საქართველოს ეროვნული ბანკი
National Bank of Georgia

Macroeconomic Forecast Scenarios for IFRS 9

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Within the International Financial Reporting Standards (IFRS 9) 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 IFRS 9 by financial institutions, starting from 2018 the NBG regularly publishes macroeconomic and financial forecasts and risk scenarios. The estimates provided within these scenarios can be used 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. Forecast scenarios are thus very likely to change when new information becomes available. The dynamics of the variables presented in the forecast 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 driver of the encompassing macroeconomic variables is the possible development path of the COVID-19 pandemic. The baseline scenario considers economic recovery starting from 2021 due to lower infection rates and gradual relaxation of the containment measures. According to the upside scenario, the economic recovery starting from 2021 is faster compared to the baseline. This is achieved thanks to better outcomes of the global and domestic efforts against the pandemic. The adverse scenario assumes that the current high rate of the virus spread will remain throughout 2021. This will result in a prolonged recession and the economic recovery will be delayed till 2022. The current forecast horizon is distinguished by more than usual 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 latest issue of the Monetary Policy Report and other relevant up-to-date information, economic activity will drop significantly in 2020. This is caused by a sharp decline in both external and domestic demand in the face of the global outbreak of COVID-19. After the largest drop in the second quarter of this year, the economic activity has shown some initial signs of recovery. The improvement of domestic demand is driven by fiscal stimulus as well as higher-than-anticipated levels of credit activity and money transfers. Moreover, a number of government-initiated targeted programs are deemed to support vulnerable industries and speed up the recovery. Despite the improvements in export of goods displayed in recent months, external demand remains weak as the receipts from international travel are still at the lowest level. In recent months, due to the accelerated spread of the virus, restrictions on international travel have been extended or reintroduced in several countries. This hampers the recovery of the international tourism industry.

According to the baseline forecast, real GDP will decline by 5% in 2020 and it will register growth in 2021 as the situation starts to improve. The recovery of the economic activity in 2021 will be driven predominantly by domestic demand and investment activity (see Figure 2). Meanwhile, external demand will remain weak and recover only partially as the international travel flows are expected to resume in the second half of 2021. As the economic activity regains momentum, unemployment will tend to decrease. However, the potential economic growth is expected to decelerate in the medium term. This is caused by the deterioration of productive capacity in the face of the deep recession and increased production costs commensurate with new workplace safety requirements. In addition, the potential growth will also be negatively affected by the structural changes related to the movement of labor force and other production factors from highly vulnerable industries.

The uncertainty surrounding the baseline scenario remains unusually high as the scale and rate of the spread of the pandemic, the efficiency of its management and its impact on the economy are all unclear and difficult to predict. The uncertainty also persists regarding the sentiment in global financial markets and international capital flows. In addition, instability in Turkey, which directly affects the Turkish currency market, contributes to the elevated regional risks. Due to the above-mentioned sources of uncertainty, the country risk premium remains at the current level, which is 3 percentage points above the previous year's average value.

In the baseline scenario, inflation will remain above the target this year. From the beginning of the second half of 2020, inflation started to decline. The reduced aggregate demand imposes downward pressure on headline inflation, while the increased production costs related to workplace safety and the depreciated exchange rate in the face of decreased foreign currency inflows and higher uncertainty create upward pressures. Next year, the weak demand is expected to outweigh the supply-side factors and to drive inflation closer to its target (see Figure 1). Meanwhile, higher-than-expected inflation risks remain elevated due to increased exchange rate volatility, which may affect intermediate production costs and import prices. Despite the economic crisis caused by the COVID-19 pandemic, real estate prices have not changed significantly so far. This is partially due to the government support programs targeted to the real estate sector. However, in the face of reduced rental prices, the risk of real estate price drop remains elevated and it can realize instantly if the expectations are revised negatively. According to the baseline scenario, in 2020 real estate prices expressed in GEL are projected to increase by 5% on average compared to the previous year's level. In 2021, real estate prices are not expected to increase above the current year's level on average. This is caused by the ongoing real estate demand stimulating programs, which led to a partial transfer of expected demand to the current year. The prices will rise proportionally to inflation in the following years.

In the baseline scenario, the major central banks maintain accommodative monetary policy stance. Fed and the ECB are expected to keep their policy interest rates at the minimum level and continue the massive asset purchase programs in order to support economic recovery. This accommodative monetary policy is likely to be maintained throughout the forecast horizon and it is supposed to ease financial conditions in developed countries. Due to the anti-crisis measures of unprecedented scale, financial conditions have recently eased in developing and emerging countries as well. Nevertheless, in the latter countries, especially in tourism-dependent and oil-exporting states, economic activity is expected to drop significantly resulting in increased risk premia. In the baseline scenario, the nominal effective exchange rate remains at its current level in the following years (see Diagram 3). GEL/USD exchange rate will also stay stable.

Since the substantial uncertainty caused by the shock can lead to increasing inflation expectations, the monetary policy remains tight. The pace of the monetary policy easing will depend on inflation risks and the speed of the economic recovery. The monetary policy rate is expected to decline gradually as the inflationary pressures dissipate. In the medium term, the policy rate will converge to its neutral level (see Figure 4).

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 on expert judgement. The upside scenario considers a more rapid recovery of the economy compared to the baseline scenario, while the adverse scenario focuses on negative shocks. It should also be noted that the alternative scenarios do not consider risks associated with fiscal and/or other macroeconomic policies.

Upside Scenario

According to the upside scenario, starting from 2021, the economic recovery is quicker compared to the baseline. This is due to better-than-anticipated outcomes of the global efforts against the COVID-19 pandemic. In particular, the virus containment approaches are improved and an effective vaccine becomes available for worldwide usage earlier than assumed in the baseline. Consequently, contact-intensive sectors of the economy, which suffered the most due to the pandemic, are able to reopen. Moreover, consumer and business sentiment improve as uncertainty subsides.

In the upside scenario, the containment of the pandemic is achieved in early 2021, which makes it possible to revive international tourism flows from the beginning of the spring. Meanwhile, the improved economic conditions in the region and globally lead to a prompt recovery of trade and investment flows. More optimistic expectations regarding the prospects of the economy contribute to a stringer domestic demand. As a result, financial soundness of the corporate sector improves and employment goes up. This, in turn, lessens the pressure on the fiscal sector. Due to all of these positive developments, macroeconomic risks are reduced and the current account position is improved, which is reflected in a faster and more sizable reduction in the country risk premium compared to the baseline.

According to the upside scenario, as the virus containment restrictions are lifted gradually and economic activity recovers faster starting from 2021, investment expenditure and demand for labor start to increase. Consequently, the adverse impact of the crisis on potential economic growth is smaller compared to the baseline. Starting from 2021, the stronger aggregate demand allows production to converge to its potential level faster and create moderate inflationary pressure. However, this pressure is partially offset by the improvements in the current account leading to lower inflation on imported goods and intermediate production costs. In 2020, the growth in real estate prices is identical to the baseline scenario. In the following years, the stronger demand and improved economic prospects cause real estate prices to grow proportionally to inflation.

In the upside scenario, FED and ECB policy rates follow their baseline trajectories. GEL effective exchange rate as well as the bilateral GEL/USD exchange rate tend to appreciate due to the improvements in current account and overall market sentiment. Given the anticipated rebound in foreign currency inflows, the GEL gains in value against the US dollar by 5% in 2021, and then by another 5% in 2022.

In order to reduce the inflationary pressure caused by the stronger demand, monetary policy remains tight for a longer period compared to the baseline scenario. In the medium term, the policy rate returns to its neutral level as the inflationary pressure dissipates.

Adverse Scenario

According to the adverse scenario, the recent hike in the number of COVID-19 infections will result in reintroduction and extended use of containment measures within the country and also around the world for an indefinite period of time. This scenario also considers a lower efficiency of the global efforts against the virus spread compared to the baseline scenario. In particular, the progress is delayed in terms of both the improvements in treatment of the infected and the worldwide availability of an effective antivirus. Subsequently, the economic activity remains plummeted and the market sentiment worsens. The initial signs of the global economic recovery show up in early 2022.

In this scenario, the drop in economic activity caused by the deteriorated epidemiological situation leads to a sizable decline in trade and investment flows, while the recovery of international travel receipts is further delayed for an indefinite period of time. In the adverse scenario, the depressed expectations regarding the foreign inflows will result in an additional increase in the country risk premium and a higher pressure on the exchange rate. According to this scenario, the leading central banks maintain accommodative monetary policy reflected in policy interest rates kept at minimum levels and more aggressive asset purchases compared to the baseline scenario. Consequently, risk-free interest rates remain at low levels, however, financial conditions still tend to tighten in the region due to the revised outlook on risks. The additional hike in the risk premium is expected at the beginning of the next year once the signs of the prolonged recession become visible. In addition, given the stalled global economy for longer than initially anticipated, the demand for oil will be further reduced and downward price adjustments will follow. This will weigh on oil-exporting economies including the trade partners of Georgia.

In this scenario, the continued spread of the virus and the increased tensions in the region lead to further deterioration in the current account. In particular, the main sources of foreign currency inflows including international travel receipts, export of goods, foreign direct investments and money transfers all decrease further. The realization of these risks will lead to an additional increase in the country risk premium. As a result, the adverse scenario assumes GEL depreciation against US dollar by 20% throughout 2020-2021 compared to the current level. Along with economic recovery starting from 2022, the GEL depreciation is reversed by 5%. During this period, the depreciation of nominal effective exchange rate is relatively moderate as the exchange rates of the trading partners are also affected by the adverse developments.

The prolonged recession considered in the adverse scenario would cause a cumulative drop in real GDP growth by 5.5 ppts relative to the baseline scenario throughout 2020-2022. The sizable drop in economic activity is caused by both the significantly deteriorated external demand and the weak domestic demand and investment in the face of great uncertainty and pessimistic outlook. Moreover, the deeper and more prolonged recession compared to the baseline leads to a significant deterioration in productive capacity and therefore a more severe fall in potential growth. Against the backdrop of the significantly reduced potential growth, the deflationary effect of the weak demand will be less pronounced. Consequently, the increase in import prices and intermediate production costs caused by the exchange rate depreciation will overwhelm the weaker demand and lower oil prices. This leads to an increase in CPI inflation compared to the baseline scenario. Moreover, inflation expectations also increase in the face of higher uncertainty. Against the backdrop of increasing inflation expectations, monetary policy is further tightened and remains so until 2022 when the impact of the shock dissipates. In the adverse scenario, given the deteriorated outlook and weak demand in 2020 and 2021, real estate prices expressed in GEL remain at the level observed in 2019. In the following periods, as the economy regains momentum, real estate prices start to increase gradually.

The protracted recovery can induce some businesses (especially SME) to close down as they find it prohibitively expensive to operate in this environment. In this scenario, unemployment will surge and households along with firms will face debt-servicing problems. This way the sizable contraction of the economy could have negative spillovers on the financial system. If the balance sheets of the financial institutions are affected in a material way, the post-crisis recovery will be much slower and uncertain.

Summary of Macroeconomic Forecast Scenarios

Scenario	Baseline	Upside (Fast Recovery)	Adverse (Prolonged Recession)
FED Funds Rate	2020: +0.0 pp (compared to the current level) 2021: +0.0 pp 2022: +0.0 pp	2020: +0.0 pp (compared to the current level) 2021: +0.0 pp 2022: +0.0 pp	2020: +0.0 pp (compared to the current level) 2021: +0.0 pp 2022: +0.0 pp
ECB Policy Rate	2020: +0.0 pp (compared to the current level) 2021: +0.0 pp 2022: +0.0 pp	2020: +0.0 pp (compared to the current level) 2021: +0.0 pp 2022: +0.0 pp	2020: +0.0 pp (compared to the current level) 2021: +0.0 pp 2022: +0.0 pp
Change in Country Sovereign Risk Premuim*	2020: +3.0 pp (compared to 2019) 2021: -0.5 pp 2022: -0.5 pp	2020: +3.0 pp (compared to 2019) 2021: -1.0 pp 2022: -1.0 pp	2020: +3.5 pp (compared to 2019) 2021: +1.0 pp 2022: -1.0 pp
GEL/USD Nominal Exchange Rate	2020: Unchanged (compared to the current level) 2021: Unchanged 2022: Unchanged	2020: Unchanged (compared to the current level) 2021: Appreciation 5% 2022: Appreciation 5%	2020: Depreciation 5% (compared to the current level) 2021: Depreciation 15% 2022: Appreciation 5%
Change in Real Estate Prices (expressed in GEL, YoY)	2020: 5.0% (compared to 2019) 2021: 0.0% 2022: 3.0%	2020: 5.0% (compared to 2019) 2021: 3.0% 2022: 3.0%	2020: 0.0% (compared to 2019) 2021: 0.0% 2022: 5.0%
Real GDP Growth (YoY)	2020: -5.0% 2021: 5.0% 2022: 4.5%	2020: -4.5% 2021: 6.0% 2022: 5.0%	2020: -6.0% 2021: 1.0% 2022: 4.0%
Change in Unemployment Rate	2020: +4.0 pp 2021: -0.5 pp 2022: -2.0 pp	2020: +3.5 pp 2021: -1.0 pp 2022: -2.5 pp	2020: +5.0 pp 2021: +0.0 pp 2022: -2.0 pp
CPI Inflation (YoY)	2020: 5.3% 2021: 3.0% 2022: 3.0%	2020: 5.5% 2021: 4.0% 2022: 3.0%	2020: 6.0% 2021: 6.0% 2022: 2.5%
Monetary Policy Rate (%)	2020: -Unchanged (compared to the current level) 2021: -0.25 pp 2022: -1.00 pp	2020: -Unchanged (compared to the current level) 2021: Unchanged 2022: -0.75 pp	2020: +0.25 (compared to the current level) 2021: +0.75 pp 2022: -2.00 pp
Nominal Effective Exchange Rate (NEER)	2020: Unchanged (compared to the current level) 2021: Unchanged 2022: Unchanged	2020: Unchanged (compared to the current level) 2021: Appreciation 3% 2022: Appreciation 3%	2020: Depreciation 3% (compared to the current level) 2021: Depreciation 10% 2022: Appreciation 3%

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

*JPMorgan EMBI Global Georgia Sovereign Spread; Source: Bloomberg.

Appendix

Forecast Dynamics for Main Domestic Variables

Figure 1. CPI Inflation (YoY, %)

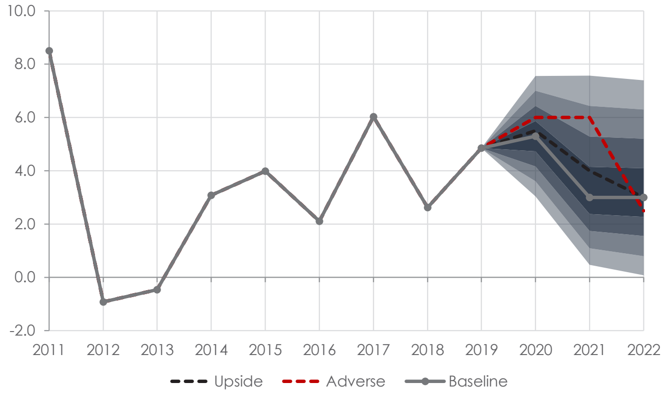


Figure 2. Real GDP Growth (YoY, %)

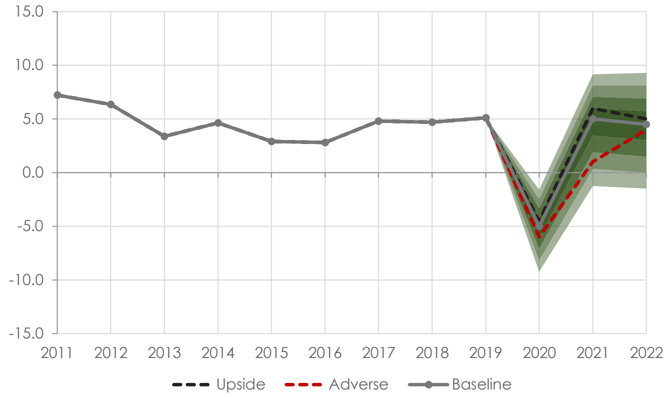
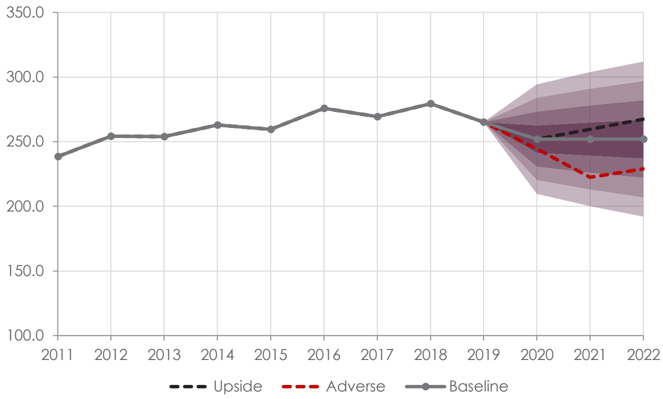
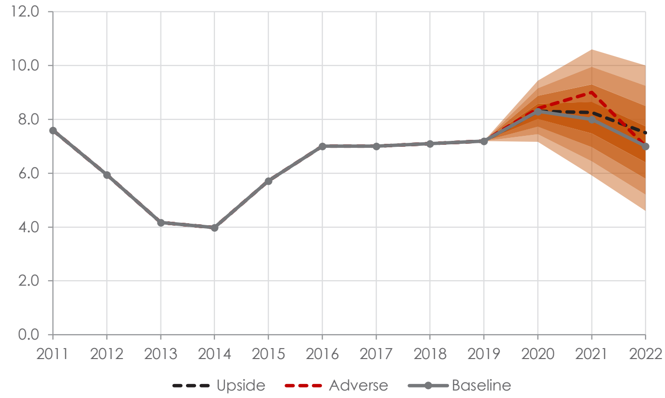


Figure 3. Nominal Effective Exchange Rate, NEER*



* 1995=100; Increase means appreciation

Figure 4. Monetary Policy Rate (%)



	History									Forecast Scenarios								
	2011	2012	2013	2014	2015	2016	2017	2018	2019	Baseline			Upside			Adverse		
										2020	2021	2022	2020	2021	2022	2020	2021	2022
CPI Inflation (YoY, %)	8.5	-0.9	-0.5	3.1	4.0	2.1	6.0	2.6	4.9	5.3	3.0	3.0	5.5	4.0	3.0	6.0	6.0	2.5
Monetary Policy Rate (%)	7.60	5.9	4.2	4.0	5.7	7.0	7.0	7.1	7.2	8.30	8.00	7.00	8.30	8.25	7.50	8.40	9.00	7.00
Real GDP Growth (YoY, %)	7.2	6.4	3.4	4.6	2.9	2.8	4.8	4.7	5.1	-5.0	5.0	4.5	-4.5	6.0	5.0	-6.0	1.0	4.0
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	252.0	252.0	252.0	252.0	259.6	267.3	244.4	222.4	229.1

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 forecast scenarios should not be perceived as the target of the National Bank of Georgia (e.g., the interest rate, the exchange rate, etc.).