

# Research at the Czech National Bank in 2019–2021

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## How is the research at the CNB organized?

- Since 2017, research at the CNB has undergone significant changes.
  - ▶ The main purpose was to [strengthen the link between research and policy](#) and to increase the flexibility of the whole research process.
  - ▶ Internal evaluation in 2019 – the changes were assessed as successful.
  - ▶ More about the changes we implemented in [Malovaná \(2020\)](#) and [cnBlog](#).
- The research is coordinated and conducted by [two divisions](#) – the Economic Research Division and the Financial Research Division.
- Each division consists of 5 researchers.
- Research [internship program](#) focused on junior researchers (graduate level and PhD students).
  - ▶ Currently, two research interns in the Financial Research Division.
  - ▶ Next year, the intern program will be run also in the Economic Research Division.

# What are the key CNB's research areas?

- The objective of the CNB's research is to provide outputs which help to **expand the knowledge base** needed for the core activities of the CNB and which are of a high standard on the international scale.
- The CNB's research is focused on seven **main areas**:
  - ▶ monetary policy and analysis of monetary policy transmission,
  - ▶ analysis of transmission of macroprudential and microprudential instruments,
  - ▶ the interactions between macroprudential, microprudential and monetary policies,
  - ▶ macroeconomic and financial modelling,
  - ▶ developing the methodology for stress testing the sectors of the financial system,
  - ▶ instruments for identifying and quantifying hidden systemic risks,
  - ▶ the real sector and fiscal policy.

# How did the research topics evolved over time?

- A sharp **change in topics** researched in central banks following the Global Financial Crisis.
- CNB has followed the international trend.

**Figure: Word cloud – abstracts of research papers published by central banks**

(A) Central banks in US and Europe

(B) Czech National Bank



Note: 20 ths. articles; for CNB about 300 articles. Source: Malovaná et al. (2020)

## CNB Working Papers and Research Policy Notes (1/2)

- We published 12 WP and 4 RPN in 2019, and 15 WP and 3 RPN in 2020, respectively.
- We build our research on [a strong link between research and policy](#).
- Publications in the area of **financial stability**:
  - ▶ Impact of [capital-based regulation](#) and the pro-cyclicality of banking sector (WP 2/2019, WP 5/2020, RPN 4/2019, WP 4/2019)
  - ▶ Enhancing the CNB's methodology for [stress testing](#) banking sector and non-financial firms (WP 9/2019, WP 3/2019, WP 12/2020)
  - ▶ Determinants of the [non-bank sector](#), its growth and potential risks (WP 5/2019, WP 8/2020)
  - ▶ Financial markets, household behavior and [sentiment](#) (WP 10/2019, WP 11/2019, WP 13/2020, WP 10/2020)
  - ▶ Developing new approaches for analysing and quantifying [systemic risks](#) (WP 6/2019, WP 3/2020, WP 11/2020)
  - ▶ [Monetary policy stance](#) and financial stability (RPN 2/2020, WP 14/2020)

- Publications in the area of **monetary policy**:
  - ▶ Enhancing the CNB's **modeling framework** (WP 6/2020, WP 7/2020)
  - ▶ Modeling **inflation** (WP 9/2020, WP 1/2020)
  - ▶ Conventional and unconventional monetary policy and its **transmission mechanisms** (WP 1/2019, WP 3/2019, WP 4/2020)
  - ▶ **Inflation targeting** regime and its flexibility (RPN 2/2019)
  - ▶ **Crypto assets** (WP 7/2019)

## Other publications

- Besides WP and RPN, both research divisions contribute to other CNB's publications, prepare internal policy reports and participate in policy discussions.
  - ▶ [Monetary Policy Report](#), [Financial Stability Report](#)
  - ▶ [Central Bank Monitoring](#), [Global Economic Outlook](#)
  - ▶ [Thematic Articles on Financial Stability](#)
- We also publish short and less technical articles at the [cnBlog](#).
- [CNB Research News](#) offer a quarterly summary of the CNB's research activities, as well as invitations to forthcoming events, in the form of an e-mail newsletter.

# Journal publications

- CNB's researchers regularly publish in international academic journals.
- Selected recent publications:
  - ▶ Ehrenbergerová D. et al. (2021): Measuring capital-labor substitution: The importance of method choices and publication bias, [Review of Economic Dynamics](#) (in press).
  - ▶ Franta, M. et al. (2021): Exiting from an Exchange Rate Floor in a Small Open Economy: Balance Sheet Implications of the Czech National Bank's Exchange Rate Commitment, [International Journal of Central Banking](#) (forthcoming).
  - ▶ Hodula, M. et al. (2021): The relationship between capital and liquidity prudential instruments, [Journal of Regulatory Economics](#) 59(1), pp 47-70.
  - ▶ Malovaná, S. (2021): The pro-cyclicality of risk weights for credit exposures: Driven by the retail segment, [Economic Systems](#) 45(1).
  - ▶ Pfeifer, L. and Hodula, M. (2021): A profit-to-provisioning approach to setting the countercyclical capital buffer, [Economic Systems](#) 45(1).
  - ▶ Rakovská, Z. (2021): Composite survey sentiment as a predictor of future market returns: Evidence for German equity indices, [International Review of Economics and Finance](#) 73(C), pp 473-495.
  - ▶ Bajzik, J. et al. (2020): Estimating the Armington elasticity: The importance of study design and publication bias, [Journal of International Economics](#) 127(C).
  - ▶ Franta, M. and Gambacorta, L. (2020): On the effects of macroprudential policies on Growth-at-Risk, [Economics Letters](#) 196(C).
  - ▶ Žáček, J. (2020): Should monetary policy lean against the wind? Simulations based on a DSGE model with an occasionally binding credit constraints, [Economic Modelling](#) 88(C), pp 293-311.



- Selected research project in **financial stability**:
  - ▶ Impact of **LTV, DTI and DSTI limits** on the CZ mortgage market
  - ▶ Quantifying the relationship between **cyclical and structural risks**
  - ▶ Assessing a structure, interconnectedness and risks of the **derivatives market** in the Czech Republic using transaction-level data from EMIR
  - ▶ Determinants of the **insurance sector**; sensitivity of **investment funds** to shocks
  - ▶ Assessing the impact of **capital-based and borrower-based measures** on lending (two extensive meta-analyses)
  - ▶ Survey among academics and central bankers on the **macroprudential and monetary policy interaction**, coordination and institutional arrangement

## Work in progress (2/2)

- Selected research project in **monetary policy**:
  - ▶ **Nowcasting using** high frequency and fiscal data
  - ▶ **New data sources** (big data, scrapped and on-line data), machine learning techniques
  - ▶ Modelling **bounded and limited rationality** in applied macroeconomic models
  - ▶ Macroeconomic risks and **tail events**
  - ▶ **Monetary policy regimes**

# International cooperation

- Coordinating activities of the **ESCB Research Cluster 3** on Financial Stability, Macroprudential Regulation and Microprudential Supervision
  - ▶ Organizing annual workshops
  - ▶ Research newsletter, disseminating research outputs among cluster members from the ESCB
- **International Banking Research Network (IBRN)**
  - ▶ Low interest rates and international banking (an ongoing initiative)
- **Price Setting and Micro Data Analysis (PRISMA) Network**
- **Household Finance and Consumption Network (HFCN)**

## Past and upcoming workshops and conferences

- November 2021: [Fifth Annual Workshop of the ESCB Research Cluster 3 on Financial Stability, Macroprudential Regulation and Microprudential Supervision](#) (organized jointly with Bank of England)
- August 2021: [Conference on Expectations in Dynamic Macroeconomic Models](#)
- October 2020: [Fourth Annual Workshop of the ESCB Research Cluster 3 on Financial Stability, Macroprudential Regulation and Microprudential Supervision](#) (organized jointly with Banco de Espana)
- July 2019: [Workshop on Sources of structural systemic risk in the financial system: identification and measurement](#) (organized jointly with ECB and ESRB)
- May 2019: [Conference The Future of Monetary Policy: What Can We See as the Dust Has Settled?](#)

## Today's program (1/2)

### 9.15-10.30: Household Finance and Consumption Survey (HFCS)

- Keynote speech given by Jiří Slačálek (ECB) on HFCS in Europe
- HFCS in the Czech Republic presented by Jan Brůha (CNB)

### 10.30-11.00: Break

### 11.00-12.30: Session 1 on Financial Stability

- A Prolonged Period of Low Interest Rates: Unintended Consequences (Dominika Ehrenbergerová, CNB)
  - ▶ Discussed by Diana Bonfim (Bank of Portugal)
- The Effect of Monetary Policy on House Prices – How Strong is the Transmission? (Josef Bajzík, CNB)
  - ▶ Discussed by Brian Fabo (National Bank of Slovakia)

### 12.30-13.45: Lunch

### 13.45-15.15: Session 2 on Monetary Policy

- The g3+ Model: An Upgrade of the Czech National Bank's Core Forecasting Framework (František Brázdík, CNB)
  - ▶ Discussed by Yannick Kalantzis (Bank of France)
- Inflation Targeting Flexibility: The CNB's Reaction Function under Scrutiny (Ivan Sutóris, CNB)
  - ▶ Discussed by Aleš Bulíř (International Monetary Fund)

# ENJOY THE WORKSHOP!