

Djanibekov, Nodir; Herzfeld, Thomas

**Working Paper**

## The impact of COVID-19 on agrifood systems and rural areas in Central Asia and Caucasus countries: Final report of a study commissioned by FAO

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DISCUSSION  
PAPER  
2022 #198

## **The impact of COVID-19 on agrifood systems and rural areas in Central Asia and Caucasus countries: Final report of a study commissioned by FAO**

Nodir Djanibekov and Thomas Herzfeld

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## 1 Introduction

This report contributes to the project ‘Securing agriculture and rural development in times of COVID-19, pathways to regional responses for recovery, reforms and resilience’ by the Food and Agriculture Organization of the United Nations (FAO). The objectives of the report are threefold: 1) to assess the multiple impacts of the COVID-19 pandemic on agriculture, food security, and rural community;<sup>1</sup> 2) to review the policy responses taken by the governments of eight Central Asia and Caucasus (CAC) countries to mitigate the effects of the crisis, and 3) to provide contextual options to build the resilience of the agricultural sector during post-COVID-19 recovery and against future shocks.

In this study, we identify the characteristics of the recent development of the agrifood sector in CAC countries, focusing on the impact of COVID-19. In particular, besides a brief comparative description of the spread of the coronavirus across the eight countries and related policy actions, interest focuses on the impact on agriculture, food supply chains, and rural households. The analysis is based on secondary data provided and studies conducted by national consultants. We supplemented this information with data from additional sources. Based on a review of the major developments in agrifood supply chains in 2020 and early 2021, it proposes respective actions that can contribute to overcoming the consequences of the crisis and strengthen the sector’s resilience.

Multiple sources of available primary and secondary data were reviewed and analysed to prepare the report. Most of the data were obtained from national statistical committees. The quantitative information has been complemented by qualitative data collected from national legislation changes, national and international reports, and other open sources, including news from the mass media.

Work on the report faced several challenges. First, official recognition of the pandemic differs according to the countries studied. Second, access to and collecting secondary data was not straightforward in every country. For some indicators, official statistics were not available. In particular, micro-level data on food and nutrition security were missing in the countries studied. But even with available data, non-reliability and inconsistency were major challenges, particularly for official data on agrifood trade and mismatches with the other online sources. In many cases, access to reliable statistics on migration, information on marketing channels of agricultural products, and prices of agriculture inputs was also missing.

The report is structured in the following way – the first section presents the development of COVID-19 cases and deaths in the CAC region, focusing on the seasonal waves separately in Central Asia and the Caucasus. The second section offers the general economic impact of the

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<sup>1</sup> Within this report, the term impact has been used to express the consequences which could be related to the pandemic. It does not pretend to measure quantitatively the single influence of the pandemic on the indicators discussed here.

COVID-19 pandemic on CAC economies. The third section discusses the wide range of policy measures taken by governments to prevent the spread of the virus and mitigate the impact of the crisis. The section dwells more on actions taken in the agrifood sector and their effectiveness. The fourth section presents and discusses the study's findings on the impact of the pandemic on the agrifood sector in 2020. The section discusses the pandemic's effect on food supply chains such as production, processing, food prices, and domestic and international trade. The fifth section gives an overview of the pandemic's impact on the rural community's livelihoods. It discusses the pandemic's effects on the rural labour market, income, migration and remittance. Finally, the report presents the study's conclusions and provides recommendations for developing a resilient agricultural sector.

## 2 COVID-19 context

The eight CAC countries vary in their economies, which have been decisive in COVID-19 impact (Table 1).<sup>2</sup> Agriculture still forms a significant share of Gross Domestic Product (GDP) in most countries, except for the exporters of natural resources and Georgia. Uzbekistan and Tajikistan top the list, with a quarter and one-fifth of their GDPs still coming from agriculture.

Employment in agriculture still comprises a large share of total employment among the population in the region. In Tajikistan, almost half of the employed population works in agriculture. In Azerbaijan and Georgia, over one-third of jobs are in agriculture. Even in resource exporting economies, agriculture's share in employment is close to 15 percent. Across all countries, the share in employment exceeds agriculture's proportion of GDP, which points to comparatively low labour productivity.

Remittances, mainly coming from labour migrants based in Russia, contribute significantly to the national income of non-resource exporting countries, making Tajikistan and Kyrgyzstan hot spots in the global migration market. Personal remittances accounted for over 10 percent of GDP in Armenia and Georgia.

Oil and gas exports contribute almost 25 percent of the GDP of resource exporters, making these countries vulnerable to international prices and demand for their natural resources. Furthermore, international tourism has been growing in the region and is advocated for income diversification for many economies.

Finally, the regional economies still depend on food imports, which make up a significant share of their total imports.

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<sup>2</sup> The countries analysed in the framework of the project are Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.



**Table 1: Selected characteristics of the countries of Central Asia and the Caucasus**

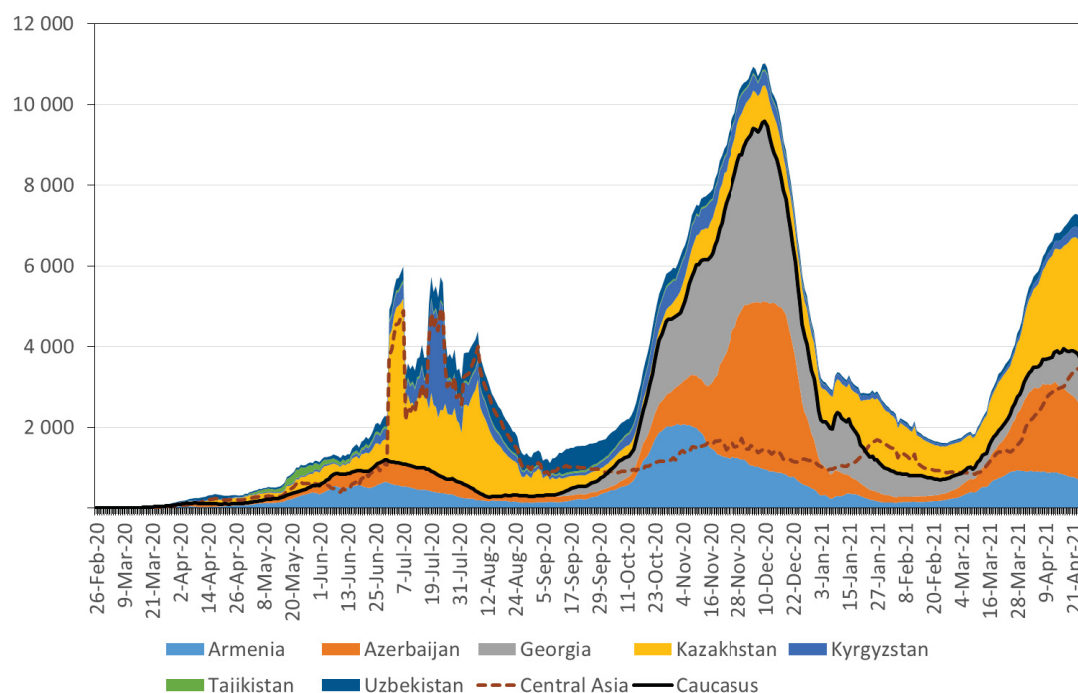
Country	Agriculture (% of GDP) <sup>a</sup>	Employment in agriculture (% of total employment) <sup>b</sup>	Personal remittances, received (% of GDP) <sup>c</sup>	International tourism, receipts (% GDP) <sup>d</sup>	Food imports (% of merchandise imports) <sup>d</sup>	Total natural resources rents (% of GDP) <sup>a</sup>
Armenia	12.0	24.0	<b>11.2</b>	<b>11.4</b>	16.5	2.1
Azerbaijan	5.7	<b>36.0</b>	2.7	4.2	13.8	<b>25.5</b>
Georgia	6.5	<b>38.2</b>	<b>12.9</b>	<b>20.3</b>	12.7	0.1
Kazakhstan	4.5	14.9	0.3	1.6	9.9	<b>17.6</b>
Kyrgyzstan	12.1	19.3	<b>28.5</b>	8.4	13.3	0.6
Tajikistan	<b>19.2</b>	<b>44.7</b>	<b>28.6</b>	2.2	n.a.	2.8
Turkmenistan	9.3	20.7	<0.005	n.a.	n.a.	<b>24.1</b>
Uzbekistan	<b>25.5</b>	25.7	<b>14.8</b>	2.9	9.3	8.8

Note: a - all countries in 2019, Tajikistan 2018, Turkmenistan 2015; b - all countries in 2019 (modelled ILO estimate);

c - all countries in 2019, Turkmenistan 2018; d - all countries in 2019.

Source: World Development Indicators (2021).

The COVID-19 pandemic in the CAC region has been spreading in multiple waves. The two major waves in 2020 are visible in [Figure 1](#) below. Georgia reported its first confirmed COVID-19 case on 26 February 2020, with Armenia and Azerbaijan reporting the first cases on 1 March 2020. Meanwhile, countries in Central Asia had confirmed their first cases by the middle of March – Kazakhstan on 13 March, Uzbekistan on 15 March, and Kyrgyzstan on 18 March. The first case officially reported by the authorities in Tajikistan was on 30 April. Turkmenistan remains the only country in the CAC region, and among ten globally, without an officially confirmed case of COVID-19.



**Figure 1: Seven-day moving average of newly confirmed COVID-19 cases in Central Asia and the Caucasus (March 2020 to April 2021)**

Note: Turkmenistan is officially declared a COVID-free country.

Source: Authors based on Roser et al. (2020) database.

The first wave of COVID-19 in the CAC region started in March 2020 and progressed slowly. During the first two months, the number of confirmed cases in the CAC region was modest, and the spread was kept under control, after which confinement measures were relaxed. Then, the COVID-19 spread in Central Asia and the Caucasus took two different paths, spreading mainly across Central Asia during summer while the Caucasus countries were more affected in autumn 2020. The development displayed in Figure 2 presents the officially reported COVID-19 cases that can be affected by the improvement of testing and reporting criteria and capacity over time (particularly in rural areas) as well as differences in reporting policy between countries.

The daily number of new cases in Central Asia accelerated in June and put enormous pressure on the healthcare system in July-August 2020. The number of confirmed COVID-19 cases in the CAC region climbed exponentially until July when 140 000 new cases and 2 000 deaths were reported during one month (Figure 2). The average newly diagnosed cases per day in Kazakhstan and Kyrgyzstan in July 2020 reached 110 and 148 cases per million people, respectively. This wave started to wane in Central Asia in August-September 2020. The

countries had managed to flatten the curve by October, following which the region experienced a new, but this time more modest, wave of COVID-19.

In contrast to countries in Central Asia, the first wave in the three Caucasus countries was severe only in one country – Armenia – which registered 175 cases per million people. In Azerbaijan and Georgia, strict containment measures quickly brought the first wave under control. As the confinement measures were relaxed, the second wave in the Caucasus countries gathered pace from September (Figure 1). All three countries saw an exponential increase in the total number of newly confirmed cases and deaths. The Nagorno-Karabakh war between Armenia and Azerbaijan that lasted from 27 September to 10 November contributed to an increase in cases in those two counties due to the high prevalence of the disease among soldiers and other personnel mobilised in the conflict. For instance, in Armenia, the monthly confirmed cases exceeded 40 000 in October and November, while in Azerbaijan, the monthly confirmed cases reached over 60 000 in November and almost 100 000 in December.

Starting in March 2021, the third wave of the pandemic began to hit the countries of CAC, except Tajikistan, which on 1 February 2021 officially declared itself free from COVID-19. As of 23 April 2021, and as already stated, there had not been a single confirmed case of COVID-19 in Turkmenistan.

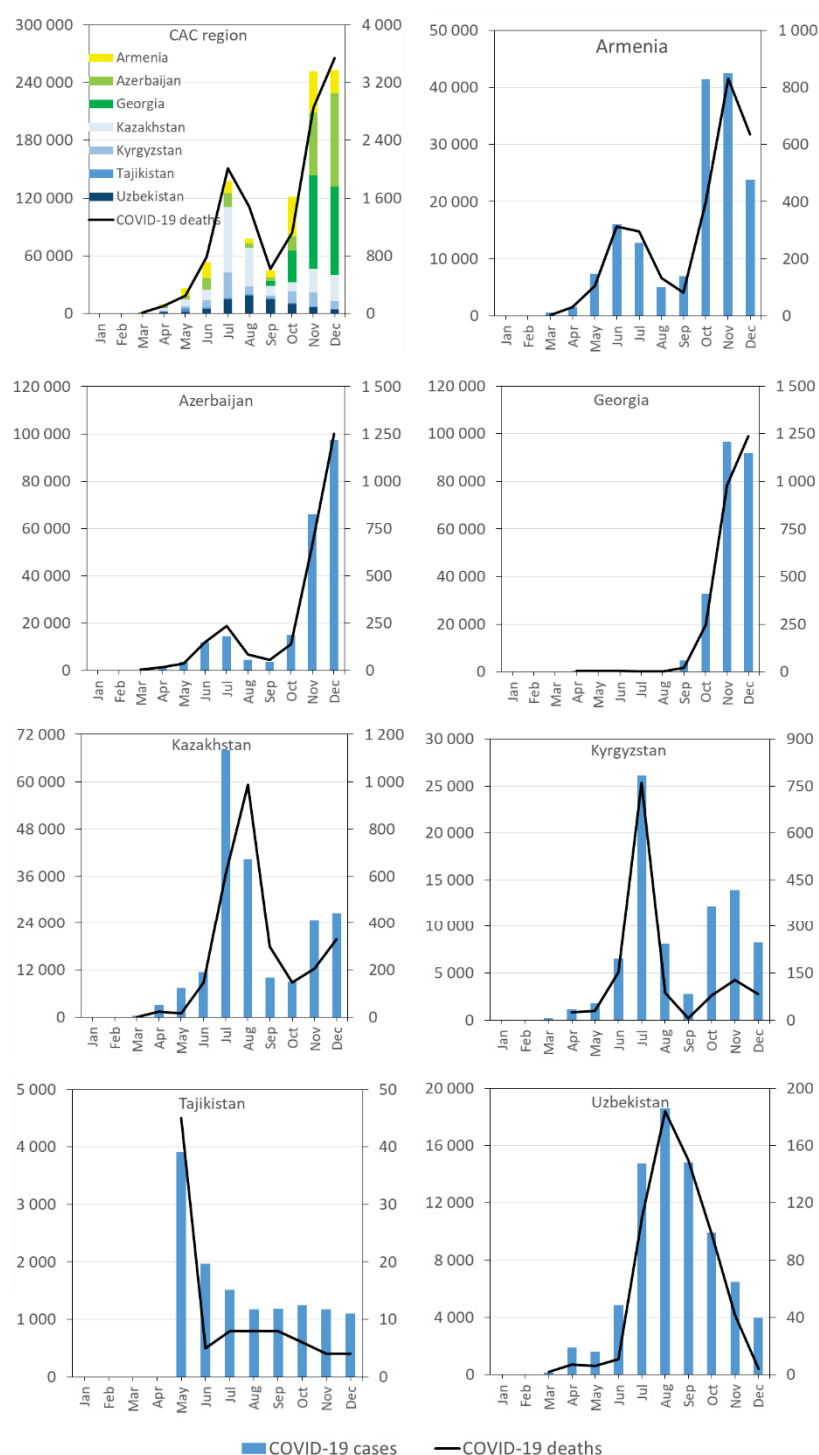
By the end of 2020, CAC countries had reported a little less than one million total confirmed COVID-19 cases and almost 13 000 COVID-19 related deaths (Table 2). The three Caucasian countries reported Two-thirds of these cases. The confirmed COVID-19 cases in Armenia and Georgia in 2020 accounted for over 5 percent of the total population. The lowest rate of COVID-19 cases as a proportion of the total population was observed in Tajikistan (0.14 percent), followed by Uzbekistan (0.23 percent). According to the reported figures, about 1.1 percent of the total population of seven CAC countries had COVID-19 in 2020.

The Case Fatality Rate (CFR) in 2020 varied across the countries of the region (Table 2), from the highest in Armenia and Kyrgyzstan (around 1.8 percent) to the lowest in Uzbekistan and Tajikistan (less than 1 percent). However, the reliability of the reported cases of COVID-19 and related deaths has to be questioned if one looks at the total number of deaths compared to the average value of previous years. The reported numbers can be heavily influenced by the reporting policy when it comes to COVID-19 related deaths, as well as the testing capacity of the countries. Excess mortality, defined as the increase in all-cause mortality relative to the recent average, is a more objective indicator of the COVID-19 death toll (Karlinsky and Kobak, 2021). Therefore, excess mortality (P-score) is a more comprehensive measure of the total impact of the pandemic on deaths than the official number of confirmed COVID-19 related deaths. The indicator of excess mortality captures COVID-19 associated deaths that were not correctly diagnosed and reported and deaths arising from other causes due to the general

state of crisis that persisted in the country – for example, from overburdened healthcare systems or health-care shortages.

According to official figures, the total number of all-cause deaths in 2020 was above the five-year average (2015–2020). The resulting percentage difference in all-cause deaths (P-score) varied across the countries, suggesting that COVID-19 mortality in 2020 may be potentially undercounted.

The largest P-scores in 2020 were in the two countries engaged in military conflict – Azerbaijan (32.6 percent) and Armenia (30.8 percent). Tajikistan (25.8 percent) and Kazakhstan (23.7 percent) follow, which did not experience any violent armed conflict in 2020. The lowest excess mortality P-score was in Georgia (4.9 percent), which introduced one of the strictest mobility-restriction policies in the region. Thus, the wide variation in the ratio of COVID-19 related deaths to total deaths – ranging from 0.2 percent in Tajikistan to 8 percent in Armenia – might also be the subject of substantial underreporting.



**Figure 2: Monthly number of COVID-19 confirmed cases (left axis) and deaths (right axis) in 2020**

Note: Turkmenistan is officially declared a COVID-free country.  
Sources: Various official national sources in the CAC region.

**Table 2: Number of COVID-19 confirmed cases and related deaths and the excess mortality metrics in Central Asia and the Caucasus**

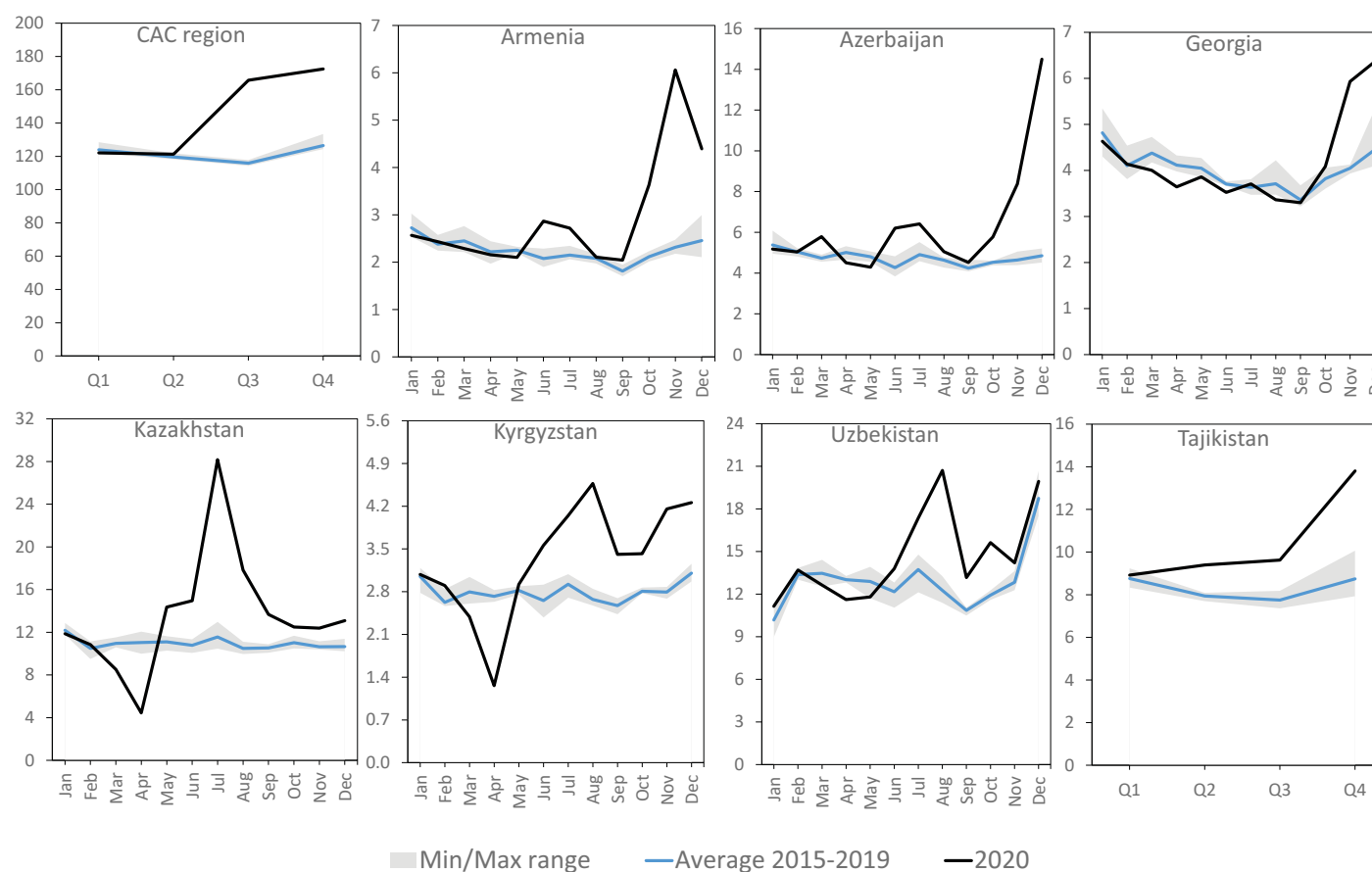
	Population in 2020	Confirmed COVID-19 cases in 2020	Confirmed cases in total population in 2020	Reported COVID-19 deaths in 2020	Case Fatality Rate (CFR), %	All-cause deaths in 2020	Share of COVID-19 deaths in all-cause deaths in 2020	Average all-cause deaths in 2015–2019	St. Dev. of all-cause deaths in 2015–2019	P-score in 2020
Armenia	2 963 234	157 970	5.3	2 827	1.8	35 371	8.0	27 047	1 061	30.8
Azerbaijan	10 139 175	218 799	2.2	2 641	1.2	75 647	3.5	57 037	509	32.6
Georgia	3 989 175	227 420	5.7	2 505	1.1	50 537	5.0	48 179	2 883	4.9
Kazakhstan	18 776 707	201 196	1.1	2 761	1.4	162 613	1.7	131 462	1 442	23.7
Kyrgyzstan	6 524 191	81 029	1.2	1 351	1.7	39 977	3.4	33 546	726	19.2
Tajikistan	9 537 642	13 281	0.1	88	0.7	41 743	0.2	33 192	3 773	25.8
Uzbekistan	33 469 199	77 060	0.2	614	0.8	175 637	0.3	155 406	3 200	13.0
Caucasus, all	17 091 584	604 189	3.5	7 973	1.3	161 555	4.9	132 264	2 883	22.1
Central Asia, all	68 307 739	372 566	0.5	4 814	1.3	419 970	1.1	364 667	2 256	15.2
Total CAC region	85 399 323	976 755	1.1	12 787	1.3	581 525	2.2	485 870	3 773	19.7

Note: The Case Fatality Rate (CFR) is the ratio between confirmed COVID-19 related deaths and confirmed cases in 2020. All-cause deaths include deaths from all causes, including COVID-19. P-score is excess mortality as the percentage difference between all-cause deaths in 2020 and the average number of deaths in 2015–2019. St. Dev. = standard deviation of annual all-cause deaths in 2015–2019. Source: Based on the data of the official statistical agencies.

While looking at the temporal occurrences of excess mortality, the impact of COVID-19 is notable and can be associated with the total number of COVID-19 cases. During the first half of 2020, the official figures on the quarterly all-cause mortality in the CAC region match the five-year average values (Figure 3). As the first wave of the pandemic went up first in July and has been followed by the second wave in autumn, the regional excess mortality rate climbs in the third and fourth quarters of 2020, reaching 43 percent and 36 percent, respectively, over the average values of corresponding quarters in 2015–2019.

The monthly cases of all-cause deaths in 2020 also confirm the temporal variations in COVID-19 between the Caucasus region – which was severely impacted during the last quarter of 2020 – and Central Asia, which was hit worst in the summer of 2020.

For Armenia and Azerbaijan, the excess mortality at the end of 2020 can be linked to the 2020 Nagorno-Karabakh war, but this is not the case for the other countries. Comparing this excess mortality with infections in Figure 2 suggests an undercount of COVID-19 deaths due to a lack of testing capacity or purposeful misdiagnosing or underreporting of COVID-19 deaths (Kobak, 2021).



**Figure 3: All-cause mortality numbers in the countries of Central Asia and Caucasus in 2015–2020**

Note: Tajikistan statistics on all-cause mortality are reported quarterly. No data on Turkmenistan. The decline in the number of all-cause death in April 2020 in Kazakhstan and Kyrgyzstan can be explained by the delays in registering deaths due to the strict local restrictions to the movement, which were in force during the first months of the pandemic in these countries. Source: National Statistical Agencies in CAC.



### 3 General impact of COVID-19 pandemic on the economy

In 2017–2019, the region's economic development was positive, with high economic growth rates. As the COVID-19 pandemic progressed during 2020, with its negative impact on economic activities in the CAC region, recovery projections were adjusted downwards. Table 3 shows the Asian Development Outlook (ADO) indicators for annual GDP growth rates as projected by the Asian Development Bank (ADB) for 2020–2022. In December 2019, the region's projected 2020 economic growth rate was 4.3 percent. After detecting the first infections, the new projections in April 2020 were downgraded for all countries except Turkmenistan – to 2.8 percent on average.

Looking at the measured economic growth in 2020, the regional economy contracted by 1.9 percent, performing slightly better than expected in September 2020. Kyrgyzstan, Armenia and Georgia experienced the most severe economic declines. Three central Asian republics – Tajikistan, Turkmenistan and Uzbekistan – experienced positive growth rates over the whole year, but still substantially lower than in previous years, with average rates above 5 percent per annum. All countries are projected to recover rapidly and reach 4.2 percent growth in 2021. However, regional growth may be slower, depending on how the recent increase in COVID-19 cases in several countries develops.

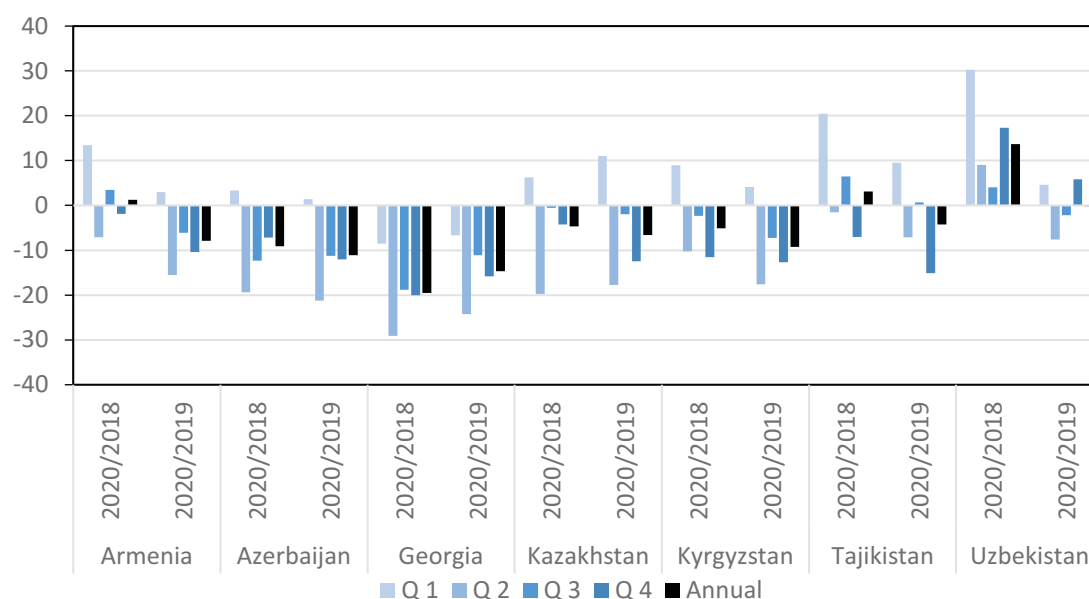
**Table 3: Forecasts by ADB of annual percentage change in GDP for CAC countries**

Countries	GDP growth 2017–19	ADO Forecasts				Actual 2020	ADO Forecasts				
		2019 update	Apr 2020	Jun 2020	Sept 2020		Apr 2020	Jun 2020	Sep 2020	Apr 2021	2022
		2020					2021				
Armenia	6.8	4.5	2.2	–3.5	–4.0	–7.6	4.5	3.5	3.5	1.8	3.0
Azerbaijan	1.2	2.4	0.5	–0.1	–4.3	–4.3	1.5	1.2	1.2	1.9	2.5
Georgia	4.9	4.6	0.0	–5.0	–5.0	–6.2	4.5	5.0	4.5	3.5	6.0
Kazakhstan	4.2	3.4	1.8	–1.2	–3.2	–2.6	3.6	3.4	2.8	3.2	3.5
Kyrgyzstan	4.2	4.4	4.0	–5.0	–10.0	–8.6	4.5	4.0	4.0	3.5	5.0
Tajikistan	7.3	7.0	5.5	–3.6	–0.5	4.5	5.0	7.0	6.0	5.0	5.5
Turkmenistan	6.3	5.8	6.0	3.2	3.2	1.6	5.8	5.8	5.8	4.8	4.9
Uzbekistan	5.1	6.0	4.7	1.5	0.5	1.6	5.8	6.5	6.5	4.0	5.0
CAC region	4.5	4.3	2.8	–0.5	–2.1	–1.9	4.2	4.2	3.9	3.4	4.0

Note: The second row indicates the date of publication of forecasts.  
Source: ADB Asian Development Outlook (ADO) reports.

Available data on quarterly GDP growth shows that the strict restrictions imposed to prevent the spread of the virus in March–April 2020, and then reintroduced by several countries, drove various economic activities to a standstill (Figure 4). In the second quarter, GDP plummeted

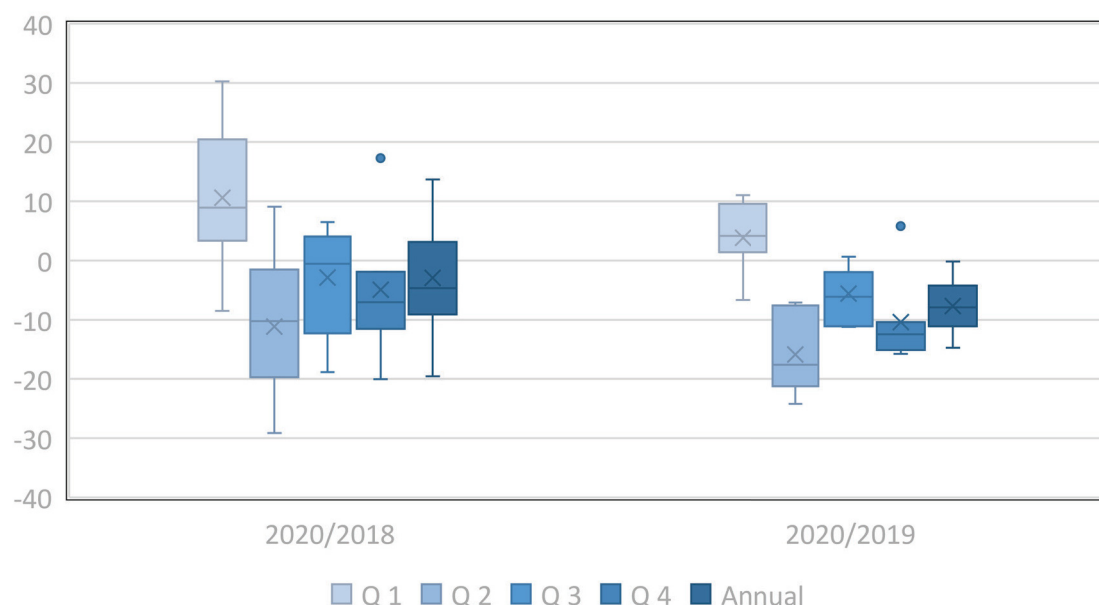
compared to the same period in 2018 and 2019. In Georgia, GDP in the second quarter contracted by almost 25 percent compared to the same period in 2019. During the third quarter of 2020, after relaxing restrictions in May-June, most economies still experienced a further decline in quarterly GDP, but at a lower level in absolute terms. The military conflict between Armenia and Azerbaijan and the surge in COVID-19 cases in October in these countries added to the decline of GDP in the fourth quarter (Q4) of 2020.



**Figure 4: Changes in quarterly and annual GDP in 2020 compared to corresponding periods in 2018 and 2019, % change**

Sources: Authors based on the official data of national statistical agencies.

As the second wave of the COVID-19 pandemic progressed in the region during the last quarter of 2020, the governments intervened once more with lockdown measures. As a result, GDP growth rates dropped again in quarter four (Figure 5). Only Uzbekistan reported a positive GDP growth during the final months of 2020.



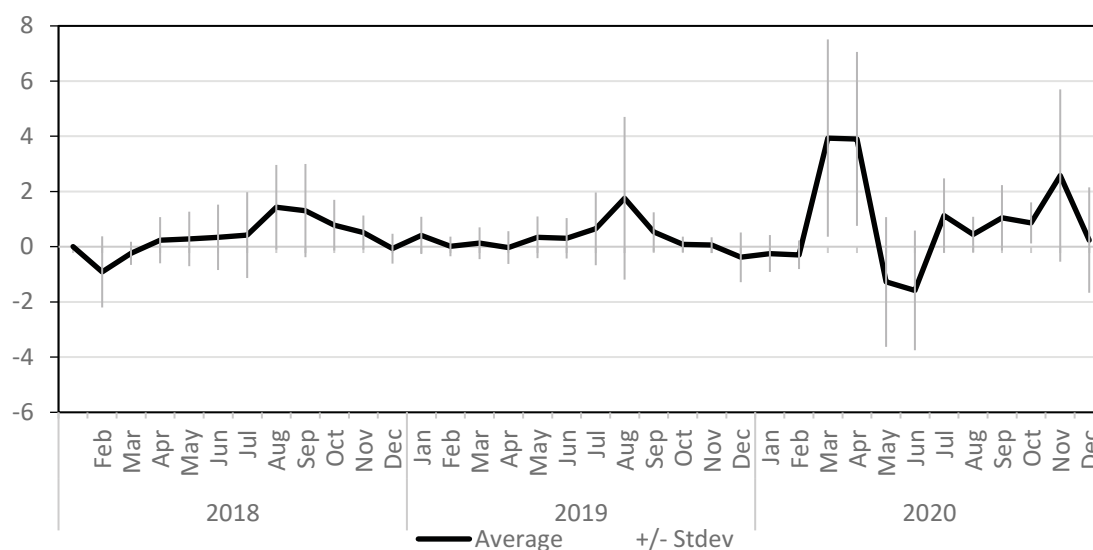
**Figure 5: Changes in quarterly and annual GDP in 2020 compared to corresponding periods in 2018 and 2019, % change**

Note: Data on Turkmenistan are not included.

Sources: Authors based on the official data of national statistical agencies.

### 3.1 Currency exchange rates

The value of the exchange rate of local currencies affects the competitiveness of the domestic agrifood sector in foreign markets and rural households in remittance-recipient countries and food-importing countries. Compared to the previous two years, national exchange rates concerning the US dollar were more volatile throughout 2020. In particular, import-dependent countries, therefore, suffered a decline and instability in their terms of trade. During the first lockdown measures in March-April, the currency values of several CAC countries depreciated to the US dollar (Figure 6). As the countries succeeded in containing the spread of the virus and uncertainty diminished, their currencies also became stronger in May-July. However, the increase in new COVID-19 cases in the fourth quarter of 2020 resulted in another depreciation phase. This currency depreciation was also caused by the abrupt drops in trading partners' economies (mainly Russia). Starting from 7 March 2020, the Russian rouble depreciated 13 percent to 20 percent for all CAC currencies within three weeks, except for the Kazakhstani tenge. Furthermore, for remittance-dependent countries such as Kyrgyzstan and Tajikistan, the sharp decline in remittance inflows in quarter two might also have weakened currency values.



**Figure 6: Average monthly changes of US dollar exchange rate to local currency in Central Asia and the Caucasus in 2018–2020, % change from the previous month**

Note: Data on Turkmenistan are not included.

Sources: Authors based on the official data of national statistical agencies.

The national banks of CAC countries intervened in different ways to protect their local currencies by fixing values against the US dollar between mid-March and early April. This can be observed in Armenia and Azerbaijan. The Central Bank of Azerbaijan maintained its hard peg to the US dollar at AZN 1.7 per USD through 2020. As the 2020 Nagorno-Karabakh war affected the macroeconomic situation in Armenia in Q4 2020, the pronounced depreciation of the dram (AMD) became evident from October.

The OPEC+ output cuts and a slowdown of the global economy in early 2020 contributed to the collapse in oil demand and oil prices. They weakened the value of the official exchange rate of the Kazakhstani tenge by 9 percent in March 2020. In Turkmenistan, the decline in demand for Turkmen gas from China by 18 percent from January to April 2020 (EBRD, 2020) increased the value of the US dollar against the manat in the parallel (black) market. However, the official USD exchange rate was maintained at 3.5 Turkmen manat. To respond to the reduced foreign currency inflow since May 2020, the government has requested Turkmen export companies to surrender their entire foreign currency income at the official exchange rate (IMF, 2021).

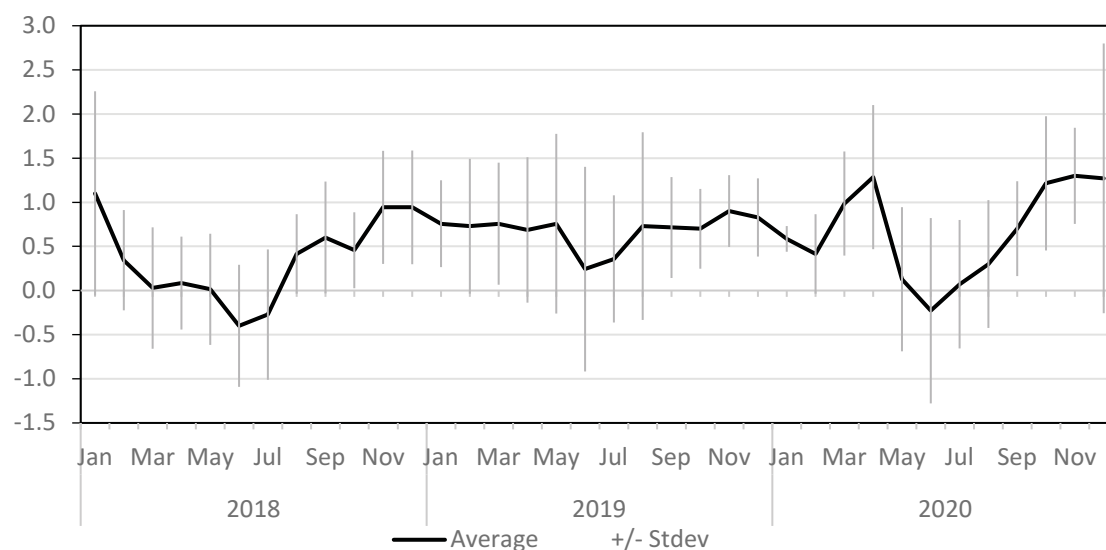
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	-0.1	-0.1	2.1	-0.1	-0.9	-0.6	0.7	0.2	0.2	1.0	1.5	3.9
Azerbaijan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Georgia	-0.8	-1.1	6.6	4.3	0.8	-4.9	0.7	0.3	3.2	1.4	2.8	-0.7
Kazakhstan	-1.3	-0.3	9.1	5.2	-3.6	-3.7	2.2	1.8	1.3	1.3	-0.1	-1.9
Kyrgyzstan	-0.2	0.2	6.8	8.4	-5.4	-2.5	3.6	0.5	1.7	1.8	4.7	-1.0
Tajikistan	0.1	0.0	2.1	3.5	0.3	0.3	0.1	0.0	0.1	0.1	8.4	0.9
Uzbekistan	0.6	-0.8	0.7	6.0	-0.1	0.3	0.5	0.3	0.8	0.4	0.7	0.5

**Figure 7: Monthly changes in US dollar exchange rate to local currency, % change from the previous month**

Sources: National statistical agencies.

## 3.2 Consumer price indices

The lockdown measures, stay-at-home orders, homeschooling and teleworking, closing shops and markets, and lost income affected consumers' spending patterns. The CAC countries experienced strong price fluctuations in 2020, following a partly similar pattern to the depreciation of currencies. The first months of strict lockdown saw an increase in consumer prices followed by a slowdown in May-June 2020. During the third quarter, average consumer prices increased again.



**Figure 8: Average monthly consumer price indices in Central Asia and the Caucasus in 2018–2020, % change from the previous month**

Note: Data on Turkmenistan are not included.

Sources: Authors based on the official data of national statistical agencies.

In terms of year-on-year monthly growth, the prices in 2020 fluctuated strongly compared to 2019 levels (Figure 9). On average, the largest increases in consumer prices were recorded in Uzbekistan (12.9 percent) and Turkmenistan (10 percent) (ADB, 2021). Kazakhstan (6.7 percent), Kyrgyzstan (6.3 percent), and Georgia (5.2 percent) recorded medium inflation growth rates. The lowest annual increase in consumer prices occurred in Azerbaijan (2.8 percent) and Armenia (1.2 percent).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	0.3	-0.5	-0.1	0.9	1.2	1.7	1.5	1.8	1.4	1.3	1.6	3.7
Azerbaijan	0.6	0.7	1.0	0.1	-0.5	-0.3	-0.3	-0.2	0.1	0.2	0.5	0.8
Georgia	0.7	0.3	0.7	0.9	0.2	-1.4	-0.5	0.0	0.7	0.8	0.9	-1.0
Kazakhstan	0.7	0.6	0.9	0.9	0.5	0.4	0.3	0.1	0.3	0.6	0.9	0.9
Kyrgyzstan	0.6	0.6	1.5	2.3	-1.3	-0.7	-0.5	-0.3	0.7	2.4	1.9	2.5
Tajikistan	2.7	1.1	1.1	0.9	0.8	-0.4	-0.3	0.3	1.8	1.3	2.3	2.1
Uzbekistan	0.6	0.8	1.3	1.7	0.3	-0.2	-0.3	0.5	1.4	1.4	1.5	1.6

**Figure 9: Monthly consumer price indices in Central Asia and the Caucasus in 2020, % change from the previous month**

Note: Armenia - % change with respect to the same month in the previous year.

Sources: National statistical agencies.

## 4 COVID-19 policy response

### 4.1 General policy measures

The COVID-19 pandemic offers a natural experiment that affected almost all countries but resulted in country-by-country variations in policy responses and measures taken to prevent the spread of the virus and soften the socio-economic effects. The list of policies most relevant for the scope of this report across the eight countries of the CAC region is provided in Table A-1 in Appendices. While all countries introduced some measures to reduce person-to-person contacts and mobility, policy measures to stimulate economic recovery are more heterogeneous. Figure 10 shows the country comparison of the level and timing of various policy indicators based on the Oxford COVID-19 Government Response Tracker (OxCGRT). The Oxford Stringency Index is a systematic cross-national, cross-temporal measure quantifying the number and intensity of closure, containment, and stimulating policies in a country on a scale from 1 to 100. Besides the overall government response index (black line), three indices aim at capturing one of the two directions of policies: the original stringency index (blue line) measures the strictness of lockdown policies and the containment; and the health index (green line) aims at quantifying a combination of lockdown restrictions and preventive

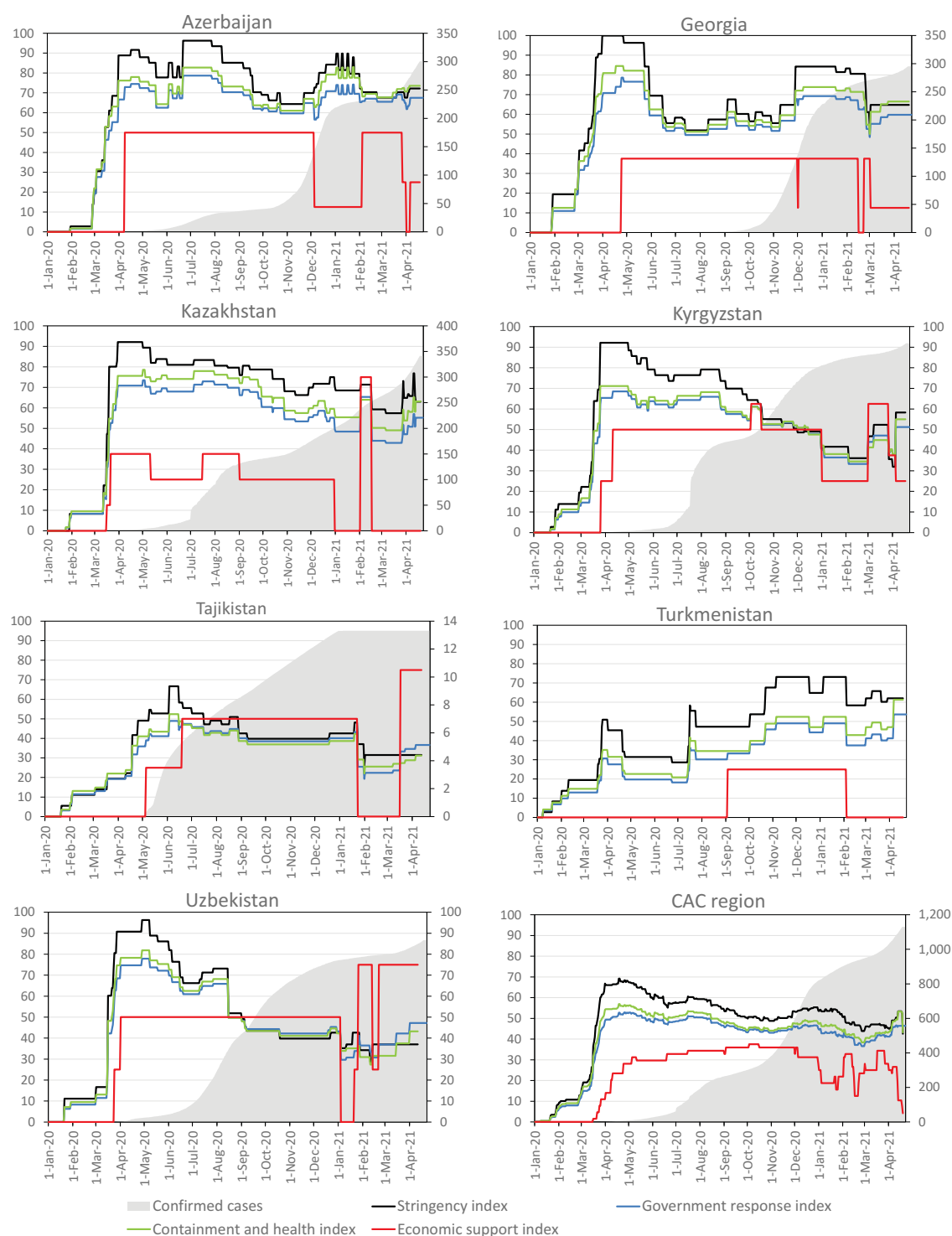
measures such as testing, contact tracing, and vaccination. The economic support index (red line) summarises policy packages to spur demand and compensate restricted businesses.

Despite unknown factors and a high level of uncertainty at the pandemic's onset, many governments took immediate policy interventions to prevent COVID-19 deaths, flatten the curve, and avoid overwhelming hospitals and critical healthcare facilities. Besides direct COVID-19 related health effects, governments feared indirect deaths due to not being able to treat other illnesses in the event of a breakdown in health infrastructure. The overall government response index shows that CAC governments, except for Tajikistan and Turkmenistan, responded with stricter measures in early spring 2020 as the pandemic entered their countries. A variation in the intensity of stringency measures reflects the state of outbreaks in different countries in the region. In the third quarter of 2020, despite a persistently high infection rate, Kyrgyzstan, Tajikistan and Uzbekistan started to relax containment measures as the strict lockdowns were considered economically unsustainable. In Caucasus countries, where outbreaks re-emerged in autumn 2020, containment measures have remained relatively stringent.

Common containment measures across the CAC region were stay-at-home requirements, internal and international travel restrictions, closure of kindergartens, schools, universities and workplaces, and bans on public gatherings. Despite these common methods, the measures varied substantially across countries regarding how strict the measures were, how quickly they were adopted, and whether they were lifted or not (Figure 10).

Among the reported seven countries (Armenia is not included in the OxCGRT database as of 23 April 2021), the governments of Tajikistan and Turkmenistan introduced the least strict policies, while all other countries introduced policies measuring above 90 in the stringency index at the start of the pandemic in March 2020.

The central Asian governments eased restrictions and reopened their economies after the first wave of the pandemic started to wane in autumn 2020. However, a different trend is observed for the two Caucasus countries, which reintroduced restrictive policies in education and work practices following the autumn wave. For instance, an improved COVID-19 situation in May-June allowed the Government of Georgia to open the economy quicker than planned, but it then resumed restrictions in December.



**Figure 10: Indices of government responses (1–100) and reported COVID-19 cases (1 000 people)**

Note: Government response data on Armenia are not available. No COVID-19 cases reported for Turkmenistan.  
Source: Authors based on Hale *et al.* (2021).



Figure 11 and Figure 12 present the country-by-country variations in severity and length of containment measures implemented to contain the spread of COVID-19 as recorded in the OxCGRT database. These indicators include the closing of schools, workplaces and public transport, stay-at-home orders, as well as restrictions on public gatherings, internal movement and international travel. Darker colours indicate more restrictive measures.

Almost all countries introduced a complete lockdown of several weeks in spring 2020. In March 2020, the governments started to impose so-called social-distancing measures, requiring the closure of schools, workplaces, shops, public transport, and bans on public gatherings. Furthermore, the governments restricted internal movement, particularly entry to and exit from cities. As the number of new cases was stabilised during late spring 2020, governments shifted from a complete lockdown to a partial lockdown.

The closing of schools and universities and the provision of remote education, where possible, was introduced by most countries. Two of the Caucasus countries, Georgia and Azerbaijan, closed schools again in autumn 2020 with the start of the second wave of the pandemic. Kazakhstan, Kyrgyzstan and Uzbekistan mandated distance education until the beginning of the new education year in September and then gradually reopened schools, taking action only when positive cases were detected at the local level. Tajikistan and Turkmenistan introduced the least restrictive measures on school closing among the seven countries covered by OxCGRT.

The closure of all non-essential workplaces was implemented during the first two months of the pandemic. During the first week of May, all governments – except Turkmenistan and Tajikistan – replaced this policy with less strict measures, which would be again replaced with stricter ones only after the next outbreak in autumn. Tajikistan implemented a mild three-week policy of closing some non-essential workplaces.

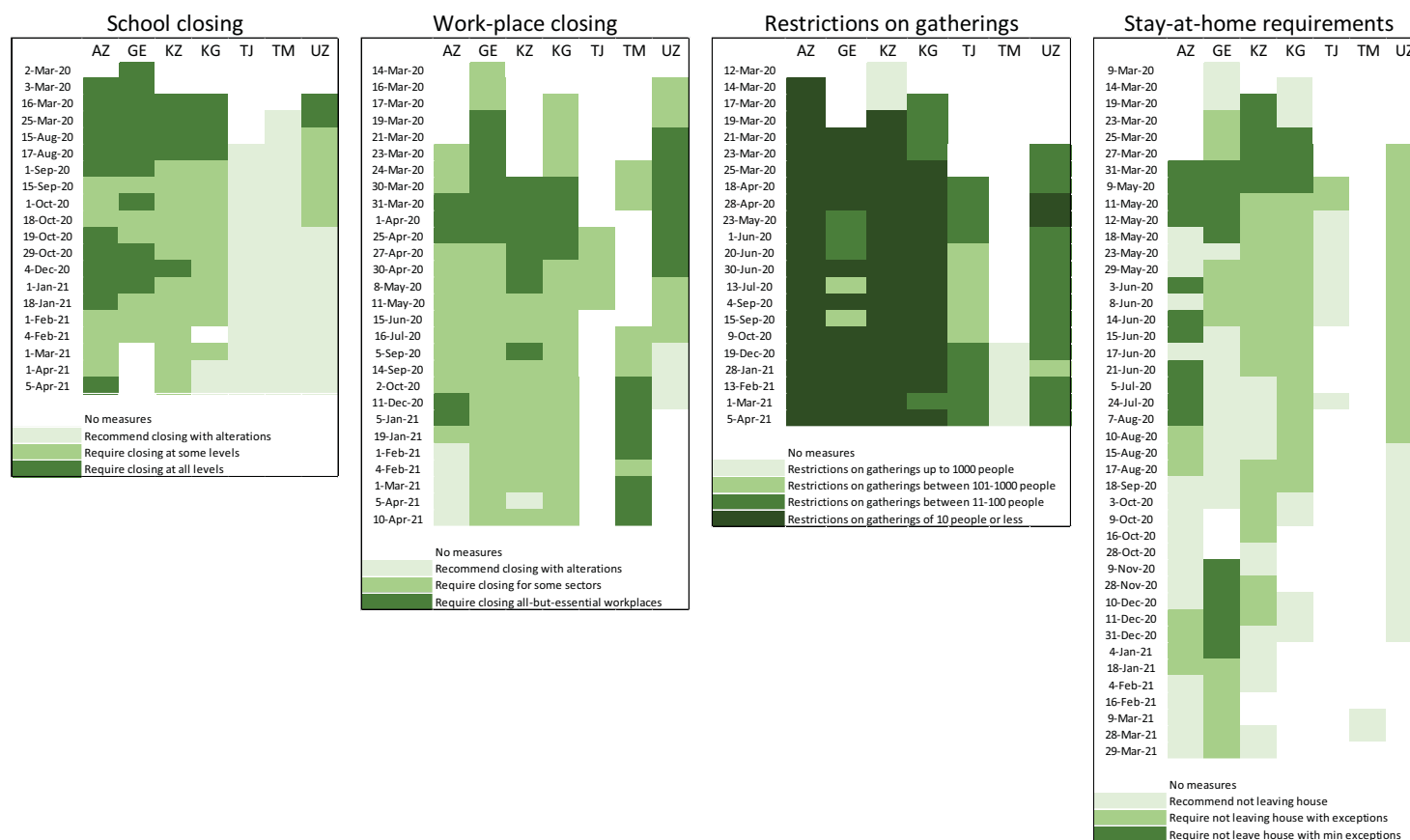
The ban on large public gatherings was strict and consistently applied across the region, except for Turkmenistan. The governments of Azerbaijan, Georgia, Kazakhstan, and Kyrgyzstan introduced strict mandates to limit public gatherings to fewer than ten people. Tajikistan and Uzbekistan introduced a milder policy, allowing public meetings of up to 100 people.

Stay-at-home orders were introduced in most countries before the end of March 2020 and lifted again in May. Turkmenistan remains the only country where the stay-at-home requirement was not in force in early 2020, but a strict closing of workplaces has been implemented after October 2020. The Government of Tajikistan introduced a stay-at-home order for a short period, and for the rest of the first wave, it issued a recommendation not to leave the house. Following the worsening situation in the fourth quarter of 2020, a second total lockdown was imposed in Georgia.

The governments of Azerbaijan, Kazakhstan and Kyrgyzstan suspended public transport services in major cities in 2020. The policy introduced a limited-service span and frequency of daily operations, the cancellation of certain transport services, closure of selected stations, and suspension of night services. As the virus came under control by June 2020, public transport systems gradually reopened, and transport usage returned to pre-pandemic levels in the large cities of Azerbaijan, Georgia, Kazakhstan and Uzbekistan. As infection rates climbed again in the third quarter of 2020, Azerbaijan, Georgia and Kazakhstan governments gradually reintroduced restrictions in the worst affected areas, primarily large urban areas.

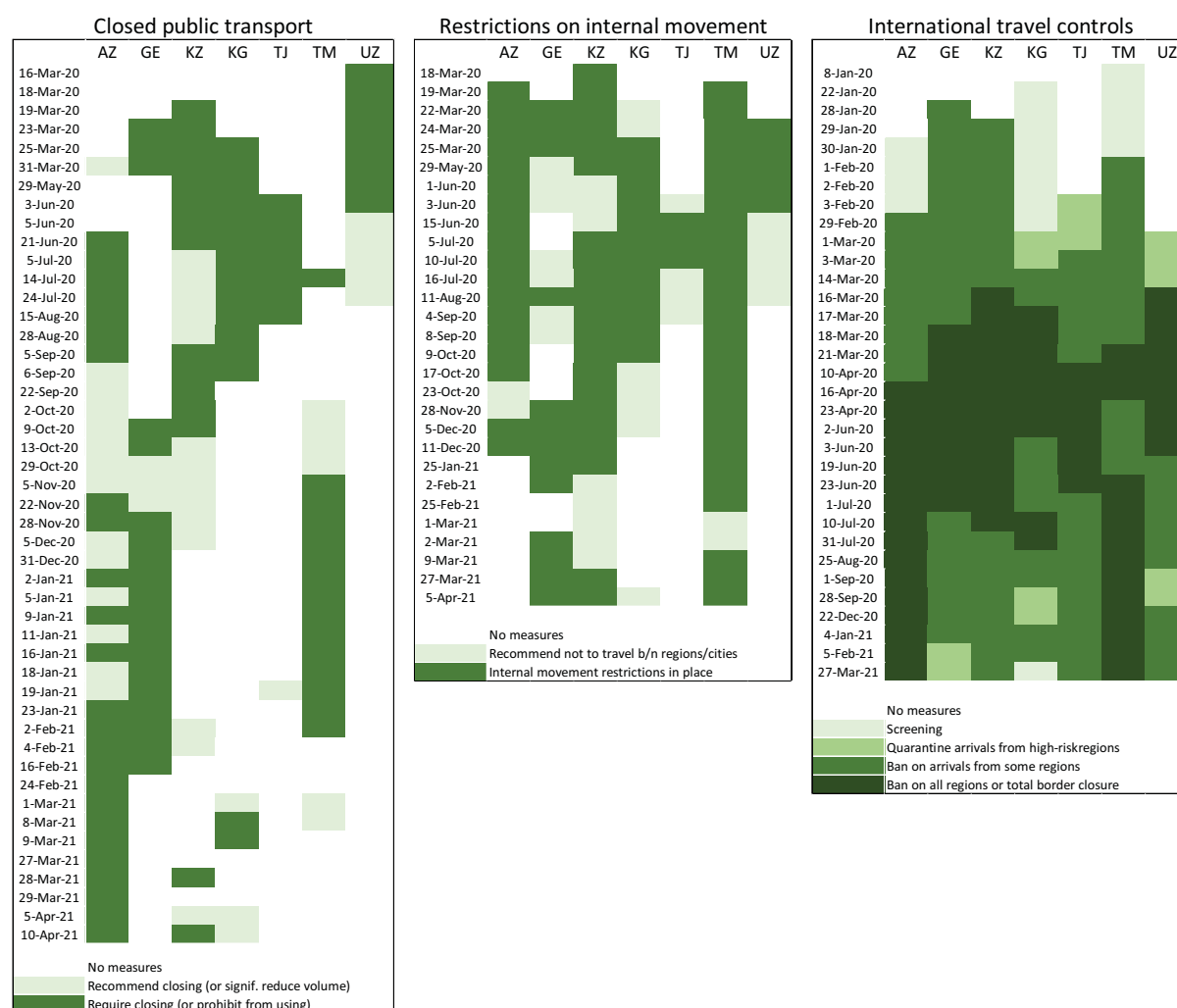
Similarly, the governments imposed restrictions on internal movement, particularly entry to and exit from cities. Even the Turkmen government tried to reduce internal mobility to essential travel only and restricted movement between regions.

Among the health measures, the governments of Georgia, Kyrgyzstan and Turkmenistan introduced temperature screening in airports weeks after the spread of the virus in China and Europe, before international flights to and from highly affected areas in foreign countries were suspended entirely. By April 2020, all seven reported countries had stopped all international airline traffic and closed borders. The borders reopened only for connections with countries where infections were under control.



**Figure 11: Measures requiring the closing of schools, workplace and stay-at-home requirements**

Note: AZ – Azerbaijan, GE- Georgia, KZ – Kazakhstan, KG – Kyrgyzstan, TJ – Tajikistan, TM – Turkmenistan, UZ – Uzbekistan.  
Source: Authors based on Hale *et al.* (2021).



**Figure 12: Closing of public transport, restrictions on internal movements, and international travel controls**

Note: AZ – Azerbaijan, GE- Georgia, KZ – Kazakhstan, KG – Kyrgyzstan, TJ – Tajikistan, TM – Turkmenistan, UZ – Uzbekistan.

Source: Authors based on Hale *et al.* (2021).

## 4.2 Agriculture and food policy measures

The various containment measures described in the previous section affected the economies substantially, in some cases even dramatically. Thus, various CAC governments implemented measures to minimise the economic effects of disruptions in agrifood supply chains. Conditional upon political weight and financial capacities, the character and extent of the policy measures vary from country to country. For example, Azerbaijan allocated 3 percent of its GDP for economic and social programmes, the largest share among post-Soviet countries.

The COVID-19 pandemic ignited new measures in the agricultural sector, which emerged at a smaller scale for some countries. The efforts mainly focused on relief to agricultural producers and processors by postponing, reducing or eliminating interest rates, loan repayments, taxes and social contributions. Most countries introduced tax and subsidy incentives such as lowering taxes on certain agricultural activities and processing as a general approach. Additionally, temporary reductions in Value Added Tax (VAT), aimed at stimulating consumer demand, were also introduced.

Some countries, such as Armenia, Turkmenistan and Uzbekistan, amended existing support programmes in agriculture by adding new incentives on subsidised loans, which in 2020 were converted to a zero percent interest rate for farmers.

### **Input subsidies**

After COVID-19 hit in spring – the start of agricultural field operations – the governments financed spring seeding operations in most countries. In all instances, banks were requested to offer a temporary suspension (a three to six-month grace period) of loan repayments during the initial period of national lockdowns.

In Azerbaijan, agricultural producers received six new subsidies to support production costs for sowing, harvest, seeds, livestock, bees and silkworm production. In addition, upon payment of 20 percent of the initial cost of leased and purchased agricultural equipment, the state agreed to compensate farmers 40 percent of the initial cost. Enterprises, including farmers, were provided with a temporary increase in existing discount limits on electricity use. Furthermore, the government introduced a targeted microcredits programme to support rural smallholders. The Government of Azerbaijan applied direct subsidy payments to farmers covering about 17 000 farmers, amounting to about USD 4 million. Furthermore, farmers in Azerbaijan were provided with unsecured microloans (USD 12 million) through the Agrarian Credit and Development Agency. To reduce the social insurance burden, mandatory social insurance contributions for smallholders in Azerbaijan were reduced, depending on the area of utilised land.

In Armenia, the government provided farmers with access to affordable financial resources to respond to changing demand conditions and overcome the external challenges of closed markets. In addition, Armenian agro-processors were provided with subsidised credits to purchase agricultural raw materials from farmers. To protect grape producers with a high grape harvest but faced reduced demand as the global wine market collapsed, the government provided wine producers with subsidised loans for grape procurement and export.

In Georgia, the government launched a crisis plan, ‘Caring for Farmers and Agriculture’, on 12 March. The program included direct assistance to farmers and sectoral support. Some of

the support measures included the distribution of ‘agricultural cards’ as subsidies for cattle-breeding and land cultivation services for smallholders, provision of cheap diesel fuel for farmers, nullification of costs of land reclamation services, provision of agricultural loans and insurance, and grants for machinery and equipment.

Due to a tight budget in Tajikistan, the state support to farmers came in the form of the purchase of essential inputs such as seeds, pesticides and fuel, and farm input distribution through international donors.

To support input access by farmers in Uzbekistan, the government set up additional fertiliser shops and provided pass certificates for agricultural activities to ensure uninterrupted movement of farmers and transport. The subsidy of 50 percent for water service fees was introduced for irrigation operations in 2020.

In Kazakhstan and Tajikistan, agricultural producers were exempted from the land tax payment for 2020.

### **Business policies**

The governments implemented a targeted fiscal stimulus for businesses and households, which would ease the financial burden of the pandemic, particularly in smallholder farming systems. In all countries, business policies that cover agrifood processors and traders applied a grace period for loans of three to six months for small and medium-sized enterprises, and tax postponement or temporary exemptions from taxes and insurance payments for agrifood processors were applied.

To prevent job cuts during the COVID-19 pandemic, the Government of Azerbaijan launched a financial support programme worth USD 126 500 000 for salaries to 300 000 wage earners. To safeguard employment, a financial support programme of USD 47 million was issued for 300 000 individual (micro) entrepreneurs working in the sectors affected by the pandemic.

In Georgia, companies operating in the tourism industry had their property and personal income taxes deferred for four months. Furthermore, the government subsidised 80 percent of bank loan interest expenses for small hotels for six months. Loans were restructured for businesses affected by the crisis.

The Turkmen government issued targeted subsidised loans for cooling storage and warehouses construction projects.

More short-term loans to agricultural processors and exporters were offered in Uzbekistan to boost local domestic supply and export earnings.

## **Trade policy**

CAC countries implemented export restrictions or lower/zero import tariffs to ensure sufficient supplies and curb increasing prices.

Kazakhstan, Kyrgyzstan and Tajikistan introduced export restrictions in the form of bans and/or quotas on several food staples. Kazakhstan introduced an export ban on major staples on 22 March and, following a couple of weeks in April, replaced it with an export quota, which was active until June 2020. On 23 March, the Government of Kyrgyzstan introduced a six-month export ban on several food staples. On 31 March, the Eurasian Economic Union (EAEU) countries introduced a three-month ban on the exports of essential food products outside EAEU countries. On 25 April, the Government of Tajikistan implemented a temporary ban on the export of basic food staples. On 19 November, the Government of Kyrgyzstan re-introduced a six-month ban on exports of food products outside the EAEU and added the export of livestock and poultry to the list.

In January 2020, Azerbaijan and Georgia applied a temporary ban on importing live animals and meat from China based on sanitary and phytosanitary (SPS) reasons.

The Government of Uzbekistan incentivised exporters by issuing a temporary export subsidy to cover some of the transportation costs and facilitate border crossing for exporters of perishable fruit and vegetables. The Government of Armenia introduced an export subsidy to repay export duties to wine exporters.

## **Zero customs duty on essential food**

To prevent a food shortage and stabilise food prices, most countries temporarily introduced zero-import customs duties and import subsidy programmes for most essential food products.

The EAEU countries added potatoes, onions, garlic, cabbage, carrots, peppers, rice, and buckwheat to the list of critical products exempt from import customs duties for April–June 2020. Armenia postponed the introduction of custom tariffs within the EAEU agreement for one year to support local consumers. In April 2020, the Government of Uzbekistan lifted import tariffs on several commodities, including flour, meat, and dairy products, until the end of 2020.

From 15 March to 15 May 2020, the Government of Georgia implemented an import subsidy programme for nine food products – pasta, buckwheat, vegetable oil, sugar, wheat, wheat flour, milk powder, and beans. The programme covered importers' additional costs caused by exchange-rate fluctuations. Within this programme, by May 2020, the state subsidised the import of 40 000 tonnes of wheat grains. A maximum price of flour was defined to curb

growing bread prices. Wheat flour was offered at a subsidised price to bread producers who use no less than 30 tonnes of flour per month.

### **Social protection policy**

Social protection measures varied across countries and typically included food aid, one-time assistance payments to vulnerable groups, and food-price controls. The major challenge for the governments was that, in some cases, vulnerable people were not targeted quickly enough or not targeted at all (in particular returning migrants and remittance-dependent households).

In most countries, food assistance was provided to vulnerable families. For instance, in Kazakhstan, food aid was distributed by the government to socially vulnerable people (a 30 kg food box).

Food price regulation was applied in Kazakhstan, Kyrgyzstan, and Tajikistan for essential foods through price ceilings. At the same time, in other countries, the government monitored the prices but did not intervene directly by regulating prices. To slow down price growth, essential food products were exempted from VAT in Azerbaijan. In Kazakhstan, VAT on essential food products was reduced from 12 percent to 8 percent.

Another food-price intervention was government procurement of essential commodities. In Georgia, the government purchased sugar, sunflower oil, and pasta, which they then sold to stabilise prices. The Kyrgyz government procured wheat flour from Russia to increase its food reserves and stabilise domestic prices. In Turkmenistan, the government opened selling points for subsidised fruit and vegetables in bazaars.

In Azerbaijan, the government has rolled out a major support package for the unemployed and small and medium-sized businesses. As a relief package for unemployed and low-income people who lost earnings during the special quarantine regime, the government made three lump-sum payments of about USD 111 to residents of the orange zone in April, May and June 2020. Furthermore, the Government of Azerbaijan prevented the firing of people during the pandemic and forced businesses to continue paying salaries to employees even if they did not come to work. Students from socially vulnerable families received reimbursement of tuition fees from the state budget.

In Kazakhstan, the government made cash payments to the unemployed and self-employed and increased pensions and social benefits. It also paid lump-sum assistance worth USD 100 per unemployed person.

In Georgia, the COVID-19 ‘Anti-Crisis Economic Plans’ adopted by the government included assistance payment over a certain period to those who lost jobs or were put on unpaid leave



and a one-time assistance payment to self-employed persons who lost income. For instance, the government covered public utility costs (electricity and gas) for vulnerable groups. Like in Azerbaijan, the government covered semester or annual tuition fees from the state budget for students from socially vulnerable families.

In Tajikistan, one-time assistance payments equivalent to a minimum wage were made to vulnerable families. The government covered public utility costs (electricity and gas) in Armenia for vulnerable groups.

### **Migration policy**

No specific measures were identified targeting returning migrants. In Georgia, the government has expanded the 'Supporting reintegration of the returned Georgian migrants' programme introduced in 2015. In Uzbekistan, the government opened land funds for redistribution for short leases of one-hectare land plots to young farmers, which constitutes the pool of potential migrants.

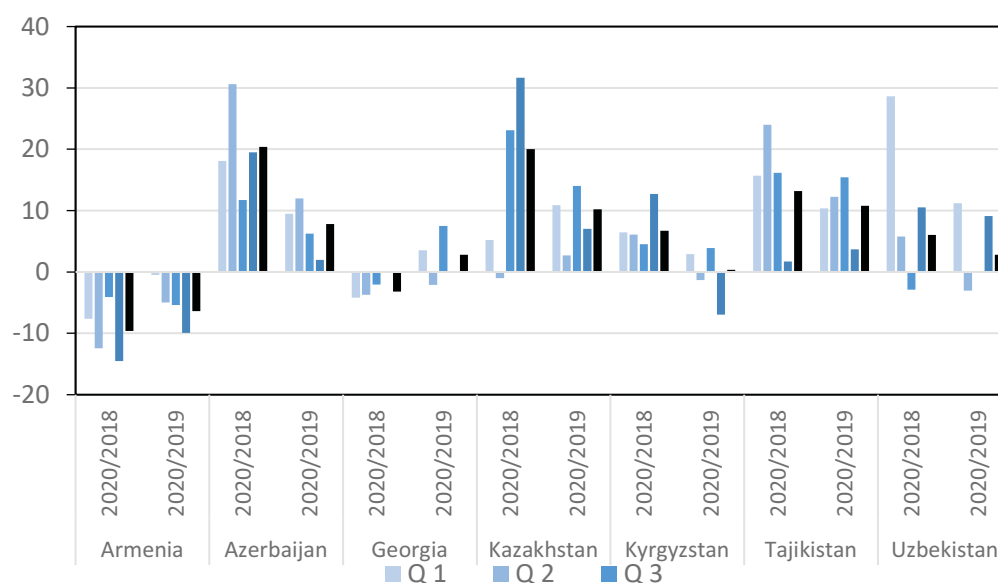
To sum up, all governments of the CAC countries studied introduced support measures after the start of the COVID-19 pandemic, the nature and extent of which varied. Because different policy interventions happened simultaneously, it is difficult to evaluate the effectiveness of single measures, even if appropriate data were accessible.

## 5 Impact on the agrifood sector

The impact of the COVID-19 pandemic and the related policy measures to curb the pandemic can be assessed from various perspectives. The socio-economic effects might be the most relevant concerning the development of the agricultural sector and the livelihoods of rural households. Among these effects, income from economic activities, other income streams, functioning input and output markets, food and nutrition security, or personal health might be considered. Furthermore, there will be direct effects for agricultural producers and rural households and various indirect effects. The observed economic effects in CAC countries can only be interpreted as a gross measure as further shocks such as the substantial drop in oil prices at the beginning of 2020 contributed to the economic development of agricultural commodities and food markets. Disentangling partial effects of the pandemic or policy interventions is almost impossible.

### 5.1 Gross agricultural production value

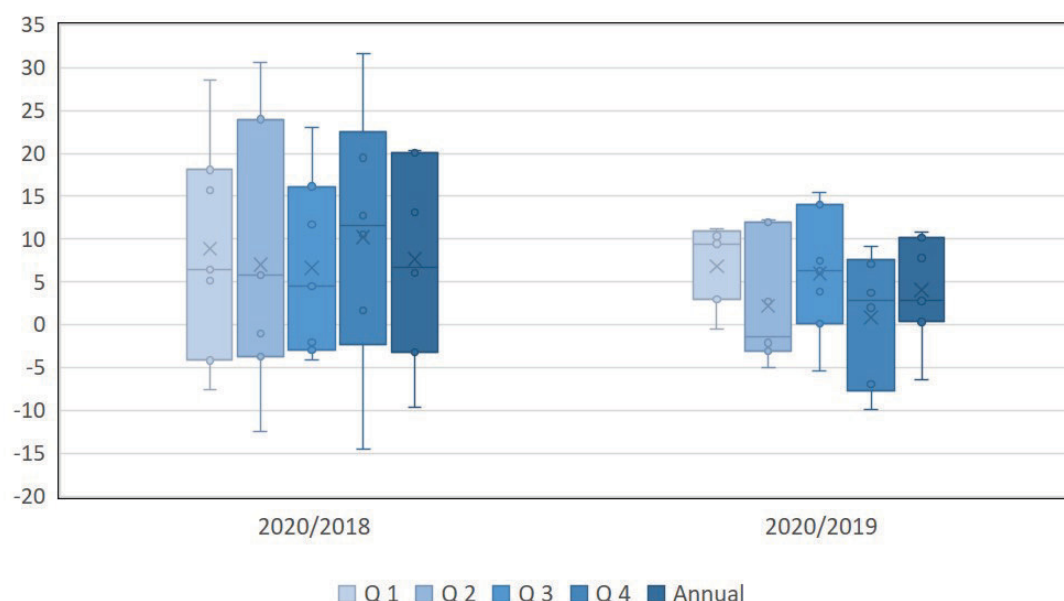
The official statistical data on gross agricultural output (GAO) suggest that agricultural production in all countries of CAC, except for Armenia, was resilient to the COVID-19 pandemic. Despite the pandemic and the national lockdowns, in most countries, agricultural production in 2020 was higher than in 2018. The increase in agricultural output value in 2020 was driven by increased or staple sown areas, livestock numbers, and a higher volume of agricultural production. Kazakhstan and Tajikistan had the highest increase in annual GAO compared to 2019 values. Despite the reported drought in Azerbaijan (Valiyev, 2021), the gross agricultural value increased compared to 2019.



**Figure 13: Changes in quarterly and annual GAO in 2020 compared to corresponding periods in 2018 and 2019, % change**

Sources: National statistical agencies.

Concerning the 2019 values, the growth in agricultural output was more modest. The highest increase in agriculture production value in 2020 relative to 2019 was in Q3 2020, due to a seasonal harvest pattern of spring cereals and high-value crops. For Azerbaijan, Kazakhstan, Kyrgyzstan, and Tajikistan, monthly data of the gross agricultural value is presented in [Table A-6](#).



**Figure 14: Changes in quarterly and annual GAO in 2020 compared to corresponding periods in 2018 and 2019, % change**

Note: Data on Turkmenistan are not included.  
Sources: National statistical agencies.

## 5.2 Input supply

Since national statistical offices do not record farm input prices and supplies, this section relies on various sources of evidence, including expert interviews conducted by national consultants. The COVID-19 related national lockdowns were announced at a critical time in the cropping schedule for spring field crops such as maize, barley, oats, cotton, and spring vegetables. Due to border shutdowns, the modest input supply chain disruptions occurred in March-April 2020, impacting imported inputs for spring crop sowing. Farm inputs and raw materials, including animal feeds, were expensive and in short supply mainly due to uncertainties in international trade and the domestic market. Farmers and input suppliers resorted to saved seeds from the previous year and domestic, commercial inputs. The mobility restrictions and fear of the pandemic created a temporary shortage of seasonal labour despite governments taking necessary measures to ensure the continuation of agricultural work. In Uzbekistan and the southern regions of Kazakhstan and Kyrgyzstan, the limited availability of seasonal farmworkers in the early period of the pandemic caused more burden on farmers as land preparation and planting time took longer. Shortly after this, the governments made the agricultural sector an important business during the lockdown, allowing agriculture-related mobility.

In Armenia, the COVID-19 restrictions in March 2020 disrupted the input supply as all stores providing agricultural inputs were closed. The input supply recovered as agriculture-related activities were granted movement. Despite the local currency's depreciation, the input price index (an average purchasing price of 78 different agricultural inputs) was lower by up to 10 percent than in 2019, indicating that inputs on average were cheaper in 2020. However, reports point to an increase in fertiliser prices as Armenia had to increase imports of more expensive fertilisers from Iran since Georgia closed its fertiliser factory during the pandemic and reduced fertiliser exports. The increase in fertiliser prices was compensated by the decline in diesel prices over the entire year (reaching the lowest level in June 2020 at 33 percent below June 2019 levels) due to lower global oil prices. A return of rural migrants from Yerevan and Russia took place in spring 2020, and they invested their time in the agricultural activities of their families. As the number of such returning migrants in Armenia was high, there were no problems with agricultural labour supply until the mobilisation for the military conflict that started in September.

In Azerbaijan, the prices of principal agricultural inputs did not increase throughout 2020. The government set the 2020 fertiliser price 7 percent lower than in 2019. Farmers did not experience labour shortages as the lockdown measures were implemented in large cities like Baku, Ganja and Sumgayit. Livestock farmers also did not experience shortages of domestically produced feed, although the poultry industry had to face higher prices of imported feed (Valiyev, 2021).

In Georgia, COVID-19 related restrictions during the first wave temporarily affected farmers' access to production inputs and machinery services and curtailed the mobility of agricultural workers. However, the agricultural input supply chain did not experience disruptions, as input suppliers had sufficient stocks at their disposal. Delays in imports related to the border customs checks did not impact the supply process, while movement restrictions negatively affected sales volumes only during short periods. Depreciation of the Georgian lari (GEL) put upward pressure on the prices of imported agricultural inputs. Similar to other countries in the region, prices of livestock inputs (feed, veterinary products) and essential services increased in 2020.

During the first lockdown period, in Kazakhstan, commuting between cities and rural areas was limited. In some cases, even travel between villages had been restricted. Since inputs are primarily sold in cities, farmers had difficulties accessing suppliers as shops were closed. After regional administrations introduced a pass control system for essential businesses, including agriculture, the situation eased. The closing of the national border between Uzbekistan and Kazakhstan created a shortage of seasonal workers during spring fieldwork and for cattle grazing activities for farmers in bordering regions (Oshakbayev, 2021). There is no statistical data available to support observations on this phenomenon because foreign labour is mostly hired informally and not reflected in statistics. Due to the oil-price downturn, the diesel price

decreased by 4.3 percent in May 2020 compared to January 2020. Other input prices increased due to local currency depreciation in March 2020.

Despite the local currency depreciation in Kyrgyzstan, the diesel price was going down throughout 2020 and was down by up to 25 percent below the 2019 level in December. Similar to neighbouring countries, forage prices increased in 2020 (Tilekeyev, 2021). The currency depreciation, together with decreased supplies from Kazakhstan and Uzbekistan, contributed further to increased purchasing prices of imported fertilisers and pesticides. For instance, nitrogen fertiliser import went down by 31 percent (Oshakbayev, 2021; Asfaw *et al.*, 2021). Imports of pesticides went down by 15 percent, mainly due to Chinese firms' cut in pesticide exports. The supply of agricultural labour increased because most new potential migrants in Kyrgyzstan could not leave the country in 2020 due to the complicated modality for foreign citizens entering Russia, the primary destination for labour migrants (Tilekeyev, 2021).

Like Kyrgyzstan, for Tajikistan, the fall of crude oil prices implied more fuel imports (Khakimov, 2021). The fall of fuel prices in the domestic market led to cheaper input supply for the farmers during the planting season. In contrast to other countries' experience, Tajikistan increased fertiliser imports during the pandemic compared to the previous year. As a result, fertiliser prices went down and were below the 2019 level throughout 2020. The border closure contributed to the higher availability of labour in agriculture and contributed to a growth of the sectoral value-added (i.e. improved terms of trade for agriculture).

In July, fertilisers in Uzbekistan recorded a 40 percent higher price compared to the 2019 level. Costs of animal feeds were also increasing over the year and above their 2019 levels. The price of diesel fuel in 2020 was lower than in 2019 due to a decline in fuel demand due to pandemic-related travel bans and a decline in world prices. Apart from the labour shortage in March, farmers did not experience any difficulties with seasonal workers (Asfaw *et al.*, 2021).

### 5.3 Agricultural production

The official figures on agricultural statistics were published in June–September 2021. The agricultural sector proved to be extremely resilient to the pandemic in 2020, characterised by overall favourable weather conditions for CAC farmers. However, Azerbaijan experienced a heavy drought, especially in areas close to the Caspian Sea, leading to crop destruction and salinization of rivers.

Among the countries which reported figures for 2020, the total sown area was less than in 2019 in Armenia and Azerbaijan (Table 4). It is impossible to identify whether this was an effect of the COVID-19 pandemic crisis. Most likely, Armenia's agricultural sector continued

the decline that it had been experiencing steadily since 2016. The total sown area of crops shrank by 2 percent compared to 2019, mainly due to a smaller area sown with wheat, cash crops, and melons. At the same time, areas with fruit gardens, vineyards and vegetables increased.

In the other five countries, the total sown area under various crops increased compared to 2019. In particular, the sown area of wheat increased in Georgia by 8 percent, Kazakhstan by 6.7 percent, and Kyrgyzstan by 3.1 percent. In Uzbekistan, the wheat area increased by 0.5 percent compared to 2019, accounting together with the other strategic crop (cotton) for 74 percent of the total sown area. The area planted with melons increased by 13.5 percent in Uzbekistan. The same applies to leguminous crops, whose area increased by 7 percent. The expansion of the total sown area in Uzbekistan can be attributed to food-policy measures taken during the pandemic to develop more cropland for early maturing, short-season rotational food crops in free rows in orchards and vineyards, as well as the expanded area under greenhouses, particularly by supporting vulnerable rural populations and returnee migrants (Asfaw *et al.*, 2021). The sown area of other crops such as maize and barley has increased in Georgia, Kyrgyzstan and Uzbekistan, as the pressure on animal forage has been growing over recent years. This is particularly visible in the case of Azerbaijan, Georgia, Tajikistan and Uzbekistan, where the number of large poultry farms has been increasing.

Some countries' sown areas declined for other selected crops such as melons or vegetables. Farmers in Georgia cut the planted area of melons by 6.5 percent. In Kazakhstan, the sown area of leguminous crops continued to decline from 439 000 ha in 2018 to 219 000 ha in 2019, down to 183 000 ha in 2020. Areas with cotton in Kazakhstan decreased by 4 percent in 2020 – which is evident of a long-term trend in the irrigated region of southern Kazakhstan, with farmers choosing to switch to vegetable production. This decline in cotton is compensated by expanding vegetable areas by 3 percent.

The number of livestock increased in all countries over 2020 (Table 5). Poultry production has been expanding in Azerbaijan, Georgia, Tajikistan and Uzbekistan through new large poultry farms, placing additional pressure on available feedstuff in the region. In Kazakhstan, the number of poultry declined due to an outbreak of the highly pathogenic avian influenza in the northern regions and the removal of egg production subsidies.

In Kyrgyzstan, Tajikistan and Uzbekistan, the total number of cattle, sheep and goats in 2020 increased by a modest 1 percent to 2 percent compared to 2019. In Uzbekistan, the state's measures to increase the country's cattle stock through the organisation of cooperatives and clusters have contributed to the growing number of cattle.

**Table 4: Sown area (in 1000 ha) in 2019-2020 and changes in 2020 compared to 2019 (%)**

	Armenia			Azerbaijan			Georgia			Kazakhstan		
	2019	2020	2020 /2019	2019	2020	2020 /2019	2019	2020	2020 /2019	2019	2020	2020 /2019
Total sown area	227.9	222.7	-2.3	1 717.1	1 630.9	-5.0	203.0	209.9	3.4	22 135.8	22 582.3	2.0
All cereals	119.4	119.8	0.3	1 072.3	989.1	-7.8	n.a.	n.a.	n.a.	15 177.7	15 695.1	3.4
Wheat	59.9	59.4	-0.9	670.0	588.4	-12.2	43.6	47.1	8.0	11 413.9	12 182.6	6.7
Rice	n.a.	n.a.	n.a.	4.0	3.0	-25.0	n.a.	n.a.	n.a.	102.0	104.1	2.1
Other cereals	57.8	58.5	1.3	32.8	33.7	2.7	74.7	83.7	12.0	3 661.8	3 408.4	-6.9
Cash crops	1.6	1.4	-15.5	130.2	122.0	-6.3	2.5	2.5	0.0	15.5	15.6	0.6
Cotton	n.a.	n.a.	n.a.	100.1	100.3	0.2	n.a.	n.a.	n.a.	131.2	126.0	-4.0
Leguminous	1.8	1.9	6.7	1 072.3	989.1	-7.8	4.7	4.2	-10.6	218.9	183.3	-16.3
Potatoes	20.5	20.5	0.2	56.9	56.9	0.0	16.3	15.7	-3.7	193.0	194.4	0.7
Vegetables	20.5	21.3	3.9	69.4	66.6	-4.0	12.3	12.4	0.8	159.1	163.6	2.8
Melons	4.3	4.0	-6.2	21.4	20.0	-6.5	3.1	2.9	-6.5	102.1	101.9	-0.1
Fruit trees	43.4	43.8	0.8	154.2	213.8	38.7	n.a.	n.a.	n.a.	46.5	47.2	1.6
Vineyards	16.5	16.7	1.1	16.1	16.1	0.0	n.a.	n.a.	n.a.	14.6	14.5	-0.3

	Kyrgyzstan			Tajikistan			Turkmenistan			Uzbekistan		
	2019	2020	2020 /2019	2019	2020	2020 /2019	2019	2020	2020 /2019	2019	2020	2020 /2019
Total sown area	1 216.7	1 223.6	0.6	847.0	856.7	1.2	1 490.4	1 519.8	2.0	3 309.4	3 373.1	1.9
All cereals	627.7	647.2	3.1	383.7	391.5	2.0	803.9	749.8	-6.7	1 409.9	1 440.3	2.2
Wheat	240.1	247.5	3.1	264.0	269.6	2.2	761.3	691.6	-9.2	1 316.1	1 323.1	0.5
Rice	11.3	11.9	5.6	12.4	13.0	4.7	21.1	20.4	-3.3	71.0	62.2	-12.4
Other cereals	376.3	387.7	3.1	107.4	108.9	1.4	21.5	37.8	75.8	44.1	48.9	10.9
Cash crops	65.2	50.1	-23.1	215.5	213.4	-1.0	569.3	639.8	12.4	1 099.5	1 113.1	1.2
Cotton	24.4	21.8	-10.9	185.7	185.4	-0.1	551.1	620.8	12.6	1 050.6	1 050.7	0.0
Leguminous	62.2	62.0	-0.3	16.3	17.2	5.8	n.a.	n.a.	n.a.	49.2	52.7	7.1
Potatoes	79.2	76.3	-3.6	51.8	52.7	1.9	24.9	32.9	32.1	89.6	93.1	3.9
Vegetables	53.4	52.9	-1.0	67.0	70.4	5.1	40.0	44.3	10.8	220.0	224.2	1.9
Melons	10.9	11.6	5.9	21.9	22.8	4.0	22.6	25.2	11.5	53.4	60.6	13.5
Fruit trees	51.0	52.9	3.8	160.5	161.8	0.8	23.8	24.3	2.1	336.6	341.1	1.3
Vineyards	4.8	4.9	0.6	38.6	39.8	3.2	19.3	19.0	-1.6	120.2	126.0	4.8

Sources: National statistical agencies.



**Table 5: Number of livestock (in 1000 heads) in 2019-2020 and changes in 2020 compared to 2019 (%)**

	Armenia			Azerbaijan			Georgia			Kazakhstan		
	2019	2020	2020 /2019	2019	2020	2020 /2019	2019	2020	2020 /2019	2019	2020	2020 /2019
Cattle	579.3	613.4	5.9	2 482.6	2 484.1	0.1	921.7	977.2	6.0	7 436.4	7 850.0	5.6
From this cows	251.7	265.8	5.6	1 194.5	1 201.2	0.6	442.6	462.1	4.4	3 769.8	4 008.3	6.3
Sheep and goats	662.5	717.8	8.3	8 304.1	8 189.2	-1.4	841.9	896.2	6.4	19 155.7	20 057.6	4.7
Horses	11.4	13.1	14.9	65.2	62.7	-3.8	n.a.	n.a.	n.a.	2 852.3	3 139.8	10.1
Poultry	4 396.3	4 203.7	-4.4	30 498.4	32 230.2	5.7	9 466.4	10 146.5	7.2	45 041.4	43 160.0	-4.2

	Kyrgyzstan			Tajikistan			Turkmenistan			Uzbekistan		
	2019	2020	2020 /2019	2019	2020	2020 /2019	2019	2020	2020 /2019	2019	2020	2020 /2019
Cattle	1 680.8	1 715.8	2.1	2 361.9	2 391.4	1.2	2 403.1	2 498.6	4.0	12 949.7	13 188.7	1.8
From this cows	835.3	855.1	2.4	1 227.2	1 244.8	1.4	1 219.0	1 258.0	3.2	4 663.5	4 744.3	1.7
Sheep and goats	6 266.7	6 278.7	0.2	5 686.3	5 797.5	2.0	18 092.5	18 744.9	3.6	21 906.9	22 498.6	2.7
Horses	522.6	539.6	3.3	81.3	82.6	1.6	24.4	27.3	11.9	247.1	254.0	2.8
Poultry	6 211.2	6 070.4	-2.3	9 036.5	9 782.7	8.3	20 375.8	20 606.2	1.1	87 879.3	90 131.8	2.6

Sources: National statistical agencies.

According to the preliminary estimations of the national statistical offices, total crop production in 2020 increased in all countries (Table 6).

In Armenia, cereal production in 2020 showed an 80 percent increase compared to 2019. This colossal increase is mainly due to its significant fall in 2019, when there were droughts and hail in Shirak and other regions specialising in cereals production. In Azerbaijan, according to state officials, wheat production in 2020 was 14 percent less than in 2019, mainly due to water shortages and partly due to the COVID-19 containment measures. Wheat production in Uzbekistan was also about 1 percent below its 2019 level, but this is a normal fluctuation caused by ongoing agricultural reforms.

Cotton production went down in Kazakhstan, Kyrgyzstan and Uzbekistan but improved due to better weather conditions in Azerbaijan and Kyrgyzstan. In Kazakhstan and Kyrgyzstan, the decline in cotton production was caused by the shift, as mentioned earlier, of cotton producers to the cultivation of other high-value crops. The reduction in cotton production in Uzbekistan was even more pronounced considering this crop's strategic role in the national agricultural strategy. This decline may be partly caused by the ongoing reforms in the cotton

value chains and the collapse of the Sardoba water reservoir in the Syrdarya region in May 2020 that damaged significant areas of cotton farmland.

Potato production increased in all countries except for Kyrgyzstan, where farmers reduced the sown area in 2020 due to expected low prices.

Across most countries, vegetable, fruit and melon production increased. In Uzbekistan, the production of fruit and melons in 2020 grew by over 3 percent, and vegetable production grew by 2 percent, compared to the 2019 volumes. The high production of fruit and vegetables was evidenced by the abundant supply in the food markets during the summer of 2020 and the seasonal drop in their prices (Asfaw *et al.*, 2021). Grape production has expanded substantially in Armenia, where the government is making efforts to develop wine production and exports.

Overall production of livestock products in 2020 in the region showed a continuing growing trend that has been typical for the region during the last decade (Table 7). Most livestock products showed an increase of 3 percent to 5 percent compared to 2019. The increases in output are indications that the livestock production was robust, despite the pandemic crisis and increases in animal feed prices discussed above.

**Table 6: Crop production (in 1000 t) in 2019-2020 and changes in 2020 compared to 2019 (%)**

	Armenia			Azerbaijan			Georgia			Kazakhstan		
	2019	2020	2020 /2019	2019	2020	2020 /2019	2019	2020	2020 /2019	2019	2020	2020 /2019
All cereals	198.3	358.1	80.6	3 538.5	2 935.2	-17.0	364.2	405.1	11.2	17 232.2	19 883.3	15.4
Wheat	112.6	132.0	17.2	2 171.5	1 867.3	-14.0	100.6	102.4	1.8	11 451.6	14 258.0	24.5
Rice	n.a.	n.a.	n.a.	12.0	9.8	-18.3	n.a.	n.a.	n.a.	560.7	556.8	-0.7
Other cereals	85.6	226.2	164.1	3 538.5	3 257.1	-8.0	263.6	302.7	14.8	5 219.9	5 068.5	-2.9
Cash crops	n.a.	n.a.	n.a.	301.3	343.4	14.0	2.6	1.9	-26.9	486.7	467.5	-3.9
Cotton	n.a.	n.a.	n.a.	295.3	336.5	14.0	n.a.	n.a.	n.a.	344.4	326.6	-5.2
Leguminous	3.2	4.1	27.3	36.0	21.7	-39.7	5.9	5.2	-11.9	196.4	180.0	-8.4
Potatoes	404.1	437.2	8.2	1 004.2	1 037.6	3.3	194.7	208.6	7.1	3 912.1	4 006.8	2.4
Vegetables	621.6	692.8	11.5	1 714.7	1 738.9	1.4	161.1	176.1	9.3	4 355.2	4 590.9	5.4
Melons	128.0	126.6	-1.1	447.6	448.1	0.1	79.9	83.6	4.6	2 382.1	2 425.1	1.8
Fruits and berries	290.6	274.3	-5.6	1 099.7	1 133.1	3.0	144.4	228.6	58.3	301.0	347.3	15.4
Grapes	217.5	283.2	30.2	201.8	208.0	3.1	293.8	316.9	7.9	90.4	95.1	5.2

	Kyrgyzstan			Tajikistan			Turkmenistan			Uzbekistan		
	2019	2020	2020 /2019	2019	2020	2020 /2019	2019	2020	2020 /2019	2019	2020	2020 /2019
All cereals	1 781.0	1 856.0	4.2	1 414.6	1 561.4	10.4	1 841.9	1 687.8	-8.4	6 109.3	6 366.8	4.2
Wheat	601.2	629.1	4.6	836.9	864.2	3.3	1 654.0	1 481.0	-10.5	6 093.5	6 016.3	-1.3
Rice	41.2	44.5	8.0	106.4	133.4	25.4	n.a.	n.a.	n.a.	314.7	284.9	-9.5
Other cereals	1 138.6	1 182.4	3.8	471.3	563.7	19.6	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cash crops	853.0	546.0	-36.0	450.1	442.6	-1.7	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cotton	80.0	73.0	-8.8	403.0	396.0	-1.7	1 110.0	1 280.2	15.3	2 691.7	2 236.0	-16.9
Leguminous	109.0	107.0	-1.8	78.3	90.3	15.4	n.a.	n.a.	n.a.	339.6	330.9	-2.6
Potatoes	1 374.0	1 327.0	-3.4	994.4	1 022.5	2.8	382.4	490.6	28.3	3 089.7	3 143.5	1.7
Vegetables	1 134.0	1 131.0	-0.3	2 182.6	2 479.4	13.6	882.7	966.9	9.5	10 215.1	10 459.5	2.4
Melons	246.0	262.0	6.5	701.2	757.0	8.0	461.3	526.9	14.2	2 068.7	2 134.4	3.2
Fruits and berries	270.0	278.0	3.0	473.8	470.4	-0.7	192.2	212.9	10.8	2 752.7	2 864.0	4.0
Grapes	9.0	9.4	4.4	247.2	240.0	-2.9	325.1	326.7	0.5	1 603.3	1 639.2	2.2

Sources: National statistical agencies.

**Table 7: Production of animal products (1000 t for meat and milk and million eggs) in 2019-2020 and changes in 2020 compared to 2019 (%)**

	Armenia			Azerbaijan			Georgia			Kazakhstan		
	2019	2020	2020 /2019	2019	2020	2020 /2019	2019	2020	2020 /2019	2019	2020	2020 /2019
All meat	107.3	107.7	0.4	573.3	591.1	3.1	69.5	69.4	-0.1	1 120.6	1 168.6	4.3
Milk	667.9	654.3	-2.0	2 150.8	2 192.5	1.9	544.9	551.9	1.3	5 864.9	6 051.4	3.2
Eggs	720.6	754.6	4.7	1 827.1	1 906.2	4.3	661.2	674.5	2.0	5 531.4	5 065.8	-8.4

	Kyrgyzstan			Tajikistan			Turkmenistan			Uzbekistan		
	2019	2020	2020 /2019	2019	2020	2020 /2019	2019	2020	2020 /2019	2019	2020	2020 /2019
All meat	226.2	230.4	1.9	272.5	300.2	10.2	346.6	354.5	2.3	2 473.6	2 526.2	2.1
Milk	1 627.8	1 668.0	2.5	1 000.6	1 021.0	2.0	2 423.6	2 463.8	1.7	10 714.3	11 009.9	2.8
Eggs	561.3	562.0	0.1	725.7	983.1	35.5	1 438.3	1 502.3	4.4	7 771.2	7 825.0	0.7

Sources: National statistical agencies.

One larger deviation can be observed in egg production in Tajikistan. The recent state programme to develop the sector of large private poultry farms, which increased the number of hens and productivity, might be the key driving force behind this development.

## 5.4 Processing of agricultural products

The manufacturing sector was vulnerable to both economic and pandemic shocks in 2020. Thus, the monthly output figures are very volatile across all the countries that provided data (Figure 15). During the first lockdown and the short-time disruptions in supply chains due to logistics bottlenecks within countries and at borders, the Armenian manufacturing sector shrank 6 percent and 17 percent below its values in March and April of 2019. In Kyrgyzstan, the manufacturing industry fell 15 percent and then 20 percent below the values of March and April 2019. In April 2020, Uzbekistan's manufacturing sector was 20 percent smaller than in April 2019. A similar trend is observed in Kazakhstan, where manufacturing was 10 percent higher in Q1 2020 compared to the corresponding period in 2019 but then declined as the government imposed a lockdown. In Georgia, the manufacturing sector had a 15 percent decline in Q2 2020 compared to the 2019 level and recovered to a 4 percent lag behind the 2019 level while recovering only in Q4 2020. Shortly after the government lifted the restrictions, the economies rebounded for a period, but as soon as the government reintroduced restrictions, it fell below its 2019 values again.

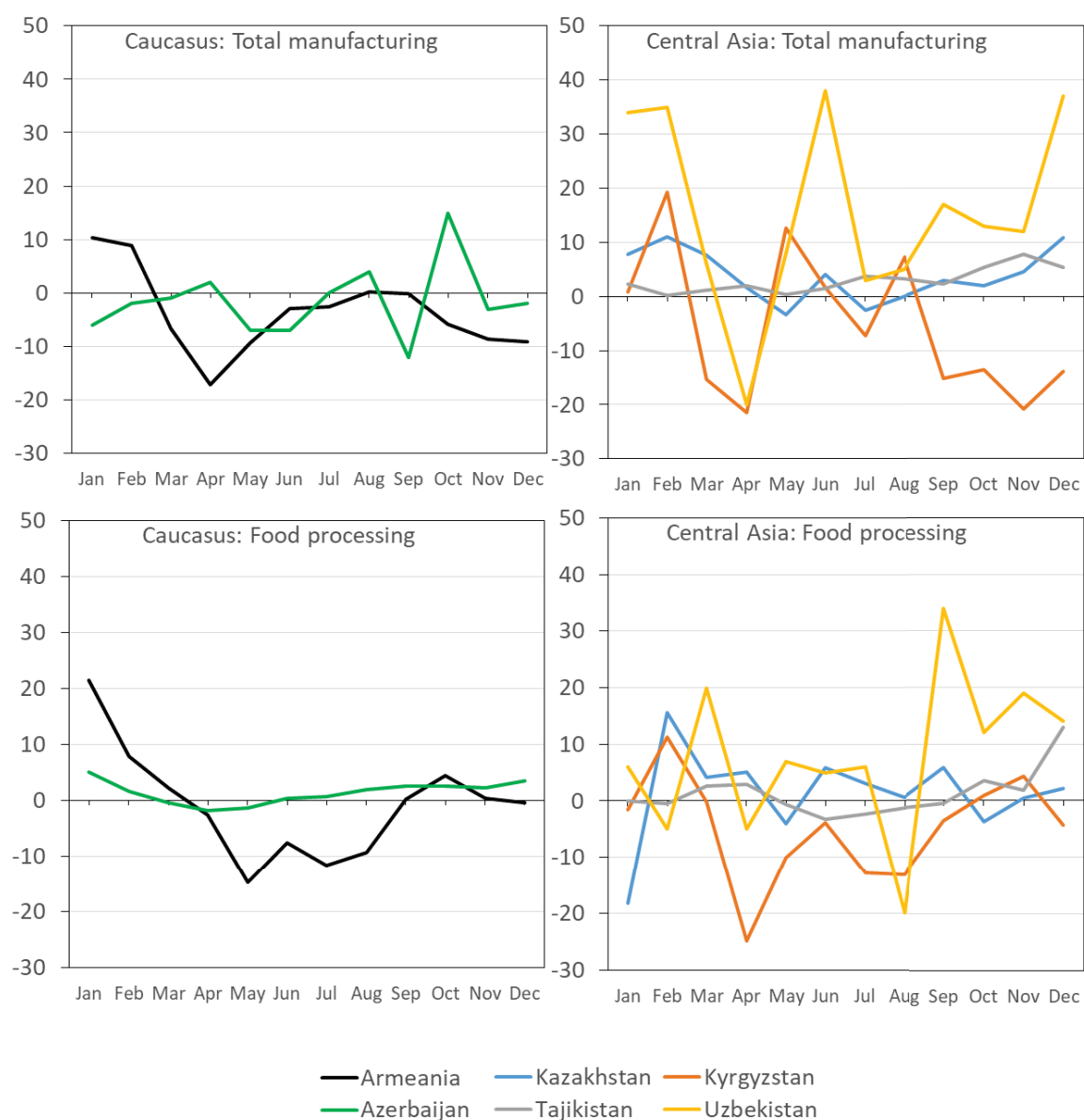
Compared to total manufacturing, the processing of food products did not fluctuate substantially. It was closer to the corresponding months of the previous year except for the periods when the government imposed strict lockdown measures (Figure 15). During the first half of 2020, food processing saw some minor increase, but then as governments closed restaurants and restricted the number of people at weddings, the values went below or close to the 2019 levels. The biggest drop from 2019 values was in March 2020 in Kyrgyzstan. In June, food processing in Armenia dropped by 15 percent from 2019. In Georgia, food processing declined by 9 percent in Q3 2020 compared to 2019 and strongly recovered in Q4 2020, 9 percent above the level of the corresponding period of the previous year.

It is noticeable after the governments eased the lockdown restrictions in May, the processing of food products recovered and registered some growth. As the pandemic progressed in summer, food processing dropped during June-July. Moreover, logistical problems such as the storage of high-value agrifood products and catering and hospitality (HoReCa) closure resulted in decreased demand from food processors. In Uzbekistan, food processing showed resilience to the pandemic crisis until August 2020. It went 20 percent below its 2019 level as the government introduced the second lockdown between mid-July and mid-August. After the lockdown measures were relaxed, food processing rose in September 2020 to 40 percent above the level in 2019.

In Tajikistan, where the government did not introduce tight business restrictions to contain the virus, the food-processing sector did not experience the decline other countries did. Production fluctuated monthly within a 3 percent range from the 2019 level.

Those focusing on out-of-home consumption and exports were affected more in the agricultural sectors. For instance, the lockdown measures significantly impacted wineries in Armenia and Georgia. The internal (mainly from the catering and hospitality sector) and external demand (from Russia) has reduced export volumes and domestic consumption of wines and thus disrupted the operation of wineries. The latter had to reduce or completely stop their processing and therefore could purchase only part of grape harvest from farmers. The anti-pandemic measures had a similar impact on the production of dairy products linked to the catering and hospitality sector. Due to the fall in domestic consumption in Armenia, dairy-processing enterprises purchased smaller portions of milk and offered lower prices.

Furthermore, some CAC countries experienced political shocks that may have disrupted supply chains and the food-processing sector. The processing sectors in Armenia and Azerbaijan were affected by the military conflict in late 2020. In Kyrgyzstan, food processing was also disrupted by the political crisis during the autumn of 2020.



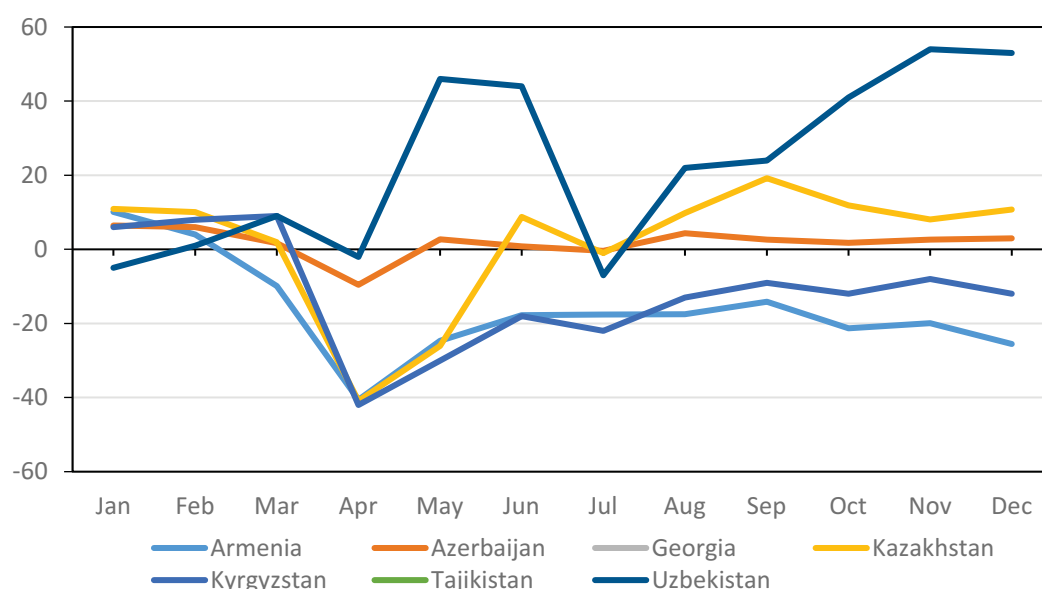
**Figure 15: Monthly indices of manufacturing and food processing in 2020, year-on-% change**

Note: Data on food manufacturing in Georgia is reported every quarter.  
Sources: National statistical agencies.

## 5.5 Food Supply Chain

### 5.5.1 Internal trade

During the COVID-19 pandemic, numerous limitations and bans were applied to the retailing sector, negatively affecting domestic trade in 2020. The comparison with the previous months demonstrates significant deviations in 2020 (Figure 16). Despite the first two months of 2020 showing an increase in domestic retail trade above 2019 levels, the lockdown measures curtailed retail trade activities in all countries. Overall retail trade was lower in 2020 than in 2019. The reported downturn is more significant considering the depreciation of national currency and consumer prices growth. Due to furloughs and layoffs in the private sector and decreased income, expenditure on non-food items decreased. Household expenditures on medical expenses – such as preventive measures or expenses for treating COVID-19 and food and other services – increased in 2020 (Khakimov, 2021).



**Figure 16: Monthly retail trade index, year-on-year % change**

Note: Data on retail trade in Georgia are missing.

Sources: National statistical agencies.

In Armenia, Kazakhstan and Kyrgyzstan, the domestic retail trade turnover in March 2020 was almost half the level of 2019. In Azerbaijan and Uzbekistan, the retail trade in March shrank by 2 percent compared to 2019. As the strict measures were lifted and shops opened, the retail trade in Uzbekistan reached almost 50 percent of the level in April 2019 in consecutive two months, until the government announced the second lockdown in mid-July. In August, the retail trade in Uzbekistan was 7 percent below its 2019 value. As the new containment

measures were lifted from mid-August, the Uzbek retail business improved further and saw a boom of up to 60 percent above its level of November-December 2019.

A similar response to the pandemic is observed in other countries, except Armenia and Georgia. After the fall in March 2020, the retail trade did not recover close to 2019 values.

Reported evidence suggests that during strict lockdowns and the closed catering and hospitality sector, farmers struggled to find other marketing channels and faced complications with product realisation or were simply unable to sell their products. In countries that introduced extended lockdown measures like Armenia and Georgia, the retail trade sector was characterised by low business confidence and pessimistic expectations for the near future (Tadevosyan, 2021; Mamardashvili *et al.*, 2021). For farmers and processors that produced perishable products for catering and hospitality-oriented supply chains such as milk, meat, and fruit, the disruptions were more extended than for farmers and processors dedicated to traditional products.

In Armenia, the Nagorno-Karabakh conflict further dragged the domestic trade down in October 2020.

Unfortunately, national statistics do not record the retail trade in green markets or open-air market places for farm products separately but report on food markets (bazaars) and mixed markets. In all countries of the CAC region, a curfew was applied to retail shops and green markets. Retail shops were allowed to work during the pandemic, while green markets were shut down regularly as part of containment measures and during the strict lockdown periods and had to limit the working time during the rest of the year. Limitations varied across locations depending on the local epidemic situation. The extent to which the different treatment of food supply channels affected the various farming sectors remains an open question due to a lack of data.

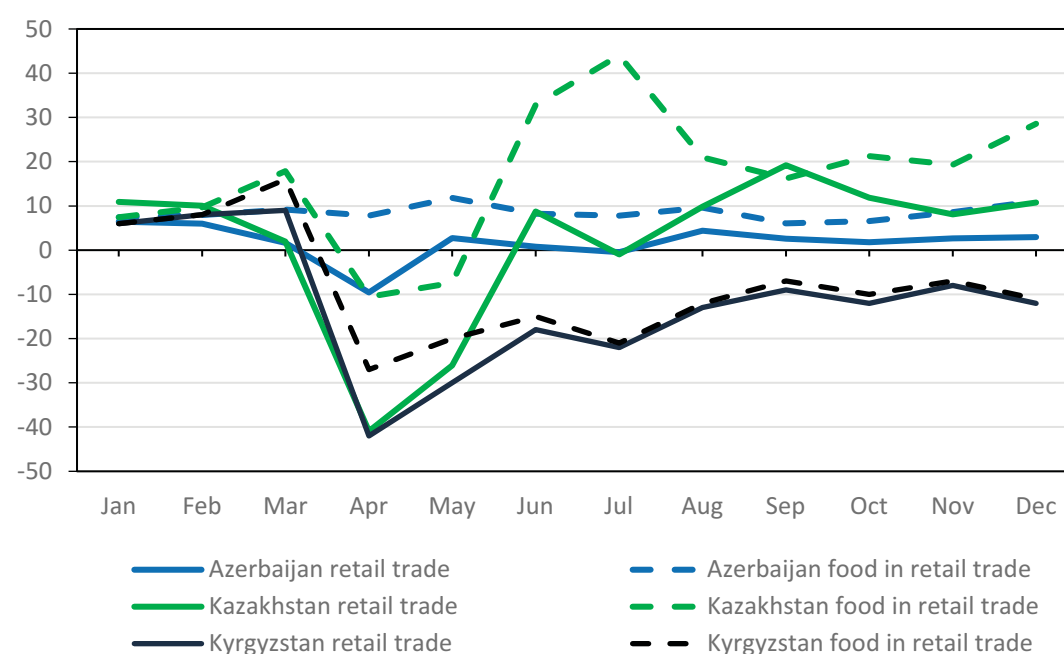
In Kazakhstan, the catering and hospitality sector was one of the most affected by quarantine measures. There is no data on catering and hospitality changes available from official statistics. Anecdotal evidence indicates that revenue decreased by 10 to 20 times below normal during the strict lockdown period. Most restaurants tried to adapt to new realities and developed delivery or even expanded to the so-called 'dark kitchen' format, doing delivery only. It is estimated that 20 percent of restaurants did not survive the 2020 crisis. After complete shut down periods, opening hours and capacity were limited. The Catering Association of the Republic of Kazakhstan estimated that prices on inputs have increased by 30 percent, while revenue has decreased by 40 percent (Oshakbayev, 2021).

The pressure on the catering and hospitality sector was slightly reduced as e-sales became more active, and food delivery and take-away services became a major source of income for cafes and restaurants in Georgia. Georgia has seen an increase in digitised entrepreneurship



support schemes for producers (Mamardashvili *et al.*, 2021). It should also be noted that most large retailers had their online shops before the pandemic, and the relevance of those shops increased in 2020. Some new platforms for e-sales of food and agricultural products also emerged during the pandemic.

In Armenia, the pandemic also accelerated the shift towards a more digital world and triggered changes in the online shopping behaviour of consumers. The monetary value of online transactions for product acquisition showed an increasing trend in 2020. According to the Central Bank of Armenia, the online purchase of products went up by 23 percent during Q2 2020. Moreover, the increasing trend continued in Q3 and Q4 2020 compared to the corresponding periods in 2019 (Tadevosyan, 2021).



**Figure 17: Monthly domestic retail and food trade indices in Azerbaijan, Kazakhstan, and Kyrgyzstan, year-on-year % change**

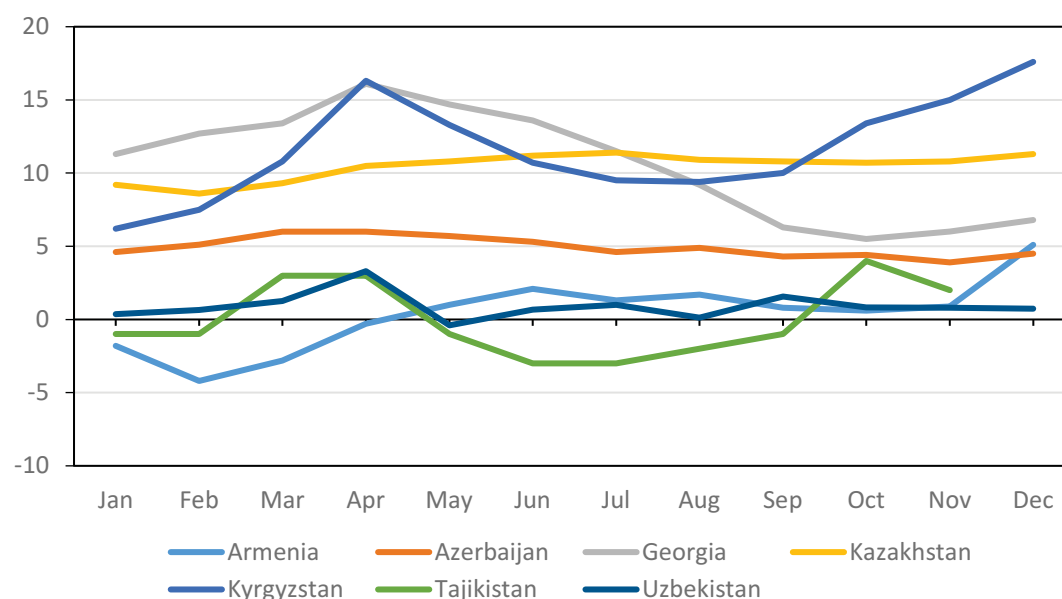
Sources: National statistical agencies.

The available data on food retail trade in Azerbaijan, Kazakhstan and Kyrgyzstan shows that food retail followed almost the same trend as overall domestic retail (Figure 17). Food retail went down with the introduction of lockdown in April and then climbed back to its 2019 level. However, the impact of lockdowns was less substantial for food retail. Furthermore, for Kazakhstan, the official figures indicate that food retail rebounded during the lockdown period – by almost 50 percent – as more people had to stay at home with domestic movement restricted.

### 5.5.2 Prices

The domestic consumer market demonstrated a high volatility level in 2020. Lockdowns and numerous restrictions on movement affected the supply and demand of consumer goods, including food prices.

Figure 18 shows the year-on-year monthly changes in (nominal) prices of selected groups of food commodities. Disruptions in supply chains associated with the COVID-19 pandemic led to food shortages and further increased food prices in March-April 2020. The sudden food price spikes in March and April 2020, compared to 2019, can be explained by short-term increased demand for food, driven by fear of market shortage and hoarding. Later, with fresh domestic harvests after May and saturated consumer demand for food, the food Consumer Price Index (CPI) in 2020, compared to 2019, stabilised. The abolishment or relaxation of the strict lockdown measures also contributed to the decline in monthly food price inflation in May-September 2020. In some countries, the monthly food CPIs in 2020, compared to 2019, stayed stable, while in Uzbekistan, prices started to grow again from September.



**Figure 18: Food price indices in 2020, year-on-year % change**

Sources: National statistical agencies.

Until May 2020, the food price index in Armenia was lower than in 2019. In Tajikistan, the food price index was above its 2019 level during the early months, when neighbouring countries introduced a strict lockdown in March-April 2020, but gradually dropped and stayed

below its 2019 levels until October 2020. To limit the impact of the depreciation of local currency on food prices, some governments responded with price-control measures:

The Government of Georgia subsidised importers' additional costs due to exchange-rate fluctuations for major food commodities (15 March to 15 May 2020). The price restraint mechanism meant that the government negotiated with food importers not to increase prices for these products, set the exchange rate at GEL 3 against the USD, and then subsidised the difference between the actual and fixed exchange rates. Despite this subsidy measure, Georgia experienced two-digit food-price inflation in 2020.

The intervention of the Government of Azerbaijan to control the depreciation of the manat (AZN) against the USD reduced the impact on food prices, which over the months of 2020 moved to within the range of 4 percent to 6 percent compared to the corresponding months of 2019.

In early April 2020, the Government of Kazakhstan introduced nationwide maximum retail prices on nine socially significant food products. In May, this policy was revised to become ad hoc at the regional level. A web portal was launched to gather receipts to monitor retail prices. The regulation was effective until the end of the state of emergency. A regional stabilisation fund for food products was mobilised to procure essential food products for further market interventions and price stabilisation.

In Kyrgyzstan, food prices were going up until March 2020 but then declined closer to their 2019 levels before moving to 10 percent above 2019 prices in summer. Since October 2020, the gap between 2020 and 2019 prices has increased, reaching 18 percent in December 2020, the highest among CAC countries.

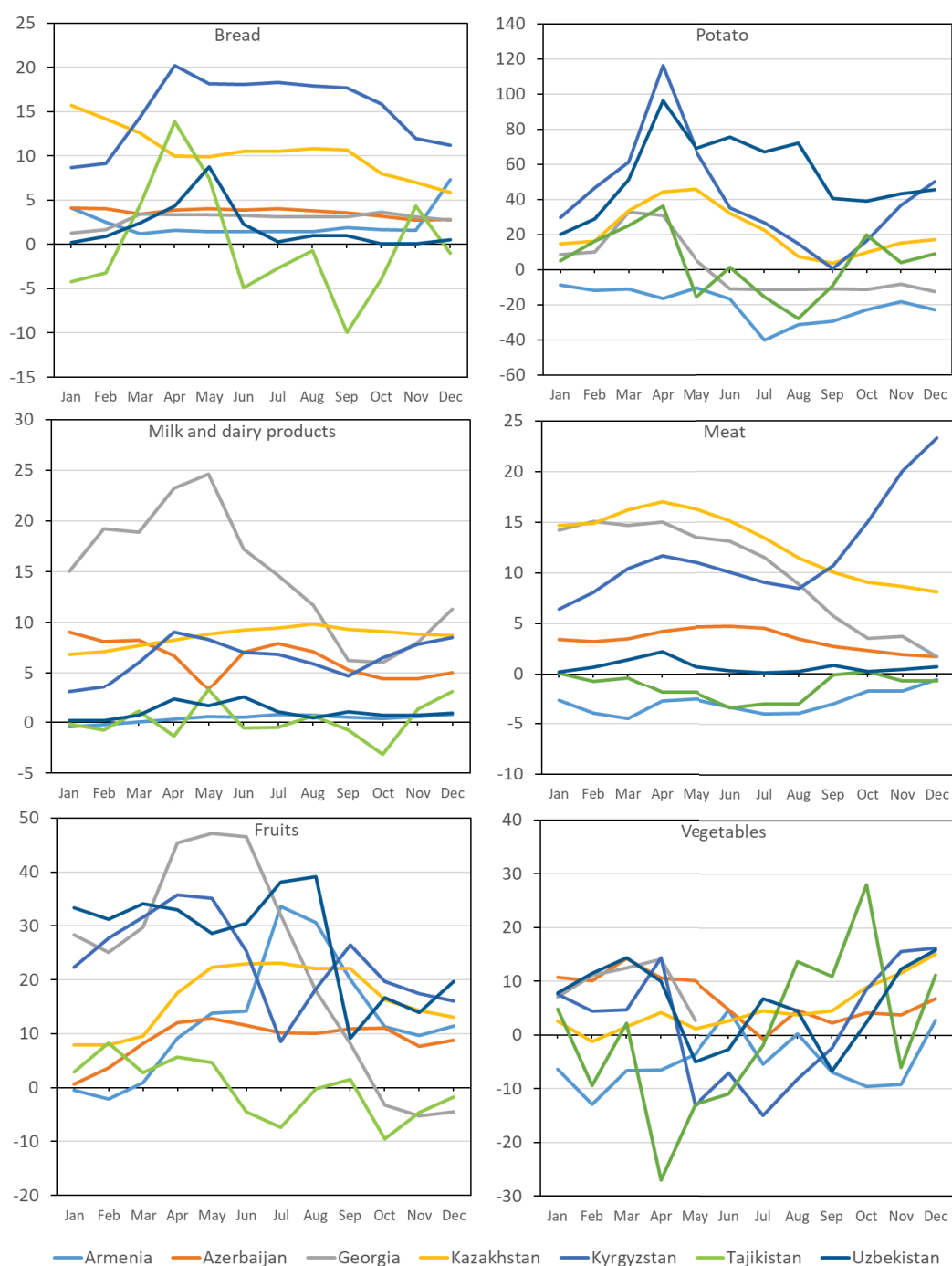
Although the efforts of the Government of Uzbekistan to control food prices and depreciation of its currency had an effect, the food prices still experienced an increase in 2020 compared to the prices in the corresponding months of 2019. Prices started to spike in March and increased the most in April.

Nevertheless, the changes in food prices in 2020 were volatile compared to 2019. This is noticeable in Kyrgyzstan and Georgia.

However, dividing food prices by Consumer Price Index reveals an ambiguous picture. In Armenia, Kazakhstan, Tajikistan, and Uzbekistan, inflation exceeded food-price change, resulting in a decline of real food prices on average. However, food prices increased by between 2 percent and 5 percent in Azerbaijan, Georgia, and Kyrgyzstan, even in real terms. For a more detailed tabulation, see Appendix Table A-2. The reasons for these developments would require further investigation.

A closer look at essential food items shows that bread prices went up in most countries ([Figure 19](#)). The highest growth concerning the corresponding month in 2019 was in April-June in the wheat-importing countries of Central Asia (Kyrgyzstan, Tajikistan, and Uzbekistan). The increase in wheat price was related to the temporary export restrictions on wheat grain and flour imposed by the governments of the Russian Federation, Kazakhstan, and Ukraine. For instance, the Government of Kazakhstan introduced an export ban on 22 March but then replaced it in early April with export quotas and lifted the latter in June 2020.

Potato prices fluctuated strongly compared to the respective 2019 prices. Only in Armenia, potato prices were below their levels of 2019. Strong growth of potato prices occurred in Georgia from April 2019 to April 2020 but then stabilised at levels below 2019 prices. An almost similar trend was observed in Tajikistan, where potato prices rose substantially in April 2020 during the panic caused by Covid-19 cases announcements in neighbouring countries. After the food export ban on 25 April, the prices stabilised and rose again in October. Similar spikes occurred in Kyrgyzstan and Uzbekistan, where potato prices have been gradually rising since December 2019, but in March-April 2020, they doubled their 2019 level. In May-August 2020, potato prices in Kyrgyzstan and Uzbekistan dropped. In Uzbekistan, it stabilised at about 70 percent above the 2019 level, and since October, the price gap has narrowed to about 40 percent. The later increase in potato prices in Q4 can be explained by the smaller area sown with potatoes due to low domestic prices over previous years.



**Figure 19: Price indices of selected food products in 2020, year-on-year % change**

Note: In Tajikistan, 'wheat flour, first grade' is reported in 'Bread'. In Azerbaijan, 'wheat grain' is reported in 'Bread'. In Uzbekistan, fruit and vegetables price indices are calculated as an average mean of year-on-year monthly indices of different fruit and vegetables as reported by the national statistical committee. Sources: National statistical agencies.

The increase in meat prices was substantial in Georgia, Kazakhstan, and Kyrgyzstan from the beginning of 2020, climbing up to 17 percent in April 2020 compared to the same month of 2019. Following this enormous gap between 2019 and 2020 monthly meat prices, it converged with 2019 values in later months. The increase in meat prices in 2020 can be attributed to the increased cost of animal feed in the region (see Section 5.2). Kyrgyzstan, an exporter of meat products, experienced a surge in meat prices from September, making the Kyrgyz government impose a temporary ban on livestock exports. The meat prices in Armenia and Tajikistan dropped. Due to the Nagorno–Karabakh conflict, farmers from the affected territory brought livestock to Armenia, which increased meat supply to local markets and led to a decline in prices. The meat prices in Uzbekistan increased compared to 2019, possibly due to the export bans for cattle introduced in Kazakhstan (end of June) and in Kyrgyzstan (September).

Prices of milk and dairy products were strongly increasing compared to respective months in 2019 in Georgia, Kazakhstan, and Kyrgyzstan. Apart from Kazakhstan, prices of milk and dairy products in all countries went up during the COVID-19 lockdown in March–May. During summer, milk and dairy product prices dipped closer to the level for the corresponding period in 2019. Starting in September–October, milk and dairy products prices rose again compared to 2019 levels. The milk price in Kazakhstan grew steadily and diverged within the 5 percent to 10 percent range from the price trend of 2019. Milk prices in Georgia registered two-digit inflation compared to 2019 prices. The gap between 2020 and 2019 milk prices in Georgia reached 25 percent in May. Following this spike, the milk price in Georgia reverted to the previous year's value, reaching a 6 percent year-on-year difference in September–October. In Armenia, Tajikistan, and Uzbekistan, milk prices did not fluctuate substantially from their respective monthly levels of the previous year.

Among food groups, fruit prices registered large year-on-year monthly deviations in almost all countries during 2020. In Kazakhstan, seasonal imported fruit saw a pronounced increase caused by currency depreciation and the introduction of transport restrictions, both in Kazakhstan and its trading partners, including China. Despite the seasonal supply of local fruit, prices for fruit in most countries saw a two-digit inflation rate – except Tajikistan, where fruit prices did not diverge much from those of the previous year.

Vegetable prices fluctuated wildly in 2020 from the prices in 2019 in almost all countries. Over several months in 2020, vegetable prices were below the 2019 level, except for Kazakhstan, where vegetable prices did not diverge substantially from the 2019 prices, presumably due to problems with the export of these products. In January–April 2020, vegetable prices in Azerbaijan, Georgia, Kyrgyzstan, and Uzbekistan were above the prices of the previous year, and then until October 2020, close or below the prices of the previous year. For most of 2020, vegetable prices in Armenia were lower than in 2019.

### 5.5.3 Foreign (international) trade

It is difficult to put down changes observed in agrifood trade during the COVID-19 pandemic exclusively to trade statistics. It is also hard to point out abnormalities due to trade data quality issues. For instance, intra EAEU trade is registered differently from trade with the rest of the world, and trade statistics are continuously updated for past periods. Tajikistan data is reported quarterly, while the other six countries report every month.

In general, the COVID-19 pandemic had a modest impact on CAC trade in 2020, which proved to be resilient to the global pandemic and quickly returned to business-as-usual mode. Most disruptive measures were introduced in the form of short-term restrictions on Kazakhstan cereal exports (March–May 2020) and live animal export restrictions by Kyrgyzstan (November 2020). Further developments impacting trade were higher transportation costs and longer border crossing times, and lower purchasing power due to currencies' depreciation and the closure of the catering and hospitality sector in export destination countries for regional agrifood commodities. This includes the Russian Federation, which affected exports of wine from Georgia and Armenia, and fruit and vegetable exports from Azerbaijan and Uzbekistan. These difficulties make evident the challenges arising from a strong concentration of agrifood exports and imports on a small number of countries.

All CAC countries were net importers of food in 2019–2020 (Table A-5). In Tajikistan, agrifood imports exceed the agrifood exports by 30 times. In absolute terms, Tajikistan and the two oil-exporting economies, Azerbaijan and Kazakhstan, had the largest negative net trade balance in agrifood commodities in 2019–2020. In Azerbaijan and Kyrgyzstan, agrifood exports number about 40 percent of total agrifood imports. The ratio of imports to exports is the highest in Armenia (0.9) and Kazakhstan (0.8), followed by Georgia (0.7). The negative trade value in agrifood commodities in Armenia was the lowest of CAC countries, about USD 80 million in 2020, down from USD 96 million in 2019.

#### 5.5.3.1 Agrifood exports

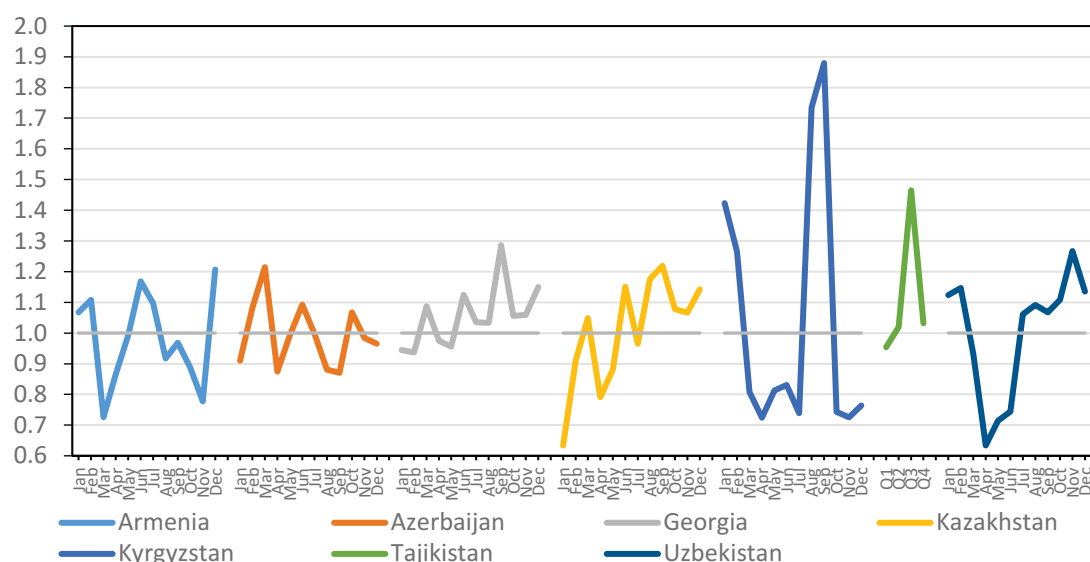
The food export values of CAC countries fluctuated substantially during 2020 concerning the corresponding months of 2019 (Figure 20). In Q1 2020, the export values of Kazakhstan declined by 15 percent compared to Q1 2019 (Table A-4). Following the introduction of a food export ban/quota from late March to June, Kazakhstan's food exports were pushed below their 2019 levels. When the quota was lifted, the exports from Kazakhstan started to improve (from June onwards) and exceeded the values of September 2019 by 20 percent.

In March, the export values of Armenia and Kyrgyzstan were one-quarter below the previous year. The export values of Tajikistan and Uzbekistan went down by 21 percent and 30 percent respectively in Q2 2020 compared to the same period of 2019. A recovery over mid-2020 did

not compensate fully. Thus, total export values in 2020 were below the values of 2019 for all countries except Georgia and Tajikistan, where the export value in 2020 increased by 6 percent and 8 percent, respectively (Table A-5). In contrast to these countries, the year-one-year food export value of Azerbaijan grew by 21 percent in March 2020, but contracted to 13 percent below its 2019 level in April and stayed below the 2019 monthly level for the rest of the year, except for June and October (Table A-4).

Notably, in June–September, exporters of fruit and vegetables improved their export values. For instance, the export value of Tajikistan climbed up to 46 percent above the 2019 level in Q3 2020. The export value of Kyrgyzstan exceeded 2019 levels by 76 percent in August and by 95 percent in September.

Detailed figures are shown in Figure 20 and Tables A-3 and A-4. As for the underlying reasons, we can only speculate.



**Figure 20: Year-on-year food export indices for 2020/2019 (2020 relative to 2019, % change)**

Sources: Kyrgyzstan, Tajikistan, Georgia – National statistical agencies. Kazakhstan – TradeMap database, Armenia, Azerbaijan Uzbekistan – UN Comtrade.

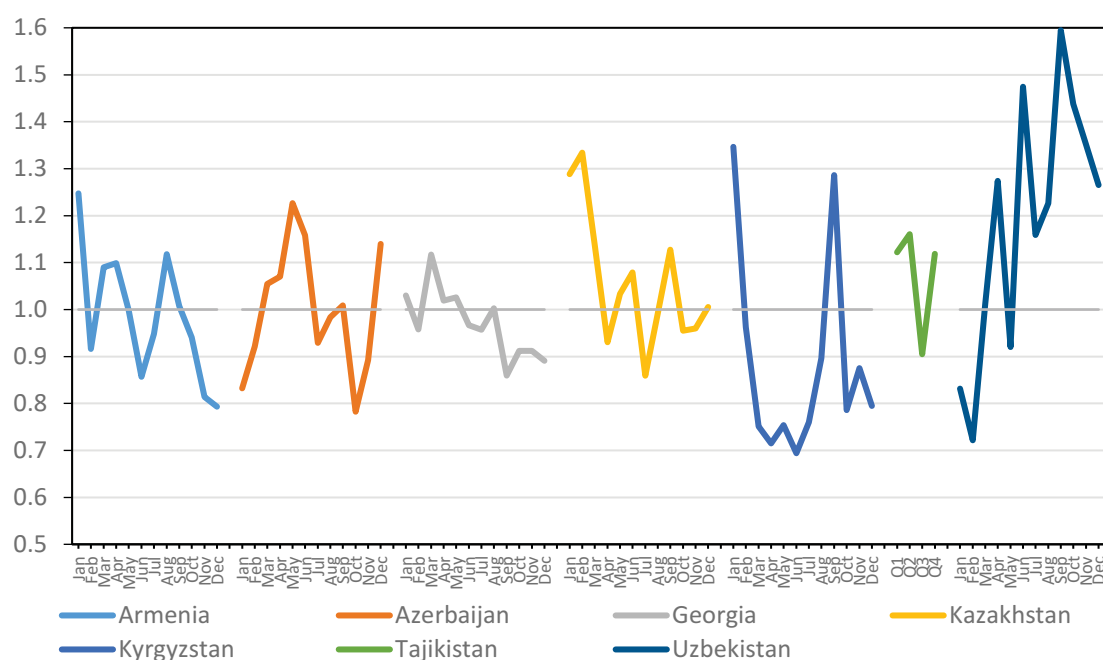
### 5.5.3.2 Agrifood imports

Food imports have been affected by a reduction in demand from the catering and hospitality sector, depreciation of currencies, and the decline in prices of natural resources. Only a few countries experienced increased import values, which temporary trade liberalisation might drive.



Among the seven CAC countries, Uzbekistan recorded the strongest increase in food import values (Table A-5). The 18 percent increase in food imports in 2020, compared to that of the previous year, could indicate that the country was stocking up food amid the pandemic through the adoption of favourable food tariff measures that nullified import tariffs on ten food items, including cereals, wheat flour, sugar, and vegetables, from April until December 2020 (Asfaw *et al.*, 2021). As a result, the export-import ratio stagnated in Uzbekistan. The tariff reduction was meant to facilitate imports and ensure adequate availability of domestic supplies. The fluctuation in imports of food crops in 2020 compared to 2019 are further attributed to trade measures taken by traditional trading partners and the import price in the international market due to the pandemic.

In the Caucasus countries and Kyrgyzstan, food imports fluctuated around the level of the previous year's values or slightly below on average (Table A-4).



**Figure 21: Year-on-year food import indices for 2020/2019**

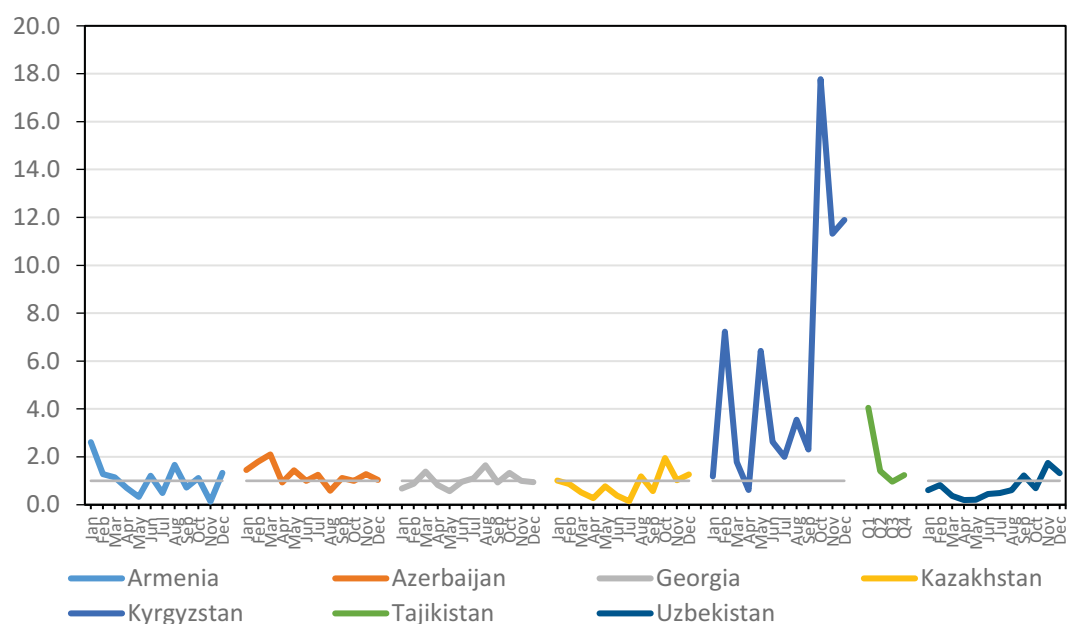
Sources: Kyrgyzstan, Tajikistan, Georgia – National statistical agencies. Kazakhstan – TradeMap database, Armenia, Azerbaijan, Uzbekistan – UN Comtrade.

### 5.5.3.3 Animal products

Three of the seven countries that provided data are net exporters of live animals, and four of the countries are net importers (Table A-5). Among the regional net exporters of live animals – Georgia, Kazakhstan, and Kyrgyzstan – imports of live animals made up about 1.5 percent

of all agrifood imports. Among the major net importers of live animals in the CAC region, Azerbaijan and Uzbekistan accounted for 4 percent of total agrifood imports. In Armenia and Tajikistan, live animals accounted for less than 1 percent of the total value of agrifood imports. Restrictive trade interventions in the form of export bans for live animals were in place temporarily in Kazakhstan (October 2019 to October 2020) and Kyrgyzstan (from November 2020).

In absolute values, Azerbaijan, Kazakhstan, and Uzbekistan were the region's largest net importers of live animals, while Georgia, Armenia, and Kyrgyzstan are net exporters (Table A-5). After the government extended the 2019 ban on cattle exports, Kazakhstan became a net importer of live animals. The import value of live animals to Kazakhstan in 2020 contracted by over 40 percent compared to 2019. In Uzbekistan, the reduced import value of live animals in 2020 can be attributed to Kazakhstan's and Kyrgyzstan's ban on the export of live animals following the high and concerning level of imports through Uzbekistan's livestock expansion programme initiated in 2019. The increase in live animal import value in Azerbaijan and Tajikistan was modest compared to Kyrgyzstan. The latter's import value of live animals increased by 4.5 times over 2020, mainly due to increasing live animal imports in Q4 2020 after Kazakhstan lifted the ban on live animal exports (Figure 22). The import of live animals in Armenia, Azerbaijan, and Kyrgyzstan increased in Q1 2020 relative to 2019 (Table A-5). In Uzbekistan and Kazakhstan, the import of live animals was two to three times lower until August–September 2020. Tajikistan, which did not introduce any restrictions on international trade, imported more live animals than in 2019 (Khakimov, 2021).

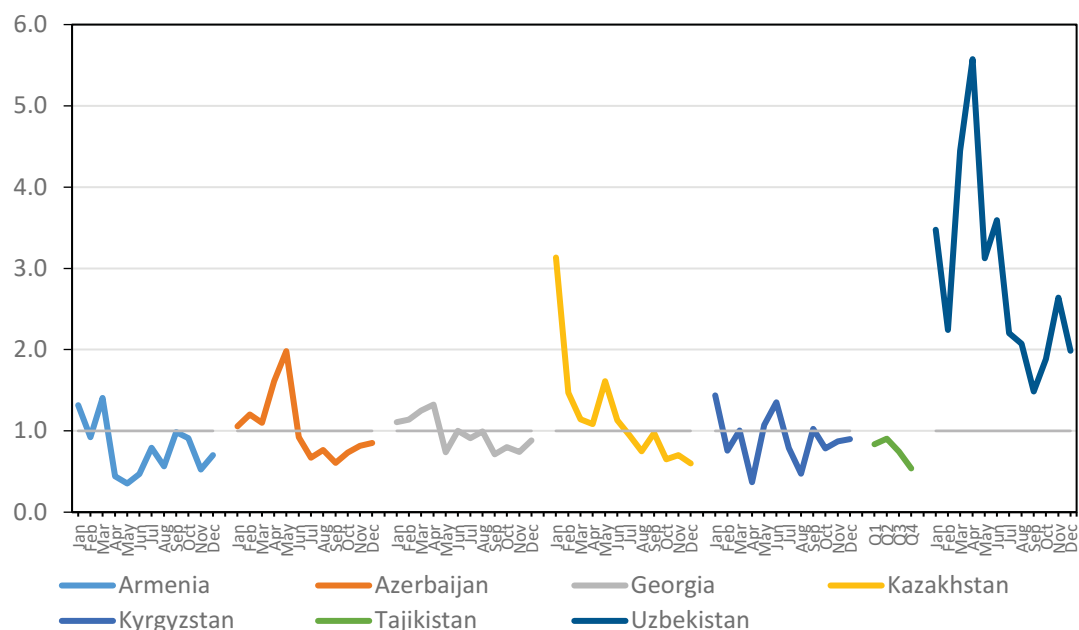


**Figure 22: Year-on-year import indices of live animals (HS 01) for 2020/2019**

Sources: Kyrgyzstan, Tajikistan, Georgia – National statistical agencies. Kazakhstan – TradeMap database, Armenia, Azerbaijan, Uzbekistan – UN Comtrade.

All countries in the region are net importers of meat (Table A-5). Imports of meat comprise about 9 percent of the value of all agrifood imports in Georgia and Armenia in 2019. In other countries, the import value of meat made up about 4 percent to 7 percent of total agrifood imports. Kazakhstan remained the largest net importer of meat in the CAC region in absolute values.

In contrast to the import of live animals, the import of meat went down in all countries compared to 2019, except for Uzbekistan (Table A-5). The import values of meat did not deviate substantially from their 2019 values in Azerbaijan, Georgia, and Kazakhstan, a decrease of up to 5 percent compared to 2019. A more severe fall in import values of meat was seen in Armenia and Tajikistan – up to one-quarter compared to 2019. In Uzbekistan, where meat import has been increasing over several years, the import value of meat more than doubled in 2020. The increase partly reflects a shift from live animal imports to meat imports due to the export bans of Kazakhstan and, more recently, Kyrgyzstan.



**Figure 23: Year-on-year import indices of meat (HS0 2) for 2020/2019**

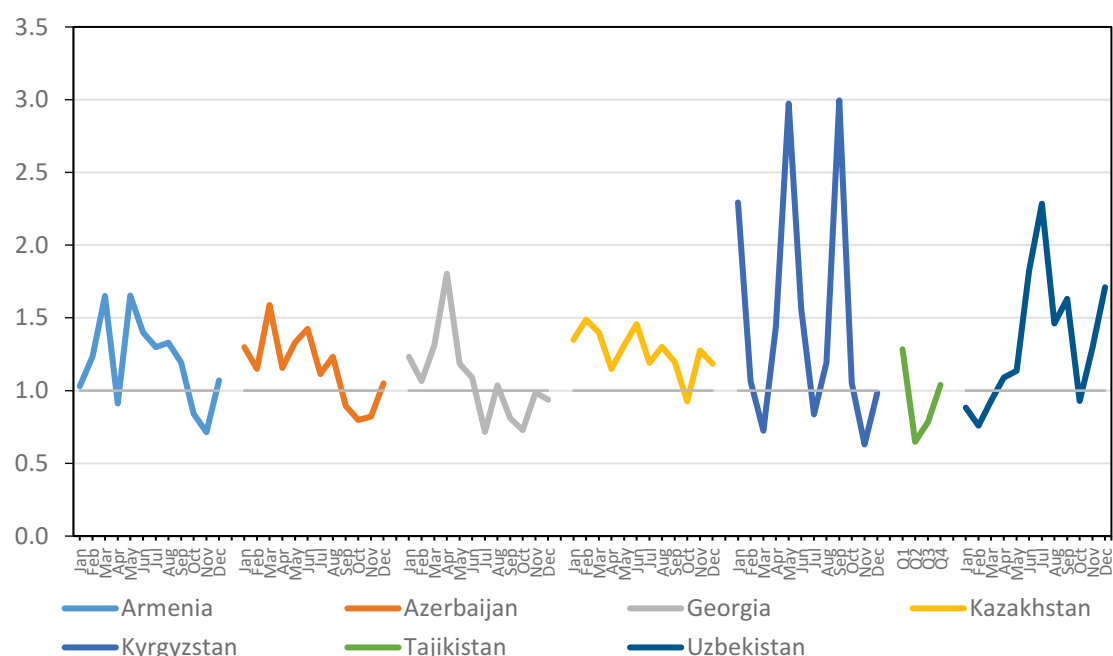
Sources: Kyrgyzstan, Tajikistan, Georgia – National statistical agencies. Kazakhstan – TradeMap database, Armenia, Azerbaijan, Uzbekistan – UN Comtrade.

Except for Kyrgyzstan, all CAC countries were net importers of dairy products and eggs in 2019 and 2020. In the Caucasus countries and Kazakhstan, imports of dairy products and eggs accounted for 5 percent to 8 percent of total agrifood imports. In Tajikistan and Uzbekistan, this group of commodities was less important, reaching 2 percent of the total agrifood import value. In absolute terms, the largest net importers of dairy products and eggs are Azerbaijan and Kazakhstan. Apart from Tajikistan, the import of this commodity in 2020 increased in CAC countries. In Kazakhstan and Uzbekistan, the increase was above 25 percent.

In the first three quarters of 2020, dairy products' import was generally above 2019 values (Table A-4). In October-November, imports by the Caucasus countries were below the previous year's level but then recovered in December.

In Kazakhstan, the import of this commodity group exceeded the 2019 levels across all months except for October (Figure 24). In Uzbekistan, the import of dairy products and eggs fluctuated relative to 2019, climbing to 2.4 times above the 2019 level in July and going down after that. Uzbekistan's increased imports of animal protein in 2020, compared to the 2019 level, are related to taking advantage of the trade measures adopted by the government to ensure food stock reserves during the COVID-19 pandemic through a zero-tariff policy for a list of food items, including meat, milk, fish, and egg. The most considerable fluctuations across months

in 2020 in the import value of dairy products and eggs were observed in Kyrgyzstan, hitting up to three times higher than the 2019 levels in January, May, and October (Figure 24).



**Figure 24: Year-on-year import indices of dairy products and eggs (HS 04) for 2020/2019**

Sources: Kyrgyzstan, Tajikistan, Georgia – National statistical agencies. Kazakhstan – TradeMap database, Armenia, Azerbaijan Uzbekistan – UN Comtrade.

In 2020, in response to Kazakhstan's ban on the export of live animals introduced in late 2019, export values of live animals increased across all countries except for Kazakhstan and Tajikistan (Table A-5). The largest increase in live animal export value was in Kyrgyzstan, mainly cattle and sheep exports to Uzbekistan and horses to Kazakhstan. Due to the rise in live animal exports over 2020, their share in total agrifood exports of Kyrgyzstan went up from 1.6 percent in 2019 to 8 percent in 2020.

Armenia and Uzbekistan doubled their exports of live animals in 2020. Georgia increased live animal exports by 31 percent. Until recently, in Kazakhstan, the largest exporter of live animals in the CAC region, the export value of live animals plummeted by 86 percent compared to 2019 levels, from USD 109 million in 2019 to USD 15 million in 2020 (Table A-5). The live animal export ban imposed by Kazakhstan in February 2020 helped curb the surge in livestock exports the country experienced in 2019. The main destinations of livestock exports from Kazakhstan were Uzbekistan (78 percent) and Armenia (14 percent). In February, Kazakhstan's export value of live animals was only a quarter of the 2019 level. Until November, exports were as little as 2 percent of the 2019 values in the following months.

After the ban on live animal exports was lifted, the export value went up, reaching the 2019 level in December (Oshakbayev, 2021). Due to the export restrictions in 2020, Kazakhstan's export of live animals amounted to 14 percent of the value in 2019.

Monthly year-on-year export value indices are above one in Armenia, Kyrgyzstan, and Uzbekistan in almost all months of 2020. Uzbekistan expanded its export of live animals during the first quarter of 2020 compared to 2019 (Table A-4). In February, the export volume for live animals was nine times higher than the same month in 2019. The export volume of animal products also spiked in May and October 2020, compared to 2019. Livestock exports in Uzbekistan are presumably made by the large livestock enterprises that the government have been promoting since 2019 (Asfaw *et al.*, 2021).

Livestock exports in Kyrgyzstan dropped in April but remained 7 percent higher than the 2019 level. Exports continued climbing from May until the Kyrgyz government introduced the ban on live animal exports in October. Despite the ban, in December, the export value of live animals reached USD 3 800 000, the highest monthly value in 2020, with the resulting annual peak in meat prices in that month. According to market and ministry experts, the actual export volumes of livestock in Kyrgyzstan are much higher than declared in the official statistics (Tilekeyev, 2021). The increased import of live animals was one way to offset a significant outflow and growing demand for livestock exports from Kyrgyzstan in 2020.

Unlike the export of live animals, meat exports in the region decreased substantially compared to the 2019 levels (Table A-4). In Armenia, meat export value dropped by 98 percent, from USD 8 300 000 in 2019. There was a substantial decline in meat exports in Kyrgyzstan (88 percent), where livestock producers shifted from meat exports to the export of live animals due to Kazakhstan's ban. Meat exports in Armenia and Kyrgyzstan went down across all months of 2020 relative to 2019, with a shift to larger exports of live animals (Table A-4). The border closures, along with the national travel ban, disrupted exports of meat. Furthermore, the closure of the catering and hospitality sector in meat-importing countries reduced demand and motivated traders to shift to livestock exports. In Kazakhstan and Georgia, meat export values saw a modest decline of 5 percent to 10 percent. In contrast to Armenia and Kyrgyzstan, these two large regional exporters of meat did not compensate for the decrease in their meat exports by shifting to live animal exports.

Export developments in the dairy sector observed during COVID-19 differ from those observed for meat and live animal exports. In 2020, exports of dairy products and eggs (HS 04) accounted for the highest share in total agrifood exports in Kyrgyzstan (19 percent). In the other countries, dairy products and eggs exports were below 2.5 percent of total agrifood exports (Table A-5). This commodity group's exports from Kyrgyzstan were higher than the 2019 values in January–May 2020. Still, they dropped to almost half of the 2019 value in June–July, before recovering in the following months (Table A-4). This dip in summer 2020, when

dairy exports traditionally occur, can be associated with the transportation and logistical issues related to COVID-19 measures.

Georgia's export of dairy products and eggs was above 2019 values across all months of 2020, resulting in almost a three-fold increase (Table A-4). Similarly, dairy exports in Armenia increased across 2020 by 47 percent compared to the 2019 level.

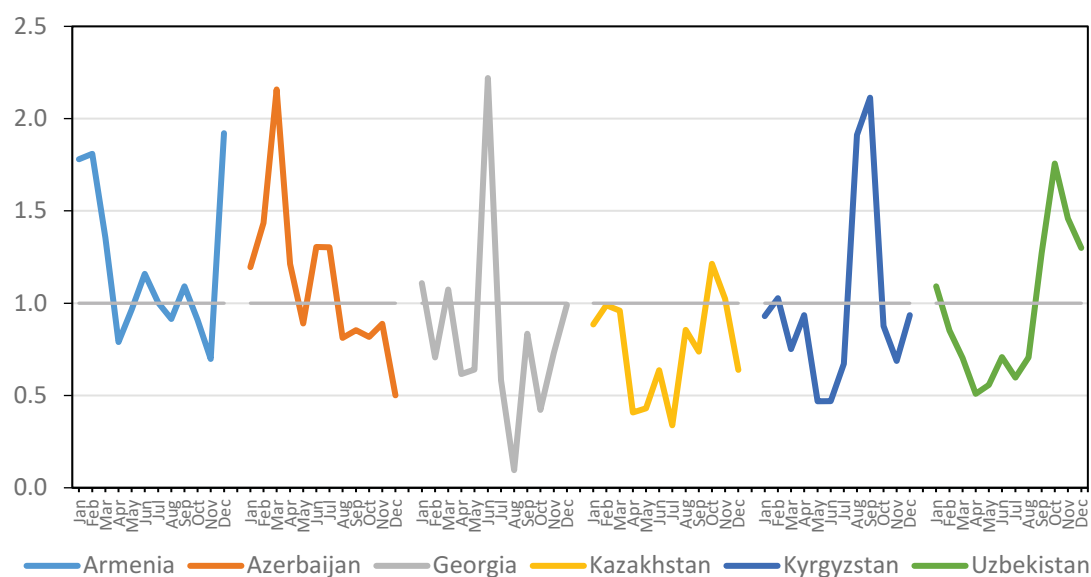
#### 5.5.3.4 *Vegetables and fruits*

Exports of fresh fruit and vegetables were particularly vulnerable to disruptions in trade caused by COVID-19. The border control measures for extra checks translated into delays detrimental to quickly perishable fruit and vegetables.

The export of vegetables contributes over a quarter of agrifood exports in Uzbekistan, the largest exporter of fruit and vegetables in the CAC region (Table A-5). In Azerbaijan and Kyrgyzstan, the other net exporters of vegetables, this commodity group accounts for one-third of agrifood exports. Apart from Armenia and Azerbaijan, the export of vegetables was below the 2019 values. Kazakhstan exports of vegetables shrank by 27 percent, and Uzbekistan's by 16 percent. Azerbaijan gained in vegetable exports despite the effect of the pandemic due to large export values in April–June 2020.

In the first half of 2020, monthly vegetable export values in all six reported countries of the region were stagnating relative to their 2019 levels (Figure 25). Exports of vegetables in Kyrgyzstan and Uzbekistan amounted to only half of their 2019 export value in April–May (Table A-4) due to the limited import contracts or requests by Kazakhstan and the Russian Federation, traditional import partner countries that were under national lockdowns and were facing economic crisis and devaluation of their currency due to the pandemic. The Uzbek government took several measures to revamp the sector, including covering 50 percent of the road transportation costs for agrifood exporters. These measures, along with a VAT exception of the Russian government on fresh fruit (January 2020) and vegetables (May 2020), improved vegetable exports. In September, vegetable exports from Uzbekistan surpassed the 2019 value and spiked in Q3 2020.

Vegetable exports from Kazakhstan were 27 percent below the 2019 level despite an average amount of vegetable production. One of the primary reasons was an export ban/quota imposed on some vegetables until 1 June. Furthermore, farmers encountered issues selling their early harvest of vegetables to the Russian Federation in April 2020 (Oshakbayev, 2021) due to the border crossing restrictions imposed by the Russians. In early April, the export ban and reduced demand in the Russian market created a 'cabbage crisis' in southern Kazakhstan. The government procurement solved the 'cabbage crisis' for distribution among other regions of Kazakhstan. In the second half of 2020, China limited railway and road traffic on the border with Kazakhstan, which slowed border crossing by truck and rail.



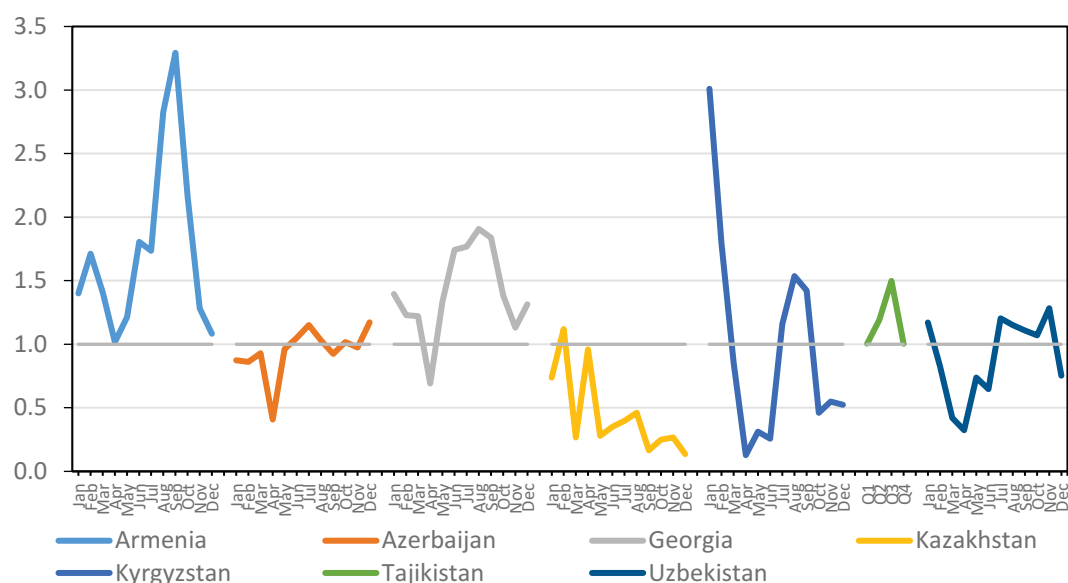
**Figure 25: Year-on-year export indices of vegetables (HS 07) for 2020/2019**

Sources: Kyrgyzstan, Tajikistan, Georgia – National statistical agencies. Kazakhstan – TradeMap database, Armenia, Azerbaijan Uzbekistan – UN Comtrade.

The export of fruit is essential in Azerbaijan, Georgia, and Uzbekistan, the three largest fruit exporters in the CAC region (Table A-5). In Azerbaijan, fruit accounts for almost half of agrifood exports. In Uzbekistan, their share has constantly been growing, reaching 40 percent. Similar to vegetable exports, fruit export from Kazakhstan, Kyrgyzstan, and Uzbekistan dropped compared to 2019. Fruit exports from Kazakhstan were the most brutal hit – it lost almost two-thirds of the 2019 value.

Downward pressure on the Armenian and Georgian currencies made their agrifood exports more competitive. After a short stagnation in April-May, both countries improved their fruit exports. Armenia increased fruit exports by almost 80 percent and Georgia by 40 percent. The countries also gained a comparative advantage thanks to their proximity to a large fruit importer, the Russian Federation. In addition to the higher transportation costs and longer border crossing times, the lower purchasing power of Kazakh and Russian consumers affected Uzbekistan's fruit and vegetable exports to these markets.

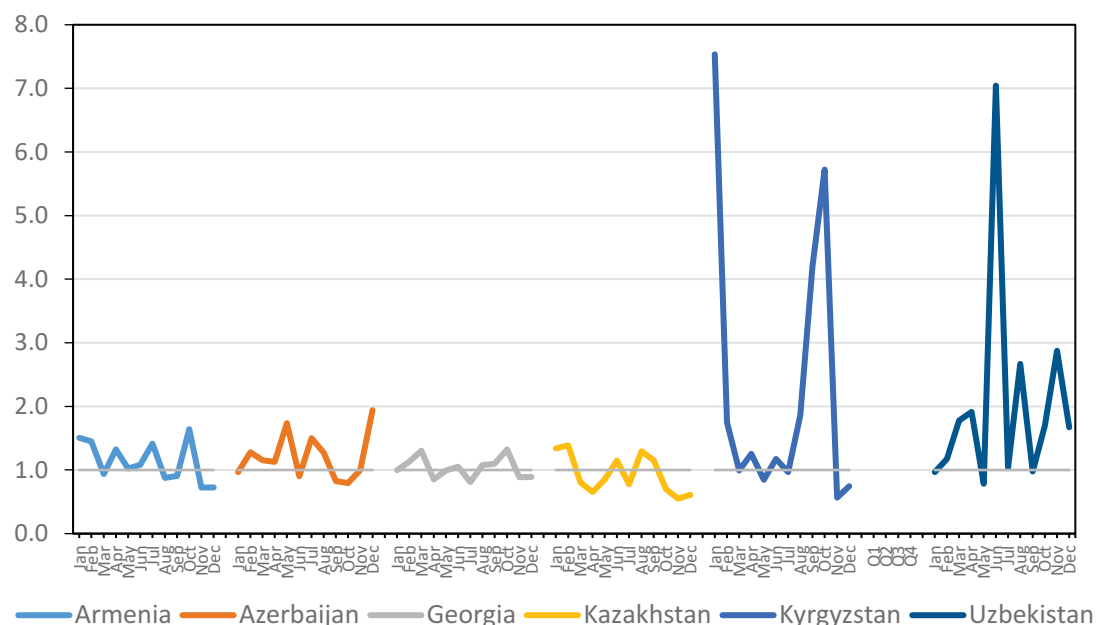




**Figure 26: Year-on-year export indices of fruits (HS 08) for 2020/2019**

Sources: Kyrgyzstan, Tajikistan, Georgia – National statistical agencies. Kazakhstan – TradeMap database, Armenia, Azerbaijan Uzbekistan – UN Comtrade.

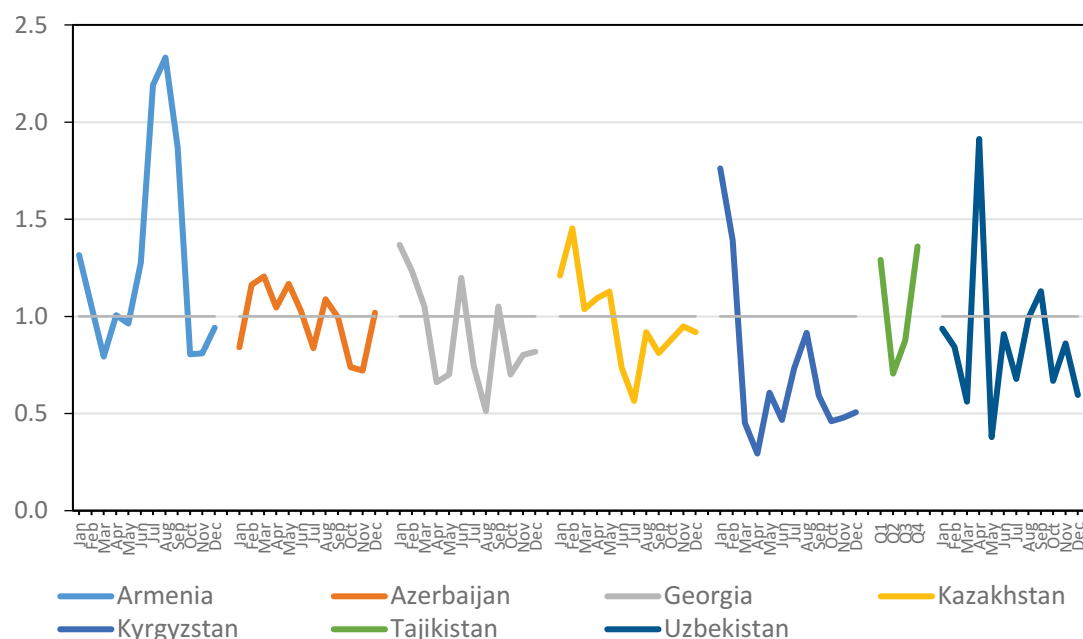
The largest importer of fruit and vegetables in the region is Kazakhstan. These two commodities jointly account for USD 0.532 billion, or about 13 percent of total agrifood imports of the country (Table A-5). The second-largest regional importer is Azerbaijan, which imports about USD 200 million worth of fruit and vegetables. All countries, except Kazakhstan, increased their imports of vegetables. Kazakhstan's import of vegetables dropped by 14 percent compared to 2019. Tajikistan increased its imports of vegetables by 150 percent (due to scaling issues not shown in the graph), Uzbekistan by 60 percent, and Kyrgyzstan by 50 percent compared to 2019. In the Caucasus, Azerbaijan increased the import of vegetables by 14 percent, and Armenia and Georgia both by 2 percent to 3 percent.



**Figure 27: Year-on-year import indices of vegetables (HS 07) for 2020/2019**

Sources: Kyrgyzstan, Tajikistan, Georgia – National statistical agencies. Kazakhstan – TradeMap database, Armenia, Azerbaijan, Uzbekistan – UN Comtrade.

In 2020, almost all countries reduced their fruit imports except Armenia and Tajikistan (Table A-5). In these two countries, the import value of fruits improved by 9 percent and 12 percent, respectively, compared to 2019. Along with Kazakhstan and Kyrgyzstan, the import of fruit accounts for 8 percent of total agrifood imports in Armenia. Uzbekistan's imports of fruit were 21 percent below the 2019 value. The highest decrease in fruit imports was seen in Kyrgyzstan, which was down 36 percent on 2019 import numbers, mainly during the second half of 2020 due to the extended lockdown measures.



**Figure 28: Year-on-year import indices of fruits (HS 08) for 2020/2019**

Sources: Kyrgyzstan, Tajikistan, Georgia – National statistical agencies. Kazakhstan – TradeMap database, Armenia, Azerbaijan, Uzbekistan – UN Comtrade.

### 5.5.3.5 Cereals

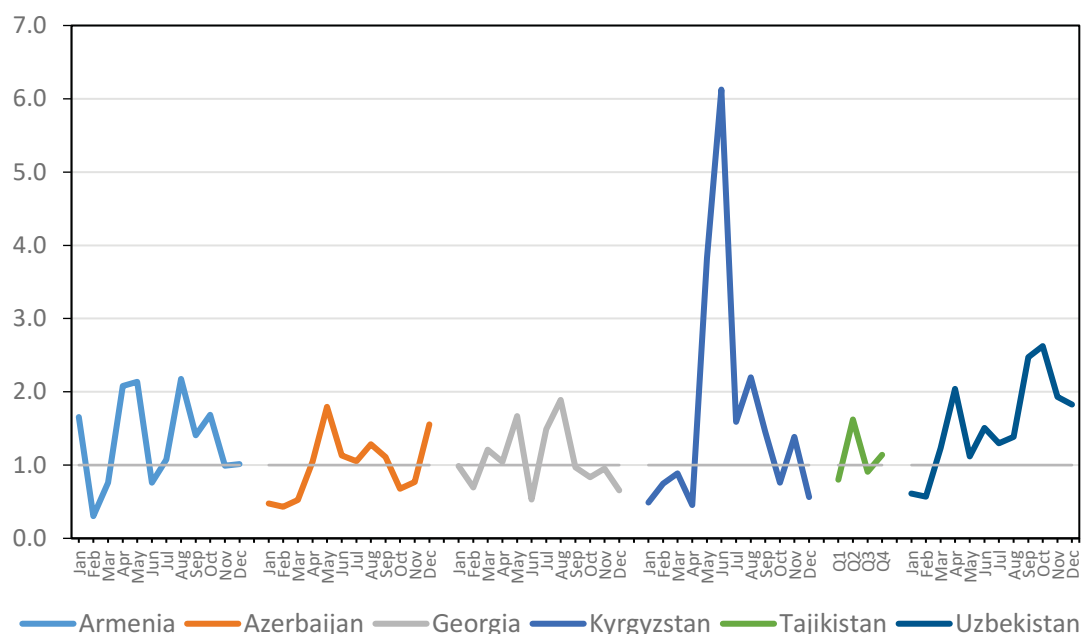
Cereals, mainly comprised of wheat, is the most essential imported commodity for the net importers of food in the region. In Tajikistan, cereals account for one-third of all agrifood imports, and in Azerbaijan and Uzbekistan, it is about one-fifth of all agrifood imports (Table A-5). Cereal imports account for 10 percent of all agrifood imports in Georgia and Armenia, primarily from the Russian Federation.

The import of cereals in 2020 in the CAC region was volatile due to the instability of main supplies. The Russian Federation, Ukraine, and Kazakhstan have each imposed temporary export restrictions on wheat (among other commodities) for the months of April to June 2020. The Russian Federation applied an export quota that limited its total grain exports to countries outside of the EAEU to 7 million tonnes for wheat, corn, barley, and rye through June 2020. Kazakhstan had initially established an export ban on wheat flour but quickly cancelled the ban and imposed a monthly export quota. Beginning in April 2020, Kazakhstan allowed a maximum monthly quota of 200 000 tonnes of wheat and 70 000 tonnes of wheat flour for export.

Despite trade partners' export restrictions on food exports in the first half of 2020, Armenia, Georgia, Tajikistan, and Uzbekistan increased cereal imports compared to 2019 (Table A-5). The import of cereals in Uzbekistan was below the 2019 values in January-February but then became higher than the 2019 values throughout the year after February 2020 (Figure 29). Shortly after the Kazakh government introduced the food export ban, Uzbekistan's Ministry of Agriculture issued an official statement in April 2020 stating that mills had enough grain reserves (Asfaw *et al.*, 2021). Overall in 2020, Uzbekistan increased cereal imports by 44 percent compared to 2019.

In Kyrgyzstan, during the first four months of 2020, cereal imports accounted for only 60 percent of the 2019 values. The Government of Kyrgyzstan's negotiations with Kazakhstan and the Russian Federation led to a recovery of cereal imports, which amounted to 28 percent of the annual value of cereals import in May-June. After a decline in July, another consignment of 20 percent of the annual import value of cereals was imported in August-September.

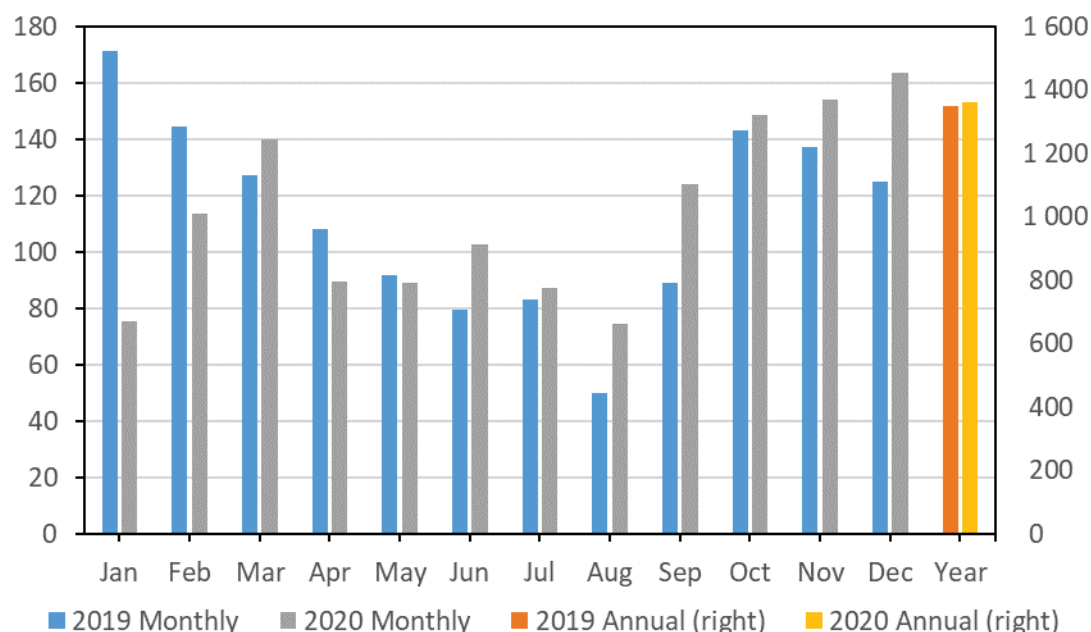
The import of cereals in Armenia in 2020 fluctuated wildly (Table A-3 in Appendix). In February 2020, the import of cereals decreased by 70 percent compared to February 2019, slightly recovering in March 2020. In April-May 2020, cereal imports were twice as high as imports for the respective period in 2019. The next peak in cereal imports was in August 2020, which recorded USD 18 700 000, the highest cereal import value during the past two years. A similar trend was observed in Georgia, where cereal imports dropped in June but recovered over the following months.



**Figure 29: Year-on-year import indices of cereals (HS 10) for 2020/2019**

Sources: Kyrgyzstan, Tajikistan, Georgia – National statistical agencies. Kazakhstan – TradeMap database, Armenia, Azerbaijan Uzbekistan – UN Comtrade.

The largest exporter of cereals in the region, Kazakhstan, started with lower values before the imposition of COVID-19 restrictions. However, already in March 2020, cereal export values surpassed the 2019 values. Following export restrictions imposed by the Kazakh government, the export value of cereals dropped in April and May. After the export restrictions were lifted on 1 June 2020, the export value of cereals rose, compensating for the lower values recorded during the first five months of 2020. Overall, the export of cereals slightly exceeded the 2019 values.



**Figure 30: Kazakhstan's export value of cereals (HS 10) in 2019–2020, million USD**

Source: National Statistical agency.

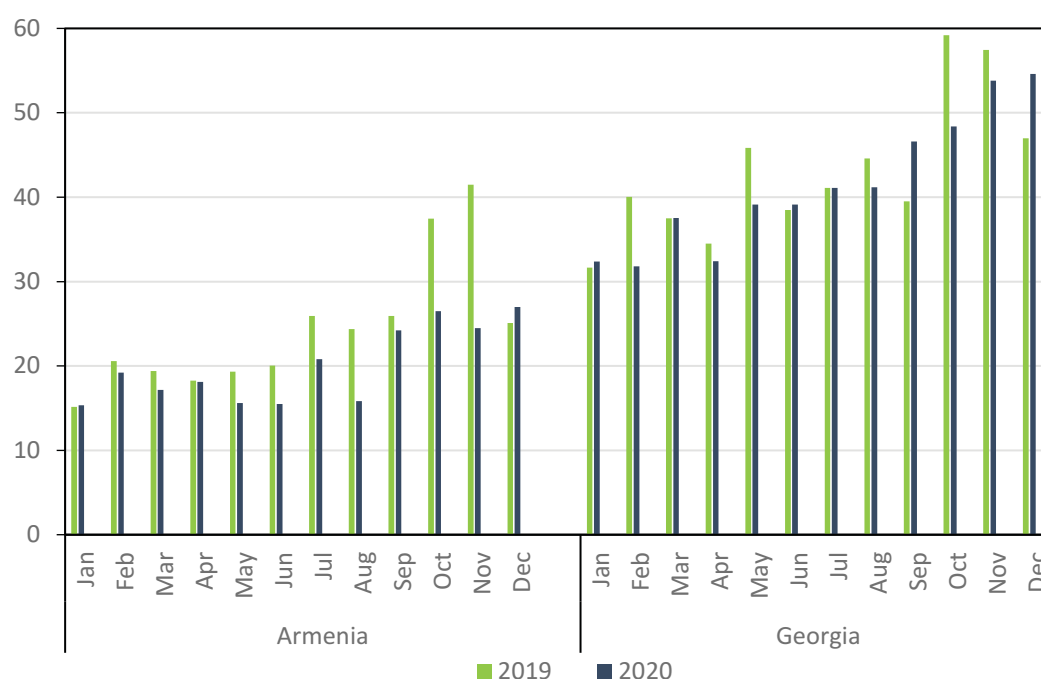
Despite trade restrictions, all wheat importers increased imports of milling-industry products (Table A-5). Uzbekistan remains the largest importer of wheat flour in the CAC region. It accounts for 5 percent of its entire agrifood imports. Other large wheat flour importers are Kyrgyzstan and Tajikistan, accounting for about 4 percent of total agrifood imports.

The largest exporter of milling industry products in the CAC region, Kazakhstan made 10 percent of its agrifood exports from this commodity. In 2020, Kazakhstan increased the export of this commodity by 33 percent despite announcing the export ban. The export ban trimmed exports until June.

Uzbekistan is the second-largest exporter of products of the milling industry. The practice of exporting blended wheat flour from the growing milling sector in Uzbekistan amid the pandemic confirms the claim that Uzbekistan has the potential to supply cheap wheat in Central Asia and that Uzbekistan's milling industry has moved beyond the role of subsidised production for the domestic market to become a key player in regional food security (Lombardozzi and Djanibekov 2020). In 2020, Uzbekistan doubled its export of milling-industry products through larger imports of wheat grains from Kazakhstan. The export volume of wheat flour is related to the availability of cereal stock in the country, which was relatively higher in August after the new harvests and improved imports of quality wheat (from Kazakhstan).

### 5.5.3.6 Beverages and tobacco products

Armenia and Georgia are the major exporters of the beverages, spirits and vinegar commodity group (HS 22), mainly from exports of wine and brandy. All other CAC countries are net importers of this commodity group (Table A-5). The export of wine and brandy accounts for over 50 percent of all agrifood exports from Georgia and over one-third of agrifood exports from Armenia. The wine sector in these countries is directly linked to the catering and hospitality, and tourist sectors, which were closed due to COVID-19 containment measures both at home and in major export markets. Similar to the worldwide impact on wine sales, the effect of COVID-19 is clearly visible in the monthly values of exports of commodities in the category HS 22 in Armenia and Georgia (Figure 31). In Armenia, the exports started falling in May, and by December still had not recovered to 2019 levels. Georgia experienced a similar trend in Q1 2020, but wine exports grew and offset the gap with 2019 levels after the fall in April. The total export value of this commodity fell in Armenia by 18 percent and in Georgia by 4 percent.



**Figure 31: Export value of beverages, spirits and vinegar (HS 22) of Armenia and Georgia in 2019–2020, million USD**

Source: National statistical agencies.

## 5.6 Food and nutrition security (FNS) and well-being

As with all regions of the world, FAO provides estimates of food insecurity based on the Food Insecurity Experience Scale (FIES) in the Caucasus and Central Asia regions at two different levels of severity: severe as well as moderate or severe food insecurity.<sup>3</sup> People affected by moderate food insecurity face uncertainties about their ability to obtain food and have been forced to reduce, at times during the year, the quality and/ or quantity of food they consume due to lack of money or other resources. Severe food insecurity refers to situations when individuals have likely run out of food, experienced hunger and, at the most extreme, gone for a whole day without eating. The prevalence of moderate or severe food insecurity is the combined prevalence of food insecurity at both severity levels (Sustainable Development Goal indicator 2.1.2). Although most countries in Central Asia and the Caucasus are characterised by a very low prevalence of food insecurity, Georgia and Uzbekistan stand out with a relatively high prevalence (10 and 4 percent of severe food insecurity, respectively). No data are available for Tajikistan and Turkmenistan.

**Table 8: Prevalence of food insecurity by level (%)**

Country	Severe food insecurity		Moderate or severe food insecurity	
	2014-16	2018-20	2014-16	2018-20
Armenia	1.2	1.1	17.1	12.7
Azerbaijan	<0.5	<0.5	5.9	8.9
Georgia	7.0	9.5	31.8	39.7
Caucasus	1.9	2	14.2	16.8
Kazakhstan	n.a.	<0.5	n.a.	2.3
Kyrgyzstan	n.a.	1.1	n.a.	7.0
Uzbekistan	1.9	4.0	11.2	19.7
Central Asia	1.7	3.1	9.2	14.9
World	8.2	10.5	23.0	27.6

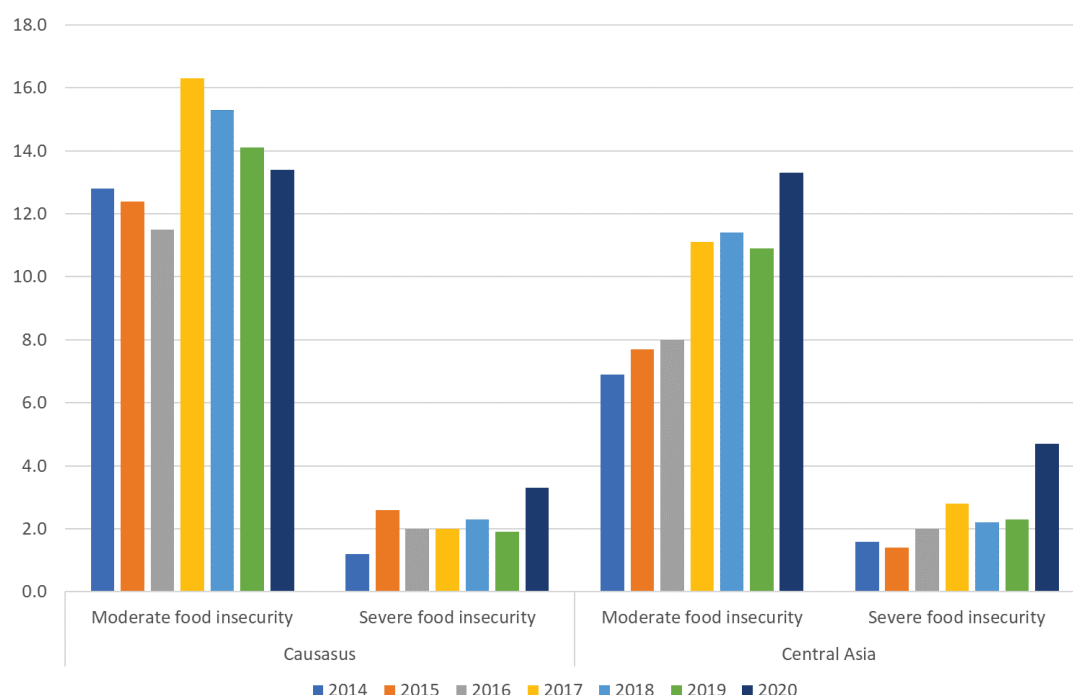
Note: The country-level data are shown as three-year averages to minimise sampling variability.  
Source: FAO, IFAD, UNICEF, WFP, WHO (2021), Table A1.2.; FAO (2021).

Although the increasing trend of food insecurity at moderate or severe levels can be observed since 2017 for both subregions, a particular increase of severe food insecurity has to be

<sup>3</sup> The FIES refers to limited access to food, at the level of individuals or households, due to lack of money or other resources. The severity of food insecurity is measured using data collected with the FIES survey module (FIES-SM), which is a set of eight questions asking respondents to self-report conditions and experiences typically associated with limited access to food. For the annual SDG monitoring, questions are asked regarding the 12 months preceding the survey.



recorded in 2020, which may be the result of the COVID-19 pandemic (Figure 32). At the country level, a worsening of the food insecurity situation, probably even before the pandemic, is visible for Georgia and Uzbekistan and at a moderate or severe level for Azerbaijan. Armenia experienced a slight improvement in the situation. Lack of data for the triennium 2014-16 prevents conclusions about the development of food insecurity over time for Kazakhstan and Kyrgyzstan.



**Figure 32: Development of prevalence of food insecurity (%) by subregions and level**

Source: FAO (2021).

Through the national reports, we identified four studies that use household surveys for understanding the pandemic's effects on Food and Nutrition Security (FNS), namely in Armenia, Kyrgyzstan, Tajikistan, and Uzbekistan. This evidence misses the COVID-19 pandemic's direct effects on food systems through impacts on food supply and demand. It refers to the indirect effects through decreased purchasing power and capacity to produce and distribute food.

In June and July 2020, the World Food Programme (WFP) carried out a Food Security and Vulnerability Assessment in Armenia to establish a new baseline of data to assess how the pandemic has impacted food security in the country and identify the most vulnerable population groups. The data collection was conducted nationwide among 4 219 households

using the Food Consumption Score (FCS) methodology, a composite score based on dietary diversity, food intake frequency, and relative nutritional importance of different food groups.

The study found that COVID-19 significantly affected household income, access to food, and other resources, by interrupting daily routines and jobs (WFP, 2021). Over 41 percent of interviewed households had difficulties accessing grocery shops and markets due to financial circumstances and imposed restrictions related to the COVID-19 pandemic. The income of 58 percent of respondent households was negatively affected by the pandemic, of which 45 percent experienced temporary interruptions in jobs, 20 percent lost their jobs permanently, and 35 percent received lower salaries and income.

The pandemic created a shortage of resources, including financial resources, to maintain the pre-COVID-19 standards of well-being. The pandemic negatively impacted household nutrition and dietary practices as diets shifted to more processed and less nutritious foods. The nutrition score of a large segment of respondents was below the minimum acceptable for diets. Only 11 percent of respondents managed to have uninterrupted access to food during the COVID-19 pandemic. In comparison, 58 percent of households applied a crisis or emergency strategy to access food for their families. These households had to reduce expenses on health or education or sell assets such as animals, transport, houses, or land. This can later lead to protracted adverse effects of the COVID-19 crisis and push households into a vicious poverty cycle.

In October–November 2020, the National Statistical Committee of Kyrgyzstan conducted a study on the household effects of the COVID-19 pandemic, based on a sample of 4 954 households across the country (NSC, 2021). The survey covered core aspects of well-being and living standards of households during the first three quarters of 2020.

Almost all interviewed households experienced a decline in income and expenditure of between 9 percent and 14 percent and reported a decrease in living standards caused by income decrease, loss of employment, complicated access to essential services, and reduced food consumption. About 22 percent of interviewed households reported temporary or permanent job losses affecting at least one household member, and 54 percent of households experienced an income decline. The impact on food accessibility was severe, as 46 percent of households reported difficulties purchasing food. Almost three-quarters of households faced financial difficulties, 44 percent of households decreased expenditures on food, 35 percent did not pay for communal services, 56 percent used their savings to cover costs, and one-third relied on external financial support such as credit or loans. The share of food expenditure increased from 42 percent in 2019 to 46 percent in 2020, which points to the worsening of food insecurity during the COVID-19 pandemic. Reported changes in consumption were reflected in the population nutrition outcomes, particularly among the poorest segments of the population.

The ‘Listening to Tajikistan’ (L2TJK) survey of 800 households revealed severe disruptions in the labour market and worsened remittances and food consumption. The COVID-19 containment measures had a strong negative effect on domestic employment in Tajikistan in May 2020. The share of households reporting that no member had worked in the preceding seven days went from 20 percent in March 2020 to nearly 40 percent in May (World Bank, 2020a). The share of respondents reporting a deterioration in their family’s finances also increased from 8 percent in March to nearly 23 percent in May.

Remittance income fell dramatically in April and was reported by 61 percent of recipient households. The remittances recovered slightly in May but remained low, pushing the poverty rate higher as poor households in Tajikistan depend much more on remittances than those better off.

About 41 percent of respondent households reported reduced food consumption in April and May 2020, far higher than the 24 percent recorded for the same months of 2019. Overall, food security deteriorated in April and May 2020 across various indicators, with a rising share of respondents being hungry, reducing dietary diversity, and concerned over obtaining enough food. About 25 percent of respondents reported stocking up on food in May.

After the Government of Tajikistan lifted lockdown measures, the labour market quickly recovered from June onwards and converged with 2019 levels in August (World Bank, 2020b). The share of household members reporting work disruptions due to COVID-19 fell to about 40 percent from 63 percent in May. In August, the share of households with deteriorating finances dropped to about 3 percent above the 2019 level. The percentage of recipient households reporting a decline in received remittances improved from 61 percent in April to 25 percent in August. In August, less than 2 percent of respondents reported local shortages of essential goods, down substantially from 10 percent in May. Reports of reduced food consumption also dropped from 41 percent in May to 29 percent in August, still 10 percent more than in August 2019.

Like Tajikistan, the ‘Listening to the Citizens of Uzbekistan’ (LC2U) survey found that the phasing out of lockdown measures brought quick labour-market recovery after dramatic declines in employment, well-being, and income caused by the COVID-19 outbreak (World Bank, 2020c). In April 2020, the share of households with at least one working member fell dramatically, from 85 percent in March 2020 to 42 percent. About 20 percent of interviewed households reported that at least one member had lost a job or stopped working in April 2020. Job losses were most severe among the self-employed, where the share reporting any employment fell by 67 percent in April.

According to World Bank projections, the pandemic increased poverty rates rose to between 8.7 percent to 10 percent following the outbreak, compared to pre-COVID estimates of 7.4 percent. In April, the share of households reporting reduced food consumption spiked at

26 percent. Those reporting an inability to afford food rose from less than 9 percent to more than 11 percent after April 2020, when 16 percent of respondents also talked about local shortages of goods, everyday food items – particularly wheat flour – and rising food prices. In April 2019, about 25 percent of respondents reported concerns about rising prices, while a year later, in April 2020, this number had increased dramatically to 80 percent.

In April 2020, the share of households receiving remittances was less than half for the same period of 2019 (2.1 percent of households in April 2020 against 5 percent of households in April 2019). A much lower share of respondents reported about household members working abroad.

As the restriction measures were eased, the share of households with at least one member employed rebounded to 60 percent in May and increased to 77 percent in June, compared to 86 percent in pre-Covid-19 times. Employment did not fully recover at any point in 2020, and in December, it remained 6 percent below its 2019 level. Similarly, despite initial work disruptions proving temporary, the employment recovery was below pre-Covid-19 levels, particularly among the self-employed, which experienced long-lasting job losses (World Bank, 2021). The share reporting any self-employment fell by 67 percent in April, and in December remained 20 percent below the 2019 level. The decline in self-employment was more severe in urban (rather than rural) areas until the last months of 2020; it had converged by December.

The share of households reporting reduced food consumption fell from 26 percent in April to typical levels toward the end of the year (World Bank, 2021). However, the pandemic widened the existing gap in food insecurity between male- and female-headed households. In May 2020, about 13 percent of interviewed male-headed households were unable to buy enough food, while this share was 21 percent among female-headed households. Furthermore, another study by Asfaw *et al.* (2020) found that almost 40 percent of 652 respondents interviewed in July 2020 adjusted their food purchase volume downward compared to before the pandemic. Consumers' dietary preferences shifted from expensive protein meat products to less costly but indispensable bread, cereals, oil and fats, and some vegetables.

The findings of these four micro-level studies suggest the COVID-19 pandemic produced an adverse impact on employment, remittances, income, and food security. Furthermore, the two household surveys conducted multiple times over the year 2020 in Tajikistan and Uzbekistan suggest that the severe adverse shock of COVID-19 was temporary and that households were able to recover after governments eased restrictive measures to contain the spread of the coronavirus.

## 6 Rural communities and COVID-19

### 6.1 Local income sources

As the catering and hospitality sector came to a standstill, most people active in the accommodation and food-service businesses faced temporary job losses. This group includes hotel administration staff, housekeeping staff, people working in hotel restaurants, etc. Similarly affected were employees in restaurants and cafes, who faced reductions in salaries and, in many cases, lost jobs ultimately. Another influential group within this sector was self-employed, including owners of small family hotels and restaurants, typically dependent on tourism.

COVID-19 had a critical impact on the economy of rural areas. Most rural populations in the CAC region depend solely on agriculture and seasonal or temporary off-farm employment in cities within or outside of the country. A considerable movement of people from villages to bigger cities is common in the CAC region. However, reliable statistics on rural–urban migration in the region’s countries are not available. The pandemic induced a reverse in internal migration in many countries as the urban jobs were put on hold. Many informal workers such as taxi drivers, street vendors, and construction workers returned to their villages after the first lockdown.

Personal (migrant) remittances are the second important source of income for many rural households in Tajikistan, Kyrgyzstan, and Uzbekistan. The constant remittance-based income flow to rural areas was limited as most labour migrants, both international (working in the Russian Federation and Kazakhstan) and national (working in capitals and other cities), returned home to rural areas during the pandemic.

According to the COVID-19 socio-economic response and recovery plan published by the United Nations in Armenia, inhabitants of rural areas lost about 40 percent of their income (UN, 2020). Because of COVID-19 restrictions, many families are at greater risk of poverty. The income of casual workers, migrants, and people who depend on remittances, dropped. Unemployment among the youth increased, and the border closures for migrant workers led to a surplus supply of labour. Yet, compared to the cities and areas dependent on tourism and trade, in rural communities where agriculture is dominant in income generation, the economic impact of the COVID-19 crisis was milder (UNDP 2020).

In Kazakhstan, where about 2 100 000 people (or 23 percent of the economically active population) are recognised as self-employed, 25 percent of the self-employed work in agriculture, forestry, and fisheries (UNDP, 2020). In 2020, about 38 percent of those self-employed in agriculture responded that their business activity was suspended or stopped due to quarantine measures. However, this share is significantly lower than for self-employed

people as a whole – 68 percent of whom were impacted by lockdown measures (UNDP, 2020). Furthermore, a reduction in income due to quarantine measures was noted by 56.1 percent of those self-employed in agriculture, compared to 68.5 percent in the overall economy.

The national study on COVID-19 impact in Kyrgyzstan revealed that 14 percent of rural households reported job losses, and 36.7 percent reported income decline (NSC, 2021). Another adverse effect of the pandemic was the decline in sales of domestically produced agricultural products, reported by 16 percent of households. The decline in transfers of labour migrants was reported by 17 percent of households, particularly significant in migrant-sending regions in the southern rural areas where over a quarter of interviewed households reported a decline in the amount of received remittances (NSC, 2021).

In Tajikistan, domestic employment sharply deteriorated in April-May 2020. More households reported worsening financial well-being due to work disruptions in April–June 2020 compared to January 2020 (World Bank, 2020b). The share of households indicating that no member had worked in the preceding week spiked to nearly 40 percent in May 2020 (Shimizutani and Yamada, 2021). During the pandemic, Tajik households with migrants were worse off than households without migrants. At the same time, the former had fewer liquidity constraints than the latter and found it easier to borrow than non-migrant households (Shimizutani and Yamada, 2021). The share of households that reported being unsatisfied with life in 2020 increased compared to previous years. For instance, the percentage of households that reported worsening financial well-being in April compared to January 2020 increased three-fold and peaked in households with migrants and without migrants in May and June, before levelling off in October 2020 (Shimizutani and Yamada, 2021). Rural incomes began to recover quickly in August 2020 in the absence of lockdown measures and converged with 2019 levels (World Bank, 2020b).

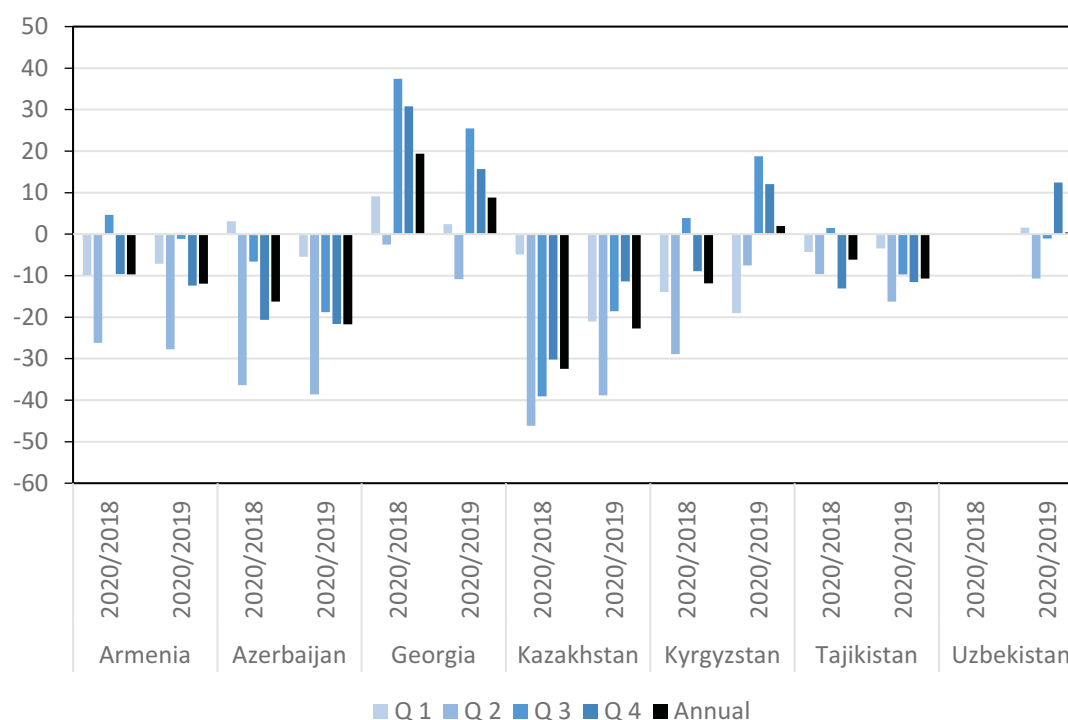
Due to the specifics of the COVID-19 containment measures in Uzbekistan, the highest loss of income occurred among seasonal jobs in rural areas. As remittances shrank during Q2 and Q3 2020, many remittance-dependent rural families became vulnerable. The reduced inflow of remittances during the pandemic should have significantly raised the number of households living below the poverty line. In Uzbekistan, in the absence of remittances sent home by migrants, many remittance-dependent families were pushed into poverty, and the poverty rate rose from 9.6 percent to 17 percent (World Bank, 2020). To support return migrants, the Government of Uzbekistan issued a decree to reintegrate the migrants and support them in starting businesses by allocating land plots of up to one hectare. This meant that rural young men were provided with agricultural land. However, the land allocation could not sufficiently address rural unemployment and the problem of returnee migrants since productive arable land in Uzbekistan is almost entirely cultivated by the group of commercial farmers and not available to rural households.

As the containment measures were relaxed, most internal migrants working in urban areas could return to work. However, the international borders remained closed for migrant workers stuck in their villages waiting for the right time to return to the Russian Federation and Kazakhstan. Returned migrants organised brigades of construction workers and ran their own informal construction businesses, for example, repairing and building houses in their communities. The returned migrants started to work as seasonal workers in local farm fields. For countries such as Uzbekistan and Tajikistan, the recurring problem of finding seasonal farm workers, particularly for cotton harvesting, was solved. In Uzbekistan, ILO (2021) reported many returnees participating in cotton-picking in October.

## **6.2 Remittances and return migration**

Armenia, Kyrgyzstan, Tajikistan, and Uzbekistan have high labour migration rates in rural areas, and remittances make up a significant share of their national economies (Table 1). Remittances have partly compensated for trade deficits for some of these countries. The data on bank transfers released by the national authorities in these countries and destination countries represents an approximate measure of remittances received from migrants working abroad. It is common that migrants send money to their families through informal channels and bring in cash. In most countries, remittance inflow was higher than in 2019 until the first two months of 2020. The amount of remittance inflow started to decline as of March, below where it was in 2019 (Figure 32).

Several factors negatively affected migration and remittances during the pandemic. After the Russian Federation banned foreign nationals from entering the country on 18 March and bans imposed by border countries on international mobility, many intending migrants from the CAC region were not able to leave their countries. For instance, the end of March and April is the high season for seasonal migration to the Russian Federation from Tajikistan, Kyrgyzstan, and Uzbekistan. The closure of urban sectors, such as service and construction sectors, kept many migrants, predominantly rural male workers, at home. Due to the lockdown in the Russian Federation, many Uzbek seasonal migrants lost their jobs and returned home. Among those who stayed abroad, only 73 percent were employed in April compared to 88 percent in the previous month (World Bank, 2020c). Honorati, Yi, and Choi (2020) report that half of the Armenian workers expecting to migrate could not leave for the Russian Federation and lost their jobs because of the suspension of construction activities. The devaluation of the national currencies of the Russian Federation and Kazakhstan in March, which was related to oil prices, further contributed to the decline in remittances.



**Figure 33: Changes in quarterly amount of incoming remittances in 2020 compared to corresponding periods in 2018 and 2019, % change**

Note: Money transfers to Azerbaijan, Georgia and Kazakhstan were reported in current local currencies and converted to USD using monthly exchange rates.

Sources: National and Central Banks of CAC countries. Tajikistan data from IMF Data Warehouse (2021).

The COVID-19 pandemic ignited a process of returning migration that the CAC regions had not experienced before. For instance, in 2020, more than 550 000 Uzbekistani citizens (among them labour migrants) returned home through charter flights, railway, or through the border with Kazakhstan.

According to the Central Bank of Armenia, the total money transfer in 2020 was 12 percent lower than in 2019. The pandemic crisis affected the structure of money transfers in 2020, which comprises personal and wage transfers. Wage transfers of migrant workers plummeted and in the second half of 2020 reached only one-third of the level of the corresponding period in 2019. In contrast to wage transfers, personal transfers in Q3 and Q4 2020 increased by 81 percent and 50 percent, respectively, compared to the same period in 2019. This increase offset the collapse of wage transfers in 2020. Among the main reasons for the sharp rise in personal transfers to Armenia was the Nagorno-Karabakh conflict, as the Armenian diaspora all over the world started to transfer money to Armenia.



In Azerbaijan, personal remittances accounted for 2.7 percent of GDP in 2019 and recently started to gain the attention of the authorities. Personal remittances in Q1 2020 fell by 5 percent compared to Q1 2019. In Q2, remittances were almost 40 percent short of the 2019 Q2 level but recovered in Q3 2020. This growth in remittances was 7 percent short of levels from Q3 2018 but still almost 20 percent below Q3 2019. Over 2020, Azerbaijan migrants reduced personal transfers by 21 percent compared to 2019.

According to official figures, the volume of total remittances to Georgia in Q2 2020 fell by 11 percent compared to the previous year. The main drivers of the remittance shortfall were the Russian Federation (down 37 percent year on year) and Israel (down 21 percent). At the same time, remittances from Italy (up 17 percent) and Azerbaijan (up 100.8 percent) contributed positively to the annual change in money inflows to Georgia. As in other countries, remittances to Georgia went up across the board in Q3 2020, gaining 25 percent over the value in Q3 2019 due to higher money inflows from Italy (36 percent), the United States of America (44.5 percent), Ukraine (182 percent), Greece (31 percent), and Azerbaijan (241 percent). Remittances from the Russian Federation (down 0.2 percent) and Israel (up 1 percent) showed nearly zero year-on-year changes in Q3 2020 (Mamardashvili *et al.*, 2021).

During the first five months of 2020, remittance inflow to Kyrgyzstan fell short by USD 189 million compared to the same period in 2019, a 26 percent decline. A substantial reduction in remittance inflow occurred in March and April 2020, when they dropped by USD 50 million and USD 96 million below the levels of 2019. From May, remittance inflow to Kyrgyzstan went up and surpassed the 2019 levels in June. Due to the rebound in remittance inflows, the total amount of remittances in 2020 was 2 percent higher than in 2019.

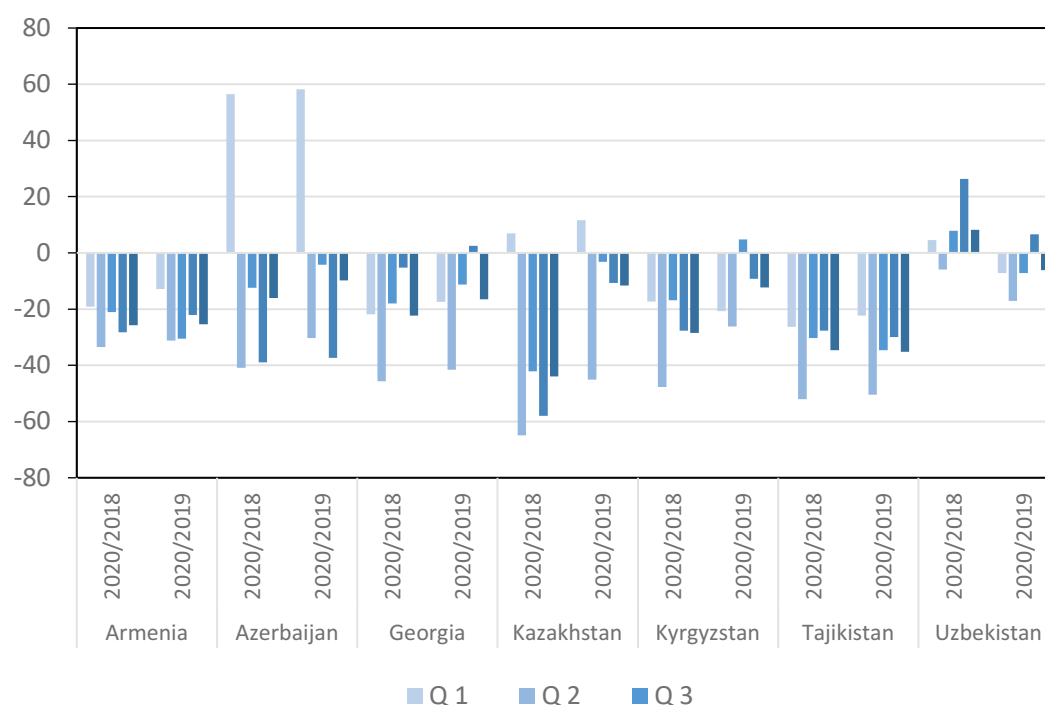
In Tajikistan, as the official figures on money transfers are not disclosed, International Monetary Fund (IMF) data showed that the total remitted amount in 2020 was 11 percent below that of the preceding year (IMF, 2021). Similar to other migrant-sending economies, remittances dropped significantly in Q2 (by 16 percent) and improved in Q3. However, this improvement in remittance inflow was still almost 10 percent below the 2019 level and could not match the total remittance inflows of 2019. As a result, the 2020 annual remittance inflows to Tajikistan were 10 percent lower than in 2019.

In Q3 2020, remittance inflows rebounded in Georgia, Kyrgyzstan, and Uzbekistan and even surpassed the total amount for 2019. In Armenia, Azerbaijan, and Tajikistan, inflows stayed below the 2019 levels. According to the information reported by the central and national banks of CAC countries, the total amount of money transfers received by these countries dropped by 5 percent in 2020.

During the first two months of 2020, remittance inflows to Uzbekistan were increasing and higher than in 2019. With the onset of the pandemic, however, the following month saw remittance inflow plummet by up to 23 percent below the level in March 2019. In April,

remittances shrank further – by up to 40 percent of the 2019 level. Similar to Kyrgyzstan, remittance inflows to Uzbekistan started to improve from May, exceeded the 2019 amount in June, and rebounded to record annual remittances of 0.4 percent above the total remittances inflow for 2019.

The available data from the Central Bank of the Russian Federation suggest that cross-border transfers made by individuals were lower for all countries over the first three quarters compared to 2018 and 2019 (Figure 33). The transfer amounts to Georgia, Kyrgyzstan, and Uzbekistan exceeded the quarterly values of 2019 only in the second half of 2020. However, the total annual amounts were below the total for 2019. The cross-border yearly transfers from the Russian Federation to CAC countries fell by 16 percent in 2020.



**Figure 34: Changes in quarterly amount of transfers made by individuals from the Russian Federation in 2020 compared to corresponding periods in 2018 and 2019, % change**

Source: Central Bank of Russia. Transfers from the Russian Federation made by individuals, cross-border transfers of individuals (residents and non-residents) in the breakdown by country.

## **7 Conclusions and policy recommendations for building resilience in the post-COVID-19 period**

### **7.1 Conclusions**

Overall, the measures taken by the CAC governments have varied from very strict to relaxed. In addition, the strict containment measures imposed in March-April 2020 drove various forms of economic activity, such as taxi services, catering and hospitality, and tourism, to a standstill. Most countries provided a green pass for movements related to agricultural activities during the full lockdowns. Later on, to reduce the burden on economic activities, the governments shifted from a full lockdown to a partial lockdown, keeping restrictions on public events and gatherings.

The COVID-19 pandemic resulted in the contraction of the general economy of CAC countries in 2020. It affected the primary income-generating sectors of the region, such as oil revenues, remittance inflows, and tourism. The regional recovery in Q3 2020 was interrupted by a sharp resurgence of the virus in late 2020. Yet, that slowdown was less severe than during the initial outbreak in Q2 2020, reflecting resilience in industrial and agricultural production activities and an improvement in commodity prices. Compared to the pre-pandemic figures of early 2020, the baseline forecast in early 2021 is more modest. Due to the economic damage from the COVID-19 pandemic, CAC countries are forecasted to have an economic growth of 3.4 percent, which is below the pre-pandemic projections.

Despite fears of catastrophic outcomes for agriculture, according to available preliminary information, agricultural production in the CAC region was not affected by the pandemic or the lockdown measures. In fact, it saw a growth due to favourable weather conditions in 2020. The preliminary estimations of sown areas and crop and livestock production indicate that the pandemic did not affect the agricultural sector.

Agricultural producers benefitted from lower input prices of imported fertiliser and diesel fuel but were affected by the continuing growth of animal feed prices. Supply and sales of farm inputs were less affected than expected by the transportation ban at the onset of the strict lockdown measures but then resumed as business as usual after the governments relaxed measures on activities related to agricultural production.

The pandemic resulted in reverse migration that the CAC region has not experienced before, brought additional hands to agriculture and positively affected production, and made the agricultural sector one of the drivers of economic growth in 2020.

The COVID-19 pandemic produced a large downside shock on remittance inflows from March to May. Despite the projected decline of remittances in 2020, CAC countries escaped the drop in remittance inflows and produced a rebound in total annual remittances in some instances.

While production of agricultural goods seems to be less affected, the COVID-19 pandemic impacted food value chains mostly from demand and logistical point of view. Decreased demand from the catering and hospitality sector, as well as the closure of open-air bazaars, increased the need for storage and cooling facilities, as farmers had to switch to other marketing channels. There was a significant decline in food retail turnover as shops and food markets were closed during the peak of the COVID-19 pandemic.

Compared to total manufacturing, food processing did not fluctuate substantially and was closer to the corresponding months of the previous year, except the periods when governments imposed strict lockdown measures. Moreover, logistical problems such as the storage of high-value agrifood products and catering and hospitality closure resulted in a decreased demand from food processors for agricultural produce.

Overall, consumer price increases in 2020 were substantial. The rise in food prices was exceptionally high in countries that experienced currency depreciation. The severity of stay-at-home restrictions at the start of the pandemic increased the prices of bread, meat, milk, fruit and vegetables during March–May. It can be explained by decreased imports, delivery problems, closing of local markets, as well as panicking and hoarding. As all countries are net importers of food, the depreciation of their currencies against the US dollar resulted in increased food prices. Disruption in food value chains mainly caused by underdeveloped infrastructure drove up food prices, such as for fruit and vegetables.

Although with different degrees of success, the governments responded with food-stabilization policies, including price subsidies to food importers, export restrictions, and price ceilings. Although food prices could have increased even more in the absence of subsidies, it appears that state measures were not able to entirely eliminate the adverse impact of local currency depreciation and the pandemic.

The second wave of inflation happened at the end of 2020. It might be associated with the overall growth of world food prices, supply disruptions in the regional markets, and further national currency depreciation.

Overall, agrifood trade proved to be resilient to the pandemic in 2020 and did not experience significant disruptions in 2020. Many categories of exports initially fell in response to weak external demand, as the major trading economies contracted substantially in 2020. However, over 2020 the agrifood exports from CAC countries rebounded quickly, to the point of business-as-usual. The short-term cereal export restrictions in Kazakhstan affected prices but did not cause major shortages in the domestic market. Agrifood imports also experienced a

modest decline, reflecting decreased domestic demand due to the faltering tourism sector, as well as reduced incomes of the local population.

A prolonged pandemic presents a risk to the development of CAC countries. The global implications, combined with a decline in oil and gas exports and migrant remittances, are that the pandemic can disrupt the projected recovery and undermine economic stability in some economies. The recent development of vaccines will mitigate this risk for CAC countries if the governments speed up the procurement and rollout of vaccination. Given their reliance on exports of agricultural commodities and natural resources, as well as on tourism and remittances, a prolonged global slowdown over the coming years may hit CAC economies harder and increase the role of China and its markets in any regional recovery.

## 7.2 Recommendations

Potential policy options to increase the resilience, robustness, and adaptability of the agriculture, food, and rural sector to a similar pandemic or other risks in future, are listed below:

- Maintain and expand free international trade relationships for food items. Trade restrictions that banned food exports have proved to be the worst possible response to collectively safeguard the agriculture and food sector.
- The longer-term policy should not only strengthen domestic production of major food products but also target diversification of import and export markets. More diversified trade networks are expected to contribute to a reduction in price volatility. For imports, especially for foods with a high share of the consumption basket, greater diversification of origin countries can contribute ensuring food security. Similarly, more diversified export destinations for perishable fruit and vegetables provide insurance against demand shocks in individual countries.
- Focus on deepening domestic value chains by producing higher value-added processed food products with a longer shelf life, enabling producers and processors to meet international food safety standards.
- Build efficient and transparent management of public and private food stock reserves – this is vital to better prepare for any continued and repeating COVID-19 crisis.
- More needs to be done to improve the reintegration of returning migrants and their inclusion in the labour market. The state should increase its investment in both return migrants and future labour migrant capacities, as this is detrimental to increasing the positive impact of remittance inflow to the economy and successful reintegration of returning migrants.
- An absence of frequently collected high-quality data is the main challenge that prevents a proper assessment of the COVID-19 impact on food supply chains. Hence, the priority should be to ensure timely data availability for analysis and policy design, not only from the production side but also at other levels of the chain, including consumption in the

hospitality sector, dynamics of migration and remittances, home consumption, processing and prices.

- High–resolution micro–level data are vital for the development of evidence-supported policies. The micro-level data are particularly important given the size of the informal economy, which is not recorded in official statistics.
- Invest in a national system of nutrition research and monitoring to develop more targeted policies and improve the efficiency and effectiveness of policy response, including national policies to combat nutrition issues, such as hidden hunger during the pandemic.

## 8 References

- Asian Development Bank. (2021). Inflation Rate in Asia and the Pacific. *Asian Development Outlook (ADO)*. April 2021. Available at: <https://data.adb.org/dataset/inflation-rate-asia-and-pacific-asian-development-outlook>.
- Asfaw, E.B., Amirova, I. & Erkinova, S. (2021). *Impact of COVID-19 on agriculture, food and rural areas in Uzbekistan*. Project report.
- Asfaw, E., Li, M., Rudenko, I. & Saydullaeva, F. (2020). 'Urban food security and the COVID-19 crisis: the case of Uzbekistan cities'. Presentation at the CFS/World Bank webinar Food Security and Food Policy Implications of COVID-19 Crisis. 24 November 2020.
- Hale, T., Anania, J., Angrist, N., Bobby, T., Cameron-Blake, E., Ellen, L., Goldszmidt, R., *et al.* (2021). 'Variation in Government Responses to COVID-19'. Version 11.0. Blavatnik School of Government Working Paper. March 2021. Available at: [www.bsg.ox.ac.uk/covidtracker](http://www.bsg.ox.ac.uk/covidtracker).
- Food and Agriculture Organization of the United Nations, International Fund for Agricultural Development, United Nations Children's Fund, World Food Programme, World Health Organization (2021). *The State of Food Security and Nutrition in the World 2021*. Available at: <https://www.fao.org/publications/sofi/2021/en/>.
- Food and Agriculture Organization of the United Nations (2021). *Europe and Central Asia – Regional Overview of Food Security and Nutrition 2021: Statistics and Trends*. Available at: <https://doi.org/10.4060/cb7493e>.
- Ghazaryan, A. (2020). *COVID-19 and its impact on migration: the case of Armenia*. Available at: <https://eu.boell.org/en/2020/05/05/covid-19-and-its-impact-migration-case-armenia>.
- Global Nutrition Report. (2018). *Nutrition country profile: Armenia*. Available at: <https://globalnutritionreport.org/resources/nutrition-profiles/asia/western-asia/armenia/>.
- Honorati, M., Yi, S. & Choi, Y. (2020). 'Assessing the vulnerability of Armenian temporary labour migrants during the COVID-19 pandemic'. World Bank Discussion Paper No. 2003.
- International Labour Organization. (2021). 2020 third-party monitoring of child labour and forced labour during the cotton harvest in Uzbekistan.
- International Monetary Fund. (2021). Balance of Payments and International Investment Position Statistics: BOP standard presentation (2020). March 2021. Available at: [www.bsg.ox.ac.uk/covidtracker](http://www.bsg.ox.ac.uk/covidtracker).

**Ishangulyyev, R.** (2021). *Impact of COVID-19 on agriculture, food and rural areas in Turkmenistan*. Project report.

**Karlinsky, A. & Kobak, D.** (2021). *The World Mortality Dataset: Tracking excess mortality across countries during the COVID-19 pandemic*. medRxiv 2021.01.27.21250604. Available at <https://doi.org/10.1101/2021.01.27.21250604>.

**Khakimov, P.** (2021). *Impact of COVID-19 on agriculture, food and rural areas in Tajikistan*. Project report.

**Kobak, D.** (2021). *Excess mortality reveals Covid's true toll in Russia*. Significance 18 (1), pp. 16–19.

**Lombardozi, L. & Djanibekov, N.** (2020). *Can self-sufficiency policy improve food security? An inter-temporal assessment of the wheat value chain in Uzbekistan*. Eurasian Geography and Economics. Available at: <https://doi.org/10.1080/15387216.2020.1744462>.

**Mamardashvili, M., Gelashvili, S., Katsia, I. & Deisadze, S.** (2021). *Impact of COVID-19 on agriculture, food and rural areas in Georgia*. Project report.

**National Statistical Committee.** (2021). *On the results of the survey 'Impact of the COVID-19 pandemic on households'*. Bishkek: NSC, p. 7.

**Oshakbayev, D.** (2021). *Impact of COVID-19 on agriculture, food and rural areas in Kazakhstan*. Project report.

**Roser, M., Ritchie, H., Ortiz-Ospina, E. & Hasell, J.** (2020). *Coronavirus Pandemic (COVID-19)*. Published online at OurWorldInData.org. Available at: <https://ourworldindata.org/coronavirus>.

**Shimizutani S. & Yamada E.** (2021). *Resilience against the pandemic: the impact of COVID-19 on migration and household welfare in Tajikistan*. JICA Ogata Sadako Research Institute for Peace and Development. Available at: [https://www.jica.go.jp/jica-ri/publication/workingpaper/l75nbg000019q4m7-att/JICA\\_Ogata\\_Research\\_Institute\\_WP\\_No218.pdf](https://www.jica.go.jp/jica-ri/publication/workingpaper/l75nbg000019q4m7-att/JICA_Ogata_Research_Institute_WP_No218.pdf).

**Tadevosyan, L.** (2021). *Impact of COVID-19 on agriculture, food and rural areas in Armenia*. Project report.

**Tilekeyev, K.** (2021). *Impact of COVID-19 on agriculture, food and rural areas in Kyrgyzstan*. Project report.

**United Nations Development Programme.** (2020). *Socio-economic impact assessment of the COVID-19 outbreak on Armenian communities*. Available at: <https://www.am.undp.org/content/armenia/en/home/library/socio-economic-impact-assessment-of-the-covid-19-outbreak-in-arm.html>.

**United Nations Development Programme.** (2020). *Socio-economic impact assessment*. Nur-Sultan: UNDP.



**United Nations Economic Commission for Europe.** (2020). *The Impact of COVID-19 on trade and structural transformation in Armenia: evidence from UNECE's survey of micro, small and medium enterprises*. Available at: [https://unece.org/sites/default/files/2021-01/Impact\\_COVID-19\\_Armenia.pdf](https://unece.org/sites/default/files/2021-01/Impact_COVID-19_Armenia.pdf).

**United Nations in Armenia.** (2020). *COVID-19 socio-economic response and recovery plan*. Armenia, September 2020. Available at: <https://www.un.am/up/file/SERRP.pdf>.

**Valiyev, A.** (2021). *Impact of COVID-19 on agriculture, food and rural areas in Azerbaijan*. Project report.

**World Bank.** (2020a). *Economic and social impacts of COVID-19*. July 2020 update from 'Listening to Tajikistan' (L2TJK) survey. Available at: <https://www.worldbank.org/en/news/factsheet/2020/07/13/economic-and-social-impacts-of-covid-19-update-from-listening-to-tajikistan>.

**World Bank.** (2020b). *Economic and social impacts of COVID-19*. August 2020 update from 'Listening to Tajikistan' (L2TJK) survey. Available at: <https://pubdocs.worldbank.org/en/718691602731244372/Listening2Tajikistan-COVID19-August2020-en.pdf>.

**World Bank.** (2020c). *Economic and social impacts of COVID-19*. June 2020 update from 'Listening to the citizens of Uzbekistan' (L2CU) survey. Available at: <http://pubdocs.worldbank.org/en/834051595427687698/L2CU-COVID19-impacts-June2020-en.pdf>.

**World Bank.** (2021). *Crisis and recovery in Uzbekistan: economic and social impacts of COVID-19*. March 2021 update from 'Listening to the Citizens of Uzbekistan' (L2CU) survey. Available at: <https://thedocs.worldbank.org/en/doc/c705e28720492e4af5d637a701a28f8e-0080062021/original/L2CU-COVID-19-Rev2020-Cleared-ENG.pdf>.

**World Food Programme.** (2020). *Food security and vulnerability assessment in Armenia*. Yerevan, Armenia. Available at: <https://www.wfp.org/publications/food-security-and-vulnerability-assessment-armenia-november-2020>.

## APPENDICES

**Table A-1: Government programmes/regulations and stimulus packages designed to counter the impacts of COVID-19 on the agricultural sector, food industry and food supply chain**

Policy	Type of policy intervention	Armenia	Azerbaijan	Georgia	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
Agricultural policy	Input subsidies	Subsidised input loans	One-time payment as agri subsidy	Fuel diesel subsidies for farmers; wheat flour subsidies for producers of bread (Mar/Apr 2020)	Financing of spring sowing (Apr 2020)	Subsidised input loans to farmers (Apr2020) Wheat seed support (Apr2020)	Land tax exemption (2020)	No subsidised input loans (Dec2020)	Deliver seeds and fertiliser shops for orchards (May 2020) 50% subsidy for water service fee (May 2020)
	Credits for farms	0% interest rate; co-financing in different agri-entities (e.g. co-ops) with focus on the livestock sector, poultry, vineyards, fruits and berries Six-month grace period for loans	Preferential agricultural microcredits	Agricultural loans with a co-financed interest rate (Apr 2020)	Three-month grace period for loans (April 2020)	Reduced interest rate on credits (Feb 2020)	No	Subsidised loans for construction of warehouses (Aug 2020)	No

Policy	Type of policy intervention	Armenia	Azerbaijan	Georgia	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
Agricultural policy (continued)	Market measures	No	Mandatory state social insurance payment reduced	Government spending on creation of food stocks	Forward contracts and procurement to regional stabilization funds; Concessional loans to retailers to support administered prices (April 2020)	No	Food risk mitigation plan (Mar 2020)		0% income tax on profits (May 2020)
	Rural investments	Subsidised leasing programme	No	No	No	No	No	No	Anti-crisis funds for irrigation and electricity infrastructure (May 2020) Distribute livestock, expand feed production, livestock co-ops (May 2020) Finance fruit and vegetable clusters (May2020)

Policy	Type of policy intervention	Armenia	Azerbaijan	Georgia	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
Agricultural policy (continued)	Other country specific measures	Grape price subsidy for wine makers  0% import duty for critical food (Mar to Jun 2020)  Taxes and social contributions postponed (March 2020)	0% import duty for critical food (March 2020)	Import subsidies (Mar to May 2020)	Zero land tax for farmers (full 2020)	Taxes and social contributions postponed (March 2020)	State purchase of essential inputs (Apr2020 and June 2020)  Public/donor farm input distribution (June 2020)	No	Short-term loans to agricultural processors and exporters (May 2020)  Land lease via online auctions (May 2020)  Tax postponement (May 2020)  Zero rate of customs duty and excise tax (April 2020)
Trade policies	Import or export ban	No	Ban on the import of animals and meat from China (Feb to Nov 2020)	No	Export ban on nine food items (Mar-Apr 2020)  Export ban on live animals (April 2020)	Export ban on essential foods and feed (March to Sept 2020)  Export ban on livestock and food (Nov 2020 to May 2021)	Export ban on essential food staples (April 2020)	No	No
	Import or export quota	No	No	No	Export quota on nine food items (April to June 2020)	No	No	No	Targeted import volumes for food products (March 2020)
	Export subsidies	Repayment of export duties for wine exports	No	No	No	No	No	No	Transport cost subsidies to exporters (Oct 2020)

Policy	Type of policy intervention	Armenia	Azerbaijan	Georgia	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
Trade policies (continued)	Non-tariff trade barriers	No	No	Increased average MFN tariff rate of nine 6-digit HS product categories (Jan 2020)	No	No	No	Imports of goods only via Turkmen freight carriers (March 2020)	No
	Other country specific measures	No	No	No	No	No	No	No	No
Social protection policy	Food aid	No	No	No	Food aid (30 kg food box)	Daily food packages	No	Food cards	No
	Food price control	No	No	No	Maximum retail prices on nine foods (April 2020 – ad hoc)	Procurement of wheat flour from Russia (April 2020) Food price regulation (20% ceiling) (April 2020)	Price regulation (June 2020)	No	No

Policy	Type of policy intervention	Armenia	Azerbaijan	Georgia	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
Social protection policy (continued)	Support for vulnerable rural	Support via coverage of utility costs	Food assistance, food package Coverage of students' tuition fees Online business development trainings for rural women One-time lump-sum payments	Social allowance to employees who have lost their jobs Utility fee subsidies One-time assistance to self-employed Full tuition fee coverage	No	Distribution of food packages	Targeted social benefits (June 2020) One-time assistance equal to minimum wage (June 2020)	Free taxi services during lockdown	Distribution of food packages Public Works Fund one-time payment to co-op members (March 2020)
	Consumer food subsidy	No	VAT exception on food (June 2020)	No	Reduced VAT (from 12% to 8%) on socially significant food (March to Oct 2020)	No	No	Subsidised fruit-vegetable selling points in bazaars	No
	Specific support for return migrants	Provision of temporary jobs in agriculture		No	No	No	No	Free medical check-ups and meals during quarantine	1 ha land lease (March to June 2020)

**Table A-2: Annual average price change in 2020 compared to 2019**

	Nominal food price (% change)	FAO Food Price Index (%)	Consumer Price Index (%)	Real food price (% change)
Armenia	0.34	0.26	1.22	-0.87
Azerbaijan	4.94	4.43	2.76	2.12
Georgia	10.53	10.47	5.21	5.06
Kazakhstan	1.10	7.04	6.74	-5.28
Kyrgyzstan	11.59	10.34	6.30	4.98
Tajikistan	0.99	11.55	9.40	-7.68
Turkmenistan	n.a.	n.a.	10.00	n.a.
Uzbekistan	0.90	17.20	12.90	-10.62

Source: National Statistical Agencies; FAO; CPI Tajikistan, Turkmenistan and Uzbekistan – ADB (2021)

**Table A-3: Year-on-year monthly indices of agrifood imports, 2020/2019**

Animals; live (HS01)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	2.61	1.27	1.15	0.71	0.33	1.21	0.49	1.67	0.72	1.12	0.13	1.34
Azerbaijan	1.46	1.81	2.10	0.93	1.44	0.99	1.26	0.59	1.12	1.00	1.27	1.04
Georgia	0.68	0.88	1.39	0.83	0.57	0.96	1.10	1.65	0.93	1.34	0.99	0.95
Kazakhstan	1.01	0.86	0.51	0.28	0.77	0.38	0.15	1.19	0.57	1.95	1.03	1.26
Kyrgyzstan	1.18	7.23	1.79	0.62	6.43	2.63	0.52	3.23	2.32	8.23	11.35	8.67
Tajikistan	n.a.	n.a.	4.05	n.a.	n.a.	1.42	n.a.	n.a.	0.96	n.a.	n.a.	1.24
Uzbekistan	0.62	0.82	0.37	0.20	0.21	0.45	0.49	0.61	1.23	0.69	1.75	1.31
Meat and edible meat offal (HS02)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	1.32	0.92	1.41	0.44	0.35	0.47	0.79	0.56	0.99	0.91	0.52	0.70
Azerbaijan	1.06	1.20	1.10	1.61	1.98	0.92	0.67	0.76	0.61	0.73	0.81	0.85
Georgia	1.11	1.14	1.25	1.32	0.74	1.00	0.91	0.99	0.71	0.80	0.74	0.88
Kazakhstan	3.13	1.47	1.14	1.08	1.61	1.13	0.94	0.75	0.97	0.65	0.70	0.60
Kyrgyzstan	1.44	0.76	1.00	0.37	1.07	1.35	0.79	0.47	1.02	0.78	0.87	0.90
Tajikistan	n.a.	n.a.	0.84	n.a.	n.a.	0.90	n.a.	n.a.	0.74	n.a.	n.a.	0.54
Uzbekistan	3.47	2.24	4.45	5.57	3.13	3.59	2.20	2.07	1.49	1.89	2.64	1.99
Dairy produce; eggs (HS04)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	1.03	1.23	1.65	0.91	1.65	1.40	1.30	1.33	1.19	0.84	0.71	1.07
Azerbaijan	1.30	1.15	1.59	1.16	1.33	1.42	1.11	1.23	0.90	0.80	0.82	1.05
Georgia	1.23	1.07	1.31	1.80	1.18	1.09	0.72	1.04	0.81	0.73	0.99	0.94
Kazakhstan	1.35	1.49	1.40	1.15	1.31	1.46	1.19	1.30	1.20	0.93	1.28	1.18
Kyrgyzstan	2.29	1.06	0.72	1.44	2.97	1.56	0.84	1.19	2.99	1.05	0.63	0.98
Tajikistan	n.a.	n.a.	1.28	n.a.	n.a.	0.65	n.a.	n.a.	0.78	n.a.	n.a.	1.04
Uzbekistan	0.88	0.76	0.93	1.09	1.14	1.82	2.29	1.46	1.63	0.93	1.29	1.71

Vegetables; edible (HS07)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	1.51	1.45	0.94	1.32	1.02	1.08	1.42	0.88	0.91	1.64	0.72	0.72
Azerbaijan	0.97	1.28	1.15	1.13	1.74	0.90	1.50	1.27	0.82	0.79	1.00	1.94
Georgia	1.00	1.13	1.30	0.85	0.99	1.05	0.81	1.08	1.10	1.32	0.89	0.89
Kazakhstan	1.34	1.39	0.81	0.65	0.85	1.15	0.78	1.30	1.15	0.70	0.55	0.61
Kyrgyzstan	7.53	1.75	0.99	1.25	0.85	1.17	0.97	1.86	4.20	5.72	0.57	0.75
Tajikistan	n.a.	n.a.	1.15	n.a.	n.a.	1.84	n.a.	n.a.	0.38	n.a.	n.a.	59.19
Uzbekistan	0.97	1.18	1.78	1.91	0.78	7.04	1.04	2.67	0.98	1.70	2.87	1.67
Fruit and nuts, edible (HS08)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	1.32	1.05	0.79	1.01	0.96	1.28	2.19	2.33	1.87	0.80	0.81	0.94
Azerbaijan	0.84	1.16	1.21	1.04	1.17	1.03	0.84	1.09	0.99	0.74	0.72	1.02
Georgia	1.37	1.23	1.05	0.66	0.70	1.20	0.74	0.51	1.05	0.70	0.80	0.82
Kazakhstan	1.21	1.45	1.04	1.09	1.13	0.74	0.57	0.92	0.81	0.88	0.95	0.92
Kyrgyzstan	1.76	1.39	0.45	0.29	0.61	0.47	0.73	0.91	0.59	0.46	0.48	0.51
Tajikistan	n.a.	n.a.	1.29	n.a.	n.a.	0.71	n.a.	n.a.	0.88	n.a.	n.a.	1.36
Uzbekistan	0.94	0.84	0.56	1.91	0.38	0.91	0.68	0.99	1.13	0.67	0.86	0.60
Cereals (HS10)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	1.65	0.30	0.76	2.08	2.14	0.76	1.08	2.18	1.41	1.69	0.99	1.01
Azerbaijan	0.48	0.43	0.52	1.05	1.80	1.13	1.05	1.28	1.11	0.68	0.77	1.56
Georgia	0.99	0.70	1.21	1.05	1.67	0.53	1.49	1.89	0.97	0.84	0.95	0.65
Kazakhstan	2.18	2.01	1.34	1.56	4.10	2.60	2.02	6.81	10.35	1.23	0.44	0.38
Kyrgyzstan	0.49	0.47	0.68	0.31	3.94	4.51	0.30	2.44	3.40	0.51	1.56	0.08
Tajikistan	n.a.	n.a.	0.80	n.a.	n.a.	1.62	n.a.	n.a.	0.91	n.a.	n.a.	1.14
Uzbekistan	0.61	0.57	1.23	2.04	1.12	1.51	1.30	1.38	2.47	2.62	1.93	1.83
Products of milling industry (HS11)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	1.29	0.51	0.53	1.43	0.84	4.26	1.07	1.69	1.19	1.32	1.04	1.01
Azerbaijan	0.86	1.17	1.50	0.93	0.47	0.75	1.63	1.14	1.88	1.65	0.63	0.95
Georgia	0.98	0.94	1.05	1.05	0.77	1.15	1.10	1.01	0.86	1.10	0.70	0.83
Kazakhstan	0.91	1.04	0.87	0.87	1.03	1.39	0.78	0.91	0.72	0.79	0.90	1.04
Kyrgyzstan	0.93	2.26	2.02	0.91	1.62	0.84	1.03	0.79	2.48	0.55	0.64	0.11
Tajikistan	n.a.	n.a.	1.10	n.a.	n.a.	2.67	n.a.	n.a.	1.47	n.a.	n.a.	0.72
Uzbekistan	0.82	0.68	0.77	0.88	0.74	1.29	1.45	1.66	1.32	1.47	1.07	1.08



Beverages, spirits and vinegar (HS22)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	0.73	0.59	1.01	0.95	0.79	0.67	0.65	0.75	0.61	0.54	0.31	0.50
Azerbaijan	0.62	0.92	1.66	0.83	0.62	1.65	0.69	0.81	0.94	0.95	0.85	0.79
Georgia	1.19	1.05	0.97	0.82	0.83	1.07	0.98	0.89	0.69	0.98	0.71	0.77
Kazakhstan	0.98	1.15	1.21	0.67	1.10	0.96	0.91	1.09	1.22	1.15	1.21	0.99
Kyrgyzstan	1.01	0.77	0.78	1.18	0.65	0.54	0.81	0.68	1.27	0.80	0.87	1.18
Tajikistan	n.a.	n.a.	2.16	n.a.	n.a.	1.41	n.a.	n.a.	0.96	n.a.	n.a.	1.06
Uzbekistan	0.48	0.64	1.39	2.13	0.82	2.20	5.63	1.42	2.78	1.70	0.86	1.83
Total (HS01-HS24)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	1.25	0.92	1.09	1.10	1.00	0.86	0.95	1.12	1.01	0.94	0.81	0.79
Azerbaijan	0.83	0.92	1.05	1.07	1.23	1.16	0.93	0.98	1.01	0.78	0.89	1.14
Georgia	1.03	0.96	1.12	1.02	1.03	0.97	0.96	1.00	0.86	0.91	0.91	0.89
Kazakhstan	1.29	1.33	1.14	0.93	1.03	1.08	0.86	0.99	1.13	0.96	0.96	1.01
Kyrgyzstan	1.35	0.96	0.75	0.71	0.75	0.69	0.76	0.90	1.29	0.79	0.87	0.79
Tajikistan	n.a.	n.a.	1.12	n.a.	n.a.	1.16	n.a.	n.a.	0.90	n.a.	n.a.	1.12
Uzbekistan	0.83	0.72	1.01	1.27	0.92	1.47	1.16	1.23	1.59	1.44	1.35	1.27

Source: Kyrgyzstan, Tajikistan, Georgia - National statistical agencies. Kazakhstan – TradeMap database, Armenia, Azerbaijan  
Uzbekistan – UN Comtrade.

**Table A-4: Year-on-year monthly indices of agrifood exports, 2020/2019**

Animals; live (HS01)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	0.86	4.34	3.07	0.48	2.58	11.20	6.64	3.81	1.66	1.06	1.20	2.89
Azerbaijan	0.00	4.33	0.00	0.00	0.00	0.00	0.00	0.26	7.69	0.19	0.55	0.89
Georgia	1.00	1.01	1.55	0.74	0.12	0.46	0.96	0.91	1.69	2.68	1.94	0.94
Kazakhstan	1.23	0.24	0.01	0.01	0.00	0.01	0.01	0.02	0.00	0.03	0.54	0.99
Kyrgyzstan	1.84	1.19	2.91	1.07	2.48	3.21	4.42	13.43	10.24	2.86	5.63	11.39
Tajikistan	n.a.	n.a.	0.00	n.a.	n.a.	0.17	n.a.	n.a.	0.20	n.a.	n.a.	0.00
Uzbekistan	1.05	9.21	2.73	1.01	6.09	4.95	4.88	1.78	2.72	5.75	0.79	1.77
Meat and edible meat offal (HS02)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	0.39	2.09	0.49	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.09	0.17
Azerbaijan	0.00	0.08	0.05	1.71	0.00	2.86	0.05	0.00	0.24	2.93	0.11	0.00
Georgia	1.01	0.73	1.45	2.99	1.30	0.73	1.15	0.54	0.57	0.71	0.49	1.10
Kazakhstan	1.31	0.63	1.15	0.95	1.00	1.06	1.21	1.04	1.39	1.00	0.76	0.70
Kyrgyzstan	0.35	0.04	0.03	0.05	0.06	0.17	0.09	0.14	0.34	0.09	0.04	0.64
Tajikistan	n.a.	n.a.	1.00	n.a.	n.a.	0.00	n.a.	n.a.	0.00	n.a.	n.a.	0.00
Uzbekistan	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dairy produce; eggs (HS04)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	2.26	1.79	2.11	1.19	0.98	1.32	2.00	1.39	2.23	1.12	0.66	2.21
Azerbaijan	1.38	1.73	0.61	0.75	1.02	0.91	0.91	0.63	0.61	0.96	0.33	0.42
Georgia	0.34	1.93	2.69	4.41	2.63	1.67	3.47	6.00	1.34	1.39	4.29	3.50
Kazakhstan	1.10	0.90	0.58	0.95	0.95	1.08	0.87	1.10	0.89	0.84	0.92	0.76
Kyrgyzstan	1.44	1.78	1.45	1.77	1.57	0.64	0.56	1.21	1.00	0.67	1.33	0.56
Tajikistan	n.a.	n.a.	0.17	n.a.	n.a.	105.00	n.a.	n.a.	0.00	n.a.	n.a.	11.00
Uzbekistan	0.53	0.45	0.65	1.65	1.25	1.66	1.39	1.14	0.91	0.49	1.05	1.20
Vegetables; edible (HS07)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	1.78	1.81	1.36	0.79	0.96	1.16	1.00	0.92	1.09	0.91	0.70	1.92
Azerbaijan	1.20	1.43	2.16	1.21	0.89	1.31	1.30	0.81	0.85	0.82	0.89	0.50
Georgia	1.11	0.71	1.07	0.62	0.64	2.22	0.58	0.10	0.83	0.42	0.73	0.99
Kazakhstan	0.89	0.99	0.96	0.41	0.43	0.64	0.34	0.86	0.74	1.21	1.02	0.64
Kyrgyzstan	0.92	0.95	0.78	0.86	0.48	0.44	0.58	2.25	2.43	0.88	0.68	0.56
Tajikistan	n.a.	n.a.	0.01	n.a.	n.a.	0.00	n.a.	n.a.	0.00	n.a.	n.a.	0.00
Uzbekistan	1.09	0.85	0.70	0.51	0.56	0.71	0.60	0.71	1.27	1.76	1.46	1.30

Fruit and nuts, edible (HS08)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	1.40	1.71	1.41	1.02	1.22	1.81	1.74	2.83	3.29	2.17	1.28	1.08
Azerbaijan	0.87	0.86	0.93	0.41	0.96	1.05	1.15	1.03	0.92	1.02	0.97	1.17
Georgia	1.39	1.23	1.22	0.69	1.33	1.74	1.77	1.91	1.84	1.39	1.13	1.32
Kazakhstan	0.74	1.12	0.27	0.96	0.28	0.35	0.40	0.46	0.17	0.25	0.27	0.14
Kyrgyzstan	3.01	2.25	1.16	0.13	0.27	0.21	0.73	1.89	1.82	0.45	0.08	0.09
Tajikistan	n.a.	n.a.	1.01	n.a.	n.a.	1.19	n.a.	n.a.	1.50	n.a.	n.a.	1.00
Uzbekistan	1.17	0.82	0.42	0.32	0.74	0.65	1.20	1.15	1.11	1.07	1.28	0.75
Cereals (HS10)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	0.00	0.00	1.49	0.00	0.00	0.00	0.00	0.00	256.29	0.37	0.00	2.77
Azerbaijan	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Georgia	0.06	0.35	0.09	0.37	8.88	0.52	0.85	0.00	3.45	0.67	0.96	3.20
Kazakhstan	0.44	0.79	1.10	0.82	0.97	1.29	1.05	1.49	1.39	1.04	1.12	1.31
Kyrgyzstan	67.13	6.38	0.61	0.00	4.02	2.24	0.95	1.80	0.87	2.60	1.77	2.33
Tajikistan	n.a.	n.a.	2.61	n.a.	n.a.	0.00	n.a.	n.a.	0.03	n.a.	n.a.	0.04
Uzbekistan	0.00	1.48	0.00	1.68	0.44	13.29	0.00	0.10	0.00	0.03	0.99	0.93
Products of milling industry (HS11)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	0.14	0.62	2.34	7.27	1.43	7.22	3.02	1.68	15.34	9.18	2.74	2.28
Azerbaijan	0.74	0.26	0.90	6.18	5.98	1.66	1.02	1.00	1.32	2.32	0.77	1.75
Georgia	0.51	1.25	0.03	4.93	0.23	5.40	4.14	0.07	0.93	0.59	2.84	1.06
Kazakhstan	0.70	1.27	1.02	0.87	1.56	2.44	1.71	1.19	1.65	1.33	1.28	1.44
Kyrgyzstan	0.00	11.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.48	13.52
Tajikistan	n.a.	n.a.	1.11	n.a.	n.a.	0.00	n.a.	n.a.	0.00	n.a.	n.a.	0.00
Uzbekistan	10.30	2.94	4.36	5.13	3.48	3.40	1.86	1.64	1.21	0.96	1.46	2.37
Beverages, spirits and vinegar (HS22)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	1.01	0.93	0.88	0.99	0.81	0.77	0.80	0.65	0.93	0.71	0.59	1.08
Azerbaijan	0.29	1.52	0.42	0.26	0.36	0.23	0.45	0.63	0.53	0.50	1.09	1.02
Georgia	1.02	0.79	1.00	0.94	0.85	1.02	1.00	0.92	1.18	0.82	0.94	1.16
Kazakhstan	1.22	1.81	1.92	1.23	1.04	1.29	0.94	1.49	1.49	1.25	0.82	1.05
Kyrgyzstan	0.89	0.98	0.82	2.62	3.81	1.16	0.64	0.26	1.52	0.47	1.54	1.36
Tajikistan	n.a.	n.a.	1.12	n.a.	n.a.	2.68	n.a.	n.a.	3.56	n.a.	n.a.	1.23
Uzbekistan	2.00	2.72	2.10	2.14	3.07	1.55	0.46	0.44	0.59	0.83	0.42	1.03

Total (HS01-HS24)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Armenia	1.07	1.11	0.73	0.86	0.99	1.17	1.10	0.92	0.97	0.89	0.78	1.21
Azerbaijan	0.91	1.08	1.21	0.87	0.88	1.09	1.00	0.88	0.87	1.07	0.98	0.97
Georgia	0.94	0.94	1.09	0.97	0.96	1.13	1.03	1.03	1.29	1.06	1.06	1.15
Kazakhstan	0.63	0.91	1.05	0.79	0.88	1.15	0.97	1.18	1.22	1.08	1.07	1.14
Kyrgyzstan	1.42	1.27	0.81	0.72	0.81	0.83	0.74	1.73	1.88	0.74	0.72	0.76
Tajikistan	n.a.	n.a.	0.95	n.a.	n.a.	1.02	n.a.	n.a.	1.46	n.a.	n.a.	1.03
Uzbekistan	1.12	1.15	0.93	0.63	0.71	0.74	1.06	1.09	1.07	1.11	1.27	1.14

Source: Kyrgyzstan, Tajikistan, Georgia - National statistical agencies. Kazakhstan – TradeMap database, Armenia, Azerbaijan  
Uzbekistan – UN Comtrade.

**Table A-5: Annual import and export values of selected agrifood commodities in 2019–2020, million USD**

Commodity	Import values, million USD																				
	Armenia			Azerbaijan			Georgia			Kazakhstan			Kyrgyzstan			Tajikistan			Uzbekistan		
	2019	2020	2020/ 2019	2019	2020	2020/ 2019	2019	2020	2020/ 2019	2019	2020	2020/ 2019	2019	2020	2020/ 2019	2019	2020	2020/ 2019	2019	2020	2020/ 2019
Animals; live (HS01)	6.5	5.6	0.86	59.7	68.3	1.14	16.6	16.6	1.00	89.5	53.4	0.60	1.6	7.4	4.51	4.1	5.8	1.43	164.5	109.9	0.67
Meat and edible meat offal (HS02)	82.0	59.4	0.72	79.4	78.7	0.99	119.4	112.3	0.94	272.5	258.7	0.95	38.7	34.0	0.88	43.3	32.2	0.74	39.8	97.3	2.44
Dairy produce; eggs (HS04)	48.0	55.6	1.16	135.8	153.3	1.13	75.4	79.0	1.05	272.6	340.2	1.25	11.9	15.6	1.31	15.6	13.8	0.89	32.7	43.1	1.32
Vegetables; edible (HS07)	17.9	18.5	1.03	69.7	79.4	1.14	38.7	39.6	1.02	167.7	145.0	0.86	25.3	38.0	1.50	4.8	12.2	2.54	29.7	47.7	1.60
Fruit and nuts, edible (HS08)	63.7	69.7	1.09	124.6	124.4	1.00	66.1	59.5	0.90	416.9	387.1	0.93	83.5	53.2	0.64	16.3	18.2	1.12	55.9	44.3	0.79
Cereals (HS10)	73.6	96.7	1.31	399.2	360.2	0.90	137.9	145.2	1.05	78.6	112.3	1.43	46.4	40.3	0.87	237.5	263.2	1.11	411.3	592.4	1.44
Products of milling industry (HS11)	12.7	17.3	1.36	20.0	21.8	1.09	19.5	18.8	0.97	29.7	27.5	0.92	26.4	31.1	1.18	28.3	34.0	1.20	111.9	117.4	1.05
Beverages, spirits and vinegar (HS22)	55.5	33.5	0.60	67.4	61.0	0.91	81.7	72.7	0.89	274.1	288.1	1.05	60.5	51.8	0.86	24.8	31.1	1.26	12.9	21.3	1.66
Total imports (HS01 - HS24)	871.0	832.0	0.96	1 923.6	1 903.5	0.99	1 251.5	1 206.9	0.96	3 896.9	4 057.6	1.04	677.1	594.5	0.88	758.9	822.4	1.08	1 955.4	2 303.3	1.18

Commodity	Export values, million USD																				
	Armenia			Azerbaijan			Georgia			Kazakhstan			Kyrgyzstan			Tajikistan			Uzbekistan		
	2019	2020	2020/ 2019	2019	2020	2020/ 2019	2019	2020	2020/ 2019	2019	2020	2020/ 2019	2019	2020	2020/ 2019	2019	2020	2020/ 2019	2019	2020	2020/ 2019
Animals; live (HS01)	7.4	15.7	2.12	0.1	0.2	1.18	38.7	50.7	1.31	109.0	15.0	0.14	4.1	20.5	5.00	0.1	0.0	0.19	2.3	5.3	2.28
Meat and edible meat offal (HS02)	8.3	0.1	0.02	0.6	0.1	0.19	28.0	25.0	0.89	57.8	56.0	0.97	4.5	0.6	0.12	0.3	0.0	0.00	0.2	0.1	0.40
Dairy produce; eggs (HS04)	8.7	12.8	1.47	20.3	15.3	0.75	4.5	10.8	2.43	73.8	66.9	0.91	47.5	47.8	1.01	0.0	0.2	8.43	8.8	7.8	0.89
Vegetables; edible (HS07)	37.6	42.6	1.13	243.2	254.6	1.05	11.5	10.3	0.89	147.3	107.0	0.73	89.7	78.5	0.87	0.4	0.0	0.01	475.9	400.5	0.84
Fruit and nuts, edible (HS08)	32.0	57.3	1.79	362.6	352.9	0.97	121.8	171.8	1.41	56.6	19.6	0.35	42.8	38.8	0.91	9.5	10.9	1.15	646.7	578.4	0.89
Cereals (HS10)	0.01	0.05	3.47	3.0	0.0	0.01	3.4	1.3	0.37	1 351.1	1 363.3	1.01	0.5	1.1	2.03	0.1	0.0	0.37	27.0	16.0	0.59
Products of milling industry (HS11)	0.13	0.35	2.62	0.4	0.5	1.22	3.2	3.6	1.12	388.7	516.4	1.33	0.0	0.2	7.74	0.8	0.1	0.16	104.9	219.5	2.09
Beverages, spirits and vinegar (HS22)	293.0	239.7	0.82	23.7	12.1	0.51	516.8	498.1	0.96	51.6	65.2	1.26	5.7	5.9	1.04	1.5	3.3	2.24	12.9	17.7	1.37
Total exports (HS01 - HS24)	775.5	751.9	0.97	772.3	760.0	0.98	888.9	942.2	1.06	3 284.5	3 266.2	0.99	255.6	250.6	0.98	25.4	27.4	1.08	1 592.8	1 524.0	0.96

Sources: Kyrgyzstan, Tajikistan, Georgia - National statistical agencies. Kazakhstan – TradeMap database, Armenia, Azerbaijan Uzbekistan – UN Comtrade.

**Table A-6: Monthly and annual GAO in 2018-2020 (million USD) and change in 2020 compared to corresponding periods in 2019 (%)**

Country	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Azerbaijan	2018	170.6	159.3	156.5	212.0	344.0	843.0	525.0	395.9	528.2	311.0	242.2	231.2	4 119.1
	2019	183.9	172.2	168.8	227.1	393.5	1 010.9	456.2	441.6	625.9	368.3	271.8	279.0	4 599.2
	2020	197.2	188.9	188.4	258.0	441.1	1 128.0	492.3	472.1	654.7	379.4	285.9	272.2	4 958.2
	2020/2019, %	7.3	9.7	11.6	13.6	12.1	11.6	7.9	6.9	4.6	3.0	5.2	-2.4	7.8
Kazakhstan	2018	342.4	368.8	502.1	491.8	563.3	787.3	859.5	1 300.1	3 841.6	1 689.9	959.8	648.2	12 354.8
	2019	335.8	346.5	467.2	458.1	544.9	777.5	905.4	1 447.8	4 215.2	2 212.7	1 026.3	798.8	13 536.3
	2020	385.3	393.8	489.9	451.9	551.6	840.5	977.0	1 762.4	4 710.9	2 271.6	1 231.2	816.6	14 882.9
	2020/2019, %	14.7	13.6	4.9	-1.3	1.2	8.1	7.9	21.7	11.8	2.7	20.0	2.2	9.9
Kyrgyzstan	2018	102.9	108.6	114.1	125.8	152.7	208.0	418.6	430.4	683.6	331.3	175.5	113.0	2 964.4
	2019	107.7	113.7	115.3	127.1	157.5	238.5	439.5	387.5	715.8	357.7	182.4	209.5	3 152.2
	2020	111.0	119.3	116.1	111.8	172.1	237.1	443.9	429.7	725.5	375.1	164.4	163.6	3 169.8
	2020/2019, %	3.1	4.9	0.8	-12.0	9.3	-0.6	1.0	10.9	1.4	4.9	-9.9	-21.9	0.6
Tajikistan	2018	42.4	35.2	62.8	53.7	119.4	435.6	360.6	331.8	480.0	375.6	307.1	231.5	2 835.7
	2019	45.4	37.5	64.2	54.2	128.6	495.3	384.8	322.0	472.0	404.4	273.8	218.3	2 900.4
	2020	50.7	44.3	67.2	75.4	176.3	508.1	408.6	366.6	586.6	418.2	293.0	227.6	3 222.5
	2020/2019, %	11.6	18.1	4.5	39.0	37.1	2.6	6.2	13.9	24.3	3.4	7.0	4.3	11.1

Sources: National statistical agencies.

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