საქართველოს ეროვნული ბანკი
National Bank of Georgia

Macroeconomic Scenarios for IFRS 9

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Within the International Financial Reporting Standards (IFRS9) framework, credit risk assessments should incorporate forward-looking analysis. In particular, when assessing expected credit losses, the analysis of macroeconomic and financial factors, expected risks and dynamics should all be taken into account. The National Bank of Georgia (NBG) believes this amendment will facilitate timely recognition of credit risks and will therefore have a positive impact on financial stability.

To ensure transparent, consistent and efficient implementation of IFRS9 by financial institutions, starting from 2018 the NBG regularly publishes macroeconomic and financial forecasts and risk scenarios. The purpose of these scenarios is to provide financial institutions with consistent quantitative estimates of key macroeconomic variables to use them for expected credit loss calculations.

The baseline scenario relies on the NBG's Forecasting and Policy Analysis System (FPAS), while the alternate scenarios are based on a macro-financial model for risk scenario analysis. Additional estimations (satellite models) are used for those variables that are not directly derived from the models. The scenarios also incorporate additional analysis and expert judgement.

The scenarios are based on the data available at the moment of analysis and use the appropriate assumptions on exogenous variables. Scenarios are thus very likely to change when new information becomes available. The dynamics of the variables presented in the scenarios should not be perceived as NBG objectives (e.g., the interest rate, the exchange rate, etc.).

The baseline scenario reflects the most probable state of the economy balanced by risks from both sides, while the alternative scenarios consider different types of shocks (both positive and negative). The shocks are selected based on their relevance to current circumstances and on expert judgement. It should be noted that although the adverse scenarios reflect negative shocks, these scenarios are less severe than those used in stress testing.

In the current issue of the scenarios, the main drivers of the encompassing macroeconomic variables are the assumptions related to the economic activity in Georgia's trading partner countries and the duration of the Russia-Ukraine war. In the baseline scenario the main drivers of economic recovery include a rise in domestic demand due to increased migration, and an improvement in investment dynamics. According to the upside scenario, the economic activity is more sustainable than the baseline scenario, which is related to the expansion of the country's transit potential and the expectations of higher economic growth in trading partners. The adverse scenario encompasses the prolongation of tighter financial conditions in developed countries and the risks of a possible recession in trading partner countries. The current forecast horizon is characterized by high uncertainty and elevated risks.

The forecast horizon is three-four years and the scenarios are updated twice a year. In case of any significant changes in the macroeconomic environment, the scenarios will be updated more frequently. The scenarios describe the macroeconomic situation in the country and cover all of the main macroeconomic variables. However, not all of these variables are required to be included in the credit loss assessment model. The macroeconomic variables in the scenarios are provided at annual frequency. If an expected credit loss assessment model utilized by a financial institution is based on data of a higher frequency, the variables can be converted into the desired frequency by using linear interpolation. This way annual changes in the selected macroeconomic variables will be evenly distributed over the chosen higher frequency.

For credit loss assessment, 50% probability should be assigned to the baseline scenario, while the upside and adverse scenarios should both be given 25%-25% probabilities. It should be noted that as Georgia is a small open economy it is highly vulnerable to shocks. Thus, it is essential to consider the non-linear relation between macroeconomic scenarios and credit risk. Therefore, it is necessary to evaluate the expected credit loss for each of the scenarios, and only then weight them with the corresponding probabilities.

It should also be noted that the macro scenarios published by the NBG should not be perceived as the only correct version. Financial institutions may add an alternative scenario and/or change it. However, in such cases it is necessary for the financial institution to understand the relevance of the corresponding scenario and the linkages between the different macroeconomic variables within each scenario. If necessary, the financial institution should be able to prove the reasonability of any changes made to a scenario and/or justify the introduction of new scenarios.

Baseline Scenario

According to the baseline scenario, which reflects the forecasts published in the May 2023 issue of the Monetary Policy Report, the Georgian economy continues to grow at a stable rate this year. The protracted hostilities between Russia and Ukraine have prolonged uncertainty regarding the pace of global economic recovery. The disruption of trade flows in the world, as well as the economic sanctions imposed on Russia by developed countries, led to an increase in the prices of energy carriers, food and similar consumer goods at the initial stage, which resulted in the tightening of the monetary policy globally. Due to the tightened global financial conditions, along with certain trade agreements reached between countries, the pressure on the food prices decreased and prices declined. Nevertheless, amid the difficult geopolitical situation, market sentiment has worsened and expectations of a recession remain elevated.

In the baseline scenario, the prices of food products on the international markets are decreasing, but they still exceed the pre-pandemic level. However, in the backdrop of the expansion of the food production in various countries, a further decrease in the prices is also likely in the future. Nevertheless, uncertainty regarding the duration of the Black Sea Agreement is noteworthy. In the recent period, the prices of energy carriers also have a downward trajectory. However, as a result of significant reduction in Russia's supply of natural gas to Europe and OPEC's decision to reduce oil production, uncertainty over energy prices remains.

According to the baseline scenario, the prolongation of the Russia-Ukraine war worsened the forecasts for the pace of global economic recovery in 2023-2024. Particularly, the forecasts have worsened for the US and European countries, which is due to the tightening of financial conditions in response to globally increased inflation, and a decrease in confidence in the stability of the financial system. The world's leading central banks, such as the US Federal Reserve System (Fed) and the European Central Bank (ECB), have significantly tightened monetary policy by sharply increasing interest rates and terminating the asset purchase programs. The monetary and fiscal policies of developed countries, which provided unprecedented support to the economy during the pandemic, are now pushing aggregate demand down, thus, easing inflationary pressures. Tightened financial conditions in some countries, including the US, increase the risks of recession, which negatively affects expectations of fast economic recovery. Considering these developments, along with a downward trajectory of global inflation, a significant tightening of global financial conditions is unlikely, although the conditions will remain tight relatively longer.

In the baseline scenario, the recovery of economic activity in Georgia's trading partner countries is uneven in 2023-2024. In majority of the neighboring countries, with the exception of Russia, remittance inflows and revenues from the service sector have increased markedly, which is mainly due to increased tourist flows from Russia. In Azerbaijan the expected decrease in oil prices will have a negative impact on its balance of payments. However, the increased role of the country in the international market additionally supports the stability of its economy. Consequently, Azerbaijani economy will grow steadily, although at a slower pace compared to the previous year. In the majority of trade partner countries, inflation will remain at a high level this year, although it will have a decreasing trajectory. Despite the travel revenues exceeding pre-pandemic levels, taking into account the high regional risks and the deteriorated competitiveness in trade due to appreciated national currency, the country's current account deficit is expected to widen. Considering the above, along with the stable inflow of remittances, no significant changes in the nominal exchange rate of the GEL, both effective and against the US dollar, are observed in the medium term (see Figure 3).

According to the baseline scenario, economic activity is expected to grow by 5 percent in 2023 (see Figure 2), which is 1 percentage point higher than the previous forecast. This revision of the economic growth forecast is due to the increased domestic demand, as well as rise in investment flows due to improved macroeconomic stability in the country. Overall, the growth of the economy is mainly the result of increased demand, which is linked to the increase in foreign migrants and their spending, and the transfer of regional logistics flow to Georgia. The slowdown of economic growth compared to the previous year is caused by the relative weakening of external demand due to the expected deterioration of economic growth in trading partners and the deterioration of the country's competitiveness against the background of appreciated domestic currency. In the following years, as the migration flows subside and the economies of trading partners strengthen, the Georgian economy will continue growing at a steady pace, close to its potential level. As the macroeconomic environment stabilizes further, the unemployment level also decreases.

In the baseline scenario, in the current year, inflation will remain below the target, which will be largely due to the fall in the prices of energy carriers and food products on the international markets, appreciation of domestic currency and the tightening of monetary policy (see Figure 1). It should be noted that, despite gradual decline, domestic inflation remains at a high level, which is mainly due to the increase in prices in the service sector. This is, to some extent, related to the rise in migration flows in the country. Therefore, in the current year, the monetary policy will continue to exit from its tightened state at a relatively slow pace. As a result of a reduction in migration flows and the expected slowdown in credit growth in the medium term mainly due to tight monetary policy, inflation will remain close to the target level, and the policy rate will slowly approach the neutral level - currently estimated at 7 percent (see Figure 4).

According to the baseline scenario, in the current year, real estate prices expressed in GEL will increase compared to the 2022 average level. As the national currency remains appreciated real estate prices expressed in US dollars increase even more. At the beginning of the Russia-Ukraine war the prices of construction materials increased, which was reflected in the rising cost of the buildings. However, against the background of the slowdown of global economic activity and the tightening of financial conditions, the prices of construction materials started to decline. As the geopolitical situation stabilizes, the external demand for real estate will be substituted by domestic demand, making the real estate price growth proportionate to the nominal economic growth in the medium term.

Due to the stable economic growth and low level of inflation in the country, the risk premium continues to decrease. However, considering the high share of imported inflation, the increase in trading costs due to the strengthening of the US dollar on international markets, and the tightening of global financial conditions, the vulnerability of Georgia's economy to external factors remains noteworthy. Subsequently, the country's sovereign risk premium will return to the pre-pandemic level slowly over the forecast horizon.

Uncertainty remains around the baseline scenario. In particular, the pace of economic recovery in the coming years will significantly depend on the duration of the Russia-Ukraine war and the realization of possible recession risks in the world's leading, as well as Georgia's trading partner countries. The above-mentioned factors have a significant influence on the sentiment of the global financial markets and increase the pressure stemming from the external sector in Georgia. The following alternative scenarios consider the sources of uncertainty and discuss the possible alternative developments of events.

Alternative Scenarios

In contrast to the baseline scenario, which is balanced by risks from both sides, the alternative scenarios examine various exogenous shocks that are chosen based on their relevance to current circumstances and expert judgement. In particular, the upside scenario discusses the reduction of pressure on the prices of food products globally and the expansion of Georgia's trade potential, while the downside scenario focuses on the prolongation of the Russia-Ukraine war and a significant decrease in external demand. It should also be noted that the alternative scenarios do not consider risks associated with fiscal and/or other macroeconomic policies.

Upside Scenario

The threat of a large-scale food crisis as a result of the Russia-Ukraine war emphasized the importance of the development of agricultural sectors. As a result, according to the upside scenario, investments in this area have increased significantly. Along with the increase in production and the improvement of the efficiency of the production process due to the new advancements in technology, the prices of food products will significantly reduce globally. At the same time, the establishment of new trade relations between the countries enhances the flow of products and increases the trade volume. Easing pressure on global commodity prices facilitates the easing of financial conditions.

In the upside scenario, the reduction of global supply disruptions and the stabilization of commodity prices on international markets happen faster than in the baseline scenario. This mainly results from the globally tightened monetary policy and the increase in the production of grain and other food products due to the development of agriculture in some countries. This leads to a low-inflationary environment compared to the baseline scenario, which pushes towards a faster normalization of global financial conditions. Therefore, the US Federal Reserve System and the European Central Bank are exiting the tight monetary policy stance relatively quickly. Similar dynamics can be observed in emerging and developing economies, although the full effect of monetary policy is transmitted at a slower pace than in developed countries. Overall, the risks of a global recession are significantly reduced and the gradual increase in foreign direct investment from developed countries improves the pace of economic recovery in emerging and developing countries.

Based on the upside scenario, the geopolitical situation will stabilize and regional risks will subside faster, which will increase economic activity, as well as trade and investment flows in most of Georgia's trading partner countries from the second half of 2023. As a result, in the case of Georgia, external demand will continue to be strong, which will boost economic activity. Taking into account the current geopolitical situation and the geographical location of Georgia, Georgia is strengthening its transit role in the region and is able to significantly increase the trade flows. The growing role of Georgia in the region becomes a pretext for attracting new foreign investments in the country, which will support the strengthening of the nominal exchange rate, both effective and against the US dollar. Overall, the growing demand for GEL assets reduces macroeconomic risks, which, along with the growth of Georgia's role as a transit country, is reflected in a more rapid decline in the sovereign risk premium compared to the baseline scenario.

As a result of the increase in external demand due to the recovery of economic activity in trading partner countries, along with the growth of Georgia's trade potential, Georgia's economy is growing at a higher rate compared to the baseline scenario. Following the utilization of transit and production potentials, the economic growth rate will stabilize around 5 percent in the medium-term. As the pace of economic growth approaches its potential, the unemployment level in the country is decreasing faster compared to the baseline scenario. A reduction in unemployment will increase spending of both companies and households, and generate inflationary pressures, which will be largely neutralized by improvements in economic growth potential. Apart from that, the inflationary pressure resulting from the growth of external demand will be offset this year by the expected strengthening of the domestic currency and the increase in trade potential. Therefore, inflation approaches the target rate faster and monetary policy is exiting the tightened state sooner than in the baseline scenario. Considering the sustainable growth of the economy and improved expectations, the growth of real estate prices expressed in GEL is slightly higher than in the baseline scenario over the forecast horizon.

Adverse Scenario

According to the adverse scenario, aggregate demand is under significant pressure due to tight monetary policy adopted as a countermeasure to high inflation globally. This increases the risks of recession in both advanced and developing economies. Meanwhile, the duration of the Russia-Ukraine war and the recent increase in uncertainty regarding the stability of the global financial system worsens expectations, which leads to capital outflows and reassessment of risks by investors for emerging and developing market economies. Inflation persistence, along with the expected depreciation of national currencies against the US dollar caused by Fed's tightened monetary stance negatively affects core inflation, which will call for a sharper tightening of the monetary policy in the abovementioned countries. Furthermore, the tightened financial conditions in the developed countries will result in an increase in the external debt burden and deterioration of the current account in emerging and developing market economies. This will significantly hinder the recovery of global economic activity in the medium term.

Based on the adverse scenario, the prolongation of the Russia-Ukraine war will lead to the introduction of additional sanctions on Russia, with Russia completely cutting off the gas supply to Europe and dropping out of the Black Sea Grain Agreement. As a result, the prices of energy resources and food products will increase even more in the short term. This will put additional pressure on households and companies in the wake of unfavorable economic conditions and increased interest costs in low-income, as well as emerging and developing economies, thus delaying their economic recovery. As in previous episodes of global financial stress, reduced economic activity and increased uncertainty in these countries may cause widespread capital outflows, leading to additional strengthening of the US dollar. This will further increase vulnerability in economies with a high share of external debt denominated in the US dollars.

In the adverse scenario, disruptions in global trade flows, and uncertainty related to the possible effects of the war lead to the prolongation of high inflation expectations in the coming years. At the same time, with elevated risks of recession and expectations of deteriorating economic health, the world's leading central banks are facing a significant challenge - on the one hand, the risk of a high-inflationary environment, on the other hand, the risk of recession. Regardless, the Fed and the ECB act more rigidly and loosen the monetary policy slower than in the baseline scenario. A more restrictive effect of monetary policy will further exacerbate the risks of recession.

According to the adverse scenario, the prolongation of the Russia-Ukraine war will significantly hinder economic recovery in Georgia's trading partner countries. Due to the globally tightened financial conditions capital outflows and depreciated national currencies will lead to risk reassessment in these countries. In addition, the tightened monetary policy in response to increased inflationary expectations puts Georgia’s trading partner countries at risk of recession. All of the above will have a negative effect on Georgia's trade turnover, and the current account will worsen. The risks arising from the external sector for Georgia are further aggravated by the trade relations with Russia, which will significantly hinder the trade flow in Georgia in case of additional tightening of sanctions. Deterioration of external sector and the abovementioned risks, in contrast to baseline scenario, will lead to increase in Georgia’s sovereign risk premium in 2023, which will start to decrease only in 2024.

All of this will have a negative impact on economic activity and combined with high uncertainty regarding the geopolitical situation, will worsen market sentiment. As a result of deteriorating external balance, globally tightened financial conditions and heightened risks of capital outflows domestic currency depreciation pressure increases. Accordingly, the nominal exchange rate of the lari against the US dollar depreciates in 2023. However, in the wake of the economic recovery, the nominal exchange rate stabilizes against the US dollar in 2024 and appreciates in 2025. At the same time, the nominal effective exchange rate is characterized by lower fluctuations, as global trends also affect the currencies of Georgia's trading partners.

According to the adverse scenario, there is high uncertainty regarding the growth rate of the Georgian economy, amid the reduction of external demand and the increased risk in the region. Trade turnover has also decreased amid signs of stagflation in some of the main trading partner countries. In particular, exports are declined significantly leading to increase in the current account deficit. In addition, the limited investment activity caused by the increased risk in the region, leads to the delay of the economic recovery. Due to the still high dollarization of loans, the depreciation of the GEL, along with globally tightened financial conditions are increasing the debt burden. This further weakens the domestic demand, which will cause an additional delay in the economic recovery. Given the planned fiscal consolidation, and increased external debt burden, fiscal support for the economy is unlikely. Under these circumstances, the Georgian economy will grow at a slow pace in 2023 and will start to recover only from the following year, although it will not reach its potential until 2025.

In the adverse scenario, globally tightened financial conditions will reduce aggregate demand, which, other things equal, will push prices down on international markets. In the case of Georgia, the depreciation of the GEL and additional pressures on commodity prices, as a result of the Russia-Ukraine war, will prolong the inflationary environment. The latter will be partially mitigated by the disinflationary effect of weak demand. In addition, the long-lasting high inflationary environment, especially for primary consumption products, leads to demand for wage increases. This creates the risks of a wage-price spiral, which may further prolong the inflationary environment. Taking all of this into account, inflation will remain at a higher level compared to the baseline scenario in 2023, and it will approach the target only in 2025. According to this scenario, the National Bank loosens the monetary policy at a slower pace compared to the baseline scenario and maintains tightened stance relatively longer.

Over the forecast horizon, following the reduction of the inflationary pressures on food products, the monetary policy will approach the neutral level.

Under the adverse scenario, given deteriorating expectations, weak demand and excess supply, real estate activity slows down, putting downward pressure on real estate prices. However, due to the depreciated national currency and increased labor costs, real estate prices expressed in GEL are increasing. In the coming years, real estate price growth is mainly driven by improving expectations and restoring an equilibrium between demand and supply.

Overall, these circumstances increase the vulnerability of businesses to existing risks, which are mainly due to reduced demand and increased operating costs. Firms that are less diversified and/or largely dependent on the Russian and Ukrainian markets are particularly vulnerable. In the wake of high uncertainty, deteriorating financial conditions and, in some cases, closures of businesses, unemployment is rising in the country. All of the above will make it harder for households and companies to service their debt, which will lead to an increase in credit risk. This will have a negative impact on the stability of local financial system. If the impact on the balance sheets of financial institutions turns out to be substantial, then the economy's recovery will be further hindered .

Summary of Macroeconomic Scenarios

Scenario	Baseline	Upside (Improved International Environment)	Adverse (Tightening of Global Financial Conditions)
Fed Funds Rate	2023*: +0.5 pp (compared to the current level) 2024: -1.0 pp 2025: -1.25 pp	2023*: +0.25 pp (compared to the current level) 2024: -1.0 pp 2025: -1.5 pp	2023*: +1.0 pp (compared to the current level) 2024: -0.75 pp 2025: -1.0 pp
ECB Policy Rate	2023*: +0.5 pp (compared to the current level) 2024: -0.75 pp 2025: -1.0 pp	2023*: +0.25 pp (compared to the current level) 2024: -1.0 pp 2025: -1.0 pp	2023*: +0.5 pp (compared to the current level) 2024: -0.5 pp 2025: -1.0 pp
Change in Country Sovereign Risk Premuim**	2023: -0.5 pp (compared to 2022) 2024: -0.5 pp 2025: -0.5 pp	2023: -1.0 pp (compared to 2022) 2024: -0.5 pp 2025: +0.0 pp	2023: +0.5 pp (compared to 2022) 2024: -1.0 pp 2025: -0.5 pp
GEL/USD Nominal Exchange Rate	2023*†: Unchanged 2024: Unchanged 2025: Unchanged	2023*†: Appreciation 3% 2024: Appreciation 2% 2025: Unchanged	2023*†: Depreciation 20% 2024: Unchanged 2025: Appreciation 5%
Nominal Effective Exchange Rate (NEER)	2023*†: Unchanged 2024: Unchanged 2025: Unchanged	2023*†: Appreciation 2% 2024: Appreciation 1.5% 2025: Unchanged	2023*†: Depreciation 15% 2024: Unchanged 2025: Appreciation 3%
Real GDP Growth (YoY)	2023: 5.0% 2024: 5.0% 2025: 5.0%	2023: 7.5% 2024: 5.5% 2025: 5.0%	2023: 3.0% 2024: 4.0% 2025: 5.0%
Change in Unemployment Rate	2023: -0.3 pp 2024: +0.0 pp 2025: +0.0 pp	2023: -0.8 pp 2024: -0.5 pp 2025: +0.0 pp	2023: +0.7 pp 2024: +0.5 pp 2025: +0.0 pp
CPI Inflation (YoY)	2023: 2.8% 2024: 3.2% 2025: 3.3%	2023: 3.0% 2024: 3.0% 2025: 3.0%	2023: 5.0% 2024: 4.0% 2025: 3.0%
Change in Real Estate Prices (expressed in GEL, YoY)	2023: 5.5% 2024: 5.5% 2025: 5.5%	2023: 6.5% 2024: 5.75% 2025: 5.5%	2023: 6.5% 2024: 5.5% 2025: 5.5%
Monetary Policy Rate (%)††	2023*: -1.0 pp (compared to the current level) 2024: -1.25 pp 2025: -1.0 pp	2023*: -1.5 pp (compared to the current level) 2024: -1.5 pp 2025: -1.0 pp	2023*: -0.5 pp (compared to the current level) 2024: -1.5 pp 2025: -1.0 pp

Note: Current levels correspond to the publication date of these scenarios. The numbers represent annual average changes, unless otherwise specified.

* The assumption is made for the remaining period of the year.
** JPMorgan EMBI Global Georgia Sovereign Spread; Source: Bloomberg.
† Average levels prevailing in the two-week period ending on the cut-off date of 3 July 2023.
†† The assumption shows the change over the course of the year.

Appendix

Dynamics of Main Domestic Variables

Figure 1. CPI Inflation (YoY, %)

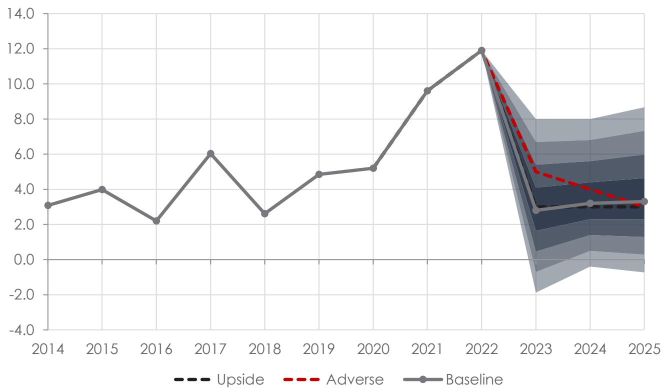


Figure 2. Real GDP Growth (YoY, %)

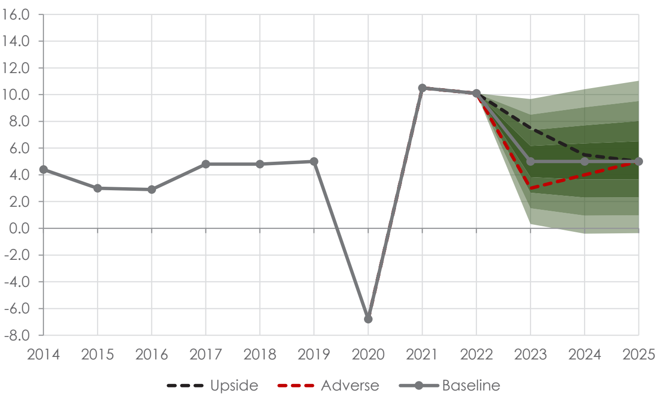
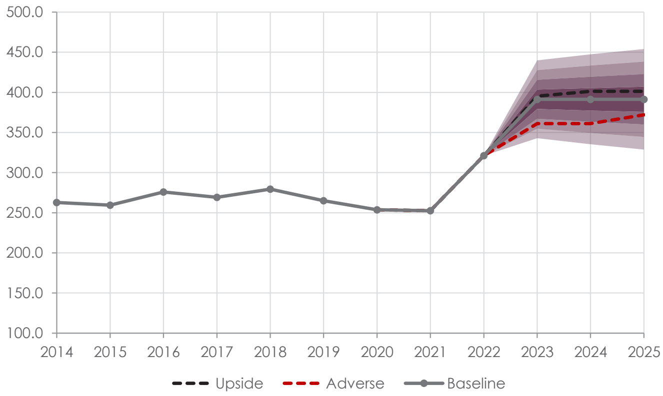
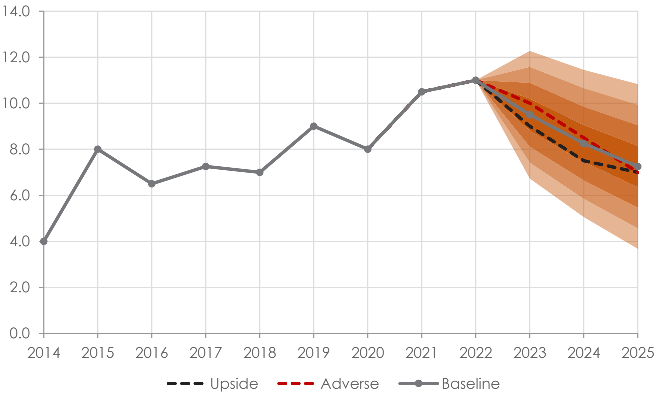


Figure 3. Nominal Effective Exchange Rate, NEER**



** 1995=100; Increase means appreciation

Figure 4. Monetary Policy Rate* (%)



	Hystory												Scenario								
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Baseline			Upside			Adverse		
													2023	2024	2025	2023	2024	2025	2023	2024	2025
CPI Inflation (YoY, %)	8.7	-0.9	-0.5	3.1	4.0	2.2	6.0	2.6	4.9	5.2	9.6	11.9	2.8	3.2	3.3	3.0	3.0	3.0	5.0	4.0	3.0
Monetary Policy Rate (%) *	6.75	5.25	3.75	4.0	8.0	6.5	7.25	7.0	9.0	8.0	10.5	11.0	9.5	8.3	7.3	9.0	7.5	7.0	10.0	8.5	7.0
Real GDP Growth (YoY, %)	7.4	6.4	3.6	4.4	3.0	2.9	4.8	4.8	5.0	-6.8	10.5	10.1	5.0	5.0	5.0	7.5	5.5	5.0	3.0	4.0	5.0
Nominal Effective Exchange Rate, NEER (1995=100)	238.4	254.1	254.0	262.9	259.5	275.9	269.3	279.4	265.0	253.8	252.6	321.1	391.4	391.4	391.4	395.4	401.3	401.3	361.2	361.2	372.0

Note: Data is annual average unless otherwise indicated.

The scenarios are based on the latest available data and the corresponding assumptions on exogenous variables. Thus, during each update, as new information becomes available scenarios are expected to change. The dynamics of the variables presented in the scenarios should not be perceived as the target of the National Bank of Georgia (e.g., the interest rate, the exchange rate, etc.).

* The numbers show the end-of-year values.