

Centre for Central Banking Studies

Prospectus 2019



BANK OF ENGLAND





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Foreword from Mark Carney

Securing monetary and financial stability requires more than a purely domestic focus. It requires co-operation, collaboration and co-ordination across borders.



Mark Carney
Governor of the Bank of England

Securing monetary and financial stability in an increasingly open and interconnected global economy and financial system requires more than a purely domestic focus. It requires co-operation, collaboration and co-ordination across borders.

Responsible openness allows capital to move freely, efficiently and sustainably between jurisdictions and this in turn supports trade, investment and jobs around the world. And it means deeper global financial partnerships between advanced and emerging economies that will be the most important drivers of global growth in the decades ahead.

The Bank of England has a long history of working closely with institutions and other central banks around the world. Since 1990, our Centre for Central Banking Studies (CCBS) has continued this important tradition. CCBS has established relationships with central banks and regulatory authorities around the world. Over 28,920 delegates from 177 central banks and

55 regulatory authorities have participated in CCBS events in the past 28 years.

The Centre supports the Bank's core purposes by promoting monetary and financial stability internationally. It acts as a global forum where experts from central banks and regulatory authorities from all over the world can exchange views and discuss central bank policies and operations.

The programme of work and events at CCBS reflects the full range of the Bank of England's responsibilities, including macroprudential policy and the regulation and supervision of banks and insurance firms, as well as monetary policy. The centre plays an integral role in enhancing the Bank's intellectual leadership and international relationships, and promoting the sharing of new ideas and best practice in central bank policy and operations. This year we have put this into practice through an agreement with the Department for International Development (DFID) to provide training and technical assistance to central banks in three African countries. Given the UK's position as a global financial centre, building institutional capacity in and strengthening relationships with emerging countries helps support financial stability.

On behalf of the entire Bank, I am proud of the work of CCBS. And I am confident the Centre will continue to deliver an exciting programme in the coming year.



Overview from Gill Hammond

A global forum to promote best practice,
build capacity and foster networks.



Gill Hammond
Director of CCBS

Building on the Bank's intellectual leadership and international engagement, our mission is to promote best practice in central bank policy and operations, to build capacity and foster networks across the global central bank and regulatory community.

Our 2019 programme of international seminars reflects the full range of the Bank of England's responsibilities for monetary policy, macroprudential policy and microprudential policy. CCBS is ideally placed in the heart of the Bank of England to promote the study of the interactions between these three strands of policy, and our programme of events reflects this focus.

All our international central banking seminars are provided free of charge and are open to experts from central banks plus banking and insurance regulatory authorities around the world. Full details of the events and how to apply can be found in this Prospectus.

Our aim is to bring together central bankers and regulators to share their experiences and also to learn from experts in the field, including industry practitioners and academics. Our Research Forum on macrofinance is one such event which brings together leading researchers from central banks and universities, reflecting the Bank of England's extensive engagement with the wider research community.

We are privileged to have partnerships with the 125 or so central banks and 35 additional regulatory authorities who attend our events each year. Their feedback is vital in shaping and developing our programmes, and we are hugely indebted to all those who share their experience and expertise at our events.

CCBS London seminars

CCBS runs an extensive programme of international seminars, workshops and specialist events attended by experts from central banks and regulatory authorities from all over the world. Our events take place at the Bank of England in London.





Most activities last from two to five days and cover many of the key policy and operational areas of central banking and financial regulation from a practitioner's perspective. Speakers are experts in their fields from the Bank of England, the London financial markets, academia and, of course, delegates from other central banks and regulatory authorities.

Most of our seminars and workshops are aimed at mid-career central bank and regulatory personnel who can contribute to the event from their expertise and experience in their own country. Our events reflect the latest thinking and research in the particular specialist area and examine the different approaches used by central banks and regulatory authorities around the world. The format is usually a mixture of lectures, discussions and case studies to facilitate the sharing of diverse experiences.

Some of our events, such as the expert forums or workshops for very senior officials, require a higher level of expertise and participation. Our aim here is to provide a forum where individual experts can have a frank exchange of views and experiences in confidential and highly interactive sessions.

Most CCBS international seminars are open to applicants from all central banks, financial regulators and eligible institutions. For more information on the application procedure, please see pages 24–25. www.bankofengland.co.uk/education/pages/ccbs/applicationprocess.aspx.

CCBS London seminars for 2019 are listed in date order on pages 6–7 and grouped by category on pages 8–9. www.bankofengland.co.uk/boeapps/titan/events.aspx.



These events reflect the latest thinking and research in the particular specialist area and examine the different approaches used by central banks around the world



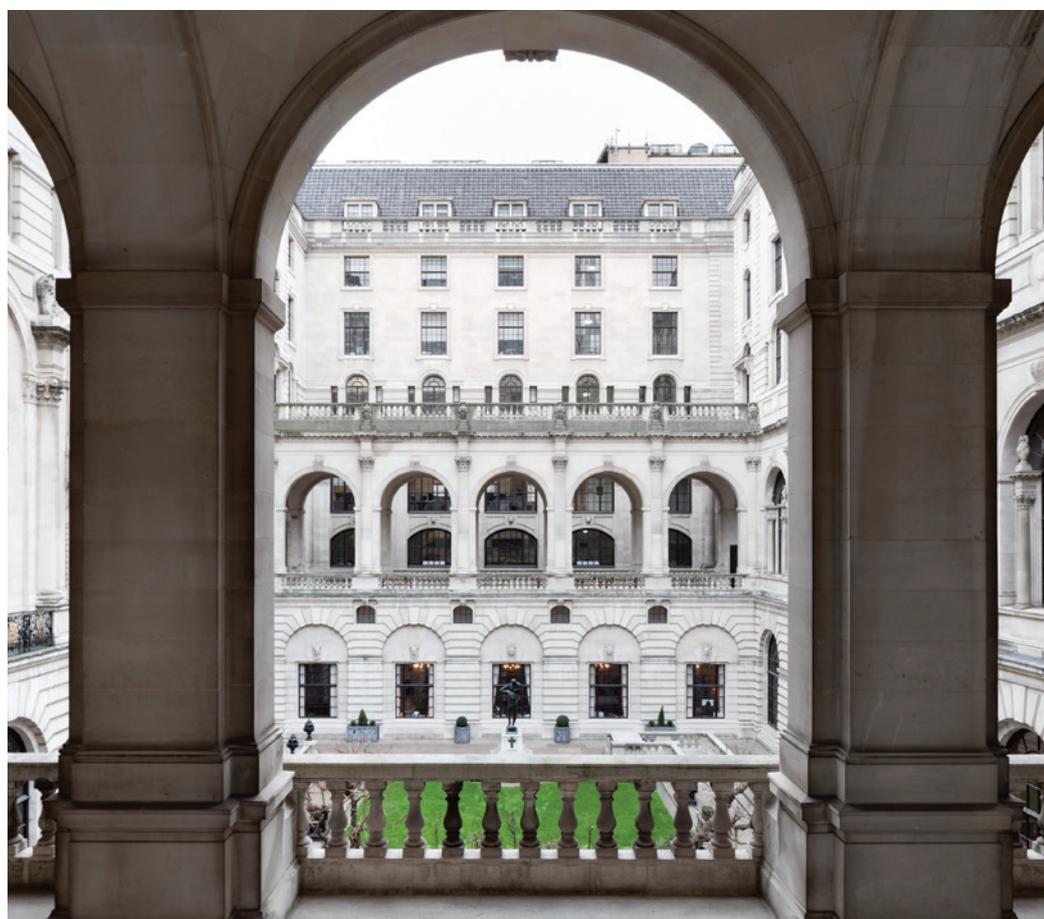
London seminars in 2019 by date

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18–19 July 2019	Understanding and overseeing central counterparties	14
22–30 July 2019	Applied Bayesian econometrics for central bankers	20
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23–27 September 2019	R Modelling	23
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**This event is by invitation only.*

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28 October–1 November 2019	The shadow banking system	15
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**This event is by invitation only.*



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Most of our seminars and workshops are aimed at mid-career central bank and regulatory personnel who can contribute to the events from their expertise and experience in their own country



London seminars in 2019 by category

Date	Subject	Page
High level policy workshop (by invitation only)		
29–30 April 2019	Workshop for Heads of banking supervision	–
20–21 May 2019	Chief Economists' Workshop	–
30–31 May 2019	Research forum on macrofinance	–
8–9 July 2019	Workshop for Heads of insurance supervision	–
Monetary policy and operations		
18–20 February 2019	Interaction of monetary and financial stability policy	10
24–26 June 2019	Joint CCBS–FRBNY policy forum on the current state of market operations	11
30 September–2 October 2019	Monetary policy and operations	11
11–13 November 2019	Structure of financial markets	12
Financial Stability and Prudential Regulation		
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17–21 June 2019	Systemic risk assessment: identification and monitoring	13
18–19 July 2019	Understanding and overseeing central counterparties	14
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Date	Subject	Page
Aspects of policy and management		
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7–9 October 2019	Central bank communication in a changing world	16
21–22 October 2019	Beyond prevention: cyber security and the resilience of the financial sector	17
4–6 November 2019	Central bank operational risk and compliance	18
Econometrics modelling and forecasting		
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22–30 July 2019	Applied Bayesian econometrics for central bankers	20
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Research and analytics		
13–17 May 2019	Advanced Analytical tools for financial supervision and risk management	22
2–3 September 2019	FinTech workshop	22
23–27 September 2019	R Modelling	23
4–5 November 2019	Modelling with Big Data and machine learning: interpretability and model uncertainty	23



Monetary policy and operations

Interaction of monetary and financial stability policy

18–20 February 2019

Event Directors

David Barr and Andrew Blake

Apply by

12 November 2018

The twin goals of monetary and financial stability are often the responsibility of the central bank, partly because they are mutually dependent. Their interaction extends from the consequences that failing to achieve either one has for the difficulty of achieving the other, to potential conflicts, overlaps and complementarities between their respective instruments. This conflict is exacerbated by reaching the limit of one of the policy instruments in times of stress, most recently the interest rate lower bound. This seminar aims to examine the sources and implications of the relationship between monetary and financial policy.

Content

The event will include technical and discursive analyses of a range of topics and issues that are likely to include:

- the operational relationships between monetary and financial policymakers, using the Bank of England's MPC and FPC as the central example;
- the impact of monetary and financial instruments on the real (and nominal) economy;
- how should asset prices affect the setting of monetary policy instruments;
- do financial markets generate business cycles;
- the monetary transmission mechanism in times of financial disruption;

- a theoretical analysis of the extent to which monetary and financial stability can be operated independently; and
- the usefulness of monetary aggregates as indicators, and short-term interest rates as instruments, in a world of shadow banking.

Target group

This event is aimed at economists from central banks and regulatory authorities with interests in monetary policy, macroprudential policy and financial stability.

Format

Presentations will be given by experts from the Bank of England, academics and financial market participants. The event requires a high level of participation and there will be plenty of scope for discussions and interactions. Participants are invited to give presentations in their fields of expertise or on their country's experience in this area.

Joint CCBS–FRBNY policy forum on the current state of market operations

24–26 June 2019

Event Directors

Michael Smart and Elizabeth Mahoney

Apply by

18 March 2019

Market operations have always been essential to the effective implementation of a central bank's monetary policy. As a response to the global financial crisis, standard monetary operations were extended and expanded. For some central banks, market stresses have eased, permitting the return to 'normal' conditions, drawing on lessons learned during the crisis; for others, market operations are still being adapted and updated to respond to ongoing market and economic developments. In both cases the concept of a 'new normal' set of conditions is starting to emerge along with possible responses.

The aim of this workshop is to allow those responsible for the design and implementation of such policies to deepen their theoretical understanding of monetary operations and to compare and contrast experiences with their peers.

Content

The following topics will be covered:

- the current state of market operations;
- balancing monetary policy and financial stability goals within central bank market operations; and
- the timing of communicating and implementing new money market operations.

Target group

Candidates will be experienced central bankers and financial regulators who are directly responsible for the design and implementation of monetary operations within their respective central banks. It is expected that candidates will be drawn from a range of industrialised, emerging market and developing economies.

Format

Presentations will be given by experts from the Bank of England, the Federal Reserve Bank of New York (FRBNY) and others, including financial market participants and academics. The event requires a high level of participation, and several participants may be invited to give presentations on their respective experiences.

Monetary policy and operations

30 September–2 October 2019

Event Director

Angus Foulis

Apply by

24 June 2019

This seminar looks at the key questions facing central banks on monetary policy strategy and implementation. What should determine the choice of monetary policy framework? How can we combine monetary stability with financial stability? What are the challenges in implementing monetary policy today? What is the state of play on modelling and forecasting for monetary policy? How do we formulate a communications strategy? The seminar will be very interactive and will consider monetary policy challenges in a range of central banks.

Content

The following key topics are likely to be covered:

- current challenges for monetary policy;
- low and negative interest rates;
- unconventional monetary policy, quantitative easing and forward guidance;
- current issues in implementing monetary policy;
- modelling and forecasting for monetary policy;
- combining monetary policy and financial stability objectives; and
- communicating about monetary policy in a fast changing world.

Target group

Candidates will be economists from central banks and regulatory authorities interested in the theoretical and practical aspects of monetary policy, whether from industrialised or emerging market and developing economies. Candidates should be working in the monetary policy area of their organisation, or be involved in related research, and have some experience of the subject in their own country.

Format

Presentations will be given by experts from the Bank of England and elsewhere. Discussions of the experience of different countries will form an important part of the event. The seminar requires a high level of participation, including group discussions and exercises. Participants are invited to give presentations in their fields of expertise or on their country's experience.



Structure of financial markets

11–13 November 2019

Event Director

Christine Jayaseelan

Apply by

5 August 2019

The global financial crisis reinforced the importance of having a good appreciation of how financial markets work. In this seminar we aim to equip participants to think more deeply about the structure of financial markets by providing some background theory, reviewing the structure of several specific markets and discussing the overall risk and recent reforms to strengthen resilience and effectiveness of the financial system.

Content

The seminar is likely to focus on the following topics:

- modelling market risk;
- market liquidity;
- pricing securities and returns using structural models;
- micro structure of the foreign exchange markets;
- derivatives markets and central counterparties (CCPs);
- repo markets — issues and development;
- contingent convertible (CoCo) and bail-in debt/capital instruments;
- using financial markets data to gauge market dynamics;
- algorithm trading; and
- alternative benchmarks to Libor.

Target group

This seminar is aimed at central bankers and regulators who wish to increase their understanding of the pricing of financial securities and the characteristics of financial instruments in capital markets, money markets and derivatives markets. Candidates should have some knowledge of risk management techniques and an understanding of options pricing. It is expected that candidates will be drawn from a range of industrialised, emerging market and developing economies.

Format

Presentations will be given by Bank of England experts and guest speakers.

Financial stability and prudential regulation

The capital adequacy of banks

4–6 March 2019

Event Director

Matthew Pegg

Apply by

26 November 2018

Prompted by the need to address several market failures that have threatened financial stability and to ensure the continued safety and soundness of banks, financial regulators have been reassessing the fundamental role of regulatory capital requirements. Basel III builds on previous regulation for banks, implementing significant new capital, leverage and liquidity requirements. This event will analyse the regulatory capital framework and how the key elements aim to ensure the safety and soundness of individual banks and financial stability.

Content

The following topics are likely to be covered:

- determining bank capital requirements;
- the supervision approach to Pillar 2 assessments;
- the countercyclical capital buffer;
- stress testing; and
- the interaction between macroprudential and microprudential policy.

Target group

This seminar is aimed at experienced prudential supervisors and central bankers, whether from industrialised, emerging market or developing economies. Participants must have a good understanding of their organisation's approach to supervision so they can engage fully in the discussions during the seminar.

Format

Presentations will be given by experts from the Bank of England and guest speakers. The event requires a high level of participation, and several participants may be invited to give presentations on their country's approach in this area.

Managing liquidity and funding risk

11–13 March 2019

Event Director

Christine Jayaseelan

Apply by

3 December 2018

Liquidity and funding structure of a bank impacts both sides of its balance sheet given banks' maturity transformation role. The crisis has shown that traditional approaches of capital adequacy are not the right tools to address this risk. Recent years have therefore seen new metrics being developed to quantify this risk. In addition there has been an increase in the range of Central bank liquidity and funding support. There are also new regulatory reforms in the area such as additional pillar 2 requirements and liquidity in resolution.

The seminar will therefore cover recent developments aimed at strengthening the liquidity adequacy and funding profile of banks.

Content

The following topics are likely to be covered:

- Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR);
- definition of level 1 and 2 liquid asset buffers;
- central bank liquidity and funding facilities;
- asset encumbrance;
- setting pillar 1 and pillar 2 requirements;
- contingent funding plans;
- liquidity in resolution; and
- liquidity, funding and systemic risk.

Target group

This seminar is aimed at experienced prudential supervisors or central bankers, whether from industrialised, emerging market or developing economies. Participants must have a good understanding of banks liquidity profile and funding structure and the emerging regulation and standards for managing liquidity risk.

Format

Presentations will be given by experts from the Prudential Regulatory Authority, Bank of England and elsewhere. The event requires a high level of participation, and several participants may be invited to give presentations in relation to their country's approach in this area.

Systemic risk assessment: identification and monitoring

17–21 June 2019

Event Director

Christine Jayaseelan

Apply by

11 March 2019

Achieving macroeconomic stability requires the identification of systemic risk in the financial system and of the factors that are driving it. Efforts are now underway in central banks and regulatory authorities to put systemic risk assessment onto a sounder, more productive and more measurable footing. In this seminar we survey and evaluate some of these new approaches.

Content

The following topics are likely to be covered:

- systemic risk in the interbank sector and non-bank financial sector;
- amplification mechanisms between the real and financial sectors early warning systems;
- constructing financial stress indexes;
- Conditional Value at Risk (CoVaR);
- systemic expected shortfall;
- estimating default probabilities using contingent claims analysis;
- network models for systemic risk assessment;
- stress testing of banks;
- countercyclical capital buffer; and
- risk and leveraged based capital requirement for systemic stability.

Target group

This seminar is aimed at central bankers and regulators actively involved in developing or evaluating systemic risk assessment models, or those who use systemic risk models as an input into their tasks and wish to acquire a deeper understanding of how they work.

Format

Presentations will be given by experts from the Bank of England and guest speakers.



Understanding and overseeing central counterparties

18–19 July 2019

Event Directors

Gerard Breen, Adam Wilson and Michael Smart

Apply by

11 April 2019

Central counterparties (CCPs) have grown significantly over recent years and now clear a wide range of financial instruments traded in both domestic and international markets. This growth has resulted in the financial system having an increased reliance on such firms for the smooth functioning of financial markets. The aim of this event is to provide a deeper understanding of CCPs; the risks to which they are exposed, how CCPs manage them, and key attributes of a supervisory approach to overseeing such systemically important firms.

Content

The following topics are likely to be covered:

- business models and market dynamics;
- margin;
- stress testing and default funds;
- default management;
- collateral, payments, liquidity and settlements;
- operational risks;
- supervisory approach;
- current policy issues; and
- key areas of research.

Target group

This seminar is aimed primarily at central bankers, market infrastructure supervisors and securities markets regulators who wish to improve their understanding of CCPs, the implication of increased clearing activity in traded markets, and the key attributes of a supervisory approach to CCPs.

Format

Presentations will be given by experts from the Bank of England, complemented by at least one interactive case study to facilitate broader participation.

Risk management and financial supervision

14–16 October 2019

Event Directors

Christine Jayaseelan and Matthew Pegg

Apply by

8 July 2019

Risk management is an important focus for financial regulators and central banks seeking to ensure the safety and soundness of the financial system. It is vital that effective risk management by firms, and supervisor's assessment of risk and the quality of firm's risk management frameworks keep pace with financial innovation. Emerging risks provide regulators with fresh challenges, which require new approaches to supervision. This event will cover the management of various categories of risk faced by banks and insurance companies, and approaches used by supervisors to assess, monitor and mitigate these risks.

Content

The following topics are likely to be covered:

- assessment, management, and supervision of risk-taking in regulated firms;
- credit risk;
- operational risk;
- trading risk;
- insurance risks;
- the use of stress testing at different levels as a tool in risk management; and
- financial, structural and operational mitigation of risk.

Target group

This seminar is aimed at experienced prudential supervisors and central bankers, whether from industrialised, emerging market or developing economies. Participants should have a good understanding of their organisation's approach to supervision so they can engage fully in the discussions during the seminar.

Format

Presentations will be given by experts from the Bank of England and guest speakers. The event requires a high level of participation, and several participants may be invited to give presentations on their country's approach in this area.

The shadow banking system

28 October–1 November 2019

Event Directors

David Barr and Angus Foulis

Apply by

22 July 2019

A significant proportion of the economy's total credit intermediation now takes place in the 'shadow banking system'. The rise of shadow banks has had profound implications for the structure of the traditional banking system and for the wider economy. In this seminar we will aim to analyse how the new system operates, explore its impact on the financial system more generally and consider its implications for financial regulation.

Content

The following topics will be covered:

- the structure of the new collateral based banking system;
- the impact of the new banking system upon the financial system more generally; and
- the challenges that the new banking system poses for regulation and monetary policy.

Target group

This seminar is aimed primarily at central bankers and regulators who wish to improve their understanding of how the shadow banking system works and of its implications for financial stability and monetary policy.

Format

Presentations will be given by experts from the Bank of England, academia and financial markets. Participants will be invited to make short presentations about shadow banks in their own country.

Microprudential regulation and supervision

18–20 November 2019

Event Director

Matthew Pegg

Apply by

12 August 2019

In recent years, many countries have reviewed and revised their financial regulation structures and approaches to supervision. New regulators have been set up both nationally and internationally. Supervision has become more intensive and intrusive, with increasing focus on financial stability, critical economic functions and resolution. The work of prudential supervisors has moved from point in time to more forward looking assessments. This seminar will cover new and developing approaches to supervision, including day to day supervisory actions, intervention strategies, and enforcement.

Content

The following topics are likely to be covered:

- the 'twin peaks' approach to financial regulation;
- a judgement based approach to prudential supervision;
- forward-looking supervisory tools including stress testing and business model analysis;
- Regulating and supervising corporate governance; and
- Data analysis to support supervision.

Target group

This seminar is aimed at experienced prudential supervisors or central bankers, whether from industrialised, emerging market or developing economies. Participants must have a good understanding of their organisation's approach to supervision so they can engage fully in the seminar's discussions.

Format

Presentations will be given by experts from the Bank of England and guest speakers. The event requires a high level of participation, and several participants may be invited to give presentations in relation to their country's approach in this area.



Aspects of policy and management

Business continuity management

9–11 April 2019

Event Directors

Susie Gent, Phil Egan and David Storey

Apply by

1 January 2019

Central banks are key participants in the economies and financial sectors of their countries. A central bank inevitably plays a significant role in the response to a major operational disruption affecting the financial sector. Pro-active business continuity management (BCM) is therefore essential to ensure that the central bank can fulfil its responsibilities. The objective of this workshop is to give participants the opportunity to discuss the key business continuity issues facing their central banks, review their own bank's business continuity strategy and programme, and identify ways in which improvements could be made.

Content

- key business continuity issues facing central banks;
- approach to Business Continuity Management;
 - business continuity planning;
 - critical Incident (crisis) management; and
 - exercising.
- assessing capability of BCM Programme;
- links with health and safety; and physical security; and
- interacting with the financial sector/authorities on business continuity and resilience.

Target group

The event is aimed at heads of the BCM function in central banks or regulatory authorities, and senior managers and advisers who are actively engaged in implementing BCM within their institution. Participants must have a good understanding of their organisation's priorities and strategies; and have sufficient experience within their institution to influence change.

Format

Participants and experts from the Bank of England and elsewhere will be invited to provide short presentations and case studies. This is an interactive workshop: participants will be asked to actively participate in discussions, work in groups and share their experiences with all participants for analysis and comment.

Central bank communication in a changing world

7–9 October 2019

Event Director

Gill Hammond

Apply by

1 July 2019

Innovations in social media and information technology provide both opportunities and challenges for central banks' communication strategies. The changed landscape of central banks' operations and policies also provides challenges in communication to a wide set of stakeholders. This workshop provides a forum for central bank experts in communication to deepen their understanding of the issues and share their experiences.

Content

The following key topics are likely to be covered:

- developing a communication strategy;
- central banks and social media;
- communicating about policy and regulation;
- dealing with the media; and
- communicating with the general public.

Target group

The workshop is aimed at experienced central bank/regulatory authority personnel working in the Press Office or similar function.

Format

The workshop will be highly interactive and participants will be expected to present on the experiences in their country.

Beyond prevention: cyber security and the resilience of the financial sector

21–22 October 2019

Event Directors

Paul Williams and Matthew Pegg

Apply by

15 July 2019

The financial sector is confronted by an increasingly sophisticated, evolving and borderless cyber threat landscape. Financial authorities and firms must take a range of approaches to ensure cyber security measures are in place. The cyber threat requires organisations to understand themselves, their strengths and their weaknesses.

This seminar will put the cyber threat within a broader operational resilience context; firms must now move beyond preventing operational incidents (cyber or otherwise) towards actively responding, recovering and learning from them.

Content

The following key topics are likely to be covered:

- an introduction to how cyber security fits into operational resilience more broadly — implications for policymakers;
- an explanation of the Bank/PRA's impact tolerance and expectations of firms and financial market infrastructures, including stress-testing;
- improving cyber security co-operation and information sharing through public-private partnerships; developing effective cyber incident response and testing programmes;
- an examination of international work;
- how to put this into practice, including discussion of some real life case studies; and
- The UK Foreign & Commonwealth Office, Commonwealth Cyber Programme. The 23 October will focus exclusively on the Commonwealth Cyber Programme.

Target group

The event is aimed at central bankers or regulators with an interest in or responsibility for monitoring, assessing, identifying or mitigating risks related to operational disruption, including those related to the cyber threat. This responsibility may relate to the supervision of specific firms/financial market infrastructures or the financial stability of the sector as a whole. Attendees will be interested in learning about cyber security best practice, including recommendations from international bodies.

It will be helpful if participants have a broad understanding of financial systems, how they work and the main interdependencies. However, technical terms will be avoided where possible, or explained where unavoidable.

Preference will be given to applications received from Commonwealth countries.

Format

Presentations will be given by experts from the Bank of England and elsewhere. The event requires a high level of participation; sharing the experiences of different countries will form an important part of the event. We would welcome offers from participants to present on relevant topics eg authorities' use of cyber resilience supervisory tools and discussion of real events in participants' jurisdictions which impacted upon their financial sector and how the financial authorities responded.



Central bank operational risk and compliance

4–6 November 2019

Event Directors

Julia Rangasamy and Anjeet Jassey

Apply by

29 July 2019

Management of operational risk at central banks is of growing importance. Many central banks have recently increased the scope of their 'second-line' operational risk functions, or are in the process of doing so. This reflects a growing recognition following the financial crisis that central banks have a desire to minimise risk, but this is balanced against the need, in some circumstances, to adopt policies that carry a significant amount of operational risk.

Similarly, to uphold the standards of integrity necessary to maintain public trust and reflecting the renewed focus on conduct matters within financial markets, central banks are recognising the need for a dedicated internal compliance function. Such functions are often given oversight for staff conduct risk and conflicts of interest, within the 'second-line of defence'.

Indeed, the nature of risk and compliance issues faced by central banks is different to those faced by other financial services firms, and as such, the community of central banks have much to learn from each other.

This event will give senior central bank operational risk and compliance managers the opportunity to review trends in central bank operational risk and compliance functions, discuss challenges and identify ongoing best practice.

Content

The following key topics are likely to be covered:

- the three lines of defence risk model, how second-line operational risk and compliance functions are organised and where they fit within a central bank's governance structure;
- central bank risk taxonomy — which risk types should be managed by a central risk function?;
- risk tolerance/appetite framework;
- horizon scanning for emerging risks;
- risk, incident and breaches reporting;
- relevant compliance functions within a central bank; and
- managing breaches and mitigating conflicts of interest.

Target group

This workshop is aimed at heads of central bank operational risk and compliance functions, and those tasked with establishing such functions.

Format

The workshop will be an interactive mix of presentations, and round-table and break-out discussions. Participants will be encouraged to discuss their own experience and share experience from their central bank. Some participants may be invited to give presentations in relation to particular topics.

Econometrics, modelling and forecasting

Forecasting in central banks

25–29 March 2019

Event Director
Andrew Blake

Apply by
17 December 2018

Forecasting is crucial to the monetary policy function of central banks. Whatever the precise remit of the monetary authority, all central banks have to forecast the main variables they are tasked with controlling in order to react in a timely fashion. Academics and policymakers alike have found that some of the variables of interest — in particular inflation — have become more difficult to forecast. This is partly because previously stable relationships seem to have broken down, and central banks are questioning the very methods they have relied on in the past. Indeed, periods of stability in underlying macroeconomic variables can also make it challenging for a central bank forecaster to provide value added beyond a simple univariate model. This event will combine lectures on forecasting theory with complementary computer based exercises, focusing on where added value can be found.

Content

Many of the following topics are likely to be covered:

- econometric modelling and forecasting of inflation and growth;
- formulating and using the many varieties of mechanical, statistical, semi structural and structural forecasting models available;
- tools for forecast evaluation and combination;
- forecasting in a data rich environment and nowcasting;
- mixed frequency methods;
- density forecasting, including constructing and using a fan chart using both classical and Bayesian methods; and
- forecast communication.

Target group

Candidates will be central bankers and financial regulators interested in learning about how modern econometric methods can be used to forecast and how to construct and interpret fan charts as a tool for communicating monetary policy goals.

Format

Presentations will be given by CCBS staff and other Bank of England experts, academics and financial market participants. The lectures will be complemented by exercises that focus on the implementation of the main techniques and tools. There will be plenty of scope for discussion and interaction.



Applied Bayesian econometrics for central bankers

22–30 July 2019

Event Directors

Andrew Blake and Gabor Pinter

Apply by

15 April 2019

Bayesian estimation and simulation techniques are no longer a specialist branch of econometrics; often they are the 'go to' methods for many useful models. By allowing researchers to incorporate off model information into the estimation procedure such techniques deliver usable estimates where, for example, a small sample would make classical estimation infeasible. Bayesian techniques allow for the easy development of much richer model specifications, for example with a large number of parameters to estimate or parameters that vary over time. What was previously thought of as prohibitively expensive to implement is now routine.

This event is an introduction to some of the techniques in Bayesian econometrics which can be useful for modelling and forecasting in central banks. It will provide an overview of the theory and then focus on practical implementation through computer based exercises.

Content

The seminar will be taught from the perspective of the practitioner with the aim of discussing techniques that can improve upon classical econometric methods, or are more convenient alternatives. The topics covered will include:

- a general introduction to Bayesian analysis through Gibbs sampling;
- Gibbs sampling for linear regression and vector autoregressive models;
- unobserved component models estimated by Gibbs sampling, including time varying parameter and dynamic factor models;
- non-linear regression models estimated using the Metropolis Hastings algorithm; and
- Bayesian estimation of dynamic stochastic general equilibrium models.

Exercises will show how Bayesian methods may be useful when available time series data are limited or when economic relationships are subject to structural shifts.

Target group

This seminar is aimed at candidates working in the monetary policy, financial stability and research departments of central banks and regulatory authorities. They should have experience of classical econometrics. Candidates must be proficient in least squares estimation and have some knowledge of linear algebra and maximum likelihood estimation. Knowledge of programming in Matlab is essential for this course.

Format

This event consists of lectures on the underlying theory, followed by exercises applying the theoretical models.

Economic modelling and forecasting

25 November–6 December 2019

Event Director

Gabor Pinter

Apply by

19 August 2019

The lags in the transmission mechanism of monetary policy mean that policymakers must forecast the future path of the economy. Accurate forecasts are only possible with a clear understanding of the structure of the economy and the shocks affecting it. This two-week seminar aims to improve participants' understanding of current modelling strategies and forecasting techniques.

Content

The event is a combination of lectures on the theory and methods of policy analysis and design, practical problems in modelling and forecasting, and computer based exercises.

The following topics are likely to be covered:

- techniques for modelling unobserved economic components, state space models and the Kalman filter;
- models of volatility, non linearity and financial frictions;
- Bayesian estimation;
- dynamic stochastic general equilibrium (DSGE) models;
- panel data methods; and
- vector autoregressions (VARs), structural VARs and their identification, and recent extensions of VAR modelling, such as Bayesian VARs, factor augmented VARs and DSGE VARs.

The event focuses on deriving and interpreting estimates of equations used to construct small models, which can then be applied to monetary policy. In many cases, estimated models will then be used for forecasting purposes. Econometric and modelling software such as Matlab for estimation and forecasting and Dynare for model solution and simulation will be used extensively.

Target group

The event is aimed at economists working in quantitatively oriented departments of their central bank. They should have some experience of econometrics and a background in economics. Knowledge of Matlab is desirable.

Format

Presentations will be given by experts from the Bank of England and academia. The two-week seminar offers scope for active participation through practical exercises. In addition, seminar participants should come prepared to share their practical modelling and forecasting experiences.



Research and analytics

Advanced analytical tools for financial supervision and risk management

13–17 May 2019

Event Directors

David Barr and Angus Foulis

Apply by

4 February 2019

Financial supervision, and risk management more generally, make extensive use of tools derived from mathematics, statistics and probability theory. This event introduces the core toolkit with the aim of allowing participants to understand and discuss the key concepts and their applications without having to delve into the advanced mathematics required of risk management professionals. Extensive use will be made of Monte Carlo methods to demonstrate and operationalise many of the tools covered in the course.

Content

The event is expected to cover a wide range of topics including:

- financial correlation risks;
- copulas;
- Value at Risk;
- extreme value theory;
- Monte Carlo methods;
- modelling credit risk; and
- network analysis and agent based models.

Target group

This event is aimed at economists and others with a mathematical background who wish to improve their understanding of existing risk management techniques, and who may be involved in analysing and attempting to improve regulatory regimes at a policy level. (It is not aimed specifically at those involved in the practical aspects of implementing regulations or supervisory requirements, as in, for example, the gathering of data or in visiting financial institutions.)

Format

Topics will be presented by Bank of England experts, academics and financial market participants.

FinTech workshop

2–3 September 2019

Event Directors

Matthew Pegg and Cordelia Kafetz

Apply by

27 May 2019

The Fintech revolution presents both opportunities and challenges to the financial system and to Central Banks themselves. The FinTech revolution now means that Financial Institutions are not only competing among themselves; but must also contend with tech giants and innovative start-ups. We have seen the potential of emerging technology to make the financial system more efficient, resilient and inclusive by facilitating economic growth and democratising financial services, however it brings with it a unique set of challenges. It has the potential to introduce new risks creating a more volatile financial sector and aggravating market liquidity concerns.

As policymakers we have a tight rope to walk, in order to harness the benefits of innovation while ensuring the risks are appropriately mitigated. It is our role as regulators to ensure we are ready for this technology revolution and contribute as active participants and not only silent observers.

This workshop explores topical issues and discusses how central banks and regulatory authorities can interact with FinTech.

Content

The following key topics are likely to be covered:

- the financial services value chain — is technology an enabler or a disrupter;
- changing customer preferences;
- challenges and opportunities posed by Big Data for policymakers;
- has distributed ledger technology (DLT) lived up to the hype?;
- central bank digital currencies; and
- the future of banking.

Target group

Delegates should have some involvement in this field and be able to share experiences from their own jurisdiction.

Format

Presentations will be given by experts from the Bank of England and guest speakers. The event requires a high level of participation, and several participants may be invited to give presentations in relation to their country's approach in this area.

R Modelling

23–27 September 2019

Event Director

Andrew Blake

Apply by

17 June 2019

Modern central banks use a multitude of methods to collect, manipulate, analyse and display data. An increasingly popular platform for all of these is R, a free software environment with a dedicated community of cross-disciplinary users. It is often the platform of choice for statisticians and now econometricians are joining in.

Content

This course applies the powerful features of R to various core contemporary econometric methods. This will be done both through programming up the estimators directly in R and making use of the extensive library of available packages.

The course is likely to cover:

- introduction to R and Rstudio including data manipulation and graphical outputs;
- classical time-series econometrics including quantile regression;
- Bayesian econometrics via Gibbs sampling;
- VARs, SVARs and Bayesian VARs;
- introduction to cross sectional methods for large data sets; and
- methods for visualising data and results.

Target group

This course is aimed at the novice, and no previous exposure to R is assumed. However as R requires users to write programs to perform any kind of analysis, some familiarity with a scripting language such as Matlab or Gauss is essential.

Format

Although we will introduce all the necessary features of R for the applied econometrician this course will not be a complete guide to the language. Experienced R programmers will probably find the going rather slow.

Modelling with Big Data and machine learning: interpretability and model uncertainty

4–5 November 2019

Event Directors

Andreas Joseph and Andrew Blake

Apply by

29 July

The Bank of England and King's College London present a joint conference.

The confluence of access to large granular data sources ('Big Data') and the rapid advance of modelling techniques like those from machine learning (ML) promises new insights into the economy and a larger information set for policymakers. The Bank of England (BoE) and the Data Analytics for Finance and Macro (DAFM) Research Centre at King's College London have recently initiated a series of annual scientific conferences to discuss these advances.

Our events aim both to discuss recent developments and, crucially, focus on particular aspects of Big Data and ML approaches which are of increased interest to applied researchers. Two such aspects form the focus of this two-day conference. The first relates to a commonly cited weakness of ML methods when applied to economic problems and data, which is lack of interpretability of ML model outputs. This makes the adoption of such models difficult for economists who wish to have a more structural understanding of the underlying economic issues. The second, and related, focus is on the estimation and/or calibration of the uncertainty associated with model outputs. Both these matters have not received as much attention in the mainstream ML literature as economists would like to.

We invite you to submit empirical, methodological or theoretical work leveraging on new granular data sources or exploring recent analytical development addressing the above issues and which can be relevant to economic and financial studies or decision making. A focus on interpretability of, and uncertainty around, modelling outputs is particularly welcome. The conference aims to provide an opportunity to discuss recent scientific advances, especially with a focus on problematics expounded above, as well as to connect with policy makers and academics.



CCBS London seminars

We will consider submissions covering a wide range of topics including:

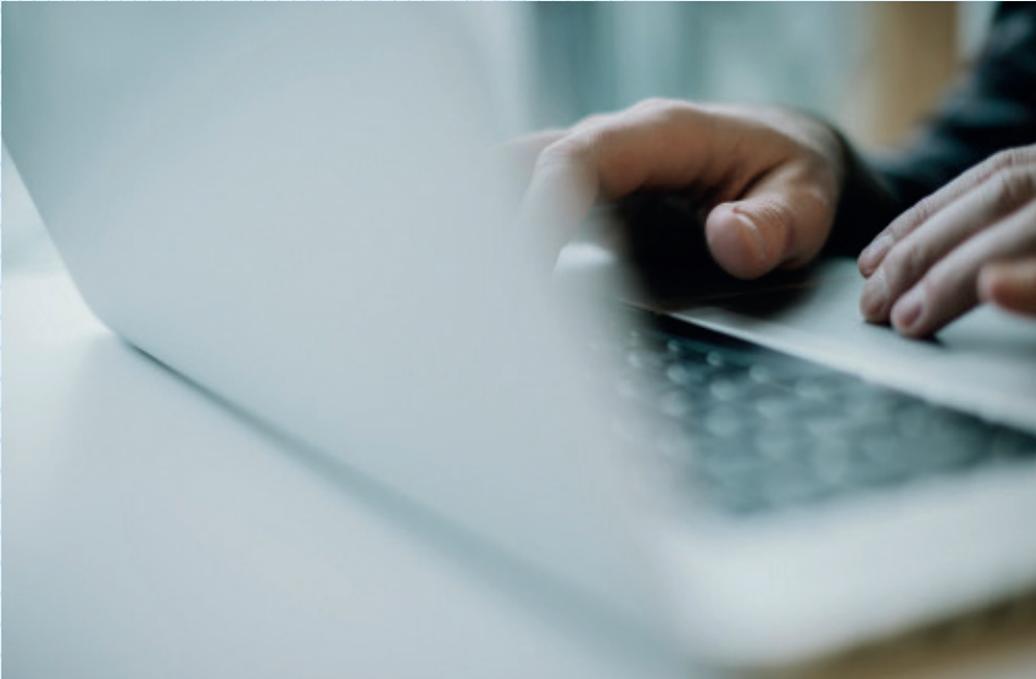
- Large granular structured or unstructured data sources, eg administrative data, web data, from the 'digital exhaust', text data.
- Machine Learning for prediction and understanding the economy and its interpretation.
- Interpretability and uncertainty measurement of non-parametric methods, eg ML.
- Data methods, eg matching, filtering or cleaning techniques.
- Theory, eg estimation with many covariates or strong non-linearities, model and estimation uncertainty of ML approaches.

Currently confirmed keynote speakers:

- Francis X. Diebold (University of Pennsylvania).
- Francesca Toni (Imperial College London).

The event is free of charge for all participants. Financial support for travel can be provided for authors of accepted papers. Papers will be presented and discussed. The deadline for submissions is 4 August 2019. Upon submission, please indicate if you would be available to discuss another paper within your field of expertise. Please submit your full paper to dafm@kcl.ac.uk. Full papers are preferred but extended abstracts will be accepted in exceptional cases. Final decisions will be made by 8 September 2019.

Authors of accepted papers will be asked to provide a final draft of their paper latest two weeks ahead of the event to allow enough time for discussants to prepare. For further enquiries about submissions and papers, please contact dafm@kcl.ac.uk. For questions regarding event logistics please contact ccbsinfo@bankofengland.co.uk and andreas.joseph@bankofengland.co.uk.



Full details of our web-based electronic application process can be found at www.bankofengland.co.uk/ccbs.

If you need further information or assistance please email the CCBS Administration Team at ccbsinfo@bankofengland.co.uk.

Application process

All candidates must obtain prior approval from their training department before applying.

Applications must be received by the stated deadline (a minimum of 14 weeks before the event start date) and are limited to one per central bank/regulatory authority.

As most events are oversubscribed and places are limited, we are not able to consider late or multiple applications. If more than one application per organisation is received, it will be at the discretion of the Event Director to choose the most suitable applicant.

Registration

If you are a first-time user of the electronic application system, you need to register on the CCBS website, using your official email address.

A password will then be emailed to you. Once registered you can monitor the progress of your application and apply for other CCBS events.

Online application

After registering with CCBS and having obtained a password you should:

- 1 go to the CCBS website and sign in with your username (your official email address) and password;
- 2 select the relevant event and click on 'Apply Now';
- 3 complete all sections of the application form; and
- 4 submit the application form.

You will be informed by email whether your application has been successful some two to three months before an event.

CCBS advises not to book any travel arrangements before your application has been accepted.



If you are a first-time user of the electronic application system, you need to register on the CCBS website, using your official email address



Administration form

The administration form should be completed and submitted once your travel arrangements are final. You will receive an acknowledgement by email. Please use this form to give details of any dietary and special requirements. It is essential that you provide contact details for your stay in the United Kingdom to enable us to contact you outside event hours, should the need arise.

Special requirements

If you have any special needs or requirements, eg a disability, dietary needs or religious requirements, please ensure that this information is set out in the administration form to ensure that your needs can be accommodated as fully as possible.

Administrative information

Successful applicants can download from the CCBS website the event programme, list of participants and location maps. You will be notified when the programme has been finalised.

Accommodation

Participants will need to make their own arrangements for accommodation. A list of hotels recommended by previous participants can be downloaded from the CCBS website.

Cancellations

In the event of cancelling, it is absolutely necessary to inform us at least ten days prior to the seminar. Given the large number of applications, a late cancellation deprives another central bank/regulator authority applicant from joining the seminar.

Visas

If you require a visa to visit the United Kingdom, you are strongly advised to contact the relevant British Embassy or British High Commission as soon as you are accepted on the event to ensure that the necessary formalities are completed in time. For further information please visit www.visa4uk.fco.gov.uk.

Costs

The Bank of England makes no charge for tuition, and we provide lunch and refreshments and organise some social activities. Participants and their central banks are responsible for their own travel expenses, accommodation and other daily living costs (approximately £35 a day). Please note that CCBS does not arrange transfers to and from airports.

Travel and medical insurance

The Bank of England does not provide any insurance cover for participants travelling to/from or staying in London. Please ensure that you have adequate insurance cover for your needs. You should also ensure you have adequate medical insurance. Any medical costs incurred in the United Kingdom will have to be met by you or your organisation.

Working hours

The normal working day on our seminars is from 9.00 am to 5.30 pm. All participants are expected to be present for the entire duration of the event, and should not accept any extra-curricular assignments/appointments.

Dress code

Normal business attire.



Please ensure that you have adequate insurance cover for your needs. You should also ensure you have adequate medical insurance





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