044	4.7	0.5	31,809
Guatemala	23.6	24.9	1.3	35,767	23.5	-0.2	16,770
Honduras	45.3	49.1	3.8	96,223	48.9	3.5	90,936
Panel (b) Headcount Ratio (5.5 USD PPP Poverty line)							
El Salvador	18.9	28.9	10.0	233,429	25.1	6.2	180,559
Guatemala	48.6	50.2	1.6	46,795	49.4	0.8	40,839
Honduras	65.1	69.9	4.9	123,159	69.6	4.5	114,509
Columns	1	2	3	4	5	6	7
Country	Male						
	Ex ante	Ex post	Change	New poor (in millions)	Ex post + safety net	Change	New poor (in millions)
Panel (c) Headcount Ratio (3.2 USD PPP Poverty line)							
El Salvador	4.8	8.6	3.8	167,579	6.0	1.2	92,864
Guatemala	34.2	35.1	1.0	126,678	34.3	0.1	104,233
Honduras	46.1	48.8	2.8	155,623	48.6	2.5	148,136
Panel (d) Headcount Ratio (5.5 USD PPP Poverty line)							
El Salvador	21.0	31.2	10.2	445,805	27.6	6.6	356,091
Guatemala	57.1	58.6	1.6	204,708	58.1	1.1	169,594
Honduras	64.9	68.8	3.9	217,600	68.6	3.7	206,363

Source: Authors' calculations based on ENCOVI (2014), EPMP (2011), EHPM (2019).

Appendix 6. Guatemala: poverty estimates by ethnicity of household head

Column	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Concept	Indigenous							Non-Indigenous						
	Ex ante	Ex post	Change	New poor (in millions)	Ex post + safety net	Change	New poor (in millions)	Ex ante	Ex post	Change	New poor (in millions)	Ex post + safety net	Change	New poor (in millions)
	Dispersed losses							Concentrated losses						
Headcount Ratio (3.2 USD PPP poverty line)	47.7	48.9	1.3	81 827	48.1	0.4	68 053	21.8	22.6	0.8	80 618	21.6	- 0.1	52 950
Headcount Ratio (5.5 USD PPP poverty line)	73.6	74.6	1.0	67 779	74.4	0.8	62 590	43.2	45.1	1.9	183 724	44.3	1.1	147 843
Headcount Ratio (11.5 USD PPP vulnerable)	93.1	94.0	0.0	54 255	93.9	0.0	53 238	75.1	76.9	0.0	168 196	76.5	0.0	152 179
Headcount Ratio (57.5 USD PPP middle-class)	99.9	99.9	0.0	624	99.9	0.0	624	98.8	98.9	0.0	648	98.9	0.0	648
Estimated Gini Coefficient	45.1	45.5	0.4		45.1	0.0		50.7	50.6	- 0.1		50.2	- 0.5	
Headcount Ratio (3.2 USD PPP poverty line)	47.7	49.5	1.8	114 689	48.6	0.9	114 689	21.8	24.1	2.4	225 538	23.3	1.5	216 972
Headcount Ratio (5.5 USD PPP poverty line)	73.6	74.7	1.1	69 238	74.4	0.8	66 772	43.2	46.0	2.8	267 445	45.3	2.1	266 357
Headcount Ratio (11.5 USD PPP vulnerable)	93.1	93.4	0.0	20 492	93.3	0.0	20 492	75.1	76.4	0.0	124 508	76.1	0.0	124 419
Headcount Ratio (57.5 USD PPP middle-class)	99.9	99.9	0.0	624	99.9	0.0	624	98.8	98.9	0.0	3 671	98.9	0.0	3 671
Estimated Gini Coefficient	45.1	45.5	0.4	0	45.1	0.0	0	50.7	51.5	0.7		51.1	0.4	

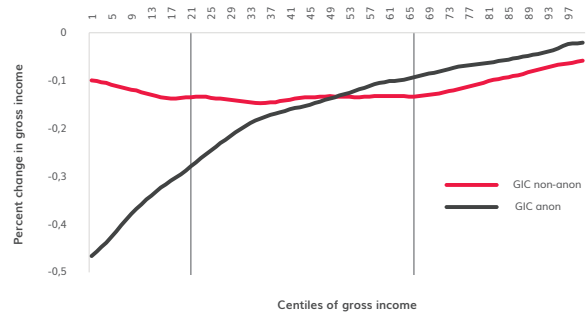
Source: Authors' calculations based on ENCOVI (2014), EPMP (2011), EHPM (2019).

Appendix 7. Growth incidence curves: anonymous and non-anonymous

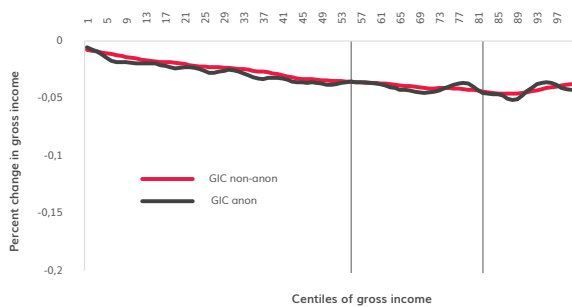
Panel a. Dispersed losses
El Salvador



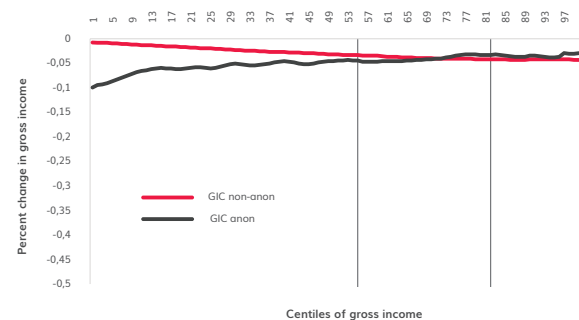
Panel a. Concentrated losses
El Salvador



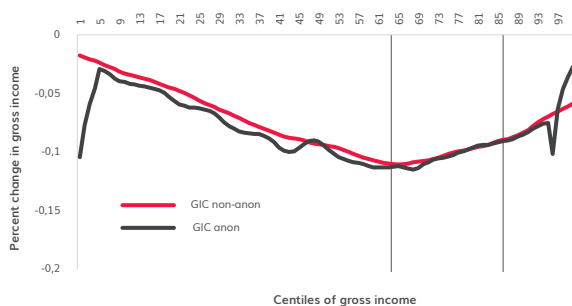
Panel b. Dispersed losses
Guatemala



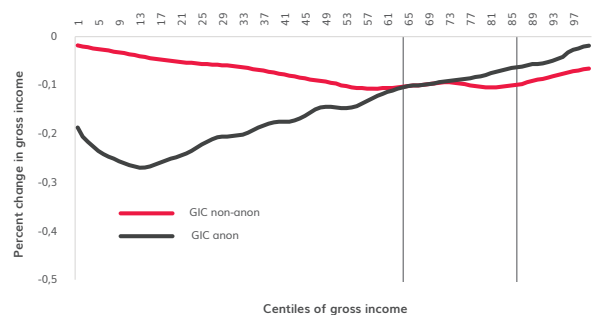
Panel b. Concentrated losses
Guatemala



Panel c. Dispersed losses
Honduras



Panel c. Concentrated losses
Honduras



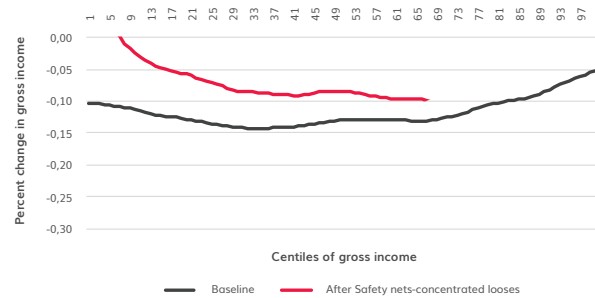
Note. Lines show the 5.5USD PPP poverty line, and the 11.5USD PPP line.
Source: Authors' calculations based on ENCOVI (2014), EPMP (2011), EHPM (2019).

Appendix 8. Growth incidence curves, post safety nets

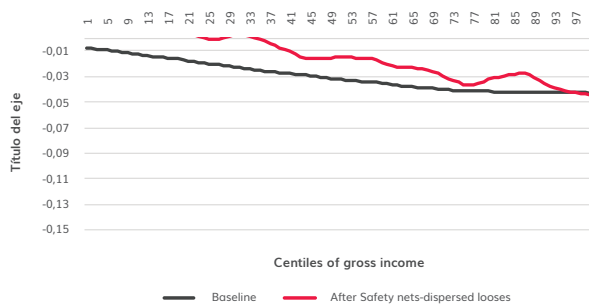
Panel a. Dispersed losses
El Salvador



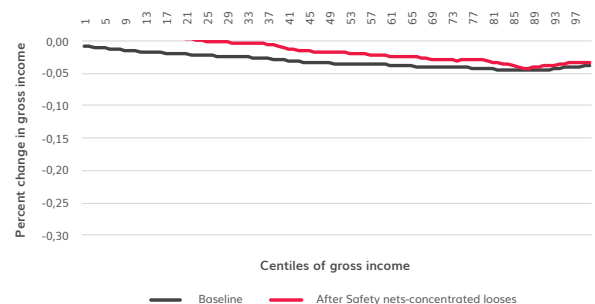
Panel a. Concentrated losses
El Salvador



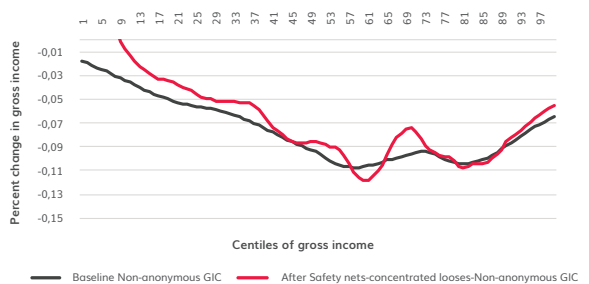
Panel b. Dispersed losses
Guatemala



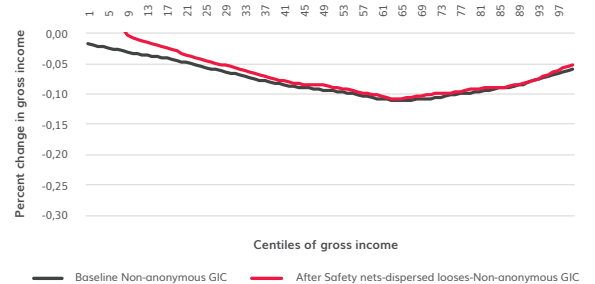
Panel b. Concentrated losses
Guatemala



Panel c. Dispersed losses
Honduras



Panel c. Concentrated losses
Honduras

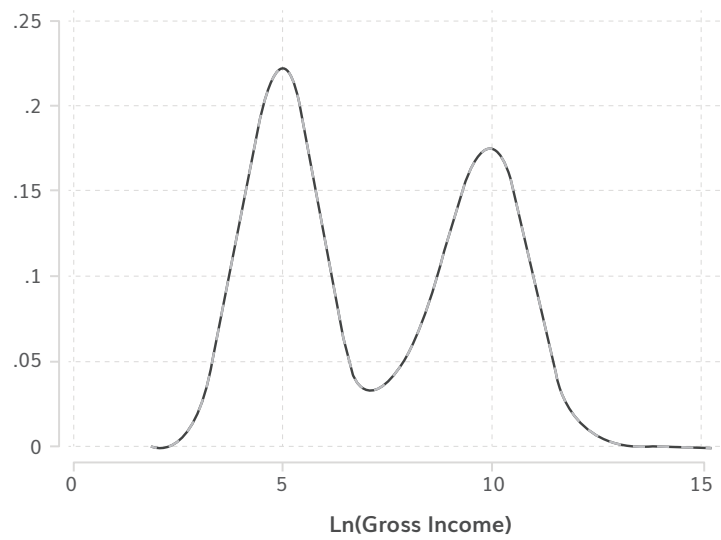


Source: Authors' calculations based on ENCOVI (2014), EPMP (2011), EHPM (2019).

Appendix 9. Income distribution pre-post adjustment

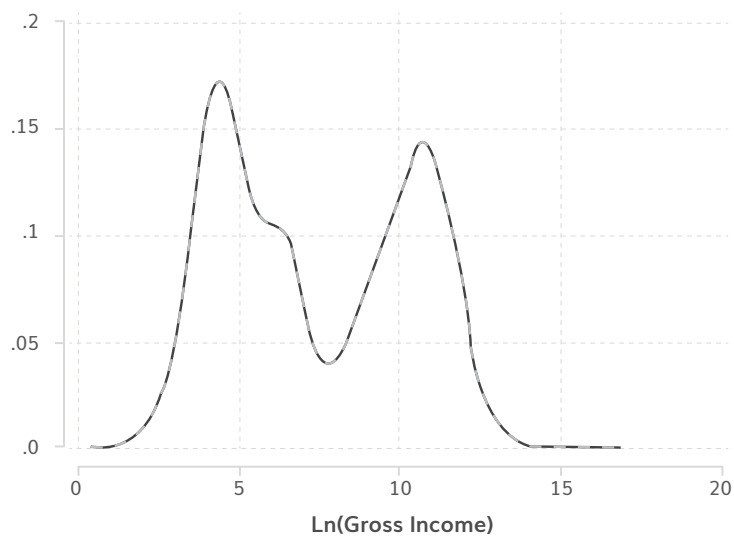
Panel a. Guatemala.

Kernel density of the income distribution pre and post income adjustment



Panel b. Honduras

Kernel density of the income distribution pre and post income adjustment



Appendix 10. Activities restricted by country

*Please find the tables with all the sectors at risk by country in this [LINK](#).



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