

Centre for International Central Bank Dialogue
**International Central Banking
Courses 2024**



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*JVI: Joint Vienna Institute

*OeNB: Oesterreichische Nationalbank (Central bank of the Republic of Austria)

*BaFin: Bundesanstalt für Finanzdienstleistungsaufsicht

Foreword



Photo: Tim Wegner

Burkhard Balz
Member of the Executive Board
Deutsche Bundesbank

→ [Please click here for the foreword.](#)

Introduction

The Deutsche Bundesbank has been working with central banks worldwide since its foundation in 1957. The aim of central bank cooperation is to promote the creation and development of central banking systems appropriate to a market economy, to foster the process of monetary reform, and to enhance economic and financial stability in our partner countries. Training programmes and advisory assistance for executives and other members of staff of foreign central banks serve as a vehicle for exchanging knowledge and experience. The topics featured cover the entire range of economic, operational and legal instruments used in modern central banking.

The Bundesbank adopts a variety of approaches to enhance this cooperation, including:

- sending experts or project support to the countries concerned;
- arranging study visits to the Bundesbank to discuss specific issues with inhouse experts;
- running course programmes in Germany and abroad;
- offering online consultancies and courses.

All these activities, which draw on the entire resources of the Bundesbank, are organised and coordinated by the Centre for International Central Bank Dialogue at the Bundesbank's Central Office in Frankfurt.

All International Central Banking Courses are held in English. Each of these courses is open to individuals at different stages of their professional career, depending on the topic and type of event. Central bank staff from all our partner countries are cordially invited to register as participants.

Details of the courses planned for 2024 can be found on the following pages.

Finally, we invite you to visit the [Deutsche Bundesbank's website](#), where you can find all information about our offer. If you want to stay informed about our current topics, please subscribe to our newsletter.

Our range of international central banking courses

Course

Content

Our courses cover a wide range of central banking topics, focusing on core aspects of central banking or supervision with the aim of providing a general overview and basic knowledge, as well as on more specific topics related to central banking. They provide a platform for discussion and allow participants to exchange views and ideas with central bankers from around the world.

The various lectures, given by Bundesbank experts and external specialists, are supplemented by workshops, exercises, case studies and open discussions. Therefore, a prerequisite is a high-level of participation and a high proficiency in English.

Target group

The courses are aimed at all central bankers with professional experience in the field of central banking related to the topic of the course.

Expert panels

Content

Expert panels are designed to provide central bank employees with a discussion platform to share their experience and knowledge about very specific central banking topics.

Participants are expected to actively contribute to the discussion. Experts are requested to submit a presentation in advance to be presented during the panel. Expert panels require a considerable amount of active participation, high proficiency in English and a true interest in engaging in discussions with central bankers from around the world.

Target group

Expert panels are aimed exclusively at experienced employees, ideally with work experience of more than five years. Participants should have extensive and detailed knowledge of the respective subject area. While the individual topics have already been set, the needs of specific groups of participants can also be taken into consideration.

Series

Content

Against the background of the increasing complexity of individual central banking topics, a series of lectures deals with current topics from different perspectives of different Bundesbank areas. For this reason, we offer a series of short online lectures held by experts from various fields over a certain period of time.

Target group

The events are aimed at interested staff members of our partner central banks. The number of participants is not limited; a simple registration for the series via our website is sufficient.

Ad hoc expert panels

In addition, the Deutsche Bundesbank's Centre for International Central Bank Dialogue will organise ad hoc expert panels on topics of special interest that arise during the course of the year. These ad hoc expert panels will be announced on our website and organised in the same way as our regular expert panels.


If you have a suggestion for a possible ad hoc expert panel, please send us your proposal by email:

internationalcourses@bundesbank.de

	Content		Target group
Course	Different aspects of central bank tasks	Lectures, exercises, discussions, workshops, group works or case studies	Professionals with work experience in the topic of the course
Expert panel	Specific aspects of central bank tasks at an advanced level	Expert discussions, case studies/country experience presented by panel participants, hands-on exercises	Experienced professionals in a specific field of central banking, ideally with work experience of more than 5 years
Series	Current central banking topics	Series of online lectures	Interested staff members

Expert Panel

Macroeconomic analysis and forecasting

 06.02.2024 – 08.02.2024

 Frankfurt am Main

 **Deadline for application** 15.12.2023

Objective

Monetary policy decisions in many regions are largely based on the economic outlook. This three-day course provides an overview of the modelling and forecasting work performed by Bundesbank experts in the context of the monetary policy formulation process in the euro area. The focus is on practical aspects of macroeconomic analysis and forecasting. Bundesbank experts will present elements of their regular work of analysing and forecasting macroeconomic developments. The course gives an overview of the models and forecasting tools used by Bundesbank experts, distinguishing between short-term and medium-term analysis. In addition, the course will illustrate specific analytical approaches used by Bundesbank staff to assess developments in selected segments of the economy, such as the labour market.

Contents

- The current macroeconomic outlook for the German economy
 - Analysis and forecasting of the international environment
 - Inflation analysis and forecasting (incl. the use of micro data)
 - The Bundesbank's macroeconometric model and its applications
 - Potential output and medium-term projections
- Analysis and projections of labour market and wage developments
 - Research projects related to macroeconomic forecasting

Target group

Mid-level central bank officials working in the area of macroeconomic analysis or projections. Candidates who wish to apply for the course should have a sound grasp of macroeconomic theory, and are expected to have a good understanding of basic econometrics and experience in the use of commonly used modelling techniques.


Please note:

This course does not cover topics related to the deeper analysis of monetary and financial developments, which are addressed in a separate course (Analytical tools for monetary policy, [p. 13](#)). Nor does the course provide an introduction to econometrics or specific modelling techniques.

Course

Monetary policy implementation

In cooperation with the Oesterreichische Nationalbank (OeNB) and the Joint Vienna Institute (JVI)

 04.03.2024 – 08.03.2024

 Vienna

 Deadline for application 04.12.2023

Application at JVI www.jvi.org

Objective

The implementation of monetary policy requires both well-defined goals and a consistent set of policy instruments to achieve them. This one-week course will place central banks' monetary policy operations in the context of the broader monetary policy strategy. It will emphasise the link between policy formulation and implementation, discuss monetary policy objectives and instruments and explain the functioning of monetary policy transmission mechanisms. The focus will then move to the operational details of implementing monetary policy, including the interest rate steering approach and the role played by a central bank's balance sheet. The course will also cover specific aspects of monetary policy implementation: liquidity analysis, the operational design of conventional and unconventional monetary policy instruments, the role of foreign exchange interventions and the consistency of operational frameworks. Finally, attention will also be given to current challenges in monetary policy implementation, including the environmental, social and governance (ESG) aspects.

Contents

Upon completion of this course, participants should be able to:


- Formulate principles for monetary policy and the implications for monetary operations
- Describe monetary policy implementation using an interest rate steering approach, as well as the role of the central bank's balance sheet
- Conduct liquidity analysis
- Understand the operational design of monetary policy instruments
- Analyse foreign exchange interventions.
- Assess the consistency of operational frameworks
- Understand monetary policy implementation in the Eurosystem
- Understand ESG-related challenges


Target group

Junior to mid-level central bank officials working in monetary policy operations and officials from central banks or ministries of finance or economics whose responsibilities require, or who have a strong interest in acquiring, a thorough understanding of monetary policy implementation.

Online expert panel

Developing financial markets

 22.04.2024 – 24.04.2024

 **Online platform**

 **Deadline for application** 22.03.2024

Objective

The aim of this online expert panel is to help central bank colleagues identify and discuss measures to strengthen the national financial market. We begin with the difficult situation in Germany after the Second World War as a starting point and examine various initiatives intended to build and expand the German financial market.

The financial market in Germany is, amongst other things, one of the most highly developed worldwide. Its multi-faceted and highly liquid financial market was forged thanks to the combined efforts of multiple players. The Bundesbank has played a key role in establishing and promoting this development. Together with the Ministry of Finance, the market supervisory authority and other market participants, it supported the emergence of a national bond market, a decisive factor in the development of other financial market segments and Germany's macroeconomic success.

This course focuses on key issues relating to building a monetary and bond market based on a national currency. Topics include the general framework of the bond market (e.g. issuing calendars, auction processes, settlement procedures). The course also provides participants with a platform to reflect upon and discuss simi-

larities with their own countries. The seminar will be presented as a mix of lectures, case study exercises, group discussions and presentations by participants.

The online course will provide an overview of the various aspects that played a key role in the development of the German financial market.

Contents

- Historical and current developments intended to strengthen the financial market
- e.g. standardisation of bonds, central committee for capital markets
- temporary capital market restrictions
- Legal framework of the bond market
- Market surveillance and market restrictions
- Development and application of financial support measures


Target group

The course is aimed at mid-level central bankers who are active in the area of financial market development and would like to gain an overview and deeper understanding of strategic and operational approaches to developing financial markets. Applicants should have at least two years of practical experience in the field of financial market development, a sound grasp of the key concepts and knowledge of the fundamentals of financial market structures and operations. Participants are expected to make an active contribution to the course and to share their knowledge and experiences with their peers. Participants should have stable internet access and appropriate camera equipment.

Course

Analytical tools for monetary policy

In cooperation with the Joint Vienna Institute (JVI)

 13.05.2024 – 17.05.2024

 Frankfurt am Main

 Deadline for application 22.03.2024

Objective

Monetary policy decision-making calls for a thorough analysis of economic, monetary and financial developments. Central banks assess these developments using a variety of analytical tools. The outcome of their analyses provides key input for well-informed monetary policy decisions which are a prerequisite to the central bank fulfilling its monetary policy mandate. This five-day course provides an overview of various analytical tools which Bundesbank staff use in the context of the monetary policy decision-making process in the monetary union. The focus is on the analysis of economic, monetary and financial developments, which represents an important part of the analytical approach adopted by the Eurosystem under the prevailing monetary policy strategy. Bundesbank experts will present key aspects of their regular analytical work. In particular, the course will illustrate specific analytical approaches used to monitor and assess developments in the area of money and credit, in capital markets, in exchange rates and price competitiveness as well as in relation to the monetary transmission process.

Contents

- Monetary policy transmission and the effects of financial shocks
- Analysis of financial accounts
- Capital markets analysis
- Exchange rate and price competitiveness analysis
- Role of banks in monetary policy transmission
- Policy advice with quantitative (DSGE) models
- Current research projects related to monetary policy analysis

Target group

Mid-level central bank officials working in the area of monetary analysis and/or financial market analysis. Potential candidates who wish to apply for the course should have a sound understanding of macroeconomic theory and are expected to be familiar with basic econometrics as well as commonly used modelling techniques.


Please note

The course does not cover topics related to broader macroeconomic analysis and forecasting. Moreover, it does not provide an introduction to econometrics or specific modelling techniques.

Course

Monetary policy communication

In cooperation with the Joint Vienna Institute (JVI)

 22.07.2024 – 26.07.2024

 Vienna

 **Deadline for application** 22.04.2024

Application at JVI www.jvi.org

Objective

There is a broad consensus that transparency and communication are crucial for the credibility of a central bank and the effectiveness of monetary policy. To foster credibility, central banks need to strengthen transparency and adopt a strategic communication approach. This should be supported by clear communication objectives, well-targeted messages for different audiences and appropriate communication channels. This course reviews the meaning and role of strategic communication and transparency for central banks and clarifies their importance for monetary policy. The general conceptual framework is complemented with hands-on case studies of central bank communication, including issues such as target audiences of central banks, the main channels and tools and specific content of monetary policy communication. Special emphasis is placed on monetary policy communication in a forward-looking environment, as well as internal communication. This includes numerous studies and examples of how modern central banks use communication to achieve their goal of low and stable inflation. In addition, issues of financial literacy and education, and their interactions with monetary policy communication are addressed. The course is highly interactive, offering a mix of presentations, country practices, workshops and group discussions.

Contents


- Central bank transparency – meaning and measurement
- Strategic communication for central banks: meaning, rationale and key elements
- Stakeholder and target audience analysis for monetary policy communication
- Instruments and channels for monetary policy communication: tailoring them to needs of target audience
- Content of monetary policy communication
- Monetary policy communication in a forward-looking environment
- External and internal communication
- Financial literacy

Target group

Junior to mid-level central bank officials working in the communication department or economics/monetary policy department, especially in central banks under or moving towards an inflation targeting regime, and officials from central banks whose responsibilities require, or who have a strong interest in acquiring, a thorough understanding of central bank communication.

Course

Monetary policy instruments and implementation

 09.09.2024 – 13.09.2024

 Frankfurt am Main

 **Deadline for application** 19.07.2024

Objective

The implementation of monetary policy requires both well-defined goals and a consistent set of policy instruments in order to achieve them.

This course will begin by placing the central bank's monetary policy operations in the context of broader monetary policy strategy, emphasising the link between policy formulation and implementation. It will also touch upon monetary policy objectives and instruments and the functioning of the monetary policy transmission mechanism. The focus will then move to the FX market and liquidity analysis and continue with the practicalities of implementing monetary policy, including refinancing operations, monitoring of monetary policy counterparties and monetary policy asset purchases. The course will also provide an introduction into market intelligence at the Deutsche Bundesbank and conclude with current challenges, such as greening the financial system.

Contents


- Monetary policy mandate, strategy, operational framework
- Monetary policy instruments and their design
- Official interventions in the FX market
- Liquidity analysis
- Monetary policy refinancing operations in practice
- Monitoring of monetary policy counterparties and Eurosystem's ELA-Framework
- Monetary policy purchase programmes in practice and current challenges
- Market intelligence
- Greening the financial system

Target group

Junior to mid-level central bank officials working in monetary policy operations and officials from central banks or ministries of finance/economics whose responsibilities require a thorough understanding of monetary policy implementation, or where there is a strong interest in acquiring such knowledge.

Expert panel

Monetary policy implementation – importance of market intelligence

 12.11.2024 – 14.11.2024

 Frankfurt am Main

 **Deadline for application** 20.09.2024

Objective

Market Intelligence (MI) refers to information, qualitative and quantitative in nature, gathered by central banks through direct interaction and dialogue with market participants or other sources. This course focuses on MI activities carried out by various central banks. It will highlight the importance of this work and demonstrate that a number of different tools or models can be used for the collection of MI. The course will also touch on the synthesis and dissemination of MI. The expert panel will serve as a platform for the exchange of experience and knowledge, with participants asked to actively contribute.

Contents


- Importance of the observation, interpretation and reporting of actual market events or capital market movements in the context of monetary policy
- Definition of key areas or financial market segments
- Understanding of linkages between different financial market segments and/ or different regulation – case study
- Qualitative versus quantitative analysis tools (importance of different data or other sources of information)
- Importance of market contacts, networks and regular meetings

Target group

The expert panel is targeted at mid-level and senior-level central bankers who are directly involved in monetary policy implementation or research, with many years of experience (minimum five years) in this field. Participants should have extensive knowledge and a sound understanding of monetary policy implementation, operational frameworks and research. They will be expected to contribute actively to the panel by presenting the work/viewpoint of their central bank on this topic.

Expert panel

Banking supervisory stress testing – methods and areas of application

 23.01.2024 – 25.01.2024

 Frankfurt am Main

 **Deadline for application** 01.12.2023

Objective

The importance of comprehensive risk management and of keeping techniques and methodologies up to date at all times has been made abundantly clear by recent developments in financial markets. Stress tests are one of the instruments used by banks, central banks and supervisory authorities to detect potential vulnerabilities.

Consequently, banks have clearly expanded and refined their methodologies in this area. Banks are called upon, not least by supervisors, to conduct regular stress tests in order to ensure their capital adequacy. Furthermore, stress tests are conducted by central banks for the purpose of stability studies.

This course aims to impart comprehensive expert knowledge on stress testing. It will focus on both theory and practice wherever possible.

Contents


- Basic principles of stress testing
- Application of stress tests at banks
- Stress tests as a source of information for supervisors
- The Bundesbank's stress tests
- Macro stress tests
- EU-wide stress testing exercises

Target group

This course is aimed at experts in banking supervision or financial stability with a sound background in stress testing. They should have a thorough understanding of the stress testing approaches used at their central bank and be prepared to share their knowledge with the other participants in the group. Active participation in the form of a short presentation on stress testing initiatives is mandatory.

Course

Accounting for banking supervisors

 20.02.2024 – 22.02.2024

 Frankfurt am Main

 **Deadline for application** 29.12.2023

Objective

The treatment of financial instruments within the IAS/IFRS accounting framework is of particular interest for banking supervisors, who are not – in general – trained as accountants. Nevertheless, the financial crisis revealed a particular weakness in banking supervision in this area. The course will cover both the old and new standards and their implications for banking supervisors. Participants in this course will gain an insight into the general construction of the most common financial instruments, with particular emphasis on how they are combined to create more advanced forms of financial investments. Another area this seminar will focus on is the risk structure of financial instruments and its impact on accounting treatment. The latest IFRS developments bring accounting regulations into line with the requirements of Basel II and III; the course will also examine how this alignment is achieved in practice.

Contents


- Forms and risk structure of financial instruments as currently traded throughout the world
- Accounting treatment according to IAS 32 and 39 (the “old world”)
- Accounting treatment according to IFRS 9 (the “new world”)
- Hedge accounting according to IAS 39 and IFRS 9
- Impairment under IFRS 9 and the Basel Framework


Target group

Mid to senior-level banking supervisors from central banks and supervisory authorities.

Online expert panel

New methods in banking supervision

 19. – 21.03.2024

 **Online platform**

 **Deadline for application** 16.02.2024

Objective

Banking supervisors need to adapt to banks' new business models. Information technology is becoming ever more important to the functioning of banks and banking supervision. These technologies involve risks as well as many opportunities. At the same time, resources are scarce and supervisors must adapt by striving for greater quality and efficiency.

This panel provides an overview of supervisory and regulatory approaches to digital banks, cloud outsourcing and penetration tests (e.g. EU DORA), as well as crypto-assets (e.g. EU MiCA). The sessions will also discuss the typical issues and challenges that banking supervisors face during their own transformation, e.g. in relation to digitisation and big data, but also supervisory strategy development, second line of defense, off-site examinations, or a "sandbox" approach for supervisors.

Active participation is expected in this course, and participants should be prepared to discuss typical issues and problems faced in the IT usage of banks under their supervision. It will focus on both theory and practice wherever possible.

Contents

- Introduction to the course, tour de table of participants' backgrounds and interests
- Overview of the European and German banking systems and supervision systems
- Introduction to and deep dive on selected topics, e. g. digital banks, crypto-assets, cloud outsourcing, penetration tests, supervisory approaches to enhancing quality and efficiency

Target group

This course is aimed at experts in banking supervision. They should have a thorough understanding of the supervisory initiatives and innovation strategy at their central bank or competent authority and be prepared to share their knowledge with the other participants in the group. Active participation in the form of a short presentation on one of these topics is mandatory.


Technical requirements

Computer with microphone, camera, speakers or headphones; an up-to-date internet browser.

Course

Banking supervision within the Basel framework

In cooperation with the Joint Vienna Institute (JVI)

 15.04.2024 – 19.04.2024

 **Vienna**

 **Deadline for application** 15.01.2024

Application at JVI www.jvi.org

Objective

Basel III is a comprehensive set of reform measures developed by the Basel Committee on Banking Supervision to improve the regulation and supervision of risk management in the banking sector. In specific terms, Basel III focuses on strengthening the qualitative and quantitative standards within the regulatory capital framework, introduces a global liquidity framework, deploys measures to reduce cyclicality, implements a leverage ratio and provides a basic approach for regulating systemically important banks. This one-week course seeks to impart comprehensive expert knowledge on major issues relating to the implementation of the Basel framework, focusing on countries in the EU, European emerging market economies, and the Caucasus.

The course aims to give an overview of the Basel framework and the Basel III reforms. It will focus on both theoretical and practical aspects, with special attention being given to introducing the internal capital adequacy assessment process (ICAAP) and the supervisory review and evaluation process (SREP). Furthermore, the examination of credit business and specific topics such as the interest rate risk in the banking

book, stress testing and NPL management and resolution will be covered. Participants will be invited to share their experiences by giving short presentations on specific aspects of banking supervision in their home countries.

Contents


- The Single Supervisory Mechanism in Europe
- Overview of Basel III and latest developments with regard to the Basel framework
- Banking supervision aspects of the COVID-19 pandemic
- Pillar 2 – internal capital adequacy assessment process (ICAAP), supervisory review and evaluation process (SREP) – business model analysis
- Examination of credit business
- Interest rate risk in the banking book
- Stress testing and its use in supervision
- Recovery and resolution – an overview
- Introduction into internal models
- Non-performing loans – management and resolution
- National experiences of off-site and on-site supervision


Target group

This course is aimed at mid-level to senior banking supervisors from central banks and supervisory authorities. Basic knowledge of the Basel framework is essential. Participants should also be familiar with the supervisory policies at their own institutions and be prepared to actively contribute to discussions.

Online course

IT supervision at banks

 06.05.2024 – 08.05.2024

 **Online platform**

 **Deadline for application** 19.04.2024

Objective

As digital transformation progresses, information technology is becoming ever more important to the functioning of banks. At the same time, however, these technologies bear great potential for abuse and may be a source of negligence and threats, both internal and external. Supervisors therefore need to focus their attention on the risks associated with the use of information technology.

This course gives an overview of current practices with regard to IT supervision at banks from both a regulatory and practical perspective. The course will describe the general EU framework and its transposition into German law and regulatory practice. The sessions will also discuss typical IT issues that banks face, shed light on the evaluation techniques used by supervisors in their review and evaluation process (SREP) and highlight specific IT problems depending on participants' particular interests.

Active participation is expected in this course, and participants should be prepared to discuss typical issues and problems faced in the IT usage of banks under their supervision.

Contents

- Introduction to the course, tour de table of participants' backgrounds and interests
- Overview of the European and German banking systems and supervision systems
- Introduction to IT security
- Overview of European and German laws and regulations for IT supervision
- Minimum requirements for risk management with a focus on IT and outsourcing requirements
- Introduction to IT supervision
- Setting up an on-site inspection for IT
- Deep dive on selected topics (e.g. user access rights, application development, outsourcing management, penetration testing, DORA, MICA)
- Gathering off-site information for the supervisory review and evaluation process for IT (IT SREP)
- Typical findings from on-site inspections in Germany
- Group work: understanding and evaluating an on-site inspection report for IT

Target group


Policymakers in banking supervision, on-site and off-site inspectors, IT auditors. Participants should have at least an intermediate understanding of banking supervision and information technology.


Technical requirements

Computer with microphone, camera, speakers or headphones; an up-to-date internet browser.

Online course

Accounting for banking supervisors

 22.05.2024 – 24.05.2024

 **Online platform**

 **Deadline for application** 03.05.2024

Objective

Accounting issues are not usually something that banking supervisors focus on, as they are not – in general – trained as accountants. Nevertheless, the financial crisis exposed a particular weakness in banking supervision in this area. This course takes a closer look at general and basic aspects of accounting and their implications for banking supervisors. Participants will gain specific insights into the most important international accounting standards (IAS and IFRS). Banking supervisors also need to understand the substance of and, most importantly, the hidden information contained in annual reports prepared by commercial banks and enterprises. International accounting standards are constantly evolving and have recently become more similar to the requirements of Basel II and III. The extent of these similarities is another topic covered by this course.

Contents

- Meaning of accounting, basic techniques, and developments in national and international accounting standards
- Typical structure and substance of financial statements prepared by banks and non-banks (IAS 1)
- The main standards within IAS/IFRS, such as tangible and intangible assets (IAS 16, IAS 38 and IAS 40)
- Accounting for subsidiaries (IAS 24, IAS 28 and IAS 31)
- Discontinued operations (IFRS 5)
- Consolidated and separate financial statements (IAS 27)
- Impairment of assets (IAS 36)
- Fair value measurement (IFRS 13)
- Financial instruments (IAS 32 and IFRS 9)
- Supervisory aspects of financial reporting

Target group


Junior to mid-level banking supervisors from central banks and supervisory authorities.

Technical requirements

Computer with microphone, camera, speakers or headphones; an up-to-date internet browser.

Course

Understanding and implementing the Basel framework

 10.06.2024 – 14.06.2024

 Frankfurt am Main

 **Deadline for application** 19.04.2024

Objective

Basel III is a comprehensive set of reform measures developed by the Basel Committee on Banking Supervision to improve the regulation and supervision of the banking sector. Finalised in December 2017, the full Basel III package addresses the lessons learnt from the financial crisis. In specific terms, the Basel III reform measures focus on strengthening the qualitative and quantitative standards within the regulatory capital framework, whereas Basel III from 2010 introduces a global liquidity framework, strengthens the definition of capital, provides a buffer concept and implements a leverage ratio. The current Basel framework also deals with the regulation of climate risk and crypto assets.

The course aims to provide an overview of the Basel framework and Basel III reforms. The Basel framework is likewise a major component of the regulatory harmonisation process within the European Union. This course will therefore also impart comprehensive expert knowledge on major issues relating to the implementation of the Basel III framework in the EU and Germany. In addition, it will introduce and illustrate the European supervisory review process (SREP and ICAAP).

The course will focus on both theoretical and practical components.

Contents


- Brief introduction into supervision in Germany and Europe
- Brief overview and recap of the Basel framework, the motivation behind its revisions and the finalisation of Basel III
- Definition of capital, leverage ratio and capital buffers
- Liquidity risk – quantitative standards, monitoring tools, management principles (including a case study)
- Risk coverage – credit risk, operational risk, market risk (key elements of the FRTB, deep dive into new standardised approach, portfolio exercise)
- ICAAP (Pillar 2) – approaches and principles
- German and European implementation of the supervisory review and evaluation process (SREP) for significant and less significant institutions
- Current regulatory developments


Target group

This course is aimed at experts from central banks and supervisory authorities involved in the implementation of the Basel framework. A good knowledge of the revised framework is essential for participation. Participants should also be familiar with the supervision policies and practices of their home countries' financial systems and be prepared to actively contribute to discussions.

Online course

Understanding and implementing the Basel framework

 07.10.2024 – 11.10.2024

 **Online platform**

 **Deadline for application** 20.09.2024

Objective

Basel III is a comprehensive set of reform measures developed by the Basel Committee on Banking Supervision to improve the regulation and supervision of the banking sector. Finalised in December 2017, the full Basel III package addresses the lessons learnt from the financial crisis. In specific terms, the Basel III reform measures focus on strengthening the qualitative and quantitative standards within the regulatory capital framework, whereas Basel III from 2010 introduces a global liquidity framework, strengthens the definition of capital, provides a buffer concept and implements a leverage ratio. The current Basel framework also deals with the regulation of climate risk and crypto assets.

The course aims to provide an overview of the Basel framework and Basel III reforms. The Basel framework is likewise a major component of the regulatory harmonisation process within the European Union. This course will therefore also impart comprehensive expert knowledge on major issues relating to the implementation of the Basel III framework in the EU and Germany. In addition, it will introduce and illustrate the European supervisory review process (SREP and ICAAP).

The course will focus on both theoretical and practical components.

Contents

- Brief introduction into supervision in Germany and Europe
- Brief overview and recap of the Basel framework, the motivation behind its revisions and the finalisation of Basel III
- Definition of capital, leverage ratio and capital buffers
- Liquidity risk – quantitative standards, monitoring tools, management principles (including a case study)
- Risk coverage – credit risk, operational risk, market risk (key elements of the FRTB, deep dive into new standardised approach, portfolio exercise)
- ICAAP (Pillar 2) – approaches and principles
- German and European implementation of the supervisory review and evaluation process (SREP) for significant and less significant institutions
- Current regulatory developments

Target group


This course is aimed at experts from central banks and supervisory authorities involved in the implementation of the Basel framework. A good knowledge of the revised framework is essential for participation. Participants should also be familiar with the supervision policies and practices of their home countries' financial systems and be prepared to actively contribute to discussions.

Technical requirements

Computer with microphone, camera, speakers or headphones; an up-to-date internet browser.

Expert panel

Sustainable and green finance in banking

 03.12.2024 – 05.12.2024

 Frankfurt am Main

 Deadline for application 11.10.2024

Objective

The signing of the Paris Agreement on climate change on 12 December 2015 marked a milestone for the world and the global economy. Achieving the goals of the Paris Agreement will require a transformation of the financial system, its culture and its incentives. In this context, sustainability means making economic prosperity long-lasting, socially inclusive and less dependent on the exploitation of finite resources. Since the adoption of the Paris Agreement, several initiatives have been launched. Central Banks and Supervisors Network for Greening the Financial System (NGFS) began its activities in January 2018. The network members agreed on an agenda which includes sharing experiences and identifying best practices with regard to the supervisory and macrofinancial dimensions of climate-related and environmental risks as well as on options to scale up green financing. The 2020 BIS publication titled “The green swan” discussed the role of central banks in green and sustainable finance over more than 100 pages.

March 2018 saw the European Commission unveil its strategy for a financial system that supports the EU’s climate and sustainable development agenda. In April 2019, the European Parliament endorsed legislation including the regulation on disclosures relating to sustainable investments and sustainability risks. In addition,

it adopted conditions and a framework for a unified classification system (“taxonomy”) regarding sustainable economic activities. In addition, the Basel Committee on Banking Supervision published principles for the effective management and supervision of climate-related financial risks in 2022.

In view of recent developments, this expert panel aims to provide an overview of current regulatory activities in the field of sustainable finance. It will discuss the possible effects of these developments on the financial system as well as the challenges and opportunities they present. Moreover, the panel will offer a platform to discuss what role supervisory authorities and central banks should take, or – in other words – “How green do supervision and regulation need to be?”

Contents

- Overview of current regulatory developments and initiatives
- Discussion of the effects on financial systems: challenges and future potential
- Discussion of the role of supervisory authorities and central banks


Target group


The course is aimed at experts in banking supervision or financial stability from central banks.

They should have a thorough understanding of interdependencies within financial systems, knowledge of banking supervision and regulation. They should also have a grasp of current regulatory developments with respect to sustainable and green finance worldwide. Active participation in the form of a short presentation on green finance initiatives is mandatory.

Online course

Introduction to financial stability, systemic risk and macroprudential policy

 04. – 08.03.2024

 **Online platform**

 **Deadline for application** 16.02.2024

Objective

In its capacity as the central bank of Germany, the Deutsche Bundesbank has a legal mandate and an inherent interest in ensuring that the financial and monetary system is stable, and remains so. Not least, this aims at providing a solid foundation for sustainable future economic growth as a precondition for the effective implementation of monetary policy. Furthermore, the Bundesbank's duty to contribute to the safeguarding of financial stability in Germany is explicitly enshrined in the Financial Stability Act.

As part of its macroprudential mandate, the Bundesbank regularly conducts analyses to identify vulnerabilities within the financial system. To this end, it monitors financial intermediaries, financial markets and market infrastructures as well as any interconnections between them, using systemwide data. These analyses are geared towards the identification of systemic risks, i.e. structural and cyclical vulnerabilities, which constitute a threat to the stability of the financial system.

In order to gain systemwide insights, it is also essential to take into account spillovers within and across different sectors of the financial system, as well as any feedback effects arising in the financial system due to macroeconomic de-

velopments. In addition, the Bundesbank investigates the (potential) effects of macroprudential instruments so as to calibrate these ex ante and evaluate the effectiveness of enacted macroprudential policy steps ex post.

The course aims to shed light on the Deutsche Bundesbank's role in the macroprudential policy cycle and its approach to financial stability analysis. Participants will gain a thorough understanding of financial stability, systemic risk and macroprudential policy. Where possible, the course will include both theoretical and practical components.

Contents

- Financial stability – tasks and objectives
- Institutional setup and coordination of macroprudential policy in Germany and the EU
- Macroprudential oversight of non-banks/the insurance sector
- Risk analyses and current risks in Germany
- Financial market infrastructure and financial stability
- Introduction to stress testing
- Developments in the real estate sector and financial stability
- Macroprudential instruments

Target group


This course is aimed at central bank officials working in the area of financial stability. Participants should have a basic understanding of the surveillance and analysis of systemic risk and macroprudential policy. Input from participants on current developments in their home countries is appreciated. The course may also be of interest to staff working in other central bank areas related to financial stability, such as banking supervision, monetary policy or payment systems.

Technical requirements

Computer with microphone, camera, speakers or headphones; an up-to-date internet browser.

Expert panel

Macroprudential surveillance

 16.04.2024 – 18.04.2024

 Frankfurt am Main

 **Deadline for application** 23.02.2024

Objective

The global financial crisis of 2007–08 showed that monitoring risks, vulnerabilities and the resilience of individual financial firms is not sufficient to safeguard the stability of the financial system as a whole. Since the global financial crisis, central banks and other macroprudential authorities have developed macroprudential surveillance frameworks to monitor potential risks and vulnerabilities in the financial system. These frameworks typically define general concepts and include a set of analytical tools to identify and monitor potential financial stability risks. In order to gain macroprudential insights, it is essential to take into account spillovers within and across different sectors of the financial system and the feedback effects arising in the financial system due to macroeconomic developments.

The expert panel will give an overview of the general concepts and the analytical toolkit for financial stability analysis and macroprudential surveillance at the Deutsche Bundesbank. We aim to provide a platform to present and discuss approaches for obtaining an overall assessment of the stability of the financial system. To conclude the workshop, we will discuss how we communicate our financial stability assessment to the general public and specific stakeholders.

Participants are expected to make an active contribution to the discussions and will be invited to present and discuss current challenges related to macroprudential surveillance in their own jurisdiction. Participants are welcome to present their own analyses related to the topic of the course.

Contents

- Macroprudential surveillance: conceptual framework and specific tools
- Monitoring of financial sector developments in times of high uncertainty
- Analytical approaches to macroprudential stress testing
- External communication of financial stability issues: approaches and communication channels


Target group

This course is aimed at central bank officials working in the area of financial stability. Participants should have a sound understanding of the surveillance and analysis of systemic risk and macroprudential policy. Active participation is an essential part of the course.

Expert panel

Recovery and resolution with a focus on credit institutions

In cooperation with the Federal Financial Supervisory Authority (BaFin)

 04.06.2024 – 06.06.2024

 Frankfurt am Main

 **Deadline for application** 12.04.2024

Objective

One of the main takeaways from the financial crisis of 2007–08 was that the existing legal framework was insufficient and that a set of adequate tools was required to deal effectively with unsound or failing credit institutions. To fill this gap, the FSB published “Key Attributes of Effective Resolution Regimes for Financial Institutions” in 2011. This has been incorporated into national law in many countries, and applies to banks in particular.

The expert panel provides an overview of the recovery and resolution regime at the global, European and national levels, with a particular focus on the transposition of the recovery and resolution regime in the banking union.

In addition, the seminar offers a platform for participants to discuss recovery and resolution regimes, as well as related initiatives for improved crisis management in their home jurisdictions, and to share experiences in this field. Participants are expected to make an active contribution to the discussions and will be invited to present and discuss current challenges related to recovery and resolution in their own jurisdiction. Participants are welcome to present their own analyses related to the topic of the course.

Contents


- Implementation of recovery plans: elements and assessment of recovery plans
- Lessons and current challenges in recovery planning from the point of view of supervisory authorities and banks
- Resolution objectives, strategies and tools
- Experience in resolution planning
- Total loss absorbing capacity (TLAC) and minimum requirement for own funds and eligible liabilities (MREL)
- Experiences with failing banks

Target group

This panel is aimed at experts from the supervisory, resolution or financial stability areas of their respective central bank or supervisory authority. Participants should be familiar with the current international debate on resolution policies and frameworks, or with the legislation adopted or under consideration in their own jurisdiction. Active participation is an essential part of the course.

Course

Financial stability – systemic risk, macroprudential policy and stability analysis

 24.06.2024 – 28.06.2024

 Frankfurt am Main

 **Deadline for application** 03.05.2024

Objective

In its capacity as the central bank of Germany, the Deutsche Bundesbank has a legal mandate and an inherent interest in ensuring that the financial and monetary system is stable, and remains so. Not least, the aim is to provide a solid foundation for sustainable future economic growth as a precondition for the effective implementation of monetary policy. Furthermore, the Bundesbank's duty to contribute to the safeguarding of financial stability in Germany is explicitly enshrined in the Financial Stability Act. As part of its macroprudential mandate, the Bundesbank regularly conducts analyses to identify vulnerabilities within the financial system. To this end, it monitors financial intermediaries, financial markets and market infrastructures as well as any interconnections between them, using system-wide data. These analyses are geared towards the identification of systemic risks, i.e. structural and cyclical vulnerabilities, which constitute a threat to the stability of the financial system.

In order to gain system-wide insights, it is also essential to take into account spillovers within and across different sectors of the financial system, as well as any feedback effects arising due to macroeconomic developments. In addition,

the Bundesbank investigates the (potential) effects of macroprudential instruments so as to calibrate these ex ante and evaluate the effectiveness of enacted macroprudential policy steps ex post.

The course aims to shed light on the Deutsche Bundesbank's role in the macroprudential policy cycle and its approach to financial stability analysis. Participants will gain a thorough understanding of financial stability, systemic risk and macroprudential policy. Where possible, the course will include both theoretical and practical components. It has a deeper analytical focus than the online introductory course.

Contents


- Risk analyses and current risks in Germany
- Macroprudential stress testing of investment funds
- Macroprudential surveillance of systemically important institutions
- Early warning models and macroprudential surveillance of cyclical systemic risk
- Climate change and its financial stability implications
- Financial stability risks from real estate (mortgage and commercial real estate)
- Evaluation of macroprudential measures


Target group

This course is aimed at central bank officials working in the area of financial stability. Participants should have a sound understanding of the surveillance and analysis of systemic risk and macroprudential policy. Input from participants on current developments in their home countries is appreciated. The course may also be of interest to staff working in other central bank areas related to financial stability, such as banking supervision, monetary policy or payment systems.

Online course

The Bundesbank – a German central bank in Europe and its role in cash supply according to ESCB-rules (1/5)

 05.02.2024 – 06.02.2024

 **Online platform**

 **Deadline for application** 19.01.2024

Objective

Participants in this online course will have the opportunity to gain a broad overview of all aspects of cash management at the Bundesbank and its role in cash supply. In addition, this course will explain all ESCB rules specific to banknotes and coins. It will also serve as a convenient forum for an initial exchange of expert views on the European approach from central bankers worldwide.

Contents

- Issuance of euro cash and responsibilities for banknotes and coins in Europe and in Germany
- Banknotes and coins used in the cash cycle
- Euro banknotes and coins in circulation – current situation
- Forecasting demand
- Banknote printing
- Innovative new coin products
- Cash recycling/common rules
- Cash processing machines in use
- Ergonomic and efficient approaches for operations
- Challenges for the future

Target group


This online course is aimed at those new to roles in central bank cash departments who would like to start by gaining an overview of the field, through to more experienced experts wishing to expand their knowledge and learn about the approach taken in Europe, including a close-up look at the Bundesbank.


Technical requirements

Computer with microphone, camera, speakers or headphones; an up-to-date internet browser.

Online course

Payment and securities settlement systems

 13.02.2024 – 15.02.2024

 **Online platform**

 **Deadline for application** 26.01.2024

Objective

Efficient and secure payment systems are the foundation of a stable financial system. The Deutsche Bundesbank secures and monitors cashless payments in Germany as a financial hub, provides settlement and clearing services and plays an active role in the further development of the single European payment system. In this course, participants will deepen their knowledge of payment and securities settlement systems and will be introduced to the current state-of-the-art technology at the Bundesbank and within the EU. The course is designed to help participants enhance and refine the payment and securities settlement systems in their home countries in a targeted manner, as well as to give them new insight into developments in this important area of central banking. Participants will be expected to make an active contribution to the discussions.

Content

- Role of the Bundesbank in payment and settlement systems
- Payment system analysis
- Retail payments: current developments, innovations and secure retail payments
- TARGET2: individual payment services at the Bundesbank
- TARGET2-Securities (T2S)
- Collateral management system
- Oversight of payment systems and instruments
- Workshops on T2S, innovations and oversight

Target group


The course is designed for mid-level and senior employees of central banks. A solid background in payment clearing and settlement issues is essential for constructive and productive participation in the course. Participants should be familiar with the payment system policy and practices applied in their home country. Additionally, they will be invited to take an active part in the discussions and case studies, covering topics like T2S, oversight and innovations.


Technical requirements

Computer with microphone, camera, speakers or headphones; an up-to-date internet browser.

Online course

Cash demand planning (2/5)

 12.03.2024 – 13.03.2024

 Online platform

 **Deadline for application** 23.02.2024

Objective

Participants in this online course will have the opportunity to gain a broad overview of cash demand planning at the Bundesbank, focusing on banknotes.

Content

- Issuance of banknotes and coins
- Banknote circulation in Germany and within the Eurosystem
- Process of forecasting banknote demand in detail
- Managing banknote stocks
- Data sources/IT solutions

Target group


This online course is aimed at those new to roles in central bank cash departments who would like an introduction to how to plan future demand and how to monitor the cash stock, through to more experienced experts wishing to expand their knowledge as well as those that are responsible for supervising such processes.

Technical requirements

Computer with microphone, camera, speakers or headphones; an up-to-date internet browser.

Course

Cash management – strategy, branch operations and combating counterfeit money

 18.03.2024 – 22.03.2024

 Frankfurt am Main

 **Deadline for application** 26.01.2024

Objective

Participants will learn about modern central bank cash management methods. The whole scope of tasks of a modern central bank in the field of cash management will be presented and discussed – from an international view to a close-up look at how the Bundesbank conducts its business. Participants will be expected to take an active part in discussions and to exchange their opinions and views during the course as well as give a short presentation about their own tasks or a special topic relating to cash management.

Contents


- The role of the Bundesbank in the cash cycle
- Issuance policy for banknotes and coins, cash requirement planning
- IT applications for cash management in use at the Bundesbank
- Outstanding IT solutions
- Automation of cash processing
- The Bundesbank's new branch
- Modern cash centre design: architecture and controlling
- External cash recycling
- The NAC: combating counterfeit money and damaged money
- Visit to the Bundesbank's Frankfurt am Main branch


Target group

The course is designed for mid-level and senior employees involved in issuing and processing banknotes and coins or in dealing with counterfeit money as well as for executives and managers heading groups, sections or divisions in the cash department. Participants should have a sound background in cash management and be willing to talk about their area of responsibility.

Online course

How IT supports cash management at central bank level and how to set up IT projects successfully (3/5)

 08.04.2024 – 09.04.2024

 **Online platform**

 **Deadline for application** 22.03.2024

Objective

Participants will gain an overview of cash-related IT solutions and issues surrounding project management, as well as have the opportunity to consider questions concerning the use of standard software. The focus will be on the benefits and costs of serial number reading as an example of a project. The seminar will also provide a convenient forum for an initial exchange of expert views from central bankers worldwide.

Contents

- Overview of the Bundesbank's IT solutions for cash management
- Reasons for implementation
- Setting up a project
- Different options for implementing IT solutions
- Determining requirements for IT solutions
- Standardisation or use of business standard software
- General conditions/framework for IT development/tender
- Example: serial number reading
- International cooperation

Target group


This course is aimed at those new to roles in a central bank's cash or IT department who would like to start by gaining an overview of the field, through to more experienced experts and project managers wishing to expand their knowledge and learn about the Bundesbank's approach.

Technical requirements

Computer with microphone, camera, speakers or headphones; an up-to-date internet browser.

Course

Payment and securities settlement systems

 08.07.2024 – 12.07.2024

 Frankfurt am Main

 **Deadline for application** 17.05.2024

Objective

Efficient and secure payment systems are the foundation of a stable financial system. The Deutsche Bundesbank secures and monitors cashless payments in Germany as a financial hub, provides settlement and clearing services and plays an active role in the further development of the single European payment system. In this course, participants will deepen their knowledge of payment and securities settlement systems and will be introduced to the current state-of-the-art technology at the Bundesbank and within the EU. The course is designed to help participants enhance and refine the payment and securities settlement systems in their home countries in a targeted manner, as well as to give them new insights into developments in this important area of central banking. Participants will be expected to make an active contribution to the discussions.

Contents


- Role of the Bundesbank in payment and settlement systems
- Payment system analysis
- Retail payments: current developments, innovations and secure retail payments
- TARGET2: individual payment services at the Bundesbank
- TARGET2-Securities (T2S)
- Collateral management system
- Oversight of payment systems and instruments
- Workshops on T2S, innovations and oversight


Target group

The course is designed for mid-level and senior employees of central banks. A solid background in payment clearing and settlement issues is essential for constructive and productive participation in the course. Participants should be familiar with the payment system policy and practices applied in their home country. Additionally, they will be invited to take an active part in the discussions and case studies, covering topics like T2S, oversight and innovations.

Online course

Cash centre project – key elements for success (4/5)

 23.07.2024 – 24.07.2024

 **Online platform**

 **Deadline for application** 05.07.2024

Objective

Participants in this online course will have the opportunity to gain an overview of all planning and decision-making aspects related to the construction of a modern branch with a focus on cash processing or building a new cash centre. The online course will also serve as a convenient forum for an initial exchange of expert views from central bankers worldwide.

If a participant's central bank is planning a new cash centre, is involved in such a project or already has experience in this area, they are requested to prepare a short presentation of 5–10 minutes.

Contents

- The whole process at a glance
- Basic decisions first!/First things first: what is key?
- Capacity calculation for a cash centre
- Determining the figures
- Application process
- How to set up a project team
- Methodology: key elements for success
- Lessons learned

Target group

This online course is aimed at experienced experts or executives from cash departments wishing to expand their knowledge. There will be the opportunity to learn more about building a project team for a revamping programme, particularly a cash centre, with emphasis on planning and decision-making.


The online course will be of particular interest to central banks planning to revamp their cash processing procedures or buy new equipment or those considering setting up a cash centre.

Technical requirements

Computer with microphone, camera, speakers or headphones; an up-to-date internet browser.
Cash management and payment systems

Expert panel

Combating counterfeit money by the National Analysis Centre

 26.08.2024 – 30.08.2024

 Mainz

 **Deadline for application** 05.07.2024

Objective

Participants in the panel will have the opportunity to gain an inside view of how the Bundesbank has organised its activities to combat counterfeiting. The panel will serve as a platform for discussions with experts from the Bundesbank, for sharing experience as well as for highlighting new trends and current challenges.

Content

- Organisation of the National Analysis Centre
- Practical issues: getting a feel for the experts' day-to-day work
- Discussion forum on new trends and current challenges
- Sharing experience: technical central bank cooperation key to implementing specific projects
- Group work on specific topics and hands-on exercises with technical equipment
- Presentation of national perspectives in the fight against counterfeiting of money

Target group


The expert panel is aimed at experienced experts from the anti-counterfeiting unit of central banks who need a detailed understanding of techniques for succeeding in the fight against forged money. Participants are expected to make an active contribution to the discussions and will be invited to present and discuss their own topics or cases.

Participants should prepare a 15-minute presentation setting out the counterfeiting situation in their country, focusing on the following aspects:

- Organisation of activities to combat counterfeiting
- Current situation regarding counterfeiting in the national country
- Significant challenges
- Vision for the future

Course

Introduction to cash management

 21.10.2024 – 25.10.2024

 **Munich**

 **Deadline for application** 30.08.2024

Objective

Participants will learn about the tasks of a modern central bank in the field of cash management, the changing environment and the efforts for combating counterfeit money. They will be expected to take an active part in discussions and group work and to exchange their opinions and views during the course, networking with fellow colleagues worldwide.


Contents


- The role of a modern central bank in the cash cycle
- Cash management with the help of IT-solutions
- Issuance policy for banknotes and coins, cash requirement planning
- How to process cash in adjustment to/line with the development of a country
- Cash recycling outside the central bank – solution or threat?
- Combating counterfeit money
- How to deal with damaged money
- Visit to the Bundesbank's Munich branch
- Visit to the Service Center for the Automation of Cash Processing in Munich

Target group

The course is designed for professionals involved in issuing and processing banknotes and coins or dealing with counterfeit money as well as those relatively new to these tasks or wanting to expand their knowledge – especially in developing countries and emerging economies. Participants should have some background in cash management.

Online expert panel Innovations in the field of cashless payments

 28.10.2024 – 30.10.2024

 **Online platform**

 **Deadline for application** 27.09.2024

Objective

Efficient and secure payment systems are the foundation of a stable financial system and need to be adapted from time to time as technological progress advances. During the panel, Bundesbank payment experts and panel participants will discuss the latest developments and innovations in cashless payments. The panel will serve as a platform for exchanging experiences and sharing information. Participants will be expected to make an active contribution to the discussions.

Contents

- Real-time/instant payments – Europe and worldwide
- Crypto-tokens and central bank digital currencies
- Blockchain technology in payments
- Mobile payments in Europe and around the globe
- Payment behaviour and the adoption of innovations in payments
- Regulatory issues (Payment Services Directive 2, General Data Protection Regulation, etc.)

Target group

Central bank managers and experts in the field of innovations in cashless payments.


In order to share international knowledge and to enrich the expert discussions, each participant is encouraged to prepare a 15-minute presentation on cashless innovations from a national perspective.


Technical requirements

Computer with microphone, camera, speakers or headphones; an up-to-date internet browser.

Online Course

Central bank's role in the cash cycle – how to monitor private cash recycling and possible options for involvement (5/5)

 30.10.2024 – 31.10.2024

 **Online platform**

 **Deadline for application** 11.10.2024

Objective

Participants in this online course will have the opportunity to gain an overview of possible ways in which a central bank can be involved in the cash cycle and an introduction to the monitoring of cash processing by private institutions under the European framework, particularly in Germany, with a focus on the CIT industry.

Content

- Legal aspects of cash recycling (banknotes/coins)
- Monitoring activities (on-site-inspection; off-site-control)
- Machine certification process
- Reporting requirements
- Cash cycle and private recirculation models

Target group


This online course is aimed at those central bank employees who are interested in the national cash cycle in their country of origin or who would like an insight into how the Bundesbank organises its monitoring activities. The online course will also be of particular interest for cash analysis experts or their superiors.


Technical requirements

Computer with microphone, camera, speakers or headphones; an up-to-date internet browser.

Online expert panel

Current challenges in cash management

 18.11.2024 – 20.11.2024, 12:00 CET

 **Online platform**

 **Deadline for application** 18.10.2024

Objective

Participants in this online course will gain a broad overview of the development stages of cash processing at central banks in a constantly changing environment, as well as an overview of the solutions that leading central banks worldwide have found. Additionally, they will learn about emerging trends. Aspects that concern a central bank in the cash area and pose a challenge will be discussed. As this is an expert panel, active participation is expected, and it is hoped that several participants will also be willing to give presentations (please specify when registering).

Contents

- Does cash have a future?
- Industrial evolution and development stages in cash management
- What are the driving forces behind the process of change?
- Current challenges worldwide
- Is a “more” of automation on cash processing needed? / Is more automation in cash processing needed?
- Is private cash recycling / NHTO “key”?
- Cash products under pressure
- Sustainability and green aspects – do they concern cash management?

Target group

This panel is aimed at those who would like to examine the future path of cash management, through to more experienced experts wishing to expand their knowledge in order to be able to advise senior management or board members as well as the head of division in the cash department of their institutions.


Technical requirements

Computer with microphone, camera, speakers or headphones; an up-to-date internet browser.

Course

HR Issues in a Changing World

In cooperation with the Joint Vienna Institute (JVI)

 11.03.2024 – 15.03.2024

 Vienna

 **Deadline for application** 11.12.2023

Application at JVI www.jvi.org

Objective

Employees are the most important asset of any organization, hence managing human resources properly is critical to providing an employee-oriented and productive work environment. This one-week course addresses a broad range of HR management aspects at the Deutsche Bundesbank and the Oesterreichische Nationalbank (OeNB) and aims to provide a platform for peer-to-peer exchange. Topics include HR strategy, resource planning and corporate culture, as well as organizational and legal issues. HR instruments such as recruitment, training, staff development, career planning, the appraisal system, employee feedback, performance assessment, bonuses, promotion, personnel marketing and job evaluation will be focused on strongly.


The course will include a mix of presentations and practical exercises and group works. Participants are expected to take an active part in the discussions, drawing on their own experience.

Target group

Staff from HR units of central banks. Participants should have good knowledge of the systems and procedures used in their respective institutions to manage HR issues.

Expert panel

Digital transformation and innovation at central banks

 23.04.2024 – 25.04.2024

 Frankfurt am Main

 **Deadline for application** 01.03.2024

Objective

Digitalisation is no longer merely a recent trend, having grown to become the game changer of the decade. Central banks are also increasingly turning their attention to understanding developments and expanding their capabilities in this area.

This expert panel will touch upon the most important aspects of digitalisation, giving participants the chance to discuss their own experiences.

Contents

(1) Digital transformation at central banks

- How to foster successful transformation in times of extraordinary change
- The need for an ecosystem approach
- Digital transformation at the Bundesbank: goals, roadmap and organisational setup

(2) Fostering innovation through international collaboration

- The Bundesbank's innovation networks BISIN and Innov8: how and why we collaborate
- Setting up the BIS Innovation Hub Eurosystem Centre
- Trending topics: insights into current innovation activities
- Interaction: creating value for central banks through collaboration

(3) Innovation management at the Bundesbank's InnoWerk centre

- The work of the InnoWerk innovation centre (e.g. objectives, functions and services) and how InnoWerk fits into the Bundesbank's innovation network as a service unit
- Exemplary innovation activities and how we use our outreach in the fintech scene or research community for this purpose
- Collaboration with external partners and the ecosystem (start-ups)
- InnoWerk's spatial concept, which supports collaboration within the Bundesbank in particular through its hybrid setting

(4) Fostering artificial intelligence and process digitalisation through cross-functional teams

Centre of Competence for Process Digitalisation (CPro)

- Introduction of the centre and its operating model
- Selected projects: Robotic Process Automation (RPA) and Business Process Management Software (BPMS)
- Presentation of first use cases in RPA

Service Community for Artificial Intelligence (SCAI)

- Introduction of the centre and its operating model
- What do we mean by artificial intelligence?
- Focus topic: NLP (Natural Language Processing)
- Presentation of use cases and potential uses of these technologies


Target group


This expert panel is aimed at central bank managers and experts in IT, strategic offices, innovation and digitalisation departments, as well as fintech observers and anyone interested and involved in this field.

The expert panel will serve as a platform for the exchange of experiences and knowledge. Participants will be asked to actively contribute to the panel, e.g. in the form of a presentation.

Online expert panel

Economic education – the role of central banks

 27.05.2024 – 29.05.2024

 **Online platform**

 **Deadline for application** 26.04.2024

Objective

In the past few years and especially in the wake of the financial crisis, many educational initiatives have been launched across the globe to improve the general public's financial competence and economic knowledge. Government bodies, central banks, membership organisations (e.g. consumer protection organisations) and other institutions have made considerable efforts to enhance the public's understanding of macroeconomics and make them more aware of money and financial issues.

Central banks around the world have devoted significant resources to fostering economic education, including the Bundesbank, whose range of educational services available to the public is designed to impart basic knowledge in the areas of money, currency and central banking as part of its general economic activities. The aim of these services is to give both young people and the public at large an opportunity to understand and appreciate the importance of a stable currency and the Bundesbank's long-term commitment to stability.

This expert panel is geared towards sharing experience and providing a forum for central

bankers from around the world to present their strategies in the area of economic education.

Contents

- Economic education: concepts, goals and target groups
- Why do central banks support economic education?
- Economic educational activities offered by the Bundesbank
- Economic education programmes that work – experiences from different providers

Target group

The expert panel is aimed at central bankers as well as regulators and supervisors with expertise in the area of economic education. Applicants should be well versed in their own institution's approach to economic education, and are expected to make an active contribution to discussions. Participants will be invited to give a presentation relating to their field of expertise or their institution's experience in this area.


In this context, it would also aid the discussion if participants could address the question of whether or not a central bank should focus its efforts on promoting financial literacy and, if so, on what legal basis.

Technical requirements

Computer with microphone, camera, speakers or headphones; an up-to-date internet browser.

Expert panel

Money museum

 18.06.2024 – 20.06.2024

 Frankfurt am Main

 **Deadline for application** 26.04.2024

Objective

Every country has its own unique monetary history, which central banks' money museums and exhibitions reflect in different ways.

Alongside numismatic pieces, central banks are increasingly displaying information on the financial sector and monetary policy, using their exhibitions and money museums to explain their activities and tasks to the public.

One challenge they face is portraying complex monetary policy topics in an accessible way using exhibits and installations. These need to be informative whilst also presenting the subject matter appropriately.

This process is supported by accompanying educational museum events and lectures, particularly in the case of educational establishments.

This expert panel offers a platform for comparing the various presentational methods and approaches, placing a special focus on intercultural aspects.

Contents


- Ideation, planning and realisation of central bank museums and exhibitions
- Visualisation of economic and monetary terms
- Intercultural differences in the perception of economic processes and their impact on museum and exhibition concepts and their implementation

Target group

Experts from central bank museums.

Course

Central bank communication

 01.07-2024 – 05.07.2024

 Frankfurt am Main

 **Deadline for application** 10.05.2024

Objective

Transparency and communication are crucial for central banks' credibility and the effectiveness of their policies. In order to foster credibility, central banks need to increase their transparency. They can achieve this by engaging in clear communication, producing focused messages aimed at different target audiences using appropriate communication channels.

This course provides an overview of the Bundesbank's external communication work within the Eurosystem. It sheds light on the concepts, channels and content of our central bank communications. Participants will learn how the Bundesbank communicates with the press and the general public whilst also touching upon the educational services we offer schools. Participants will also have the opportunity to experience a guided tour of the Bundesbank's money museum.

As good internal communication is a key driving force behind employee engagement, the course will also deal with different approaches and formats used for internal communication at the Bundesbank and the evaluation of said communication. Participants will gain insight into how the Bundesbank fosters communication between top management and employees as well as communication within peer groups.

In addition, the course will give participants an opportunity to share their experiences and discuss best practices in the field of central bank communication.

Contents


- Media relations and media evaluation
- Communication with citizens
- Communication via social media and the Bundesbank's website
- Internal communication (direct communication formats) and internal media (staff magazine; social intranet; electronic newsletter)
- Political communication
- Economic education
- Employee attitude survey
- AI in translation and how it helps central banks

Target group

The course is aimed at central bank staff working in the area of central bank communication (public relations, press office, etc.) or actively dealing with communication issues in other areas of their institutions. Applicants should be willing to share their experiences and actively contribute to discussions during the course.

Course

Human resources management

 23.09.2024 – 27.09.2024

 Frankfurt am Main

 **Deadline for application** 02.08.2024

Objective

Given that employees are the most important asset of any organisation, managing human resources (HR) properly is critical to providing an employee-oriented and productive work environment. This one-week course addresses a broad range of HR management aspects at the Bundesbank and aims to provide a platform for peer-to-peer exchange.

The course will include a mix of presentations and practical exercises.

Target group


Staff from HR units of central banks. Participants should have good knowledge of the systems and procedures used in their respective institution to manage HR issues and are expected to take an active part in discussions, drawing on their own experience.

Contents

- HR strategy, resource planning and corporate culture
- Organisation and the role of the Directorate General Human Resources
- HR instruments such as recruitment, training, staff development, career planning, the appraisal system, employee feedback, performance assessment, bonuses, promotion and job evaluation
- Compensation and benefits
- Health management
- Pension systems
- HR information systems

Course

Central bank governance

 04.11.2024 – 08.11.2024

 Frankfurt am Main

 **Deadline for application** 13.09.2024

Objective

The integrity and credibility of public institutions have recently become increasingly important issues. Central banks, in particular, are frequently in the public eye due to their independence.

This course is therefore designed to provide insight into the Bundesbank's tools and rules for good governance.

Contents


- Basics of corporate governance
- Board-related rules, anti-fraud measures, staff behaviour, corruption prevention
- Code of conduct
- Operational risk management at the Bundesbank
- Strategic planning at the Bundesbank

Target group

The course is aimed at central bank staff members who are involved in interdisciplinary tasks and the preparation of strategic decisions.

Course

Controlling at central banks

 25.11.2024 – 29.11.2024

 Frankfurt am Main

 **Deadline for application** 04.10.2024

Objective

The main goal of this course is to discuss ways of developing a controlling function at a central bank, starting with an overview of corporate controlling. Participants will discuss the connection between strategic planning and budgeting. Special attention will be paid to personnel controlling and other important instruments.

Contents


- Corporate controlling
- Strategic planning
- Cost accounting
- Budgeting
- Personnel controlling


Target group

The course is designed for high-level employees from non-EU countries who work in controlling at their central bank. Applicants should be familiar with cost accounting and budgeting. Participants are expected to make an active contribution to discussions, drawing on their own experiences.

Online course

Introduction to machine learning

 13.05.2024 – 17.05.2024

 **Online platform**

 **Deadline for application** 26.04.2024

Objective

Machine learning methods currently represent some of the most powerful and dynamic developments in the financial sector. This course introduces the building blocks of machine learning and discusses selected methods, making connections between them and conventional statistical methods. The discussion of each method is followed by a practical session with examples and exercises in R.

This course also addresses the practical challenges associated with the adoption of machine learning. It provides a forum for central bankers, regulators and supervisors to present and discuss strategies to develop and implement machine learning models, thereby enabling an exchange of knowledge among countries on this increasingly important topic.

Contents

- Shrinkage methods
- Decision trees
- Ensemble methods
- Bias-variance trade-off
- Advantages and limitations of machine learning methods
- Discussion of case studies from course participants

Starting on the second day, there will be a Q & A slot before every session. Participants will have the opportunity to discuss the content of the previous day and any challenges they encountered with the practical exercises which involved independent programming in R.

Target group

The course is aimed at data-savvy central bankers, regulators and supervisors in areas such as information technology and statistics, or research departments interested in implementing machine learning methods.

Fundamental knowledge of data analysis (including linear and logistic regression) and statistical software (including commands in R) is required.


Participants are expected to make an active contribution to the discussions and will be invited to present and discuss current challenges related to the implementation of machine learning in their own jurisdiction. There will be opportunities to present independent analyses related to the topic of the course.


Technical requirements

Computer with microphone, camera, speakers or headphones; an up-to-date internet browser.

Online course

Introduction to Python and basics of data analytics for central bankers

 26.08.2024 – 30.08.2024

 **Online platform**

 **Deadline for application** 09.08.2024

Objective

This course provides an introduction to the application of Python for Data Science and Machine Learning. In recent years, Data science and Machine Learning have had a significant impact on the way Central Banks perform tasks such as analysing markets, assessing risk, anti-money laundering and banking supervision. Python, as one of the leading programming languages for Data Science, plays a crucial role in this area.

In this course, participants will learn how to use Python to analyse data, create machine learning models and support business decisions. A fairly basic introduction to Python will be provided, and following an introduction to the principles, we will move on quite quickly to the application of Python for Data Science and Machine Learning. NumPy, Pandas, Scikit-learn and Matplotlib are the main libraries used in the course, with others appearing more sporadically.

Programming tasks and smaller projects will be carried out in practical exercises, independently or in groups, and participants will be encouraged to collaborate with others.

At the end of the course, participants should be able to use Python to analyse data, build models and autonomously extend the knowledge

gained so that it can be transferred to tasks and issues in their central banks. To this end, they will also learn where to find resources on the internet that will allow them to independently discover and apply further approaches and methods.

Contents

Introduction to Python

- Basics and fundamental concepts
- Data structures in Python
- Data visualisation with Python

Data preparation and analysis

- Data retrieval and cleaning
- Descriptive statistics in Python

Machine Learning

- Regression and Classification
- Artificial Neural Networks
- Machine learning for central bank tasks
- Case studies and projects
- Practical application of data science in central banks
- Project work and programming exercises

Starting on the second day, there will be a Q & A slot before every session, during which participants will have the opportunity to discuss the content of the previous day and the challenges they encountered with the practical exercises.

Target group

The course is designed for staff working in information technology, statistics or research departments in central banks and regulatory and supervisory authorities with an interest in applying machine learning methods with Python. It is not aimed at those who already have extensive and advanced knowledge of Python.

Indeed, little prior knowledge is expected, and the necessary Python skills are covered at the beginning, making the course suitable for previously inexperienced staff. It may be interesting for those who wish to switch from the programming language R to Python.


Please note that we will not discuss the deeper statistical backgrounds of the methods used in any great depth.

Technical requirements

Computer with microphone, camera, speakers, or headphones; an up-to-date internet browser. Participants should be able to work on their own computers with an existing Python installation (e.g. Anaconda). If necessary, assistance with the installation will be given in advance. Two screens will make participation and course-work much easier.

Expert panel

Machine learning, artificial intelligence and big data – the perspective of central banks

 03.09.2024 – 05.09.2024

 Frankfurt am Main

 **Deadline for application** 12.07.2024

Objective

Machine learning, artificial intelligence and big data are currently among the most powerful and dynamic innovative developments in the financial sector. This presents challenges for statistics in general and for central banks in particular, inter alia: for instance, what role do data play in the decision-making process, and why is it crucial to handle them correctly? How do central banks deal with such developments when data volumes are currently growing so fast?

The expert panel aims to address such issues. It will provide a forum for central bankers from across the globe to present the strategies they use to develop their data collection and analysis methods as well as facilitating an exchange of knowledge between countries on this increasingly important topic.

Contents


- Intelligent systems: challenges and limitations
- Collection, analysis and use of big data
- Data governance and management
- Case studies from central bankers, regulators and supervisors as well as other industries
- Data protection and data access issues

Target group

The expert panel is aimed at central bankers as well as regulators and supervisors with an interest in helping develop best practices in big data mining and management. Participants will be expected to make an active contribution to the discussions and will be invited to present and discuss current issues in machine learning, artificial intelligence and big data in their own jurisdiction.

Course

Elementary seasonal adjustment of economic data with JDemetra+

 07.10.2024 – 11.10.2024

 Frankfurt am Main

 **Deadline for application** 16.08.2024

Objective

The course is designed to enable all participants to understand the basic principles of the X-11 filter-based and ARIMA model-based approaches to seasonal adjustment, to work with the JDemetra+ seasonal adjustment software package, which includes both approaches, and to interpret the results in economic terms.

Contents

Focusing on the X-11 seasonal adjustment approach, the course primarily covers the following topics.


- Seasonality: definition, aim of seasonal adjustment
- JDemetra+: time series software for official statistics, capabilities
- Data pre-treatment: modelling of outliers and calendar effects, regARIMA models
- X-11 approach: basic principles, automatic routines, user customisation
- Quality control: graphical tools, seasonality tests
- ARIMA model-based approach: basic principles

Target group


The course is aimed at economists and statisticians from central banks who are interested in seasonal adjustment and, in particular, in the application of JDemetra+. Prior knowledge and/or experience of time series analysis in general and seasonal adjustment in particular are welcome but are not a prerequisite for participation.

Online seminar series

Climate Change and central banks

 06.06.2024, 13.06.2024, 20.06.2024
27.06.2024, 04.07.2024, 11.07.2024
18.07.2024

The series consists of seven events, taking place once a week with presentations and discussions of about one to two hours per session.

 **Online platform**

 **Deadline for application** 31.05.2024

Objective

Central banks are increasingly concerned with the challenges posed by climate change. On the one hand, these risks could affect central banks' ability to achieve their monetary and financial stability objectives. As such, faced with climate-related risks, central banks must ensure that their operational frameworks remain efficient. On the other hand, central banks may also consider supporting the transition to a low-carbon economy where they have a clear policy remit to do so. The effects of climate change and action are manifold and have multi-disciplinary impact across national borders. In this lecture series, we present work on climate change in different areas of the Bundesbank in a national and international context.

Content and Dates

06.06.2024 Climate change and central banks – the Network for Greening the Financial System
13.06.2024 Latest developments in banking regulation, supervision and analysis of ESG risks
20.06.2024 On-site inspections for ESG risks – a case study
27.06.2024 Climate Change: The Eurosystem's approach to decarbonize its corporate bond portfolios
04.07.2024 Greening the Collateral Framework
11.07.2024 Sustainable Finance Data Hub
18.07.2024 Machine Learning and Artificial Intelligence for Sustainability

Target group


Economists and policymakers in central banks who would like to enhance their knowledge of climate change and the work done in central banks. Participants should have at least a basic knowledge of related monetary policy, financial stability or banking supervision topics.

Technical requirements


Computer with microphone, camera, speakers or headphone, up-to-date internet browser.

Online seminar series

Current aspects of retail CBDC for the euro area

 29.08.2024, 05.09.2024, 12.09.2024
19.09.2024, 26.09.2024

The series consists of five events, taking place once a week with presentations and discussions of about one to two hours per session.

 **Online platform**

 **Deadline for application** 23.08.2024

Objective

Central bank digital currencies have shaped the discussion on future trends in payments over the past few years. The Eurosystem is now exploring the idea of creating a digital form of its currency for the public which would complement banknotes and coins. A digital euro would offer people an additional way to pay, available anywhere in the euro area. As a new form of public money, the digital euro could foster innovation in the European payments sector and provide an anchor of stability in the digital age. Together with its Eurosystem partners, the Bundesbank is looking into how a digital euro could be designed to meet the evolving demand for digital money.

Contents and dates

29.08.2024 The digital Euro – Retail CBDC

05.09.2024 Digital Euro: Challenges for monetary policy implementation

12.09.2024 Financial stability implications of the digital Euro

19.09.2024 The digital Euro from the perspective of banking supervision

26.09.2024 The digital Euro from a monetary policy perspective

Target group

Economists and policymakers in central banks who would like to enhance their knowledge of digital central bank currency and the work done in central banks. Participants should have at least a basic knowledge of related payment systems, monetary policy, financial stability or banking supervision topics.

Technical requirements

Computer with microphone, camera, speakers or headphones; an up-to-date internet browser.

Administrative information

Thank you for your interest in the courses offered in the Deutsche Bundesbank's central bank cooperation programme. Please read the important information below for participating institutions and prospective attendees.

Costs

Participation in the courses is free of charge for all participants. Participants from ESCB countries bear their own accommodation costs, while the Bundesbank provides accommodation for all others for the duration of the course as well as for the days of arrival and departure. It is generally not possible for participants to extend their stay. Under no circumstances can the Bundesbank provide accommodation for family members or other accompanying persons. Unfortunately, no exceptions can be made.

Participants will be given lunch at the Bundesbank for the duration of their stay. The Bundesbank will also cover all the costs of the social events which are planned as part of the programme. The Bundesbank has purchased health insurance which will cover the costs of any necessary emergency treatment. The Bundesbank does not generally cover the costs of travel to and from the Bundesbank.

Venue and accommodation

Participants can stay at the guest apartments of the Bundesbank or in a nearby hotel. Participants from ESCB countries are responsible for organising their own accommodation. Please find [here](#) further information.

Number of participants

The general rule applies that only one person per country may be invited to our in-person courses. In many cases, the number of applications will exceed the availability of places. Therefore, a selection will be made on the basis of the questionnaires completed and returned by the applicants.

Registration procedure

To register a member of your staff for a course, your staff needs to fill in the online application form and questionnaire at the [concerned course](#). It is required to register with an official central bank email address. For our in-person courses we need a nominating person (e.g. superior) with email address.

If you have any problems applying online, please contact a member of the International Central Banking Courses Team (internationalcourses@bundesbank.de). Please note that applications received after the stated deadlines will not be processed. For courses which are held in cooperation with the Joint Vienna Institute and the Oesterreichische Nationalbank, please apply online at [JVI's website](#).