INTERNATIONAL
FOOD POLICY
RESEARCH
INSTITUTE

LAC WORKING PAPER 16

FEBRUARY 2021

GUATEMALA: THE IMPACT OF COVID-19 AND PRELIMINARY POLICY IMPLICATIONS

INTERIM REPORT

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BACKGROUND

As most countries in the world Guatemala has been affected by COVID-19. In January 2020 the country decreed travel bans from China, which were later expanded to other countries. Still, Guatemala had the first confirmed COVID case in March 13 and the first death in March 15. Some days before that, on March 5, the government had declared the “state of calamity” (Declaración del Estado de Calamidad Pública - Decreto Gubernativo Número 5-2020), which allowed the government to limit different rights,¹ and to take different actions² to protect the health and safety of all persons in Guatemala.

¹ The “Decreto Gubernativo Número 5-2020” mentioned in particular, freedom to operate (“libertad de acción,” art. 5 of Constitution), to circulate and move (“libertad de locomoción,” art. 26), to meet and demonstrate (“libertad de reunión y manifestación,” art. 33) and strike by public employees (“libertad de huelga de los trabajadores del Estado,” art 116).

² For instance, the same “Decreto Gubernativo Número 5-2020” authorized the purchase of goods, supplies and services without being subject to the requirements established in the State Procurement Law.

This brief note covers the following topics until the time of this report. First, it shows the evolution of the pandemic, using different indicators. Second, it summarizes the main policy responses and costs and financing. Third, it shows some actual impacts with available data up to the time of this writing. Fourth, the modeling framework for the simulations is briefly presented. Fifth, the document presents simulations of different scenarios for the evolution of Guatemala's economy until year 2022. A final section discusses some preliminary policy considerations.

Subsequent reports will update the information of this document and sharpen the policy conclusions.

EVOLUTION OF THE PANDEMIC

Since the beginning of the pandemic and until October 15 there have been 99094 confirmed cases of COVID-19 with 3,430 deaths (WHO, 2020).

Chart 1 shows the daily evolution of cases (top panel) and of deaths (lower panel) (note the difference in scale of the right axis).

CHART 1. DAILY EVOLUTION OF CASES AND DEATHS RELATED TO COVID-19

Source: WHO, 2020 <https://covid19.who.int/region/amro/country/gt>

Chart 2 shows the same variables but with the daily values accumulated.

CHART 2. CUMULATIVE VALUE OF CASES AND DEATH RELATED TO COVID-19

Source: WHO, 2020 <https://covid19.who.int/region/amro/country/gt>

The charts, and particularly the one about the number of deaths, suggest that the peak of the pandemic was in July-August, with smaller waves at the end of September and October. It may be too early to determine whether larger waves may hit Guatemala the rest of 2020 and in 2021.

Chart 3 uses two indicators, death per 100,000 population and the percentage of fatality to cases, to compare the conditions in Guatemala to the world and LAC.

CHART 3. DEATHS PER 100,000 POPULATION AND PERCENTAGE OF CASE-FATALITY

Source: Johns Hopkins University <https://coronavirus.jhu.edu/data/mortality>

Considering the indicator of deaths per 100,000 population, Guatemala is above the world average and median, and above the LAC median, but below the average (which is driven by high values in a smaller number of countries, particularly Peru, Bolivia, Chile, Ecuador, and Brazil). However, in the rate of fatalities per cases, Guatemala appears above the comparators.

POLICY RESPONSES

The Government of Guatemala took a series of measures, which are here in four groups:

- *The general legal and organizational framework to confront the pandemics
- * Policies and interventions that address the health emergency
- * Policies and interventions that sustain incomes and demand through social safety nets
- * Policies and interventions that operate on the supply side, focusing on production and employment

They are briefly discussed in what follows.

General legal framework and governance

Basic requisites to confront the pandemic are having a general legal framework for the policies and interventions that will be required, and a coordinating mechanism for decision making, implementation, and monitoring.

State of Calamity. As noted the government decreed the “state of calamity” (“state of emergency”) in early March, and the general legislative framework has continued since then, being renewed on September 9 for another 30 days (Decreto 29-200 del Congreso de la República, which ratifies the Decreto Gubernativo No. 17-2020, and extends the “Estado de Calamidad Pública” en Guatemala).

Central coordination. On May 24 the government conformed the “Comisión Presidencial de Atención a la Emergencia Covid-19” (Acuerdo Gubernativo Número 65-2020), with the objective of advising the President about mechanisms and protocols that the Executive Branch can implement to mitigate the pandemic. The Commission is integrated by several Ministers (Finance, Labor and Social Welfare, Social Development, and Agriculture, Livestock and Food), and the Secretariat of Planning and Programming of the Presidency. An Executive Director has been appointed to support the work of the principals.

Policy responses related to health aspects

Obviously, when confronting a pandemic, health-related policies are central. They can be separated into three main categories: a) those designed to prevent or reduce contagions; b) those designed to track and isolate existing cases; and c) those designed to treat the sick.

Policies to prevent or reduce contagions.

While these policies and interventions are crucial to control the pandemic, they are also the ones with more direct impact on the economic slowdown. Guatemala implemented a variety of measures that included shutdown of economic activities; curfew, restrictions of movement and transportation, internally and externally; closure of schools, universities and public places; restrictions on religious gatherings, sport and entertainment events, and public gatherings in general; sanitary practices in workplaces, and precautionary measures such as masks and social distancing.

The more drastic measures took place between March and May. During June and July, the government announced several measures oriented to facilitating the re-opening of the economy. On June 2 it was announced the “Estrategia Nacional de Control de la Epidemia de SARS COV-2 y Bases para la Desescalada de las Medidas de Reapertura Condicionada del Confinamiento - Acuerdo Ministerial 146-2020 del Ministerio de Salud Pública y Asistencia Social”). The phasing out of the stricter confinement measures was going to be determined according to the decrease in the number positive cases, suspected cases and positive tests, evaluated in periods of 14 days. Four phases were defined: “Phase 0” which was the preparation for the phasing out of control measures; “Phase I,” with the start of the phasing out; “Phase II,” with intermediate opening; and “Phase III” the opening to the new normal. These phases were predicated on the evolution of the pandemic, in turn related to the behavior of the population regarding the implementation of a series of measures to prevent the transmission of Covid-19.

Then on July 25 through “Acuerdo Ministerial Número 187-2020 del Ministerio de Salud Pública y Asistencia Social,” it was determined that the restrictions imposed on a specific location will depend on the current health alert there. Those locations were to be classified as "red-maximum", "orange-high", "yellow-moderate" and "green-new normal," based on the number of active cases per 100,000 residents. Conditions will be assessed every 15 days. That classification would determine when each location could reopen.

As of September, conditions in Guatemala regarding this group of measures can be briefly described as follows:

*International travel. The government announced that it will reopen borders and the main international airport on September 18.

*Internal inter-departmental travel. It is open, but the government discourages traveling to certain departments (depending on the traffic-light system of health conditions).

*Elimination of vehicle restriction on automobiles circulation (which before was limited to specific dates of the week).

*Reduction of curfew from the previous 6pm-4am in the next morning, to 9pm to 5am the following day.

*Informal markets must maintain social distancing and masks. Activities in supermarkets and enclosed stores must maintain 4 meters, customers must use masks, and there are shopping restrictions for people over 60 years. Restaurants must operate at 25% capacity, distancing of 4 meters must be maintained, groups of ten or more are not allowed, as well as high risk individuals and those over 60 years. Malls and commercial centers would support only online shopping with a parking space for delivery services (but restaurants, food courts and gathering spaces in malls remain closed).

*Work has restarted in the public sector and private sector but within restricted hours and with social distancing, and other personal protection equipment.

*In particular, agricultural activities can be performed, but employers must inform employees about risks and forms of mitigation of COVID-19, readjust work areas and working hours according to social distancing, and take the pertinent sanitary measures to maintain disinfected environments. A procedure was established to follow in case a worker presents symptoms of COVID-19 (Disposiciones Temporales de Medidas Sanitarias en el Sector Agropecuario para Prevenir y Mitigar el Contagio del COVID-19 (Acuerdo Ministerial Número 112-2020 del Ministerio de Agricultura, Ganadería y Alimentación)

*Public transportation is allowed with limits on capacity, to maintain social distancing.

*Masks are mandatory.

*Stronger restrictions in municipalities with “red lights” signals.

*Schools and universities are closed, but there are programs for remote education (although they cover a limited percentage of the population).

*There are still restrictions on all recreational, social events, religious gatherings, and similar activities regardless of the number of participants.

*Sales and purchase of alcohol is permitted only during limited hours, and consumption is not allowed in public areas.

A summary of conditions can be seen in Table 1.

TABLE 1. GOVERNMENT RESTRICTIONS AND EFFECTS

Sector	Government restrictions	Direct effects
Agriculture	Social distancing and PPE	Low
Mining & crude oil	Closed initially, then reopened gradually, with social distancing, and PPE	High but declining

Manufacturing	Closed initially, then reopened gradually, with social distancing, and PPE	High but declining
Utilities	Regulated operations, with social distancing, and PPE	Some
Construction	Closed initially, then reopened gradually, with social distancing, and PPE	Some
Wholesale & retail trade services	Special hours, social distancing, and PPE	Medium to high
Transportation, storage & cargo	Restricted initially, then allowed to restart gradually, with social distancing, and PPE	High but declining
Hotels & food services	Closed initially, except for take-out-food, then reopened gradually, with social distancing, and PPE	High
Banking, finance & insurance	Special hours, social distancing, and PPE	Medium
Professional & business services	Social distancing and PPE, with telework	Minimal to medium
Public admin & law enforcement	Closed initially for non-essential workers, then reopened gradually, with social distancing, and PPE. Law enforcement and essential workers excluded from restrictions	Medium
Education services	Schools and education centers closed	High
Health services	Social distancing and PPE	Low
Sports & entertainment	Sports & entertainment activities banned	High
Other services	Religious & other large gatherings banned initially, then gradually allowed	High but declining

Source: authors

The cycle of stricter controls and subsequent easing out can be appreciated from the data on mobility in Chart 4.

CHART 4. CHANGES IN MOBILITY (PERCENTAGE FROM BASELINE)

Source: Google COVID-19 Community Mobility Reports <https://www.google.com/covid19/mobility/>

The data tracks mobility trends for six categories of activities “Retail and recreation” (places like restaurants, cafes, shopping centers, theme parks, museums, libraries, and movie theaters); “Grocery and pharmacy” (places like grocery markets, food warehouses, farmers markets, specialty food shops, drug stores, and pharmacies); “Parks” (places like national parks, public beaches, marinas, dog parks, plazas, and public gardens); “Transit stations” (places like public transport hubs such as subway, bus, and train stations); “Workplaces” (mobility trends for places of work); and “Residential” (mobility trends for places of residence) (see details in <https://support.google.com/covid19-mobility/answer/9825414?hl=en>)

Chart 4 calculates the average for the month of data provided in the database, starting with February 2020 and ending with the last data reported at the time of writing this report (September 11). It is clear that in February, when no measures of containment were in place, there were no visible changes with respect to the baseline mobility. However, in March there is a strong decline in mobility that reached its bottom in April and May, with values between 40% to almost 70% below the normal levels. Since then mobility has been increasing but still not reaching normal levels. Mobility related to the places of residence increased, given that other forms of mobility were restricted. The average for September, shown in Chart 4, are still -25.5% below baseline values for “Retail and recreation,” -18.6% for “Grocery and pharmacy,” -18.2% for “Parks,” -55.8% for “Transit stations,” and -35.8% for “Workplaces.”

Policies designed to track and isolate existing cases.

On July 25 through “Acuerdo Ministerial Número 187-2020 del Ministerio de Salud Pública y Asistencia Social,” it was established a system of periodic measurement of the incidence, intensity of contagion, and the trend of COVID-19, so that the risk for the population can be determined by location.

Guatemala does not have a policy of universal testing, with tests applied only to those with symptoms,³ and it does not do contact tracing (Hale, Webster, Petherick, Phillips, and Kira, 2020). Those with symptoms are quarantined.

Policies designed to treat the sick.

There have been several initiatives that the Government took including the addition of 3,000 beds for critical cases (almost multiplying by 10 the previously existing capacity; with a US\$1 million grant from the Central American Bank of Economic Integration (March); plans to distribute three million washable masks to the Guatemalan public (April); additional investments in protection supplies for medical personnel including latex gloves, gowns, hats, disposable masks, N95 masks, shoes, personal protective suits, visors and protective glasses (May); importation of ventilators (July); a new system of health information dissemination, through the website of the Ministry of Public Health and Social Assistance (July); expansion of the Hospital Regional de Occidente for critical patients (August); distribution of COVID-19 drug kit for patients with mild symptoms (August) (IFPRI, Policy tracker).

Policy responses related to safety nets⁴

These are basically policies and interventions oriented to sustaining incomes and crucial expenditures of vulnerable populations, separate from the productive activities discussed in the following section.

The main initiatives include the following:

*“Bono Social” (a conditional cash transfer). The government waived conditionality and made payments easier by opening banking accounts and other measures.

*“Bono Familia,” a new emergency cash transfer that has objective of reaching 2 million beneficiaries receiving USD 130 during 3 months (about USD 780 million or 1.0% of GDP). Targeting based on electricity consumption below 200 kWh; poor households living with single parent, elderly or malnourished children.

*“Adulto Mayor” (a social pension). It is a non-contributory program, and it was expanded.

³ The four levels utilized to determine the extent of this policy are a) No testing policy; b) Only those who both (a) have symptoms and also (b) meet specific criteria (e.g. key workers, admitted to hospital, came into contact with a known case, returned from overseas); c) Testing of anyone showing COVID-19 symptoms; d) Open public testing (e.g. “drive through” testing available to asymptomatic people). Guatemala appears to be in the c) category.

⁴ This is based mainly on the data collected by Ugo Gentilini (WB), Mohamed Almenfi (WB), Pamela Dale (UNICEF), John Blomquist (WB), Harish Natarajan (WB), Guillermo Galicia (WB), Robert Palacios (WB), and Vyjayanti Desai (WB). Based on Social Protection and Jobs Responses to COVID-19: A Real-Time Review of Country Measures. “Living paper” version 10 (May 22, 2020)

*A program of food transfers and vouchers for food, medicine and inputs to prevent COVID-19. The program focuses on vulnerable families, including the elderly. It is jointly implemented by Ministry of Social Development and Ministry of Agriculture (with a budget of 700 million quetzals or US\$ 91million).

*School lunches. Given that schools were closed and therefore students could not receive their lunches (and/or breakfasts), a system was organized with parent associations through which the meals program were converted into take-home rations for pick up at the same schools.

*Other initiatives designed to maintain essential services included the definition of which one were essential, the criteria that providers could not suspend services, and the parameters to establish agreements between suppliers and customers, when the latter could not pay because of the pandemic.

Policy responses related to production and employment

Here the focus is on policies and initiatives oriented to maintaining production and employment, which support the supply side of the economy. But, to the extent that those productive activities generate incomes, they also contribute to strengthen the demand side of the economy.

Credit and banking facilities and regulations.

The main initiatives in this regard include the following

*“Fondo de Crédito para Capital de Trabajo” for up to 3,000 million of quetzales, to provide credit in favorable conditions (up to Q250,000 by operation) to individual or firms to finance working capital to support the continuity of the operations of a business or firm.

*“Fondo para las Micro, Pequeñas y Medianas Empresas” for up to 400 million of quetzals, to extend loans for entrepreneurs and business owners of MIPYMEs, through the Rural Development Bank (BANRURAL).

* The Superintendency of Banks relaxed credit risk management regulations until the end of 2020 to facilitate debt restructurings, loan payment moratoriums, and other aspects easing negotiations between banks and borrowers that face temporary liquidity constraints as a result of the pandemic.

Monetary policy.

The Banco de Guatemala (the central bank) lowered its policy rate by 75 basis points to 2% on March 18, and on June 24, implemented another cut to its policy rate by an additional 25 basis points to 1.75%. Very early, the Banco de Guatemala announced that, as lender of last resort, it was ready to inject liquidity into the banking system as needed.

Employment.

*The government announced a “Fondo para la protección del empleo,” with a budget of up to 2,000 millones of quetzales (US\$260 million, 0.3% GDP), to provide a wage subsidy to formal workers in private sector whose contract has been legally suspended with the approval of the Ministry of Labor. The payment was set at 75 quetzals or 9.7 dollars per day. The Ministries of Labor and of the Economy were responsible to determine the conditions and requisites to receive the subsidy, and to monitor the administration of the program (executed by the Corporación Hipotecaria Nacional, the national mortgage corporation bank). The request has to be presented by the employer, through the website of the Ministries of Labor or of the Economy. Expected beneficiaries: 300,000 households (1.5 million people) with private sector workers affected by the suspension of non-essential activities.

*It was created a “Procedimiento Electrónico para Registro, Control y Autorización de Suspensiones de Contratos de Trabajo (Acuerdo Ministerial Número 140-2020 del Ministerio de Trabajo y Previsión Social), a mechanism through which formal employers can request authorization to suspend the work agreements with the employees as a result of the pandemic. The Ministry of Labor would then analyze if the conditions are such that as an exception the work agreements can be suspended.

Agriculture.

On March, the government announced a price support system to farmers through public purchase of products from local producers by the Ministry of Agriculture.

Tax exemptions.

There were several tax-related measures, including a) tax credit refunds to exporters; b) time-limited tax postponements related to income tax payments and social security contributions; c) waiving of VAT on medical supplies; and d) exemption from VAT and customs duties on all imports received as a donation in favor of certain civil society, charitable and religious organizations which were duly registered in the Registry of Legal Persons of the Ministry of Government.

COSTS AND FINANCING

To confront the pandemic the Executive proposed and Congress approved three fiscal packages, totaling about 3.4% of GDP (based on IMF tracking of policy responses to COVID-19; <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>). Table 2 shows the breakdown of the additional programs approved (also based on IMF data).

TABLE 2. ADDITIONAL SPENDING RELATED TO THE PANDEMIC

	% of GDP
Health care programs	0.2
Social protection (cash transfers and similar)	1.2

Salary subsidies	0.3
Funding SMEs	0.6
Other	1.1
Total	3.4

Source: IMF 2020.

The program is being financed mainly through three sources (IMF, 2020):

*Multilateral loans: mainly US\$250 million from IADB (Budget Support loan) and US\$200 million from the World Bank (Disaster Risk Management loan).

*Borrowing in international and local markets. Guatemala borrowed US\$1,200 million from international markets on April (which the IMF indicates would cover somewhat more than one third of the expected issuance in 2020 both in domestic and international markets).

*Money financing from the Banco de Guatemala, which received a special authorization from Congress to purchase Treasury Bonds (as established in article 133 of the Constitution) for up to 11,000 million quetzals (some USD 1.5 billion). As of this writing the IMF estimated that the Banco de Guatemala has bought some 9,500 million quetzals (or somewhat more than 86% of the total value authorized by Congress).

The fiscal stimulus financed through increased indebtedness and money printing has been absolutely necessary to expand health services and investments and to avoid a larger breakdown in economic activity and social conditions. As for many countries worldwide, questions regarding how to deal with increased debt to GDP ratios and the monetary expansion could only began to be addressed when the pandemic is under control.

INTERNATIONAL CONDITIONS AND SHORT-TERM IMPACTS

Before the impact of COVID-19 Guatemala's GDP per capita had been growing at a modest annual average of 1.7% during the last five years, with yearly inflation of about 3.7%. At the same time, Guatemala is the fifth poorest country in LAC (measured by GDP per capita), while the percentage of domestic poverty (measured at 3.2 PPP dollars/day per person) is close to 49%. Guatemala is also one of the more unequal countries in LAC (which is also a very unequal region): the ratio of income of the top ten percent to lowest ten percent is more than 22. Also, Guatemala has the sixth highest rate of chronic malnutrition in the world and the highest in LAC, conditions that affect more indigenous children and those in the lowest income quintile (World Bank, <https://www.worldbank.org/en/country/guatemala/overview>).

Part of the problem is the low level of central government revenues: (just somewhat more than 11 % of GDP on average in the last five years, when the equivalent value for LAC is about 24% and for all developing countries is close to 20%; World Development Indicators, World Bank. That level of expenditures is inadequate to finance the provision of adequate infrastructure and basic public services, perpetuating low growth, poverty and inequality.

The current pandemic has worsened even more the already worrying economic and social indicators in the country. In addition to the impact of the domestic lockdown and containment policies, Guatemala, as all countries in the world, but mainly those most vulnerable, have been affected by changing world conditions. Those conditions include growth in Guatemala's trading partners (which according to the Banco de Guatemala will decline by between 7-8%); prices of commodities (which according to the same source, were down, by mid-2020, about 39% in the case of oil and between 12-13% for yellow corn and wheat); and remittances (Banco de Guatemala, 2020).

The case of remittances merits some detail consideration, and it is analyzed by the Banco de Guatemala as follows: "As of June 30, 2020, foreign exchange income from family remittances reached an amount of US \$ 4,880.2 million, lower by US \$ 46.7 million (0.9%), compared to the amount observed in the same period of the previous year. During the first two months of this year, the flow of family remittances showed dynamic growth, mainly due to the fact that Hispanic unemployment in the United States of America remained at historically low levels. However, due to health and social distancing measures to contain the COVID-19 pandemic in the United States of America, the flow of family remittances began to decelerate as of March, registering negative interannual variations since April and although it began to show some moderation as of May, it is expected to register a decrease in 2020, as a consequence of the expected fall in US economic activity; however, this flow, in nominal terms (in US dollars), continues to be significant." (Banco de Guatemala, August 2020, page 7). It is important to monitor the evolution of remittances, which on average in the last five years have been about 12% of the GDP. As of mid-September, they seem to be rebounding, which would help the economy.

Given the global context, available data is presented in this section on growth and inflation, while in the subsequent section some simulations are presented under different scenarios of domestic policies and global conditions.

Chart 5 shows the monthly index of economic activity calculated by the Banco de Guatemala until July of 2020. It shows the strong impact of the containment measures, particularly April and May and some recovery since then, in line with the mobility data shown before.

CHART 5. INDEX OF ECONOMIC ACTIVITY

Source: Banco de Guatemala 2020.

It is important to see the same indicator by sector, chart 6 shows annualized growth rates by sector, corresponding to the last data of March 2020, which was the beginning of the economic lockdown.

CHART 6. GROWTH RATES BY SECTOR

Source: Banco de Guatemala, 2020.

Unsurprisingly, the largest decline is in hotels and restaurants, followed by construction, transportation, education and other services. On the other hand, public administration, agriculture, and other sectors of specialized services, had not declined (at least until March).

Chart 7 shows the accumulated inflation in every year for the last decade up to August of the current year (the last value now available) measured by the Consumer Price Index. Overall inflation seems to have accelerated somewhat compared to 2018 and 2019 (3% accumulated through August), but it is not out of line with other years prior to that.

CHART 7. INFLATION

Source: authors with data from the Banco de Guatemala, 2020.

Also, the exchange rate was stable (Chart 8), after a spike at the beginning of the lockdown. This helped to stabilize inflationary expectations and the cost of imported items.

CHART 8. EXCHANGE RATE

Source: Banco de Guatemala, 2020.

However, food inflation seems to have picked up. Chart 9 shows the value of the index for the basic basket of food items (“Canasta básica de alimentos”). Note that this is the value (level) not the accumulated inflation (change in level).

CHART 9. BASIC FOOD BASKET INDEX

Source: Banco de Guatemala, 2020.

This is a topic that will be monitored through other activities of the IFPRI program supported by USAID.

METHODOLOGY AND SIMULATIONS⁵

The simulations start with year 2020 and extend to 2021 and 2022. There are three global reference scenarios and they are compared to the counterfactual of no Covid-19. Those three potential scenarios are related to the speed of recovery represented by different shapes of the upturn. A first scenario is **V-shaped**. It assumes quick control of the outbreak, financial stimulus for investors, central bank support and continued demand from national, regional and international markets. The second global scenario is **U-shaped**. It includes financial stimulus and central bank support, but the control of the outbreak is slower and/or the recovery of demand from national, regional and international markets is also sluggish. The third global scenario is **W-shaped**, with a slow recovery of demand that stays below pre-outbreak levels, followed by countries prioritizing national/regional markets over international markets, which would force a change in investment strategies and reallocation of capital across countries/regions. This scenario could also happen with a second outbreak of the virus.

The implications of the economic slowdown for poverty and food insecurity depend on the assumptions made about the duration of the pandemic and the transmission mechanisms.

The analysis was done focusing on a COVID-19 scenario for 2020 and under a range of assumptions of short-term impacts of the pandemic for the next two years. The factors underlying the socio-economic effects of COVID-19, such as health impacts, and the mitigation strategies the countries impose, including social distancing measures, restrictions on labor mobility and on international transport, define the design of the scenarios. Then using IFPRI’s MIRAGRODEP model, this paper analyzes the impact of the pandemic on economic growth, incomes, employment, consumption, prices, trade, and poverty.

The direction of causality in the model is shown in Chart 10.

CHART 10. MODELING FRAMEWORK

⁵ This section is based on David Laborde, Will Martin, and Rob Vos (2020) Estimating the Poverty Impact of COVID-19. The MIRAGRODEP and POVANA frameworks. MIRAGRODEP TECHNICAL NOTE. 06/09/2020. https://www.researchgate.net/publication/342068871_Estimating_the_Poverty_Impact_of_COVID-19_The_MIRAGRODEP_and_POVANA_frameworks_1

Source: Laborde, Martin, and Vos, 2020.

The methodology builds on David Laborde, Will Martin, and Rob Vos (2020) but differs in the epidemiological assumptions, which are based on the scenarios run by the London School of Hygiene and Tropical Medicine (LSHTM) (Pearson, Van Zandvoort, Jarvis, Davies, Thompson, Checchi, Jit, and Eggo. 2020).

RESULTS

The results are presented for the optimistic and pessimistic scenarios. The intermediate scenario stays in between the other two at the end of 2022.

Chart 11 shows the evolution of total GDP from 2019, comparing the baseline against the two polar scenarios.

CHART 11. GDP LEVELS

Source: authors based on MIRAGRODEP.

The year 2020 is the same in both scenarios (it has already played out almost completely), with an estimated decline of about 3.5% from 2019 (-3.5%). Another way to think about the result is to compare it against the baseline without COVID-19 for the same year 2020, which shows a decline of about 6.8% (-6.8%). For 2021, the optimistic scenario considers a stronger rebound (+6.3%) while the pessimistic scenario has a more subdued recovery of +1.1% (which, given that population growth is about 1.6% annually, indicates that in the pessimistic scenario GDP per capita would also decline in 2021). In the

pessimistic scenario total GDP would not recover to the 2019 level in 2021, which only happens in 2022.

In both scenarios, although total GDP in 2022 is considered to be above 2019 (in the optimistic scenario about 5.9% larger, and in the pessimistic only 3.3% above), it would still be below what would have been the baseline growth without COVID-19. These numbers suggest a medium-term negative effect of the pandemic on GDP and GDP per capita.

Chart 12 presents annual growth rates for the three main sectors of the economy: agri-food, industry and services.

CHART 12. SECTORAL GDP (Annual changes %)

Source: authors based on MIRAGRODEP.

A main point to be noticed is that while the agri-food sector is not expected to decline in 2020 (because it had some momentum from before, and the demand for food products is more inelastic than for other goods and services), the impact is estimated to be felt in 2021. The pattern is different for industrial activities and services, which suffer the impact in 2020 and then recover (although at different speeds in both scenarios). The delayed effect of the pandemic on agri-food production suggests the need to monitor closely developments in that sector.

Chart 13 disaggregates the agri-food sector in three main components: crops, livestock and processed food.

CHART 13. ANNUAL CHANGES IN THE AGRI-FOOD SECTOR

Source: authors based on MIRAGRODEP.

Livestock grows less in 2020, but also drops less in 2021, while recovering in 2022. All three subsectors will have recovered by 2022 above the 2019 levels: crops and livestock would have recovered by about 5% above 2019 levels, while processed food would be somewhat less than 4% above the initial level. In the optimistic scenario the three subsectors would be between 6-7% above 2019. However, given that population would have grown by almost 5% in 2022 over 2019 levels in the pessimistic scenario production per capita would be close to negligible.

Chart 14 shows changes in consumption. They are measured against the baseline without COVID-19.

CHART 14.FOOD CONSUMPTION

Source: authors based on MIRAGRODEP.

Food consumption declines in 2020 compared to the baseline without COVID-19, but not equally across food items. Dairy, meat and fruits, vegetables and pulses (FVP) decline more than grains and sugar, processed foods do not decline (they are at zero level and cannot be seen in the chart) and vegetable oils even increase compared to the baseline. This shows a reallocation of consumption to less healthy diets. In 2021 all products decline compared to the baseline in the pessimistic scenario, but grains increase somewhat in the optimistic one. As a whole, the declines are small in the optimistic scenario, as expected. In both scenarios, consumption of food, remains below the counterfactual.

In summary, the simulations suggest both a decline in food consumption and a shift in composition towards less adequate diets.

Chart 15 shows the estimated evolution of extreme poverty and Table 3 presents the changes in the number of poor and the related percentages of poverty prevalence.

CHART 15. EXTREME POVERTY

Source: authors based on MIRAGRODEP.

TABLE 3. NUMBER OF POOR AND PREVALENCE RATE

Extreme Pov- erty	Number of People (Change with respect to No COVID)		Prevalence Rate	
	U Shape	V Shape	U Shape	V Shape
2020	0.61	0.61	10.7	10.7
2021	0.19	0.06	8.2	7.3
2022	0.13	0.04	7.7	7.2

Source: authors based on MIRAGRODEP.

Extreme poverty (measured at USD/PPP 1.9/person/day) is estimated to increase somewhat more than 600,000 persons in 2020, from the about 1.1 million that were calculated to be in that category in 2019. Then the reduction of that number depends on the speed and shape of the recovery. In the optimistic scenario the additional number of poor above the 2019 levels would have dropped to 60000 in 2021 and to 40000 in 2022. This means that even in the optimistic scenario poverty will be above 2019 levels by 2022. The pessimistic scenario estimates that the number of additional poor would reach about 190,000 people above 2019 levels in 2021, and 130,000 in 2022 (showing even longer lasting effects on poverty). The prevalence of extreme poverty that is estimated to increase to almost 11% in 2020 and to remain in 2022 above the level of 2019.

SOME PRELIMINARY POLICY CONSIDERATIONS

Health Issues

The simulations by LSHTM estimated the number of deaths under different scenarios after 6, 9, and 12 months, starting with a seeding of 50 cases in early April. In the unmitigated scenario and adjusting by the fact that COVID-19 cases in Guatemala during early April were less than 50, the estimated deaths by September would have reached about 22,000 (using the lower bound of the 95% estimates of LSHTM for Guatemala). At the time of this writing the reported number of deaths was about 3,400. Of course, it may happen that a) the model overestimates the number of deaths in the unmitigated case; or b) that the number of true deaths is higher than officially recorded. But not considering both caveats, and using those estimated it seems that the number of deaths avoided by the measures taken would have been close 19,000, and about half of that would have been for people below 60 years old.

Still, it seems necessary to strengthen testing and contact tracing, and isolation of identified cases, to slow the evolutions of the pandemic until a generalized program of vaccination is available.

Social protection

The impact of the pandemic will continue in 2021 and 2022. Social safety nets will have to be maintained and expanded. Before the pandemic, Guatemala had the lowest levels of expenditures on social assistance programs in Latin America and the Caribbean (about 0.3% of GDP in the last data available in 2013) (Chart 15)

CHART 16. SOCIAL PROTECTION

Source: ASPIRE Database, World Bank.

The next Chart 16 shows the distribution of social programs, which are basically conditional cash transfers (CCT) and school feeding.

CHART 17. PUBLIC SPENDING ON SOCIAL ASSISTANCE PROGRAMS

Source: ASPIRE database, World Bank.

Chart 17 shows the incidence of the CCT program by beneficiaries, i.e. of the total number of people receiving the transfers what percentage of them are in each quintile (first quintile, being the poorest). That distribution is compared to the average for Central America and Mexico, and for all LAC.

CHART 18. INCIDENCE BENEFICIARIES

Source: Authors with data from ASPIRE, World Bank.

Guatemala appears to have less beneficiaries in the first quintile than the comparators, and more in the third and fourth, which suggests a problem with targeting. The problem seems to be more pronounced in the rural areas.

The additional expenditure on social protection associated to the pandemic reached about 1.2% of the GDP. If maintained, that value would place Guatemala more in line with other LAC countries (although on the lower end of the range; see Chart 15). The country's poor would certainly benefit from both an increase in the funding for those programs and a better targeting.

The second aspect (the need for better targeting) is obvious if the objective is to help the poor, when now part of the money is leaking to higher income groups.

A third aspect to consider is the reconceptualization of the operation of CCTs to adapt them to rural conditions. It has been argued that in many of the countries, social assistance programs in rural areas have simply been a mechanical extension of the urban social protection system, in which those in formal employment receive benefits within contributory systems and the poor and those with informal jobs are served with non-contributory schemes, to try to remedy ex post labor problems and income distribution (see for example, FAO, 2016).

This discussion is leading to consider the development of specific models of social protection that consider the specific characteristics of the peasantry, small producers, and informal workers in rural areas

(see, for example, Natalia Winder 2018; Ana Paula de la O Campos et al. , 2018; FAO, 2016, 2017 and 2018).

Guatemala could analyze the adequacy of conditional cash transfer programs in rural areas, expanding the focus to productive and technological support that can contribute to improving the economic and environmental sustainability of the families involved. It seems relevant the analysis and creation of an instrument for the rural area that can combine the social, productive, and environmental dimensions, with a percentage of cash transfers related to poverty levels; another to cover the additional cost of implementing sustainable adaptation and mitigation technologies; and another for environmental, forest, biodiversity, and ecosystem protection/restoration services. This instrument could include other forms of productive, organizational and commercial support for poor producers.

Additionally, the emergence of the “new poor” from the current pandemic should also lead to expansion and reconfiguration to the urban programs.

Nutrition problems

Lower incomes or no incomes (and perhaps increases in prices in the domestic prices of some foods due to supply disruptions and devaluations) are in general leading to declines in food purchases in general and to some shifting of purchases towards cheaper and less nutritive products (buying more starchy and calorie-intensive products and less of those rich in proteins, vitamins and minerals) (Headey and Ruel. 2020). These problems are also highlighted in the simulations presented here. Diets need to be monitored at a more granular level and evaluate their long-term effects on human health.

The combination of lower quality and quantity of diet, along with limitations in nutritional and health services, problems with water and sanitation, and population density in low-income urban areas, would weaken individual immune systems increasing the vulnerability and chances of dangerous contagion among the poor and vulnerable (Headey and Ruel, 2020).

Food value chains

The simulations suggest that 2021 would be difficult for agriculture. Food value chains will have to be under monitoring to avoid disruptions, particularly in the case of staples such as beans.

Guatemala needs also to invest more in R&D in agriculture: the country has the lowest levels in LAC with just 0.14% of the agricultural GDP (average for LAC 0.71%) and only 6.6 full time employed researchers by 100,000 farmers (average for LAC 71.3 FTE/100,000 farmers) (ASTI database). The additional investment is necessary not only to improve productivity and to adapt and mitigate climate change, but also, as the pandemic has shown, to make food value chains resilient to health shocks.

Macroeconomic policies for the pandemic

Public debt, which was below 27% of the GDP in 2019, is estimated to increase to about 35% by 2023 (IMF, 2020) indicating that Guatemala has fiscal space if there is the political decision to address the social problems that pre-existed the pandemic and have been greatly exacerbated by it.

Fiscal, monetary, and exchange rate policies will have to be managed in a consistent manner to ensure a sustainable macroeconomic path going forward (Díaz-Bonilla, 2020).

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ACKNOWLEDGMENTS

This study has been financed by USAID, under the COVID-19 work with IFPRI

Funding for this work was provided by USAID. This publication has been prepared as an output of the impact of COVID-19 and has not been independently peer reviewed. Any opinions expressed here belong to the author(s) and are not necessarily representative of or endorsed by IFPRI.

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