

THE CENTRAL BANK OF
THE REPUBLIC OF ARMENIA

*Approved under the Central Bank Board
Resolution No. 46A, dated March 31, 2020*

Inflation Report

Monetary Policy Program, Q1, 2020



*Status Report on Implementation of the Monetary
Policy Program, Q4, 2019*

The inflation targeting strategy of the Central Bank of Armenia highlights the importance of communicating of the Bank to the general public by publishing, inter alia, quarterly inflation reports.

The first section of the inflation report includes the Monetary Policy Program that provides main directions of the monetary policy in the forecast horizon as well as forecasts of inflation and other macroeconomic indicators. These forecasts are based on the Bank's assessment of the current situation and future assumptions by the Bank, which also include the impact of the Bank operations.

The second section includes status report on implementation of the monetary policy program of the previous quarter, which presents the results of monetary policy implementation and covers the actual developments in the domestic economy.

Publishing of inflation forecast and assumptions underlying it makes the monetary policy of the Bank more transparent, understandable and predictable, which considerably increases the public confidence in the Bank. The Bank believes that a clear and trusted monetary policy positively affects the anchoring of inflation expectations and maintaining financial stability in terms of cost reduction.

According to the rule of monetary policy, the policy is aimed at minimizing the deviations between the 4% target and the inflation forecasts. The path to inflation rate shaped as a result of projected policy directions is published as a forecast probability distribution chart for the 12-quarter time horizon.

Projections in this report are based on the actual information available by March 17, 2020, i.e. the day on which the refinancing rate was set, the results of a survey conducted by the Bank and the judgment made pursuant to the information on future developments of the macroeconomic environment.

All inflation reports which have been published to date are available on the Bank's website (www.cba.am) which also contains all press-releases and other monetary policy-related publications.

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NOTICE

The forecasts in this report are based on the information available as of March 17, 2020 - the interest rate decision date. The current state of public health in the world and of the global economy is extremely uncertain, which makes any forecast and even short-term quantitative assessment highly conditional. The situation is changing every day, and a large amount of new information available at the time this report is released has not been incorporated in the published forecasts. We believe, however, that the aim of the Inflation Report is not only the accuracy of the forecasts, but also the transparency of monetary policy decisions, as well as the communication of the Central Bank's judgments in the time of unprecedented economic uncertainty. The quantitative figures in the forecast are conditional and serve mainly as a guiding baseline scenario. As the situation may unfold in different ways, the Central Bank is constructing a wide range of alternative scenarios and is ready to react to any development to ensure price stability.

1. EXECUTIVE SUMMARY

The outbreak of COVID-19 in China, the resultant coronavirus pandemic spreading rapidly around the world and the measures taken to fight it have significantly affected the macroeconomic and financial market developments both globally and in Armenia. The forecasts and program directions for the first quarter 2020 were, therefore, carried out in the time of uncertainty - even greater in terms of quality and quantity - in contrast to the previous quarters.

The Armenian economy and global economy continue to be affected by the shock, but the statistical data we have do not so far enable to make the smallest amount of preliminary estimates of the economic impact of the shock, at least on the example of other countries. That is why the current forecasts in Armenia and around the world will, after the publication of the data for the first quarter, most likely be subject to significant adjustments. Under the forecasts, increased vagueness is reflecting even a wider range of uncertainty over inflation and other key macro-indicators.

According to the basic scenario, the inflation environment remained low over the first quarter of 2020, and the Central Bank continued pursuing a stimulative monetary policy.

In view of the current monetary policy and expected economic developments, the 12-month inflation will be running low for a while. The inflation will recover gradually in the medium term and stabilize around the target at the end of the forecast horizon.

Healthcare-related matters will cause decreases in supply and demand in the economy, the impact of which on inflation is quite uncertain, mainly being assessed as near-to-neutral. At the same time, thanks to low-inflation-steered policy conducted in recent years, inflationary expectations in the Armenian economy are now assessed as rather anchored, which serves well for maintaining price stability in the current situation.

In response to the currently low inflation, anticipated deflationary effects of the global economy and growing uncertainties, ***the Central Bank Board decided to add to the monetary stimulus by cutting the refinancing rate by 0.25 pp. Meanwhile, risks were increasingly observable in all developing countries in the past month, which, all else being equal, makes the monetary stance more expansionary.*** The Board believes that implementing possibly a more transparent and predictable monetary policy is important in view of anchoring inflationary expectations.

On the back of the coronavirus pandemic and anti-epidemic measures, Armenia's economic growth will decrease considerably in 2020 but will return to the potential level in the forecast horizon, as uncertainties retreat.

To neutralize negative effects of the new type coronavirus on the Armenian economy, the Armenian government works on developing fiscal incentives. Extra spending of about AMD 150.0 billion is envisaged, which, however, is not included in this Program: the expenditure directions and plans are still in the pipeline, so assessing the possible course of expenditures and measuring their impact on aggregate demand is difficult at the moment.

In the forecast horizon, risks to the inflation path and economic growth are generally high and tend to either direction, depending on the length of the epidemic situation and the pace of anti-epidemic measures (see subsection 2.2.4 “Main assumptions and risks”). To assess the risks, the Central Bank is developing and considering different alternative scenarios and is ready to respond, while fulfilling the goal of price stability in the Republic of Armenia.

2. FORECAST, FORECAST CHANGES AND RISKS

Box 1

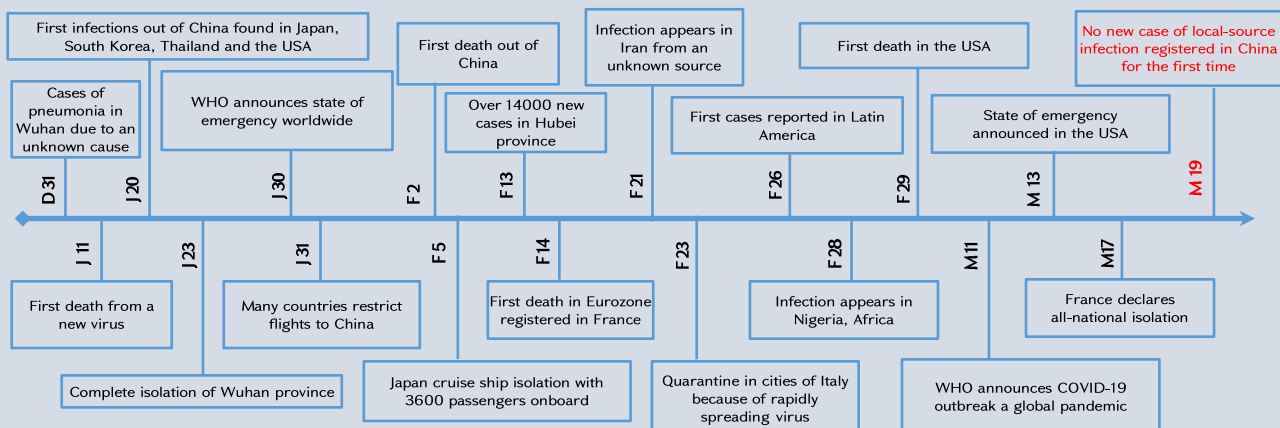
The impact of coronavirus on the world economy

The coronavirus spread

On December 31, 2019, the health authorities of the Chinese province of Wuhan announced that they had encountered with many cases of pneumonia resulted from an unknown cause. A few days later, researchers discovered the cause of pneumonia, a new coronavirus (COVID-19) infection that often occurs in humans and causes respiratory diseases, from common cold to pneumonia¹. The mortality rate from COVID-19 is estimated at 3-5%, while the mortality rate from Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS), previously classified as coronavirus infections, has proved much higher².

Chart

The coronavirus infection spread chronology



As of March 24, 2020, there were 409014 confirmed cases, 18246 deaths and 106593 recoveries registered in the world. The number of confirmed infections was 81591 in China, 69176 in Italy and 49786 in the United States. The death toll in China was 3281, in Italy, 6820 and in the United States, 606. As much as 73280 people recovered in China and 8326 in Italy.

Despite the actual cases of infection with Covid-19 coronavirus in the country, almost all countries around the world, in parallel with the global spread of the infection, have taken numerous health measures, including

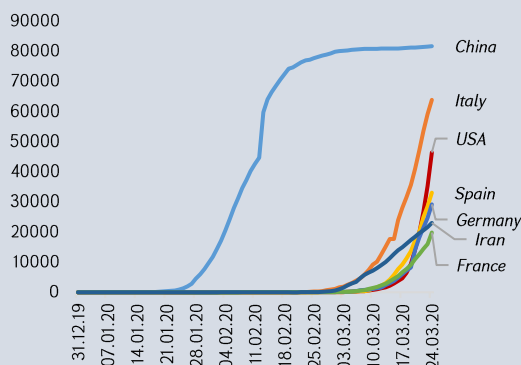
¹ Mesel-Lemoine M, Millet J, Vidalain PO, et al. (2012) – A human coronavirus responsible for the common cold massively kills dendritic cells but not monocytes. *J Virol.* 2012;86(14):7577–7587. doi:10.1128/JVI.00269-12

² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3416289/>

² World Health Organization.

Chart 1

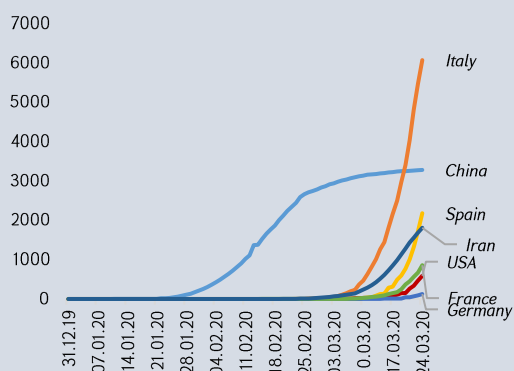
Number of confirmed COVID-19 cases



Source: Our world in data

Chart 2

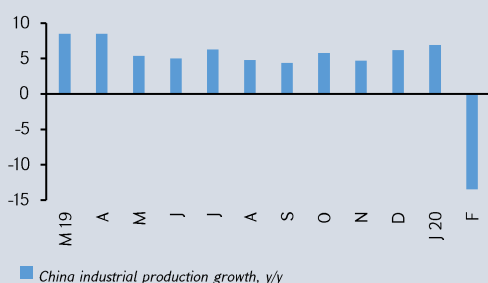
Number of confirmed COVID-19 deaths



Source: Our world in data

Chart 3

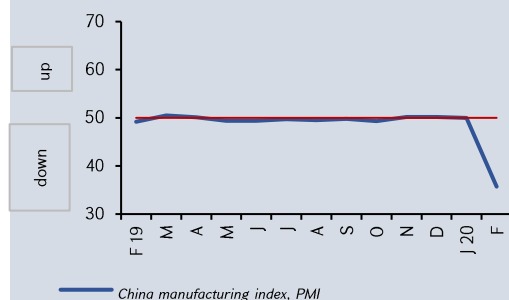
China industrial production growth, y/y



Source: <https://www.investing.com/economic-calendar/chinese-industrial-production-462>

Chart 4

China manufacturing index, PMI



Source: <http://data.stats.gov.cn>

temporarily closing state borders, suspending passenger traffic, restricting the movement of people, and calling for self-isolation of people, first with China and then the rest of the world, restrictions on almost all types of economic activity, as well as other measures. The goal of these measures is to prevent the rapid growth of infections in a short period of time, which in the case of limited healthcare capacities can lead to hospital overcrowding and, consequently, high mortality. As a result of the measures taken, the health authorities of the countries are having the opportunity to receive a smaller number of patients per unit of time, to provide them with more effective medical care thus reducing the risk to deaths.

The economic impact of coronavirus

The impact of the new type coronavirus outbreak and rapid spread in China on global economic developments is estimated extremely adverse. This is already reflected in the disruption of world production chains, tourism and transport services, in the fall in commodity prices, and in the deterioration of performance in financial markets. In contrast to the global financial crisis in 2008, which led to a sharp drop in demand, the impact of the coronavirus pandemic proved far greater on the supply, forcing the labor supply to shrink, both voluntarily and compulsorily, bringing production chains to a halt.

In order to prevent the outbreak of COVID-19 infection, the Chinese authorities arranged lockdowns for cities, restricted the movement of millions of people and suspended business activities and operations, which slowed down the growth rate of one of the world's largest economies and that of the global economy. In January-February of 2020, China saw double-digit declines in industry, retail commerce, and investment.

The slowdown in China's economic growth was already reflected in the February PMI Index.

According to the data of the first two months of 2020, China's exports suffered most, as the rapidly spreading infection disrupted business operations, global manufacturing chains and economic activity.

The spread of coronavirus in more than 150 countries has deteriorated the decline in the global economy and financial markets. The country's policymakers were faced with the dilemma, since preventing the spread of the infection would only be possible only at the cost of slowing down economic activity.

Many countries around the world, including the United States, and major eurozone member states, such as Italy, Germany and France, have acted upon China for the applied restrictions. As a result, the slowdown in global economic growth has become inevitable. According to IMF estimates, global economic growth in 2020 will be negative, which will be restored in 2021³.

The sharp decline in the Purchasing Manager's Index for the US and Eurozone in February-March 2020 points to a decline in the economy, which is attributable to isolation of people due to anti-epidemic measures.

³ Source: <https://www.imf.org/external/mmedia/view.aspx?vid=6144138845001>

COVID-19 infection has a particularly negative impact on the sectors of the economy whose output is linked to people's social interactions, primarily on the tourism industry and activities of eateries. According to the World Travel and Tourism Council (WTTC), as a result of COVID-19, global travel in 2020 may be reduced by 25%, which will lead to job cuts⁴, as well as to the slowdown in GDP, as the weight of tourism in world GDP⁵ is 10.4%.

Commodity and food product markets

In the time of increasing uncertainties and risks to the global economy, commodity markets have also fallen sharply. Especially noteworthy is the drop in oil prices, with the supply factor having added to expectations and a sharp decline in demand. In the midst of declining oil prices since the beginning of the year, an OPEC+⁶ meeting on March 6, 2020 called for an additional cut in the oil supply in order to prevent a significant drop in prices. At the meeting, however, Saudi Arabia and the Russian Federation did not agree on an additional proposal to reduce or extend the current agreement. Immediately after the meeting, both Russia and Saudi Arabia announced a significant increase in oil production in a short period of time (0.3-0.5 million and about 2 million b/d, respectively). What's more, Saudi Arabia has significantly reduced its official oil sale prices, as well. Following the news, international stock exchanges opened with nearly a 30% drop in oil prices, which was the maximum daily decline after the Gulf War in 1991. It should also be noted that after the failure of the deal, the volatility of oil prices has significantly increased.

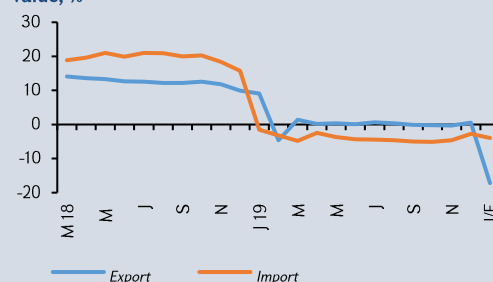
The collapse of the OPEC+ market, in fact, marked the beginning of price wars aimed at increasing the share of lower-cost oil producers in the world market. According to our estimates, world oil prices will recover somewhat during the year, stabilizing at levels lower than previously expected, due to the new balance in oil demand and supply and more competitive oil market hereafter.

Developments in the financial markets

Mounting uncertainty over the spread of the coronavirus in the global economy has led to a sharp rise in demand for liquidity in the financial markets, with capital flowing from developing countries to developed ones, from highly volatile assets (eg stocks) to stable, safe assets (government securities). As a result, according to the IMF, the world saw historically the largest outflow of capital from developing countries, in an amount totaling about USD 83.0 billion⁷.

Chart 5

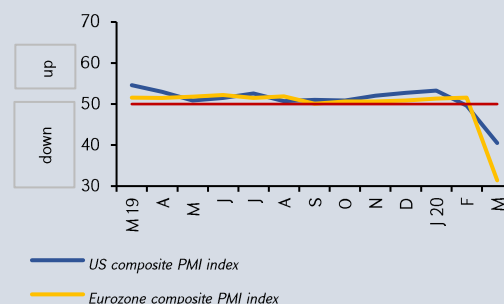
China export and import cumulative growth in dollar value, %



Source: <http://data.stats.gov.cn>

Chart 6

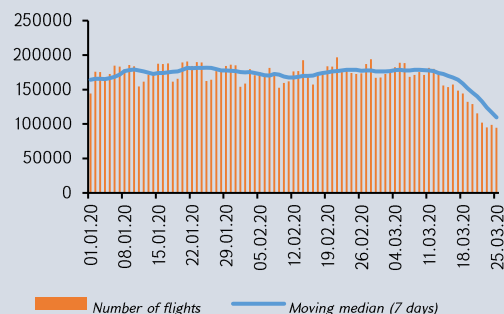
Composite PMI



Source: IHS Markit

Chart 7

Number of daily flights



Source: <https://www.flightradar24.com/data/statistics>

⁴ Source: <https://www.wttc.org/about/media-centre/press-releases/press-releases/2020/coronavirus-puts-up-to-50-million-travel-and-tourism-jobs-at-risk-says-wttc/>

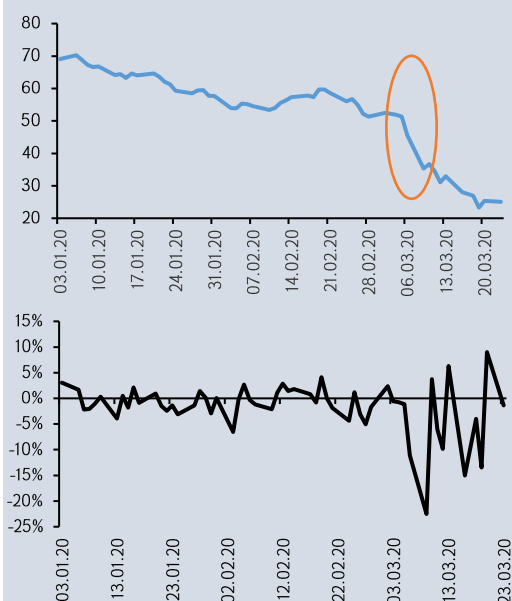
⁵ Source: <https://www.wttc.org/-/media/files/reports/economic-impact-research/regions-2019/world2019.pdf>

⁶ Note that the OPEC+ format consists of both permanent OPEC member and 10 non-member countries, including Russia, which altogether account for about 45% of the global supply.

⁷ IMF Managing Director K. Georgieva's statement after the G20 ministerial emergency meeting on coronavirus: <https://www.imf.org/en/News/Articles/2020/03/23/pr2098-imf-managing-director-statement-following-a-g20-ministerial-call-on-the-coronavirus-emergency>

Chart 8

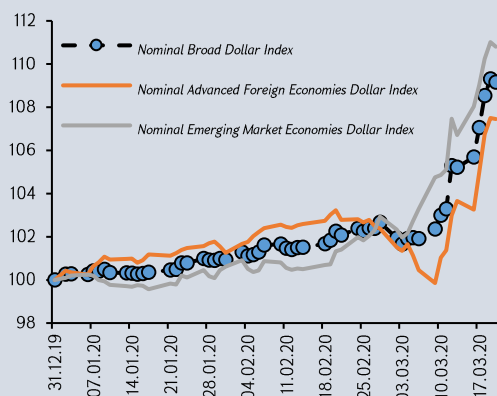
Crude-Brent price daily dynamics and volatility in 2020



Source: <https://fred.stlouisfed.org/series/DCOILBRETEU>
(trade session closing prices)

Chart 9

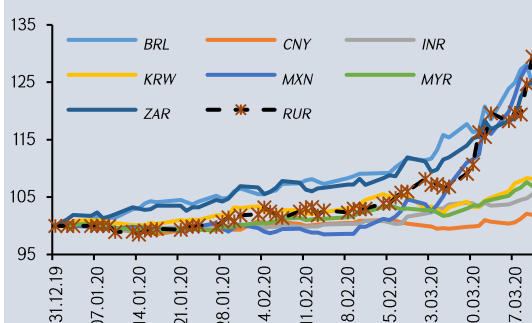
US dollar exchange rate versus countries' baskets in 2020 (31.12.2019=100, growth means appreciation)



Source: US Fed: <https://www.federalreserve.gov/data.htm>:

Chart 10

Some developing countries' national currency versus the US dollar in 2020 (31.12.2019=100, growth means dollar appreciation)



Source: US Fed: <https://www.federalreserve.gov/data.htm>,
and Bank of Russia: https://cbr.ru/eng/currency_base/.

In the light of the above-mentioned developments, national currency depreciation has recently been observable in many developing countries, which has been pronounced in some countries. The US dollar appreciated relative to the currency baskets of both developing and developed countries (see Chart 9), and the appreciation was significant in oil-producing countries (see Charts 10-11).

It should be noted that when such shocks arise, the demand for high-liquid major currencies (reserve currencies) increases sharply, not only domestically, but also globally. This factor explains why the monetary policy of central banks of developed countries, all else being equal, is much more expansionary. In fact, one may note, in the case of developing countries, the amount of monetary stimulus from central banks depends on the demand for liquidity in the national currency in their own economy.

In order to meet the demand for dollar liquidity in international financial markets, the US Federal Reserve expanded the geography of swap transactions by adding to the list of current transactions (Canada, the European Union, the United Kingdom, Japan, Switzerland) USD 60.0 billion-worth temporary transactions (Mexico, Brazil, South Korea, Sweden, Singapore and Australia) and USD 30.0 billion-worth temporary transactions (Norway, Denmark, New Zealand).

Many developed countries have announced over the past 1-2 weeks on going for significant expansionary monetary and fiscal policies to meet the demand for liquidity in the global economy. In particular, in order to meet the high demand for liquidity in the private sector, the US Federal Reserve cut the policy rate first by 0.5 pp, then by 1.0 pp, bringing it closer to zero, in fact pushing part of financial flows to riskier assets to ensure the smooth functioning of financial markets. Then, on March 23th, the Fed announced an unprecedented package of stimulus for the economy with monetary and macroprudential instruments, which increased the scope of asset purchases, making them actually unlimited (municipal and corporate bonds will be purchased, too) and presented direct and indirect tools to boost up the businesses (both large employers and small and medium-size businesses). The European Central Bank also announced the implementation of an unlimited asset purchase program and the expanding of the list of assets to be repurchased. For the moment, Canada, Great Britain, Australia, and etc. are conducting an expansionary monetary policy. It should be noted that most developed countries have also prepared large packages of fiscal stimulus, which reach 10-15% of GDP (USA, Australia, Austria, Great Britain, France), and even more of GDP in some other countries (Spain, Germany).

Unlike developed countries, where the direction of monetary policy is, in fact, clear, central banks of developing countries, historically, have always faced a policy dilemma. On the one hand, there is a need to stimulate aggregate demand, on the other hand, to tighten the monetary policy, as public confidence in the central banks in these countries is not high, so inflationary expectations are not sufficiently anchored, and high level of dollarization persists. However, in recent years, some developing countries have made some strides in achieving low and stable domestic

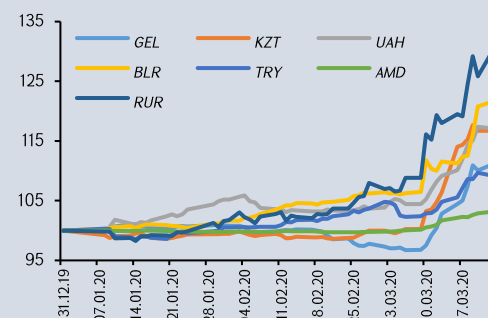
inflation by anchoring inflation expectations and enhancing confidence in monetary policy, which has often been concomitant with retreating dollarization. This progress, in fact, has allowed these countries to even ease their policy and pursue a more stimulative monetary policy in the current situation (see Chart 12).

Historically, in the time of such shocks, developing countries have largely shifted to a more contractionary monetary policy. Current developments in some of our regional partner countries are illustrated below as an example:

- On March 10, 2020, as the national currency was depreciating and inflationary expectations increasing, the National Bank of Kazakhstan raised the refinancing rate by 2.75 percentage points to 12%, yet depreciation of the tenge continues at a faster pace after the tightening.
- The Central Bank of Georgia is facing that depreciation and high inflation problem too, leaving the policy rate unchanged⁸ while selling foreign currency (so far an amount reaching USD 60.0 million) in the currency market, yet the lari continues to depreciate considerably. In March, the currency's depreciation was nearly 25%.
- The Central Bank of Russia also left the policy rate unaltered⁹, while noting that both to raise and to cut options had also been considered thoroughly, adding that as risks are growing at the moment, the unchanged policy rate would provide for more expansionary monetary conditions.

Chart 11

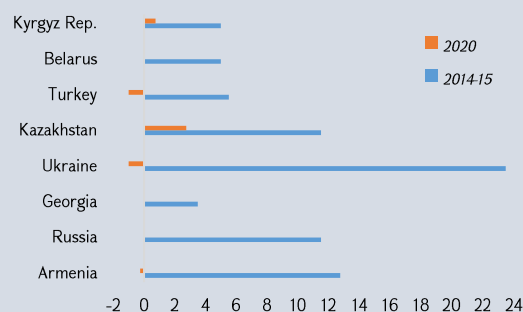
Regional countries' national currencies versus the US dollar in 2020 (31.12.2019=100, growth means dollar appreciation)



Source: central banks of the countries mentioned

Chart 12

Regional countries' monetary policy response to the liquidity shock in 2014-15 and 2020 (up to now)



Source: central banks of the countries mentioned, Central Bank estimates

⁸ The Central Bank of Georgia made the decision on the policy interest rate on March 18th. <https://www.nbg.gov.ge/index.php?m=340&newsid=3882>:

⁹ Note that the Central Bank of Russia cut the policy rate on February 7th by 0.25 percentage points to 6%:

https://cbr.ru/eng/press/pr/?file=07022020_133000Key_eng.htm, then left it unchanged as a result of the March 20th meeting:

https://cbr.ru/eng/press/pr/?file=20032020_133000Key_eng.htm:

2.1. External environment

Shortly after uncertainties about the global economy, hit by trade wars, were about to end, the world started bearing the brunt of the spread of a new type coronavirus in early 2020. Nonetheless, with current economic climate and in the event uncertainties grow, there is prediction that the slowdown in the world economy will continue up until the end of the first half of 2020. Following the slowdown at the beginning of the year, the world economy is expected to somewhat accelerate over the second half of the year. In particular, according to the baseline scenario, economic growth will slow in the United States, Eurozone and Russia - main trade partners to Armenia - in the first half of 2020 and will bounce back in the second.

Economic developments in the United States: According to the U.S. Bureau of Economic Analysis estimate, economic growth in the USA in the fourth quarter of 2019 was 2.3% y/y, driven mainly by continued positive private consumption. The 2019 economic growth was an estimated 2.3%, which is the lowest in the past three years. The unemployment rate in the fourth quarter of 2019 slightly dropped to 3.5%. As the world economy slows down, the US economic growth rate is predicted to decelerate in 2020: the growth for 2020 is estimated at 0.5%, but the forecast risks are trended downward due to the possible deeper impact of the coronavirus on the US economy.

In the USA in the fourth quarter of 2019, the quarterly personal consumption expenditure price index¹⁰ averaged 1.3%, persisting below the US Fed's medium-term target. Given current growth developments and fewer uncertainties over trade wars, the Fed kept the policy rate in a 1.50-1.75% range up until January 2020 (inclusive), after the October 2019 cut. At extra meetings convened in March, the US Fed reacted to the volatility of financial markets and increased uncertainty by reducing the policy rate first by 0.5 pp and then by 1.0 pp, setting it in the range of 0.0-0.25%, and announced the resuming of a USD 700 billion-worth quantitative easing program. The policy rate cut was aimed to meet high demand for liquidity by financial markets amid increasing economic uncertainties. Although inflation on personal consumption accelerated to 1.7% in January due to the month's increase in oil prices, the inflation rate is expected to slow on a back of falling commodity prices and slowing demand because of the spread of coronavirus. Given such developments in the economy and prices, it is expected that

¹⁰ The personal consumption expenditure price index target is 2%, which on average is commensurate with headline inflation of 2.4%.

the US Federal Reserve will continue pursuing a low interest rate policy.

Economic developments in the Eurozone: According to preliminary estimates by the Eurostat, economic growth in the Eurozone in the fourth quarter of 2019 was 1.0% y/y, with a growth indicator of 1.2% estimated for 2019. The slowing of the growth in the Eurozone resulted from a slowdown of economic growth in France and Italy - two principal member states - amidst a sluggish external demand. The unemployment rate in the Eurozone slightly declined to 7.4%. In 2020 the Eurozone economy is expected to slow down: it is an estimated 0.1%. The decline in the economy will be more pronounced in the second quarter, but will recover a little at the end of the year. However, individual member states in the Eurozone face a risk of a further economic decline due to current healthcare problems.

In the Eurozone in the fourth quarter of 2019, the average quarterly inflation decelerated to 1.0%, running below the European Central Bank's target. The low inflation owed primarily to low energy prices; in the fourth quarter, core inflation averaged 1.0%. In anticipation of low inflation and weak economic growth, the ECB announced that it would further pursue a low interest rate policy and resume, if need be, the program of quantitative easing through purchases of assets.

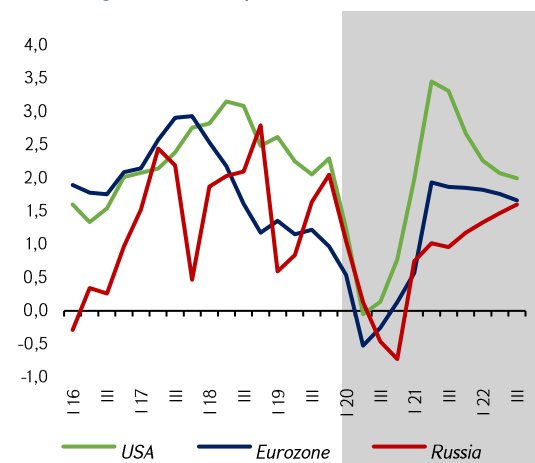
Economic developments in Russia: According to the Central Bank of Armenia estimates, Russia's economic growth in the fourth quarter of 2019 was 2.0% y/y. The 2019 economic growth was an estimated 1.3%, with decline mostly attributable to weak external demand. Unemployment in Russia in the fourth quarter rose slightly to 4.6%. Russia's economic growth in 2020 is expected to be zero due to the global health and economic crisis, as well as low oil prices. The risks associated with economic growth are on a downside path.

In the fourth quarter of 2019 the average quarterly inflation in Russia slowed to 3.4% from that of 4.3% reported in the previous quarter, running below the target value of 4%. Further on a declining path, inflation in January even subdued to 2.4, a level below the target, thanks to low price inflation on services and food products and owing to a baseline impact of inflation that had expanded after a VAT increase in January 2019. With inflation decelerating, the Bank of Russia cut the policy rate in the fourth quarter of 2019 by 0.75 pp (another 0.5 pp was lowered in February 2020) to 6.0%. As inflation expectations prove volatile, actual inflation trends downward, and there are more risks to the global economy, the Bank of Russia is expected to continue easing the monetary conditions¹¹.

¹¹ At its March 20th meeting, the Bank of Russia kept the policy rate at 6.0% determined by the increase in short-term inflation risks.

Chart 13

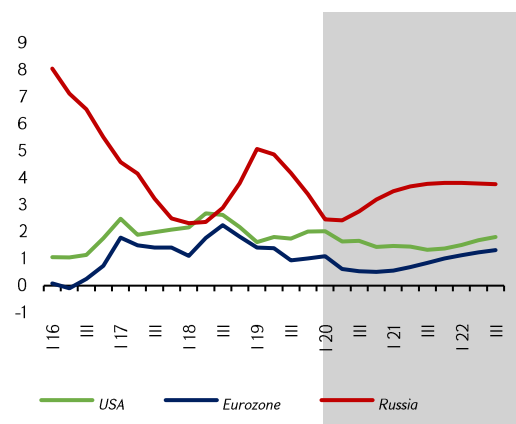
Economic growth in trade partner countries, %



Source: Bureau of Economic Analysis, Eurostat, Rosstat, Central Bank forecast

Chart 14

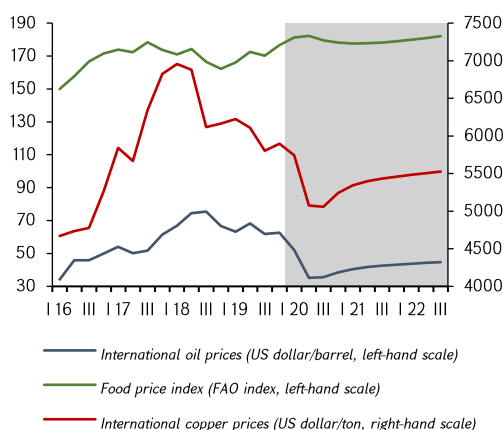
Inflation in trade partner countries, %



Source: Bureau of Labor Statistics, Eurostat, Rosstat, Central Bank forecasts

Chart 15

International prices of raw materials and food products



Source: World Bank, FAO, Central Bank forecast

Developments in world commodity and food product markets:

In the fourth quarter of 2019, basic commodity and food product markets further saw a low-price environment due to a sluggish global demand and trade tensions.

Demand in the copper market slackened amid uncertainties over trade wars led to a 0.4% price growth q/q in the fourth quarter of 2019. Compared to the previous quarter, international oil prices rose this quarter by 1.2% q/q. The slightly recovered commodity prices owed to the diminishing US-China trade tensions. In 2020 international prices of raw materials, particularly copper and oil, will fall sharply on the back of weakening world economy due to the coronavirus. At their March meeting, OPEC+ member states could not reach an agreement on reducing oil production, which facilitated the shaping of even lower levels of oil prices.

In food product markets in the fourth quarter of 2019, relative to the previous quarter, almost all groups reported price increases largely due to reduced production volumes. In the short term, if uncertainties in the global economy persist, a weak inflationary environment in basic food product groups will be observable.

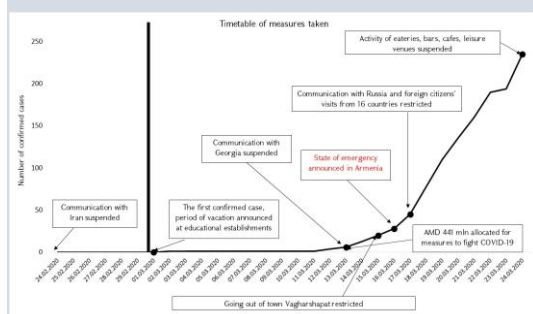
2.2. Forecasts**Box 2****The impact of coronavirus on the world economy****The coronavirus spread in Armenia**

The first mass outbreak of COVID-19 coronavirus infection in the region was recorded in late February, in Iran, and the communication with Iran was temporarily limited on February 24th. The first confirmed case of coronavirus in Armenia was registered on March 1, 2020, and the acceleration of the spread rate in Armenia started from March 13th.

In order to prevent the spread, and as part of measures to fight the epidemic, the Armenian Government declared, on March 16, 2020, a state of emergency in the Republic of Armenia (Chart 18). Following the 235 cases confirmed as of March 24th, the orders to people's self-isolation came in stricter, the movement of citizens, as well as a number of activities in the field of services and industry, including manufacturing, trade, cafes, eateries, and gambling were restricted.

Chart 16

Timetable of measures taken in Armenia



Source: RA Ministry of Health National Center for Disease Control and Prevention, e-Government of the Republic of Armenia

The economic impact of coronavirus

The spread of coronavirus both in the world and Armenia, as well as anti-epidemic measures against it, will sharply reduce economic activity over 2020, according to the Central Bank. The negative impact will materialize primarily in the second quarter of 2020 and will be reflected in the following directions.

- Given the speed of the coronavirus spread, the time for treatment, and the need to isolate patients, it will be impossible for many workers to go to work, which will reduce labor supply in the economy. In addition, as the Government announced restrictions on certain types of activities, the output of these branches will just be reduced.
- In the time of self-isolation, limited mobility, as well as increased uncertainty about the future, consumption of durable goods will decline substantially, while industries directly related to social contact (especially tourism, public catering, entertainment, travel, personal services) will suffer significantly. At the same time, demand for non-durable consumer goods will increase. In general, domestic demand and imports will reduce.
- External demand for local goods and services will decrease along with implementation of similar anti-epidemic measures around the world, amid narrowing international passenger flows.
- In the time of increasing uncertainty, private investment will decline considerably, including on the back of limited construction activities.

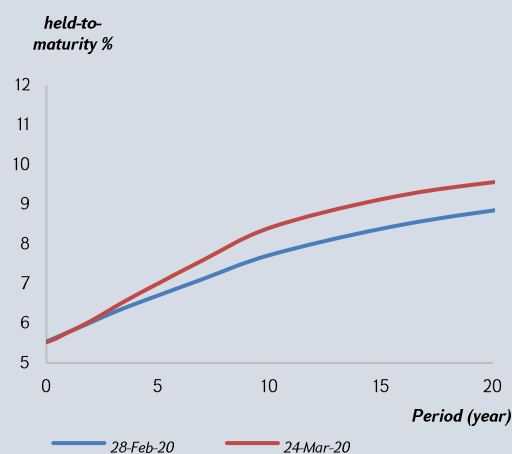
So, one may presume that the slowdown in economic activity will be reflected in both reduced supply and demand, in which case the impact on inflation is quite uncertain, yet it is largely assessed as neutral.

Such developments, all else being equal, will also result in increased unemployment, but the impact on the labor market will largely depend on how fast and effective the Government's action will be and how long the pandemic will last.

The Armenian government is developing fiscal incentives to neutralize the negative effects of the coronavirus on the Armenian economy. The slowdown in economic activity will obviously affect tax collection, and the conservative scenario the Central Bank has considered points to maintaining the 2019 Tax-to-GDP ratio. In terms of public expenditures, the Government is developing an economic assistance package of about AMD 150.0 billion or 2.2% of GDP, the discussion of the package is underway, and its impact on the economy will be possible to measure after support mechanisms for channeling the resources, scope and timing is clarified.

The spread of COVID-19 has also influenced the Armenian financial market. The uncertainty at the moment has led to a certain increase in demand for local and foreign currency liquidity in the banking system. At the same time, high volatility observable in partner countries has prompted businesses to revise their expectations which, in turn, has increased the volatility of the dram exchange rate. As a result, the statements made and the tools applied by the Central Bank to mitigate the adverse effects on the financial system are mostly aimed at ensuring financial stability.

Chart 17
Government bond yield curves



Source: Central Bank

In the current situation, the Central Bank continued to inject a required amount of dram liquidity into the system through its main tool, while letting the short-term interest rates stabilize around the policy rate of the Central Bank. In addition, in view of the temporary nature of demand for foreign currency liquidity, the Central Bank furnished banks with a required amount of funds using the swap currency tool.

During this period, short-term interest rates in the financial market continued shaping around the refinancing rate of the Central Bank, whereas current uncertainties were reflected in medium-term and long-term government bond yields: the yield curve of treasury bills shows that the average growth of yields in mid-term segment was about 0.2 pp, and in the long term segment, 0.6 pp.

2.2.1. Inflation and monetary policy

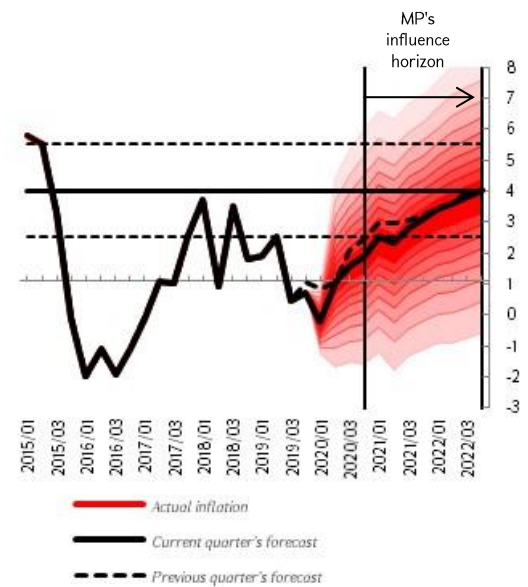
Inflation remained low during this quarter. The expectation is that the coronavirus effect will push down global economic growth rates markedly, causing deflationary pressures on the Armenian economy through shrinking external demand and falling commodity prices. At the same time, the real sector of the Armenian economy will obviously incur short-term negative effects, as well. The Central Bank considers that the toolkit of the monetary policy is not effective for responding to the current crisis, as the primary shock is health-related. In order to minimize the potential damage to the economy in this time of uncertainty, developing an anti-crisis policy using appropriate tools that target most vulnerable sectors of the economy and less protected segments of society will be needed. Also, in order for the Government to take measures at maximum efficiency, maintaining an overall macroeconomic stability, including price stability, is, more than ever, crucial. So, in view of a long-term price stability objective, considering how the current inflation will behave and economic uncertainty unfold, the Central Bank has decided to cut the policy rate by 0.25 pp. As a result, the inflation will remain low in the upcoming months, reaching 1.9% by the end of 2020, and will gradually approach the target in the medium-term perspective.

It is estimated that the impact of the spread of coronavirus on the real sector of the Armenian economy will be observable starting the second quarter, which will be reflected in both reduced aggregate demand and aggregate supply. As a result of these developments, the change in the GDP gap will not change notably and the gap will linger in the negative territory. On the other hand, expansionary monetary conditions and the budgetary stimulus are expected to facilitate the closing of the GDP gap gradually, from the second half of the year, and in light of the aforementioned developments the gap will turn positive next year, contributing to the gradual recovery of inflation. In the medium term, the impact of fiscal policy is predicted to be neutral, and the GDP gap will gradually come up to zero. Under the above-described outlook of fiscal and monetary policies, the inflation will begin to rebound, after running low, in the coming quarters. Thanks to a consistent policy by the Central Bank, short-term inflation expectations of the public are estimated virtually intact on the back of current inflation and, particularly, core inflation developments, and remain anchored even if the currency market saw certain patterns of depreciation lately.

As a result, the Central Bank Board decided to cut the policy rate by 0.25 pp to bolster the monetary stimulus. Note that all developing countries have seen increased risks in the course of the last month, which, all else being equal, makes the monetary stance more expansionary. In anticipation of macroeconomic developments and uncertainties, the Central Bank continues to develop various scenarios and is determined to react to the risks if they materialize, while fulfilling the price stability objective.

Chart 18

Inflation (12-month) forecast probability distribution for 3-year horizon



Source: RA Statistics Committee, Central Bank forecast

Table 1

Period	Inflation interval forecast probability distribution				
	<1.0%	1.0-2.5%	2.5-5.5%	5.5-7.0%	>7.0%
Q1, 2020	96.1%	3.9%	0.0%	0.0%	0.0%
Q2	50.3%	27.5%	21.0%	0.9%	0.3%
Q3	40.1%	26.0%	30.1%	3.0%	0.9%
Q4	35.1%	23.3%	33.9%	5.4%	2.3%
Q1, 2021	24.8%	22.1%	40.9%	8.5%	3.6%
Q2	25.7%	23.6%	40.7%	7.4%	2.7%
Q3	19.5%	21.7%	44.8%	9.9%	4.1%
Q4	17.0%	20.8%	46.4%	11.1%	4.8%
Q1, 2022	14.6%	19.5%	47.4%	12.5%	6.0%
Q2	13.1%	18.8%	47.9%	13.4%	6.8%
Q3	11.3%	17.5%	48.4%	14.7%	8.1%
Q4	9.6%	16.1%	48.6%	16.1%	9.6%

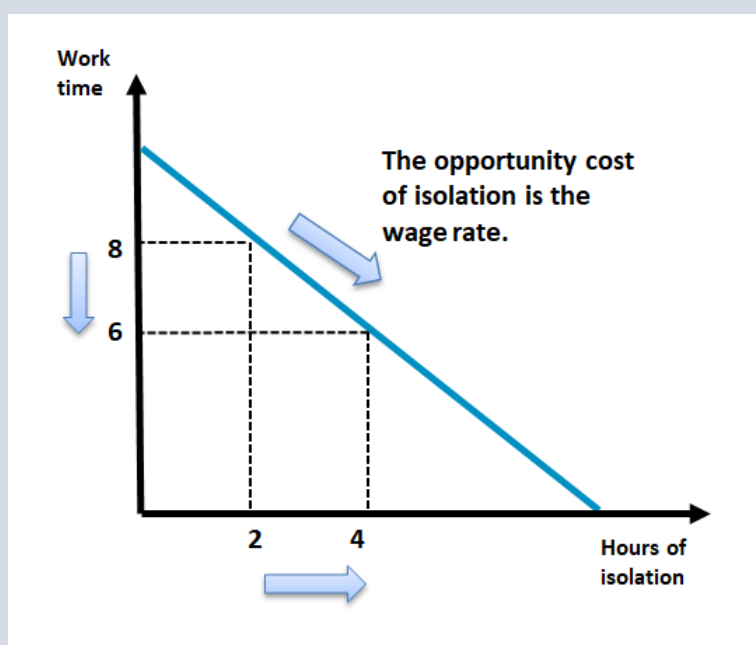
Health shock modeling within the New Keynesian framework

The spread of the new coronavirus pandemic necessitated the modeling of the shock in the healthcare system in order to understand the impact it would have on the decisions of economic agents and how the monetary policy would respond to that shock.

To answer the above questions, we consider a standard Dynamic Stochastic General Equilibrium model, which is a closed economy model with three agents: households, firms and central bank.

In the current situation, incorporating health into the model is very important, since coronavirus is a shock and first of all it has a negative impact on health. This was done as follows: health is considered to be a stock that is accumulated over time, depending on health condition of the previous period, the use of healthcare products and services, and hours spent in isolation. In other words, like all other stocks, health has a tendency to depreciate and in order to restore health, it is necessary to make investments consisting of medical products and hours of self-isolation. Notice, that the opportunity cost of the isolation is the level of real wage in the non-health sector of the economy, as households could use the time spent in isolation by working and getting the wage.

Figure 1
Alternative isolation cost



Thus, the (H_t) accumulation process of the health stock is described through the following equation:

$$H_{t+1} = (1 - \delta_h)H_t + C_{H,t}^{\alpha_h} (w_{N,t}^r N_{M,t})^{1-\alpha_h} + \varepsilon_t^{\text{covid-19}}$$

where: δ_h is the depreciation rate, $C_{H,t}$ is the health goods, $N_{M,t}$ are the hours of isolation, $w_{N,t}^r$ is the real wage in non-health sector, and $\varepsilon_t^{\text{covid-19}}$ is the health shock. Note that investment in healthcare is presented in the form of Cobb-Douglas production function, using variables $C_{H,t}$ and $N_{M,t}$ as resources.

As to the production sector, **firms** are divided into producers of health and non-health goods, using two types of resources: effective capital and labor, and the labor efficiency is measured by the level of health of workers.

Firms use the Cobb-Douglas production function and maximize their profit at each period of time:

➤ Health sector:

$$Y_{H,t} = A_{H,t} (K_{H,t}^{eff})^{\alpha_H} (N_{H,t} H_t)^{1-\alpha_H}$$

➤ Other sector of the economy:

$$Y_{N,t} = A_{N,t} (K_{N,t}^{eff})^{\alpha_N} (N_{N,t} H_t)^{1-\alpha_N}$$

The level of households' health, it should be noted, is generally the same for both healthcare workers and employees in other sectors of the economy and, along with the labor force, goes into the production function. A healthier person, all else being equal, can produce more products per unit of time.

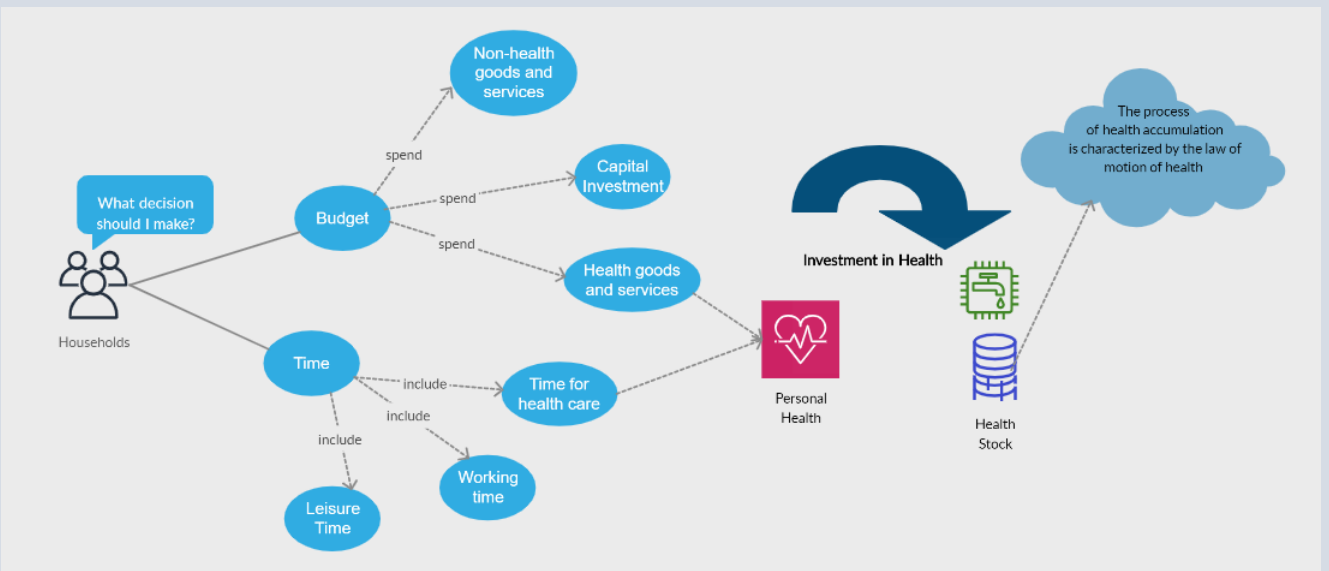
Households consume health and non-health products and services, offer a labor supply for two sectors: producers of healthcare goods and those engaged in other sectors of the economy, and invest in health and capital accumulation.

Households receive utility from consumption of non-health goods, from health status and from leisure time, the latter can also be formulated as negative utility from the number of hours worked in two different sectors of the economy:

$$E_t \sum_{j=0}^{\infty} \beta^j \left(\frac{C_{N,t+j}^{1-\sigma}}{1-\sigma} - \chi_N \frac{N_{N,t+j}^{1+\varphi_N}}{1+\varphi_N} - \chi_H \frac{N_{H,t+j}^{1+\varphi_H}}{1+\varphi_H} + \psi \frac{H_{t+j}^{1-\eta}}{1-\eta} \right)$$

The utility function parameters β , σ , φ_N , φ_H , η , χ_N , χ_H and ψ are structural parameters that describe the economy. Figure 2 illustrates the decision-making process of the household by direction of its expenditures and use of disposable time.

Figure 2
The process of household decision-making



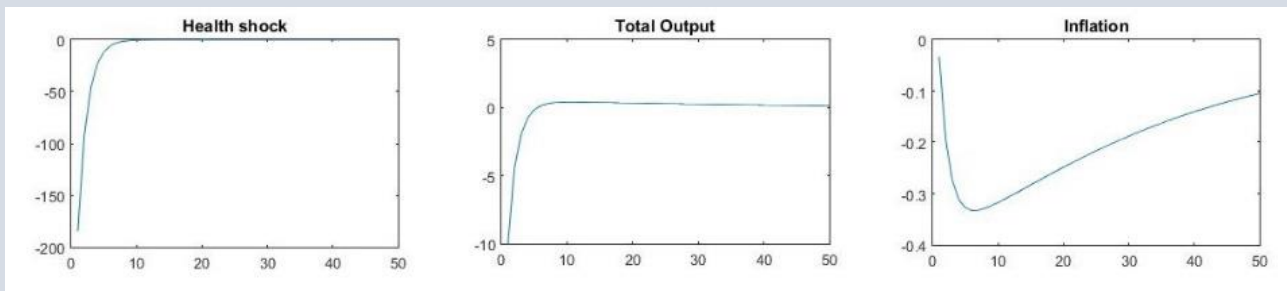
The Central Bank implements an inflation targeting policy following the Taylor rule:

$$R_t = \left(\frac{R_{t-1}}{R^{ss}} \right)^{\rho_r} \left\{ \left(\frac{\Pi_{N,t+1}}{\Pi_N^{ss}} \right)^{\mu_\pi} \left(\frac{Y_t}{Y^{ss}} \right)^{\mu_y} \right\}^{1-\rho_r}$$

That is, it reacts to the deviations of the inflation expectations in non-health sector and the economy gross output from its steady state level, maintaining a certain level of interest rate inertia.

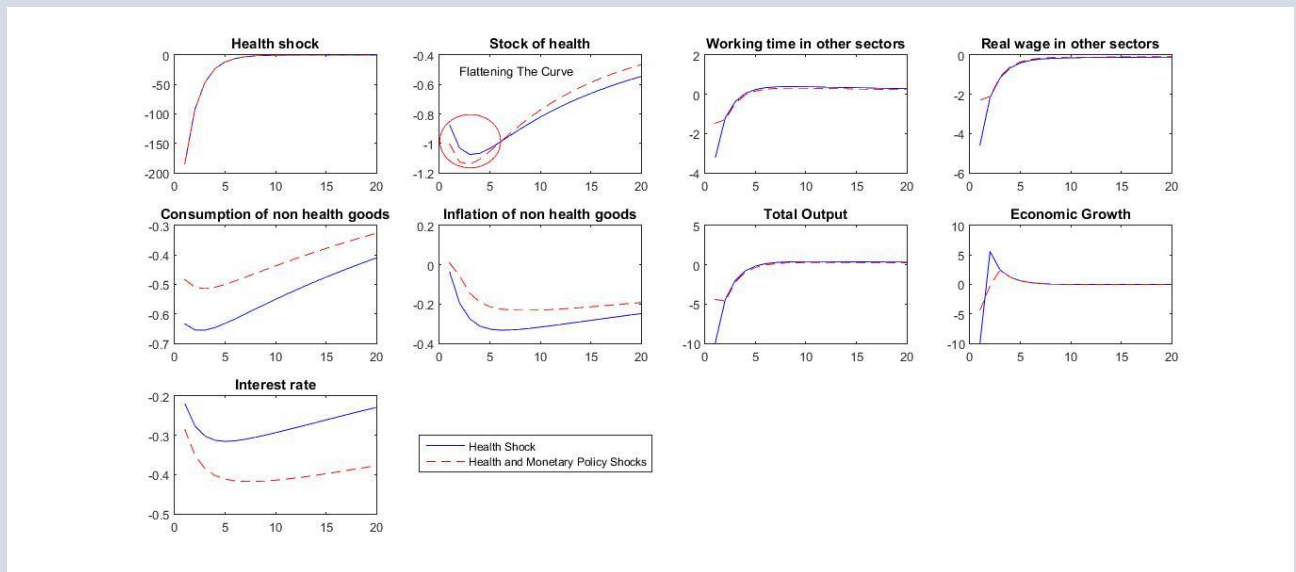
A negative health shock deteriorates people's health, leading to: i) increased consumption of hours in isolation and of health goods, and ii) reduced consumption of non-health goods (Figure 4, blue line). As demand for health products increases, so does the number of workers and capital resources in the healthcare sector. As a result, the output of the healthcare sector is increasing, while the output of other sectors is declining, which leads to a significant reduction in total output, but which has a very little effect on inflation (Figure 3) and therefore does not require a large monetary policy response.

Figure 3
Inflation response to health shock



The impact of monetary policy shock on the settlement of health problems is shown as red dotted lines in Figure 4. Here, the monetary policy, having deviated from its rule, tries to further stimulate the economy by causing a monetary policy shock, which leads to a weaker economic downturn and less reduced working hours and real wages. However, all this increases the cost of self-isolation, as a result of which people pay relatively little attention to their health. As a result, the economy's stabilization in the short run may only happen at the expense of deterioration of health.

Figure 4
The economy's reaction to the health shock

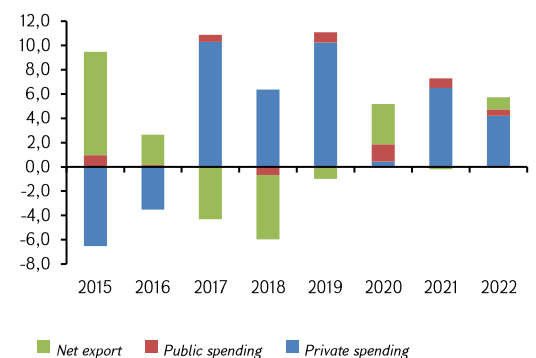


2.2.2. Economic activity¹²

Aggregate demand: Year 2019 stood out for a strong domestic demand and, especially, vigorous private spending, and the trend was observable in early 2020, too. In the face of high consumer confidence, domestic demand was primarily financed by loan resources. The prediction, however, is that anti-epidemic measures, coupled with restrictions in movement and even more uncertainty, would force consumers to choose to reduce demand and go instead for precautionary savings. At the same time, the structure of consumption may change and the demand for non-durable goods will increase. Also, aggregate accumulation of fixed private assets will decrease but, according to estimates, the impact on both consumption and investment will be short-lived, and the economy will gradually return to normal starting from the second half of the year. In 2020 private consumption is expected to grow by 0.5% and gross private fixed asset accumulation, by 0.1%, as a result private spending will increase by 0.3%.

Chart 19

Demand components¹³ contributing to the growth (percentage point)



Source: RA Statistics Committee, Central Bank forecast

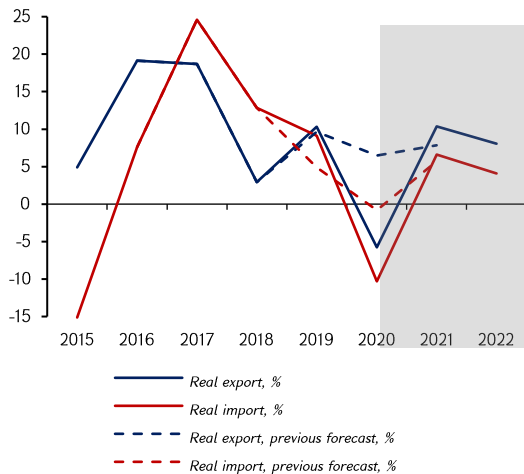
¹² For a detailed economic growth forecasts, see the “GDP Projection Probability Distribution”, chart 18, table 2.

¹³ The change in tangible working capital inventories is not included in demand; it is considered by the RA Statistics Committee as a balancing item and does not show the true level of investments, so supply and demand-side calculated economic growths may vary from each other. See https://www.armstat.am/file/article/sv_04_19a_112.pdf.

In the face of abovementioned developments, both aggregate supply and demand will decline at the same time. The slowing will somehow be mitigated through influence of an expansionary monetary policy and expected stimulus of the budget. As a result, in the short term, weak deflationary pressures from the real sector are likely, which will eliminate at the end of the forecast horizon.

Chart 20

Changes in real export and import of goods and services in the medium term, %



Source: RA Statistics Committee,
Central Bank forecast

External demand: According to the 2019 results, net export's contribution to real GDP is estimated somewhat negative. In 2019 the real growth of export of goods and services was 10.3% and the real growth of import of goods and services, 9.1%. In 2019 the growth rates of net inflow of remittances are estimated in the range of 0.0-2.0%.

As a result, the current account deficit-to-GDP ratio is estimated around 9.7% in 2019.

The forecasts for 2020 have seen substantial changes due to recently predicted decline in global demand, as well as the developments expected in the domestic economy. Thus, the decrease in real export of goods and services is forecast in the range of 5.0-7.0%. This, coupled with the slowdown in global demand, will be attributable to the preventive measures partner countries are taking. The volumes of international tourism will shrink significantly.

The real import of goods and services will also decrease amid a weak domestic demand, shaping in the range of 9.0-11.0%.

Remittances of individuals will reduce significantly as the sharp decline in oil prices has decelerated Russia's economic growth and led to the ruble depreciation. Moreover, temporary migration restrictions Russia imposes at the moment may lead to considerable narrowing of remittances of individuals; the decrease in private transfers is anticipated in the range of 16.0-19.0%.

On the back of such forecasts, the 2020 current account deficit-to-GDP ratio will be within 7.0-9.0%.

In the medium run, as equilibrium of the economy restores, the current account deficit-to-GDP ratio will gradually stabilize within 3.0-5.0%.

Fiscal policy

The **fiscal policy's impact** on aggregate demand for 2020 was estimated using the figures set out in RA Law on "State Budget 2020", taking into account actual developments and the relevant Central Bank estimates.

In view of the spread of new coronavirus disease in the world and Armenia, and its imminent impact on the global and domestic economies, and given uncertainties about structural changes in

Armenia, the Central Bank's estimate of taxes is conservative, which means that the taxes-to-GDP ratio¹⁴ will remain at the previous year's level. The Central Bank anticipates a lower nominal GDP relative to what was provided for in the budget law and previous estimate of the Central Bank, in which event the conservative approach to taxes-to-GDP ratio implies less tax collection than projected by the budget.

As for public spending, in view of performance of the budget in previous years and current performance in the first quarter of 2020, about 3.5% of savings on expenditures (around AMD 65.0 billion) is expected on implementation of foreign-funded projects. In 2020 the expenditures-to-GDP ratio will be 26.7%, up by 2.0 pp compared to the previous year. Note that, as of March 17th, no changes in connection with the anti-crisis package had been made to public spending under government decrees. And while total volume of expenditures and main directions are known, the mechanisms of distribution of funds are not clear yet, so measuring the effect of fiscal policy's additional stimulus at the moment is difficult.

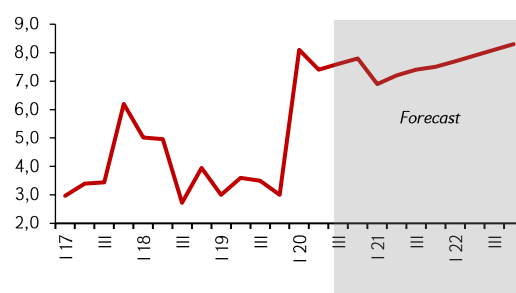
As a result, exclusive of the assistance package, the deficit-to-GDP ratio for 2020 is an estimated 3.0%¹⁵.

With the above tax and expenditure projections, net of one-off streams that do not affect the domestic demand, the 2020 fiscal policy's impulse on aggregate demand is an estimated 4.1 pp expansionary compared to that of 2019. This is attributable to expenditures impulse which is primarily expansionary, and to revenue impulse which is modestly expansionary¹⁶.

Labor market¹⁷: In 2020 the slowing of growth rate of private sector nominal wages will not be notable thanks to positive effect of the minimum wage increase. Subsequently, according to the baseline scenario, the private nominal wage growth will persist around 7.7% in 2020. In the mid-term perspective the growth rate will pace in line with its fundamentals, i.e. the economic growth and inflation developments. Thus, in 2021 the nominal wage growth in private sector is predicted to be at 7.3%, and at the end of the forecast horizon it will stabilize around 8.2%.

Chart 21

Nominal wage growth in private sector, y/y (%)



Source: RA Statistics Committee, Central Bank forecast

¹⁴ The GDP forecast is the Central Bank estimate.

¹⁵ If the announced amount of the package remains intact and is used completely over 2020, the state budget deficit-GDP ratio will make up 5.3%.

¹⁶ Although the tax impulse is assessed as neutral, the revenue impulse is slightly expansionary owing to other revenues which involve, for the sake of comparison, public institutions' extra-budgetary funds which, starting from 2019, are being included in the indicators of the budget law.

¹⁷ The labor market data for 2019-2022 are the Central Bank projections based on the actual third quarter 2019 data. The growth indicators presented in this sub-section are relative to the same reference period last year, unless otherwise specified.

Chart 22

Unit labor costs growth, y/y (%)

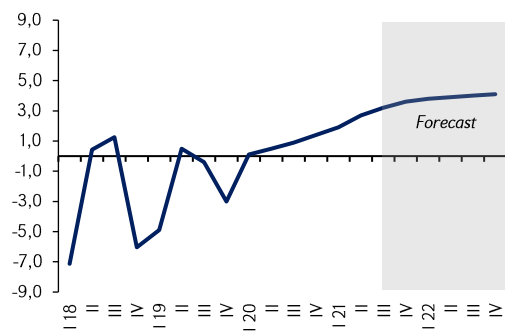
Source: RA Statistics Committee,
Central Bank forecast

Chart 23

US economic growth forecasts, %

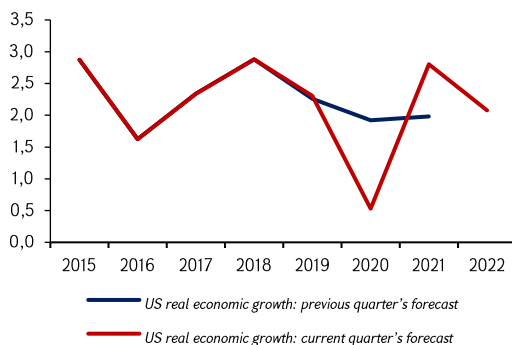
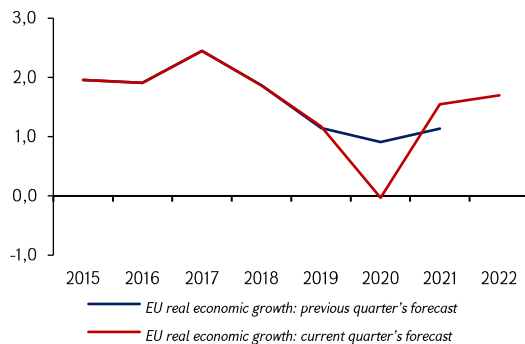
Source: Bureau of Economic Analysis,
Central Bank forecast

Chart 24

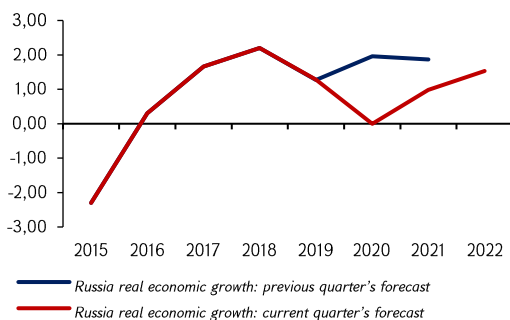
EU economic growth forecasts, %



Source: Eurostat, Central Bank forecast

Chart 25

Russia economic growth forecast, %



Source: Rosstat, Central Bank forecast

As a result of anti-epidemic measures the slowdown of economic growth will be followed by increase in the natural rate of unemployment, all else being equal. Yet the overall impact will depend on the measures the Government takes. The unemployment rate will subdue by about 0.8-1.2 pp annually over medium run, approaching a 17.3% level at the end of the forecast horizon.

In 2020 the growth of firms' unit labor costs will speed up; at the end of the forecast horizon it will stabilize around its fundamental value, the 4% inflation target.

2.2.3. Comparison with the previous forecast

As global economic downturn is inevitable and the world lives in increasingly uncertain times, the economies of partner countries to Armenia will grow at slower pace in a short and mid-term perspective.

The US and Eurozone economic growth forecasts for 2020 were revised downward as the world economy is experiencing negative consequences of the spread of the new coronavirus disease, which will yet to be incurred in the future.

Current economic growth for Russia in the forecast horizon is predicted to run below the previous quarter's forecasts due to adversities triggered by coronavirus and, as an oil exporter, a slump in oil prices internationally.

The world's commodity markets anticipate an even weaker inflationary environment relative to the previous forecast, amid slackening global demand and growing pessimism over future developments. Whereas in food markets, depending on current price developments and certain expectations for supply volumes in individual commodity groups, prices will rest on the levels higher than previously predicted.

In the world's food product market over a medium run, inflation is predicted to run slightly above the previous forecast because of expectation of a smaller supply to be offered in sugar and dairy product markets.

International oil price forecasts for the entire horizon are rather downward in comparison with previous levels, which is explained by sluggish global demand on the one hand and disagreement over reduced extraction of oil by OPEC+ members, on the other.

International copper prices will shape at levels lower than outlined in the previous forecast, due to the demand contracted amid global economic slowdown.

Armenia's economic growth will decrease considerably in 2020 because of the coronavirus disease and anti-epidemic measures, but it will return to its potential level in the forecast horizon, as uncertainties diminish.

Year 2020 began with strong economic activity, as evidenced by the relevant January activity indicators – the growth in industry, construction, trade and services amounted to 13.4%, 7.7%, 10.3% and 13.2%, respectively.

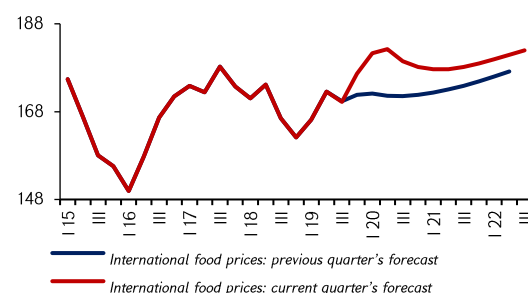
The spread of coronavirus and anti-epidemic measures taken to fight it will significantly reduce economic activity in 2020. Its negative impact will mainly materialize during the second quarter of 2020 but, as uncertainties diminish, the economy will gradually return to normal. All sectors of the economy will incur a negative impact, but tourism and leisure-related spheres are more vulnerable. Economic growth in 2020, the Central Bank calculates, will be 0.7%, which is notably lower compared to previous forecasts, but in 2021 it will recover, amounting to 7.2%.

Despite the expected short-term impact, the epidemic remains a major risk factor, and further developments in economic activity as well as the structure and potential of the economy will largely depend on it.

In the first half of 2020, the above developments will cause the GDP gap to remain in the negative territory, which will however be mitigated through influence of an expansionary monetary policy and expected stimulus of the budget. In the forecast horizon, as uncertainties decrease, the economic growth will come closer to its mid-term potential.

Chart 26

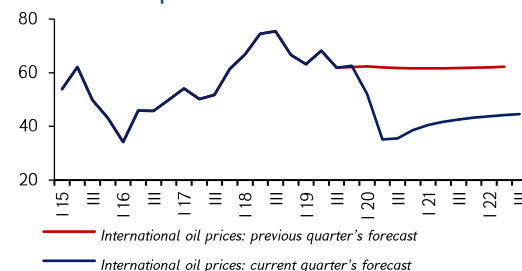
International food price forecasts



Source: FAO, Central Bank forecast

Chart 27

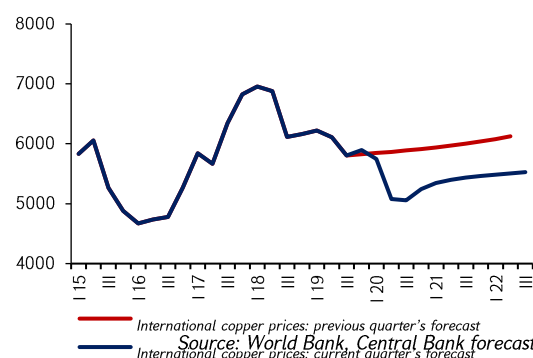
International oil price forecasts



Source: World Bank, Central Bank forecast

Chart 28

International copper price forecasts



Source: World Bank, Central Bank forecast

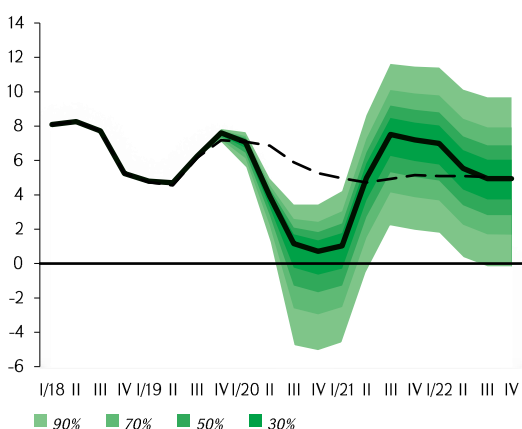
Table 2

Real GDP (cumulative) growth projection probability distribution		
Period	30% probability interval	90% probability interval
January-December 2019 / January-December 2018	7.5-7.7	7.0-7.8
January-December 2020 / January-December 2019	-0.6 - +1.4	-5.1 - +3.4
January-December 2021 / January-December 2020	6.0-8.2	1.9-11.5
January-December 2022 / January-December 2021	3.7-6.0	-0.2 - +9.7

In 2020 the current account deficit-to-GDP ratio will be higher compared to the previous forecast due to revisions in regard to negative trade balance and remittances.

Chart 29

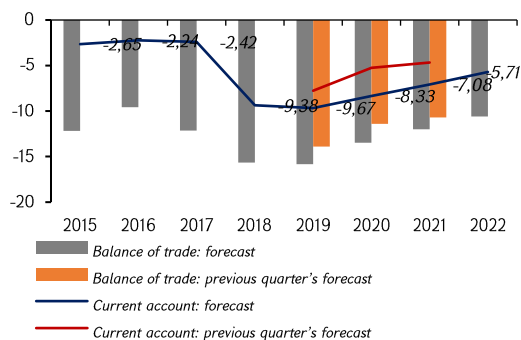
Real GDP (cumulative) growth projection probability distribution for 3-year horizon



Source: RA Statistics Committee, Central Bank forecast

Chart 30

Mid-term current account-to-GDP ratio forecasts, %



Source: RA Statistics Committee, Central Bank forecast

Chart 31

Fiscal impulse forecast (percentage point)

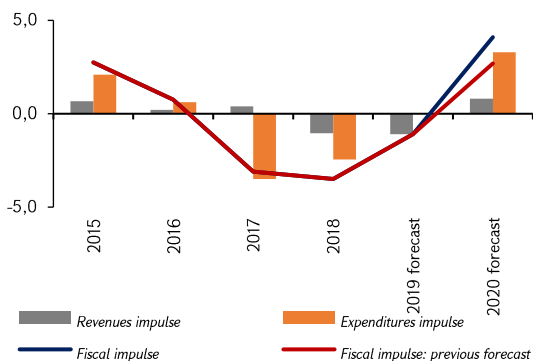
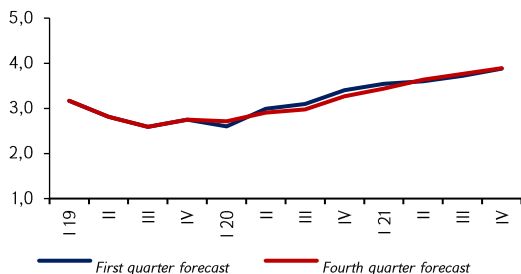


Chart 32

Short-term inflation expectation estimates, %



Source: Central Bank estimate

Compared to the previous forecast, there will be even higher expansionary impact of 4.1 pp (some 3.5% of savings on public expenditures is expected, particularly on implementation of foreign-funded projects, while the taxes-to-GDP ratio is likely to remain at the 2019 level).

Current forecasts suggest that inflation in the short run will be below the previous forecast, since the change in customs duty on a number of goods, due from January 1st, was put off and the prices in product groups “Egg”, “Meat” and “Fuel” had dropped early in the year. There is anticipation, however, that the above fall in egg and meat prices will be temporary and that the inflation will rebound at a faster rate and be in line with the previous forecast. On the other hand, it should be noted once again that, because of the epidemic situation, the uncertainty over current forecasts has grown sharply relative to the previous quarter.

Short-term inflation expectations will linger close to the value of previous prediction, determined by relatively steady core inflation rates at the moment and how slowly it may recover later on.

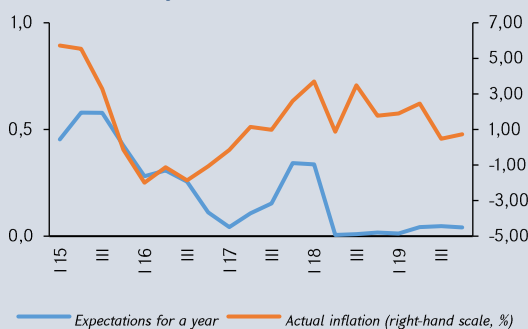
2.2.4. Main assumptions and risks

This section contains the main assumptions underlying the Monetary Policy Program for the first quarter of 2020 and the risks to implementation of the program, which derive from the external sector developments, the fiscal policy implementation, current trends and short-term forecasts.

Box 4

Chart 33

Share of households expecting high and very high inflation in a one-year horizon



Source: RA Statistics Committee, Central Bank surveys

The results of survey on expectations by the households and the financial system

The fourth quarter 2019 survey on selected macroeconomic indicators the Central Bank conducted through inquiries among households suggest that in the reporting quarter inflation expectations remained much the same compared to the previous quarter. Specifically, the share of households expecting high and very high inflation rates for a one-year horizon continues to be small in total respondent base. Note that no considerable changes in inflation expectations on the back of some depreciation of the Armenian dram against the US dollar were observed in the first quarter.

Forecast assumptions

Table 3

Main judgments and assumptions	Possible developments, if this assumption proves correct
The coronavirus will hit the world economy in a very negative way. The main blow will be apparent in the first half of the year, and in the second half a partial recovery of the world economy is probable.	➤ The spread of the virus and the measures to fight it will determine a sharp decline in economic activities in the USA and the Eurozone and lead to a slackened global economy on the whole. It will come along with reduction in the labor supply, with only aggregate demand for non-durable consumer goods, and a sharp decline in total investment in the face of growing uncertainty. ➤ Low inflationary environment and slower growth rates amid a sluggish global economy demand will lead to lower interest rate policies in developed countries. ➤ In the time of a global economic slowdown and growing pessimistic expectations about future developments, a low inflationary environment in basic commodity markets is likely. ➤ The spread of the coronavirus, measures to prevent it, the fall in international oil prices will slow down Russia's economic growth rates and lead to depreciation of ruble.
Country risk premiums have increased considerably in developing countries as liquidity risks have grown globally.	According to current estimates, Armenia's risk premium has grown notably compared to the previous quarter or the first part of the current quarter. We think part of such growth will be short-lived, and by the end of the second quarter Armenia's risk premium will decrease, stabilizing between 3-4%.
Supply-side shocks remain and changes in demand structure come along.	In the event demand for some primary consumption goods notably increases, short-term inflationary trends in these markets may be observable due to increased production costs (labor costs, in particular) and some depreciation of the exchange rate. On the other hand, a significant reduction in demand for durable consumer goods and services will lead to lower product prices/service fees. In addition, prices falling in international commodity markets will have a certain deflationary effect.
Both supply and demand reduce due to the epidemic.	As the coronavirus disease spreads and anti-epidemic measures are further taken during the year, both supply and demand for goods and services in the economy will decrease, and, consequently, the negative GDP gap will not reduce much from the current level.
The labor supply and demand reduce due to the epidemic.	The labor supply will reduce caused by the spread of the epidemic-triggered diseases and determined by the timing for treatment and the need to isolate patients; and the demand for labor will reduce as economic growth slows down. As a result, the natural rate of unemployment will rise, with no significant effects on the average wage. The impact on actual unemployment may be milder, depending on the Government's measures.
Measures to bolster potential GDP growth	The activities of Amulsar mine and Alaverdi copper smelter are not factored in the monetary policy scenario. Their potential impact is considered in the framework of forecast risks.
Public revenues have little expansionary effect and the impact of public expenditures is stimulative.	In view of the spread of the new coronavirus disease, on the back of negative developments and structural changes in the Armenian economy, the taxes-to-GDP ratio ¹⁸ is predicted to remain at the previous year's level. As for public spending, some savings were made against the approved expenditures plan, especially on implementation of foreign-funded projects. It should be noted that the package of economic assistance by the Government is not included in the expenditures.

¹⁸ The 2020 GDP indicator is a Central Bank forecast.

Forecast risks

Risks associated with the spread of coronavirus

The risks outlined in the baseline scenario are associated with both supply and demand-driven developments in the relevant sectors of the economy. An unprecedented epidemiological situation in the country and around the world, with subsequent anti-epidemic measures taken, have prompted to prepare this quarter's program by making forecasts under uncertainty which is greater both qualitatively and quantitatively. In the short term, current developments will notably affect the household behavior and consumption structure, causing the consumer demand to jump from durable consumer goods primarily to daily necessity products. This can have a certain effect on the change in relative prices across product groups and, for individual products/services, may even make it difficult to measure inflation just because such market segments might be non-existent. This, in turn, creates additional difficulties in forecasting inflation. Moreover, the logistics chains of import of goods may incur certain changes too, which might somehow influence the supply, at least in the short run. Overall, an increasingly uncertain environment leaves forecast ranges considerably broader, making forecasting of the central value of inflation and other key macro indicators even a more difficult task (see inflation and economic growth forecasts probability distribution: charts 1 and 2). Risks to and uncertainties about economic development as outlined in the baseline scenario derive from many factors, including the length and intensity of epidemic situation in Armenia, as well as effectiveness of anti-epidemic measures around the world, possibilities for earlier retreat of the pandemic, short and long-term effects on the economy, possible changes in demand and supply structure, consumer behavior among households, etc. Accordingly, only risks most significant by quantity are described below. It should be noted that both the Armenian economy and the world continue to be affected by the shock, but so far there are almost no statistics that would allow obtaining at least minimum preliminary estimates of the impact of the shock, at least on the example of other countries. Which means that once the first quarter data are published in Armenia and all over the world, current forecasts will most likely be subject to substantial adjustments. In the face of these uncertainties, the Central Bank is trying to reduce further risks through different scenarios and considers the possibilities of the policy to react accordingly.

It is obvious that anti-epidemic measures around the world are aimed at overcoming the harm of the global pandemic as quickly and efficiently as possible, with least economic losses. Nevertheless, serious risks that the pandemic will last longer and leave deeper negative economic impact are apparent.

In terms of aggregate demand, risks are associated with the following factors:

- Weaker external demand may last much longer, depending on the duration, extent and effectiveness of anti-epidemic measures in countries.
- Consumer behavior may change substantially, facing the consume-or-save dilemma, and the demand for secondary consumer goods may shift to goods of basic necessities. These structural changes may prove longer-term than predicted in the baseline scenario, which can lead to relative price changes on the one hand and influence the neutral interest rate, on the other.
- The household liquidity-driven demand may reduce further. In the event the crisis lasts longer, more risks to household income and disrupted fulfillment of obligations will emerge, as people employed in some areas, especially in the service sector, will not have the physical opportunity to earn a living. Of course, the package of measures, and their effectiveness, envisaged by the Government, on the one hand, and flexibility of policy pursued by financial organizations and public utility service providers, on the other, is key.
- The fiscal policy leaves a more expansionary impact on the back of the Government's AMD 150 billion-worth support package to soften adverse effects of the coronavirus disease on the Armenian economy. The programs will be implemented in several stages: designing of the delivery mechanisms are underway. However, the extent of the policy's stimulative impact on aggregate demand depends largely on the scope, direction, and timing of measures being taken to neutralize economic repercussions of the coronavirus.

In terms of supply, risks to the inflation are as follows:

- Short term inflationary risks prevail and are associated with disruption in the normal course of import of various goods in the near future, and with certain dram depreciation effects.
- Short-term deflationary risks to commodity prices prevail and are associated with the global economy's downside risks.

In the medium term perspective, risks to inflation deviating from projection path are estimated to be balanced and quantitatively are rather sizeable (see Chart 1: Inflation Forecast Probability Distribution).

In addition to the risks mentioned above, other mid-term risks (which unfold in either direction but downside risks prevail, however) to potential economic growth, are as follows:

- The spread of coronavirus disease, the length and effectiveness of anti-epidemic measures, as well as the size of their impact on the economy, especially on the quality (health) of the labor force.
- The uncertainties associated with further operating of Amulsar mine and Alaverdi copper smelter. In the context of longer-term economic growth, the further course of structural reforms in the economy and to which extent they will affect business climate and investments.

3. ACTUAL DEVELOPMENTS IN Q4, 2019

3.1. Inflation

3.1.1. Fulfilment of the inflation target

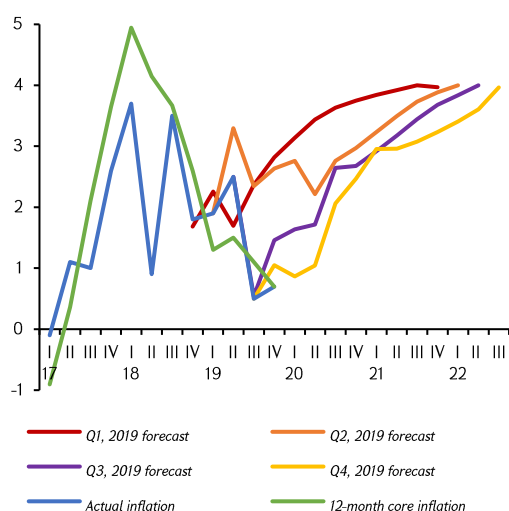
According to the first quarter 2019 monetary policy program, low inflationary environment persisted in early 2019, and the Central Bank continued pursuing an expansionary monetary policy. Under such a policy and in view of expected macroeconomic developments, the 12-month inflation would remain low in the forthcoming period, since the Central Bank had opted for inflation to recover gradually and estimated that the low inflation contributed to anchoring long-term inflation expectations and maintaining the purchasing power of income, while inflation would be stabilizing around the 4% target in the medium run. For fulfilment of the inflation target in the medium run, the monetary conditions were supposed to remain expansionary as longer as required, if macroeconomic developments unfolded according to the baseline scenario.

In the period under review, inflation ran somewhat below its projection path, as the fiscal policy carried out that time proved more contractionary than expected and demand in the external environment came in weaker than predicted. In the meantime, some factors of supply having emerged to contain the inflation included the impact of low prices in the external environment transmitted onto domestic prices, ever growing competition in commodity markets, which affects the firms' pricing behavior reduces their markups, and consumer demand shift to durable consumer goods under budget constraints.

In 2019, with inflation environment persisting at low, the Central Bank continued implementing an expansionary monetary policy, while favoring the policy of letting the inflation approach its target gradually, since low inflation contributed to anchoring long-term inflation expectations and maintaining the purchasing power of income. Also, in consideration of the more-than-expected contractionary fiscal policy, continued slowing of global economic growth rates and weaker inflationary environment in international market of basic commodities, the Central Bank has slightly added to the monetary stimulus by cutting the refinancing rate each time by 0.25 pp in the first and third quarters. The Central Bank further signaled the financial market that the monetary conditions will remain expansionary for as long a period as required, in fulfillment of the inflation target in the medium run.

Chart 34

According to the Central Bank forecasts, the 12-month inflation will run below the target value in the short run but will gradually expand in the mid-term and stabilize around the target at the end of the forecast horizon



Source: RA Statistics Committee, Central Bank

3.1.2. Prices

The 12-month inflation remained low over 2019, amounting to 0.7% y/y at the end of the year. In the meantime, the 12-month core inflation has decreased to 0.7%, while regulated service tariffs and seasonal food product prices have grown by 0.3% and 1.8% y/y, respectively.

The y/y increase in seasonal prices of food products was totally due to 5.9% rise in prices of item “Vegetable” (contribution to y/y inflation: 0.3 pp), whereas items “Fruit” and “Egg” posted price decreases of 2.7% and 4.0%, respectively.

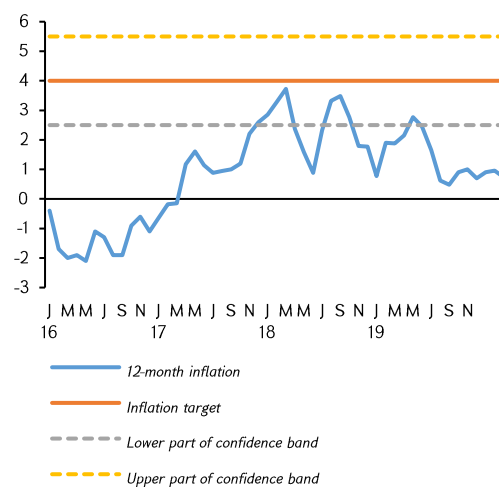
The y/y increase in core inflation rate was mainly driven by 3.9%, 7.5% and 2.8% price rises reported for items “Bread products and wheat”, “Tobacco” and “Alcohol”, and by 1.5%, 4.4% and 2.8% increases in items “Clothes”, “Footwear” and “Fuel”, respectively (combined contribution to y/y inflation: about 0.8 pp). Tariffs for unregulated services increased by 1.9% due to 7.5%, 3.7% and 4.3% rise in air transport fare, education and medical service fees, respectively (combined contribution to y/y inflation: about 0.2 pp).

The fall in prices of some food products in international markets observable since the start of the year has pushed down domestic prices of certain food products. However, world food prices grew in the fourth quarter, the impact of which will gradually spill over to inflation in Armenia in the course of upcoming quarters. In light of these developments, the inflation rate of non-seasonal food products has over the last one-year horizon gradually decreased from 1.9% y/y to -0.3% y/y in December.

The inflation impact of the change in customs duty on some commodity groups was estimated to reach 0.3 pp in early 2019, mainly due to the increase in poultry prices. As for the change in the tobacco and alcohol prices due to new excise tax rates, it is in line with the Central Bank estimates as well, with actual impact on the headline inflation estimated to be 0.2 pp.

Chart 35

A low inflation environment persisted over the last one-year horizon, with the 12-month inflation drifting around the lower part of confidence band



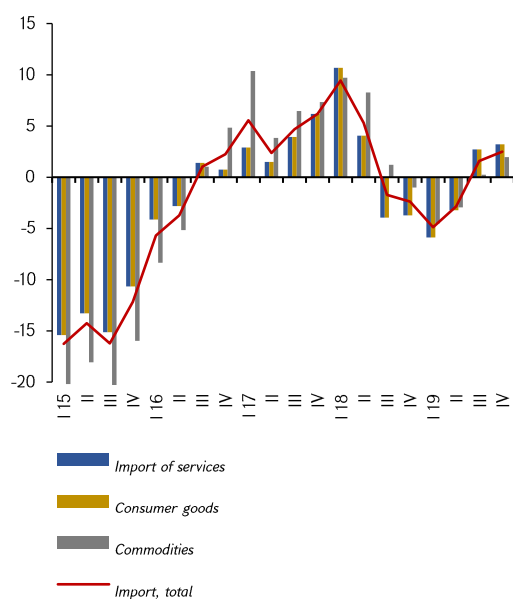
Source: RA Statistics Committee

Table 4

Consumer price inflation by commodity items as key contributors ¹⁹			
Commodity item	Weights	12-month inflation	Contribution
Core inflation	72.7	0.66	0.48
Bread products and grains	8.99	3.90	0.35
Meat	9.87	-3.45	-0.34
Fats and oils	2.77	-4.86	-0.13
Sugar	0.6	-12.39	-0.07
Alcoholic drinks	2.77	2.76	0.08
Tobacco items	1.77	7.51	0.13
Clothes	2.58	1.45	0.04
Footwear	1.52	4.44	0.07
Medicament, medical equipment and devices	4.83	0.22	0.01
Fuel	5.2	2.79	0.15
Air transport (passengers)	0.55	7.50	0.04
Education	1.48	3.70	0.05
Outpatient and hospital services	2.99	4.30	0.13
Seasonally sensitive products	10.5	1.80	0.19
Egg	1.44	-3.97	-0.06
Fruit	3.35	-2.72	-0.09
Vegetable	5.74	5.89	0.34
Regulated services	16.7	0.34	0.06

Chart 36

In the fourth quarter of 2019 the dollar prices of import of goods and services rose relative to the same quarter of the previous year, y/y, %



Source: Central Bank calculations

Import prices: In the fourth quarter of 2019, the dollar prices of import of goods and services to Armenia posted 0.9% increase relative to the previous quarter, with y/y growth rates having accelerated to 2.5%. This was primarily driven by y/y appreciation of nominal exchange rates (except the euro nominal exchange rate) in main partner countries. The y/y contribution of intermediate and final consumption goods to total import prices is positive: the y/y decrease in oil and aluminum prices has been offset by the y/y increase in other intermediate goods.

¹⁹ The y/y data of structural elements of food products are calculated by the Central Bank based on the information provided by the RA Statistics Committee.

3.2. Economic developments

3.2.1. Economy position

The negative GDP gap somehow closed in the reporting quarter, but the GDP is still below the potential level. Economic growth in the reporting quarter (see section 3.2.3) was much higher compared to the forecasts. On the other hand, the expenditure components of the economy make it obvious that economic growth owes mainly to high consumption growth, and investment growth is still low (see section 3.2.2). Such developments indicate that the growth of economy's productive capacity in the short term is limited and it mostly occurs through increased employment (see section 3.2.4). As a result, the negative GDP gap is estimated to have reduced considerably yet it is below the potential level, which is reflected in still a sluggish inflationary environment (see section 2.2.1). The depreciation of exchange rates in partner countries has also been a major contribution to the negative GDP gap.

3.2.2. The expenditures aspect of the economy

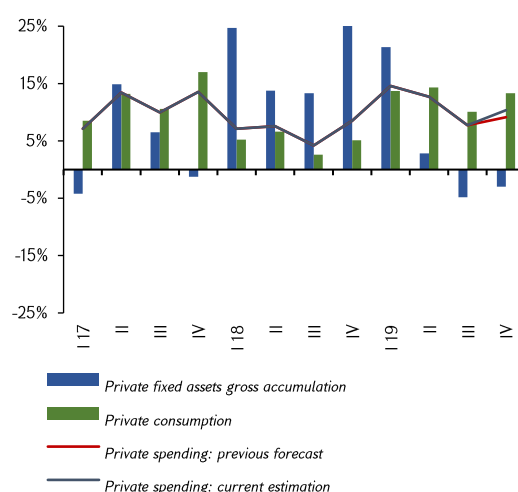
Economic growth in the fourth quarter of 2019 was bolstered largely by domestic demand which increased mostly thanks to as much as 13.3% growth in private spending. It is worth mentioning that lending to households continues to grow and remains a key source that finances private consumption. The growth of remittances from abroad has slightly accelerated recently. Gross accumulation of private fixed assets in the reporting quarter has decreased by 3.0%, which is in line with previous forecasts by the Central Bank. According to the Central Bank, the sector of services which is relatively more labor-intensive but requires less investment to meet extra demand remains a key contribution to the economic growth, as a result the weak investment environment is due to the change in the investment structure. The growth of private spending in the fourth quarter amounted to 10.4%, which explains the quarter's economic growth.

In 2019, the growth of private consumption was 12.7% and gross accumulation of private fixed assets, 0.7%.

High growth of private consumption still leaves a minor effect on inflation, according to the Central Bank estimates, determined by peculiarities in the consumption structure.

In the fourth quarter of 2019 the export and import in real terms remained high. Real import has grown faster compared to those of export, and net real export's contribution to the GDP has been negative, as a result. In the fourth quarter of 2019 the real growth of

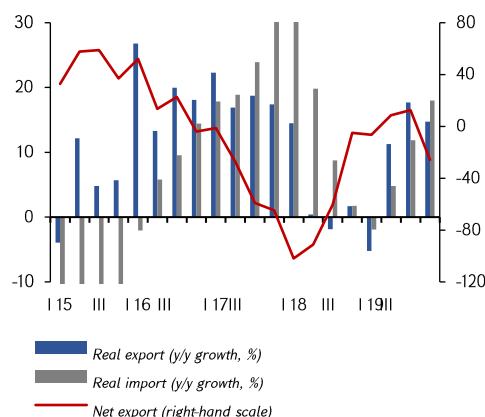
Chart 37
Structure of private spending, y/y growth



Source: RA Statistics
Committee, Central Bank

Chart 38

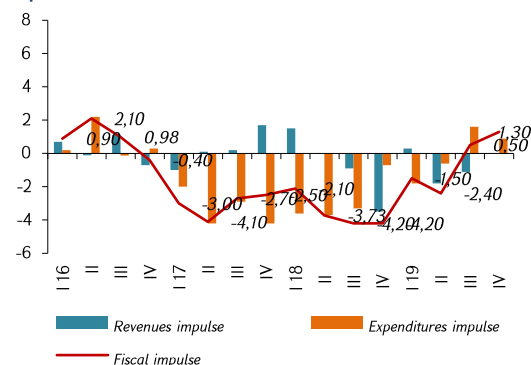
In the fourth quarter of 2019 net export position worsened as import grew at a faster pace over export (net real export, y/y %, positive sign = improvement)



Source: RA Statistics Committee

Chart 39

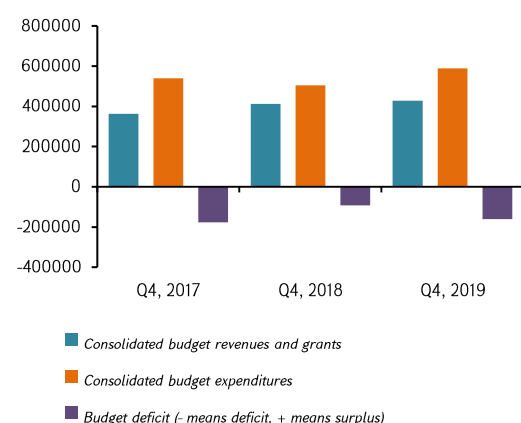
In the fourth quarter of 2019 the expansionary effect of fiscal policy owed to the expansionary effect of expenditures



Source: Central Bank estimate

Chart 40

Main indicators of the consolidated budget (billion Armenian dram)



Source: RA Statistics Committee

export of goods and services and import of goods and services amounted to 14.7% y/y and 18.6% y/y, respectively. The increase in export was driven by rebounded production capacity in the mining industry and growing productivity in manufacturing. Car imports grown in anticipation of future price increases was the main contribution to the growth of import²⁰.

In the fourth quarter of 2019 net remittances of individuals (seasonal workers' income and personal transfers inclusive) in US dollars grew by 2.5% y/y (previous quarter saw a y/y decrease), according to estimates, mainly determined by the ruble's nominal exchange rate which appreciated during the fourth quarter of 2019.

In the fourth quarter of 2019 the current account deficit-to-GDP ratio increased by about 1.0 pp, according to estimates. Based on the year's results, the ratio will increase by 0.3 pp to 9.7%.

Fiscal policy²¹: In the fourth quarter of 2019 the revenues and expenditures of state budget deviated from the Central Bank's projections²², with revenues overperformed and expenditures underperformed. As a result, the fiscal policy's impact on aggregate demand for the fourth quarter of 2019 is an estimated 1.3 pp expansionary, instead of the forecast 3.2 pp expansionary, which was attributable also to revised actual economic growth rate and potential GDP estimates.

In the fourth quarter of 2019 actual budget revenues outstripped the projection by 4.4% mostly thanks to overperformed tax revenues. As a result, the revenue impulse amounted to 0.4 pp expansionary, instead of the forecast 1.2 pp expansionary.

Budget expenditures amounted to 96.3% of the Central Bank projection, so the expenditures impulse had a smaller effect, 0.9 expansionary, against the expected 1.9 expansionary. **Government consumption** reached 91.1% of the projected indicator and actual expenditures **on non-financial assets** amounted to 99.2% of the projection, owing to both domestic sources of financing and loan programs under foreign aid.

With revenues and expenditures performance described above, state budget generated a deficit of AMD 158.6 billion in the fourth

²⁰ When importing cars from a third country to the Eurasian Economic Union territory for personal use, customs duties and taxes will, effective January 1, 2020, be calculated at a single rate, including total sum of customs duties and value added tax, leaving these taxes as separate ones. The calculation will factor in the date of manufacturing of the car, cost of the car and engine capacity. See petekamutner.am

²¹ The review of the fiscal sector used actual consolidated budget indicators of the fourth quarter of 2019.

²² The revenue projection was based on the adjusted 2019 plan of the Government and the decision to refund the economic agents the VAT debit balance. The expenditure projection is the Central Bank estimate.

quarter of 2019, which amounted roughly to 85% of the Central Bank's projection.

The annual impact of fiscal policy on aggregate demand was 1.0 pp contractionary, determined by the neutral impact of both expenditures and revenues. In an effort to reduce shadow economy and as part of measures to improve tax administration, the taxes-to-GDP ratio in 2019 reached 22.3%, up by 1.4 pp relative to the year before²³. The deficit-to-GDP ratio amounted to 1.1%, decreasing by 0.9 pp against 2018. The 2019 contractionary fiscal policy facilitated the reduction of public debt relative to GDP, securing debt sustainability.

3.2.3. The production aspect of the economy

In the fourth quarter of 2019 the GDP grew by 7.6%, which is 1.1% higher from previous Central Bank projections. The deviation is explained by a rapid growth rate observed in industry. Activity remains strong in all sectors of the economy. An exception is agriculture with its reported -4.1% decline in the fourth quarter, which is in line with the Central Bank forecast. In 2019 sowing areas in agriculture came in lesser, which negatively affects the potential of the sector. According to the Central Bank, such developments result from structural changes in the economy, pointing to the labor supply tending to shift from agriculture to more productive sectors of the economy. The growth in construction amounted to 4.0% which is much the same compared with previous estimates. The growth in services remains strong and is in line with the previous forecast, amounting to 9.4% for the quarter. Despite some slowing in output growth in industry in late 2019, the sector saw an accelerated increase in value added to 15.8%, which largely explains the higher-than-expected economic growth.

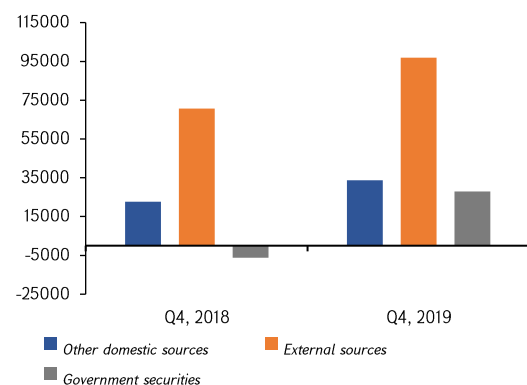
Thus, economic growth in 2019 amounted to 7.6% on the back of the 4.0% decline in agriculture, and 10.2%, 4.2% and 10.3% growth in industry, construction and services, respectively.

3.2.4. Labor market²⁴

In the fourth quarter of 2019, the private sector nominal wage growth rate amounted to 3.0% - slightly below previous forecasts by the Central Bank - and the private sector real wage growth rate

Chart 41

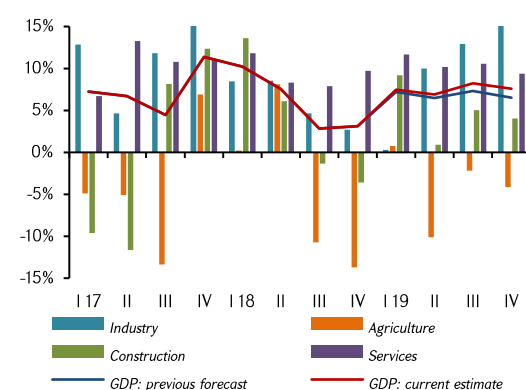
In the fourth quarter of 2019 state budget generated a deficit, about 40% of which financed by domestic sources (million Armenian dram)



Source: RA Ministry of Finance

Chart 42

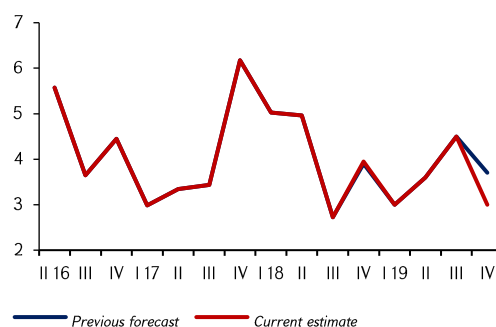
GDP structure by sector (y/y growth, %)



Source: RA Statistics Committee, Central Bank estimate

Chart 43

Private nominal wage (y/y growth, %)



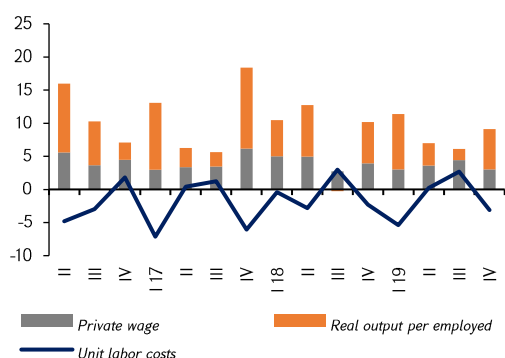
Source: RA Statistics Committee, Central Bank estimate

²³ The increase came after businesses were refunded their overpayment of tax and as a result of notable increase in offsets against other tax liabilities.

²⁴ The growth indicators in this subsection are relative to the same reference period last year, unless otherwise specified.

Chart 44

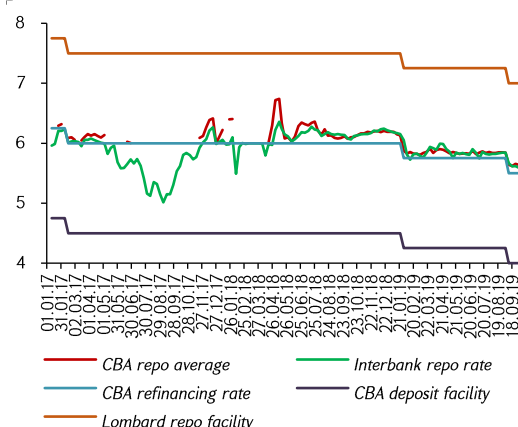
Unit labor costs (y/y growth, %)



Source: RA Statistics Committee,
Central Bank estimate

Chart 45

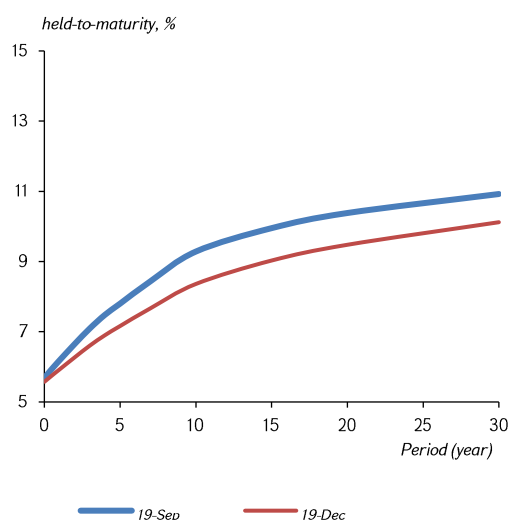
During the quarter short-term interest rates continued shaping around the Central Bank's policy rate



Source: Central Bank

Chart 46

During the quarter yields in the government securities market narrowed along the entire curve



Source: Central Bank

reached 2.2% which is in line with economic growth developments. In the fourth quarter the productivity²⁵ grew by 6.0%, outpacing the real wage growth rate. As a result, minor deflationary pressures were created by the labor market during the fourth quarter.

Economic activity was accompanied by an increase in employment, so the unemployment rate in the fourth quarter of 2019 is an estimated 17.8%, which is in line with previous forecasts.

In the reporting quarter, firms' unit labor costs decreased by 3.1%, with output growth per unit of private labor pacing faster than the growth rate of private wage.

3.3. Financial market developments

In the fourth quarter of 2019 the Board of the Central Bank left the refinancing rate unchanged, at 5.5%.

In view of the fiscal policy further expansionary and non-inflationary effects expected from the external sector, the Board decided to keep monetary conditions stimulative by leaving the refinancing rate unchanged. The Central Bank continued signaling the financial market participants about keeping the monetary stance expansionary, given that macroeconomic developments unfold as predicted, with inflation expected to remain below the target in the upcoming months but gradually returning to the target in the medium run.

Table 5

Average quarterly interest rates in Armenia's financial market					
Instrument	Q4 18	Q1 19	Q2 19	Q3 19	Q4 19
Central Bank refinancing rate (end of quarter)	6.00	5.75	5.75	5.50	5.5
Central Bank repo rate	6.17	5.94	5.86	5.80	5.63
Interbank repo rate (up to 7-day)	6.15	5.94	5.86	5.78	5.54
Yield of government securities on a yield curve (as of end-quarter)					
Short-term treasury bill (1-year)	6.63	6.57	6.36	6.26	6.01
Medium-term notes (up to 5 years)	8.48	8.65	8.39	7.99	7.44
Long-term bonds (30-year)	10.68	11.05	11.13	10.99	10.46

In the fourth quarter of 2019 short-term money market rates continued shaping around the policy rate of the Central Bank. The cut of refinancing rate late in the last quarter pushed down interest rates in the financial market: the quarterly interbank repo (up to 7-day) rate fell by 0.24 pp to 5.54%.

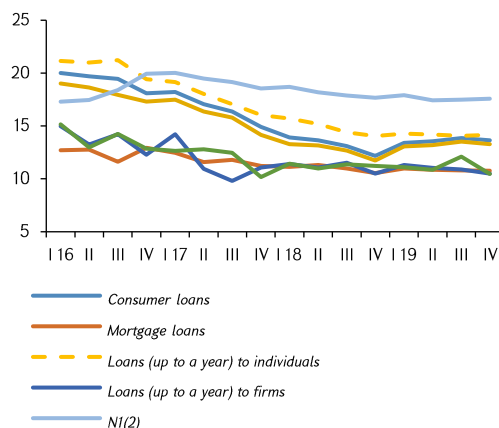
²⁵ The gross real value added per hour employed has been viewed as productivity indicator.

The falling in interest rates was reflected in yields on government bonds, causing a decline along the entire curve, primarily in the medium and long-term segments. Yields in the short-term segment continued staying close to the policy rate of the Central Bank, however.

The fourth quarter of 2019 saw the volumes of lending grow amid almost an unchanged level of capitalization in the financial system. The growth was accompanied by small drop in interest rates. In December of 2019 the 12-month growth of lending amounted to 18.5%, with consumer and mortgage loans still prevailing in total loan portfolio as in the previous quarter.

Chart 47

Interest rates of dram loans



Source: Central Bank

4. SUMMING-UP

The 12-month inflation will amount to 1.9% in late 2020, according to Q1 2020 monetary policy program. In a persisting low inflationary environment, the Central Bank will continue to pursue expansionary monetary policy in the near future. Risks were increasingly observable in all developing countries in the past month, which, all else being equal, makes the monetary stance more expansionary. The Board believes that implementing possibly a more transparent and predictable monetary policy is important in terms of anchoring inflationary expectations.

In the forecast horizon, risks to inflation deviating from projection path are generally high and tend to either direction. To assess the risks, the Central Bank is considering and developing various situational scenarios and is ready to respond to any risks, while maintaining price stability in the Republic of Armenia.

BOARD MEETING OF THE CBA

MINUTES (17.03.2020)

On the Refinancing Rate

The CBA Board Meeting of March 17, 2020 attended by Governor Arthur Javadyan, Deputy Governors Nerses Yeritsyan and Vakhtang Abrahamyan, and Board Members Hasmik Ghahramanyan, Arthur Stepanyan, and Martin Galstyan

The Board meeting opened with reporting the situation as of March 17, 2020. It addressed the developments on inflation, external environment and real, fiscal and monetary sectors of the economy in the context of assessing the impact and consequence of the coronavirus rapidly spreading worldwide.

There was 0.2% deflation registered in February 2020, **with the 12-month inflation decreased to 0.5% at the end of the month.** The month's inflation was mainly driven by a change in prices of item "Food and non-alcoholic beverage", with egg and meat product prices having fallen notably, by 18.3% and 1.1%, respectively (combined contribution to inflation: -0.37 pp). In February, the prices of items "Clothes and footwear", "Transport" and "Leisure and culture" decreased by 1.5%, 0.8% and 0.5%, respectively. **The 12-month core inflation rate** remained almost unchanged, making up **0.8%** as of end-February.

The main focus of the Board meeting was on the impact the coronavirus pandemic leaves on macroeconomic environment and financial markets both globally and domestically, and assessing the measures taken to fight the disease and eliminate its repercussions on financial markets in the world and Armenia.

The judgment of the current situation in the Armenian economy is that the spread of coronavirus in Armenia and around the world and the anti-epidemic measures against it will sharply reduce Armenia's economic activity in 2020. The negative effects will be seen primarily in the second quarter, which will be reflected in both supply and demand factors. As things currently stand with epidemic, restrictions applied by the Armenian Government will lead to reduced output in manufacturing and especially in services, coupled with lesser consumption, imports, private investments and sluggish external demand, mainly because of similar restrictions applied worldwide. To neutralize the above-mentioned negative consequences of the new coronavirus on the Armenian economy, the Government plans to

implement a stimulative fiscal policy, through spending an additional AMD 150.0 billion. The spending plans and directions are being developed, so what course they are set to follow will determine the extent to which domestic demand will be bolstered and inflation influenced.

The impact of the coronavirus pandemic on global economic developments and expectations came through decreased commodity prices, disrupted global production chains, tourism and transport services, and deteriorated performance of financial markets. In response to the growing global demand for liquidity, central banks of the world's leading countries have taken various measures to inject liquidity.

Initially, the impact of coronavirus pandemic on Armenia's financial market was most pronounced in the foreign exchange market when the local currency, the dram, began depreciating amid certain expectations. Considering the temporary nature of the demand for foreign exchange liquidity, the Central Bank provided banks with a required amount of funds, using the foreign currency swap instrument. At the same time, the Central Bank continued injecting, through its main instrument, the needed dram liquidity into the system by letting short-term interest rates stabilize around the policy rate. However, in the current uncertainty, a rise in interest rates of mid-term notes and long-term bonds is noticeable.

After discussing the situation report and external and domestic macroeconomic developments, the Board proceeded to addressing the monetary policy directions and making decision on the policy rate. Historically, when facing such shocks, developing countries have largely pursued more contractionary monetary policy, as inflation expectations were not sufficiently anchored and the dollarization was high. However, developing countries have recently begun to better manage inflation and move to a floating exchange rate policy, which allows a large number of countries to ease monetary conditions in response to economic shocks. In the case of Armenia too, in the light of a low-inflation policy pursued in recent years, inflation expectations are assessed as quite anchored. On the other hand, anticipated slowdown in economic activity slackens both supply and demand, which is why the impact on inflation is quite uncertain, mostly assessed as neutral. Therefore, given the low inflation, expected deflationary effects in the global economy, and current uncertainty, the **Board considers it appropriate to add to the monetary stimulus by cutting the refinancing rate by 0.25 pp.** As a result, according to the main scenario, inflation will remain relatively low in the coming months, gradually approaching the target in the near future. Given also that the monetary policy toolkit is not equipped to influence healthcare-related

developments, the Board highlights the importance of conducting a possibly more transparent and predictable monetary policy aimed at maintaining price stability.

The Board looked to current inflation risks; they are generally high and tend to either direction depending on the length of the epidemic situation and the pace of anti-epidemic measures. The Central Bank monitors the economy and financial markets on a daily basis, considers alternative scenarios, and is ready to react to any situational developments and risks, while ensuring price stability in the Republic of Armenia.

The Board approved the decision on interest rates of monetary instruments of the Central Bank and the proposed press release, which are attached hereto.

The Central Bank of the Republic of Armenia

Board Decision

Interest Rates of Instruments of Monetary Policy of the Central Bank of the Republic of Armenia

By virtue of Article 20 (c) of the Republic of Armenia Law on the Central Bank, the Board of the Central Bank of the Republic of Armenia **enacts:**

1. Cut the refinancing rate of the Central Bank of the Republic of Armenia by 0.25 pp to 5.25%.
2. To the Financial Markets Department of the Central Bank to perform the Central Bank transactions in the financial market by the following interest rates:
 - 2.1. Lombard facility rate offered by the Central Bank of the Republic of Armenia to be 6.75%.
 - 2.2. Deposit facility rate offered by the Central Bank of the Republic of Armenia to be 3.75%.
3. This decision takes effect through a procedure required by law.

Arthur Javadyan,
Governor of the Central Bank

March 17, 2020

c. Yerevan

PRESS RELEASE
17.03.2020

At the March 17 2020 meeting, the CBA Board decided to cut the refinancing rate by 0.25 pp to 5.25%.

There was 0.2% deflation in February 2020 as opposed to 0.6% inflation recorded in the same month last year, with a 12-month deflation rate having amounted to 0.5%.

Continued spread of the coronavirus worldwide is having a significant negative impact on the global economy and economic growth in partner countries. Uncertainties in the world financial markets have increased substantially, driving stock exchange indices of the developed countries to continued falling, commodity prices to decline, exchange rates to depreciate in developing countries, the impact of which on the Armenian economy is estimated to be deflationary.

According to the CBA estimates, these effects are also demonstrated through simultaneously contracting aggregate supply and demand in the behavior of the Armenian economy. The main impact is incurred by the services sector, especially the sub-sectors related to tourism and entertainment. According to the main scenario of the CBA, economic growth will notably slow in the short run, but will not affect Armenia's long-term economic potential outlook.

Looking to the developments in the economy, the CBA Board estimates that the role of monetary policy in the current situation is limited, as the toolkit of monetary policy is not set to be able to influence the real economic uncertainty growth and the development of certain sectors of the economy due to health problems. In this circumstance, carrying on to maintain macroeconomic stability of the country is important, which would allow to secure the effectiveness of target measures for economic policy the Government is developing. The CBA Board finds that thanks to low-inflationary policy pursued in recent years the inflation expectations are now sufficiently anchored. Therefore, given the CBA's price stability objective and in view of current inflationary developments, how the global economy will impact in the near future and how uncertainties unfold, the Board believes that the refinancing rate needs a 0.25 pp cut. As a result, according to the baseline scenario, inflation will remain relatively low in the upcoming months, gradually approaching the target value.

At the same time, the CBA monitors the economy and financial markets on a daily basis, addresses various alternative scenarios and is ready to react to any developments in the situation, while ensuring price stability in the Republic of Armenia.

Press Service of the Central Bank of Armenia

MAIN MACROECONOMIC INDICATORS OF ARMENIA

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
	actual	actual	actual	actual	actual	actual	actual	actual	program	program	program
Prices											
Inflation (y/y, end of period, %)	3,2	5,6	4,6	-0,1	-1,1	2,6	1,8	1,0	1,9	3,1	4,0
Consumer price index (y/y, average, %)	2,6	5,8	3,0	3,7	-1,4	1,0	2,5	1,5	1,0	2,6	3,6
Core inflation (y/y, average, %)	5,3	5,8	1,9	5,1	-2,0	0,8	4,0	1,2	1,0	3,0	4,0
Gross product											
GDP (billion Armenian dram)	4266,5	4555,6	4828,6	5043,6	5067,3	5568,9	6005,1	6551,8	6697,5	7359,3	7990,1
GDP (% real growth)	7,2	3,3	3,6	3,2	0,2	7,5	5,2	7,6	0,7	7,2	4,9
Supply											
Industry (% real growth)	6,4	6,3	-0,9	6,2	7,7	11,7	5,8	10,2	1,6	7,5	5,8
Agriculture (% real growth)	9,5	7,6	6,1	13,2	-5,0	-5,1	-8,5	-4,0	-3,5	3,2	2,5
Construction (% real growth)	4,5	-7,4	-4,5	-3,1	-14,1	2,8	0,8	4,2	0,4	6,7	3,9
Services (% real growth)	6,3	3,1	6,7	1,6	3,2	10,6	9,3	10,3	1,4	7,9	5,3
Taxes, net (% real growth)	9,9	3,6	1,8	-5,1	-4,7	9,7	8,0	7,1	0,9	7,6	4,8
Demand											
Consumption (% real growth)	7,7	1,9	0,7	-6,2	-0,5	10,5	5,1	11,2	0,8	6,0	3,8
Public consumption (% real growth)	-1,4	8,7	3,4	4,7	5,8	-3,9	7,4	1,5	2,5	2,4	1,2
Private consumption (% real growth)	9,1	0,9	1,0	-7,7	-1,2	12,7	4,7	12,7	0,5	6,5	4,2
Gross accumulation of fixed assets* (% real growth)	-1,9	-8,3	-2,2	2,5	-11,4	9,7	4,5	4,7	7,8	8,7	6,0
Public investment ** (% real growth)	-22,4	-13,8	10,0	13,6	5,0	31,7	-38,0	24,9	40,7	13,7	10,0
Gross accumulation of private fixed assets (% real growth)	0,9	-7,8	-3,4	1,2	-13,9	6,2	12,8	1,2	0,1	7,4	4,9
Export of goods and services (% real growth)	12,0	8,9	6,4	4,9	19,1	18,7	2,9	10,3	-5,8	10,3	8,0
Import of goods and services (% real growth)	4,7	5,5	-1,0	-15,1	7,6	24,6	12,8	9,1	-10,3	6,6	4,1
External sector											
Balance of trade (million US dollar)	-2111,9	-2196,2	-2055,4	-1186,4	-944,4	-1376,1	-1789,1	-1952,7	-1719,3	-1693,2	-1639,3
Balance of services (million US dollar)	-101,6	-124,3	-113,0	-94,5	-71,4	-35,6	-157,8	-209,4	-116,7	-103,3	-87,7
Remittances (million US dollar)	1539,8	1755,1	1616,1	1082,4	989,6	1179,3	1136,2	1139,7	923,0	978,3	1037,0
Current account (million US dollar)	-1057,9	-812,9	-883,1	-279,1	-238,1	-344,4	-1165,3	-1321,8	-1133,6	-1058,6	-930,4
Balance of trade (share in GDP, %)	-19,9	-19,7	-17,8	-11,3	-8,9	-12,2	-15,7	-15,8	-13,5	-12,0	-10,6
Balance of services (share in GDP, %)	-1,0	-1,1	-1,0	-0,9	-0,7	-0,3	-1,3	-1,5	-0,9	-0,7	-0,5
Remittances (share in GDP, %)	14,6	15,8	14,0	10,3	9,3	10,2	9,1	8,3	6,8	6,5	6,4
Current account (share in GDP, %)	-10,0	-7,3	-7,6	-2,7	-2,2	-3,0	-9,4	-9,7	-8,3	-7,1	-5,7
Public sector***											
Revenues and grants (billion Armenian dram)	946,2	1071,4	1144,8	1167,7	1171,1	1237,8	1341,7	1559,1	1587,7	-	-
Tax revenues (billion Armenian dram)	878,4	1000,9	1064,1	1067,9	1079,7	1158,0	1258,1	1464,3	1500,3	-	-
Expenditures* (billion Armenian dram)	1006,1	1142,9	1235,1	1409,0	1449,1	1504,8	1447,1	1623,0	1790,9	-	-
Deficit (billion Armenian dram)	-59,9	-71,5	-90,3	-241,3	-278,0	-267,0	-105,4	-63,9	-203,2	-	-
Revenues and grants (share in GDP, %)	22,2	23,5	23,7	23,2	23,1	22,2	22,3	23,8	23,7	-	-
Tax revenues (share in GDP, %)	20,6	22,0	22,0	21,2	21,3	20,8	21,0	22,3	22,4	-	-
Expenditures (share in GDP, %)	23,6	25,1	25,6	28,0	28,6	27,0	24,1	24,8	26,7	-	-
Deficit (share in GDP, %)	-1,4	-1,6	-1,9	-4,8	-5,5	-4,8	-1,8	-1,0	-3,0	-	-
Monetary sector											
Broad money (y/y, end of period, %)	19,5	14,8	8,3	10,8	17,5	18,5	7,5	11,2	-	-	-
Dram broad money (y/y, end of period, %)	11,9	14,9	-3,5	5,2	24,8	28,9	13,2	21,5	-	-	-
Loans to economy (y/y, end of period, %)	27,6	12,9	20,8	-3,3	6,0	16,5	17,2	18,5	-	-	-
USD / AMD (Armenian dram for one US dollar)	401,8	409,6	415,9	477,9	480,5	482,7	483,0	480,4	-	-	-

* From now on, the Central Bank will only present the indicator of gross fixed asset accumulation instead of gross accumulation, since the change in tangible working capital inventories is considered by Armenia's Statistics Committee as a balancing item and it does not show the true level of gross accumulation. See https://www.armstat.am/file/article/sv_04_19a_112.pdf.

** Actual indicators of public investment are the capital expenditures of the consolidated budget, and the forecasts are based on the Mid-Term Expenditures Framework, 2019-2021.

*** The 2019 budget indicators are the Central Bank estimates.

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