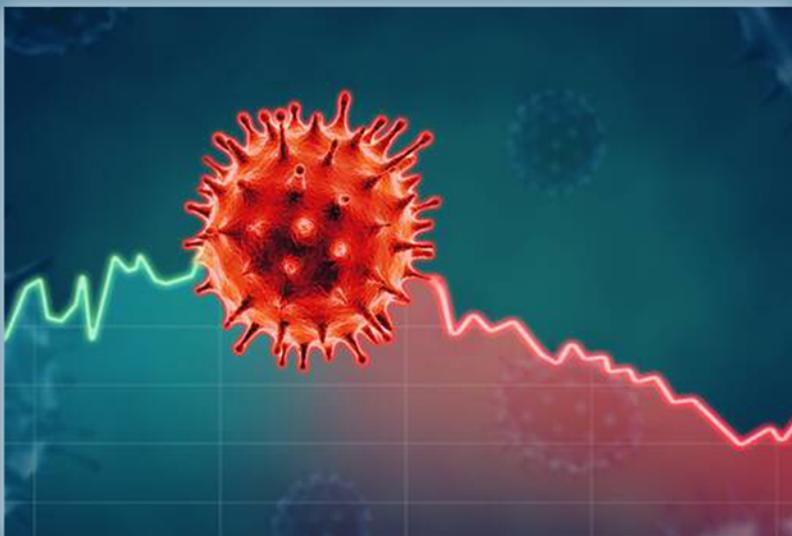


Merab Kakulia Nodar Kapanadze

Impact of Anti-Pandemic Restrictions and Government Anti-Crisis Measures on Employment, Incomes and the Poverty Level in Georgia



2020



GEORGIAN FOUNDATION FOR
STRATEGIC AND INTERNATIONAL STUDIES



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Tbilisi 2020

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Introduction

The COVID-19 pandemic has posed unprecedented challenges to the world economy. It is no coincidence that the crisis provoked by the pandemic has been compared to the largest economic crises of the last hundred years such as the “Great Depression” of 1929-1933 and the “Great Recession” of 2008-2009. According to the International Monetary Fund, the “Great Lockdown” (Gopinath, 2020) has simultaneously weakened economic activity around the world, sharply reduced household consumption, particularly harmed the service sector and severely hit the labor market and international trade (IMF, 2020). The result was a massive loss of jobs and a depletion of regular sources of income for households, precipitating a real threat of a sharp rise in poverty.

Clearly, Georgia has not been able to avoid these events, even more so since the service sector particularly affected by the pandemic crisis, including the tourism industry, accounts for 74 percent of the country's economy (Geostat, 2019). Although the spread of the disease was initially relatively small in the face of anti-pandemic restrictions imposed by the government, the country's economy has suffered greatly.

To at least partially offset the severe socio-economic consequences caused by the restrictions to prevent the further spread of COVID-19, including forced home isolation, governments around the world, among them the Georgian government, have started to implement anti-crisis measures. However, the assessment of their effectiveness proved to be difficult in the view of an almost continuous increase in the scale of the pandemic.

The following study aims to evaluate the:

- Direct impact of state anti-pandemic restrictions on employment and unemployment;
- Role of government emergency anti-crisis measures in mitigating the negative impact of anti-pandemic restrictions, including lockdowns, on employment and unemployment;
- Employment and unemployment forecast for 2020-2021, taking into account the results of the first wave of the pandemic;
- Direct impact of anti-pandemic restrictions on the dynamics and structure of household incomes;
- Role of government emergency anti-crisis measures in neutralizing the negative impact of anti-pandemic restrictions on household incomes;
- Household income forecast for 2020-2021, taking into account the results of the first wave of the pandemic;
- Direct impact of anti-pandemic restrictions on the poverty level according to the subsistence minimum (extreme poverty line);
- Role of government emergency anti-crisis measures in preventing a rise of extreme poverty as a result of anti-pandemic restrictions;
- Forecast of extreme poverty levels for 2020-2021 taking into account the results of the first wave of the pandemic;
- Effectiveness of government emergency anti-crisis measures.

An important feature of this study is the use of the simulation analysis method. At the start of the study, we only had aggregate estimates of the second quarter of 2020 which reflected the results of the first wave of the pandemic crisis in order to assess the possible impact of anti-pandemic restrictions and government anti-crisis measures on employment, household incomes and extreme poverty levels in 2020 and 2021. We first simulated the pandemic in 2019 and tried to estimate the results for 2020 and 2021 based on the results while also taking into account the corresponding trends of the previous years.

The study was conducted by the Georgian Foundation for Strategic and International Studies (Rondeli Foundation) with the support of the Friedrich-Ebert-Stiftung with which the Rondeli Foundation has published several studies on key issues of economic and social development in our country in recent years. Among them, *The Structure of Unemployment and Structural Unemployment in Georgia (2016)*, *Chronic Poverty and Income Inequality in Georgia (2017)* and *The Middle Class in Georgia: Quantitative Assessment, Dynamics, and Profile (2018)*, are noteworthy.

This study, as well as the studies listed above, was conducted by Merab Kakulia, Senior Fellow at the Rondeli Foundation and Professor at the Georgian Institute of Public Affairs (GIPA), and Nodar Kapanadze, Lead Researcher. Technical assistance in processing primary data was provided by statistician Lali Kurkhuli.

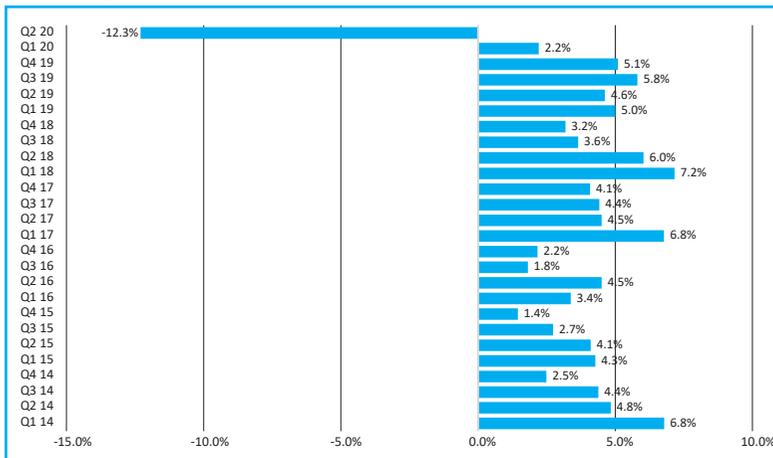
This study does not claim to have a comprehensive analysis of the socio-economic consequences of the COVID-19 pandemic crisis in Georgia, all the more so because the pandemic continues and it is impossible to predict its end. The study is an attempt to quantitatively and qualitatively assess the consequences of the restrictions imposed by the state and the results of emergency anti-crisis measures taken by the government to deal with the first wave of the pandemic. Such a study cannot be insured against deficiencies. The authors will carefully read the remarks and suggestions of our readers and take them into account to the maximum extent possible in their further research activities.

1. Peculiarities of the Pandemic Economic Crisis

The pandemic economic crisis is neither a cyclical nor a structural event. This is a completely new phenomenon which reflects the reaction of the economy held hostage by a disease which is extremely dangerous to life - COVID-19 (Papava, 2020). To prevent the rapid spread of the disease, states are forced to impose severe anti-pandemic restrictions, including the lockdown (citizen home isolation) regime, which have paralyzed most of the sectors of the economy. In such a situation, the strongest shocks of demand and supply are intertwined which, on the one hand, manifests itself in rising unemployment and declining household incomes and, on the other hand, in the disruption of local and global supply chains. As a result, the negative cumulative effect of the economic crisis provoked by the pandemic is very high.

Even though the pandemic is still ongoing, we can already talk about the extent of the susceptibility of the Georgian economy to the economic crisis precipitated by COVID-19. A clear illustration of this is the sharp decline in the GDP directly after the enforcement of the anti-pandemic restrictions, including the lockdown: Georgia's economy shrank by 12.3 percent in the second quarter of 2020 as compared to the same period of the last year. According to the preliminary data from Geostat, the GDP decline rate fell to -5 percent in the third quarter (Geostat, 2020) wherein, as we will see below, the government's emergency anti-crisis measures played a significant role. Nevertheless, since the beginning of the fourth quarter, the number of people infected with COVID-19 increased sharply, signaling the beginning of a new second wave of the pandemic whose socio-economic consequences are difficult to assess from today's perspective.

Diagram #1: Real Annual GDP Growth Rates: Quarterly Dynamics



Source: National Statistics Office of Georgia

The pandemic crisis hit the tourism industry the hardest as can be seen vividly from the table below. The biggest decline was in the administrative and auxiliary service sectors which incorporate the services of tour operators and tourist agencies (54.7 percent) and the hotel and restaurant sector (40 percent). Their contribution to the annual decline of the country's economy in the second quarter of 2020 exceeded a total of 2 percentage points. The construction industry (-24.5 percent) and the transport and warehousing sectors (-22.6 percent) also fell sharply, contributing almost 3.1 percentage points to the real annual decline in the GDP. The annual decline in the trade sector was relatively small (-13.2 percent), although its contribution to the overall contraction of the

economy was almost 1.6 percentage points. The contribution of the service sector as a whole to the 12.3 percent decline in the GDP was 8.11 percentage points, indicating that this sector was the most vulnerable to the pandemic.

Table #1: Real Annual Growth Rates of Individual Sectors in the Second Quarter of 2020

| Types of economic activities | Change compared to the corresponding period of the previous year (million GEL) | Change compared to the corresponding period of the previous year (%) | Contribution to GDP change (in percentage points) |
|---|--|--|---|
| Agriculture, forestry and fish farming | 34 | 4.7 | 0.34 |
| Mining industry | 6 | 6.4 | 0.06 |
| Manufacturing | -104 | -12.1 | -1.02 |
| Supply of electricity, gas and steam | -7 | -3.8 | -0.07 |
| Water supply, sewerage, waste management | -10 | -13.9 | -0.09 |
| Construction | -177 | -24.5 | -1.74 |
| Trade; repair of cars and motorcycles | -157 | -13.2 | -1.55 |
| Transport and warehousing | -136 | -22.6 | -1.34 |
| Hotels and restaurants | -153 | -40.0 | -1.50 |
| Information and communication | -39 | -14.7 | -0.38 |
| Financial and insurance activities | -96 | -15.5 | -0.94 |
| Real estate activities | -11 | -1.0 | -0.11 |
| Professional, scientific and technical activities | -67 | -28.8 | -0.66 |
| Administrative and auxiliary service activities | -62 | -54.7 | -0.61 |
| Public administration | -11 | -1.7 | -0.11 |
| Education | 50 | 11.7 | 0.49 |
| Healthcare and social service activities | 55 | 14.3 | 0.54 |
| Art, entertainment and leisure | -66 | -24.1 | -0.65 |
| Other types of services | -26 | -32.8 | -0.26 |
| Household processing of products | -1 | -6.4 | -0.01 |
| GDP at basic prices | -1008 | -11.2 | -9.92 |
| (+) Taxes on products | -227 | -19.3 | -2.23 |
| (-) Subsidies on products | 4 | 8.0 | 0.04 |
| GDP at market prices | -1251 | -12.3 | -12.30 |

Source: National Statistics Office of Georgia

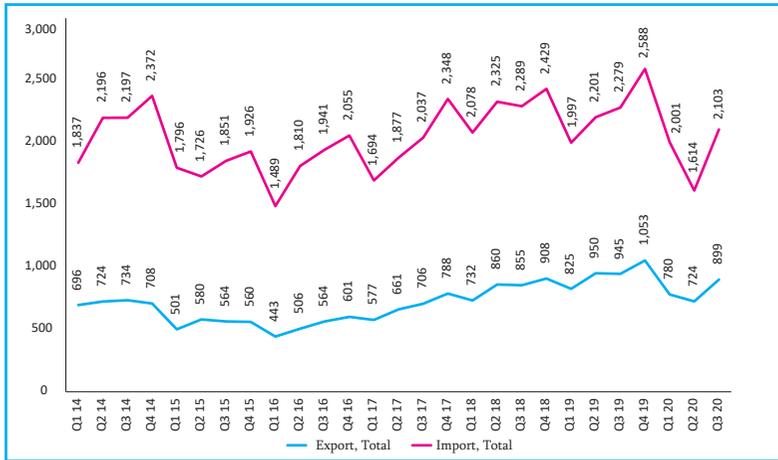
The crisis triggered by COVID-19 has led to a massive job loss in the aforementioned and other sectors of the economy and caused statistically temporary unemployment. Although this was not reflected in the numbers of the official unemployment rate in the second quarter of 2020 (it was only 0.7 of a percentage point higher than at the end of the previous year), an analysis of the Labor Force Survey databases in this study illustrated that the unemployment rate might increase dramatically as a result of the pandemic crisis (see Chapter 4).

The pandemic crisis has hit international trade hard. The world trade turnover fell by an average of 21.3 percent in the first half of 2020 (UN Comtrade, 2020),¹ meaning that global demand, including for Georgian products, has declined substantially. As a result, the volume of Georgian

¹ According to data from 70 countries.

exports in January-April decreased by 12 percent in annual terms. Eight out of ten leading export commodity groups showed a significant decrease in exports with ferroalloys, nitrogen fertilizers, natural grape wines, medicines and automobile re-exports (Geostat, 2020) being particularly noteworthy. As for imports, their volume decreased by 18 percent as compared to the same period of last year, indicating a decrease in household consumption. The situation in foreign trade improved in the third quarter, mainly due to the government’s anti-crisis measures and the removal of the main anti-pandemic restrictions. In the wake of a new wave of the pandemic, however, the outlook is still unclear.

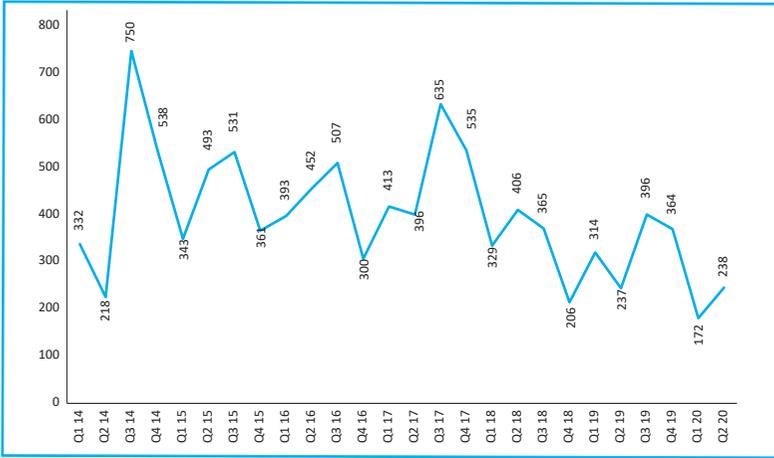
Diagram #2: Quarterly Dynamics of Import and Export (Million USD)



Source: National Statistics Office of Georgia

The crisis precipitated by COVID-19 and the associated uncertainty have substantially reduced the risk appetite of foreign investors, especially towards developing countries, which has been reflected in a rather sharp decline in foreign direct investment. According to Geostat, the inflow of foreign capital into the Georgian economy decreased by 25.6 percent in the first half of 2020 as compared to the corresponding period of the previous year, mainly at the expense of the first quarter. There was a small annual increase in the second quarter (by USD 1 million), although a new wave of the pandemic threatens the FDI flows in the near future. Even in such a situation, Georgia has a chance to benefit from the ongoing process of global industry relocation, especially since it has free trade agreements with the EU, China and many other countries. A similar agreement with the US is also in the pipeline (Kakulia, 2020).

Diagram #3: Foreign Direct Investment, Total (Million USD)



Source: National Statistics Office of Georgia

One of the main features of Georgia's developing economy is its dependence on labor migrant remittances from abroad, amounting to 10 percent of the country's GDP (2019). In the past, remittances have performed an anti-crisis function in host countries as migrants usually transferred more money to their homelands during a crisis. This time, when the pandemic swept almost every country, the high degree of reliance on remittances became a risk factor for the exacerbation of the crisis. During the first wave of the pandemic in April 2020, remittances fell by 42.3 percent as compared to the corresponding period of last year, including 2.6 times from Russia, 33 percent from the United States, 27 percent from Italy and 37 percent from Greece. The flow of remittances resumed in the following months and even surpassed pre-crisis levels in the third quarter but a new powerful wave of the pandemic in Europe and the US calls the sustainability of this trend into question.

Diagram #4: Remittances from Abroad (Million USD)



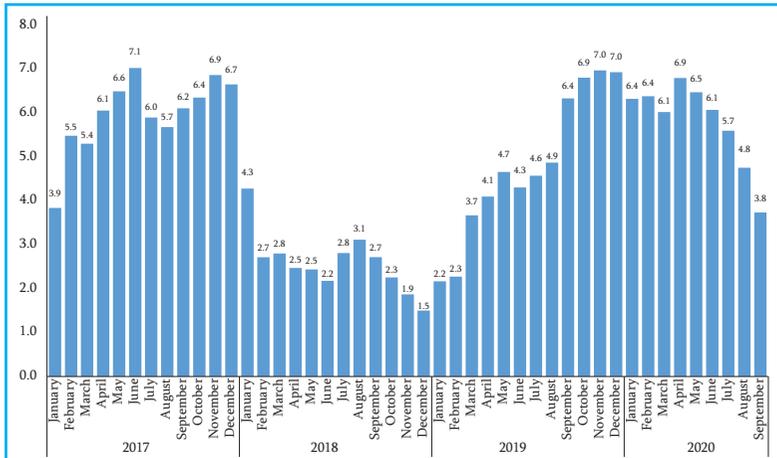
Source: National Statistics Office of Georgia

The pandemic crisis has caused major fluctuations in the global foreign exchange market, although the fluctuation range of the GEL exchange rate turned out to be one of the deepest in the world: in just ten days (March 17-26), the GEL depreciated by 25 percent while the currencies of our trading partners did not experience a similar devaluation in such a short period of time. If we take into account that none of the aforementioned results of the pandemic were in place at that time except for the decrease in tourism revenues, it can be argued that the currency turmoil in Georgia was mainly caused by an inadequate perception of the situation as well as mass hysteria.

Subsequently, the domestic foreign exchange market stabilized largely due to the increased intervention by the National Bank of Georgia. The National Bank has to have more courage and creativity in order to neutralize negative expectations. The use of foreign exchange reserves in emergency situations should not be subject to standard schemes, especially since the country has received large international financial assistance, allowing more interventions.

The pandemic economic crisis, as already mentioned, is characterized by the intertwining of supply and demand shocks. If a drop in demand is driving consumer prices down, a supply shock pushes them up. Thus, the impact of the COVID-19 pandemic on inflation is heterogeneous and depends on whether the demand shock effect outweighs the supply or vice versa: the annual inflation rate slowed in March 2020 as compared to the previous month while it increased substantially in April and amounted to almost 7 percent (4 percent above the inflation target). The sharp depreciation of the GEL exchange rate at the end of March had a significant impact on price increase which was reflected more in April's prices.

**Diagram #5: Annual Inflation
(Change as Compared to the Corresponding Month of the Previous Year)**



Source: National Statistics Office of Georgia

During the first wave of the pandemic (April 2020), demand indeed declined; however, it focused on primary consumer goods, mainly food and household items. Prices for food increased by 16 percent and for household items - by almost 10 percent. The contribution of victuals to the increase in the overall level of consumer prices was 5 percentage points while none of the other 11 commodity groups contributed more than 0.6 of a percentage point. Prices in these groups, except for household items, also increased or decreased slightly (deflation was observed in four groups).

The impact of supply shock on the inflation level in the second quarter of 2020 became more explicit, including in the area of food supply. It is noteworthy that in April, prices increased particularly on fruits and grapes (by 45.4 percent), milk, cheese and eggs (by 23.2 percent), and sugar, jam and other sweets (by 16.9 percent). It should also be noted that out of the 1800 facilities covered by Geostat price registration, 1150 did not function due to the state of emergency (Geostat, 2020)

2. Anti-pandemic and Anti-crisis Measures of the Government of Georgia

The Government of Georgia started responding to the threat of the coronavirus spread on January 28, 2020 when it established the Interagency Coordination Council.

No significant epidemiological restrictions were imposed in January and February except for the suspension of flights to China and later Iran where the disease was already widespread. The first case of coronavirus infection was confirmed in Georgia on February 26.

The mass anti-pandemic² restrictions began in March when educational institutions were closed and the distance learning process was initiated. Further, ski resorts, cafes, restaurants and retail outlets were closed and passengers arriving from abroad, both residents and non-residents, were subjected to isolation. Later, international passenger traffic was completely suspended. A state of emergency was declared in the country on March 21 and two days later two municipalities (Marneuli and Bolnisi) were quarantined. At the end of the month, a curfew was imposed, halting public transport and all types of economic activities unable to be conducted remotely except for grocery stores, pharmacies and some other vital facilities. Public gatherings were severely restricted.

Georgia spent April 2020 with significant anti-pandemic restrictions. Several more municipalities and separate settlements were subject to the quarantine regime. In addition, the activities of agrarian markets were suspended. However, the easing of restrictions began already in late April: the movement of citizens from quarantined cities for agricultural work was allowed, the movement of transport, including taxis, as well as online trade and delivery services were resumed. Open air agrarian markets were also resumed.

Some of the restrictions were maintained in May but their abolition/easing became frequent. Entry and exit restrictions were lifted in the country's capital and in the second and third largest cities - Kutaisi and Batumi. Construction and all types of production and mining, lending, retail and wholesale trade (except malls) were resumed. Car washes and car services, beauty salons and aesthetic medicine centers had their activities restored. The quarantine regime was lifted in several municipalities and settlements. On May 23, the state of emergency and the curfew were lifted. All types of economic activities (with a few exceptions) and municipal transportation services were reinstated under the condition of compliance with the anti-pandemic requirements. Restrictions on public gatherings were also eased.

Most of the restrictions were lifted in June. The services of malls, hotels and restaurants as well as intercity transportation were resumed under the condition of compliance with anti-pandemic requirements. The restrictions on public gathering as well as the requirement to observe special sanitary-hygienic norms remain.

The lifting of the anti-pandemic restrictions was largely completed in July. Georgia resumed air traffic with Germany, France and the Baltic states. Indoor trainings and conferences (of not more than 200 people) as well as festivities and ritual events in open spaces (of not more than 100 people) were allowed. The work of swimming pools and gyms were restored under special requirements. Vocational education institutions were also opened. The removal of the quarantine regime in the municipalities and individual settlements of the country continued, however, the quarantine regime was also enforced in other settlement areas.

² The World Health Organization (WHO) assessed the level of the COVID-19 worldwide spread as a pandemic on March 11, 2020.

Naturally, anti-pandemic restrictions have had a negative impact on a number of economic sectors, virtually stalling all activities. Most of the people employed in these sectors have in fact lost their jobs and hence their incomes. The Georgian government has taken this into account and, along with restrictions, developed a package of measures to address the economic crisis precipitated by the COVID-19 pandemic. The first part of the package was presented to the public on March 13. The aforementioned package consists of two groups of measures:

1. The anti-crisis measures itself aimed at mitigating the impact of anti-pandemic restrictions on citizens and businesses, subsidies, grants, benefits, postponing of various financial obligations, etc.;
2. Measures to overcome the crisis aimed at dealing with the consequences of the pandemic-induced economic crisis and restoring the pre-pandemic economic dynamics:³ soft loans, grant programs, interest rate subsidies, etc. It should be noted that these measures were also enacted in the sectoral context in the form of specific plans for restoring and advancing agriculture, tourism, and development activities.

The purpose of this study is to assess the impact of the anti-pandemic restrictions on Georgian households; in particular, on the employment, income and poverty of their members. It is in this context that we have analyzed the government's anti-crisis measures whose effectiveness is heterogeneous and depends on whether:

- The household receives the benefits of the measure directly or indirectly. For example, all households are beneficiaries of the reimbursement of their utility bills by the state while the direct benefit to households from the four-month property and income tax deferral measure for business entities (covering more than 6000 entities) are not statistically apparent. Another example: an increased grant program for small entrepreneurs is in the process of implementation although it is impossible to determine in advance which and what type of household will benefit from it; that is, the targetability of this grant program at the level of households is low for us to determine its impact in advance in the scope of this study;
- The impact of the measure on the household is immediate. For example, for employees who have temporarily lost their jobs, the impact of a total assistance of GEL 1200 for six months is immediate: all households whose members were hired in the crisis-affected sector will receive an installment of GEL 200 per month. This income will directly affect their well-being. However, measures such as providing legal entities that have a bank debt service problem with the possibility to defer financial liabilities do not directly affect the employment and income of households. Moreover, it is unknown what type of households will be the beneficiaries of this measure or whether the households will benefit from this at all.

Based on the objectives of the research, measures were identified that have an immediate impact on household employment and income and a high degree of targetability. Assessing the effects of such measures at the household level is quite realistic and this was taken into account in the simulation analysis. These measures are:

- Reimbursing utility bills which applies to almost all families. The state took the burden of paying the price for up to 200 kilowatts of electricity and up to 200 cubic meters of natural gas consumed by citizens for a period of three months. The funding also includes cleaning and water bills. The number of beneficiaries for electricity bills amounted to 1.2 million users and for natural gas - more than 670 thousand. Later, these measures were extended for another three months;
- Postponing the credit obligations of citizens for a period of three months under the auspices

³ During the research, we a priori assumed that the pandemic will end in 2020 and the global economy will escape its captivity. It may occur both through the development of an effective vaccine as well as collective immunity which will stop the spread of COVID-19.

- of the state which was later extended for another three months.⁴ This measure is aimed at households that have liabilities to banking institutions. It covered 600 thousand borrowers;
- Up to GEL 200 per month assistance for a period of six months for hired workers who have temporarily lost their jobs: beneficiaries of this measure are hired workers who do not actually work due to anti-pandemic restrictions, although they may still be considered as formally employed. A total of 350 thousand citizens received this kind of assistance;
 - One-time assistance for various categories of self-employed persons in the amount of GEL 300: this measure is aimed at those self-employed individuals who were unable to continue their activities due to the anti-pandemic restrictions and who can prove that they had a regular income beforehand;
 - Tax relief for maintaining jobs: a GEL 750 salary will be fully exempt from income tax for a period of six months and GEL 750 from up to GEL 1500 salary will be exempt from the income tax;
 - Assistance to families with 65000 to 100,000 social rating scores - an average of GEL 600 per family in six months. This measure applies to 70 thousand households;
 - Assistance to families with 0 to 100,000 social rating scores who have three or more children aged under 16 years - an average of a total of GEL 600 per family over six months. The number of beneficiaries reached 22 thousand;
 - Assistance to people with severe disabilities as well as children with disabilities in the amount of 600 GEL over six months. The number of beneficiaries is up to 40 thousand individuals;
 - Increase of the pension for pensioners aged 70 years and over by an additional GEL 30 from July 1, benefiting more than 410 thousand pensioners;
 - One-time assistance for the children under the age of 17 years in the amount of GEL 200 (regardless of their social status);
 - Subsidizing the price of 150 liters of diesel fuel per hectare for farmers - a discount of up to GEL 1 per liter: 200 thousand farmers were expected to benefit from this measure, reducing their farming costs;
 - Subsidizing the cost of agricultural goods and plowing services – GEL 200 per 1 hectare of land (GEL 200 accrued on an agro-card) with a maximum total of GEL 2000 on not more than ten hectares. The number of beneficiaries of this program is 200 thousand farmers;
 - Subsidizing the irrigation service fee - up to GEL 75 per 1 hectare paid by the state. The impact of this measure can also be assessed at the household level. Irrigation costs will be allocated separately from the household expenditures surveyed in 2019 which will be reflected in the benefits.

The enumerated measures almost completely cover the block of the government's anti-crisis package which is conventionally called "Caring for Citizens." In addition, the list also includes agricultural anti-crisis plan measures whose benefits will be directly and promptly received by households in the rural areas.

As for other measures; in particular, the block of measures with the conditional title of "Caring for Business" and the anti-crisis plans for the tourism, education and development sectors as well as most of the measures of the agricultural anti-crisis plan, their results will not immediately nor directly contribute to household incomes, although they will undoubtedly invigorate the economy. These measures were not considered in the simulation analysis for two main reasons: firstly, the degree of their targetability does not allow the identification of the beneficiary household and furthermore: the results of these measures are long-term and it will take years to fully evaluate them.

⁴ Even though the credit service is not part of consumer spending, households would have been forced to cut back on consumer spending to cover loan obligations under the circumstances of a reduced income.

3. Research Methodology

The socio-economic consequences of the anti-pandemic restrictions together with the government's anti-crisis measures can be assessed in a variety of ways. The depth of delineation and the quality of the conclusions depend on the data arrays used for the analysis. In the case of Georgia, the databases on the Labor Force Survey and on the Household Income and Expenditure Survey available for this type of study is published on the website of the National Statistics Office (Geostat).⁵

Using these data arrays, it is possible to assess the impact of the anti-pandemic restrictions and the government's anti-crisis measures, both at the level of the household surveyed using the representative samples as well as different social groups and geographical areas. Clearly, the sampling design somewhat limits the depth of research delineation; however, this is generally typical for such studies.

In addition to the aforementioned databases, we used other sources of information in this study. To analyze the dynamics of the pandemic, we used the data from the World Health Organization⁶ and the official website created by the Government of Georgia.⁷ To assess the sectoral impact of the anti-pandemic restrictions and the anti-crisis measures imposed by the government, we relied on the data of the Government of Georgia,⁸ the Ministry of Internally Displaced Persons from the Occupied Territories, Labor, Health, and Social Affairs;⁹ the Ministry of Economy and Sustainable Development¹⁰ and the Ministry of Environment and Agriculture.¹¹

In the research process, we used the simulation analysis method employing the 2019 databases closest to the study period. Through the simulation analysis, we tried to answer these two questions: What would happen if the pandemic occurred in 2019; that is, what would be the impact of the anti-pandemic restrictions on household incomes, employment and poverty? What would be the impact of the 2020 anti-crisis measures taken by the government on households if they were taken in 2019?

At the time of conducting the study, Geostat's website contained aggregate estimates of the second quarter of 2020 reflecting the results of the crisis precipitated by the pandemic. The actual data of 2020 and the simulation analysis of 2019's data revealed the potential results for the second quarter of 2020 and 2020 as a whole in terms of household employment, income and poverty in the absence of a pandemic crisis and the extent to which the government's anti-crisis measures would play a mitigating role.

The research was conducted in several stages:

At the **first stage**, all of the anti-pandemic and anti-crisis decisions of the government were collected from relevant sources and a database was created after their classification and systematization which enabled the identification of three main groups of measures:

- Decisions which imposed restrictions;
- Solutions which lifted restrictions;
- Decisions not related to the imposition or removal of restrictions.

⁵<https://www.geostat.g>

⁶<https://www.worldometers.info/coronavirus>

⁷<https://stopcov.ge>

⁸<http://gov.ge>

⁹<https://www.moh.gov.ge>

¹⁰ <http://www.economy.ge>

¹¹ <https://mepa.gov.ge>

At the **second stage**, the impact of each event was determined and two main groups were identified:

- Measures of nationwide affect; that is, covering the whole country;
- Measures that have a local impact and cover a region, district, city and/or village.

At the **third stage**, the vector of the direct impact on the economy for each measure was identified and three main groups were specified:

- Measures that directly affect the economy;
- Measures that indirectly affect the economy;
- Measures that do not affect the economy or their impact is so negligible that they can be ignored.

At the **fourth stage**, the vector of the impact of the measures on household income and hence poverty rates were determined. Here, three groups were identified:

- Measures that have a direct impact on household incomes and expenditures;
- Measures that have an indirect impact on household incomes and expenditures;
- Measures that do not have an impact on household incomes and expenses.

At the **fifth stage**, the vector of the impact of the measures on employment and household income was determined and three main groups of measures were identified:

- Measures that facilitate the reduction of employment and income of household members;
- Measures that help to increase the employment and income of household members;
- Measures that reduce household members' expenses while not affecting employment and income.

At the **sixth stage**, based on the content of the measures with negative effects on employment and income, the sectors of the economy which were negatively affected by these measures were identified (according to the International Classification of Economic Activities, NACE).

At the **seventh stage**, the estimated duration of the negative impact by quarters was determined based on the duration of the measure.

At the **eighth stage**, the scale of the negative impact for each sector was determined on a quarterly basis. Initially, the scale of the impact was determined by the degree of the anti-pandemic restriction; however, the scale of the negative impact by sectors was adjusted based on the estimations of Geostat National Accounts for the second quarter of 2020.

At the **ninth stage**, the sectors of the economy which were positively affected by these measures were identified based on the content of the measures that had a positive effect on employment and income (according to the International Classification of Economic Activities, NACE),.

At the **tenth stage**, the scale of the positive impact on a quarterly basis was determined based on the starting date and the estimated acceleration period of the measure.

At the **eleventh stage**, the results were aggregated and as a result we derived a disaggregated table by sectors and quarters showing the extent of the positive and negative impact of the government anti-pandemic restrictions and the anti-crisis measures on household employment and income.

Table #2: Indices Reflecting the Scale of Impact of Anti-pandemic Restrictions and the Government's Anti-crisis Measures on Economic Sectors

| NACE | Sector | Impact on employment | | | | Impact on income | | | |
|------|--|----------------------|------|------|------|------------------|------|------|------|
| | | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| A | Agriculture, forestry and fish farming | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.18 | 0.00 | 0.00 |
| B | Mining industry | 0.00 | 1.00 | 0.40 | 0.00 | 0.00 | 1.00 | 0.40 | 0.00 |
| C | Manufacturing | 0.00 | 0.67 | 0.27 | 0.00 | 0.00 | 0.67 | 0.27 | 0.00 |
| D | Supply of electricity, gas, steam and conditioned air | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| E | Water supply, sewerage, waste management and pollution control activities | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| F | Construction | 0.00 | 1.00 | 0.23 | 0.09 | 0.00 | 1.00 | 0.17 | 0.09 |
| G | Wholesale and retail trade, repair of cars and motorcycles | 0.00 | 0.54 | 0.15 | 0.00 | 0.00 | 0.54 | 0.15 | 0.00 |
| H | Transport and warehousing | 0.00 | 0.67 | 0.35 | 0.08 | 0.00 | 0.67 | 0.35 | 0.08 |
| I | Provision of accommodation means and food delivery activities | 0.00 | 1.00 | 0.73 | 0.43 | 0.00 | 1.00 | 0.73 | 0.43 |
| J | Information and communication | 0.00 | 0.16 | 0.07 | 0.00 | 0.00 | 0.16 | 0.07 | 0.00 |
| K | Financial and insurance activities | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| L | Real estate activities | 0.00 | 0.50 | 0.20 | 0.00 | 0.00 | 0.50 | 0.20 | 0.00 |
| M | Professional, scientific and technical activities | 0.00 | 0.16 | 0.06 | 0.00 | 0.00 | 0.16 | 0.06 | 0.00 |
| N | Administrative and auxiliary service activities | 0.00 | 0.50 | 0.42 | 0.28 | 0.00 | 0.50 | 0.42 | 0.28 |
| O | Public governance and defense, mandatory social security | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| P | Education | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Q | Healthcare and social service activities | 0.00 | 0.06 | 0.03 | 0.00 | 0.00 | 0.06 | 0.03 | 0.00 |
| R | Art, entertainment and leisure | 0.00 | 0.78 | 0.48 | 0.36 | 0.00 | 0.78 | 0.48 | 0.36 |
| S | Other services | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| T | Activities of households as employers, production of undifferentiated goods and services by households for their own consumption | 0.00 | 0.93 | 0.56 | 0.00 | 0.00 | 0.93 | 0.56 | 0.00 |

Source: Authors' calculations

At the **twelfth stage**, we adjusted the relevant variables in the 2019 databases of the Household Income and Expenditure and Labor Force Survey based on the identified scales.

At the **thirteenth stage**, the employment, income and poverty rates in 2019 were calculated according to three scenarios:

- Factual estimates; that is, the actual situation without taking into account the economic crisis provoked by the pandemic;
- Assessments fully incorporating the negative impact of anti-pandemic restrictions imposed in 2020 and without taking into account the government's anti-crisis measures;
- Assessments that incorporate the full impact of the anti-pandemic restrictions imposed in 2020 and the government anti-crisis measures.

The rationale for the scale and timeframe of the negative impact of the pandemic crisis on employment and income by sector is as follows:

- A. Agriculture, forestry and fish farming: The peak of the anti-pandemic restrictions coincided with the spring agricultural work when the income from agriculture is virtually zero. It should also be noted that restrictions on movement for agricultural work were removed as a special exception. Thus, the negative impact of restrictions on employment in this sector was relatively small. As for household incomes, the restrictions mainly influenced the second quarter of 2020, although they did not affect food trade. Exceptions are only those areas that were subject to quarantine restrictions. In terms of household incomes, particularly in the Kvemo Kartli region, cash income from the sale of agricultural products might have been reduced. The restrictions could not have influenced non-cash income; that is, the consumption of self-produced products in current prices.
- B. Mining industry: The restriction which virtually halted production in this sector from March 31 to May 29 had an almost 100 percent negative impact on both employment and income.
- C. Manufacturing: The restriction had a similar negative impact on this sector of the economy (excluding food and pharmaceuticals manufacturing).
- D. Supply of electricity, gas, steam and conditioned air: This sector of the economy has not been affected by the restrictions.
- E. Water supply, sewerage, waste management and pollution control activities: This sector of the economy has not been affected by the restrictions.
- F. Construction: Restrictions from March 31 to May 29 effectively shut down the sector which had a drastic negative impact on both employment and income.
- G. Wholesale and retail trade, repair of cars and motorcycles: The negative impact of anti-pandemic restrictions on this sector is heterogeneous. The trade outlets other than grocery stores and pharmacies were closed from March 19, 2020. At the end of the month, the curfew restrictions also partially affected grocery stores and pharmacies, although this situation lasted only for a month. All types of retail and wholesale stores opened from May 11, 2020 and large shopping malls resumed activities from June 1; however, the number of customers was limited throughout the second quarter. All of this, of course, negatively affected and hindered the trade sector. The restrictions also affected the repair of cars and motorcycles, included in this same sector. The enterprises of this type were closed from March 31 and their operation was fully resumed from May 5. Unlike wholesale and retail trade, they were opened immediately.
- H. Transport and warehousing: The negative impact of the anti-pandemic restrictions on this sector of the economy was also heterogeneous.
 - a. Intercity railway: Here, the restriction was only in effect in April and the first half of May. From the second half of May, the operation of this type of transport was completely restored.
 - b. Land passenger transport: The full restriction on this type of service was in effect in the second quarter and was lifted in late June. Currently, the only restriction active is no more than two passengers by taxi.
 - c. Road freight and shipping services: The complete restriction on this type of activity only applied in the first half of the second quarter. From the second half of May, the operation of this type of transport was completely restored.
 - d. Transportation through pipeline: There are no restrictions on this type of transportation.
 - e. Warehousing and storage: The restrictions on this activity were also applied only in the first half of the second quarter.

- f. Auxiliary transportation activities: Here, too, the restriction only applied in the first half of the second quarter.
- I. Provision of accommodation means and food delivery activities: This sector was harmed the most by the crisis which has naturally affected employment and incomes. In the second quarter, the sector stopped entirely while in the third quarter – it partially recovered. Moreover, the restrictions were in place throughout the year.
- J. Information and communication: The negative impact of the restrictions on this sector was minimal as most of it easily switched to a remote mode. Only publishing activities may have been negatively affected by the restrictions, albeit in the first half of the second quarter.
- K. Financial and insurance activities: The negative impact of the restrictions on this sector was relatively negligible as its remote operation is not a problem.
- L. Real estate activities: The negative effects of the restrictions on this sector were only observed in the first half of the second quarter when all personal contact was prohibited.
- M. Professional, scientific and technical activities: The negative impact of the restrictions on this sector was minimal as most of its activities easily shifts to a remote mode. The negative impact of the restrictions, albeit in the first half of the second quarter, may have been applied to the legal and accounting-auditing domain as these activities are likely to require minimal contact which was prohibited during that period.
- N. Administrative and auxiliary service activities: The activities of travel agencies and tour operators in this sector have been virtually halted.
- O. Public governance and defense, mandatory social security: The anti-pandemic restrictions had no impact on this sector as public servants switched to remote work or were temporarily dismissed while retaining their pay.
- P. Education: The negative impact of the anti-pandemic restrictions on this sector was also not large as educational institutions switched to distance learning.
- Q. Healthcare and social service activities: The impact of the restrictions on this sector was also negligible as healthcare activities are an urgent necessity and citizens involved in social service activities were dismissed while maintaining their wages. The negative impact of the restrictions could only affect residential care activities as it is not under state control.
- R. Arts, entertainment and leisure: The negative impact of the restrictions on the vast majority of activities in this sector would have been maximal except for libraries and museums as they operate under the state and the staff working in these institutions would not lose their jobs and income.
- S. Other services: The negative impact of the anti-pandemic restrictions on this sector was minimal as its remote operation is not a problem.
- T. Activities of households as employers, production of undifferentiated goods and services by households for their own consumption: This sector has been severely affected by the crisis. In the labor force survey database, only households as employer activities are searchable while the production of goods by households for their own consumption is not set apart.

The rationale for the positive impact of the anti-crisis measures on employment and income by sector is the following:

- A. Agriculture, forestry and fish farming: The government's anti-crisis plan is not aimed at the quantitative increase of employment in this sector as it is more focused on improving the qualitative characteristics of employment. The outcome of a significant part of the planned measures will be reflected in the income of households only in the medium term, although there are also some with an immediate impact.

- B. Mining industry: A special anti-crisis plan has not been developed for this sector, although government measures generally provide some benefits for employees which can be assessed at the household level as their targetability is quite high.
- C. Manufacturing: The same applies to this sector.
- D. Supply of electricity, gas, steam and conditioned air: The impact of the crisis on this sector is minimal, thus anti-crisis measures were less impactful on employees.
- E. Water supply, sewerage, waste management and pollution control activities: The same applies to this sector.
- F. Construction: A special anti-crisis plan has been developed for this sector; however, the simulation analysis could not evaluate its results as the main beneficiaries of the program are development companies and the existing data arrays do not allow us to assess its impact at the household level. In general, government measures incorporate certain benefits for those employed in this sector which can be assessed at the household level as their degree of targetability is quite high.
- G. Wholesale and retail trade, repair of cars and motorcycles: No special anti-crisis plan has been developed for this sector. Generally, government measures provide certain benefits for those employed in this sector which can be assessed at the household level.
- H. Transport and warehousing: The same applies to this sector.
- I. Provision of accommodation means and food delivery activities: The same can be said for this sector.
- J. Information and communication: The negative impact of the crisis on this sector is minimal and no special program has been developed to support it. The same applies to the following sectors:
 - K. Financial and insurance activities.
 - L. Real estate activities.
 - M. Professional, scientific and technical activities.
 - O. Public governance and defense; Mandatory Social Security;
 - P. Education.
 - Q. Healthcare and social service activities.
- R. Arts, entertainment and leisure: In general, the government program also provides some benefits for those employed in this sector which can be assessed at the household level. The same applies to the following sectors:
 - S. Other services.
 - T. Activities of households as employers, production of undifferentiated goods and services by households for their own consumption.

4. Employment

4.1. Simulation Analysis of the Results of the Anti-Pandemic Restrictions and Government Anti-Crisis Measures for 2019

In this study, we used the Table of Economic Status for the Labor Force Survey Database in Georgia for a simulation analysis of the impact of the anti-pandemic restrictions and the government anti-crisis measures on employment which show the distribution of respondents by economic status (employed, unemployed, out of the workforce) as dichotomous variables. The same database contains the employment sector code according to the second edition of the Classification of Economic Activities – NACE.

Firstly, we analyzed the distribution of employees in 2019 by economic sectors at the level of three-digit codes. Then we discussed the government's anti-pandemic restrictions at the same three-digit code level. The fact that these constraints affected various sections of the sector to a different extent generated the need for this kind of detailed structure analysis. Take, for example, Sector G - Wholesale and retail trade, repair of cars and motorcycles. Facilities in this sector classified as section 47.4 (retail trade of information and communication equipment in specialized stores) were closed for the entire second quarter while facilities classified as section 47.2 (retail sale of food, beverages and tobacco in specialized stores) were affected only by the restrictions resulting from the curfew and social distancing which obviously slowed down their economic activity but, unlike the former, did not completely suspend it.

Thus, each section that accumulated sufficient statistical frequency according to the survey as a result of the content of the anti-pandemic restrictions was assigned a ratio from 0 to 1 where 0 means that the anti-pandemic restrictions did not affect this type of economic activity and 1 means that this activity has entirely stopped due to the restrictions.

The dichotomous variable of employment - part of the Economic Status Table - was then adjusted by the appropriate coefficient of the employment section on the basis of which we calculated the rate of reduced employment. As for the workforce "freed" as a result of anti-pandemic restrictions, we added them directly to the unemployed. In this way, we only assessed the likely impact of the restrictions without taking into account the government's anti-crisis measures.

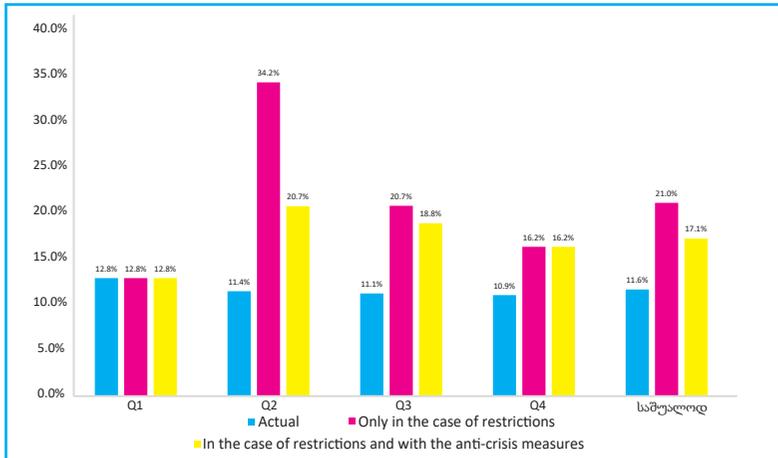
At the next stage, we adjusted the reduced employment variable in accordance with the measures of the government's anti-crisis program focused on each employee and directly related to job preservation. In this way, we assessed the likely effectiveness of the government's anti-crisis measures in this regard.

It should also be noted that the labor force "freed" as a result of the restrictions does not immediately acquire the status of unemployed but this takes some time, especially considering the nature of the pandemic lockdown: the labor-deprived workforce is first in a standby mode and then part of it tries to "settle" for a relatively low-skilled job or in a low-paid sector and a portion goes out of the workforce while the rest continues to wait. It can be argued that the section of the workforce at a high risk of unemployment has been added to the pool of the unemployed. Thus, the unemployment rate calculated through the simulation analysis is the maximum possible indicator if the whole pool of the "freed" labor force were to join the unemployed.

As the simulation analysis showed, if there had been a pandemic in 2019 the unemployment rate in that year would have been 21.0 percent instead of 11.6 percent and the figure would have been 3.9 percentage points lower - 17.1 percent - as a result of the government's measures focused to maintain jobs.

The impact of the anti-pandemic restrictions on the unemployment rate would have been at its peak in the second quarter when the unemployment rate could have been three times higher than the actual number (34.2 percent instead of the actual 11.4 percent). The impact of the restrictions in the third and fourth quarters would have diminished, although the unemployment rate would still have remained higher than the actual number. At the same time, the expected effect of the government anti-crisis measures would have been significant which would substantially reduce the highest possible unemployment rate (from 34.2 percent to 20.7 percent in the second quarter and from 20.7 percent to 18.8 percent in the third quarter).

**Diagram #6: Unemployment Level According to the ILO Criterion by 2019 Quarters
(Results of the Simulation Analysis)**



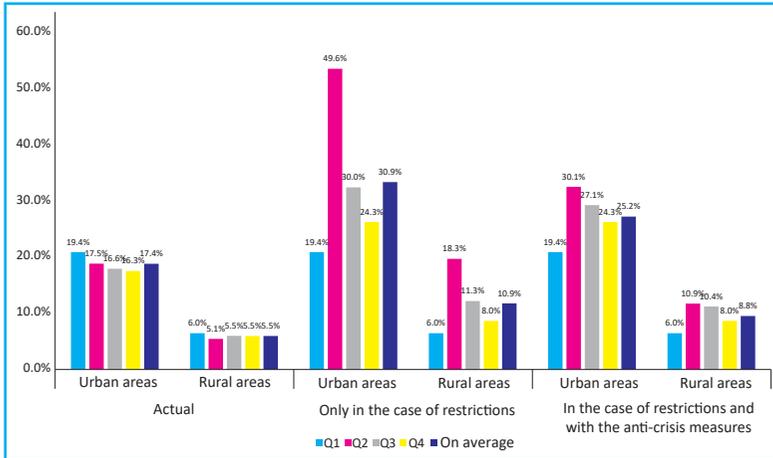
Source: National Statistics Office of Georgia and authors' calculations

The impact of the anti-pandemic restrictions on unemployment would certainly be stronger in the cities. The restrictions would have negatively affected villages as well; however, substantially less than cities. The main reason for this is the rural employment structure which is unambiguously dominated by the low-efficiency but crisis-resistant self-employment on own land which has not been affected by the anti-pandemic restrictions.

According to the simulation analysis, the average unemployment rate in cities in 2019 would have been 25.2 percent which is 7.8 percentage points higher than the actual 2019 figure. In rural areas, the figure may have reached 8.8 percent which is 3.3 percentage points higher than the actual level of 2019.

In the second quarter, the maximum possible unemployment rate in urban areas would have been 49.6 percent and in rural areas - 18.3 percent. The impact of the government's anti-crisis programs on unemployment would have been much larger in urban than in rural areas.

Diagram #7: Unemployment Level According to the ILO Criterion by 2019 Quarters and Urban-Rural Distribution (Results of the Simulation Analysis)

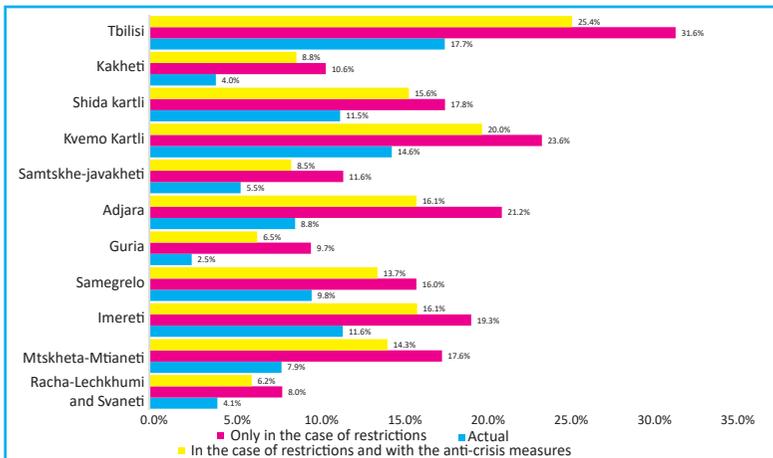


Source: National Statistics Office of Georgia and authors' calculations

If the anti-pandemic restrictions were imposed in 2019, the unemployment rate would be the highest in Tbilisi (31.6 percent), although the change may have been most dramatic in Adjara - from 8.8 percent to 21.2 percent which is quite natural as the restrictions affected tourism-related activities the most. As for the growth rate of unemployment, it would have been the highest in the Guria region (almost quadrupling - from 2.5 percent to 9.7 percent) but the highest possible unemployment rate of 9.7 percent is still not high enough to be classified as a social threat.

Overall, the main distinguishing feature in the scale of the negative impact of the anti-pandemic restrictions on the regions is the degree of their urbanization and the level of the development of the tourism industry. The more urban the region and the more developed the tourism sector, the stronger the impact of the crisis.

Diagram #8: Unemployment Level According to the ILO Criterion in 2019 in the Regions (Results of the Simulation Analysis)



Source: National Statistics Office of Georgia and authors' calculations

The simulation of changes in the structure of employment was conducted in a similar fashion. According to the severity of the restrictions, the probability of losing a job was determined for each sector of employment. In addition, the probability of transitioning to self-employment in agriculture was determined for each sector and employee. To obtain this indicator, we first considered the dichotomous variable for the existence of land used for agricultural purposes by the employee's household which we determined based on a Household Income and Expenditure Survey. At the same time, we calculated the proportion - what part of the employees affected by the restrictions will have access to land for agricultural use. Taking into account the probability of losing a job and of accessing agricultural land, we calculated the probability of transitioning to the agricultural sector.

Table #3: Employment Structure in 2019 (Results of the Simulation Analysis)

| | Actual | Only under the restrictions | Under the restrictions and subject to state programs | Actual | Only under the restrictions | Under the restrictions and subject to state programs | People transitioned to agricultural self-employment (thousand people) |
|--|---------------|-----------------------------|--|--------------|-----------------------------|--|---|
| | Quantity | | | Percent | | | |
| Agriculture, forestry and fish farming | 644.6 | 644.6 | 644.6 | 38.1 | 42.7 | 40.7 | 0.0 |
| Industry | 105.2 | 80.2 | 95.9 | 6.2 | 5.3 | 6.1 | 5.8 |
| Electricity and natural gas | 17.3 | 17.3 | 17.3 | 1.0 | 1.1 | 1.1 | 0.3 |
| Water supply, sewerage, cleaning | 16.5 | 16.5 | 16.5 | 1.0 | 1.1 | 1.0 | 0.0 |
| Construction | 102.0 | 68.6 | 81.6 | 6.0 | 4.5 | 5.2 | 4.6 |
| Trade, car repair | 197.0 | 162.8 | 175.7 | 11.7 | 10.8 | 11.1 | 3.6 |
| Transport and warehousing | 82.4 | 58.7 | 64.8 | 4.9 | 3.9 | 4.1 | 2.5 |
| Hotels and restaurants | 49.1 | 19.1 | 31.4 | 2.9 | 1.3 | 2.0 | 4.0 |
| Information and communication | 19.1 | 18.4 | 18.7 | 1.1 | 1.2 | 1.2 | 0.5 |
| Financial and insurance activities | 30.9 | 30.9 | 30.9 | 1.8 | 2.0 | 1.9 | 0.0 |
| Real estate and professional activities | 45.5 | 37.6 | 39.9 | 2.7 | 2.5 | 2.5 | 0.6 |
| Public management | 93.7 | 93.7 | 93.7 | 5.5 | 6.2 | 5.9 | 0.8 |
| Education | 154.2 | 154.2 | 154.2 | 9.1 | 10.2 | 9.7 | 0.0 |
| Healthcare and social service activities | 60.6 | 59.0 | 60.4 | 3.6 | 3.9 | 3.8 | 1.0 |
| Art, entertainment, and leisure | 30.1 | 15.8 | 22.0 | 1.8 | 1.1 | 1.4 | 1.8 |
| Other types of services | 41.5 | 31.3 | 35.9 | 2.5 | 2.1 | 2.3 | 0.1 |
| Total | 1689.7 | 1508.7 | 1583.4 | 100.0 | 100.0 | 100.0 | 25.6 |

Source: National Statistics Office of Georgia and authors' calculations

In the table above, the number of employees in the agricultural sector is the same for all three scenarios. The last column shows how many of the employees in each sector of the economy would have transitioned to the agricultural sector. This is an important condition since, according

to the current ILO criteria, these people are not considered unemployed but in terms of income their employment efficiency is low and the maximum that can be achieved with such employment is the basic provision of food.

The overall structure of employment by sectors would not have changed substantially, the main reason being the high share of the self-employed in agriculture. The share of the sectors affected by the anti-pandemic constraints is small and its variation may seem insignificant in the overall structure.

It should be noted that according to the simulation analysis, if the restrictions were imposed in 2019 the number of self-employed in agriculture in the same year would have increased by an average of 26 thousand or 4 percent.

While changes in the overall structure of employment are not clearly visible, quantitative changes by sectors are vivid.

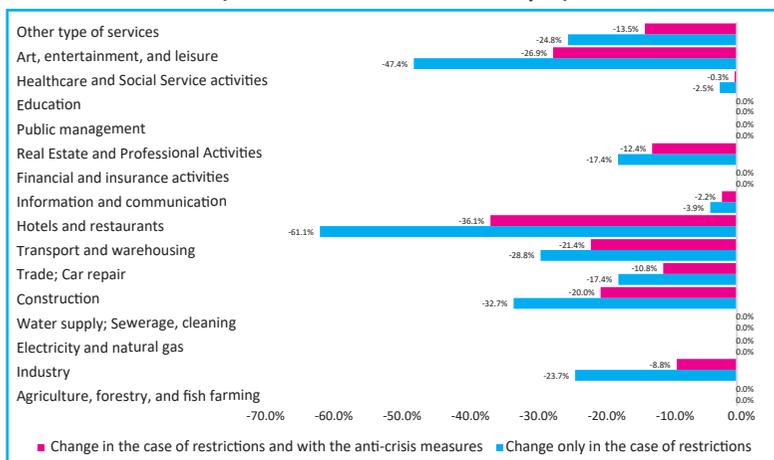
The simulation analysis showed that if the crisis had been in 2019, the hotels and restaurants sector would have been harmed the most with the number of employees reduced by an average of 61 percent in 2019. The government measures targeted to maintain jobs have reduced this decline to 36 percent. Employment in the leisure, entertainment and arts sectors would have been reduced by 47 percent. The government anti-crisis measures would have reduced this decline to 27 percent.

Employees in the industry, construction, trade, real estate and professional activities and transport sectors would have been significantly harmed. There would be a slight decline in the healthcare and information and communication sectors.

It should be noted that the anti-crisis measures aimed at preserving government jobs would significantly mitigate the negative impact of the crisis but the blow would still be very strong in the end. For example, during the restriction period alone 32.7 percent of employees would have lost their jobs in the construction sector while this figure would have been reduced to 20 percent through the state anti-crisis measures.

The restrictions related to the crisis would not apply to the public management, education, finance, energy, water supply and agriculture sectors.

**Diagram #9: Change in Employment by Economic Sectors in 2019
(Results of the Simulation Analysis)**



Source: National Statistics Office of Georgia and authors' calculations

4.2. Expected Results for 2020-2021

At the end of August 2020, the National Statistics Office of Georgia published data on the unemployment rate calculated according to the Labor Force Survey. The data showed that according to the ILO criteria, the unemployment rate in Georgia in the second quarter of 2020 was 12.3 percent which is almost three times lower than the unemployment rate we received through the simulation analysis. Which data is more reliable? To answer this question, a more in-depth analysis of an ILO-defined¹² employee is required.

Given this seemingly unrealistically low unemployment rate, we asked Geostat to provide a Labor Force Survey database containing questions from Block A of the survey questionnaire which determines the economic status of the respondent. Through the analysis of the first and second Quarterly Surveys of 2019 and 2020 provided by the National Statistics Office, we found that the number of those employees who said that they had jobs for the last seven days prior to the survey but could not perform them temporarily increased by 6.4 times in the second quarter of 2020 as compared to the corresponding period of the previous year. The share of such employees was 19 percent in the overall employment which can only be explained by a crisis brought about by the pandemic. The share of the same group in the second quarter of 2019 was only 3 percent.

The distribution of this group of employees according to the reasons that temporarily hampered their ability to perform the work they had is interesting.

It should be noted that according to the Labor Force Survey, the number of such employees also increased in the first quarter of 2020 as compared to the corresponding period of the previous year, although not as much as in the second quarter. It seems that the initiation of the anti-pandemic restrictions and the declaration of a state of emergency have had a significant impact on the economic activity and, consequently, employment.

It is noteworthy that the number of employees who were temporarily unable to complete their job for various reasons was higher in the first quarter of 2019 than in the second. Most likely, this regularity was observed in other years as well. This is substantiated by the distribution according to the reasons for the inability to perform a job, whereby:

- In the distribution of the first quarter of both years, the dominant reason is the end of the working season which is represented much less in the distribution of the second quarter;
- Occasional illnesses, which can be the basis for temporary incapacitation to perform work, are more common in the first quarter of the calendar year than in the second. During severe and chronic diseases, the work is not stopped temporarily;
- There are a lot of holidays and days-off in the first quarter distributions which is not so in the second quarter.

Thus, the part of the employed population which, by their own claim, was temporarily unable to perform their work in the first quarter of the calendar year is naturally higher than in the second quarter. Therefore, the annual increase in the number of such employees from 50 thousand to 322 thousand in the second quarter of 2020 can only be explained by the pandemic-induced crisis.

The Labor Force Survey questionnaire does not indicate a temporary suspension of production/ activity as a reason for the temporary incapacity to work. In content, this more or less coincides with the second option of the answer - technical or economic reasons - but as practice shows, the vast majority of respondents do not perceive this formulation as a lockdown (anti-pandemic

¹² According to the ILO criteria, all persons aged 15 years and over who worked for at least one hour during the previous seven days of the survey to earn cash or non-monetary income or had a job that they were temporarily unable to perform are considered employees.

restrictions). Precisely, this is the reason for the prevalence of an "other" cause in the second quarter of 2020 (81 percent). It should be noted that the share of a similar response also increased significantly in the first quarter as compared to the corresponding period of the previous year which once again proves that the increase in the number of workers temporarily unable to perform their work in the first quarter of 2020 as compared to the corresponding period of 2019 is related to the first wave of the pandemic.

Table #4: Employees Who Had a Job that they Were Temporarily Unable to Perform

| | Q1 19 | Q1 20 | Q2 19 | Q2 20 | Q1 19 | Q1 20 | Q2 19 | Q2 20 |
|----------------------------------|-----------------|-------|-------|-------|---------|-------|-------|-------|
| | Thousand people | | | | Percent | | | |
| 1. Bad weather | 11.1 | 17.6 | 3.1 | 3.9 | 10 | 9 | 6 | 1 |
| 2. Technical or economic reasons | 8.4 | 19.9 | 6.2 | 20.1 | 8 | 10 | 12 | 6 |
| 3. Labor dispute | 0.0 | 0.0 | 0.0 | 0.3 | 0 | 0 | 0 | 0 |
| 4. Study, training | 0.8 | 0.5 | 0.1 | 0.3 | 1 | 0 | 0 | 0 |
| 5. End of the work season | 30.8 | 43.6 | 4.6 | 2.7 | 28 | 23 | 9 | 1 |
| 6. Illness | 15.1 | 19.6 | 8.2 | 12.4 | 14 | 10 | 16 | 4 |
| 7. Days off/holidays | 13.8 | 14.4 | 0.9 | 0.8 | 13 | 8 | 2 | 0 |
| 8. Vacation | 6.5 | 11.5 | 5.8 | 7.1 | 6 | 6 | 11 | 2 |
| 9. Maternity leave | 3.9 | 3.6 | 5.4 | 4.2 | 4 | 2 | 11 | 1 |
| 10. Family or personal reason | 15.6 | 17.0 | 12.5 | 10.9 | 14 | 9 | 25 | 3 |
| 11. Other | 3.9 | 41.7 | 3.9 | 260.0 | 4 | 22 | 8 | 81 |
| Total | 110.1 | 189.5 | 50.5 | 322.6 | 100 | 100 | 100 | 100 |

Source: National Statistics Office of Georgia and authors' calculations

The pandemic-induced crisis as the main reason for the sharp increase in the number of workers temporarily unable to perform their work is clearly illustrated by the comparison of the structures of employment by economic sectors in the second quarters of 2019 and 2020.

The data shows that the share of temporary unemployed in the agricultural sector has not changed, either in quantity or in percentage. Their share in the mining and manufacturing sector has increased from 2 to 35 percent in annual terms. In the construction sector, this increase is from 5 to 36 percent and in transport and warehousing, it is from 3 to 39 percent. The most dramatic change occurred in the hotels and restaurants sector and in the leisure, arts and entertainment sectors where the share of the temporary unemployed increased from 5 to 59 percent and 7 to 60 percent, respectively.

It should be noted that the shares of the temporary unemployed in the second quarter of 2020 is almost the same as the result of the simulation analysis on the changes in the structure of employment. The exception is the education sector where the share of the temporary unemployed has increased substantially, although the anti-pandemic restrictions have only affected the education sector through the transitioning to distance learning. This restriction may have affected the so-called tutors, support staff of schools and other categories.

In addition, another factor is important. In the second quarter of 2020, the number of self-employed in agriculture increased by 32 thousand as compared to the same period of the previous year which has been characterized by a steady downward trend since 2013. The agricultural self-employment can be considered as the most trivial employment opportunity. The increasing number of the self-employed in agriculture can also be easily counted as job losses precipitated by the pandemic-induced economic crisis.

Table #5: Employment Structure by Sectors of the Economy, Including Employees Who had a Job That They Were Temporarily Unable to Perform

| | Q2 19 | | | Q2 20 | | |
|---|-----------------|--|------------|-----------------|--|------------|
| | Employed, total | Including those temporarily unable to work | Percentage | Employed, total | Including those temporarily unable to work | Percentage |
| Agriculture, forestry and fish farming | 670.6 | 20.5 | 3 | 703.3 | 25.9 | 4 |
| Industry | 102.6 | 3.2 | 3 | 106.9 | 37.0 | 35 |
| Electricity and natural gas | 16.6 | 0.0 | 0 | 19.9 | 1.9 | 9 |
| Water supply, sewerage, cleaning | 18.7 | 0.4 | 2 | 17.9 | 1.7 | 10 |
| Construction | 100.6 | 4.7 | 5 | 73.3 | 26.5 | 36 |
| Trade, car repair | 193.5 | 3.4 | 2 | 189.6 | 58.3 | 31 |
| Transport and warehousing | 84.3 | 2.4 | 3 | 81.4 | 31.4 | 39 |
| Hotels and restaurants | 45.8 | 2.5 | 5 | 32.0 | 18.9 | 59 |
| Information and communication | 16.3 | 0.9 | 5 | 20.3 | 0.9 | 5 |
| Financial and insurance activities | 31.7 | 0.9 | 3 | 31.3 | 6.2 | 20 |
| Real estate and professional activities | 21.5 | 0.2 | 1 | 22.6 | 5.2 | 23 |
| Public management | 101.0 | 3.4 | 3 | 85.6 | 11.1 | 13 |
| Education | 157.4 | 2.7 | 2 | 139.1 | 51.0 | 37 |
| Healthcare and social services activities | 61.6 | 0.8 | 1 | 49.5 | 7.1 | 14 |
| Art, entertainment and leisure | 32.5 | 2.2 | 7 | 34.1 | 20.5 | 60 |
| Other types of services | 43.8 | 1.0 | 2 | 46.0 | 12.2 | 26 |
| Total | 1698.4 | 49.1 | 3 | 1652.9 | 315.8 | 19 |

Source: National Statistics Office of Georgia and authors' calculations

Based on everything mentioned earlier, if we subtract the 272.1 thousand temporarily unemployed and the 32.7 thousand newly self-employed people in agriculture from the number of the employed and add them to the 235.9 thousand unemployed in the second quarter of 2020, we get the unemployment rate of 28.2 percent.

Table #6: Quarterly Dynamics of the Distribution of the Economically Active Population for 2019-2020 and Adjusted data for the Second Quarter of 2020

| | Q1 19 | Q2 19 | Q3 19 | Q4 19 | Q1 20 | Q2 20 | Q2 20 – recalculated |
|---|--------|--------|--------|--------|--------|--------|----------------------|
| Total active population (labor force) | 1933.2 | 1937.5 | 1902.8 | 1871.3 | 1892.7 | 1919.8 | 1919.8 |
| Employed | 1685.8 | 1717.2 | 1691.2 | 1666.5 | 1667.5 | 1684.0 | 1379.2 |
| Including those temporarily unable to work | 110.1 | 50.5 | | | 189.5 | 322.6 | 272.1 |
| Including those transitioned to agriculture | | | | | | 32.7 | 32.7 |
| Unemployed | 247.5 | 220.3 | 211.6 | 204.8 | 225.2 | 235.9 | 540.7 |
| Unemployment rate (in percent) | 12.8 | 11.4 | 11.1 | 10.9 | 11.9 | 12.3 | 28.2 |

Source: National Statistics Office of Georgia and authors' calculations

Overall, what can be said about the unemployment rate for the second quarter of 2020? Which number is correct - 12.3 percent or 28.2 percent?

According to the ILO criteria, the unemployment rate is in fact 12.3 percent but in reality, the picture is different. Those temporary unemployed were not actually employed during the previous seven days of the survey and their temporary unemployment was against their will and so were the 32.7 thousand "new" rural self-employed who did not start the cultivation of their land through their own free will. The shift of 272 thousand employees to a temporary unemployed mode was primarily due to the anti-pandemic restrictions. The fact that this pool of people was not assigned to the group of the unemployed according to the ILO criteria but rather to a job recovery anticipating mode was caused by the positive expectations ignited by the government's anti-crisis measures in addition to significant international financial aid.

Thus, the sharp rise in the official level of unemployment is a completely realistic threat, even more so when the second and much stronger wave of the pandemic is apparent.

Given the aforementioned circumstances, we tried to calculate unemployment forecasts in different scenarios. For this, we used the quarterly dynamics of the unemployment rate since the crisis did not affect the figures for the whole year uniformly. In this case, the possible number of observations (44 quarterly estimates) gives much more reliable results than the 11-year estimates. At the same time, it is necessary to clear the time series from seasonal fluctuations for a more complete analysis of the trends.

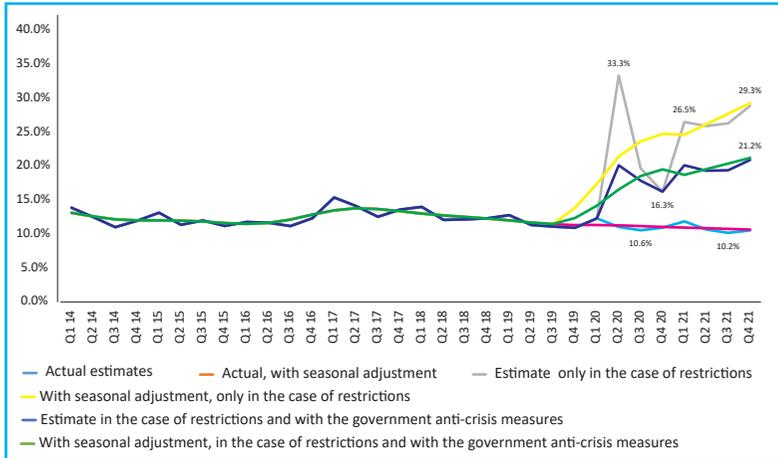
The unemployment rate forecast indicator was calculated in the following order:

- We initially calculated the actual figures for 2019 and the trends for 2020 and 2021. To calculate the trend, we used a time series cleared of seasonal influences, resulting in quarterly estimates for 2020 and 2021 cleared of the seasonal effects. To calculate the actual values, we have modified the seasonally adjusted quarterly values with the appropriate seasonal coefficients which we obtained during the seasonal decomposition of the quarterly indicators for 2009-2019. This answered the question of what would have happened in other equal conditions and the indicators we would have if not for the pandemic-induced crisis;
- At the next stage during the simulation analysis, we adjusted the 2020 indicators in accordance with the proportion to the 2019 indicators following two scenarios:
 - A. Only in the context of the anti-pandemic restrictions; that is, if we only were to have restrictions and no government anti-crisis measures.
 - B. Taking into account the government anti-crisis measures; that is, taking into account all of the measures that could have an immediate impact and measurable results.
- After that, we did a seasonal decomposition of the quarterly estimates for 2009-2020 and calculated the new trend for 2021. The 2021 trend indicators were also modified with the seasonal coefficients.

The calculations have shown that the unemployment rate, which after the growth trend in 2016-2017 was characterized with a steady declining pattern, would continue to decline in 2020-2021 as well had it not been for the pandemic and related constraints which will dramatically increase unemployment in 2020 and 2021 if the relatively long-term recovery measures do not yield the appropriate results. The relatively low unemployment rate (12.3 percent) in the second quarter of 2020 which, as mentioned above, is the result of the positive expectations related to job recovery should not mislead us, in fact, as the situation is much more difficult. .

Indeed, the government's anti-crisis measures mitigate the negative impact of the pandemic but these measures will not be infinite and their function was only to swiftly solve the already identified problems. These government policies will only slow down the rise of unemployment but will not stop it.

Diagram #10: Quarterly Dynamics of the Unemployment Rate According to ILO Criteria Taking into Account the Anti-Pandemic Restrictions and the Government Anti-crisis Measures



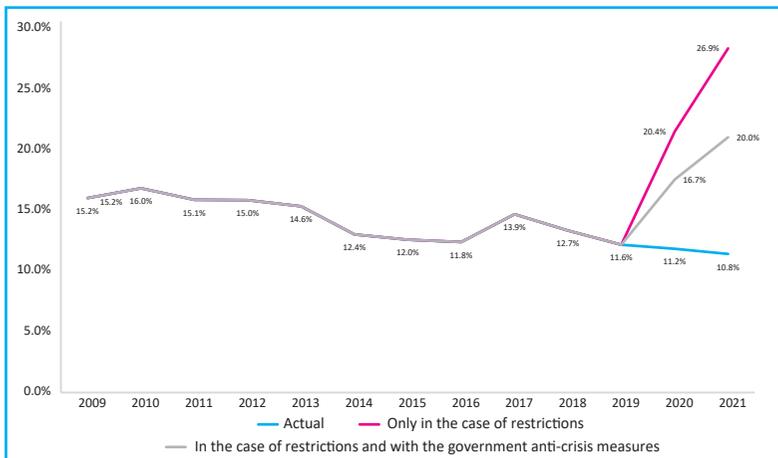
Source: National Statistics Office of Georgia and authors' calculations

The overall impact of the crisis is more evident in the annual forecast data which shows that the unemployment rate may have increased to 20.4 percent in 2020 but this increase is expected to decrease to 16.7 percent through the government's anti-crisis measures.

In the case of the government's resuming of the anti-pandemic restrictions without renewed anti-crisis measures, the unemployment rate might reach 26.9 percent in 2021. If the government continues anti-crisis measures in 2021, the unemployment rate might rise to 20.0 percent.

It is noteworthy that the government's anti-crisis measures are extraordinary in character and relatively short-term: they are mainly aimed at a prompt response to the existing problems. As for addressing the consequences of the crisis, it is necessary to have a long-term strategy for overcoming the crisis. The government has already announced the main directions of the strategy and has started to implement them.

Diagram #11: Annual Dynamics of the Unemployment Rate According to ILO Criteria Taking into Account the Anti-Pandemic Restrictions and the Government Anti-crisis Measures



Source: National Statistics Office of Georgia and authors' calculations

The current situation in the field of employment may develop in the following scenario: the unemployment rate continues to rise steadily, leading to significant social unrest and the state will run out resources needed for immediate anti-crisis measures which will be very difficult to refill under the situation of increased unemployment. On the other hand, the share of self-employed in agriculture, which is already high, will continue to increase asymmetrically. That is, the number of the economically active population engaged in low-productivity activities will increase but has less prospects for development.

5. Incomes

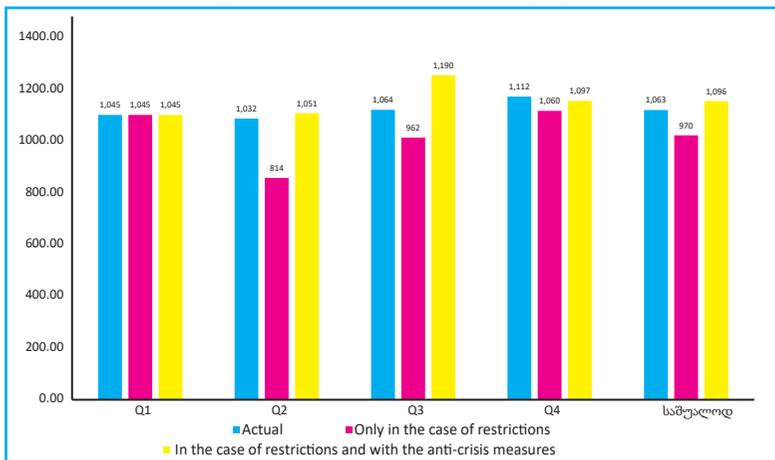
5.1. Simulation Analysis of the Results of the Anti-Pandemic Restrictions and the Government Anti-Crisis Measures for 2019

We used the same approach to analyze the impact of the anti-pandemic restrictions and the government's anti-crisis measures on incomes as we did for the impact assessment on employment. According to the severity and duration of the restrictions, we adjusted the size of income from employment in the databases of the second, third and fourth quarters in accordance with the coefficient of the employment section (see section 4.1.).

In addition, we have also taken into account the fact that the closure of large cities and the curfew in the second quarter of 2020 significantly hampered the supply of agricultural products from villages to Tbilisi and other large cities which may have led to lower incomes from the sale of agricultural products. These restrictions were in force for a total of one month and so we reduced incomes from the sale of agricultural products by 30 percent for respective households in the second quarter of 2019.

It is noteworthy that the assistance and benefits provided by the government's anti-crisis measures throughout the year ensured the maintaining of at least a minimum level of incomes.

Diagram #12: Total Income of One Household (GEL/Month) by 2019 Quarters (Results of the Simulation Analysis)



Source: National Statistics Office of Georgia and authors' calculations

The simulation analysis showed that as a result of the anti-pandemic restrictions in 2019, the average monthly income of one household would have decreased from GEL 1063 to GEL 970 while the average monthly income of one household would have even increased slightly if we take full account of the government's anti-crisis measures. The income decline would have been the most dramatic in the second quarter while a reverse trend would have again prevailed in the third and fourth quarters.

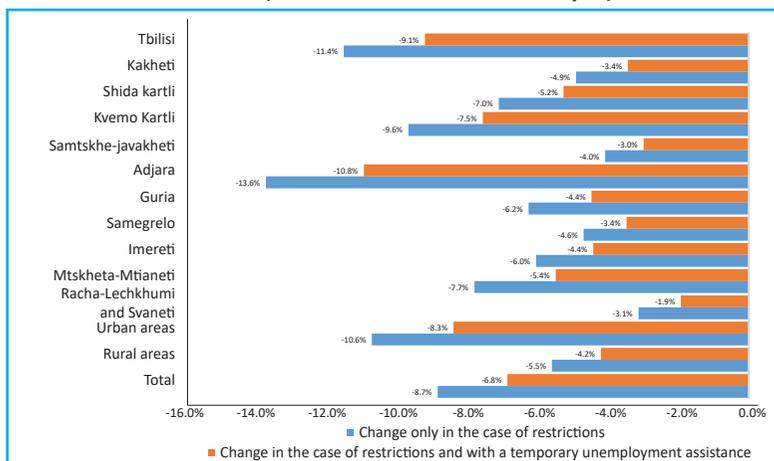
Compensations¹³ directly related to employment are particularly noteworthy from among the anti-crisis measures. As the simulation analysis showed, these measures somewhat mitigate the

¹³ These measures are: assistance for six months in the amount of GEL 200 per month for the wage-employed persons who have lost their job and one-time assistance for various categories of (non-agricultural) self-employed in the amount of GEL 300.

crisis shock. Just by their virtues, income would have decreased by 6.8 percent instead of 8.7 percent in 2019. In other words, employment compensation programs would have softened the blow of the crisis by 1.9 percentage points.

Naturally, the beneficiaries of these government measures would have been the predominantly urban population as wage employment is mainly an urban phenomenon.

Diagram #13: Change in Total Income in 2019 Based Only on Temporary Unemployment Benefits (Results of the Simulation Analysis)



Source: National Statistics Office of Georgia and authors' calculations

The capital and the Adjara region are characterized by the largest decline in incomes which is quite understandable: Tbilisi is characterized by the highest share of wage employment while Adjara is dominated by the tourism sector which has suffered the most from the crisis.

From the regions, a small decline in incomes were observed in Racha-Lechkhumi and Svaneti. The decline of incomes would have also been low in Samtskhe-Javakheti and Kakheti.

The assistance and benefits provided by the government's anti-crisis program mainly applied to the second and third quarters of 2020. Some of them are not income related, although they have covered the expenses that are necessary liabilities of households.

Of the government's anti-crisis measures, direct cash income for a household was a compensation for job loss (temporary unemployment) and assistance to vulnerable households and children under 17 years of age.

According to the simulation analysis, the amount of temporary unemployment assistance in the second quarter would have been on average GEL 68 per household per month and GEL 16 in the third quarter while the average monthly amount of this compensation throughout the year could have been GEL 21.

Assistance to socially vulnerable households in the second quarter would have been GEL 12 per month for each household and GEL 11 per month in the third quarter. The average amount of this assistance per year would have been GEL 6 for each household. At first glance, these amounts are very small but we must not forget that the share of households benefiting from this assistance is slightly more than 11 percent. Thus, the actual assistance would not have been insignificant for those households directly receiving the aid.

The assistance for children under the age of 17 years would have been quite large in the third quarter (an average GEL 48 per month). The same assistance would have reached an average of GEL 12 per month for each household throughout a one-year period; however, the actual assistance would have been much higher for families directly benefiting from this aid.

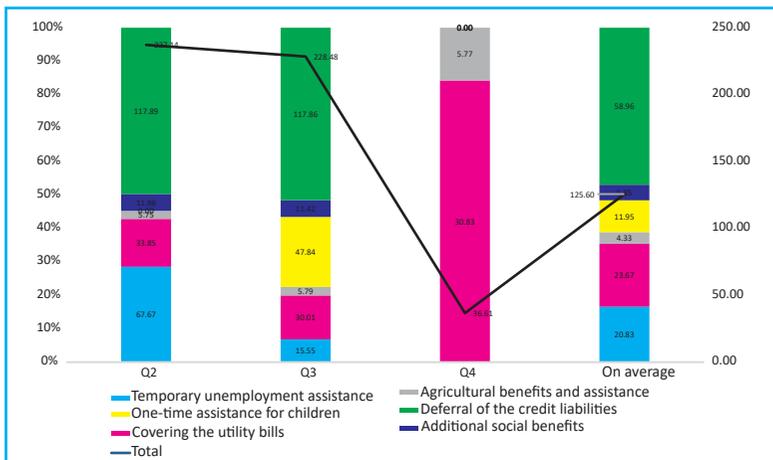
Income in essence is not agrarian benefits for the rural population, which includes subsidies for land cultivation, agricultural tools and consumables. From this measure, households would receive an average benefit of GEL 21 per month, amounting to GEL 250 per year which is not an insignificant benefit for a rural household.

Payment of utility bills by the state is also in essence not an income but is quite a significant benefit which would have been GEL 24 per month for each household.

The deferral of loans is also not an income but this is the largest measure in terms of volume as the simulation analysis showed. With a six-month loan deferral, one household would have received an average of GEL 59 per month in 2019 while a household directly benefiting from this benefit would receive GEL 332.

Overall, the benefits of the government’s anti-crisis measures covered the second and third quarters and its average monthly volume was GEL 237 and GEL 228, respectively. Only the agrarian component and the coverage of utility bills were operational in the fourth quarter and so the volume of the benefits is much less. The total amount of benefits is quite important in order to at least partially compensate the decrease in the level of disposable income on the part of households during the most difficult period of the pandemic.

Diagram #14: Structure of the Government’s Anti-crisis Measures in 2019 by Quarters (Results of the Simulation Analysis)



Source: National Statistics Office of Georgia and authors' calculations

Overall, taking into account all of the benefits included in the government’s anti-crisis measures, the average monthly income of one household would have increased by 3.1 percent in 2019. Excluding the component of the deferral of credit liabilities and considering the other aid and benefits, it would have reduced by 6 percent.

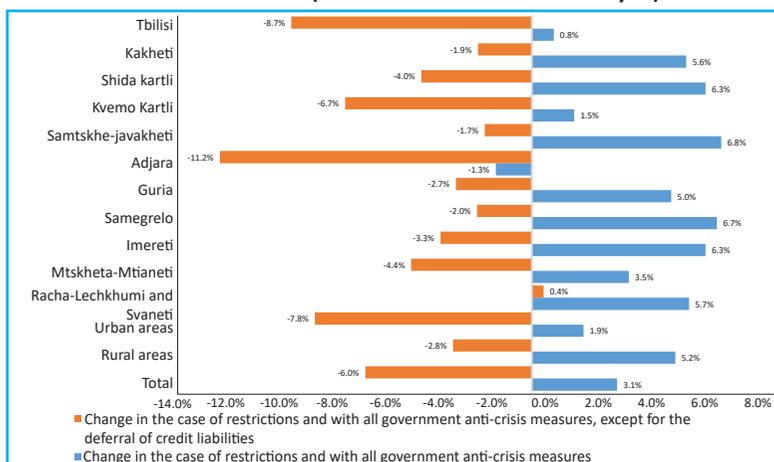
Is it necessary to answer the question of the fairness of adding income to benefits that are not income in their essence, especially since we are also adding benefits such as the deferral of loan liabilities for six months to the amount of income.

In our opinion, such an approach is completely fair as the households enjoying such benefits provided by the aforementioned measures would no longer have to incur urgent costs which were reimbursed by the state.

The same applies to credit deferrals. It is true that these liabilities have not been abolished and households will have to bear the corresponding costs in the future, but getting rid of them in times of crisis is a significant relief and its volume equals the aforementioned liabilities in the monetary dimension.

Taking into account all of the benefits, the income of one city household would have increased by 1.9 percent in 2019 while the income without the deferral of loan liabilities would have decreased by 7.8 percent. In rural areas, the similar indicators would have increased by 5.2 percent and decreased by 2.8 percent, respectively.

Diagram #15: Change in Total Income Taking into Account all of the Government’s Anti-crisis Measures in 2019 (Results of the Simulation Analysis)



Source: National Statistics Office of Georgia and authors' calculations

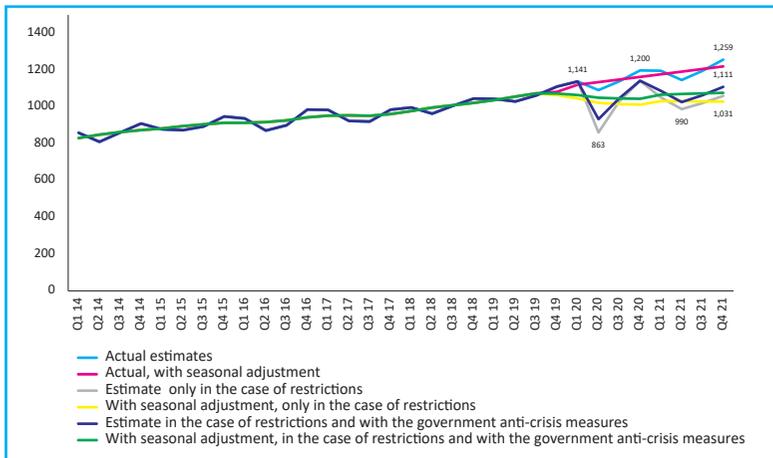
As we can see, the impact of the government’s anti-crisis measures in rural areas is much more positive than in urban areas which is quite understandable as the anti-pandemic restrictions have had a more severe impact on the urban economy. It should also be noted that even before the crisis, the socio-economic situation was relatively more difficult in the rural areas.

5.2. Expected Results for 2020-2021

Based on the results of the simulation analysis, we calculated the forecast indicator for the average monthly income of one household through different scenarios. For the calculation, we used a set drawn from the observations of 44 quarters which, as was already mentioned, is much more reliable than the 11-year estimate. The calculation was performed in the same sequence as during the calculation of the unemployment forecast indicator (see section 4.1).

The calculations showed that the level of incomes, which was characterized by a steady upward trend in 2009-2019, would have continued in 2020 and 2021 if it were not for the anti-pandemic restrictions and the crisis induced by them which will dramatically reduce employment resulting in the drop of income levels in 2020-2021 if the long-term measures planned to overcome the crisis do not yield results. As for the government’s emergency anti-crisis measures, they will somewhat mitigate the negative effects of the pandemic.

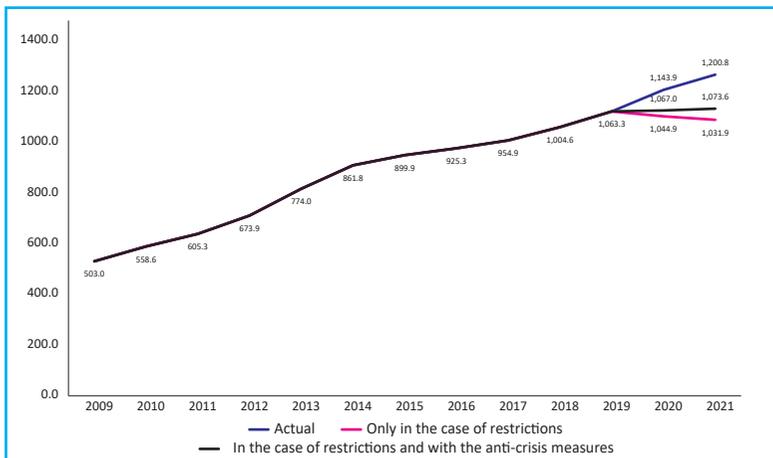
Diagram #16: Quarterly Dynamics of Monthly Income of One Household Taking into Account the Anti-pandemic Restrictions and the Government's Anti-crisis Measures



Source: National Statistics Office of Georgia and authors' calculations

Had it not been for the pandemic-induced crisis, the average monthly income of one household in 2020 might have been GEL 1144 which would have been a natural continuation of the trend established in 2009-2019. However, due to the anti-pandemic restrictions, this figure is expected to contract to GEL 1045. As a result of the government's anti-crisis measures, the level of nominal incomes on average may be around GEL 1067 per month which is practically the same as in 2019.

Diagram #17: Annual Dynamics of Average Monthly Household Income Per Year Taking into Account the Anti-pandemic Restrictions and the Government's Anti-crisis Measures



Source: National Statistics Office of Georgia and authors' calculations

If there were no crisis, the average income per household would have reached GEL 1200 per month in 2021 which would have been a continuation of the trend of the previous years. If the anti-pandemic restrictions were maintained and without taking on the anti-crisis measures, the level of income would have continued to decline and would have been closer to GEL 1032 in

2021. The government's anti-crisis measures may slightly increase this figure to about GEL 1073. We must not forget that the aforementioned income figures are given in nominal terms, given the inflation, and so this in reality would not have been an increase.

It should be noted once again that the effect of the government's anti-crisis measures is short-term. Achieving a long-term and irreversible income growth requires a consistent strategy for overcoming the crisis. Otherwise, a sustainable and irreversible increase in incomes will be impossible due to the hypothetical employment scenario discussed earlier.

6. Poverty

6.1. Simulation Analysis of the Results of the Anti-pandemic Restrictions and the Government's Anti-crisis Measures for 2019

To assess the impact of the pandemic-induced crisis on poverty, we first tried to use the approach of assessing the level of poverty currently used by the National Statistics Office but we rejected it for two reasons, namely:

- The poverty levels are assessed only on the basis of annual indicators which means that the poverty line is annual and not quarterly. This is of great importance in our case because the first wave of the crisis covered mainly the second and third quarters. The impact of the crisis has not been identical throughout the year;
- The aggregate indicator of total consumption is used to estimate the poverty level which requires the calculation of consumer price indices at the regional level as well as a much more detailed disaggregation of household consumption expenditures than is given in the published databases.

There is no need to use such a complex approach for a simulation analysis. We, therefore, used the following parameters for the study:

- We took the official subsistence minimum as the poverty line and whose calculation method is given on Geostat's website. There we can also find its values by months. Despite some reservations regarding the calculation of the subsistence minimum, the use of this indicator is optimal for research purposes because the trend analysis is the most important for us. At the same time, the subsistence level is so small that the level of poverty against it can be assessed as extreme poverty;
- To determine the level of poverty, we used the total household consumption rate which is given in the Household Incomes and Expenditure Database. We recalculated the total household consumption per equivalent adult and used the coefficient of the economies of scale.¹⁴

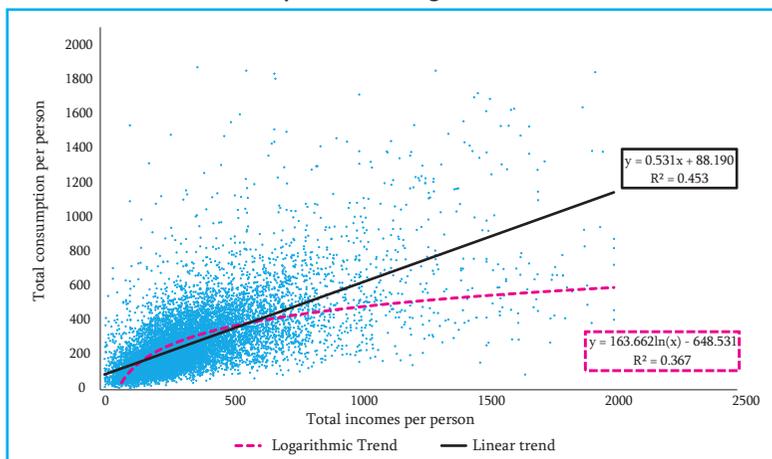
We first calculated the poverty line for the 2009-2019 quarterly time series (actual poverty level). Then, in the 2019 database, we calculated the reduced level of total consumption as a result of the pandemic crisis for each household whereby the volume of declined incomes was subtracted from the actual level of the total consumption. We have also taken into account that a reduction in incomes does not necessarily mean an immediate and exactly the same decrease in consumption as households may have transient reserves and savings. There is also social capital which gains in significance especially in times of crisis. To assess the share of income decline in reduced consumption, we conducted a regression analysis on the correlation between the per capita total consumption and total incomes using the 2019 data.

A regression analysis showed that the relationship between these two indicators is relatively more linear than logarithmic according to 2019's data. The R2 coefficient of linear regression is at 0.453 while the same coefficient of logarithmic dependence is 0.367.

The regression analysis showed that each additional GEL of total per capita incomes means an increase in total household consumption of GEL 0.531 and vice versa.

¹⁴ To recalculate the equivalent adult, we used the same equivalence scale as on Geostat's website. A coefficient of 0.8 was used for the economies of scale effect which is also used by the National Statistics Office to estimate the poverty level.

Diagram #18: Correlation Between Total Per Capita Income and Consumption According to 2019's Data



Source: National Statistics Office of Georgia and authors' calculations

With a reduced consumption rate, we calculated the poverty level in the context of reduced incomes caused by the pandemic-induced crisis. Then, the benefits of the government's anti-crisis measures with exactly the same principle were added to the reduced level of consumption for each household. As a result, we calculated the poverty level taking into account the benefits obtained from the aforementioned measures.

The simulation analysis showed that the poverty level relative to the official subsistence minimum; that is, the extreme poverty level in 2019 was 20.4 percent. Incidentally, this estimate differs by only 0.9 of a percentage point from the 2019 poverty level published by Geostat. The approach we are using is not fundamentally different. Had the crisis been in 2019 and without any support from the state, the poverty rate would have risen to 24.8 percent while it would have declined by 0.9 of a percentage point as a result of the anti-crisis measures taken by the government.

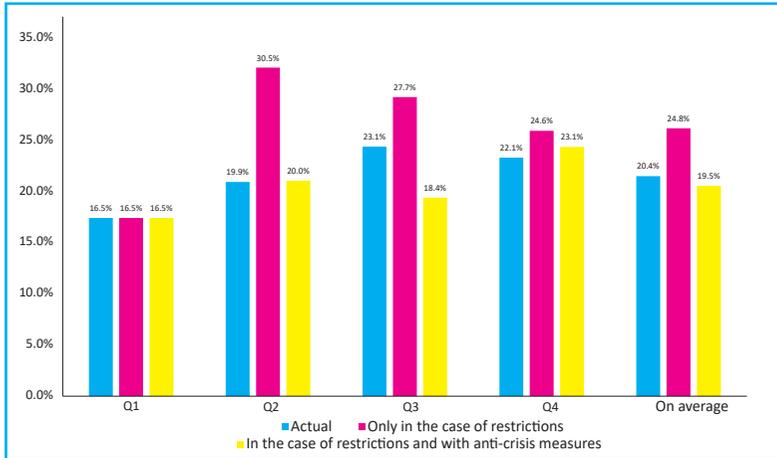
The increase in the poverty level would have been the most dramatic in the second quarter: it might have reached the 30.5 percent mark while the increase would have been insignificant (0.1 of a percentage point) with state support.

Without the government's anti-crisis measures, the extreme poverty rate would also have been very high and reached 27.7 percent in the third quarter while it would have dropped significantly to 18.4 percent as a result of the government's support.

Without the government's anti-crisis measures in the fourth quarter, the poverty rate would have been quite higher (2.5 percentage points) than the actual number. It would have been relatively lower than the actual number (by 1.0 percentage point) but still high even with state support. The reason for this is that the government's primary anti-crisis measures were applied to the second and third quarters.

All of this suggests that the state anti-crisis program was targeted with a fairly high degree of accuracy at the most vulnerable segments of society, ensuring that the level of income was maintained and slowing a dramatic increase in poverty.

Diagram #19: Poverty Level Relative to the Official Subsistence Minimum by 2019 Quarters (Results of the Simulation Analysis)

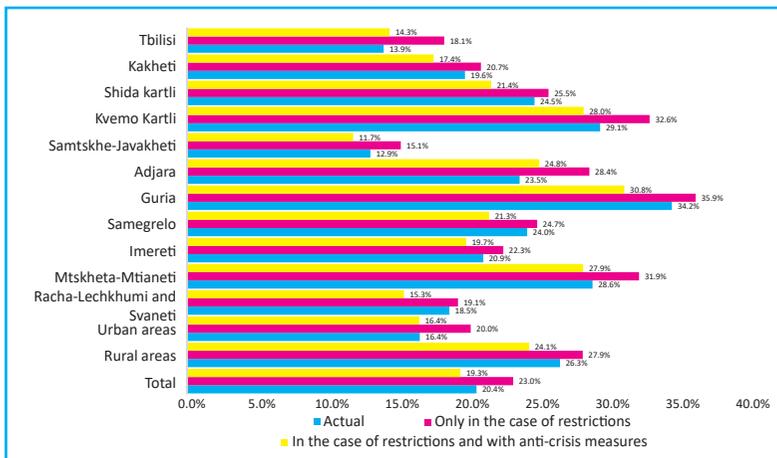


Source: National Statistics Office of Georgia and authors' calculations

According to the simulation analysis, the extreme poverty rate in urban areas would have increased from 16.4 percent to 20.0 percent in 2019 as a result of the crisis but would have remained at the same 16.4 percent level under the influence of the government's anti-crisis measures.

The rural poverty would have risen from 26.3 percent to 27.9 percent, although the government's anti-crisis measures would have lowered the figure slightly than the actual level (from 26.3 percent to 24.1 percent). This is due to the fact that the impact of the pandemic-induced crisis in the rural areas was relatively low while the state support programs were as accurately targeted as those in the cities. In addition, the poverty is higher in rural than in urban areas and the density of households near the poverty line is so high that the positive effect of relatively insignificant assistance is palpable.

Diagram #20: Poverty Level Relative to the Official Subsistence Minimum by Regions and Urban-Rural areas in 2019 (Results of Simulation Analysis)

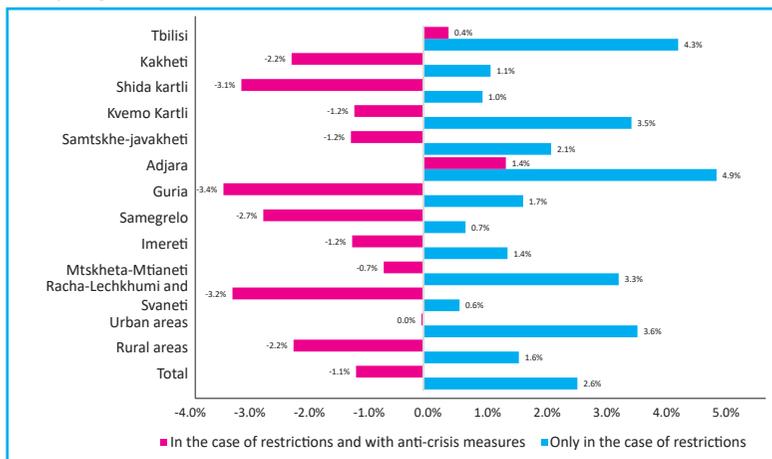


Source: National Statistics Office of Georgia and authors' calculations

Only Tbilisi and Adjara are the regions where the simulation analysis showed that the level of poverty would have increased even with the government’s anti-crisis package. Clearly, the increase would have been higher without state support but in these two regions alone poverty reduction would not have been possible. We have already discussed the reasons for this above but we must repeat here as well that employment in crisis-susceptible sectors is most prevalent precisely in these regions.

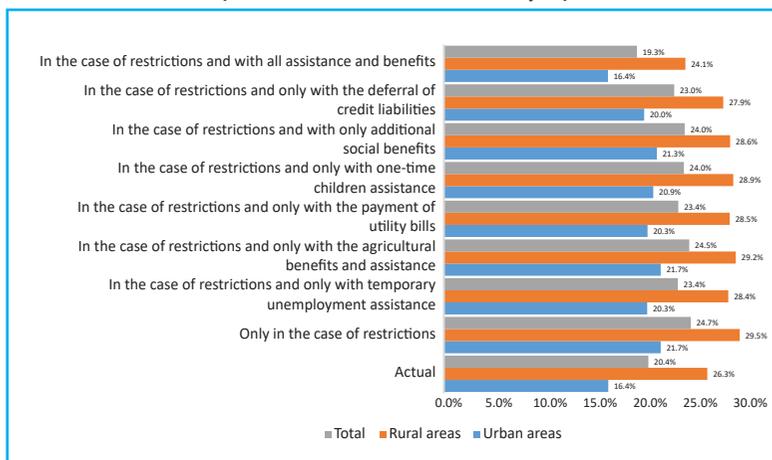
The simulation analysis showed that in all other regions the poverty rate would have increased significantly without the government’s anti-crisis measures but through the same measures would have been reduced to some extent.

Diagram #21: Poverty Level Change Relative to the Official Subsistence Minimum (Percentage Point) by Regions and Urban-Rural Areas in 2019 (Results of the Simulation Analysis)



Source: National Statistics Office of Georgia and authors' calculations

Diagram #22: Poverty Rate Relative to the Official Subsistence Minimum in 2019 amid the Anti-pandemic Restrictions and Various Government Anti-crisis Measures (Results of the Simulation Analysis)



Source: National Statistics Office of Georgia and authors' calculations

The impact of the individual anti-crisis measures on the level of poverty is noteworthy. As the simulation analysis showed, their impact is almost identical to the city-village areas. The only exceptions are agricultural measures whose impact on the urban poverty level is zero.

It should also be noted that to single out any individual anti-crisis measure would be incorrect as each program has its own target social group. All of the measures have contributed to achieving the end result - at the very least to prevent an increase in poverty.

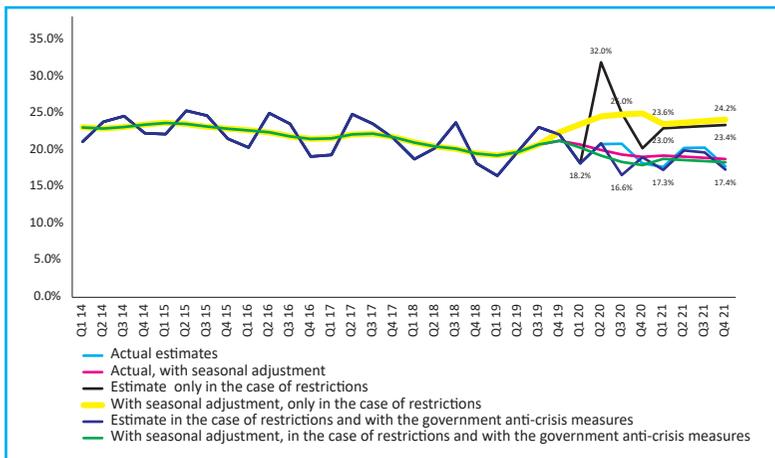
6.2. Expected Results for 2020-2021

The forecast values for poverty rates were calculated using the same principles as in the case of incomes and the unemployment level.

The calculations showed that the poverty rate, characterized by a steady decline in 2012-2019, would have continued to decline in 2020 and 2021 had it not been for the anti-pandemic restrictions and the crisis provoked by them which sharply reduced employment and, consequently, income levels. All of this was reflected on the level of poverty although the calculations showed that the poverty rate may not increase dramatically. The reason for this is that the subsistence minimum we use as a poverty line is very low. It should also be noted that in the face of the declining or at least not increasing incomes, a rise in the poverty rate is inevitable if long-term measures to overcome the crisis fail to produce adequate results.

The relatively short-term government anti-crisis measures substantially mitigated the negative impact of the pandemic. Moreover, as the calculations based on the simulation analysis showed, the rate of poverty reduction was higher than usual as a result of these measures. This indicates the high accuracy of the targetability of the anti-crisis programs - providing pinpointed assistance to those who needed it the most while selecting the form from the larger benefits that would assist the most disadvantaged sections of the population.

Diagram #23: Quarterly Dynamics of Poverty Levels Relative to the Official Subsistence Minimum Taking into Account the Anti-pandemic Restrictions and the Government's Anti-crisis Measures

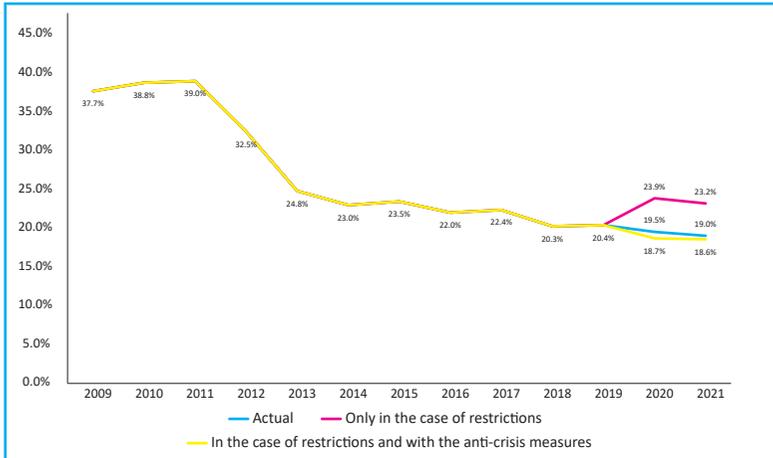


Source: National Statistics Office of Georgia and authors' calculations

According to the annual data obtained as a result of the simulation analysis, the poverty rate relative to the official subsistence minimum could have declined to 19.5 percent in 2020 which would have been a natural continuation of the 2012-2019 trend. However, due to the anti-

pandemic restrictions (excluding the government’s anti-crisis measures), this figure was expected to rise to 23.9 percent. While the emergency anti-crisis measures are in place, the poverty rate was expected to be close to 18.7 percent.

Diagram #24: Annual Dynamics of Poverty Level Relative to the Official Subsistence Minimum Taking into Account the Anti-pandemic Restrictions and the Government’s Anti-crisis Measures



Source: National Statistics Office of Georgia and authors' calculations

Had it not been for the pandemic-induced crisis, the poverty rate relative to the official subsistence minimum would have been 19.0 percent in 2021 which would have continued the trend of the previous years. If the anti-pandemic restrictions were to be extended into 2021 (without the government’s anti-crisis measures), the poverty rate may surpass 23 percent which is a very high rate of extreme poverty. If the government’s anti-crisis programs of 2020 were to be repeated in 2021, the poverty rate would continue to decline, reaching 18.6 percent.

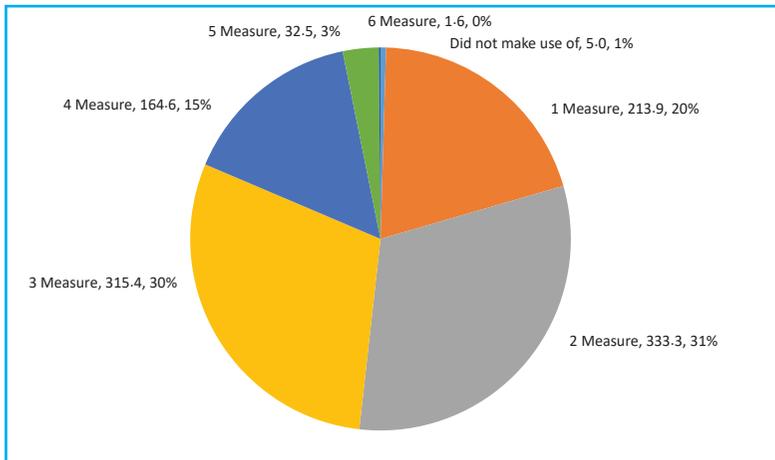
7. Simulation Analysis of the Anti-crisis Measures of the Government of Georgia

As already mentioned, the government developed and implemented a package of emergency anti-crisis measures in conjunction with anti-pandemic restrictions whose measurable components were taken into account to the maximum degree possible in this study by assuming that the pandemic-induced crisis occurred in 2019. The simulation analysis showed how effective these measures may have been in 2019 with those actual statistics already available.

Before considering the impact of the government's anti-crisis measures on employment, incomes and poverty, it is important to make a quantitative assessment of the beneficiary households. It will allow us to determine the degree of the coverage of these measures.

According to the simulation analysis, each government anti-crisis measure would have had its own beneficiary households. In addition, the same household would be able to receive different types of benefits. Only a small number would have not have been affected by any of the anti-crisis measures: their share is less than 1 percent. A total of 20 percent of households would have benefited from just one measure. A total of 31 percent of households would have benefited from two measures and 30 percent of households from three, 15 percent from four and 3 percent from five different measures.

Diagram #25: Distribution of Households According to the Number of State Anti-crisis Measures from Which They Could Benefit (Thousand Households, Results of the Simulation Analysis)



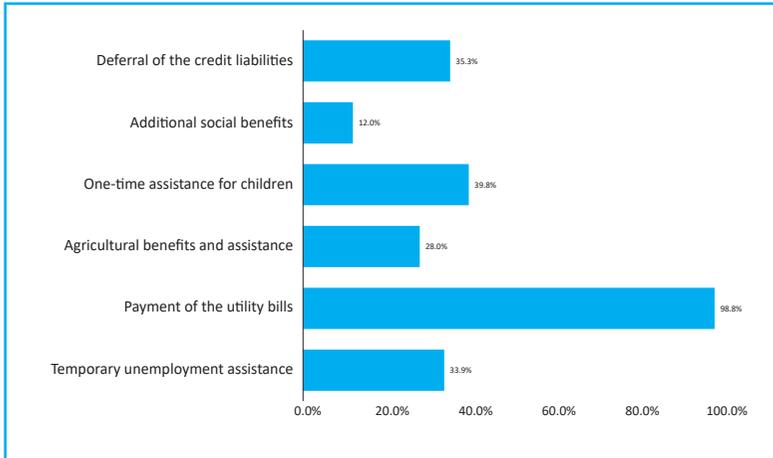
Source: National Statistics Office of Georgia and authors' calculations

The target groups of the government's anti-crisis measures were distributed as follows:

- A total of 34 percent of households would have received temporary unemployment benefits according to the simulation analysis;
- Virtually all households would have benefited from covered utility bills;
- A total of 28 percent of households would have received assistance in agriculture;
- A total of 40 percent of households would have benefited from child support;
- A total of 12 percent of households would have received social assistance;
- A total of 35 percent of households would have benefited from the deferral of credit liabilities.

Thus, there would be virtually no household in the country that would not have benefited from the government's anti-crisis measures.

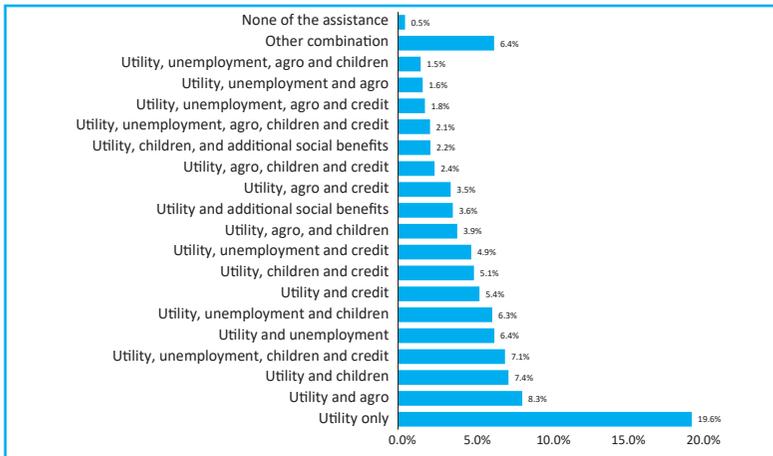
Diagram #26: Degree of the Government’s Anti-crisis Coverage - Percentage of Households that Could Benefit (Results of the Simulation Analysis)



Source: National Statistics Office of Georgia and authors' calculations

Nearly 20 percent of households alone would have benefited from just one measure; namely the utilities bill program with a degree of almost one hundred percent coverage. In the second place in terms of the frequency of the distribution of the combined measures, there is the combination of the cost of utilities and agricultural assistance programs.

Diagram #27: Distribution of Households According to the Government’s Anti-Crisis Measures From which They Could Benefit (Percent, Results of the Simulation Analysis)



Source: National Statistics Office of Georgia, authors' calculations

The biggest contribution to the prevention of poverty growth, both in rural and urban areas, would have been made by the deferral of credit liabilities program, slowing down the growth of poverty by 29.4 percent. Its impact on rural and urban areas would have been about the same. Relieving this burden in a crisis condition, even temporarily, would have been of significant benefit to households.

The poverty growth would have been substantially hampered (by 24.7 percent in urban and 19.8 percent in rural areas) by the compensation measure for those individuals temporarily unemployed which would have taken affect in the second and third quarters.

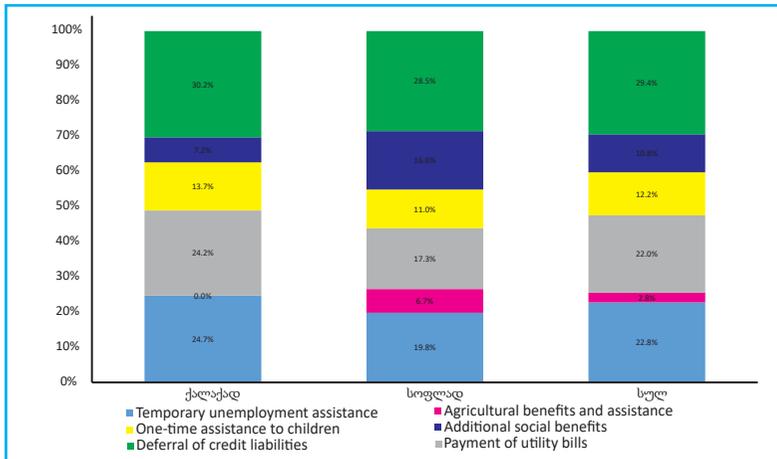
The payment of utility bills by the state would have "slowed down" the poverty growth by 22 percent. The importance of this component in cities would have been significantly higher than in the villages.

The agrarian component would have slowed down poverty growth by 2.8 percent, hindering the growth of rural poverty only.

The social assistance component would have slowed down poverty growth by 10.8 percent and its importance to the rural population would have been greater than to the urban population.

As for the program of helping children under the age of 17 years, it would have curbed poverty growth by 12.2 percent and its impact would be approximately equal in both urban and rural areas.

Diagram #28: Percentage Share of Various Government Anti-crisis Measures in Poverty Reduction (Results of the Simulation Analysis)



Source: National Statistics Office of Georgia and authors' calculations

According to the official data, 343694 persons received GEL 200 monthly assistance for those individuals temporarily unemployed and 171801 persons received a GEL 300 one-time assistance for those self-employed. According to the simulation analysis, 326 thousand employees would have received the GEL 200 monthly assistance in 2019 which differs for about 5 percent from the real figure. Given that the simulation analysis was based on 2019's figures, the employment structure in 2020 may have been slightly different with a 5 percent difference being a high accuracy rate.

The simulation analysis of the number of recipients of the GEL 300 one-time assistance and the actual figures are somewhat different. According to the simulation analysis, 160 thousand people would have received this assistance in 2019 but, in fact, the number of recipients was 171801 or 7.4 percent more than the simulation's estimate. If we take into account that self-employment in general is characterized by a relatively high mobility and that the number of people affiliated with this form of employment in the second quarter of 2020 would with a high probability have been different as compared to the corresponding period in 2019, we can argue that the simulation's estimates are also quite high here.

The actual number of beneficiaries of other anti-crisis measures is not currently published, although such a high correlation with the results of the simulation analysis of these two indicators shows that the government's anti-crisis measures are carried out according to the algorithm announced at the time of its initiation.

Overall, the simulation analysis showed that the state's anti-crisis measures were focused on the sectors of the social life of the population which were particularly affected by the anti-pandemic restrictions:

- The assistance program for the employed whose employment was temporarily suspended ensured that household incomes were kept at least at a minimum level. The simulation analysis showed that this program fulfills its purpose quite effectively;
- The measure of paying the utility bills would have been particularly important for low-income households for which the utility bills are quite a heavy burden. The simulation analysis showed that the contribution of this program to poverty reduction is significant;
- The agricultural assistance program would have brought significant benefits to rural households as demonstrated by the simulation analysis and confirmed by the factual data;
- Financial assistance to children under the age of 17 years can be considered as quite a relevant measure as households with children are particularly vulnerable in times of crisis;
- A social assistance program targeting socially vulnerable families is also an adequate solution as it provided a pinpointed intervention into the strata of community which had no chance of escaping further deprivation through their own resources during the pandemic-induced crisis;
- The loan deferral program, which lasted only six months, provided significant relief to households during the crisis.

Overall, the government's emergency anti-crisis measures have yielded these results:

- The decline in household incomes did not turn out to be as catastrophic as expected;
- The rise in poverty was not as dramatic as it would have been without the government's anti-crisis measures;
- The steps taken by the government raised positive expectations among employees and employers as a result of which 19 percent of pre-crisis employees according to ILO criteria went into a waiting mode instead of joining the ranks of the unemployed.

The anti-crisis state measures are a necessary condition for neutralizing the effects of the first wave of the pandemic but they are not enough. These are short-term and emergency measures, especially considering that the second wave of the pandemic turned out to be much larger. Given that the Georgian economy may not withstand the introduction of new anti-pandemic restrictions, it is crucial for the government to take long-term measures, one part of which has already been implemented, the other has been announced and the third is being developed along with the current wave of the crisis.

Main Findings

1. The simulation analysis showed that had the pandemic-induced economic crisis started in 2019:
 - 1.1. Unemployment would have been 21.0 percent instead of the actual 11.6 percent while the indicator would have dropped by 3.9 percentage points to 17.1 percent as a result of the government anti-crisis measures.
 - 1.2. The unemployment due to anti-pandemic restrictions may have been highest in the second quarter when this rate would have been three times and even higher than the actual number (34.2 percent instead of the actual 11.4 percent).
 - 1.3. The maximum possible level of urban unemployment in the second quarter could have been 49.6 percent while in rural areas - 18.3.
 - 1.4. The overall structure of employment by sectors would not have changed substantially, the main reason being the high share of self-employed in the agricultural sector. The share of sectors affected by the anti-pandemic restrictions individually is small and their variation in the overall structure can be considered insignificant.
 - 1.5. The number of self-employed in agriculture would have increased by an average of 26 thousand or 4 percent.
 - 1.6. The hotels and restaurants sector would have been harmed the most with the number of employees reduced to an average of 61 percent in 2019. As a result of the government's anti-crisis measures, the rate of decline would have been reduced to 36 percent.
 - 1.7. Employment in the leisure, entertainment and arts sector would have been reduced by 47 percent. The government's anti-crisis measures would have reduced this decline to 27 percent.
 - 1.8. Employees in industry, construction, trade, real estate and professional activities, and transport would have been significantly affected (by 23.7, 32.7, 17.4, 28.8 and 17.4 percent, respectively).
 - 1.9. Due to the anti-pandemic restrictions alone, 32.7 percent of employees would have lost their jobs in the construction sector and as a result of the government's anti-crisis measures, this figure would have been reduced to 20 percent.
 - 1.10. The decline in employment in the healthcare and information and communication sectors would have been negligible.
2. According to the simulation analysis, the average monthly income of one household would have been reduced from GEL 1063 to GEL 970 as a consequence of the anti-pandemic restrictions while the average monthly income of one household would have even increased slightly as a result of assistance and benefits provided by the government's anti-crisis measures. The decline of incomes would have been most dramatic in the second quarter while the incomes trend would have reversed again in the third and fourth quarters.
3. Taking into account all of the benefits and assistance, the income of one household in the urban areas would have increased by 1.9 percent in 2019 while this figure would have declined by 7.8 percent without the deferral of credit liabilities.
4. Taking into account all of the benefits and assistance, the income of one household in the rural areas would have increased by 5.2 percent while it would have decreased by 2.8 percent without the deferral of credit liabilities.
5. The simulation analysis showed that the poverty rate (extreme poverty) relative to the official subsistence minimum in 2019 would have been 20.4 percent which differs only by 0.9 of a percentage point from the official 2019 poverty rate.
6. Had the crisis started in 2019 and without any support from the state, the level of extreme poverty would have risen to 24.8 percent while this figure would have fallen by 0.9 of a percentage points as a result of the government's anti-crisis measures.

7. The rise in extreme poverty would have been most dramatic in the second quarter, reaching 30.5 percent while the increase would have been negligible (0.1 of a percentage point) as a result of the government's anti-crisis measures. This suggests that the anti-crisis program was targeted with fairly high accuracy directly at the most vulnerable strata.
8. The extreme poverty level in the urban areas would have increased from 16.4 percent to 20.0 percent in 2019, although the figure would have maintained the same level of 16.4 percent as a consequence of the government's anti-crisis measures.
9. The extreme rural poverty would have increased from 26.3 percent to 27.9 percent, although this figure would have fallen somewhat lower than its actually level (from 26.3 percent to 24.1 percent) as a result of the government's anti-crisis measures.
10. The level of extreme poverty in Tbilisi and Adjara would have increased even under the state's support measures.
11. The extreme poverty would have increased substantially in all other regions without the government's anti-crisis measures, although poverty would have been somewhat reduced as a result of the same measures.
12. As the simulation analysis showed, the impact of individual anti-crisis measures (except for agricultural programs) is almost identical in urban and rural areas.
13. In the second quarter of 2020, the official level of unemployment according to ILO criteria at 12.3 percent is almost three times lower than the level of unemployment obtained as a result of the simulation analysis:
 - 13.1. Compared to the second quarter of 2019, the number of employees who stated that they had a job during the previous seven days of the Integrated Household Survey which they could not temporarily perform, increased by 6.4 times in the second quarter of 2020. The increase in the category of such workers from 50 thousand to 322 thousand can only be explained by the pandemic-induced crisis.
 - 13.2. The share of the temporarily unemployed in the agricultural sector has hardly changed. Their share in the mining and processing industries increased from 2 to 35 percent, from 5 to 36 percent in the construction sector and from 3 to 39 percent in transport and warehousing.
 - 13.3. The most dramatic change occurred in the hotels and restaurants sector where the share of the temporary unemployed increased from 5 to 59 percent. There was also a sharp change in the leisure, arts and entertainment sector - from 7 to 60 percent.
 - 13.4. The number of rural self-employed increased by 32 thousand as compared to the corresponding period of the previous year in the second quarter of 2020 which has been characterized by an unabated decreasing trend since 2013. The increased number of self-employed in the agricultural sector can also be attributed to the job losses as a result of the pandemic crisis.
 - 13.5. If we subtract 272.1 thousand temporarily unemployed and 32.7 thousand newly self-employed people in agriculture from the number of employed and add them to the 235.9 thousand unemployed in the second quarter of 2020, we get the unemployment rate of 28.2 percent.
 - 13.6. The transition of an additional 272.1 thousand employees to a temporary unemployed bracket was primarily due to the anti-pandemic restrictions and the fact that this contingent did not move completely into the ILO unemployed section and remained in the category of those who hope to restore their jobs. This was fueled by the positive expectations resulting from the receipt of massive international assistance and the development of the government package of long-term measures to overcome the crisis based on the external aid.
 - 13.7. The calculations showed that the unemployment rate, which was characterized by a downward trend after a certain increase in 2016 and 2017, would have continued

to decline in 2020 and 2021 had it not been for the pandemic-induced crisis. If the pandemic continues and the government measures to overcome the crisis fail to yield a result, unemployment will rise sharply in 2020 and 2021.

14. According to the results of the simulation analysis, the unemployment rate may have increased to 20.4 percent in 2020 but this figure is expected to decrease to 16.7 percent as a result of the government anti-crisis measures. In 2021 and without the continuation of the anti-pandemic restrictions and the government's anti-crisis measures similar to those of 2020, the unemployment rate could reach 26.9 percent in 2021. If anti-crisis programs continue, the unemployment rate will rise to 20.0 percent in 2021.
15. Based on the results of the simulation analysis and in annual terms, the average monthly income of one household in 2020 may have been GEL 1144 following a natural continuation of the trend established in 2009-2019. Due to the anti-pandemic restrictions, this figure would have been reduced to GEL 1045 had it not been for the government's anti-crisis measures. The estimated level of nominal income as a result of the government's anti-crisis measures would have averaged close to GEL 1067 per month.
16. According to annual data, the official level of extreme poverty in 2020 could have fallen to 19.5 percent following a natural continuation of the trend established in 2012-2019. Due to the anti-pandemic restrictions, the figure would have increased to 23.9 percent without the government's anti-crisis measures. However, extreme poverty could be reduced to 18.7 percent as a result of the aforementioned measures.
17. According to the simulation analysis, a small number of households (less than 1 percent) would not have been affected by any of the anti-crisis programs in 2020.
18. A total of 20 percent of households would have benefited from just one government measure, 31 percent from two programs, 30 percent from three, 15 percent from 4 and 3 percent from five different government measures.
19. According to the simulation analysis:
 - 19.1. A total of 34 percent of households would have benefited from the assistance for the temporary unemployed.
 - 19.2. Virtually all households would have benefited from the utility bills payment measure.
 - 19.3. A total of 28 percent of households would have benefited from the agricultural assistance program.
 - 19.4. A total of 40 percent of households would have benefited from the child support program.
 - 19.5. A total of 12 percent of households would have benefited from the social assistance program.
 - 19.6. A total of 35 percent of households would have received credit deferral benefits.
20. According to a simulation analysis, the role of the individual government anti-crisis measures in preventing extreme poverty growth was distributed as follows:
 - 20.1. The credit deferral program would have made the largest contribution, curbing the poverty growth by 29.4 percent.
 - 20.2. The temporarily unemployed compensation program would have hampered the poverty growth by 22.8 percent, the payment of utility bills by 22 percent, the social assistance component by 10.8 percent and the child support program by 12.2 percent.
 - 20.3. The rural assistance program in the agricultural sector would have hampered the poverty increase by 2.8 percent. Its share in the rural areas would have been quite substantial - 6.7 percent.
 - 20.4. According to the official data, 343694 temporary unemployed persons received the GEL 200 monthly assistance. Based on the simulation analysis, 326 thousand people would have received this assistance in 2019 which differs from the real figure by about 5 percent.

21. A total of 160 thousand people would have received the GEL 300 one-time self-employment assistance in 2019 but the actual number of recipients is 171801 people which is 7.4 percent more than the simulation's estimate.
22. Had it not been for the government's anti-crisis measures, the anti-pandemic restrictions alone could have caused the unemployment rate to rise to 20.4 percent in 2020 instead of the 11.2 percent expected by the trend.

Conclusion

The simulation analysis showed that as a result of the pandemic-induced crisis, the incomes of the Georgian population could have decreased by 8.7 percent on average per household in 2020. Under the influence of the government's anti-crisis measures, the rate of decline of income will be reduced by about 2 percentage points.

The hypothetical extension of the government's anti-crisis program could lead to a weak trend in the nominal growth of incomes from 2020, meaning a decline in real incomes, as the non-inflationary resource for public spending growth is limited. At the same time, the emergence of a significant growth trend in nominal incomes depends largely on the effectiveness of the more long-term government measures planned to overcome the crisis.

An increase in poverty is inevitable due to the declining incomes. The simulation analysis showed that the official level of extreme poverty could have increased by 4.4 percent as compared to 2020's expectations, leading to a sharp deterioration of the social situation. The government's anti-crisis measures may somewhat reduce the poverty levels by 2020 which can be considered a good result and probably indicates the high targeting accuracy of the government's anti-crisis programs.

If the government's anti-crisis measures continue in 2021, the weak trend of extreme poverty decline will be maintained, although this is less expected given the limited resources available to the state.

In addition to the relatively short-term anti-crisis measures, the government has also introduced a package of long-term actions to overcome the crisis which may have both anti-crisis and post-crisis consequences if the pandemic, in particular its new wave, continues. The initiation of this package created positive expectations in the labor market, helping to prevent a sharp rise in unemployment at the first stage.

In a form of synopsis, we can argue that:

- Further anti-pandemic restrictions will lead to a very sharp increase in unemployment, declining incomes and a rise in poverty levels;
- The government's anti-crisis measures have substantially mitigated the blow of the crisis. They are characterized by high targeting accuracy and are aimed primarily at the most susceptible segments of the population;
- The actual results of the government's anti-crisis package are quite consistent with the results of the simulation analysis, indicating the effectiveness of its measures;
- The anti-crisis measures substantially slowed down income reduction and poverty growth but proved less effective in curbing unemployment;
- The further complication of the situation can be avoided only if the declared long-term measures are implemented in a timely and purposeful manner, on the one hand easing the blow of a new wave of crisis and, on the other hand, creating the ground for post-crisis economic dynamics.

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