



5.2 INFORMATION SYSTEMS

For the collection, processing and storage of data received from reporting agents for statistical and supervisory purposes, Národná banka Slovenska uses the information system Statistics Collection Portal (IS SCP). New reporting requirements were implemented in the IS SCP in 2017 in order to meet the supervisory needs of the ECB, EIOPA, and the European Banking Authority (EBA). In connection with new requirements laid down by ESMA, a new transaction reporting module was added to the IS SCP in 2017 in accordance with Article 26 of Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments (MiFIR). Also, the functionality of the IS SCP was expanded in order to speed up the inputting process, optimise the database, and make the system compatible with additional internet browsers.

By the end of 2017 around 3,880 reporting agents were registered in the IS SCP, including 29 from the banking sector, 34 engaged in other financial intermediation, 54 from the insurance sector, 128 from the capital market (investment firms, collective investment undertakings, asset manage-

ment companies, the stock exchange, and central securities depositories), 46 from the pension fund sector and around 3,590 entities reporting to NBS under the NBS Decree on reporting in accordance with the Foreign Exchange Act.

In 2017 a total of 184 reporting templates were designed for data collection requirements under national law, 198 as required by the EBA, 104 as required by EIOPA, and two in accordance with the EU's Alternative Investment Fund Managers Directive.

In 2017, as part of the ongoing process of making historical data accessible in the IS SCP, selected reporting statements for 2015 were transformed and migrated from the former information system STATUS to the IS SCP.

With the aim of improving data quality and data processing, IS SCP modules continued to be developed in 2017 using business intelligence tools, with particular focus on the analysis of securities statistics, interest rate statistics, balance of payments statistics, and certain balance sheet statistics. In addition, a new data model concept for data classification was introduced.

6 ECONOMIC RESEARCH

The principal issues addressed by NBS economic research published in 2017 concerned monetary policy and financial stability. This research was complemented by other studies in key thematic areas: economic modelling; fiscal policy; the labour market; and the real economy.

In line with the current needs of Národná banka Slovenska and with the medium-term research agenda approved by the NBS Bank Board, research activities focused not only on practical issues in the financial, economic and monetary spheres, but also on theoretical modelling and technically demanding solutions. NBS researchers published significantly more papers in 2017 than in 2016, and they further developed cooperation with experts from other institutions, both domestic and foreign.

The bulk of NBS research outputs comprised peer-reviewed working papers, analyses and commentaries, all of which are freely available on the NBS website.²³ A total of 12 working papers and one occasional paper were published in 2017. NBS researchers were also involved in the production of several working papers of foreign institutions, including the European Central Bank (ECB), the Centre for Economic Policy Research, the National Bureau of Economic Research, and the University of London.

NBS research efforts in the area of monetary policy were devoted to a number of current issues surrounding the ECB's monetary policy, but also included a look back at the Slovak central bank's past experience of pursuing an independent monetary policy. A study of the impact of quantitative easing on banks' lending activity

²³ The full texts are available at <http://www.nbs.sk/sk/publikacie/publikacie-vyskumu> and <http://www.nbs.sk/sk/menova-politika/analyticke-komentare>



confirmed that increases in bank funding have boosted lending and in particular lending to households. Another subject of NBS research in 2017 was the impact of public statements by the ECB's Governing Council members made in the periods between the Governing Council's monetary policy meetings. The findings showed that such intermeeting communications affect interest rates and stock markets and that markets focus more on statements by certain key members of the Governing Council. An in-depth analysis of data on NBS's exchange rate interventions in the period before Slovakia adopted the euro showed that these interventions had a significant impact on the exchange rate movements of the Slovak koruna currency. The pattern and intensity of these effects varied depending on whether the objective of the intervention was to strengthen or weaken the koruna. Furthermore, the interventions made in the period before Slovakia joined the European Union (in 2004) had a greater impact than those made afterwards.

In the field of financial stability, one study found that the macroeconomic costs of the new 'Basel rules' will be relatively moderate. Another study confirmed that analysing the structure and stability of both direct and client clearing in the interest rate derivatives market was important in order to gain a better understanding of the interest rate derivatives market and potential contagion mechanisms in the financial sectors.

Studies covering the interaction of monetary and fiscal policy brought some interesting findings on government spending and the functioning of the bond market. One study showed that in an environment where interest rates are at the zero lower bound, government spending in Slovakia, similarly as in the euro area as a whole, has had a greater impact on aggregate demand than in a standard monetary policy environment. A model analysis of bond price movements demonstrated a correlation between increasing uncertainty about future government spending levels and rising bond prices. It also found, however, that if monetary policy allows higher inflation in response to government spending growth, the real value of bonds falls. Another study addressing fiscal policy issues provided an in-depth analysis of the impact of VAT changes on the government budget and consumer welfare and identified ways in which the recent

changes in VAT on food items in Slovakia could have been more efficient.

A study based on microdata from the Eurosystem's Household Finance and Consumption Survey (HFCS) revealed a statistically and economically significant positive correlation between financial literacy and participation in the 'third pillar' of the Slovak pension system (i.e. the voluntary defined-contribution supplementary pension scheme). Thus it pointed out the importance of financial education to the sustainability of the pension system in Slovakia. A more theoretical paper in the field of economic modelling produced important findings on the use of normality tests for dependent data.

Labour market analyses published by NBS in 2017 focused on the impact of wage adjustment on employment and on firms' responses to minimum wage increases. In one study, the results confirmed the presence of wage rigidities and that these are more pronounced where demand is falling and where collective agreements are in effect. The results also showed that wage rigidities have a negative impact on the number of people that firms employ. In another study, however, it was shown that firms were more likely to respond to rises in the minimum wage by curbing recruitment than by making redundancies. Their main responses to such increases are to reduce non-wage costs and to increase prices and productivity.

A 2017 NBS analysis of Slovakia's economic output and productivity relative to more advanced EU economies showed that output convergence remained flat year-on-year and productivity catch-up fell. The only favourable convergence trends in the post-crisis period have been seen in alternative indicators of economic performance that take into account the living standards of the population. The upward trajectory of labour market indicators contrasted with continuing deficiencies in efficiency and productivity of labour utilisation and with deteriorating competitiveness.

A total of seven NBS research studies were published in peer-reviewed academic journals in 2017, most notably in the international titles *Econometrics and Statistics* and *Comparative Economic Studies*. Studies of regional interest were published in the Slovak journal *Ekonomický časopis* and the Czech *Politická ekonomie*.



As regards their involvement in international research projects in 2017, NBS researchers continued to participate in three Eurosystem/ESCB research networks.

The Household Finance and Consumption Network (HFCN) conducts the Eurosystem's Household Finance and Consumption Survey (HFCS). In 2017 Slovak households were surveyed for the third wave of the HFCS, and NBS researchers checked and prepared the data obtained. They also conducted research based on data from the second wave of the survey.

In the Wage Dynamics Network (WDN) — a network examining wage dynamics and their responsiveness to external shocks — the activities of NBS members in 2017 focused on the completion of research tasks based on data from a recent Europe-wide firm-level survey. The key WDN findings were presented at an international conference in Frankfurt on 11 December 2017.

The Competitiveness Research Network (CompNet), originally founded by the ESCB, is a hub for research and policy analysis on competitiveness and productivity and enables cooperation with non-ESCB partners. In 2017 CompNet became an independent network supported by the ECB, the European Bank for Reconstruction and Development, the European Commission, the European Investment Bank, the Halle Institute for Economic Research and the Tiberghen Institute. NBS activities in CompNet focused mainly on preparing data for the network's firm-level-based database. Cooperation with the academic sphere created

conditions for preparing two educational events and one research conference. NBS researchers also attended the CompNet annual conference in Brussels (29-30 June 2017) and a CompNet training course in Amsterdam in July and provided Slovakia's data for the network's database.

In the course of 2017 the ESCB launched three research clusters, the purpose of which is to coordinate research efforts of EU national central banks in three high-priority research fields.²⁴

In 2017 NBS researchers also engaged in international research cooperation outside of the ESCB research networks and clusters. They presented their research finding at several domestic and foreign conferences hosted by academic and supranational institutions.

The bank's research cooperation with the external environment continued to be enriched in 2017 by its doctoral study and research support programme and by its visiting researcher programme. NBS supported one external researcher and one doctoral student. The student research is contributing to a better understanding of the benefits and drawbacks of the single European currency.

For professionals in Slovakia, NBS hosted or co-hosted more than 50 seminars in 2017. At 14 of these events, experts from abroad were invited to present the results of their projects. Also in 2017, NBS researchers specialising in economic modelling prepared and taught a one-term course for undergraduates and professionals on dynamic stochastic general equilibrium (DSGE) models.

7 EUROPEAN AFFAIRS AND INTERNATIONAL COOPERATION

7.1 EUROPEAN AFFAIRS

EUROPEAN UNION (EU)

The EU events that were most important for Národná banka Slovenska in 2017 were the April and September informal meetings of the ECOFIN Council. The April meeting in Valletta (Malta) was attended by the NBS Governor, Jozef Makúch,

and the Executive Director of the NBS Financial Market Supervision Unit, Vladimír Dvořáček. The discussions addressed, among other things, issues related to non-performing loans.

The September meeting in Tallinn (Estonia) was attended by Governor Makúch and by NBS Bank Board member Karol Mrva (Executive Director of

²⁴ 1) Monetary economics, and transmission of conventional and unconventional monetary policy measures; 2) International macroeconomics, fiscal policy, labour markets, competitiveness, and EMU governance; 3) Financial stability, macroprudential regulation and microprudential supervision.