

Central Bank stress test 2020 — scenarios

The Central Bank of Iceland's annual stress test is intended to assess financial institutions' resilience to a scenario based on a simulated economic shock. The test is a systemic one — i.e., a macroprudential stress test — with a cyclical stress scenario covering a three-year horizon. It provides information useful in the formulation of macroprudential policy and in overall financial market risk assessment and supervision, including the supervisory review and evaluation process (SREP). The Bank publicises the main results of the stress test conducted on systemically important banks in the autumn issue of its *Financial Stability* report.¹

The scenarios used for the stress test are now published as well, giving other parties the opportunity to use them in their own stress testing. Parties wishing to do so are advised to conduct an independent appraisal of the scenarios' suitability for their internal stress tests. The design of the stress scenario centres primarily on the risks involved in banking operations. Furthermore, the time horizon of the scenario is selected so as to assess risk in banking operations, while longer- or shorter-term scenarios may be better suited to other types of risk.

Stress test 2020 — baseline scenario

The baseline scenario is based on assumptions concerning economic developments in the next few years, in line with the Bank's baseline forecast as published in *Monetary Bulletin* 2019/4. One important change has been made, however: short-term interest rates are held unchanged at the year-end 2019 level.

Stress test 2020 — stress scenario

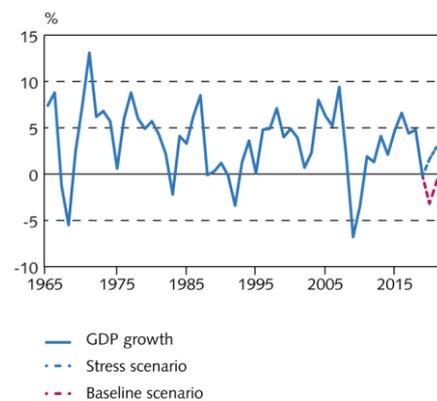
The stress scenario, covering a three-year horizon, is based on an analysis and assessment of the current state of the financial system and current risks to financial stability in Iceland (for further information, see *Financial Stability* 2019/2 and the report entitled *The Central Bank of Iceland's approach to stress testing the Icelandic banking system*).² The scenario is designed to assess the banks' resilience against systemic incidents involving the materialisation of key risks. It is therefore quite stringent. However, it also takes into account the assessment of the current financial cycle position, so that during a strong upswing featuring high asset prices, the the stress scenario will be more severe than it would be under other conditions.

It should be noted that the stress scenario does not represent the Central Bank's forecast of expected developments in macroeconomic variables or other economic indicators. The time series for the stress scenario are obtained by simulation using the Bank's quarterly macroeconomic model (QMM).

¹ See, for example, *Financial Stability* 2019/2.

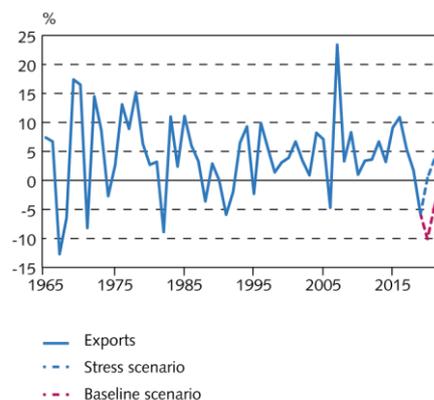
² Central Bank of Iceland (2017). *Working Paper* no. 75. <https://www.cb.is/publications/publications/publication/2017/09/28/Working-Paper-no.-75-The-Central-Bank-of-Iceland-approach-to-stress-testing-the-Icelandic-banking-system/>

Chart 1
Developments in GDP growth
1965-2022



Source: Central Bank of Iceland (QMM results Nov 2019).

Chart 2
Developments in exports¹
1965-2022



1. Real change.

Source: Central Bank of Iceland (QMM results Nov 2019).

In the stress scenario, exports contract

The 2020 stress scenario assumes a contraction in world trade stemming from factors such as mounting geopolitical tensions, higher tariffs, and cross-border trade restrictions. Globally, GDP growth is much weaker and financial conditions deteriorate, although short-term interest rates remain very low. Iceland's trading partners suffer an economic contraction.

Terms of trade deteriorate. The prices of Iceland's most important export products fall – aluminium by 25% and marine products by 12% – and fish catches are assumed to decline by 14%. Tourism-generated export revenues fall by 15% year-on-year in the first year of the scenario (2020), by another 8% in the second year, and by an additional 3% in the third year. As a result, revenues from goods and services exports contract sharply. The year-on-year contraction in total exports will measure 10% in the first year and 5% in the second. Imports will also contract.

Asset prices fall, and investment contracts

Asset prices fall steeply, including a 36% drop in domestic share prices and a 14% decline in house prices. The price of hotel and guesthouse accommodation falls by 46%, and other commercial real estate prices fall 31%. Investment contracts by 10% over the period.

Króna loses less ground than in previous Icelandic crises

It is assumed, however, that the exchange rate of the króna will fall less sharply than, for example, in previous crises in Iceland.³ Even so, the trade-weighted exchange rate index (TWI) will rise by 16% over the stress scenario horizon. The scenario does not assume large-scale capital outflows, as economic conditions abroad are assumed to be poor and foreign interest rates low.⁴ Inflation and short-term interest rates in Iceland will therefore be historically low in the stress scenario. Purchasing power will contract marginally, or by 1.3%, in the first year. Private consumption also contracts marginally, by 2% in the first two years combined.

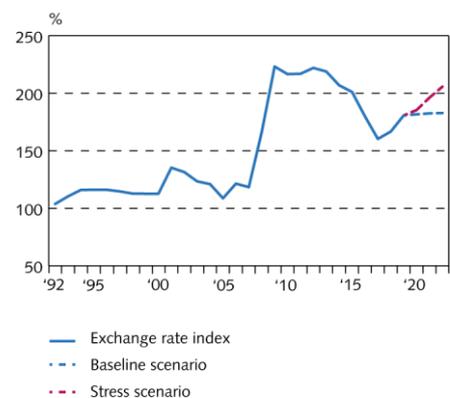
Unemployment rises and GDP contracts

Real estate firms, construction companies, and tourism operators suffer a shock due to reduced activity, higher interest premia, and lower real estate prices. The impact spreads to services more generally and to other sectors of the economy. Unemployment rises and remains high over the period (7-7.3%). GDP shrinks by 3.2% in the first year and 0.9% in the second year.

Risk premia rise and financing conditions tighten

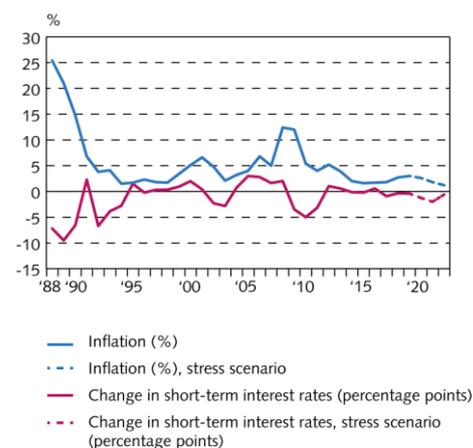
An additional premium (over and above the baseline scenario) on private sector bond issues and the banks' funding is assumed, both in Iceland and abroad. Interest premia charged to Icelandic banks and firms rise by 250 basis points for domestic funding and about 550 points for external funding.⁵ Icelandic Treasury bonds bear a premium of 200 points above the general

Chart 3
Developments in the exchange rate index
1992-2022



Source: Central Bank of Iceland (QMM results Nov 2019).

Chart 4
Developments in inflation and interest rates¹
1988-2022



1. Average annual inflation and percentage change in short-term interest rates.

Source: Central Bank of Iceland (QMM results from Nov 2019).

³ This is due in part to the large size of the Central Bank's net international reserves.

⁴ Furthermore, it should be noted that foreign investment in domestic securities is now considerably less than, for instance, before the 2008 financial crisis, and foreign short-term debt is likewise low.

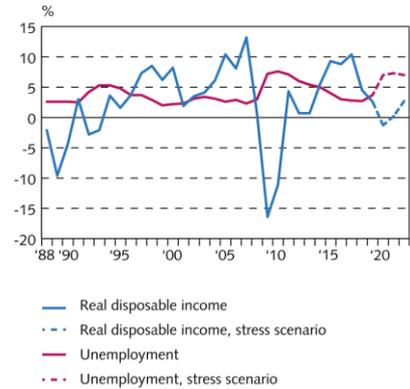
⁵ An additional premium (over and above Treasury bond yields) that is used in the baseline scenario for the banks and the private sector.

interest rate level; however, it is assumed that premia on the Treasury's foreign bonds will be unchanged, on average. Because the decline in inflation and interest rates in Iceland offsets the rise in interest premia on Icelandic Treasury bonds, the change in yields and bond prices is assumed to be minor.

Time series

The time series for key macroeconomic variables and other economic indicators for both baseline and stress scenarios can be found in the Excel document entitled *Macroeconomic variables 2020*.

Chart 5
Developments in real disposable income and unemployment¹
1988-2022



1. Real change year-on-year for income; annual average for unemployment.
Source: Central Bank of Iceland (QMM results Nov 2019).