THE CENTRAL BANK OF
THE REPUBLIC OF ARMENIA

Approved under the Central Bank Board Resolution No 95A, dated June 28, 2021

Inflation Report/2

Monetary Policy Program, Q2, 2021

Status Report on Implementation of the Monetary Policy Program, Q1, 2021

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 the Status Report on implementation of the monetary policy program of the previous year, which presents the results of monetary policy implementation and covers the actual developments in the domestic economy.

Publishing of inflation forecast and underlying assumptions in parallel to target inflation indicator makes 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 June 15, 2021, i.e. the day on which the refinancing rate was set, the results of 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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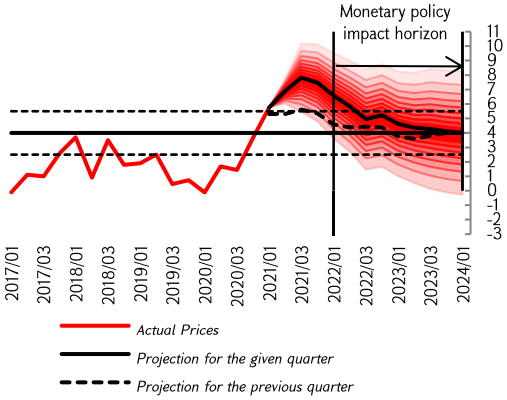
1. EXECUTIVE SUMMARY

In the aftermath of the devastating year full of health and economic-political challenges, in 2021 development trends of the global economy surpassed the expectations both in terms of overcoming the coronavirus pandemic due to vaccination and faster economic and aggregate demand recovery enhanced by strongly expansionary policies. These trends in the global commodity markets and in the main partner countries of Armenia have led to a significant expansion of the inflationary environment spilled over to the Armenian economy through a number of imported goods, and reflected in rising inflation and expectations of inflation. According to projections, the inflationary developments in the external sector are of short-term nature, hence the world's leading economies and partner countries of Armenia continue to prioritize expansionary monetary policy, planning its gradual and slow retraction in the medium term.

According to the baseline scenario of the Central Bank of Armenia, in the coming quarters 12-month inflation will remain at a high level. Demand factors have been added to the supply-side impact factors from international food prices due to the large increase in private consumption than opportunities to expand production capacity. As a result of faster growth of private consumption compared to the output expansion capacity, supply-side factors of international food prices were followed by demand-side factors. In light of the existing situation, the Central Bank has raised policy rate. In the meantime, reaffirming consistency of the policy to neutralize the risks of accelerating inflation expectations in the face of higher domestic demand, the Central Bank considers introduction of possible changes with the view to mitigating and restraining expansionary stance of monetary conditions.

Chart 1

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



Source: NSS, CBA projection

Under the implemented monetary policy and expected economic developments, the 12-month inflation will remain high in the coming quarters, and will gradually decrease in the medium term, under the influence of restrictive fiscal and monetary policies, stabilizing around the target of 4.0%.

According to the Central Bank's short-term forecast scenario, recovering faster-than-expected in the coming quarters growth rate (compared to the same period last year) will be in positive stance starting from the second quarter of 2021 mainly due to the growth of private consumption. Accordingly, the Central Bank has

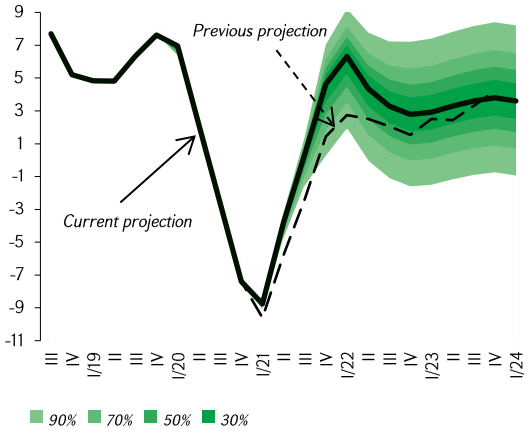
substantially revised upwards the annual economic growth rate projection. Growth in the medium term will slow down somewhat and stabilize around the long-term equilibrium level.

Economic growth in 2021 will be mainly driven by growth in output from the industry and service sectors, along with quick recovery in gross demand, in particular private consumption. Slowdown in the medium-term growth will be mostly the consequence of continuing sluggish investment activity and gradual stabilization of rapidly growing private consumption due to the restrictive fiscal and monetary policies.

Risks of deviation from the forecast inflation and economic growth in the forecast horizon are balanced (see subsection "2.2.4 Main Assumptions and Risks"). The Central Bank monitors macroeconomic developments and in case of any emergence of risks the CBA stands ready to respond accordingly, ensuring the fulfilment of the price stability objective in the medium term.

Chart 2

Real GDP growth (cumulative)[1] forecast probability distribution for 3-year horizon



Source: NSS, CBA projection

[1] *The growth rate of each quarter is calculated as the cumulative growth rate for the last four quarters.*

2. FORECAST, FORECAST CHANGES AND RISKS

2.1. External Environment Developments

Amid large-scale vaccination against coronavirus and strongly expansionary policies, the global economy continues rapid recovery. The vaccination process is particularly fast in developed economies, where economic restrictions have largely been lifted parallel to achieving general resilience of population to coronavirus, while slow vaccination rates in developing countries will put off mitigation of the pandemic impacts till end 2021.

Amid large-scale vaccination against coronavirus and strongly expansionary expansionary policies, the global economy continues rapid recovery.

Judging from current developments, the spread of coronavirus after a certain level of vaccination (double vaccination of 50-60% of the population) is significantly slowing down (USA, Israel, Great Britain), hence, the possible impact of coronavirus on the economy at that level of vaccination would be negligible. According to projections of the Central Bank, developed countries will reach the benchmarked level of resilience in the third quarter of the current year (the USA somewhat quicker than the Eurozone). The vaccination process in one of the main partners of Armenia, the Russian Federation, is slower.

Economic Developments in the United States. Current developments in the US economy indicate that the economy is recovering faster than previously expected. According to the Bureau of Economic Analysis of the US Department of Commerce, in the first quarter of 2021, the US economy recorded a higher-than-projected 0.4% year-on-year growth, which was mainly due to the high growth of private consumption, reflecting higher-than-expected impact of initiatives to support the economy. Subsequently, the economic growth projection for 2021 has been revised upwards and is expected to be around 6.1%.

According to current estimates of the Central Bank, the impact of "Biden Plan" and previous fiscal initiatives on demand will reach its peak in the third quarter of 2021, and their positive impact will last until the end of 2022.

While in April 2021 the unemployment rate was 6.1%, compared to the historically high 14.8% in the same month last year, and in May it was 5.8%, recovery of the USA labor market is slow, which, however, is in line with the previous projections of the Central Bank of Armenia. It is estimated that the reduction in unemployment, after a certain current slowdown, will accelerate in parallel with the gradual abolition

of unemployment benefits. However, the pre-crisis level of jobs may be achieved not earlier than in the second semester of 2022.

In the USA, in the first quarter of 2021, the quarterly personal consumption expenditure price index2 driven by demand recovery and the increase in food and energy prices, continued to grow and reached 1.8% y/y.

In April, inflation rate exceeded the FRS medium-term target of 2% with a 3.6% year-on-year growth, largely due to temporary supply factors, and presently no significant spill-over effects of inflation are expected. Along with neutralization of the impact of supply factors and expansionary fiscal policy, inflation in the medium term will gradually slow down, approaching the target level.

In order to continue labor market recovery and ensure sustainability of financial markets, the FRS will continue to maintain the policy interest rate at current zero levels until 2023, and securities purchasing programs will continue at current volumes at least until the end of the year.

Economic developments in the Eurozone. The extension of measures to fight the pandemic in the Eurozone has led to a slow economic recovery in early 2021. According to preliminary estimates by the Eurostat, economic decline in the Eurozone in the first quarter of 2021 amounted to 1.3% year-on-year, which was mainly due to the low rates of private consumption. Economic restrictions in many countries of the Eurozone have been significantly eased since May, which was primarily reflected in the positive developments in the services sector. Together with further spread of vaccination, a more favorable external economic environment, the easing of economic constraints and the expansionary monetary policy pursued by the ECB, from the second semester of 2021, the pace of economic recovery is expected to accelerate. Under these circumstances, the Central Bank of Armenia expects 2021 annual growth at 4.1%.

It should be noted that compared to many other developed economies, the growth of unemployment, as well as the decline in labor force participation was smaller due to tighter regulation of the EU labor market and the expansionary economic policies. However, conditioned by the same factors, recovery of the labor market is at a slower pace.

After deflation of the previous year, beginning from 2021, acceleration of the inflation rate in the Eurozone was observed. Inflation rate in the Eurozone in the first quarter of 2021 totaled 1.0% year-on-year, being still below the ECB target, while year-on-year core

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[2] The personal consumption expenditure price index target is 2%, which on average is commensurate with headline inflation of 2.3%.

inflation in the first quarter accelerated to 1.2%. Inflation in the Eurozone continued to accelerate, reaching the target level of 2.0% in May. The main factors for the growth of inflation were mainly the rise in energy prices, as well as moderate growth of food prices. It is expected that fueled by high prices of raw materials and foodstuffs, inflation will continue to accelerate until the end of the year, and will return to lower than the target levels, after the above-mentioned supply factors phase out.

Sluggish domestic demand will have a positive effect on inflation only in the last part of the three-year forecast horizon. Under these developments, the ECB will maintain the current expansionary monetary conditions throughout the horizon.

Economic developments in Russia. Current developments in the Russian economy show that gradual recovery of the economy observed since the second half of the previous year, continued in the first quarter of 2021. According to Rosstat, in the first quarter of 2021, the Russian economy experienced a smaller-than-expected decline of 0.7% year-on-year. Current trends also indicate a rapid recovery in demand. According to forecasts of the Central Bank of Armenia, amid rising international oil prices and the recovery of global economy, growth is expected to reach 3.4% by 2021.

Russia's average quarterly inflation continued to accelerate in the first quarter of 2021, totaling 5.4% year-on-year against 4.4% of the previous quarter, and continued to stay above the target 4%. In April and May 2021, inflation continued to accelerate, reaching 6.0% in May. Thus, based on both short-term supply and demand factors, inflation in Russia will be at a slightly higher level than previously projected.

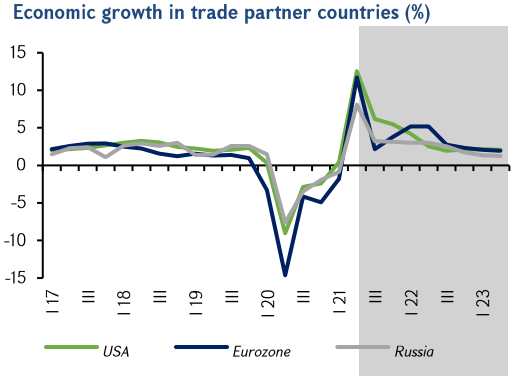
Under these circumstances and given high inflation expectations, the Central Bank of Russia will normalize monetary conditions faster than projected by the CBA earlier, bringing back inflation to target level in the last segment of the horizon. In this context, in April and June 2021, the RCB raised policy rate by 0.5 percentage points, setting it at 5.5%.

<u>Developments in commodity and food product markets:</u> In the context of slow growth of supply, quick recovery of demand and expansionary economic policies, prices on inputs and foodstuffs in commodity markets will stay high.

Amid the high demand on copper and subsequent expectations of its shortage, since the beginning of 2021, developments on international copper market were mostly of inflationary nature. During the first quarter of 2021, the growth of international copper prices was

Chart 3

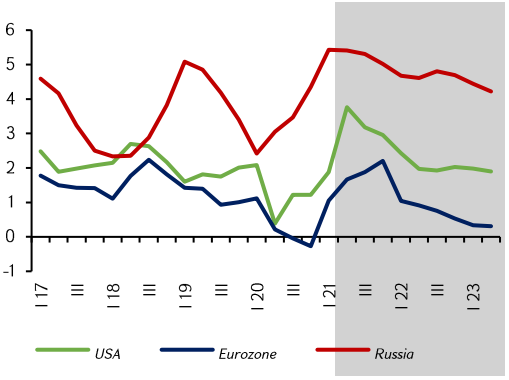
Economic growth in trade partner countries (%)



Source: BEA, Eurostat, Rosstat, CBA projections

Chart 4

Inflation in trade partner countries(%)



Source: BEA, Eurostat, Rosstat, CBA projections

In the context of slow growth of supply, quick recovery of demand and expansionary economic policies, prices on inputs and foodstuffs in commodity markets will stay high.

49.3% year-on-year. Current increase in demand is due to a world-wide preference for the production of environmentally friendly energy-saving technologies (for example, manufacturing of electric cars), where large quantities of copper are used as inputs. According to current estimates of the Central Bank, rapid growth of the above-mentioned sectors in the medium term, will result in further growth of international copper prices in the range of 11-12 thousand US dollars per ton.

Driven by OPEC meetings and published reports, since the beginning of the year oil prices demonstrated inflationary trends. Thus, during the first quarter of 2021, prices grew by 24.0% year-on-year. The rise in prices continued in April and May 2021. In particular, the rise in prices was due to the fact that compared to previous projections OPEC projections for global oil output in 2021 were revised downwards, mainly because of production disruptions in the United States after the frost in Texas. On the other hand, inflation is fueled by growing global demand expectations amid on-going vaccination process. Moreover, in the short term, the above-mentioned factors will continue to contribute to the high level of international oil prices.

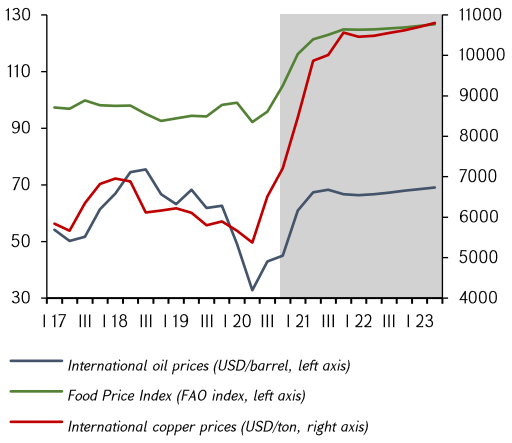
According to the CBA projections, oil supply will grow to some extent in the medium term, mainly due to the increase in production of OPEC member countries offsetting further inflationary impact of expansionary economic policies, and oil prices will fluctuate around $ 70 per barrel in the forecast horizon.

In the first quarter of 2021, inflation tendencies persisted in almost all food markets. In the context of the current limited harvest, developments in almost all product groups, amid the growing demand, are of inflationary nature. Thus, inflation in the sugar market was driven by the limited supply, as well as growth of demand among major importing economies. While rapid growth of demand at the beginning of the year again had a strong impact on inflation, harvest expectations for the new marketing year are higher than before, contributing to more modest inflationary developments in this product group. High inflationary developments in vegetable oils market were also the result of growing market demand in the wake of the current limited harvest (the price growth is further fueled by the growth of demand for biofuels).

Due to expectations of abundant agricultural harvest from the second half of this year, ***world food prices will stabilize to some extent, and in the medium term will stay at high levels in line with the scenario of persisting expansionary policies in developed countries.***

Chart 5

International commodity and food prices



Source: World Bank, FAO, CBA projections

2.2. Forecasts

2.2.1. Inflation and Monetary Policy

Inflation remained high in the current quarter, with a 12-month inflation rate of 5.9% in May. During this period, 12-month core inflation rate somewhat grew, reaching 7.4% in May. Inflation continues to be affected by supply factors, including rising inflationary pressures in international commodity markets, which are transmitted to the domestic economy, as well as some depreciation of the Armenian dram in recent months. On the other hand, the recovery of demand in the domestic economy, in the form of rapid growth of private consumption, is taking place at a faster pace than expected, which creates additional inflationary pressures at a relatively low rate of output capacity expansion. The rapid recovery of consumption also indicates a certain increase in inflation expectations. Asa matter of fact the acceleration of inflation in the past was conditioned solely by supply factors, and therefore the Central Bank's response assumed some moderation, targeting the secondary effects of supply factors and rising inflation expectations on the other hand, and keeping some level of expansion for demand recovery on the other (see Box 1). In addition to supply factors, currently there is some inflationary pressure in terms of private demand, and hence the Central Bank's response is proportionate to current and expected inflation developments. Subsequently, after reaching a high level, inflation will decline in the medium term, gradually approaching its target value. In addition, amid ongoing risks of accelerating inflation expectations in the near future and the ensuing consistent policy to mitigate them in the near future, the Central Bank considers the possibility of changes aimed at suspension and containment of the expansionary effects of monetary policy.

Inflation remained high in the current quarter, with a 12-month inflation rate of 5.9% in May.

Judging by current developments and the current assessments of the Central Bank, certain invigoration in the services and industry sector is reflected by accelerating tendencies of growth. On the other hand, favorable developments in the external sector of the economy, higher rates of remittances, some growth of lending and declining savings are conditioned by the rapid recovery of private demand reflected exclusively in the form of augmented private consumption, as investment activity remains weak. Moreover, amid growing external

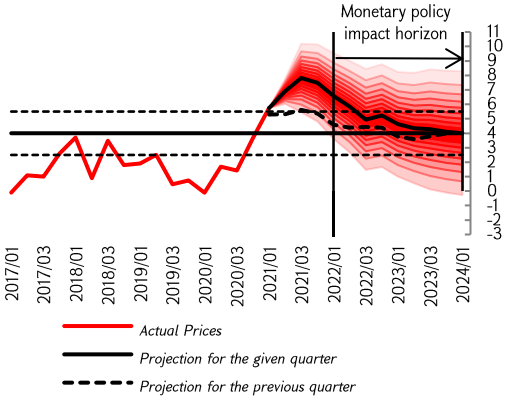
demand, world prices for industrial metals, positive dynamics of exports from Armenia, acceleration of remittances from abroad, as well as an increase in the influx of tourists, Armenian dram in foreign exchange market displayed appreciation tendencies.

Subsequently, according to estimates, fiscal policy in 2021 will have a certain restraining effect.

As a result, GDP gap in the second quarter of 2021 is expected to be significantly positive. In the short run, the impact of the above positive factors will continue, but in the medium term, due to neutralization and gradual tightening of expansionary monetary position, small fiscal deterrent effects, as well as changes in reserve requirements, positive GDP gap will cease under the impact of certain constraining monetary effects (see Box 3). Consequently, inflationary pressures will also weaken, and inflation will approach the target in the medium term. It is estimated that a certain rise in short-term inflationary expectations in society, which was previously associated exclusively with growing uncertainty, some AMD devaluation in foreign exchange market and actual acceleration of inflation, currently is affected by rapid recovery in private demand as well. Accordingly, in order to mitigate the risks of further inflation and inflation expectations in the face of a positive demand gap, ***the CBA Board decided to raise policy rate by 0.5 percentage points.***

Chart 6

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



Source: NSS, CBA projection

In order to mitigate the risks of further inflation and inflation expectations in the face of a positive demand gap, the CBA Board decided to raise policy rate by 0.5 percentage points.

Table 1

Period	Inflation interval forecast probability distribution				
	<1.0%	1.0-2.5%	2.5-5.5%	5.5-7.0%	>7.0%
QII 2021	0.0%	0.0%	0.4%	55.8%	43.8%
QIII	0.0%	0.0%	5.4%	23.1%	71.5%
QIV	0.0%	0.1%	11.0%	27.3%	61.6%
QI 2022	0.1%	1.1%	26.3%	31.8%	40.7%
QII	0.6%	3.5%	38.7%	29.8%	27.4%
QIII	3.1%	9.3%	47.9%	23.1%	16.7%
QIV	2.5%	7.9%	44.8%	24.3%	20.5%
QI 2023	5.0%	11.7%	48.7%	20.5%	14.0%
QII	7.4%	13.8%	47.7%	18.3%	12.7%
QIII	9.7%	14.4%	44.6%	17.3%	13.9%
QIV	11.2%	15.2%	44.2%	16.4%	13.0%
QI 2024	12.4%	15.8%	43.6%	15.8%	12.5%

Box 1

Implementation of Monetary Policy Amid Inflation Driven by Supply Factors

In the economic literature, supply shocks are defined as shocks that affect the quantity of goods and services produced in the economy, which, in turn, is reflected in prices and general inflation. For example, when the supply of oil decreases, as a result of which the price of oil grows, firms increase prices of goods, because marginal costs have grown (oil is a factor of production). An increase in the prices of imported consumer goods can also be a source of supply shock, or, for example, when the firm's employees demand wages that are higher than their marginal productivity, which causes inflation[3]. In general, the role of supply factors refers to the unpredictable and specific manifestations of marginal costs and markups in the pricing process of firms reflected in inflationary developments.

At the end of 2020, amid rapid growth of global demand and limited supply in a number of commodity markets, significant inflationary developments were observed in the field of raw materials and foodstuffs, as well as in international services (cargo transportation), which had a direct impact on rising prices of commodity imports in Armenia. Thus, since the third quarter of 2020, international sugar prices have risen by 21.4%, sunflower oil - 66%, butter - 23.2%, wheat - 12.6%, and oil prices have risen by 58.7%.

On the other hand, during relatively large shocks, such as the developments in the Republic of Armenia in recent quarters, the usual processes of adjusting market prices change in several ways. First, businesses tend to change prices more frequently. This is more pronounced in retail markets, where long-term supply contracts and stable business relationships are unusual, but sometimes takes place in individual wholesale markets as well. It is noteworthy that in times of great shocks, a number of goods and services, whose prices are very high (postal, hairdressing, taxi services, etc.), adjust prices against the background of general inflationary shocks, including inflation accumulated in their sector over the years. This is inter alia evidenced by a sharp increase in the share of "price changers" in Armenia since the end of 2020, which was also the case in situations associated with historically similar big shocks. (see Chart 7).

Another important feature of the pricing process in Armenia is the fact that as a result of large shocks, there are additional uncertainties among market participants about future economic developments, as well as future direction of inflation. Higher uncertainty in the economy, as a rule, leads to a decrease in output, but the impact of uncertainty on inflation is not that straight. It occurs in two main ways: through the growth of precautionary savings and the growth of price markups. In the first case, households, seeking to smooth their consumption in the face of uncertainty about future income, are increasing their savings, reducing current consumption, which is a deflationary phenomenon. Alternatively, when the firms do not know the price level in the economy amid uncertainty, but only have some idea of the price distribution, they set a higher-than-average price when adjusting the prices, because the prices are rigid, and

Chart 7

The share of product groups with a price change of more than 1% in the consumer basket

[3] *Mishkin, Frederick S. "Economics of Money Banking and Financial Markets. Tenth Edition." (2012).*

if a price is set below the real unit price, the company may incur ensuing losses. Consequently, as a result of growing uncertainty, firms create inflationary pressures.

Depending on the structure of economy, the nature of the economic shocks and uncertainties, final impact can be either inflationary or deflationary[4]. In Armenia, amid the risks posed by the development of the coronavirus pandemic, as well as the hostilities in Artsakh and economic and political issues in the aftermath, the uncertainty about future economic developments has significantly grown for both households and companies. The level of household savings, which had increased significantly in 2020 due to anti-pandemic measures, began to decline in early 2021, as savings were redirected to private consumption. Therefore, the impact of uncertainties on inflation developments since the beginning of the year, in terms of precautionary savings and private consumption, can be assessed as very limited (non-inflationary). Moreover, the significant growth of economic uncertainty was much more clearly reflected in the behavior of firms, which made quick and often non-proportional price adjustments. Simultaneously, households' uncertainties related to the future path of inflation augmented. Amid uncertainties related to economic prospects, significant fluctuations were also observed in the Armenian foreign exchange market, which, especially against the background of the dram's devaluation, had additional inflationary effects on consumer prices.

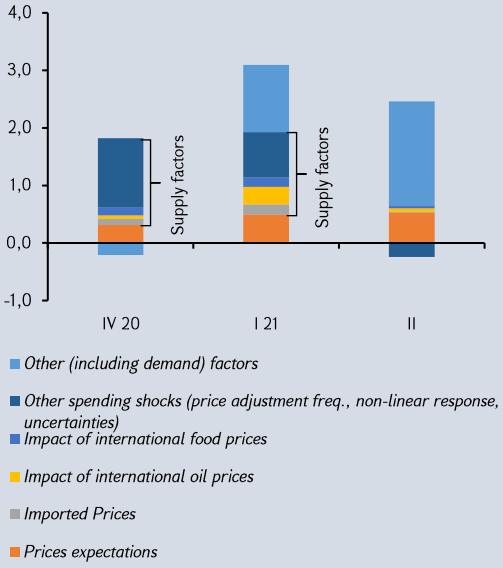
Against the background of uncertainties related to the described supply factors, including the growth of international food and commodity prices, inflation in recent months has accelerated significantly as a result of rapid, non-linear and non-standard behavior by firms in pricing processes (see Chart 8).

As for the CBA's reaction to supply shocks, monetary policy responds to inflation or inflation expectations in line with the predefined rules (in the New Keynesian environment, the Central Bank usually responds to inflation expectations). Thus, a negative productivity shock (supply shock) reduces output and, at the same time, increases commodity prices as marginal expenses grow. CBA responds to high inflation by following Taylor's standard rule, raising nominal interest rate 5: However, if the inflation shock is non-recurrent and it is zero the next moment (which is typical of inflation associated with supply factors), and monetary policy, which is completely rational under the New Keynesian assumption, responds to the expected inflation, then the Central Bank simply does not change interest rate, as inflation expectations remain unchanged.

Concerning inflation expectations, which are one of the most important variables for politics, it is important to assess the extent to which those expectations are anchored. Subject to the degree of stability and anchoring of inflation expectations, policy response will be different. Thus, in countries where inflation expectations are weaker, the CBs must respond more strongly to the supply shocks of the same size in order to curb the possibility of further de-anchoring of inflation expectations and prevent further and continuous acceleration of actual inflation.[6] Therefore, in the case of inflation associated with supply factors, the

Chart 8

Impact of Main Factors on Inflation



[4] Born, Benjamin, and Johannes Pfeifer. "Uncertainty-driven business cycles: Assessing the markup channel." Quantitative Economics 12.2 (2021): 587-623.
[5] Galí, Jordi. "Monetary policy, inflation, and the business cycle." Princeton UP (2007).
[6] Alichi, Ali, et al. "Inflation targeting under imperfect policy credibility." IMF Working Papers (2009): 1-30.

strength and direction of the Central Bank's response depend on the behavior of inflation expectations.

Referring to the peculiarities of the Central Bank's response, it is interesting to discuss a situation when developments in the outside world, in particular, changes in prices in the commodity market, are a source of shocks to inflation. Two cases can be distinguished here: the first, when the product is both a consumer product and a production factor[7], and the second, when it acts as a consumer product only[8]. In the first case, the growth of that product price (for example, oil) is reflected in both the decline in real household incomes as their consumer basket becomes more expensive and the increase in firms' marginal costs, which has a secondary effect on inflation. This results in lower output and inflation exacerbating the choice of Central Bank's response. And if current inflation also affects inflation expectations, the Central Bank responds by raising policy interest rate. In the second case, when the product is only a consumer good, while the shock of the imported product price markup leads to inflation and a decrease in consumption, in terms of output may not lead to a decrease and even result in an increase. This is due to the fact that, firstly, imported goods have substitutes in the local market, and secondly, consumption, owing to savings, does not experience a huge decline. As a result of these two factors, the demand for local products grows, which increases the level of output. Therefore, in such a situation, the Central Bank does not face the problem of a conflicting response.

As a summary, given the price developments in the RA commodity markets during the last quarters and their peculiarities described above, the response of the Central Bank of Armenia to the mentioned developments as temporary factors of supply was moderate. It was aimed solely at preventing possible secondary effects on inflation and higher inflation expectations as a result of these shocks, as well as preventing inflationary developments in the face of uncertainty over the future direction of inflation, at the same time trying to maintain relatively favorable conditions for the recovery of demand.

2.2.2. Economic Activity[9]

After last year's deep economic downturn, GDP growth in 2021 is expected to recover slightly, mainly due to the acceleration of private consumption. The latter was quite restrictive because of the sharp increase of uncertainty last year amid pandemic and military conflict in Artsakh and growth in private savings. Last year's "deferred"

After last year's deep economic downturn, GDP growth in 2021 is expected to recover slightly, mainly due to the acceleration of private spending.

[7] *Soto, Claudio, and Juan Pablo Medina. "Oil shocks and monetary policy in an estimated DSGE model for a small open economy."Documentos de Trabajo (Banco Central de Chile)353 (2005): 1*

[8] *Christiano, Lawrence J., Mathias Trabandt, and Karl Walentin. "Introducing financial frictions and unemployment into a small open economy model."Journal of Economic Dynamics and Control 35.12 (2011): 1999-2041.*

[9] *For a detailed economic growth forecasts, see the "GDP Projection Probability Distribution", Chart 18, Table 2.*

demand will to some extent materialize in 2021 and will be reflected in the reduction of savings, which is already the case in terms of actual figures for the first quarter (see Section 3.2.2). Private savings are expected to continue to decline during the year, but, given precautionary savings[10], will still remain above the 2019 level. Private investment will remain restrained throughout the year amid economic and political uncertainties. Subsequently, higher private spending in 2021 will be the main driver of growth in the current year and will amount to 8.5% due to a 10.9% increase in private consumption. while the gross accumulation of private fixed assets will decline by 5.9%: Government spending will have a negative impact on economic growth due to a strong fiscal consolidation in the current year after a significant boost last year, while impact of net exports will be neutral because of accelerated growth in both imports and exports. The latter will recover somewhat during the year, but will still remain well below the pre-crisis level, mainly conditioned by low rates of incoming tourism.

In the projected medium-term horizon, as productivity accelerates, economic activity will slowly recover, mainly at the expense of private spending, however, at the end of the horizon, the level of private investment will still be lower than in the pre-crisis period amid current economic and political uncertainties. In this context, GDP growth at the end of the forecast horizon will be around a steaty state level of 3.5% -4.0%. The contribution of public spending to economic growth is expected to be slightly positive (after the negative contribution of 2021) due to stable fiscal consolidation, which aimed at reducing the deficit and public debt burden. In the medium term, along with acceleration of productivity, as well as recovery of international tourism, growth of exports and imports will accelerate, but the net export contribution to economic growth is assessed as slightly negative.

GDP growth at the end of the forecast horizon will be around a steaty state level of 3.5% -4.0%.

External Demand. In 2021, BOP current account developments will take place amid faster recovery of global and domestic economies, as well as ongoing high international copper prices and remittances. With these expected developments, current account deficit to GDP ratio for 2021 will be significantly lower than in the previous projections, revisions mainly relate to trade balance and remittances. Moreover, tourism sector in the world will remain sluggish as long as vaccination

[10] *The response of the society to the high economic and political uncertainty in the country. In other words, instead of directing financial resources to consumption today, the consumer saves them in order to spend in future when situation stabilizes. For details, see Box 2 "Impact of Uncertainty Growth on the Economy (US Example)" in Monetary Policy 2020, QII Program, Monetary Policy 2020, QI Program Implementation Report periodical.*

access and actual implementation are disproportionately distributed between countries. In this regard, coordinated policies of the countries in the field of tourism safety are crucial.

Real growth projections for exports of goods and services were revised upward, due to the faster recovery of the global economy, as well as stronger-than-expected export growth amid high copper prices. Given the continued high prices for copper, positive trends in the mining sector will continue. Similarly, exports of prepared food and alcoholic beverages in a favorable environment of external demand will also be higher than previous projections. Services exports were revised upwards, due both to higher-than-projected growth of tourism and exports of goods. As a result, growth rate of real exports of goods and services will be in the range of 7.0-9.0%, higher than the previous projection.

According to new domestic demand projections on higher rates of recovery and growth, in 2021 the process of real imports of goods and services will accelerate to 5.0-7.0%. Resumption of tourism imports, in contrast to exports, will lag behind given the relatively low rate of vaccination in Armenia, which will result in a somewhat cautious policy of receiving tourists from Armenia by other countries (especially the European Union).

Russia's economic recovery and gradual easing of restrictions lead to the resumption of seasonal labor migration, due to which an increase in remittances of seasonal workers is expected in line with the scenario of previous projections. Moreover, estimates show that remittances from the United States will be at a higher level than previously projected. According to these estimates, net inflow of total transfers in 2021 will grow by about 15.0-18.0%.

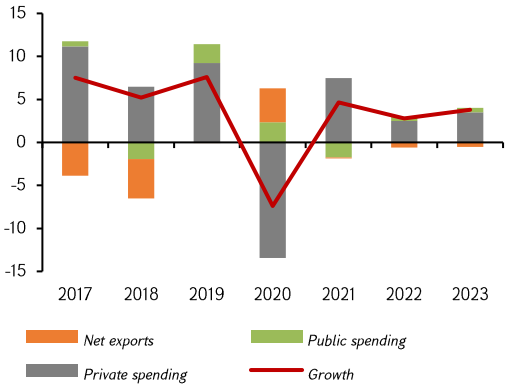
The current account deficit/GDP ratio in 2021 will improve both compared to the previous projections and 2020 actual figures, staying in the range of 1.0-3.0%.

In the medium term, in parallel with the trends of recovery of global and domestic economies and relatively stable international prices, current account deficit/GDP ratio will gradually approach the estimated equilibrium level of 4.0-6.0% and stay around it.

Fiscal Policy. The fiscal policy's impact on aggregate demand for 2021 was estimated based on the indicators of the Republic of Armenia 2021 State Budget Law, the adjusted budget program[12], and the subsequent Central Bank projections.

Chart 9

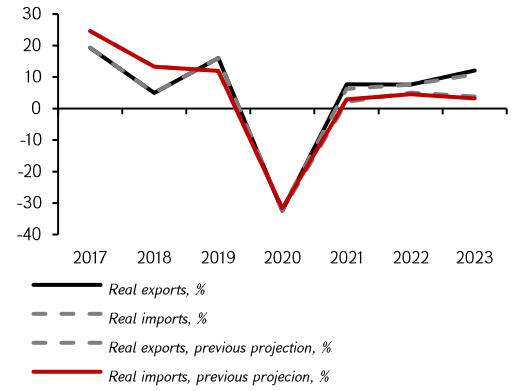
Contribution of demand components to growth [11] (percentage point)



Source: NSS, CBA projection

Chart 10

Change in real export and import of goods and services in the medium term *(%)*



Source: NSS, CBA projection

[11] Demand does not take into account changes in inventories, as it is calculated by the CBA as a balance sheet item and does not reflect the real level of investment. Therefore, growth calculated by supply and demand factors can variate.
See: https://www.armstat.am/file/article/sv_04_19a_112.pdf
[12] The adjusted program is the current quarterly և annual program adjusted in line with the Government decisions.

Due to actual developments of January-May 2021, economic recovery, growth of imports and actual inflation, tax revenues exceeded the quarterly proportions. Accordingly, the annual tax program for 2021 was revised upwards by about AMD 49.0 billion. As a result, the tax / GDP[13] ratio will total 22.1%, down 0.3 percentage points from 2020.

According to the Central Bank estimates, public expenditures total 97.8% of the annual program adjusted in line with the Government decisions. The low level of expenditures is conditioned, in particular, by expectations of only partial disbursement of external financing against incurred capital costs and the resulting co-financing savings. Thus, in January-April 2021, capital expenditures on externally financed programs amounted to only 25.9% of the semi-annual budget. In such a situation, according to the Central Bank, in 2021 expenditures/GDP ratio will total 27.5%, decreasing by 3.1 percentage points compared to the previous year.

According to the CBA estimates, in 2021 deficit/GDP ratio will total 4.4%, down by 1.1 percentage points against 2020. Despite the rather high level of deficit, adjusting government expenditures and revenues from flows that do not affect gross demand, in 2021, compared to 2020 (when fiscal policy was significantly expanding), 1.0 percentage point revenue expanding and 2.3 percentage point expenditure curbing effects are expected.

In 2021, compared to 2020 (when fiscal policy was significantly expanding), 1.0 percentage point revenue expanding and 2.3 percentage point expenditure curbing effects are expected.

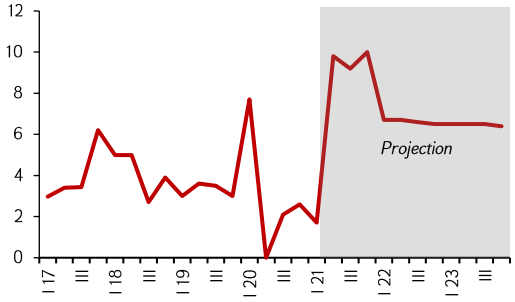
Given that according to 2021 state budget law indicators, the Government in 2021 will be above 60% GDP threshold, in terms of implementation of the current fiscal policy, it is supposed that the exceptional case defined by the current fiscal rule will be maintained in 2021 as well.

In the medium term, based on the 2022-2024 draft MTEFP, it is expected that, in parallel with the recovery of the economy, the Government will implement fiscal consolidation. Within the framework of fiscal rule, this will ensure a gradual reduction of the budget deficit and debt burden due to the higher tax revenues and the improvement of the expenditure structure. As a result, restraining of fiscal policy is projected for 2022, and a neutral impact for 2023.

Labor Market[14]: In 2021, nominal wages in the private sector are projected to grow by about 9.7%, due to the consistency of SRC

Chart 11

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



Source: NSS, CBA projection

[13] 2021 GDP indictor is the CBA projection, which has been revised upwards.

[14] The labor market data for 2020-2023 are the Central Bank projections based on the actual 2020 second and third quarter data. The growth indicators presented in this sub-section are relative to the same reference period last year, unless otherwise specified.

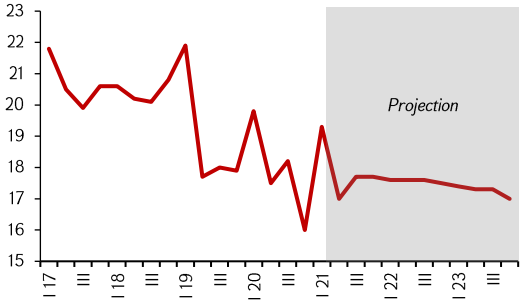
administration[15] aimed at ensuring accurate declaration of wages by businesses, as well as a certain real wage increase in parallel with the recovery of private demand. In light of the ongoing acceleration of inflation, a strong increase in private wages is expected in the short run. As a result, the weak growth of real nominal wages will be accompanied by weak inflationary pressures of labor costs in enterprises. Starting from 2022 and in the medium term, nominal wage growth in the private sector is projected at around 6.5%, in line with productivity and inflation developments in the economy.

Along with the upward revision of economic growth, given the higher productivity growth rate, a lower unemployment rate of 17.9% is expected in 2021. In the medium term, the unemployment rate will fall by 0.3-0.4 percentage points per year, approaching 17.2% at the end of the forecast horizon.

In 2021, the growth of unit labor costs of enterprises will slow down as a result of economic growth, and at the end of the forecast horizon will stabilize around its fundamental measure, i.e. target inflation rate of 4%. As a result, inflationary effects from the labor market will persist and gradually cease in the medium term due to acceleration of growth and recovery of productivity.

Chart 12

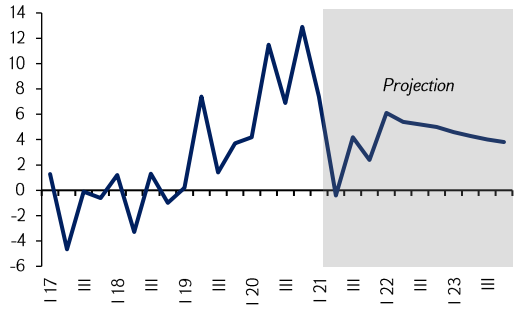
Unemployment level (%)



Source: NSS, CBA projection

Chart 13

Unit labor costs growth, y/y (%)



Source: NSS, CBA projection

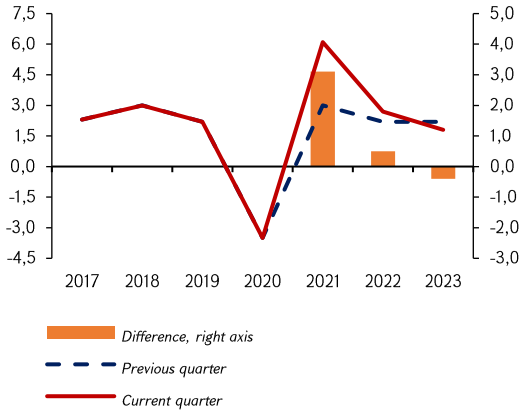
2.2.3. Comparison with the Previous Projection

Medium-term economic growth forecasts of all partner countries have been revised upwards in light of positive household expectations due to faster-than-expected recovery from coronavirus and a significantly stronger impact of expansionary policies (especially fiscal) on demand.

In one of the main partners of Armenia, the USA, growth in the short run has been significantly revised upwards, due to the significantly faster-than-expected recovery of demand. Inflation in the USA has accelerated significantly fueled by higher prices compared to previous projections in commodity markets, as well as a faster recovery of domestic demand compared to supply, and will be at higher levels than previously projected for most of the forecast horizon.

Chart 14

USA growth forecasts (%)



Source: BEA,CBA projection

[15] Sitting of the NA Standing Committee on Monetary and Fiscal Affairs. Starting from 2 hours and 15 minutes, report of the Chairman of the State Revenue Committee: https://www.youtube.com/watch?v=sr3zmOLUIcE

The lifting of a number of economic restrictions in the Eurozone due to the acceleration of vaccination processes, as well as a more favorable external environment (especially rapid recovery in the US demand) will contribute to higher economic growth than previously projected. At the end of the horizon, along with the gradual weakening of the US expansionary economic policy, economic growth in the Eurozone will slow down, approaching long-term sustainable levels.

Inflation in the Eurozone will accelerate somewhat in the short run, mainly because of the more inflationary impact of commodity markets, after which it will return back to levels below the target. Domestic demand will have a less restraining effect on inflation in the short term compared to the previous scenario, and will have a positive effect only in the last part of the horizon. Under these developments, current loose monetary conditions will persist throughout the horizon.

Growth in Russia has been revised upwards for almost the entire horizon, with a faster recovery of domestic demand in light of positive expectations due to overcoming the coronavirus, a more favorable external environment, and higher commodity prices (especially oil) for the entire horizon.

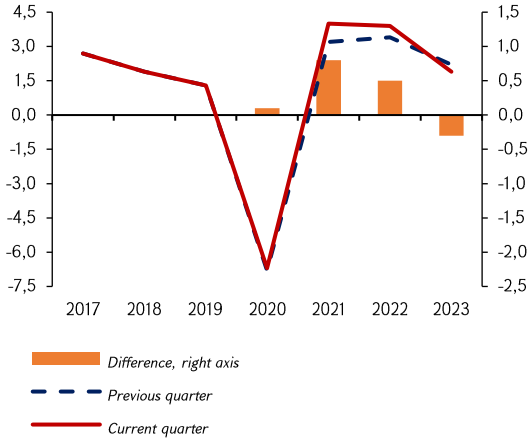
Conditioned by both short-term supply and demand factors, inflation in Russia will accelerate in the short term and will be at slightly higher levels than previously projected. Subsequently, the Russian Central Bank will normalize monetary conditions faster than previously projected, due to which inflation will return to the target level in the last part of the horizon.

World food prices have risen in the short term, as a result of a significant rapid increase in demand relative to supply, and in the medium term will remain higher than previously projected.

Due to the reopening of economies amid successful course of the coronavirus vaccination process, and gradual recovery of inbound and outbound tourism on one hand, and significant supply constraints under the OPEC and non-OPEC "Declaration of Cooperation" on the other, oil prices continued to rise and are higher than previously projected.

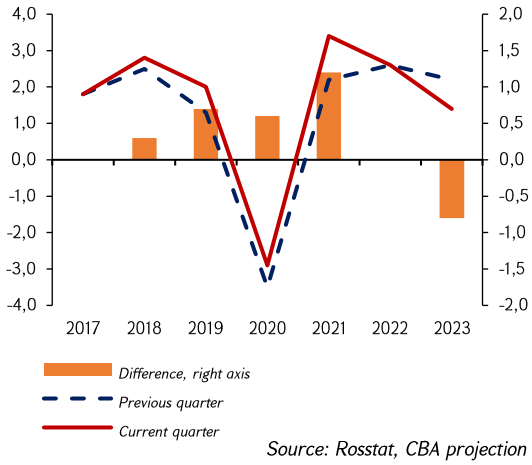
As a result of more robust recovery of the world economy and especially even faster growth of the industries where the use of copper is intensive and vital (production of batteries, semiconductors, etc.), international copper prices have risen considerably and formed at levels somewhat higher than previously projected.

Chart 15
EU economic zone growth forecasts (%)



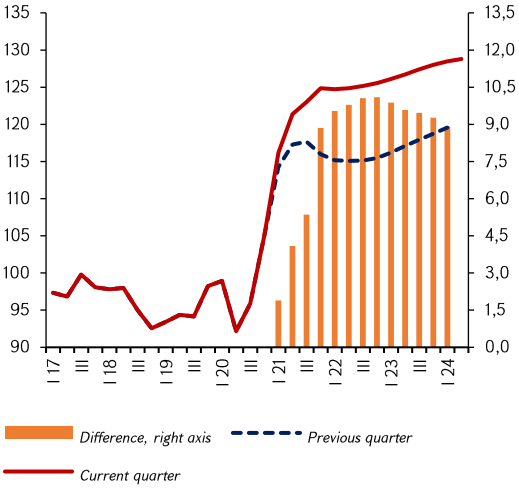
Source: Eurostat, CBA projection

Chart 16
Russia growth forecasts[16] (%)



Source: Rosstat, CBA projection

Chart 17
International food price forecasts



Source: FAO, CBA projection

[16] *The historical series of Russia's gross domestic product and economic growth for 2018-2020 have been revised by the Russian State Statistical Service.*

Armenia's economic growth projections were revised upward along the forecast horizon.

In 2021, economic growth has been significantly revised upwards and is currently estimated at 4.6% compared to the previous 1.4%, because of the expected higher level of both domestic and foreign demand. In terms of sectors of the economy, the main revision is resulting from the expected higher growth in industry and services.

Faster recovery of economic activity in partner countries, as well as continuing high international prices of metals will contribute to faster recovery of the industry during the year, as already pointed out by current actual figures for 2021. Industrial output in the second semester of the year will remain at the current high level, but no significant acceleration is expected compared to the first semester of the year, as investment activity in the economy is still weaker than last year.

The services sector has also been significantly revised upwards, mainly due to faster than expected decline of private savings and recovery of private consumption. Revisions of projections for this sector were also conditioned by the expected more positive developments in international tourism, and the possibility of replacement of outbound tourism and domestic trade and services in a high-consumption environment.

The growth of the agricultural sector has been revised downwards: damage to crops because of unfavorable weather conditions in the current quarter is expected to have an impact of 0.7 percentage points on the agricultural sector.

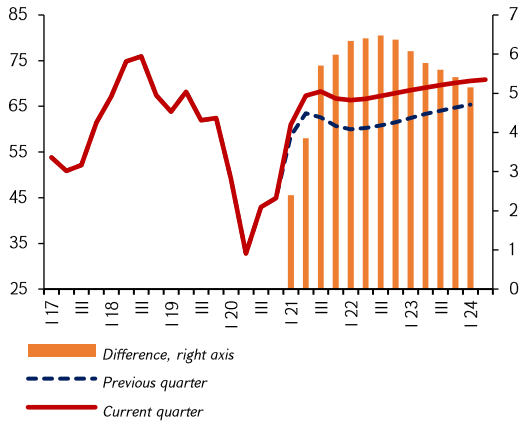
Smaller growth is expected in the construction sector compared to the previous program, as the growth at the beginning of the year is expected to gradually subside. In addition, the expected growth will be mainly at the expense of the state budget, and construction at the expense of organizations and the population will still be low, due to the delay in private investment due to uncertainty. In addition, the expected growth will be mainly due to the state budget, while construction funded by businesses organizations and the population will continue to be low as a result of diminishing private investments amid uncertainty.

Economic growth in the forecast horizon was revised upwards compared to the previous projection (Chart 18) as productivity tends to recover faster than expected.

In 2021, economic growth has been significantly revised upwards and is currently estimated at 4.6% compared to the previous 1.4%, because of the expected higher level of both domestic and foreign demand.

Chart 18

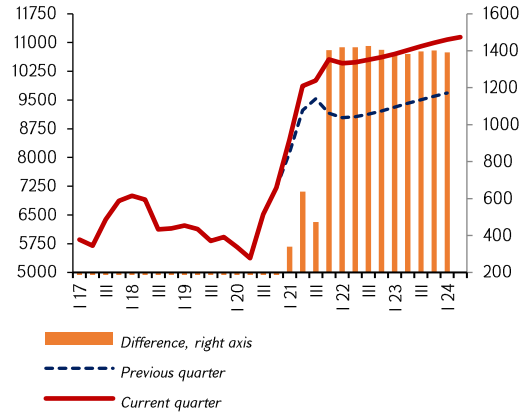
International oil price forecastss



Source: World Bank, CBA projection

Chart 19

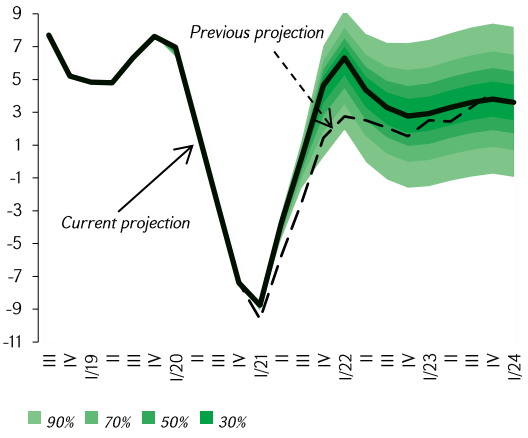
Copper price forecasts



Source: World Bank, CBA projection

Chart 20

Real GDP growth (cumulative)[17] forecast probability distribution for 3-year horizon



Source: NSS, CBA projection

[17] *The growth rate of each quarter is calculated as the cumulative growth rate for the last four quarters.*

Table 2

Probability distribution of real GDP growth (cumulative) projection		
Period	30% Probability Interval	90% Probability Interval
January-December 2021 / January-December 2020	3.6 – 5.2	0.2 – 7.0
January-December 2022 / January-December 2021	1.7 - 3.8	(-1.7) - 7.2
January-December 2023 / January-December 2022	2.7 – 4.9	(-0.8) – 8.4

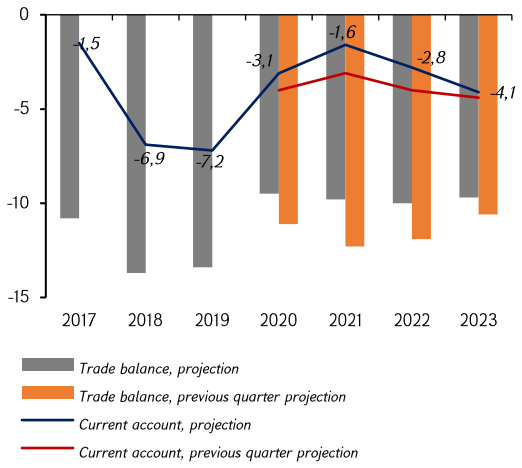
In 2021, the current account deficit-to-GDP ratio will be lower compared to previous forecast mainly due to a strong reduction in the trade deficit as a result of improved terms of trade, higher levels of remittances from the United States, as well as more positive developments in terms of tourism exports.

Compared to the small expansionary impact of the previous forecast, subject to full implementation of the adjusted tax program and 97.8% (CBA rating) of the adjusted expenditure program, revenue-enhancing and cost-restricting effects are projected.

According to the current projection, both general and core inflation in the short term will be slightly higher than projected in the previous program. The high level of inflation in the short run will continue to be conditioned by the growing inflationary developments in the international commodity markets and pressures transmitted to the domestic economy, as well as by the continuing effects of the developments that have already taken place in foreign exchange market. Recovery of domestic demand, on the other hand, will be faster than expected, putting additional pressure on inflation. Accordingly, inflation will be higher than projected in the previous program, then it will stabilize in the medium term and at the end of the forecast horizon be shaped around the target level (see Chart 1. Inflation Forecast Probability Distribution).

Chart 21

Current account/medium-term GDP projections (%)

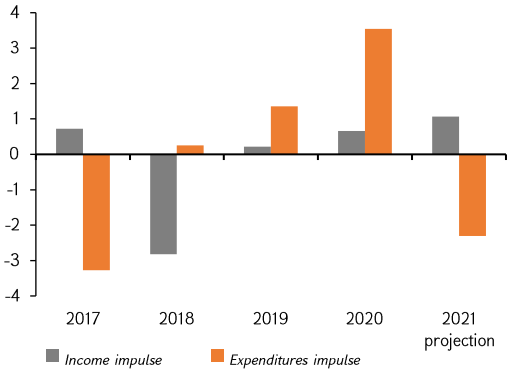


Source: NSS, CBA projection

Inflation will be higher than projected in the previous program, then it will stabilize in the medium term and at the end of the forecast horizon be shaped around the target level.

Chart 22

Fiscal impulse projection (percentage point)



Source: CBA assessment

2.2.4. Main Assumptions and Risks

This section presents the main assumptions underlying the Monetary Policy Program for the second quarter of 2021, and the risks to implementation of the program coming from external sector developments, fiscal policy, emerging trends and short-term projections.

Box 2

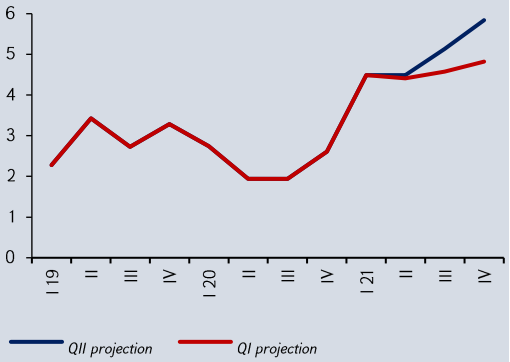
The results of survey on expectations by households and the financial system

Due to current developments in core inflation and moderate recovery of demand, short-term inflation expectations will be higher than previously projected.

According to a survey conducted by the Central Bank on households and financial sector organizations' expectations for a number of macroeconomic indicators in Q1 2021, inflation expectations for the first quarter have risen somewhat. Specifically, the share of households expecting high and very high inflation rates for a one-year horizon has grown to a certain degree. In addition, the surveys also reflect higher level of uncertainty about the expected inflation in the first quarter.

Chart 23

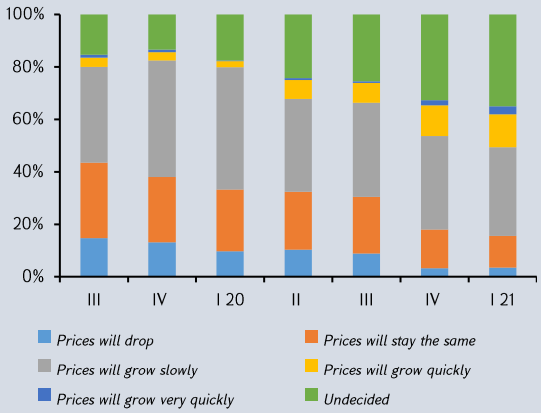
Short-term inflation expectation estimates (%)



Source: CBA assessment

Chart 24

Household inflation expectation surveys



Source: CBA

Projection Judgments

Table 3

Main Judgements and Assumptions	Possible developments if these assumptions prove to be correct
With the widespread use of the coronavirus vaccine, the vaccination process in developed countries will reach the "finish line" by the third quarter of 2021, whereas in developing countries, because of slow vaccination processes, negative economic consequences of pandemic will persist until the end of 2021 with a relatively weaker impact. The US Federal Reserve and leading central banks of will continue to conduct significant expansionary monetary policies throughout the forecast horizon, despite the short-term acceleration of inflation and inflation expectations. Positive effects of the "Biden plan" on the US domestic demand will be larger than previously estimated, and will persist for 1-1.5 years.	✓ The rapid recovery of demand in partner countries will also be reflected in a significant expansion of the inflationary environment. ✓ In the context of loose global financialconditions, prices in the ***international commodity markets*** will remain at high levels throughout the forecast horizon. ✓ The current high inflow of remittances from the United States will continue throughout 2021.
In the context of persisting high liquidity in international financial markets, country risk premium of Armenia in the forecast horizon will stay below the long-term sustainable levels.	✓ The country risk premium in the second quarter was in line with previous forecasts. In the medium term, along with the slow decline in global financial liquidity, it will recover somewhat, getting to slightly higher levels than currently.
Rising inflation expectations.	✓ Short-term inflation expectations of the society have grown to some extent in light of the transmitted effects of the ongoing inflation developments in international markets. The faster-than-expected pace of private demand recovery has also contributed to rising inflation expectations. In turn, the growth of inflation expectations has somewhat raised the level of the neutral interest rate.
Expanding and restraining effects of fiscal policy for 2021.	✓ In 2021, 1.0 revenue-enhancing and 2.3 expenditure-restraining impacts are estimated at 90.8% execution of the adjusted state budget revenue program and 97.8% execution of the adjusted expenditure program (CBA estimate). According to projections based on the main indicators of the 2022-2024 MTEFP, in the medium term, particularly in 2022, a restraining fiscal policy impact, and in 2023 a neutral impact is expected.

The slow pace of vaccination in Armenia will continue to have some negative impact on the recovery of the economy and tourism.	✓ The vaccination process is expected to proceed at a slow pace, with the prospect of implementing a vaccination program for about 10% of the population by the end of the year, the economic consequences of which, however, will be negligible throughout the year and will gradually be offset due to the spread of vaccination abroad and formation of herd immunity in the Republic of Armenia. ✓ With the gradual lifting of travel restrictions, the recovery of tourism in Armenia and abroad in 2021 will be within 37% of the 2019 level, taking into account the forecasts of international tourism, as well as disproportionate implementation of vaccination process around the world. In addition, the phenomenon of replacing foreign tourism with domestic will emerge, contributing to the recovery of domestic demand.
Changes in the mechanism of reserve requirements will have some impact on the growth of lending interest rates	✓ As a result of the change in the reserve requirements ratio, commercial banks make an additional 10% allowance in AMD for a number of foreign currency funds, and later additional 8% in foreign currency. As a result, the effective AMD reserve ratio grew by about 5 percentage points, and subsequently the estimated growth of AMD lending interest rates will total 1.16 percentage points (see Box 3).
Damages caused by natural disasters in Armavir and Gegharkunik regions will have a modest impact on agricultural output and inflation.	✓ It is assumed that the damage caused by unfavorable weather conditions will have an impact of 0.6-0.7 percentage point on the agricultural sector and 0.1 percentage point on inflation.
There is some negative contribution from the extractive industries to the growth of the level of GDP potential.	✓ Monetary policy scenario does not incorporate operation of Teghut and Amulsar mines and Alaverdi copper-molybdenum plant. Their potential impact is considered in the projected risks. ✓ As a result of the logistical problems related to the operation of the Sotk mine, only about 30-35% of the previous capacity of the entire economic chain of gold mining, processing and export will be realized throughout the forecast horizon.
Regarding the customs processes of the Eurasian Economic Union, as well as tax liabilities with the IMF, there are still gradual annual adjustments until 2023, which will have some inflationary effects.	✓ The annual impact of the excise tax change expected in 2021-2023 is estimated at about 0.4 percentage point, and the impact of the change in customs rates at 0.3 percentage point for each year.

Internal economic and political uncertainties in Armenia will have a restraining effect on domestic demand throughout 2021.	✓ Political uncertainties in the country will curb domestic demand as a result of investment delays.
Stronger than usual response of inflation to supply factors.	✓ Actual developments of inflation reflected phenomena of rapid, non-linear response or incremental growth of markups. They will only be partially and moderately offset by further adjustments, and for the most part will remain as one-time upward adjustment of the price level.
Savings that grew significantly in 2020 amid economic uncertainty, are rapidly declining in the first and second quarters of 2021 (part of "forced" savings)	✓ The decline of savings will have positive effects on the total demand. ✓ The savings are expected to decrease during the year, but, due to precautionary savings, in the forecast horizon they will still be above the pre-crisis level.

Box 3

Impact of Reserve Requirement Ratio on Market Lending Rates [18]

After the global financial and economic crisis of 2008-2009, central banks of a number of developing countries focused, inter alia, on the issues of financial stability. Central banks widely began to use reserve requirements. After the global financial and economic crisis, reserve requirements were actively used within the macroprudential policy toolkit[19]*, however, this mechanism is also widely used by central banks as a liquidity regulation, and in some cases as a monetary policy instrument.*

It should be noted that in a number of emerging markets, the high level of dollarization is one of the obstacles to the implementation of effective monetary and financial policy. With a high level of dollarization, financial system becomes sensitive to external shocks, especially exchange rate fluctuations. To control the risks of external shocks, many central banks use the reserve requirement ratio to contain the high level of dollarization or the resulting foreign exchange liquidity risks, mainly by setting a high reserve requirement for foreign currency borrowings.[20] *In some cases, reserve requirement ratio is used to regulate liquidity of the financial system*[21]*, helping to bring the level of market interest rates closer*

[18] *Prepared by Hayk Tarverdyan from Economic Research Department, Karen Babayan from Financial System Stability and Development Department, and Vache Ghazaryan from the Monetary Policy Department.*
[19] *Claessens (2014) and Kashyap et al. (2011).*
[20] *Galac and Kraft (2012), Castillo et al. (2016).*
[21] *Robitaille (2011).*

to the operational target of central bank policy. It is notable that in the framework of inflation targeting strategy, the cases of using reserve requirement as a monetary policy tool are not clearly formulated and have not been sufficiently studied. These relate in large part to the application of the reserve requirement mechanism to manage capital flows or impacts on the yield curve, aimed at mitigating both monetary and financial stability risks.

Regardless of the purpose of application, changes in reserve requirement mechanism have some impact on monetary policy transfer mechanism, market interest rates and aggregate demand. Regardless of the purpose of application, changes in the mandatory reserve mechanism have some impact on the monetary policy transfer mechanism, market interest rates and aggregate demand. Here, an attempt was made to identify the extent of the impact of the reserve requirement ratio in the RA on market interest rates of loans, as well as to explore and describe its transfer mechanism:

$$i_{i,t}{}^{AMD} = \beta_0 + \mu_t + \beta_1 i_{i,t-1} + \beta_2 RR_{i,t-1} + \beta_3 PR_{i,t-1} + \beta_4 LR_{i,t-1} + \beta_5 RR_{i,t-1} \times LR_{i,t-1} + \beta_6 npl_{i,t} + \varepsilon_{i,t}$$

$$i_{i,t}{}^{USD} = \beta_0 + \mu_t + \beta_1 i_{i,t-1} + \beta_2 RR_{i,t-1} + \beta_3 DR_{i,t} + \beta_4 LR_{i,t-1} + \beta_5 RR_{i,t-1} \times LR_{i,t-1} + \beta_6 npl_{i,t} + \varepsilon_{i,t}$$

where: $i_{i,t}{}^{AMD}$-ը and $i_{i,t}{}^{USD}$ are interest rates on loans in drams and foreign currency, respectively, and reserve requirement (RR) ratio, total liquidity ratio, the share of non-performing loans in total loans and deposit interest rates were considered as independent variables. Data used in the model are panel (by banks) and cover the period from January 2013 to April 2021. During this period, the amount of reserve requirements in both AMD and attracted foreign currency funds was regularly reviewed by the Central Bank in accordance with the main principles of de-dollarization and financial regulation policy (see Chart 25).

AMD interest rate equation was estimated using the first-order autoregressive fixed effects method (AR (1)) and for dollar interest rate by generalized methods of moments (GMM).

The transfer mechanism of reserve requirement ratio was studied through the evaluated equations, which is reflected in the presented equations by β_2 and β_5 coefficients. Theoretically, transmission mechanism works as follows:

$$\boldsymbol{RR \uparrow \Longrightarrow Liquidity \downarrow \Longrightarrow Deposit\ interest\ rate \uparrow \Longrightarrow Loan\ interest\ rate \uparrow \Longrightarrow Loan\ volume \downarrow}$$

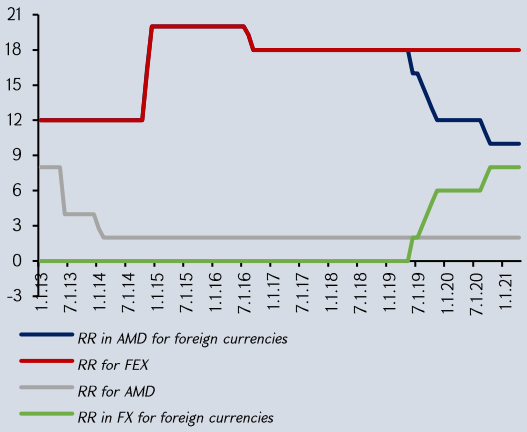
In case of such a transfer mechanism, the size of the banks' liquidity position is important: if the liquidity position of the given bank is quite high, the bank sets low interest rates on loans (see Charts 26 and 27).

The aforementioned transfer mechanism exists if $\beta_2 > 0$, and $\beta_5 < 0$. Thus, net effect of reserve requirement can be presented as:

$$\boldsymbol{Net\ effect = \beta_2 + \beta_5 * Liquidity}$$

Chart 25

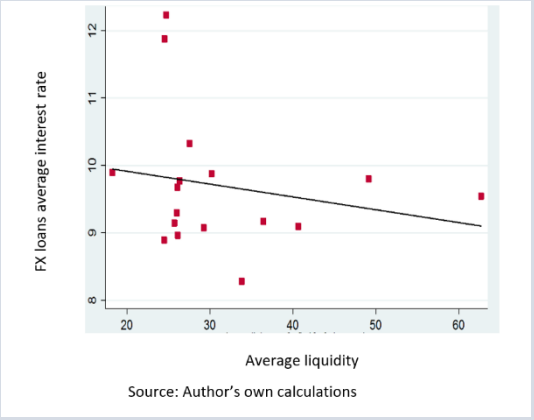
Reserv requirement Ratio



Source CBA

Chart 26

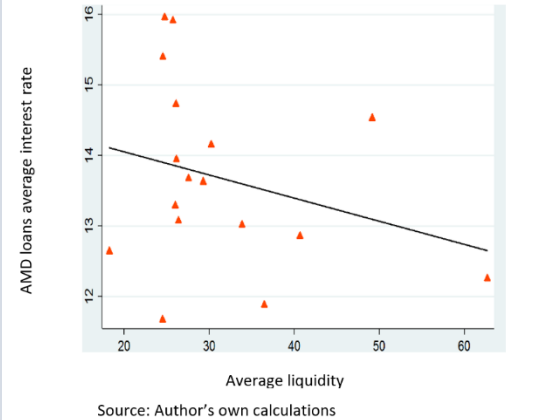
Relation between interest rate and liquidity for foreign currency loans



Source: Author's own calculations

Chart 27

Relation between interest rate and liquidity for loans in AMD



Source: Author's own calculations

As a result of estimating the equations, the following values of coefficients are obtained:

Coefficient value	*Interest rate on AMD loans*	*Interest rate on foreign currency loans*
β_2	*0.446*	*0.338*
β_5	*-0.008*	*-0.009*

It can be concluded from the table that both in the case of AMD and foreign currency loans the presented transfer mechanism exists. Through the obtained coefficients it is also possible to calculate the maximum level of liquidity, below which the change in the required reserve has a clear effect on the interest rates of banks with liquidity. The obtained coefficients also allow to calculate the liquidity ceiling, below which the change in the reserve requirement has a clear effect on interest rates of banks. Thus, according to estimates, as of April 2021, this ceiling is 56% for AMD loans, and 38% for foreign currency loans. In current liquidity context, the net effect from change in the reserve requirement unit is 0.23 percentage points for interest rates on loans in AMD and 0.09 percentage points for interest rates in foreign currency.

In April 2021, in line with the principles adopted by the Central Bank to reduce dollarization, a change in the reserve requirement was made, which increased the reserve ratio for AMD attracted funds by 2% to 4%, as well as the amount of provisioning for some foreign currency attracted funds was changed (see the Table below).

Changed reserve rates for attracted funds (bonds) in April 2021 are set at 10%

		2-4 years		***4 years and more***	
Attracted funds	***Composition of Investors***	***Rate***		***Rate***	
		AMD	*Foreign currency*	*AMD*	*Foreign currency*
Bonds issued on foreign stock exchanges	*shareholders and related persons not more than 50%*	*0%*	*0%*	*0%*	*0%*
	otherwise		*4.5%*		*2.25%*
Bonds issued on local stock exchanges	*shareholders and related persons not more than 50%*		*2.25%*		*0%*
	otherwise		*4.5%*		*2.25%*
• *International financial organizations* • *Banks with A- and higher rating* • *Parent bank or banking group with 50% or more interest*			*4.5%*		*2.25%*

As a result of the change described above, banks make an additional 10% reserve in drams for a number of foreign currency funds, and later also 8% in foreign currency. According to the Central Bank estimates, as a result of such changes, the standard of effective dram reserves has increased by about 5 percentage points, which will affect interest rates on dram loans by 1.16 percentage points. Therefore, it can be concluded that in addition to achieving the main objectives and increasing the efficiency of monetary policy transfer mechanism, the above-mentioned changes in the reserve requirement mechanism also have a certain additional restraining monetary effect on aggregate demand.

Projection Risks

In recent months, expansion of vaccination against coronavirus by a number of developed and developing countries conveyed some optimism to the global economy. The additional uncertainties for the Armenian economy as a result of the hostilities at the end of last year and economic and political problems, continue to exist to some extent, although it is assumed that they will gradually weaken after early parliamentary elections. In general, the high level of uncertainty continues as relatively wide ranges of uncertainty over projections of core values for inflation and other important macro indicators (see Chart 1. *Probability Distribution of Real GDP Growth Projection* and Chart 2. *Inflation Projection Probability Distribution*). Accordingly, amid high uncertainties, only the most significant quantitative risks that exist around the baseline scenario are presented below.

In terms of aggregate demand, the following risks stand out:

- Both positive and negative risks to external demand developments will depend on the scale, inclusiveness and effectiveness of coronavirus vaccines, as well as the scope and duration of expansionary monetary and fiscal policies in developing countries. Apparently, due to the slow vaccination process, there are certain risks to the continued recovery of demand, especially in developing economies, including one of Armenia's main trading partners, Russian Federation. On the other hand, there are still some moderate risks in terms of achieving the required volumes of vaccination, long-term effectiveness of vaccines and formation of herd immunity.
- The effective increase in the level of trust of the population and enterprises in Armenia, as well as the ensuing growth of their expenditures due to the effective vaccination and overcoming the pandemic, contains positive risks for faster recovery of aggregate demand and economic potential. Despite the positive dynamics of private consumption indicators associated with the investment climate, there are still risks of prolonged prudence in investment behavior.
- These developments may have an additional deterrent effect on aggregate demand and, by putting pressure on the further flow of investment in individual sectors, lead to even longer-term losses in terms of the economy potential.
- The impact of fiscal policy on aggregate demand largely depends on the state budget execution process: in the event of over-collection of taxes, revenues will have a neutral or somewhat restraining effect

on the estimated expansion. In the event of greater public spending savings (the CBA's current savings estimate is 2.2% of the adjusted expenditure program), they will have a greater restraining effect. Given budget execution process of the previous years (the average performance of public expenditures over the last 10 years compared to the adjusted program was 95.3%) and actual expenditure figures of the first five months of the current year, it can be assumed that there are significant risks to the full implementation of the expenditure program adjusted in line with the government decisions.

In terms of supply, the following risks stand out:

- In the developed countries, in case of possible disproportionate tightening of the monetary conditions that stir up expansion of the inflationary environment, there are sharp increases in risk premiums in developing countries, capital outflows and, moreover, inflationary risks.
- Risks in commodity prices are twofold and are determined by the speed of recovery of the global economy, as well as actual materialization of possible supply factors (for example, crop volumes) in commodity markets.
- As a result of studying the price dynamics for some commodity groups in the context of recent months' inflation developments, the phenomena of rapid, non-linear reaction and adjustments of domestic prices to external supply shocks and certain depreciation of the AMD nominal exchange rate have been observed. While in the main scenario it is assumed that these adjustments will persist as one-time change in the price level, there are some deflationary risks in terms of the likelihood of their readjustment in the coming months.
- In the field of agriculture, there are risks of contraction of farming output caused by weather conditions and growth of prices on agricultural products. In Armavir and Gegharkunik marzes, the maximum damage to crops and greenhouses is estimated at 20%, which can have a maximum impact of 1.5 percentage points on agriculture and 0.3 percentage points on inflation.

As a result, it can be concluded that the risks of inflation deviation from the projection in the medium term are balanced and, in general, quantitatively still high (see Chart 1 *Inflation Projection Probability Distribution*).

In addition to the above-mentioned inflation risks, there are additional potential medium-term risks to economic growth, which are

bilateral, but downward risks prevail. In particular, risks are related to the following internal factors:

- Uncertainties related to the development of the Amulsar mine and Alaverdi copper smelter, which pose a growth risk.
- In case of possible persistence of economic and political uncertainties in Armenia, there will be additional negative risks of investment reduction, which will have a negative impact on medium-term potential growth.
- Probability of a decrease of labor resources as a result of possible emigration, which is a downward risk.
- Uncertainties about the government's strategy for restoring the economy's potential, the extent and content of possible reforms, which can be considered as a balanced risk.

In general, as some uncertainties remain regarding further political and economic developments, the Central Bank seeks to reduce the potential risks arising from these uncertainties by constructing and discussing different scenarios of further developments and considering the alternatives of policy response, which will allow to react adequately at the first reasonable signs of emergence of those risks.

3. ACTUAL DEVELOPMENTS IN QI,2021

3.1. Inflation

3.1.1. Fulfillment of the Inflation Target

Early in the period under review, i.e. during the second quarter of 2020, the coronavirus rates were rising rapidly around the world, including Armenia, and restrictions imposed by governments led to considerable declines in economic activity in the world and Armenia, with weakened aggregate demand and notable deflationary patterns reported in key commodity markets. In the meanwhile, increased uncertainties about the outbreak of the pandemic and the economic development outlook put extra pressure on aggregate demand. In such a situation, the world's major financial institutions and central banks, including the Central Bank of Armenia, revised their estimations of key macroeconomic indicators downside, and the central banks therefore envisaged implementing a more stimulative monetary policy to restore demand and ensure price stability. At the same time, in view of the sectoral nature and peculiarity of the economic shock, the Government embarked on programs embracing fiscal stimulus measures. In the second quarter of 2020, according to the CBA's baseline scenario, the 12-month inflation in the short run would still be kept low, as the effects of sluggish private demand would outweigh the fiscal policy stimulus. In the medium term, as a result of stimulative monetary policy implemented while fighting the pandemic and fostering a recovery of demand, inflation would gradually increase, stabilizing around the 4% target at the end of the forecast horizon.

In the first half of a reporting year, as expected, the inflationary environment remained low. In the second and third quarters of 2020, because of healthcare and economic restrictions imposed to overcome the coronavirus disease as well as high uncertainty about the economic outlook, a sharp decline in economic activity was observable, with significant reductions in all sectors of the economy. In such a situation, the Government implemented a considerably stimulative fiscal policy steered to providing social and economic support. However, in the midst of increasingly accumulated uncertainty, people showed precautionary behavior, which has outpaced the fiscal stimulus, leading to weakened domestic demand and low inflationary environment in such conditions.

Driven by a macroeconomic environment shaped under the developments described above, the 12-month inflation stood lower-than-expected over these quarters, amounting to 1.4% at the end of September, prompting the CBA to revise periodically the projection path of inflation downside.

The declared martial law in Armenia since September 27th as well as the new wave of coronavirus that broke out and spread rapidly in the meantime have added to uncertainties in terms of outlook to economic recovery and inflation developments in the fourth quarter of 2020. This had an additional negative impact on the slowly recovering private demand, deepening the economic decline. On the other hand, the positive developments and expectations for rebounding global economic activity and external demand late in the year, and a number of supply factors (forecasts of low supply of new harvest, increase in freight costs, consequences of disrupting production chains) led to a significant increase in inflation environment in the international commodity markets. This in turn drove the inflation environment in Armenia's main partner countries to expand further, under which inflationary pressures spilled over to the Armenian economy through a number of import food products. In the meantime, dram depreciation in the domestic currency market was observable, as the martial law and economic and political uncertainties persisted. Such trends lingered over the first quarter of 2021, and the supply factors influenced under the trends pushed the 12-month inflation rate higher than expected in the second half of the period under review (October 2020 to March 2021), reaching 5.8% in March; the inflation expectations somewhat increased, as well.

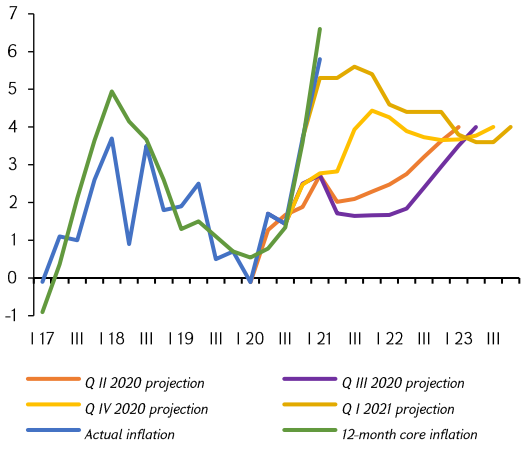
In view of the aforementioned developments, the projection path of inflation over the last two quarters of the reporting year has been presented with an upside adjustment in the short term.

The uncertainties arising from the Covid-19 pandemic and declared martial law during the period under review fostered a high demand for dram liquidity in the Armenian financial market. Following the CBA operations performed through its main instrument (7-day repo agreements), short-term market interest rates have responded appropriately to the policy rate changes and are largely shaped around it. During the year, amid uncertainty related to the economic and political outlook, Armenia's currency market saw the dram depreciating to some extent. The CBA, while adhering to the floating exchange rate policy, has taken a situational part in the foreign exchange market in ensuring the normal functioning of the financial market.

In the period under review, in consideration of possible inflationary developments under a weak aggregate demand, the CBA conducted a

Chart 28

In the first half of the reporting period, as expected, the inflationary environment remained low, but accelerated sharply in the second semester surpassing the 4% target.



Source: NSS, CBA

In the period under review, in consideration of possible inflationary developments under a weak aggregate demand, the CBA conducted a stimulative monetary policy.

stimulative monetary policy. And, while the CBA had increased the amount of stimulus by December, gradually reducing the refinancing rate by a total of 1.0 pp, the interest rate of the main instrument had climbed from December 2020 to April 2021 in a big step (1.0 pp in December and 0.25 pp in February) in consideration that inflationary effects expected from the external sector would somehow accelerate the inflation and inflation expectations. At the same time, the CBA gave a signal to the financial market that in the near future too it be consistent in neutralizing any risk to accelerated inflation expectations, without harm to the recovery of domestic demand as much as possible.

3.1.2. Prices

A sluggish recovery of inflation has been observable starting from the second quarter of 2020, greatly driven by a certain increase in prices of seasonal agricultural products, especially fruits. Then, the inflation accelerated later in the year and exceeded the target already in the first quarter of 2021.

A sluggish recovery of inflation has been observable starting from the second quarter of 2020, greatly driven by a certain increase in prices of seasonal agricultural products, especially fruits. Then, the inflation accelerated later in the year and exceeded the target already in the first quarter of 2021.

The inflation expanded at the end of the year was attributable to the acceleration of core inflation, which was mainly fueled by price inflation on imported food and non-food products. The latter has incurred the impact of both the rise in food prices in international markets and the depreciation of the dram. Thus, prices of items "Bread and cereals", "Oils and fats" and "Sugar" have grown in the domestic economy under effects spilled over from international markets. Meanwhile, an increase in international energy prices has transmitted its impact on the fuel prices. The 12-month inflation has also been driven by an increase in prices of medicines, which almost entirely was determined by high demand shown during the pandemic. The acceleration of core inflation especially late in the year has been somehow driven by a sharp increase in air transport tariffs, as air communication restrictions some countries had used to prevent the pandemic, have been eased.

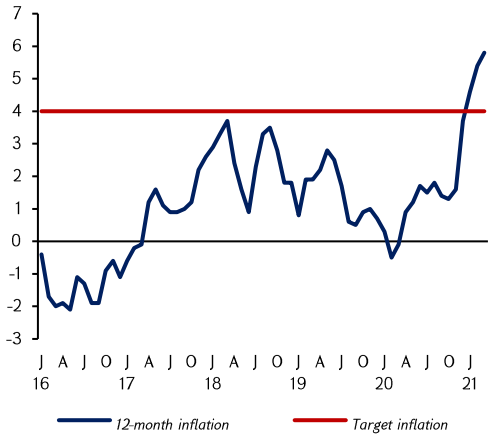
In the first quarter of 2021, inflation patterns continued to be seen in the main commodity markets amid positive expectations for demand recovery and a number of supply factors, which had directly influenced the expanding of inflation on food products imported to Armenia.

Regulated service tariffs demonstrated minor inflation volatility during the year, posting a 0.9% year-on-year rise in the first quarter of 2021.

The risen prices of fruits and highly grown prices of eggs in particular, as well as an increase in prices of item "Tobacco" and

Chart 29

Starting from the second quarter of 2020, inflation restored slightly Later, at the end of the year, inflation accelerated and in the first quarter of 2021 surpassed the target



Source NSS

"Alcoholic beverage", determined by market-specific shocks in the time of sluggish demand, is worth mentioning, and such a price increase has incurred, as was estimated, the inflationary impact of an excise duty rate change at the beginning of the year.

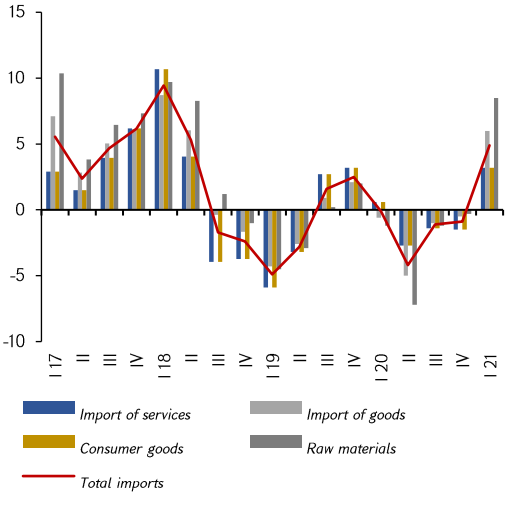
Table 4

Consumer price inflation by commodity items as key contributors			
Designation	**Weights**	**12-month inflation**	**Contribution**
Core inflation	**74.43**	**6.6**	**4.9**
Bread and cereals	7.68	9.4	0.7
Meat	9.66	3.4	0.3
Oils and fats	2.25	24.6	0.6
Sugar	0.44	40.9	0.2
Alcoholic beverages	2.87	9.0	0.3
Tobacco	1.59	9.6	0.1
Clothing	2.43	6.4	0.2
Footwear	1.55	8.2	0.1
Medicines and health products	3.97	12.2	0.5
Fuel	6.25	6.5	0.4
Air passenger transportation services	0.56	77.2	0.4
Education	3.18	2.1	0.1
Hospital services	2.68	0.7	0.0
Outpatient care services	2.94	3.2	0.1
Seasonal food products	**9.59**	**9.6**	**0.9**
Eggs	1.28	78.2	1.0
Fruits	3.65	10.9	0.4
Vegetables	4.67	1.4	0.1
Regulated services	**15.98**	**0.9**	**0.1**

Import prices: During the first quarter of 2021, the acceleration of food inflation in the global economy was reflected in the increase of RA import prices. Armenian import prices in USD terms grew by 4.5% as compared to the previous quarter, as a result price growth compared to the same period of the previous year totaled 4.9% year-on-year.

Chart 30

In the first quarter of 2021, dollar prices for imports of goods and services grew compared to the same quarter of the previous year (y/y, %)



Source: CBA estimates

During the first quarter, prices of both consumer goods and intermediate consumer goods in USD terms have grown.

As for the developments over the same period of the previous year, the 4.9% year-on-year increase was mainly due to the growth of oil and wheat prices. In terms of almost all imported intermediate goods, a y/y growth was observed, and the growth of consumer prices over the previous year was mainly conditioned by the higher dollar prices of consumer goods from Europe and China.

3.2. Economic Developments

3.2.1. Economy Position

Negative GDP gap of the previous quarters has closed and in the reporting period it is already estimated in the positive range.

In the first quarter of 2021, the economic decline totaled 3.3%, which was higher than the previous projection of the Central Bank and is mainly due to faster-than-expected recovery of private demand.

In the first quarter of 2021, the economic decline totaled 3.3% (see section 3.2.3), which was higher than the previous projection of the Central Bank and is mainly due to faster-than-expected recovery of private demand (see section 3.2.2). In the context of weak investment activity in the previous quarters, it is estimated that the growth of the economy's productive capacity in the short run is limited, and the recovery of demand is faster than supply. As a result, the negative GDP gap estimated in the previous quarters has closed and is currently estimated in the positive range. Subsequently, in addition to inflation caused by supply factors (see section 2.2.1), inflationary pressures from demand side grew in the consumer market. The stimulus effect of the state budget and the growth of remittances in the first quarter also contributed to the positive GDP gap.

3.2.2. The Expenditure Aspect of the Economy

The economic decline in the first quarter of 2021 totaled 3.3%, well above previous estimates and indicating a faster recovery than expected. The upward shift in terms of demand side is associated with higher actual consumption in the private sector. The latter, according to estimates, is the result of the previously accumulated demand and the decrease of "forced" savings amid the pandemics and hostilities in Artsakh. The contribution of government spending and net export to economic growth was also higher than expected. The decline in private spending was 4.9% as a result of 2.9% decline in private consumption

and a 24.3% decline in private fixed assets. It should be noted that in the past, in light of the economic and political uncertainties, a certain restraining effect on private demand was expected in the first semester of the year, but actual developments show that the impact of uncertainties was mainly on private investment, and private consumption recovered faster than expected. Higher-than-expected remittances have in turn contributed to the upward shift in private consumption.

According to the Central Bank, private demand in the consumer market had an inflationary impact and contributed to the acceleration of inflation in the reporting quarter. In addition to the demand factors, the latter continues to be driven by supply factors.

During the first quarter of 2021, global and domestic economic developments were reflected in export and import dynamics. Amid a stronger-than-expected global economic recovery, the recovery of exports was somewhat higher than projected by the Central Bank of Armenia. The recovery of imports has slowed compared to the projections of the Central Bank of Armenia, despite a faster than expected recovery in the domestic economy. The latter was due to a certain increase in the consumption of domestic services, in particular, domestic tourism (substitution phenomenon), as well as the consumption of previously accumulated resources.

In the first quarter of 2021, the decrease in real exports of goods and services was 21.9% year-on-year, and the decrease in real imports of goods and services was 21.7% year-on-year. The decrease in exports and imports compared to the previous year is mainly due to the base effects (the main restrictions occurred in March last year). At the same time, the developments in tourism exports were more positive than projections.

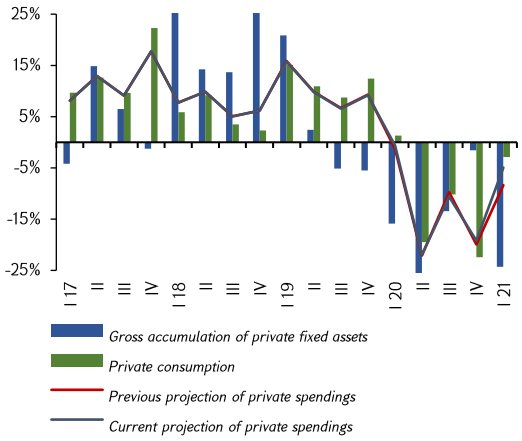
Summing up, it should be noted that as a result of the developments described above, net real export contribution to GDP in the first quarter was more positive than expected.

In the first quarter of 2021, net remittances of individuals (including seasonal workers' income and personal transfers) in US$ terms are estimated to grow by 32.0% year-on-year that is higher than the Central Bank projections in the previous quarter program. The major contributors to recovery were Russia and the USA.

As a result of the above developments, in the first quarter of 2021, according to estimates, the current account deficit/GDP ratio decreased by about 7.3 percentage points due to the improvement of the trade balance, as well as the high growth of remittances.

Chart 31

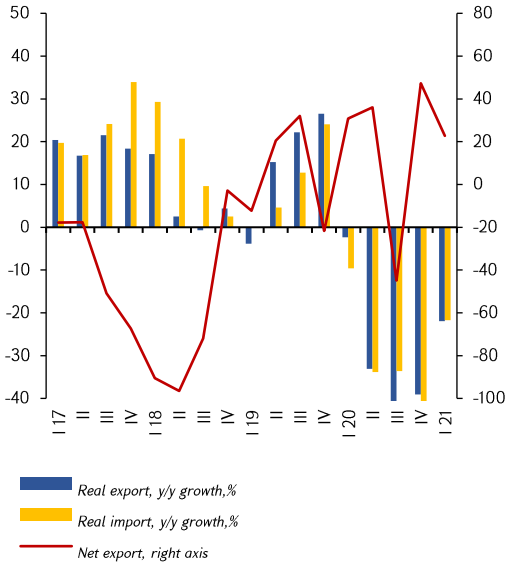
Private spending structure *(y/y growth)*



Source: NSS, CBA estimate

Chart 32

Net export position improved in QIV 2020, due to the higher decrease of imports compared to exports (net real exports, y/y, positive value means improvement)



Source: NSS

In the first quarter of 2021, net remittances of individuals in US$ terms are estimated to grow by 32.0% year-on-year.

Fiscal Policy[22]***:*** In Q1 2021, the actual budget revenues deviated from the Central Bank's projections[23] towards higher collection and expenditures towards higher performance. Despite higher revenue collection, compared to the previous[24] quarter, according to the impulse estimate, incomes had an expansionary effect on aggregate demand (GDP growth rate exceeded tax growth rate) and expenditures had a neutral effect.

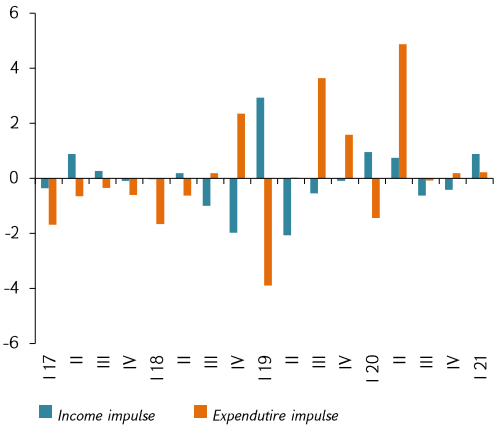
In Q1 2021, the actual budget revenues amounted to 105.8% of the adjusted program[25], mainly due to higher tax revenues. It should be noted that the quarterly tax program was conservative, and already in March the recovery of economic activity had a positive contribution to the overcollection of quarterly tax revenues. The Unified tax account has significantly decreased (about 13.2 billion drams) in the first quarter, which, was included in the calculation of impulse as amount actually collected from the economy. Other revenues also outperformed, accounting for 137.6% of the adjusted program, mainly due to higher interest income from the use of temporary free funds. Revenue impulse for the fourth quarter of 2020 was by 0.9 percentage points expansionary.

The state budget expenditures in the first quarter were above the CBA projection by about 22% in terms of both current and capital expenditures. The increase in expenditures includes expenditures on the aftermath of the Artsakh war, the implementation of anti-crisis programs conditioned by the spread of coronavirus, and an increase in health expenditures. As for net lending to the economy, it was lower than projected by the Central Bank. Within the structure of state budget expenditures, ***state consumption*** was in accordance with the Central Bank's projection. As a result of the increase in domestic financing, particularly in the defense sector, actual expenditures on ***non-financial assets*** exceeded the CBA projection by about 2.3 times. Expenditure impulse for the fourth quarter of 2020 was almost neutral.

Under the above-mentioned revenue and expenditure performance, in the first quarter a state budget deficit of AMD 55.6 billion was shaped, surpassing the Central Bank's deficit estimate. Consolidated budget deficit totaled AMD 50.6 billion.

Chart 33

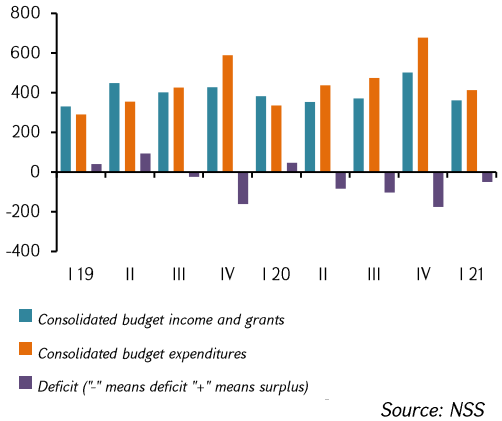
Expansionary impact of fiscal policy in the first quarter of 2021 is mainly due to revenue expansionary impact



Source: CBA estimates

Chart 34

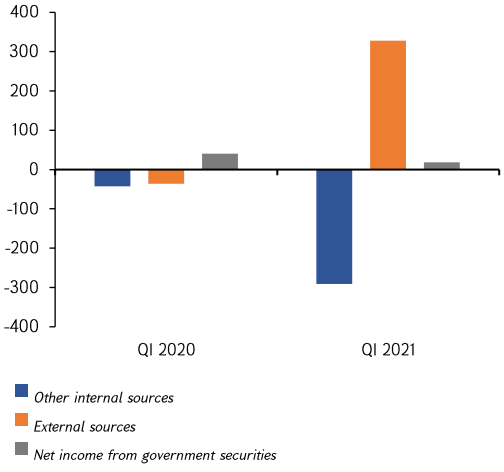
Main indicators of the consolidated budget (AMD billion)



Source: NSS

Chart 35

In the first quarter of 2020, the state budget experienced deficit, and the share of external sources prevailed within financing sources



Source: RA Ministry of Finance

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[22] *The review of the fiscal sector used actual consolidated budget indicators at the first quarter.*

[23] *The revenue plan was based on the currently adjusted program of the Government of the Republic of Armenia for 2021. Expenditure projection is the Central Bank estimate.*

[24] *There is a methodological change in the impulse calculation: according to the previous method, the signal was calculated for the same period of the previous year, and according to the new method, it is calculated for the previous quarter. Therefore, in this report the comparison of the impulse with the previous forecast is not presented because of incompatibility.*

[25] *In terms of revenues, the CBA program is similar with the Government's quarterly adjusted program, which incorporates changes made during the reporting period in accordance with the legislation.*

The deficit was financed from external sources, in particular, with net income of AMD 378.7 billion from the issuance and placement of foreign currency bonds, as a result of which free budget funds were increased in domestic sources of financing.

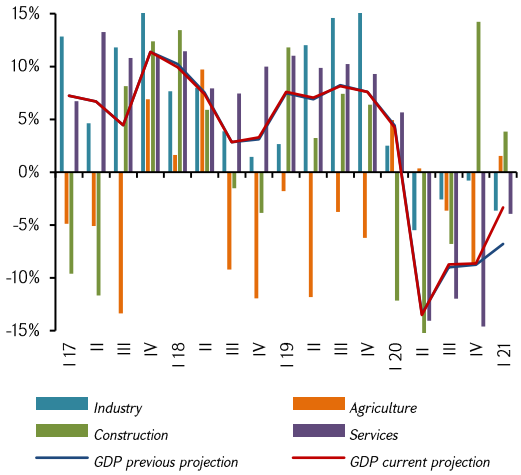
To sum up, in the first quarter of 2021, expansionary revenue and neutral expenditure effects were observed in terms of impact on demand and inflation.

In the first quarter of 2021, expansionary revenue and neutral expenditure effects were observed in terms of impact on demand and inflation.

3.2.3. Output Aspect of the Economy

In the first quarter of 2021, the GDP decline was 3,3%, milder than the Central Bank projection. A smaller-than-expected decline was recorded in the services sector, 4.0%. In particular, health, public administration, information and communication had a positive contribution, while culture, entertainment and leisure, trade, accommodation and public catering, and transport have had a relatively large negative contribution. The smaller-than-expected decline in the services sector is mainly due to more positive developments in private (see Section 3.2.2). Compared to the previous projection, the growth of the agricultural sector was large (1.5%), exceeding the growth of the sector output as a result of lower growth of intermediate consumption. The decline in the industry was milder than projected, amounting to 3.6%, mainly because of higher international metal prices and more positive developments than expected. Compared to projection, a rather small growth was observed in the construction sector 3.8%, as a result of smaller financing by individuals and enterprises. The latter is affected by uncertainties and deferred investments. In contrast, construction financed from the state budget remains high.

Chart 36
GDP Sectoral Structure *(y/y growth, %)*

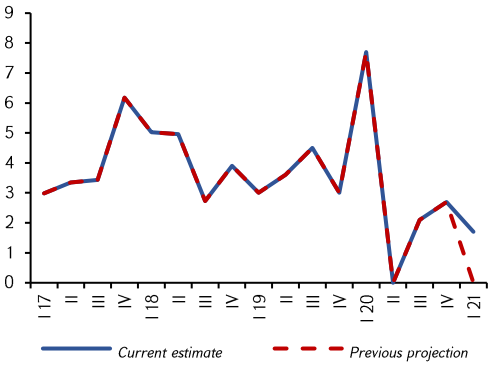


Source NSS, CBA estimate

3.2.4. Labor Market

In the first quarter of 2021, the growth rate of nominal wages in the private sector totaled 1.7%, which is higher than the Central Bank's projections, mainly due to higher-than-expected indicators of economic activity, as well as the SRC administration focused on accurate declaration of salaries paid by economic entities[26]. Still, in the first quarter of 2021, the growth rate of real wages in the private sector was negative, amounting to -3.4%.

Chart 37
Private nominal saalries *(y/y growth, %)*



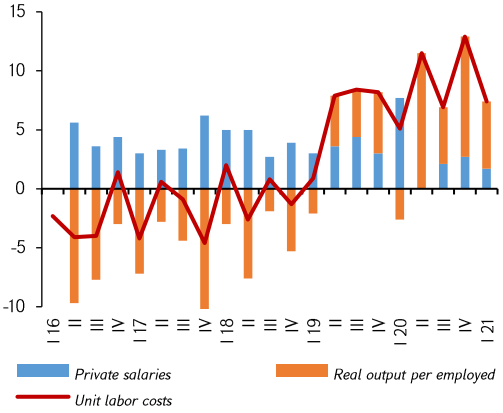
Source: NSS, CBA estimate

[26] Sitting of the NA Standing Committee on Monetary and Fiscal Affairs. Starting from 2 hours and 15 minutes, report of the Chairman of the State Revenue Committee: https://www.youtube.com/watch?v=sr3zmOLUIcE
[27] Productivity in unit labor costs is presented with a negative contribution.

In the first quarter of 2021, the unemployment rate is estimated at 19.3%, which is 0.6 percentage points lower than the previous projection of the Central Bank. It is based on the tendencies of faster economic growth and demand, including the demand for labor force.

During the reporting period, the growth of unit labor costs of enterprises slowed down to 7.4%, reflecting the acceleration of growth of private wages in relation to the decrease in output per unit labor force. As a result, inflationary pressures from the labor market eased considerably in the quarter under review.

Chart 38
Unit labor costs *(y/y growth, %)*



Source: NSS, CBA estimate

3.3. Financial Market Developments

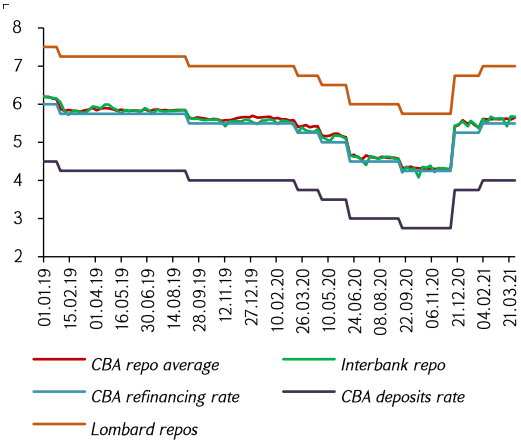
In the first quarter of 2021, the Central Bank Board raised the refinancing rate by 0.25 percentage point to 5.5%.

In the first quarter of 2021, the Central Bank Board raised the refinancing rate by 0.25 percentage point to 5.5%.

Table 5

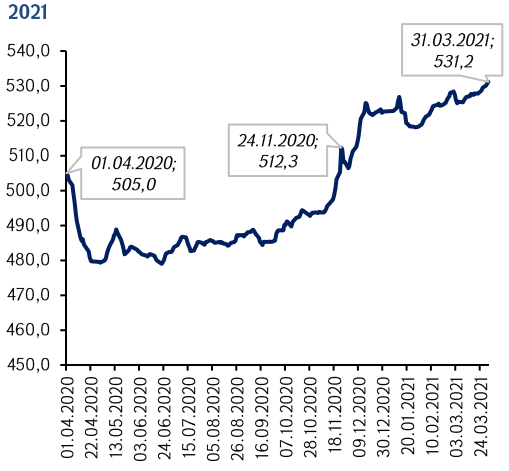
Average quarterly interest rates in Armenia's financial market								
Indicators	**29.04.20-16.06.20**	**17.06.20-28.07.20**	**29.07.20-15.09.20**	**16.09.20-27.10.20**	**28.10.20-15.12.20**	**16.12.20-02.02.21**	**03.02.21-16.03.21**	**17.03.21-04.05.21**
Entral Bank refinancing rate (end of quarter)	5,00	4,50	4,50	4,25	4,25	5,25	5,5	5,5
Central Bank repo rate	5,19	4,64	4,60	4,33	4,31	5,47	5,61	5,67
Interbank repo rate (up to 7-day)	5,08	4,58	4,50	4,25	4,29	5,49	5,54	5,62
Yield of government securities on a yield curve (as of end-quarter)								
Short-term treasury bill (1 year)	5,84	5,57	5,63	5,59	5,94	6,6	6,83	6,81
Medium term notes (5 year)	7,01	6,94	6,96	6,92	7,36	8,18	8,19	8,24
Long-term bonds (30-year)	8,67	8,53	8,54	8,71	8,98	9,32	9,17	9,25

Chart 39
During the quarter short-term interest rates continued to stay around the CBA policy interest rate



Source: CBA

Chart 40
USD/AMD exchange rate dynamics, April 2020 – March 2021



Source: CBA

Given spill-over inflationary effects from the external sector and some acceleration of inflation expectations in the Armenian economy on one hand, and continuing sluggish demand on the other, in February, the CBA Board decided to increase the refinancing rate by 0.25 percentage points. The board didn't tighten monetary conditions further during the quarter, considering that the previous steps taken to curb inflation and inflation expectations were sufficient. Moreover, the Board signaled to financial market participants about its readiness to take steps to offset any risk of accelerating inflation expectations.

During the first quarter of 2021, the response of short-term interest rates in the financial market was commensurate with policy pursued by the Central Bank. The CBA's injection of liquidity to the banking system continued to contribute to the formation of short-term interest rates around the CBA policy.

During the quarter, foreign exchange market experienced some volatility amid economic and political uncertainties. Compared to the previous quarter, the AMD/USD quarterly average exchange rate depreciation totaled 3.95%. Emphasizing the importance of financial market sustainability, the Central Bank intervened moderately during this quarter, and, with the view to mitigating temporary volatility of foreign exchange market, sold a total of $ 81.6 million in foreign exchange market, as well as resorted to currency swap tool.

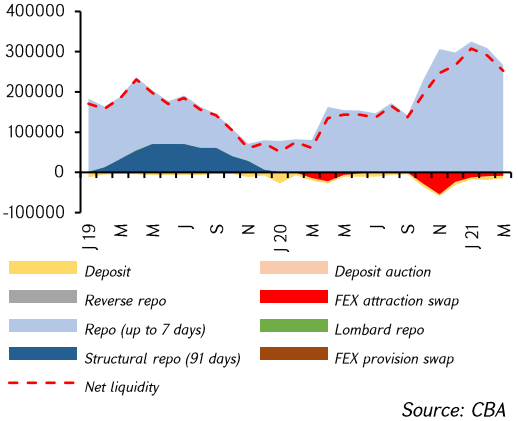
Interest rates also rose in the government bond market, but not commensurate with the policy impulse. Changes in market participants' investment decisions, partly due to cautious approaches in the lending market, have contributed to the growth in demand for government bonds. And while the yield on short-term bonds continued to be higher than refinancing rate of the Central Bank, since February the high demand for bonds has been followed by a certain decline in yields. As a result, interest rate hikes along most of the yield curve at the end of March were not significant compared to the end of the year.

Amid uncertainties, lending growth continued to slow in almost all types of loans in the first quarter of 2021, along with rising lending rates. Meanwhile, banks and credit institutions continued to operate under significantly more stringent approaches to assessment of creditworthiness and carried out prudent lending, mainly of consumer loans.

However, on a more positive-than-expected basis, total lending rose during the quarter, with a 12-month growth of 8.3% in March 2021.

Chart 41

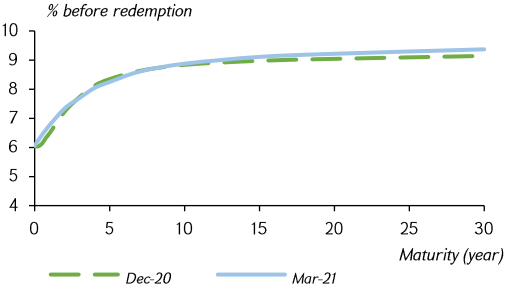
Liquidity absorbed and injected through CBA transactions (average monthly stock), AMD million



Source: CBA

Chart 42

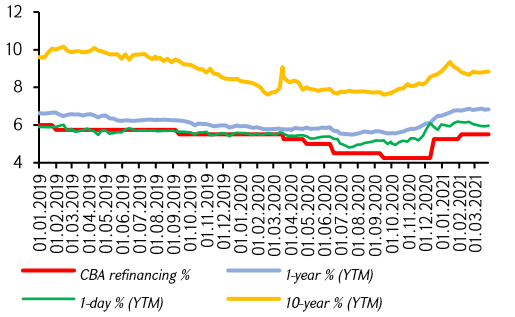
Change in government securities yields in the first quarter of 2021 was not significant compared to the end of the year



Source: CBA

Chart 43

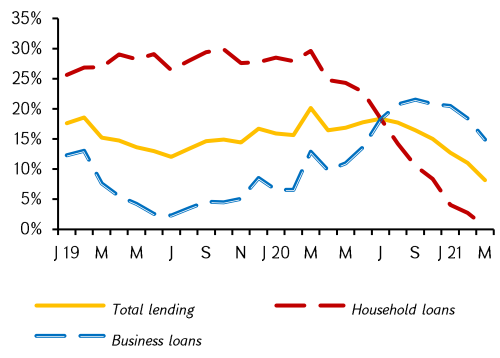
Dynamics of the CBA refinancing rate and government securities yields



Source: CBA

Chart 44

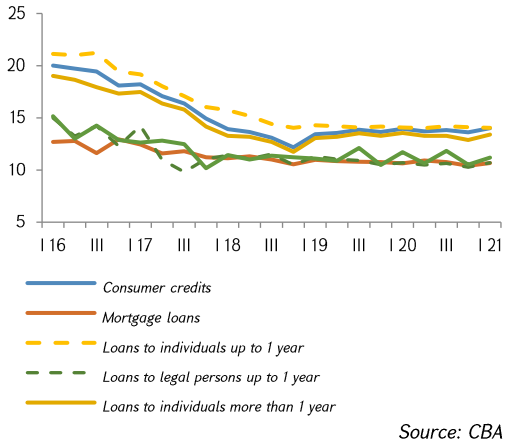
Dynamics of 12-month growth of lending provided by banks



Source: CBA

Chart 45

Dynamics of interest rates on AMD loans



Source: CBA

4. SUMMING UP

According to the monetary policy program of the Central Bank for the second quarter of 2021, 12-month inflation will remain at a high level in the near future and will approach the target in the medium term. In the short run, inflation will be driven both by supply-side factors related to inflationary effects transmitted through a number of imported goods and by demand-driven factors with the rapid recovery of aggregate demand. In this situation, the Central Bank continues to raise policy interest rate, and considers further tightening of monetary conditions under the risks of accelerating inflation expectations in the near future and the commitment to mitigate them. As a result of restrictive fiscal and monetary policies inflation will gradually decline in the medium term, and will ***stabilize around the target of 4%*** at the end of the forecast horizon.

The risks of deviating from the projected inflation trajectory are balanced in the forecast horizon, and in case of their emergence the Central Bank is ready to respond accordingly to ensure the achievement of the goal of price stability in the medium term.

BOARD MEETING OF THE CBA
MINUTES (15.06.2021)

On the Refinancing Rate

The CBA Board Meeting of June 15, 2021 attended by CBA Governor Martin Galstyan, Deputy Governors Nerses Yeritsyan and Vakhtang Abrahamyan, and Board Members Hasmik Ghahramanyan, Arthur Stepanyan, Oleg Aghasyan, Hovhannes Khachatryan and Davit Nahapetyan

The Board meeting opened with a report of the situation as of June 15. It addressed the developments on inflation, external environment, and real, fiscal, financial and monetary sectors of the economy in the context of the continuing outbreak of the coronavirus, and major uncertainties and challenges related to the economic prospects.

As noted, in May 2021, 0.4% deflation was recorded, compared with deflation of 0.1% registered in the same month of the previous year, ***bringing the 12-month inflation down to 5.9% at the end of the month***. In terms of major commodity groups, food and beverage prices and service tariffs fell by 0.8% and 0.2%, respectively, during the month, while non-food prices remained unchanged. In May, in contrast to the decrease of general inflation, which was mainly the result of changes in the prices of seasonal food products and regulated services, the ***12-month core inflation*** continued to grow and at the end of the month was ***7.4%.***

Current developments in the foreign sector in 2021 were presented, according to which, in the main partner countries of the Republic of Armenia, tendencies of economic activity and demand are restored faster than expected, which was greatly facilitated by the positive effects of coronavirus vaccines and the implementation of significant stimulus policies. At the same time, the vaccination process in developed countries is projected to be completed by the third quarter of 2021, which will have the corresponding economic impacts, while in developing countries, because of slow vaccination processes, the negative impact of the pandemic on the economy will continue until the end of 2021. In anticipation of a rapid recovery in global demand and limited supply opportunities in some commodity markets, international commodity markets remain highly inflationary, which is particularly reflected in higher food and energy prices. While under the influence of these tendencies, acceleration of inflation and inflation expectations is observed in the partner countries of Armenia, this is assessed as a short-term phenomenon resulting from a number of temporary supply

factors, therefore, central banks of these countries will continue to pursue significant stimulus policies throughout the forecast period.

The Board discussed current developments in the Armenian economy, and it was noted that significant positive tendencies are emerging in comparison with the Central Bank's projections both in terms of economic activity and domestic demand. Thus, economic decline in the first quarter was 3.3% against the 6.8% projected in the monetary program, mainly due to smaller-than-expected declines in output of industry and services. The low level of the decline was inter alia due to the growth of agriculture instead of expected decrease. The recovery of aggregate demand in the first quarter was also faster than expected, but while in the past the impact of external demand prevailed, since the beginning of the year a higher growth in domestic demand was recorded as well, due to a significant increase in private consumption. The latter is assessed as a shock to the rapid recovery of delayed demand, as the current economic and political uncertainties have led to a significant decline in public consumption over the past year and, in parallel, an increase in savings earlier this year was followed by the opposite dynamics of these indicators. That is, during the mentioned period, under the acceleration of inflation and inflation expectations, a sharp increase in consumption expenditures of the population at the expense of accumulated savings was observed, which, together with more positive developments in remittances and lending to the economy, has significantly contributed to a faster-than-expected recovery in domestic demand, although the government is gradually reducing fiscal expansion. The Board also noted that in the context of the growth of foreign demand and international prices for industrial metals, positive developments in exports from Armenia, augmented remittances and incoming tourism, external balance of the Republic of Armenia significantly improves, which is also reflected in dram appreciation tendencies in Republic of Armenia currency market.

The Board discussed situation in the RA financial market and noted that while the Central Bank continued to provide banking system with the required large amount of liquidity through its main instrument, short-term interest rates in April-May slightly exceeded the policy rate set by the Central Bank because of a number of market factors. In such a situation, the Central Bank simultaneously injected liquidity through the adjusting repo instrument, as well as the banks resorted to lombard repo instrument more frequently. During the mentioned period yield growth was observed in the government bond market – in the long-term section in April and short-term section in May, which was facilitated by the CBA policy interest rate decisions, as well as the change in the reserve requirement mechanism. It was noted that in parallel with the recovery of economic demand, the process of lending

to the economy by the banking system has become somewhat more active, where the already existing trends continue. In particular, the growth of total lending is mainly due to mortgage loans, while consumer loans continue to decline.

The Board emphasized the problem of the persisting high inflationary environment and the spill-over inflationary expectations. It was noted that while general inflation has fallen slightly due to seasonal food prices, core inflation, as the main driver of inflation expectations, continues to rise. This year, in addition to supply factors determined by world food prices were supplemented by demand factors as a result of outrunning growth of private consumption against the possibilities of output capacity expansion. Nevertheless, the Central Bank considers the current changes in inflationary expectations manageable and anchored with the Central Bank's target, although amid uncertainty, the Board is also considering possible risks of their subsequent changes and scenarios of ensuing policy measures.

Following a discussion of 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. Taking into account the above-mentioned macroeconomic situation and the spill-over inflationary effects expected from foreign and Armenian economies***, a proposal to increase the refinancing rate by 0.5 percentage points was submitted to the Board for review.*** As a result of the discussion and summarizing the judgments, ***the CBA Board unanimously decided to raise the refinancing rate with the proposed step***. Moreover, reaffirming the consistency of the policy to neutralize the risks of accelerating inflation expectations in parallel with the growth of domestic demand, the Board considered the possibility of tightening monetary conditions in future. In this regard, the Board also noted the need for possible changes to mitigate and curb expansionary stance of monetary conditions in the light of these developments. Under such conditions, it is projected that the 12-month inflation will remain high in the short run, after which it will gradually decrease and stabilize around the 4% target in the forecast 3-year horizon.

The Central Bank Board noted that the risks of inflation deviation from the projected medium-term forecast under the high uncertainty of economic outlook are balanced, and in case of their emergence are ready to respond accordingly, in fulfilment of the objective of price stability.

The Board approved 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 THE REPUBLIC OF ARMENIA CENTRAL BANK OPERATIONS IN FINANCIAL MARKET

By virtue of Article 2.3 (20) "c" and "f" of the Republic of Armenia law "On the Central Bank", and provisions of the Republic of Armenia law "On Normative Legal Acts", the Board of the Republic of Armenia Central Bank, herewith enacts:

1. Set the refinancing rate of the Central Bank of the Republic of Armenia at 6.5%.

2. Set the lombard repo facility rate offered by the Central Bank of the Republic of Armenia at 8.0%.

3. Set the deposit facility rate offered by the Central Bank of the Republic of Armenia at 5.0%.

4. This decision shall enter into force on the day following the day of its publication on the website of the Central Bank of the Republic of Armenia.

Martin Galstyan,
Governor of the Central Bank

June 15, 2021

PRESS RELEASE
15.06.2021

At the June 15, 2021 meeting, the CBA Board decided to raise the refinancing rate by 0.5 pp, setting it at 6.5%.

Deflation of 0.4% was recorded in May 2021 compared with deflation of 0.1% registered in the same month of the previous year, in which case the 12-month inflation has decreased to 5.9%. The 12-month core inflation kept on accelerating, reaching 7.4% at the end of May.

In the second quarter of 2021, the economic activity and demand in the main partner countries of Armenia are recovering at higher than expected rates thanks to the positive impact of the use of coronavirus vaccines and the implementation of considerably stimulative policies. Because of a rapid growth of global demand and restricted supply in a number of product markets, high inflationary conditions are persisting in international commodity and food markets. Driven by the abovementioned supply and demand factors, higher inflation rates are projected in the partner countries as compared to the previous estimates. In such a situation, the CBA Board is expecting a significant inflationary impact from the external sector on the Armenian economy.

The current developments of 2021 indicate faster-than-expected recovery trends in the Armenian economic growth, largely determined by more positive developments in industry and services. In addition, aggregate demand is recovering faster than expected, mainly due to a rapid growth of global demand, increased remittances, and a high growth rate of private consumption, while private investment remains sluggish. The higher growth of private consumption is supported by more positive developments in lending and conditioned by spending of previously accumulated savings by households, so reflecting also the increased inflation expectations of the public. As a result, with demand growing at a faster rate than production capacities, mostly inflationary effects are anticipated from the domestic economic developments.

Taking into account the inflationary effects expected from the external sector and domestic economy of Armenia, the CBA Board finds it appropriate to increase the policy rate. At the same time, committed to neutralizing the risks of accelerating inflationary expectations in the face of increasing domestic demand, the Board considers the necessity of possible tightening of monetary conditions in the near future. Under such conditions, the 12-month inflation is projected to remain high in the short term but will then gradually decrease and stabilize around the 4% target in the forecast horizon.

The CBA Board reckons that, amid persisting uncertainties over the economic outlook, the risks to inflation deviating from the projected mid-term path are balanced, and should they materialize, the CBA stands ready to respond accordingly in fulfilment of the price stability objective.

You can read detailed information on determining the level of interest rate in Inflation Report to be published by June 29, 2021 (MP Program for Q2, 2021).

Press Service of the Central Bank of Armenia

ARMENIA: SELECTED MACROECONOMIC INDICATORS

Items	2013 actual	2014 actual	2015 actual	2016 actual	2017 actual	2018 actual	2019 actual	2020 actual	2021 program	2022 program	2023 program
Prices											
Inflation *(y/y, end of period, %)*	5,6	4,6	-0,1	-1,1	2,6	1,8	0,7	3,7	7,4	5,2	4,3
Consumer price index *(y/y, average, %)*	5,8	3,0	3,7	-1,4	1,0	2,5	1,5	1,2	6,8	5,8	4,6
Core inflation *(y/y, average, %)*	5,8	1,9	5,1	-2,0	0,8	4,0	1,2	1,3	7,4	5,6	4,5
Gross product											
GDP *(billion Armenian dram)*	4555,6	4828,6	5043,6	5067,3	5568,9	6017,0	6543,3	6181,7	6746,7	7213,0	7786,6
GDP *(%, real growth)*	3,3	3,6	3,2	0,2	7,5	5,2	7,6	-7,4	4,6	2,8	3,8
Supply											
Industry *(%, real growth)*	6,3	-0,9	6,2	7,7	11,7	4,9	12,0	-1,7	4,5	5,2	4,9
Agriculture *(%, real growth)*	7,6	6,1	13,2	-5,0	-5,1	-6,9	-5,8	-4,1	2,3	2,4	2,5
Construction *(%, real growth)*	-7,4	-4,5	-3,1	-14,1	2,8	0,6	6,5	-6,7	-0,2	2,0	3,2
Services *(%, real growth)*	3,1	6,7	1,6	3,2	10,6	9,1	10,0	-9,7	6,1	2,2	3,8
Taxes, net *(%, real growth)*	3,6	1,8	-5,1	-3,7	9,7	8,0	7,1	-10,0	3,4	2,0	3,4
Demand											
Consumption *(%, real growth)*	2,3	1,2	-6,0	-2,1	11,6	3,8	11,7	-10,1	7,9	2,4	3,4
Public consumption *(%, real growth)*	7,6	-1,2	4,7	-2,4	-2,1	-3,0	12,9	15,2	-6,1	1,9	1,6
Private consumption *(%, real growth)*	1,7	1,6	-7,5	-2,1	14,0	4,8	11,5	-13,9	10,9	2,5	3,7
Gross accumulation of fixed assets* *(%, real growth)*	-7,0	-2,2	2,5	-11,4	9,7	4,8	4,4	-8,6	-9,4	5,0	5,8
Public investment** *(%, real growth)*	-13,8	10,0	13,6	5,0	31,7	-37,4	31,1	15,6	-20,4	6,5	8,3
Gross accumulation of private fixed assets *(%, real growth)*	-7,8	-3,4	1,2	-13,9	6,2	19,6	-0,5	-14,5	-5,9	4,6	5,2
Export of goods and services *(%, real growth)*	8,6	6,4	4,9	21,3	19,3	5,0	16,0	-32,4	7,8	7,6	12,0
Import of goods and services *(%, real growth)*	0,0	-2,7	-15,3	6,3	24,6	13,3	11,6	-31,7	6,3	7,5	10,9
External sector											
Balance of trade *((million US dollar))*	-2196,2	-2055,4	-1186,4	-976,9	-1400,9	-1759,0	-1805,5	-1326,8	-1349,3	-1384,2	-1487,2
Balance of services *((million US dollar))*	-124,3	-113,0	-96,4	70,4	159,4	56,7	-23,4	146,5	260,5	228,2	231,0
Remittances *((million US dollar))*	1755,1	1616,1	1098,3	1009,4	1179,3	1136,2	1143,8	1040,2	1215,6	1131,2	1017,1
Current account *((million US dollar))*	-812,9	-883,1	-284,7	-107,9	-173,9	-860,0	-987,5	-394,2	-205,9	-386,4	-600,8
Balance of trade *(share in GDP, %)*	-19,7	-17,8	-12,2	-8,6	-10,8	-13,7	-13,4	-9,3	-8,4	-8,4	-8,5
Balance of services *share in GDP, %)*	-1,1	-1,0	-0,9	0,7	1,4	0,5	-0,2	1,2	2,0	1,7	1,6
Remittances *(share in GDP, %)*	15,8	14,0	10,4	9,5	10,2	9,1	8,4	8,2	9,4	8,2	6,9
Current account *(share in GDP, %)*	-7,3	-7,6	-2,7	-1,0	-1,5	-6,9	-7,2	-3,1	-1,6	-2,8	-4,1
Public sector***											
Revenues and grants *(billion Armenian dram)*	1071,4	1144,8	1167,7	1171,1	1237,8	1341,7	1559,1	1560,4	1562,9	1709,8	1823,1
Tax revenues *(billion Armenian dram)*	1000,9	1064,1	1067,9	1079,7	1158,0	1258,1	1464,3	1385,2	1488,7	1617,4	1759,6
Expenditures *(billion Armenian dram)*	1142,9	1235,1	1409,0	1449,1	1504,8	1447,1	1623,0	1894,3	1858,1	1871,1	1973,7
Deficit *(billion Armenian dram)*	-71,5	-90,3	-241,3	-278,0	-267,0	-105,4	-63,9	-333,9	-295,2	-161,3	-150,6
Revenues and grants *(share in GDP, %)*	23,5	23,7	23,2	23,1	22,2	22,3	23,8	25,2	23,2	23,7	23,4
Tax revenues *(share in GDP, %)*	22,0	22,0	21,2	21,3	20,8	20,9	22,4	22,4	22,1	22,4	22,6
Expenditures *(share in GDP, %)*	25,1	25,6	28,0	28,6	27,0	24,1	24,8	30,6	27,5	25,9	25,3
Deficit *(share in GDP, %)*	-1,6	-1,9	-4,8	-5,5	-4,8	-1,8	-1,0	-5,4	-4,4	-2,2	-1,9
Monetary sector											
Broad money *(y/y, end of period, %)*	14,8	8,3	10,8	17,5	18,5	7,5	11,2	9,0	-	-	-
Dram broad money *(y/y, end of period, %)*	14,9	-3,5	5,2	24,8	28,9	13,2	21,5	14,8	-	-	-
Loans to economy *(y/y, end of period, %)*	12,9	20,8	-3,3	6,0	16,5	17,2	18,5	14,3	-	-	-
USD/AMD *(Armenian dram for one US dollar)*	409,6	415,9	477,9	480,5	482,7	483,0	480,4	489,0	-	-	-

** Hereinafter, the Central Bank will only present the indicator of the aggregate fixed asset accumulation instead of the aggregate 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 the aggregate accumulation, See https://www,armstat,am/file/article/sv_04_19a_112,pdf:*

*** Actual indicators of public investment are capital expenditures of the consolidated budget, and the forecasts are based on the currently revised macro framework for 2022-2024,*

**** indicators of the 2021 budget are those of the law "On 2021 State Budget of the Republic of Armenia", The indicators for 2022-2023 are presented from the revised macro framework,*

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