

The Banco de España's
analysis and research
priorities for 2020-2024.
2023 update.



Summary

In 2020 the Banco de España defined the strategic framework for its **medium-term analysis and research priorities**, which were grouped under five main headings: central bank policies and their interactions; the main long-term trends in the Spanish economy; risks and opportunities arising from the international environment; the aggregate consequences of household and firm heterogeneity; and the challenges posed by new technologies.

Various work streams were established in 2020 within each of these priority areas. In view of the changing economic environment, these work streams are reviewed and updated as part of the annual exercise to monitor and update the Banco de España's analysis and research priorities, with many being preserved, others reoriented and new priorities added. From late 2023 our analysis in the coming quarters will concentrate mainly on:

- Inflation dynamics and the monetary policy stance, and their impact on the financial markets, the main macroeconomic aggregates, households, firms and the banking sector.
- Appropriate bank solvency levels in Spain, bearing in mind the characteristics of the Spanish banking system and the Spanish economy and how they compare with the situation of other European financial systems, and cost-benefit analysis of macroprudential tools such as a positive neutral countercyclical capital buffer rate.
- The fiscal policy stance and its implementation, its interaction with monetary policy, and public debt sustainability, all against the backdrop of a new fiscal governance framework for the euro area.
- The latest developments in the Spanish labour market and the main factors – such as demographic change and new technologies – that will influence labour market behaviour in the coming years.
- Recent residential housing market dynamics in Spain and their determinants, with particular focus on affordability issues.
- Recent international bank crises and their outcome, the involvement of new technologies, the role of prudential supervision and the functioning of the regulatory framework.
- The implications of the digital euro for monetary policy, the financial system and the economy overall.

As part of the internal transformation exercise launched in January 2020 with the approval of the **Strategic Plan 2024**, the Banco de España is seeking to strengthen its analytical work. The aim is to address the challenges that the various transformations of the economic and social environment pose for the performance of its functions as a national central bank and member of the European System of Central Banks.

To this end, having identified the most relevant issues that may affect the economic welfare of Spanish society at different time horizons, in October 2020 the Banco de España published its **analysis and research priorities for the period 2020-2024**, organised under five main headings:

1. Central bank policies and their interactions
2. Long-term trends in the Spanish economy
3. Risks and opportunities arising from the international environment
4. The aggregate consequences of household and firm heterogeneity
5. New technologies and information sources: challenges for a central bank

Since then, these five areas of analysis have crystallised into various work streams, whose focus and priority has been adjusted over time to adapt to a changing economic and geopolitical environment. In 2020, for instance, major efforts were made to study the impact of the economic measures adopted in response to the COVID 19 crisis, the challenges posed by negative interest rates, the factors behind low trend inflation, the development of sustainable finance, and the implications of the digital transformation of the banking business. By contrast, **in 2021, the analytical focus** shifted, inter alia, to the medium and long-term implications of the pandemic crisis, its unequal impact on households and firms and the role of economic policy, the potential impact of the NGEU programme in Spain, the economic and financial consequences of climate change, and the implications of the development and introduction of the digital euro.

In the 2022 review, the priorities were reoriented towards analysis of the inflationary episode stemming from the energy crisis, its unequal impact and the implications for central bank policy, the risks posed by global financial and trade fragmentation and the European response, the capacity of structural reforms and the NGEU programme to boost the potential medium and long-term growth of the Spanish economy, and the risks and opportunities posed by various technological innovations currently being developed – such as the digital euro – or gradually being introduced into financial operations.

In view of the most recent economic and geopolitical developments, and the ensuing new challenges and issues, a new update of the priority work streams for the coming quarters is in order, in all cases in the framework of the five main areas of analysis defined in 2020.

First, as regards central bank policies and their interactions, the emphasis will be placed on:

- **Inflation dynamics and the monetary policy stance** and their impact on the financial markets, the main macroeconomic aggregates, households, firms and the banking sector.
- Review of the ECB's **monetary policy operational framework**.
- The **interaction between monetary and macroprudential policy**, against a backdrop marked by high inflation and adjustment of financial conditions.
- **Appropriate bank solvency levels in Spain**, bearing in mind the characteristics of the Spanish banking system and the Spanish economy and how they compare with the situation of other European financial systems.
- The costs and benefits of applying **macroprudential tools** to the banking sector and their effectiveness in mitigating systemic risk, with special focus on a positive neutral countercyclical capital buffer rate and in-depth analysis of borrower-based measures and sector-level tools.
- The **interaction between fiscal and monetary policy** against the backdrop of a new governance framework for the euro area; analysis of the credibility of medium-term fiscal plans and their capacity to reduce the pro-cyclical bias of public finances; euro area fragmentation risks.
- The **implications of climate change for monetary policy and central bank activity**: conceptual development of the prudential framework, including its micro and macro dimensions, to enable banks to mitigate the transition risks and the physical risks of climate change, for which obtaining and developing knowledge of geolocation data is essential; the impact of sustainability on governance, advertising and marketing of products by financial institutions; the inclusion of **sustainability factors** in government debt markets, portfolio management and monetary policy conduct.
- **Interconnections** between the main components of the financial system and their role in the transmission of financial risk, with particular emphasis on the activity of non-bank financial institutions, and the structural changes in financial markets of interest to central banks, including equity markets.

Second, in relation to the long-term trends in the Spanish economy, greater priority will be given to the study of:

- Changes in **energy and food dependence** patterns and the course of the **energy transition** against a backdrop of geopolitical conflicts such as the war in Ukraine or the

tensions between Israel and Palestine: implications for both the Spanish and the euro area economy, for input-output interactions and for growth capacity.

- **Assessment of the effects of climate change and of the policies to tackle climate change** on the long-term growth of the Spanish economy and by economic sector; assessment of the investment made and measures taken and the implications for optimal economic policy; development of **new climate change indicators and statistics**.
- The **fiscal policy stance and its implementation and public debt sustainability**, against the backdrop of a new fiscal governance framework for the euro area.
- The factors underlying the **growth in different forms of inequality** (income, wealth, health) in different population groups: analysis of intergenerational mobility in education and in the labour market in Spain; the use of administrative data to identify gender gaps in career paths.
- Promoting **education** and adapting it to labour market requirements.
- The latest developments in the Spanish **labour market** and the main factors – such as demographic change and new technologies – that will influence labour market behaviour in the coming years.
- The impetus that automation and digitalisation are giving to **Spanish economic productivity** and to changes in the labour market; assessment of the capacity to boost the potential medium and long-term growth of the Spanish economy of the **NGEU programme and the structural reforms** (in particular, assessment of the labour market reform using Social Security microdata and of the pension system reform via microsimulations).
- **Skill levels** in the economy overall and in the main branches of activity, and their micro- and macroeconomic implications.
- The consequences of **population ageing** for economic activity, employment, the **pension system** and the financial system; the effectiveness of the public policies aimed at enhancing the **work-life balance**; analysis of the macroeconomic impact of **migration**.

Third, in the area of risks and opportunities arising from the international environment, analysis of the following issues will be strengthened:

- The **risks of global financial and trade fragmentation** and their implications for global value chains, global financial stability and the role of multilateralism; geopolitics and the challenges facing the multilateral system that emerged after Bretton Woods; analysis of the global spillover effects on Spain and the euro area.

- The **challenges facing Europe in light of the complex energy and geopolitical juncture and the changing nature of globalisation**: the implications of the measures adopted, such as the “Open Strategic Autonomy” policies, the REPowerEU Plan, the implementation and financing of the NGEU recovery plan or the institutional changes aimed at strengthening the euro area such as the review of the fiscal rules, and the new challenges such as possible EU expansion.
- The impact of the recent crises on the economies of **Latin America** and their interaction with the Spanish economy.
- The **recent international bank crises and their outcome**, the involvement of new technologies and the role of prudential supervision.
- The **regulatory framework**, how it functioned during the recent banking crises and how it may be simplified, including the matters being discussed by the Basel Committee; the methodology for identifying global systemically important banks (G-SIBs) and the treatment of cross-border exposures; the functioning and possible improvement of the Basel (Pillar 3) disclosure framework to which credit institutions are subject.

Fourth, as regards the aggregate consequences of household and firm heterogeneity, greater priority will be given to the study of:

- The **unequal impact that inflation dynamics and monetary policy conduct** have on different types of households and their saving, spending and investment decisions, their perceptions of the economic cycle and inflation, and their expectations regarding their income and housing tenure status, and on different types of firms, and on financial markets.
- The **preparation of distributional wealth accounts** for Spain.
- Development of methods to **identify the most vulnerable groups in a crisis situation**, with particular emphasis on:
 1. measuring **households’ financial position**, with the work on the Spanish Survey of Household Finances (EFF) 2022 and the preparation of EFF2024, comparison with the aggregate magnitudes and exploration of ways to use administrative data;
 2. the **role of financial competences**, with the work on the Spanish Survey of Financial Competences (ECF) 2021, and measuring gender gaps in financial competences;
 3. measuring future income and inflation **expectations**;
 4. analysing the **effectiveness of financial education programmes**;
 5. supporting the **assessment of the inclusion itinerary pilot projects** of the Ministry

for Inclusion, Social Security and Migration; and

6. identifying best international practice in terms of labour market institutions and employment policies.
- The **risk of financial exclusion** and **access to cash**: the geographical distribution of the demand for and access to cash; cash use habits; financial competences, behavioural finance and inclusion; heterogeneity across households, the use of means of payment and assessment of measures.
 - **Spanish residential housing market dynamics** and their determinants, with particular focus on affordability issues, examining the factors that determine housing affordability (home ownership and rental).
 - The **geographical dimension** of regional, provincial or local heterogeneity in several fields, for instance, the economic impact of regulation in Spain.

Lastly, in the area of the challenges that new technologies and information sources pose for a central bank, the study of the following aspects will be strengthened:

- The **digital euro** and the implications of the **introduction of a central bank digital currency** (CBDC) for monetary policy, the financial system and the economy overall; the characteristics and implications of other CBDCs and their potential international operability; assessment of the impact of the digital euro and study of the possibilities and impact of solutions for the wholesale market, self-sovereign digital identity management, privacy management, programmability, etc.; analysis of the consequences for financial stability; impact on the use of cash in its coexistence with the digital euro.
- New technologies and **innovation in the financial sphere**: international alternatives and ways to stimulate innovation that may supplement Sandbox developments; **FinTech** developments and assessment of the effective impact of the Sandbox as a differentiating development factor for Fintech firms; developments in existing **cryptocurrencies** and crypto-asset options, such as **decentralised finance**, tokenisation of assets and the implications for the organisation and functioning of the financial industry; analysis of banks as issuers of crypto-assets and the implications for the prudential framework; the risks and opportunities of **new digital finance instruments**, such as the use of quantum computing, artificial intelligence and machine learning techniques in financial services, including in the area of financial inclusion; identification of risks and good practice in the **digital transformation of the banking sector** and analysis of the implications of technological innovation for the regulatory perimeter.
- The effects of **innovation in retail payments** for central banks' oversight functions and in the analysis of the possibilities for reform of public cash management.

- The use of **advanced data analytics techniques** (artificial intelligence, machine learning, text mining, big data) to develop **risk prediction models** in bank portfolios and methodologies to smooth the volatility of risk-weighted assets in internal rating-based (IRB) models; to study the **price formation process**; to create **analyst sentiment** indicators; to identify and quantify the **key themes** in central bank decisions, banks' earnings releases or financial stability reports; to construct indicators of the **presence and importance of the Banco de España** in economic debates in Spain, in other international institutions and in academic publications; to develop indicators of geopolitical risk, social unrest, bilateral relations between countries and economic policy uncertainty; to construct an **ESG sustainability indicator** database of Spanish firms' business models drawing on their annual reports; to broaden the sample of valid Central Balance Sheet Data Office firms; to analyse banknote data using serial number readings and images for **quality control of banknotes in circulation**; to develop the (Neurocash®)¹ methodology and a neurometric kit applied to the **design of cash** and its security features; and to study retail payment **fraud** and digital onboarding techniques.
- In the area of the **BELab data laboratory**, exploration of Privacy Enhancing Technologies (PET technologies) that enable databases to be combined while guaranteeing their privacy.

By publishing this updated focus of its analysis and research priorities, the Banco de España underlines its commitment to transparency in its research activity, while at the same aspiring to foster collaboration in these areas with both the academic and the economic research community.

¹ European patent EP3757950: "Method and system for classifying banknotes based on neuroanalysis".