National Bank of Ukraine

Optimism about AI: Growth Driver or Economic Risk?

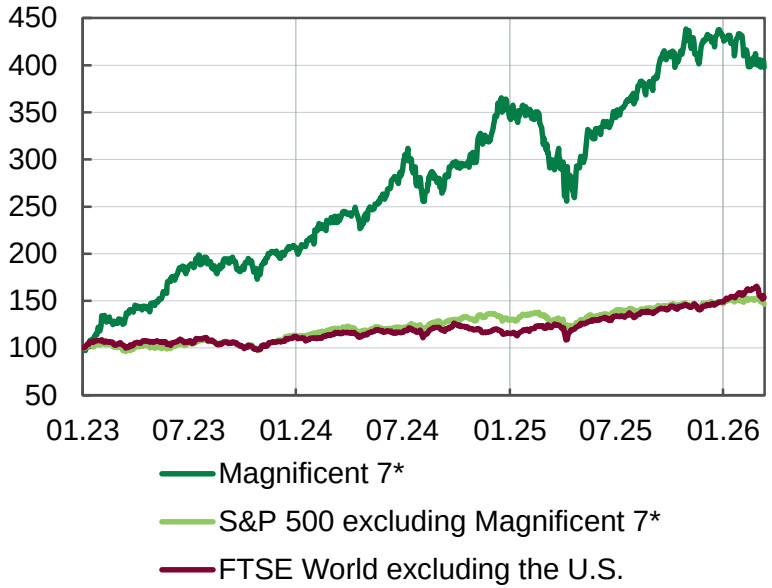
Volodymyr Lepushynskyi

Deputy Governor

Kyiv, 31 March 2026

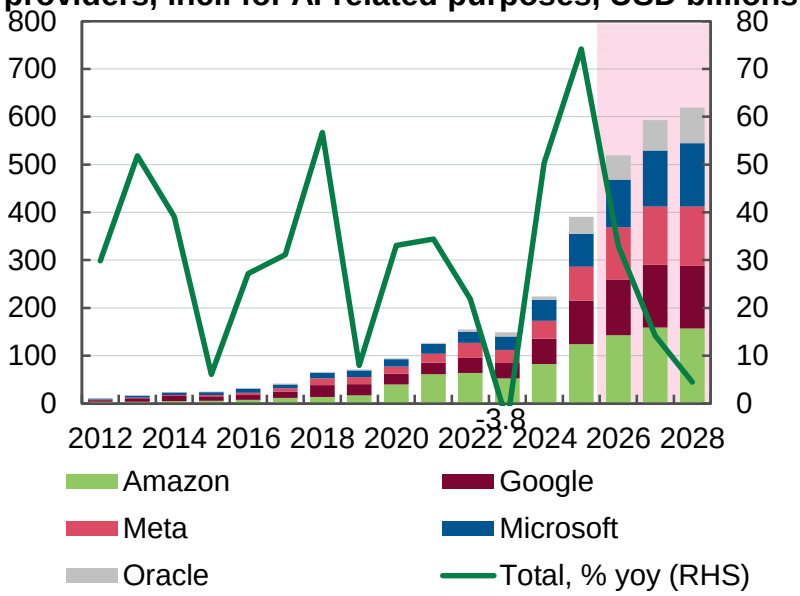
Rapid growth in the capitalization of AI-related companies has raised concerns that a “bubble” might be forming

Selected stock market indexes, 1 Jan 2023=100



* Apple, Microsoft, Amazon, Alphabet, Tesla, Nvidia, and Meta.
Source: Bloomberg.

Capital expenditures of selected cloud service providers, incl. for AI-related purposes, USD billions

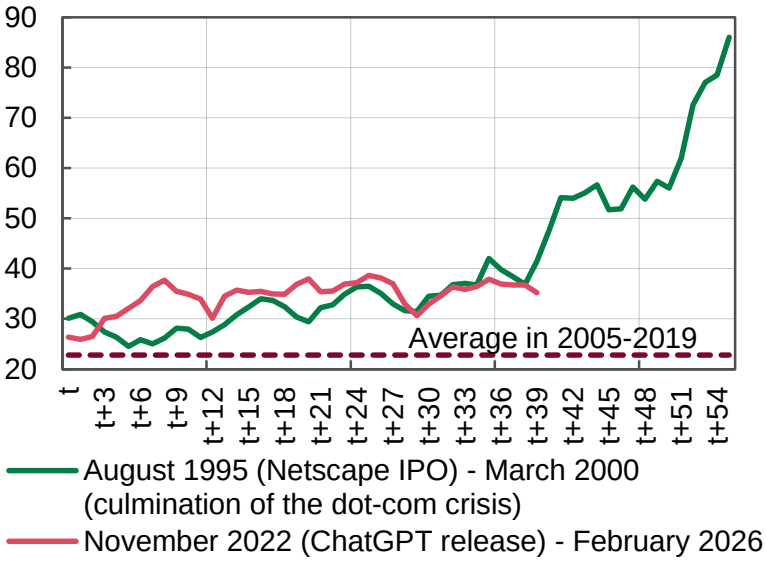


Source: Bloomberg, NBU staff estimates.

- **Doubts about such growth being justified have several reasons:**
  - High uncertainty regarding the timeline for AI commercialization, the ultimate market size, and the list of leading companies
  - Notable growth in AI companies’ investments, which are increasingly being financed through debt and often have a circular nature
  - Potential infrastructure constraints on equipment usage, particularly due to power shortages, and the stated useful life of such equipment

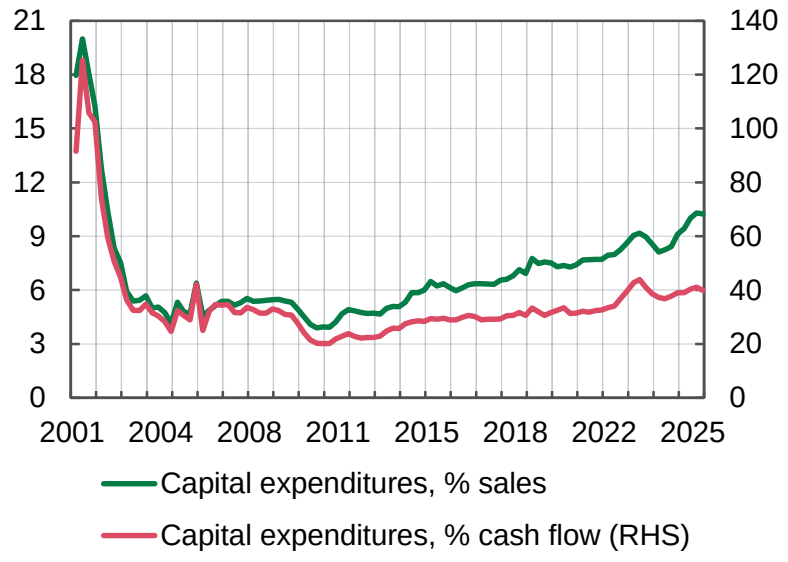
Despite rapid growth, the market situation looks better than during the “dot-com bubble” of the late 1990s

Price-to-earnings ratio of the NASDAQ-100 Index*, by month from the notional start of the “bubble”



Source: LSEG.

Relative capital expenditures of companies in the NASDAQ-100 index*



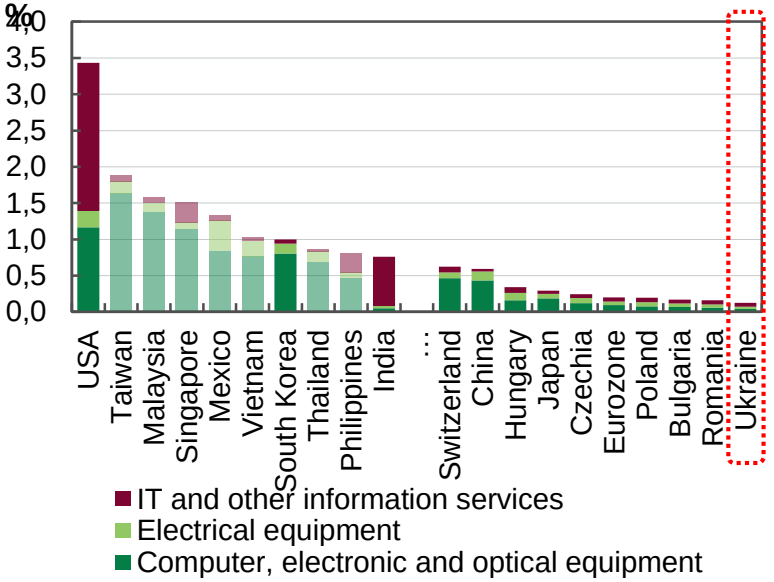
Source: Bloomberg.

* Technology companies, including the Magnificent 7, currently account for more than 60% of the NASDAQ-100 index.

- **Valuations of the companies** included in the “technological” NASDAQ-100 index **remain significantly below** their late-1990s levels
- **The largest technology companies generate steady cash flows**, which they use as a primary source of financing for their investments, and have established business models beyond AI

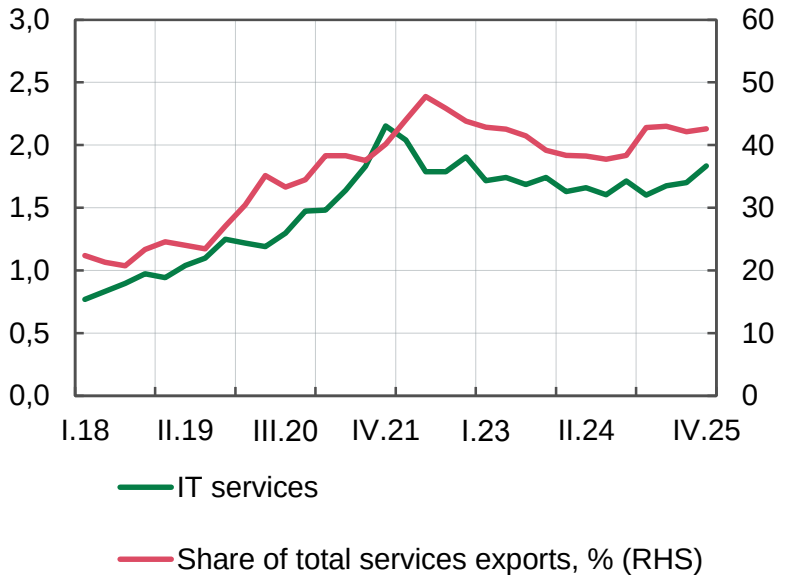
A loss of confidence in AI projects could destabilize global financial markets. However, the direct impact on Ukraine is limited

Share of selected countries' GDP dependent on the U.S. IT sector demand, directly and via 3rd countries, %



Countries that are not Ukraine's MTPs are in semi-transparent.
Source: OECD TiVA, NBU staff estimates.

Exports of IT services from Ukraine, UAH billions

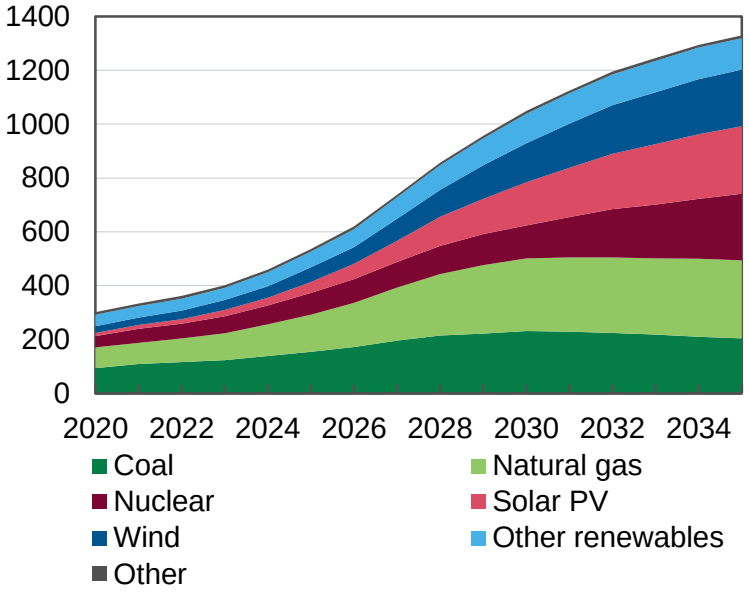


Source: NBU staff estimates.

- **The U.S. economy will be affected the most,** along with selected Southeast Asian countries that are involved in supply chains for the AI sector
- However, most of these countries are not Ukraine's main trading partners
- **The direct impact of a potential crisis on Ukraine's economy may be relatively limited**, although a global downturn in the technology sector could negatively affect exports of IT services from Ukraine

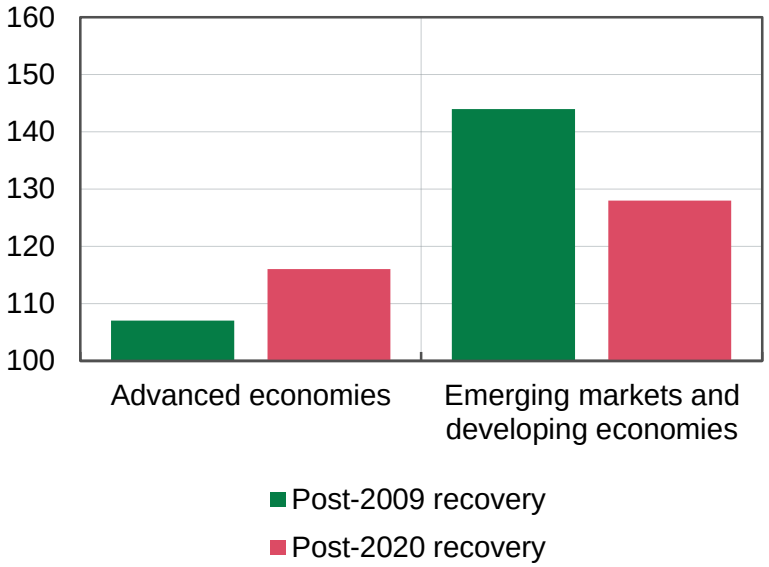
However, second-round effects might be more noticeable for Ukraine

Sources of electricity for data centers worldwide, baseline scenario, TWh



Source: IEA.

Real government expenditure five years after the recession, the year before the recession = 100

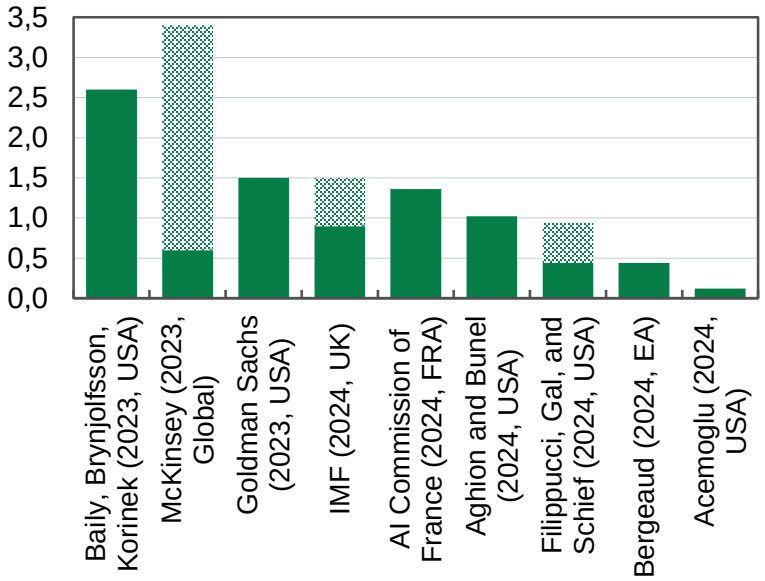


Source: Kose et al. (2022); World Bank.

- **A decrease in investment in AI and its infrastructure could contribute to lower energy prices**, which would help improve Ukraine's trade balance and support a decline in consumer inflation
- **The need to maintain their own financial stability may** prompt partner countries to reallocate budget expenditures and **reduce support for Ukraine**, which would require a search for alternative sources of financing

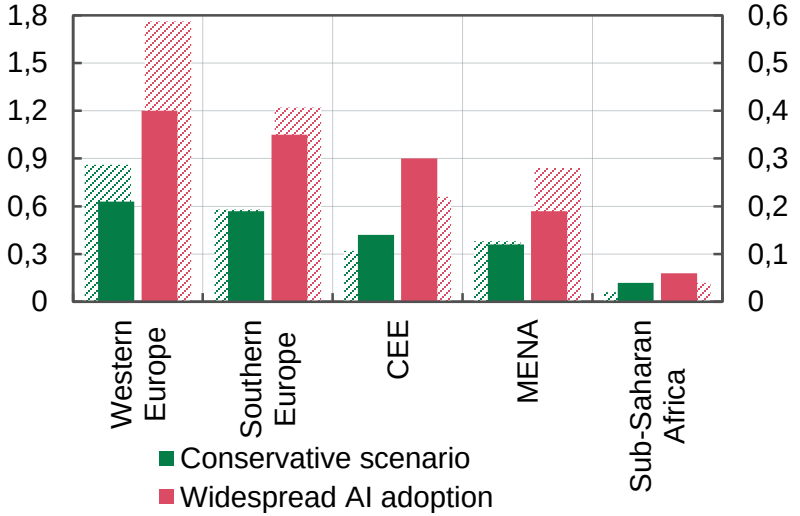
In the medium term, productivity growth will put upward pressure on policy rates globally

Expected additional productivity gains from AI, annually over the next 10 years, pp



The cross-hatched areas indicates the range of estimates (if available).
Source: Filippucci, Gal, and Schief (2024).

Productivity growth, %, and increase in the neutral rate by 2033, pp (right-hand scale)



The hatched areas indicate an increase in productivity. Widespread adoption of AI – at the pace of the 1990s "IT revolution." Conservative scenario – 60% slower.
Source: EY (2024).

- An increase in investment demand, coupled with a decline in households savings amid expectations of further income growth, **will lead to a rise in the neutral rate**
- However, this effect is likely to be **more pronounced in advanced economies**
- The magnitude of the impact on the neutral rate may depend on the complementarity of IT capital and labor (Melina & Villa, 2025), the AI implementation scenario, etc.

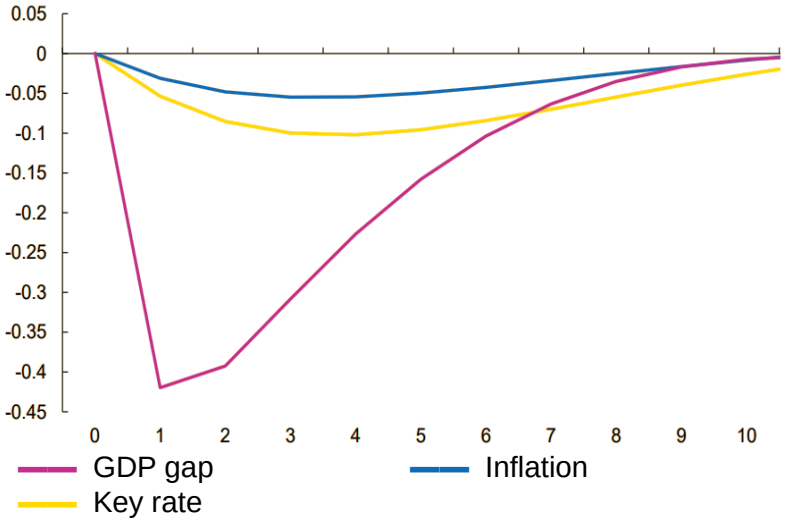
Bonus slide*: War in Middle East and its repercussions for the AI industry

Split in the AI Boom (Bloomberg)	• AI software → growing • AI infrastructure → under pressure
Key factors	• Higher energy prices → higher costs of data centers • Supply chain disruptions (helium, chips) • Growing uncertainty about investment in equipment and infrastructure
AI industry does not stop but is changing	• Advantage of large players (concentration)? • Less infrastructure – more software? • More investment in military AI • Energy race to power AI
Potential repercussions	• AI becoming an even more “government-driven” technology • A focus on profitability, not “growth at all costs” • Restructuring the supply chain (more expensive in the short term, but more stable in the long term) • A shift in the direction of AI development: less “fun AI,” but more defense tech, cybersecurity, and autonomous systems

* Created using AI.

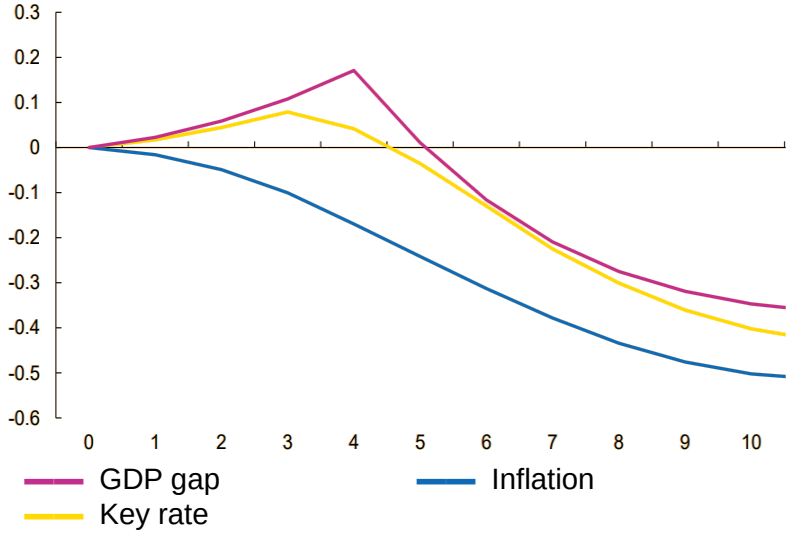
The response of central banks in the short term will be determined by economic agents' expectations regarding productivity

Deviations of variables from the trend following an unexpected increase in productivity in the first period, pp



Simulations by Norges Bank using the NEMO model.
Source: Norges Bank.

Deviations of variables from the trend following the expected increase in productivity in the fifth period, pp



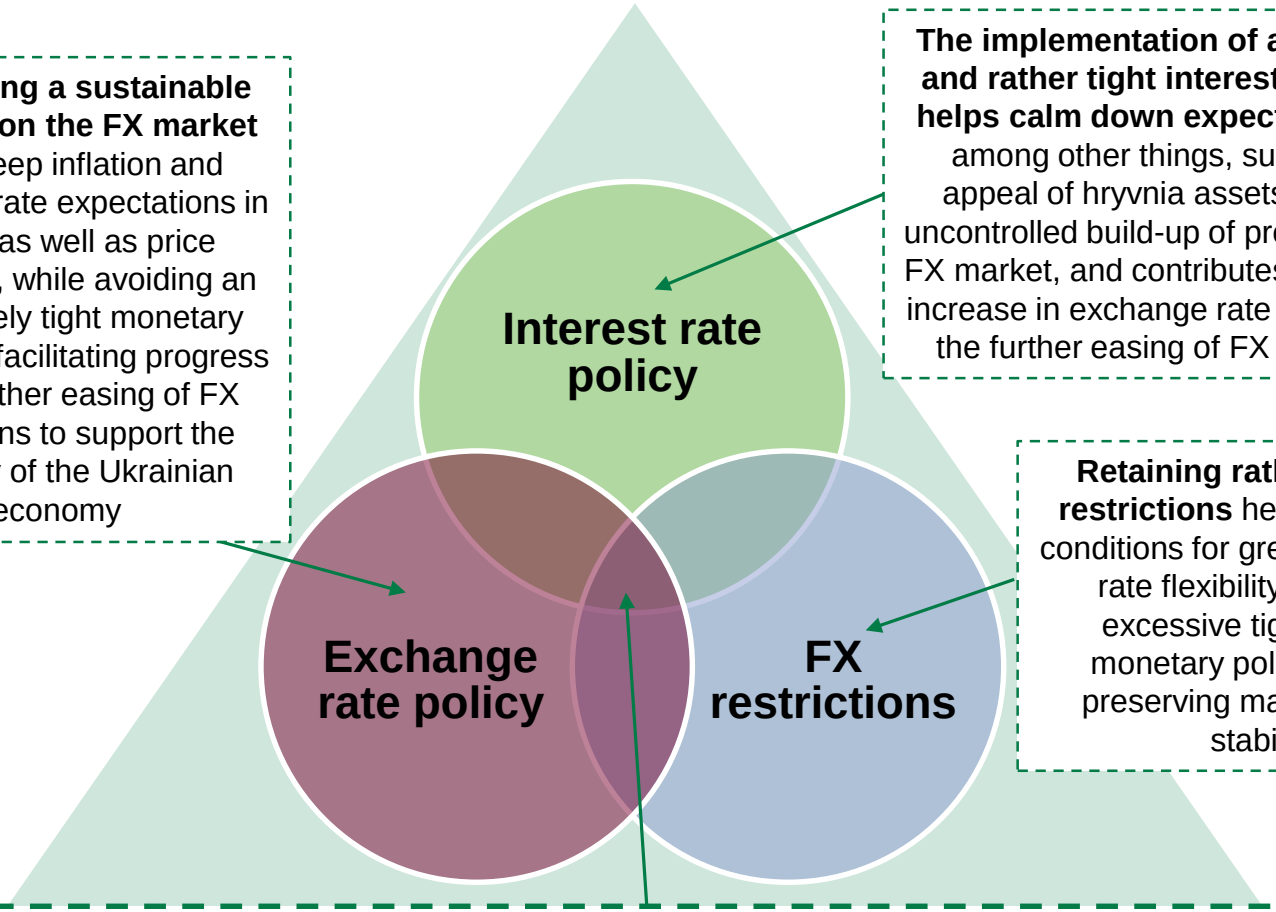
Simulations by Norges Bank using the NEMO model.
Source: Norges Bank.

- Faster **productivity growth** expands the economy's productive capacity and **reduces businesses' costs**. Demand grows more slowly due to consumption inertia and the costs of adjusting investments, **contributing to lower inflation**
- In contrast, **expected productivity growth** immediately spurs investment and consumption, which, given constant productive capacity, **leads to a positive GDP gap**, prompting the central bank to respond **by raising the interest rate**

The NBU is using a consistent combination of instruments to attain monetary policy objectives

Maintaining a sustainable situation on the FX market helps keep inflation and exchange-rate expectations in check, as well as price pressures, while avoiding an excessively tight monetary policy and facilitating progress in the further easing of FX restrictions to support the recovery of the Ukrainian economy

The implementation of a consistent and rather tight interest rate policy helps calm down expectations and, among other things, supports the appeal of hryvnia assets, prevents uncontrolled build-up of pressure on the FX market, and contributes to a gradual increase in exchange rate flexibility and the further easing of FX restrictions



Retaining rather tight FX restrictions helps create the conditions for greater exchange rate flexibility and avoid excessive tightening of monetary policy, thereby preserving macrofinancial stability

The constant use of a consistent mix of monetary-policy and exchange-rate-policy tools, FX restrictions, and other monetary policy instruments will ensure progress in all the three areas toward a return to "normality" – i.e., toward a fully functioning inflation targeting with a floating exchange rate – while maintaining macro-financial stability

In accordance with the Strategy and the Monetary Policy Guidelines for the Medium Term.