



7 Economic research

The priority areas of economic research at Národná banka Slovenska are based on the Bank's medium-term research strategy. Research at the Bank is focused on thematic areas, such as monetary policy and inflation, financial stability, the European single currency, and Slovakia's convergence within the European Union. Some projects produce methodological innovations in the area of economic modelling; others address issues relating to such areas as the labour market, real economy, and fiscal policy.

The volume and quality of research publications published by the Bank in 2019 maintained the standards set in previous years. In terms of their visibility in foreign indexed journals, NBS research outputs continued their positive trend. This success was supported by cooperation with other experts from the European System of Central Banks (ESCB) and from domestic and foreign academic institutions. As for the number of working papers and analytical commentaries published on the NBS website, 2019 was also a productive year.

In 2019 five articles by NBS staff were published in journals indexed in foreign databases, including the *Journal of Corporate Finance*, *The European Journal of Finance*, the *Open Economies Review*, and the *Journal of Statistical Computation and Simulation*. One NBS working paper was published in *Ekonomický časopis*, an indexed journal of the Slovak Academy of Sciences.

The outputs of NBS research projects usually take the form of papers published on [the Bank's website](#) which are aimed at further publication in scientific journals. A total of nine working papers were published on the NBS website in 2019. Some of those co-authored with individuals from foreign institutions, including universities and central banks,²² were also published on the websites of those institutions. In addition, NBS researchers published two occasional papers and seven analytical commentaries in 2019 – papers of a descriptive nature which contain partial results relevant for Slovakia.

One 2019 [study](#) in the field of monetary policy examined the impact of ad hoc verbal communication of members of the ECB's Governing Council between meetings of that body. By applying textual analysis to such com-

²² The Halle Institute for Economic Research, Charles University in Prague, the Vienna University of Economics and Business, the Magyar Nemzeti Bank (the Hungarian central bank), and the Federal Reserve Board of Washington, D.C.

munication, the authors created an indicator that measures whether ECB communication is leaning towards tightening, easing or not changing monetary policy. The study found that the indicator is a good predictor of future monetary policy decisions. The results confirm the importance of monetary authorities engaging in transparent communication.

Research studies in more broadly defined areas of the labour market and real economy addressed output gap estimation, firms' demand for digital skills, and the results of the third wave of the Household Finance and Consumption Survey (HFCS). A 2019 [working paper](#) on the Slovak economy's output gap used, in addition to GDP data, 37 selected indicators that are published with a shorter lag than GDP data and are not subject to significant revisions. Compared with estimations using standard methods, this method produces a more stable estimate of the output gap at the end of the period under review.

A 2019 NBS [working paper](#) on digital skills analysed a large number of advertisements published on Slovakia's leading job portal, profesia.sk. The authors found that domestically owned firms in Slovakia are more likely to seek digitally skilled workers than are foreign-owned firms. This applies to all occupations apart from some blue-collar occupations in manufacturing industry. The results suggest that the potential for technology transfer from foreign-owned to domestic firms may be relatively limited.

The latest HFCS results were analysed in an [occasional paper](#), which pointed out that household net wealth in Slovakia increased by around 40% between 2014 and 2017. Since the bulk of Slovak households' wealth comprises owner-occupied residential property, this uptrend stemmed from strong growth in property prices. At the same time, the debt-financing of residential properties has caused an increase in household indebtedness.

In the area of economic modelling, three working papers were published by the Bank in 2019. The [first](#) of them builds on literature showing that changes in trend inflation largely account for movements in US Treasury bond risk premia. The authors propose several modelling solutions to explain this relationship. The other two studies estimate a statistical model of firm survival based on firm-level data. The model was used to test various [firm-specific](#) and [institutional](#) factors that affect the probability of firm survival. The paper on institutional factors, using a broad dataset of firms from 15 emerging-market economies in central and eastern Europe, confirmed that institutional quality increases the probability of firm survival.

A 2019 NBS [working paper](#) on fiscal policy examined the impact of government spending shocks on the US Treasury yield curve. The authors differentiate between information about the anticipated fiscal expansion and

the actual unbudgeted increases in government spending. There were also papers on the topics of the European single currency and convergence: one [working paper](#) used firm-level data from Slovakia and Estonia to estimate how adopting the euro affects exports, and [another paper](#) contained the Research Department's regular analysis of Slovakia's economic convergence. The convergence analysis showed that in terms of its economic growth and productivity in 2018, Slovakia made a relative improvement in its position vis-à-vis the EU average. Following a period of stagnation in real convergence since 2014, this result was positive news. In several rankings of institutional quality or the business environment, however, Slovakia continues to experience a decline in its relative position.

As regards their involvement in international projects in 2019, NBS staff continued to contribute to two ESCB research networks – the Household Finance and Consumption Network (HFCN) and the PRISMA (price-setting micro data analysis) Research Network – and to the independent Competitiveness Research Network (CompNet). Furthermore, several of the Bank's 2019 working papers were co-authored with individuals from foreign institutions.²³ In 2019 NBS members of the HFCN focused on preparing datasets from the third wave of the Household Finance and Consumption Survey. After being validated at the ECB, the Slovak data were made available to professionals for research purposes. The latest results, set out in an [occasional paper](#), are supporting the estimation of risks related to household indebtedness and the analysis of the impact on household budgets of macroprudential policy measures and monetary policy measures.

The PRISMA Research Network applies microeconomic analysis to the price-setting behaviour of firms. NBS staff contributed to the network's activity in several areas in 2019, for example in measuring the effects of VAT rate changes on the price level.

CompNet is an independent ESCB-related network dedicated to researching competitiveness on the basis of firm-level data. In 2019 NBS staff members were involved in the task of expanding of CompNet's firm-level-based database and supported the network's development through their presence on its steering committee.

²³ These included the following: Birkbeck, University of London; Hitotsubashi University; Charles University in Prague; Middlesex University London; Paris Nanterre University; the Vienna University of Economics and Business; Česká národní banka (the Czech central bank); the Federal Reserve Board of Washington, D.C.; the Magyar Nemzeti Bank; the Österreichische Nationalbank (the Austrian central bank); the European Trade Union Institute; and the LIS Cross-National Data Center in Luxembourg.

In 2019 NBS researchers gave presentations abroad at events hosted by academic institutions, central banks, and international organisations.²⁴ As part of the technical assistance provided to Bulgaria in preparation for euro adoption, NBS staff members gave presentations in that country.

Through its visiting researcher programme, the Bank cooperates with academic institutions. Under this programme, two external researchers completed a short internship at the Bank in 2019. The same year also saw the Bank host 17 research-related seminars. More than one-third of these seminars provided an opportunity to acquire professional feedback on the Bank's own research projects. The NBS headquarters was also the venue for a further three seminars addressing current issues of economic policy.

²⁴ The events were hosted by the following: Carlton University in Ottawa; the Banque Centrale du Luxembourg; the Banque de France; the journal Economic Modelling; Mendel University in Brno; the Organisation for Economic Co-operation and Development; the Österreichische Nationalbank; the Vienna University of Economics and Business; the University of Economics in Bratislava; and the Slovak Academy of Sciences.