Research Priorities of the National Bank of Ukraine from 2017 to 2020

The Research Priorities of the National Bank of Ukraine from 2017 to 2020 are the main areas of research on the current problems and challenges faced by the NBU.

Setting up an effective research capability provides the central bank with the theoretical and analytical background for taking economically sound policy decisions, and improves its capacity to maintain price and financial stability, in order to ensure there is stable economic growth in Ukraine. The central bank's research activities also contribute to staff training, improve public literacy, promote transparency, and bolster the NBU's reputation as being an important analytical center.

The research work at the NBU is based on the key principles of high quality, policy relevance, and openness. High standards of research are reinforced by engaging internationally recognized economists and creating a favorable environment for in-house researchers. In order to extend its research capacity, the NBU has launched a series of networking events and cooperation programs, including its regularly held Open Research Seminars and Annual International Conference, its Visiting Scholar Program for short-term visits, a Secondment Program for long-term cooperation, and its Research Internship Program for young researchers and students.

The research carried out by the NBU's staff and visiting scholars is published in the NBU's *Working Paper Series* and the *Visnyk of the National Bank of Ukraine*.

Research priorities focus on the NBU's policy objectives, as defined by its strategic documents:

- *Monetary Policy Strategy for years 2016 – 2020* approved by NBU Board Resolution No.541 of 18 August 2015;
- *Comprehensive Program of Ukrainian Financial Sector Development Until 2020* approved by NBU Board Resolution No.391 of 18 June 2015.

The *Monetary Policy Strategy for years 2016 – 2020* stipulates that inflation targeting is the most favorable monetary regime to employ for the NBU to be effective in attaining its price stability objective. Therefore, in the coming years, research will be carried out with the aim of supporting the implementation of this monetary regime in Ukraine. Although inflation targeting remains the most popular monetary regime across the world, its practical realization substantially differs from country to country. Thus, the practical side of inflation targeting implementation should take into account both the world's best practices, and local specifics.

The main goal of the [Comprehensive Program of Ukrainian Financial Sector Development Until 2020](#) is to establish a full-scale and effective financial market in Ukraine, and to reinforce its resilience against economic shocks. The program focuses on ensuring the financial stability and dynamic development of the financial sector of Ukraine, as well as on building up the institutional capacity of the financial market regulators. Research in this area involves assessing the various options available to the NBU in using regulatory tools, and searching for the optimal parameters for these measures, so as to maximize their effectiveness in ensuring financial stability.

Researching the abovementioned areas requires the wide use of economic and mathematical modelling tools to make quantitative and qualitative assessments of alternative policy options. Accordingly, the NBU's research work also includes modelling based on up-to-date scientific approaches and methods. Central banks that successfully apply inflation-targeting regimes rely on a broad range of tools and methods – from entirely econometric ones, aimed at short-term forecasting based on statistical relations among data in the past, to structural ones that are meant to explain macroeconomic development on the grounds of established economic theory. Each having their own structure and philosophy, these models all play an important role in monetary analysis and forecasting.

Based on the previously mentioned aims, the NBU's strategic tasks suggest the following priorities for future research:

1. Monetary policy: implementing the inflation-targeting regime;
2. Financial stability: micro- and macroprudential regulation policy;
3. Macroeconomic modelling and forecasting: developing structural and econometric models.

1. **Monetary Policy: Implementing the Inflation Targeting Regime**

Practical Realization Specifics of the Inflation-Targeting Regime

In the coming years, research into monetary policy will be aimed at supporting the implementation of inflation targeting, which is bringing substantial changes to the NBU's approaches to decision-making. The success of the new regime depends greatly on reinforcing the bank's technical infrastructure. It implies that the central bank is competent in modelling and forecasting (more details in section 3), and can transparently communicate its goals and decisions. Research on strategic issues and certain aspects of monetary policy under the inflation-targeting regime will be based on the best international practices.

In particular, it is important to analyze the indicators that give the most complete picture of the impact monetary policy has on inflation processes. The goal is to develop auxiliary indicators of core inflation to augment the existing indicator, which is published by the State Statistics Service of Ukraine and excludes certain components. Under conditions of significant inflation shocks caused by factors independent of monetary policy, core inflation indicators should serve as operational benchmarks for attaining the headline inflation targets.

On the other hand, an important element of monetary policy is to determine its impact on the real sector, taking into account factors formed inside the financial system. Developing the new indicators – called financial conditions indices – will allow the bank to assess the financial sector's impact on the macroeconomic progress of the country.

Finally, inflation expectations are the key success indicator of monetary policy under an inflation-targeting regime. For this reason, future research will cover the factors that form these expectations, as well as ways to bring them to the level of inflation targets.

Long-Term Trends, Equilibrium Values, and Monetary Policy

In recent years, the Ukrainian economy has undergone dramatic structural changes. As smoothing out business cycles is one monetary policy objective, estimating long-term trends is important for making monetary policy decisions. This requires studying the economic trends that determine the development of the domestic economy, including the equilibrium real exchange rate, natural unemployment, and of course, potential output. These estimates can be used to calculate the neutral interest rate, compare this rate to the actual rate, and to determine the current and future stance of monetary policy (accommodative, contractionary or neutral).

The Monetary Transmission Mechanism

Changes to monetary policy have significantly altered the way monetary tools influence macroeconomic indicators. Under an inflation-targeting regime, understanding how monetary transmission works is a key precondition for conducting a successful monetary policy. In this light, research will focus on studying the specifics of the operation of various transmission mechanism channels – from how key rate changes affect the values of other financial assets (interbank loans,

bank loans and deposits, foreign currency), to how these values influence aggregate demand and inflation.

In particular, given administrative restrictions on the FX market and the wide use of FX market interventions, studying the relationship between interest rates and the exchange rate is an important research topic. Looking forward, exchange rate changes could have a significant pass-through effect on consumer prices. Therefore, research will focus on how to estimate such effects, and what factors cause significant pass-through effects in Ukraine.

On the one hand, this is due to the Ukrainian financial system essentially consisting of banks, and, consequently, lending by banks playing an important role in providing funds for the real sector. On the other hand, this is due to the implications the financial crisis had for the banking system's ability to act as an effective financial mediator, transmitting changes in monetary tools to the real economy.

2.   Financial Stability: Micro- and Macroprudential Regulation Policy

The Influence of the NBU's Regulatory Policy on Banking Sector Sustainability

Since 2014, the NBU has made sweeping changes to the rules of the game in the banking sector – it has put in place new rules for disclosing banks' ultimate owners, carried out tests to determine whether banks have adequate capital, and altered the approach to the way banks are to assess their credit risk. Although such decisions aim to enhance the financial soundness of the banking sector, they could have negative side effects in the short term. Introducing new policy rules in the banking sector in the midterm (such as the Basel principles and EU directives) also requires assessing the possible effects of these rules. A special study should be devoted to adapting international rules to the specific nature of the Ukrainian banking system in cases where these rules fall under the central bank's discretion.

Using Macroprudential Tools to Deliver Financial Stability

Macroprudential tools are widely used internationally to regulate the financial sector. These tools have proved to be effective over the relatively short period of time since they were introduced on a mass scale in developed countries. That is the reason why central banks continue to improve them. Since little is known about the application of macroprudential tools in transitional economies, the development and implementation of such tools requires complex quantitative estimates. The NBU

plans to extensively use macroprudential tools for regulating capital (capital buffers) and lending activity, as well as for managing credit risk (DTI, DSTI, LTV and other coefficients). Using such tools effectively requires detailed analyses and assessments. Special attention should be paid to the relationship between monetary and macroprudential policy. The proposed studies seek answers to the question of how the NBU's policies of both maintaining financial stability and while at the same time promoting sustainable economic growth should be reconciled.

3. Macroeconomic Modeling and Forecasting

DSGE Models for Ukraine

At the current stage of economic development, central banks are increasingly applying dynamic stochastic general equilibrium models (DSGE models) instead of the formerly common reduced forms of empirical and hybrid models. The advantage of DSGE models is that they are based on the macroeconomic principles of decision-making by economic agents, allowing one to estimate the effects of changes to state policy. In this light, determining how effective monetary policy is in meeting inflation targets and delivering economic growth is of special interest to central banks. In view of the specifics of Ukraine's small open economy, imperfect competition, as well as other nominal and real economic frictions, DSGE models will allow the NBU to create an accurate theoretical model of the domestic economy. This model will significantly enhance the NBU's ability to conduct macroeconomic analyses, and to forecast complex macroeconomic processes, ultimately making monetary policy more effective.

Forecasting Macroeconomic Indicators on the Basis of Econometric Models

Short-term forecasts of economic activity and inflation are important for decision-making, especially in highly volatile economies. Short-term forecasting methods are being constantly improved. Apart from the traditional econometric models, such as simple regression and error correction models, Bayesian vector autoregression, leading indicator, and expert judgment models are expected to prove useful. Considerable attention will also be paid to developing approaches to big data forecasts, using factor models and combining the results produced by various forecasting models. Macroeconomic modeling and forecasting will rely on new techniques for collecting, processing and analyzing data, which will help identify consistent patterns, build high-quality models, and make reliable forecasts. Promising methods include web scraping, and surveys of households, businesses, and banks.