CAFRAL
CENTRE FOR ADVANCED FINANCIAL RESEARCH AND LEARNING
Promoted by Reserve Bank of India

CAFRAL Newsletter
November 2022 – December 2022

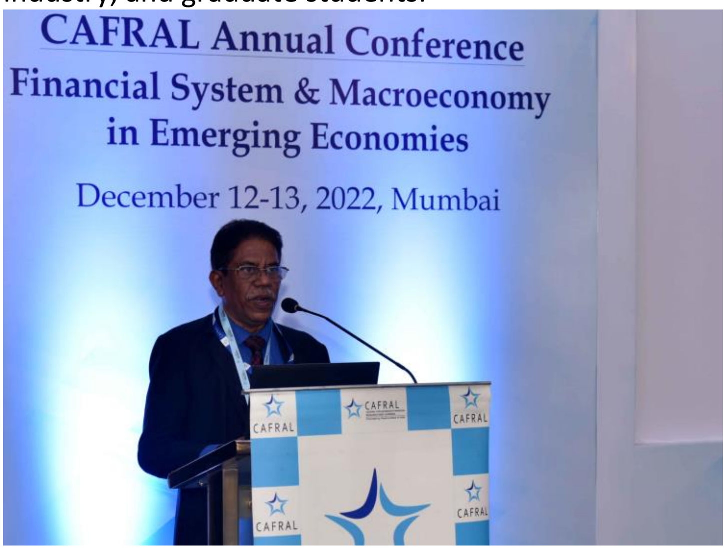
Highlights of CAFRAL Annual Conference

CAFRAL Annual Conference: The Financial System and Macroeconomy in Emerging Economies: December 12-13 2022, Mumbai

Shri. B P Kanungo, Director, CAFRAL, Prof. Alan M Taylor, UC Davis, Smt. Indrani Banerjee, Additional Director, CAFRAL and CAFRAL Research Team with participants during CAFRAL Annual Conference: The Financial System and Macroeconomy in Emerging Economies, Mumbai

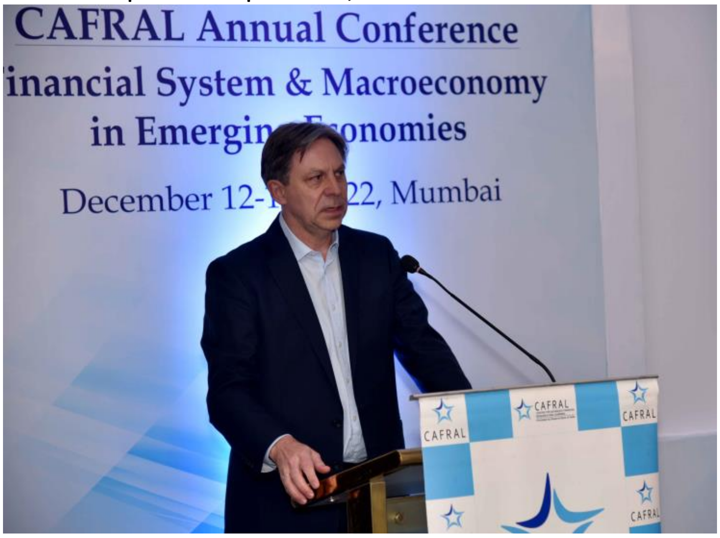
CAFRAL successfully hosted its third annual research conference on “Financial System and Macroeconomy in Emerging Economies” on December 12-13, 2022 in Mumbai. Our flagship conference, organized by the research vertical, is a part of CAFRAL’s agenda to promote high quality research in macroeconomics and finance, showcasing both domestic and global talent. The conference followed a presentation-plus-discussant format in line with the tradition. The discussant plays the role of summarizing the paper for the audience, focusing on the key novel contributions, and provides feedback and suggestions to the authors to improve the paper further.

The call for papers for the conference was posted on the CAFRAL website and advertised in various international fora. There were a large number of submissions this year, out of which the conference committee, chaired by Dr. Nirupama Kulkarni, Sr. Research Director, CAFRAL, put together a program with 10 excellent papers over two days. We also had a keynote talk on the very relevant topic regarding a link between extended loose monetary policy and financial crises. Professor Alan M. Taylor, Distinguished Professor of Economics and Finance, University of California at Davis, delivered the keynote address. The two-day flagship event was attended by more than 60 researchers from across the globe, officials from the Reserve Bank of India, members from the Indian banking industry, and graduate students.



The conference commenced with the welcome address by Mr. B.P. Kanungo, Director, CAFRAL. The theme for the first day was macroeconomics and there were a number of topics covered under this umbrella. We had papers that look at the consequences of US market power in issuing debt, trade-offs from issuing foreign debt in local currency versus dollars, dollarization of assets in emerging markets, on the central bank’s commitment to inflation targeting, and there was a paper that looked at how the recruiters are responding to higher job applications and the effect on wages. Overall, the macro papers touched upon topics that are highly relevant to emerging markets, which is a goal of this conference.

For the second day, the theme was finance and this year we had two papers that looked at climate finance, an issue that is gaining traction by the year. One of these papers looked at bank lending rate and economic activity responses to natural calamities in India and another climate-finance paper looked at banks' lending portfolio response to climate-related regulations. We also had other papers on finance that evaluate the effectiveness of Prompt Corrective Action policy of the RBI, banks' responses to import competition, and the role of state-owned-banks in allocating deposits and credit after financial crises.



We were also very excited to have Professor Alan Taylor from UC Davis as a keynote speaker. Professor Taylor is a distinguished professor of economics and finance at the University of California in Davis. He spoke about his research that identifies channels through which extended periods of loose monetary policy can lead to financial crises.

The conference program has been shared on the CAFRAL website. A list of all the research papers presented and their abstract is below for quick reference.

Abstracts of Papers Presented

1. **Job Applications and Labor Market Flows (Serdar Birinci, Kurt See & Shu Lin Wee)**

Job applications have risen over time, yet job-finding rates remain unchanged. Meanwhile, separations have declined. We argue that increased applications raise the probability of a good match rather than the probability of job-finding. Using a search model with multiple applications and costly information, we show that when applications increase, firms invest in identifying good matches, reducing separations. Concurrently, increased congestion and selectivity over which offer to accept temper increases in job-finding rates. Our framework contains testable implications for changes in offers, acceptances, reservation wages, applicants per vacancy, and tenure, objects that enable it to generate the trends in unemployment flows.

2. **The Macroeconomic Implications of US Market Power in Safe Assets (Jason Choi, Rishabh Kirpalani & Diego J. Perez)**

The US government is the dominant supplier of global safe assets and faces a downward sloping demand for its debt. In this paper, we ask if the US exercises its market power when issuing debt and study its macroeconomic consequences. We develop a model of the global economy in which US public debt generates a non-pecuniary value for its holders and analyze the equilibrium in which the US government is the monopoly provider of this safe asset and contrast this with the case in which it acts a price taker. We use variation in estimated demand elasticities for US debt during flight-to-safety episodes to empirically distinguish between these two models and find that the data rejects price-taking behavior in favor of the monopoly one. We then quantify the distortions due to market power and find that it generates a significant under-provision of safe assets, a sizable mark-up in the convenience yield, and large welfare benefits for the US in detriment of the rest of the world. We also study the implications of increasing competition in safe assets from other sovereigns and private institutions.

3. **Original sin redux: a model-based evaluation (Boris Hofmann, Nikhil Patel & Steve Pak Yeung Wu)**

Many emerging markets (EMs) have graduated from "original sin" and are able to borrow from abroad in their local currency. Using a two-country model, this paper shows that the shift from foreign currency to local currency external borrowing reduces the vulnerability of EMs to foreign financial shocks to some extent, but does not eliminate it. Instead, it transforms the original sin into a "redux" (Carstens and Shin (2019)). Even under local currency borrowing from foreign lenders, a monetary tightening abroad is propagated to EM financial conditions through a tightening of foreign lenders' financial constraints. Moreover, local currency borrowing does not eliminate currency mismatches, but shifts them from the balance sheets of EM borrowers to the balance sheets of financially constrained global lenders, so that amplifying financial effects of exchange rate fluctuations persist. We provide empirical evidence in line with this prediction of the model using data on currency composition of external debt of emerging and advanced economies. Our model-based analysis further suggests that foreign exchange intervention and capital flow management measures can mitigate the adverse effects of capital flow swings in the short run and that a larger domestic investor base could reduce the vulnerability of EMs in the longer run.

4. **Financial Dollarization in Emerging Markets: Efficient Risk Sharing or Prescription for Disaster? (Lawrence Christiano, Hüsnü Dalgic & Armen Nurbekyan)**

We present data that suggests financial dollarization is primarily a device for reallocating business cycle income risk between different people within emerging market economies, rather than across different countries. Although we identify sources of fragility in some aspects of dollarization, the common view that financial dollarization is a source of fragility is over-stated. We develop a simple model which formalizes the insurance view, which is consistent with the key cross country facts on interest rate differentials, deposit dollarization and exchange rate depreciations in recessions.

5. **Assessing central bank commitment to inflation targeting: Evidence from financial market expectations in India (Vaishali Garga, Aeimit Lakdawala & Rajeswari Sengupta)**

We propose a novel framework to gauge the credibility of central banks' commitment to an inflation targeting regime. Our framework combines survey data on macroeconomic forecasts with high-frequency financial market data to understand how inflation targeting makes economic agents change their perception about central bank decisions. Specifically, using Reserve Bank of India's adoption of inflation targeting in 2015 as a laboratory, we apply two different approaches to estimate a market-perceived monetary policy rule and analyze how it changed with the implementation of inflation targeting. Both approaches indicate that the market perceives a larger response to inflation in the monetary policy reaction function since the adoption of inflation targeting. This evidence suggests that the market viewed the shift to inflation targeting as a credible commitment on the part of the Reserve Bank of India.

6. **Natural Disasters, Interest Rates Dynamics, and Economic Activities (Abhiman Das, Tanmoy Majilla & Sumit Saurav)**

We present novel evidence regarding the impact of natural disasters on the dynamics of interest rates and their influence on real economic activities. Using the universe of bank loans in India, we find that local branches exposed to natural disasters increase loan interest rates for all kinds of borrowers. We also observe a decline in credits. Importantly, these effects persist for at least three years. These results are critical because the local branches are the ones with the soft information. We link rising interest rates to increased default risks of the borrowers and find multiple patterns that corroborate this assertion. Firms respond to natural disasters by increasing their interest expenses and decreasing bank debts. These effects also endure for a number of years. Additionally, cross-sectional spike in interest rates results in a decline in nightlight based real economic activity as well as firm level R&D expenditures. It suggests a novel financial intermediation channel through which natural disaster shocks transmit to the real economy.

7. **Preventing Strategic Defaults In Response to Deteriorating Bank Health: The Prompt Corrective Action (Nishant Kashyap, Sriniwas Mahapatro & Prasanna Tantri)**

We ask whether regulatory intervention in the form of prompt corrective action (PCA), which seeks to bring troubled banks back to health by imposing temporary restrictions and increasing regulatory monitoring, reverses strategic defaults. Using the Indian PCA regime and exploiting the sharp discontinuity provided by the entry criteria in a regression discontinuity framework, we find that timely regulatory intervention reduces loan delinquency by way of strategic defaults by 1.1 times its unconditional mean. Evidence suggests that the mechanism is the intervention's ability to credibly signal to the borrowers about the likely restoration of bank health and continuation of banking relationships.

8. **Do Lenders also Respond to Import Competition? Evidence from Bank-Firm Loan Level Data (Pavel Chakraborty & S K Ritadhi)**

How do lenders respond to import competition? Using a novel bank-firm loan level database matched with balance sheet data, we study this question in the context of India following China's accession to the WTO in 2001. We find strong evidence of endogenous financial constraints and heterogeneity in lender responses to higher import competition. Private banks connected to firms in high-exposure sectors drop credit supply by around 25-57% with no effect for government-owned banks. Drop in credit supply is overwhelmingly driven only by the intensive margin. We show that our results are not driven by other general equilibrium effects such as firm, industry, and geographical characteristics. Banks with a larger share of loans to firms in high-exposure sectors suffer an increase in non-performing loans, drop in profitability ratios, and external borrowing thereby reducing their credit supply. The drop in credit supply affects real outcomes of firms with economically meaningful implications in terms of sales, use of production factors (labour, capital, and raw materials), and stock of assets. To the best of our knowledge, ours is one of the first to show that import competition can also alter lenders' responses, but heterogeneously.

9. **"There is No Planet B", but for Banks There are "Countries B to Z": Domestic Climate Policy and Cross-Border Bank Lending (Emanuela Benincasa, Gazi Kabas & Steven Ongena)**

We document that lenders react to domestic climate policy stringency by increasing cross-border lending. We use loan fixed effects to control for loan demand and an instrumental variable strategy to establish causality. Consistent with regulatory arbitrage, the positive effect decreases in borrowers' climate policy stringency and is absent if the borrower country has a higher stringency. Furthermore, climate policy stringency decreases loan supply to domestic borrowers with high carbon risk while increasing loan supply if such borrowers are abroad. Our results suggest that cross-border lending enables lenders to exploit the lack of global coordination in climate policies.

10. **Deposit and Credit Reallocation in a Banking Panic: The Role of State-Owned Banks (Viral V. Acharya, Abhiman Das, Nirupama Kulkarni, Prachi Mishra & Nagpurnanand Prabhala)**

We study a bank run in India in which private bank branches experience sudden and considerable loss of deposits that seek safety in state-owned public sector banks (PSBs). We trace the consequences of this reallocation using granular data on bank firm relationships and branch balance sheets. The flight to safety is not a flight to quality. Lending shrinks and credit quality improves at the run banks but worsens at the recipient PSBs. The effects are pronounced in weaker PSBs, the ones more likely to exploit the shelter of state ownership. The resource reallocation is inefficient in the aggregate.

Highlights of CAFRAL Learning Program

Program on Financial Frauds & Forensic Audit: December 21-22, 2022, Mumbai.

Shri. D C Jain, Additional Director, Central Bureau of Investigation (CBI), Smt. Indrani Banerjee, Additional Director, CAFRAL and other speakers with program participants at Program on Financial Frauds & Forensic Audit, Mumbai.

CAFRAL had organised the captioned program on Financial Frauds & Forensic Audit on December 21 & 22, 2022. The program discussed the importance of enhancing the fraud risk management systems of banks, financial institutions and NBFCs, including the need for having an enhanced framework for early warning signals, strengthening their fraud governance and response systems and having a dedicated Market Intelligence Unit for frauds. The participants were also sensitized on the need for having a sound forensic audit that would help in identifying control failures, uncover trails and trace the funds besides gathering legally tenable evidence to achieve financial resolution and prosecution.

D. C. Jain, Additional Director, Central Bureau of Investigation delivered the keynote address and Indrani Banerjee, Additional Director, CAFRAL made the opening remarks.

Topics covered in this program were Overview of Financial Frauds, Financial Crimes and Investigation; Fraud Monitoring & Mitigation Systems, Detection and Reporting; Frauds in Loan Accounts – Regulatory Perspective; Enhanced Fraud Warning Systems; Digital and Cyber Frauds – Tools, Techniques, Prevention, Detection and Investigation; Trade Based Fraud and Mitigating Money Laundering; Evidence Collection, Maintenance of Record and Legal Resolutions – Case Studies and Discussion; Forensic Audit – Processes, Techniques, Tools and Approaches; Technological Tools for Forensic Audit and Solutions; Transaction Monitoring: Use of Analytics, Artificial Intelligence and Machine Learning; Financial Statement Analysis for Fraud Detection and Due Diligence Analysis.

Other speakers in this program were B Sivakumar, Chief General Manager, Department of Supervision, Reserve Bank of India; Jairam Manglani, Country Head, Financial Crime Compliance, Standard Chartered Bank; Tarun Bhatia, Managing Director and Head of South Asia, Forensic Investigations and Intelligence, Kroll; Lakshmi Rao, Partner, M/s Sarath and Associates; Dhruv Chawla, Partner, Financial Crime and Compliance & Forensic Technology Solutions, PwC India and Mehul Thakkar, Founder, Awesome Analytics.

Highlights of Research Activities

Dr. Nirupama Kulkarni, Senior Research Director was a discussant at NIPFP "Credit Markets Workshop" on November 3, 2022. She was also invited as an academic expert for the Department of Economic Affairs for the Physical Workshop (Private Investments in Manufacturing, Housing, Real Estate, and Services) organized by IIT Guwahati on December 1, 2022.

Dr. Kulkarni presented her paper: Zombie Lending in India at NIBM Seminar Series on December 9, 2022. She also presented her paper: Deposit and Credit Reallocation in a Banking Panic: The Role of State-Owned Banks at the CAFRAL Annual Conference, which was held on December 12-13, 2022.

Dr. Kulkarni released her working paper titled "Bank Deposit Franchise, Interest Rate Risk and Credit Booms: Evidence from India" (joint with Akshat Singh) on December 27, 2022.

Dr. Gautham Udupa, Research Director presented his paper titled “Food, Fuel, and Facts: Distributional Effects of External Shocks” at the Midwest Macroeconomics Conference in Dallas, Texas, USA on November 12, 2022, and at the 17th Annual Conference on Economic Growth and Development at the Indian Statistical Institute (Delhi) on December 21, 2022

Dr. Kaushalendra Kishore, Research Director presented his paper: Does facetime with the boss matter? Soft information communication and organizational performance on December 21, 2022, at the 17th Annual Conference on Economic Growth and Development, ISI Delhi.

Dr. Yogeshwar Bharat, Research Director presented his Paper: Credit Constraints, Bank Incentives, and Firm Exports: Evidence from India on December 21, 2022, at the 17th Annual Conference on Economic Growth and Development, ISI Delhi.

Dr. Bharat also released his working paper titled: Credit Constraints, Bank Incentives, and Firm Exports: Evidence from India (joint with Raoul Minetti) on November 24, 2022.

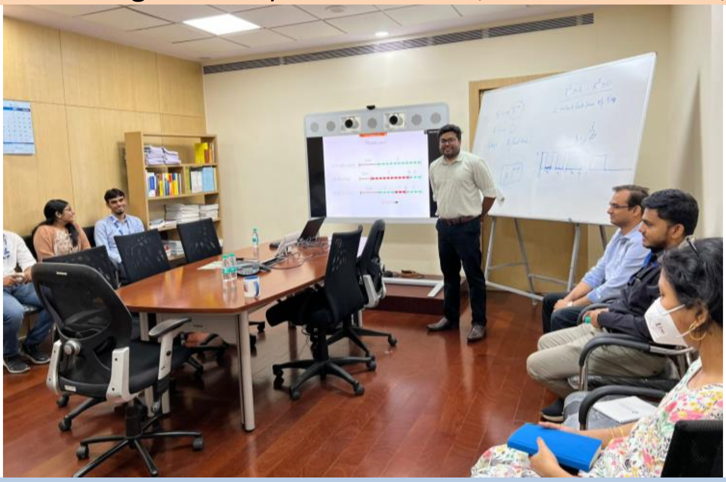
Dr. Nirvana Mitra, Research Director presented his paper titled "Political Constraints and Sovereign Default" at Ashoka University on December 7, 2022.

Dr. Mitra also released his paper titled: "Political Constraints and Sovereign Default" (joint with Marina Azzimonti) on December 2, 2022.

Highlights of CAFRAL Research Seminars

CAFRAL invited speakers from leading academic institutions and other central banks. A sampling of the abstracts of papers presented are given below:

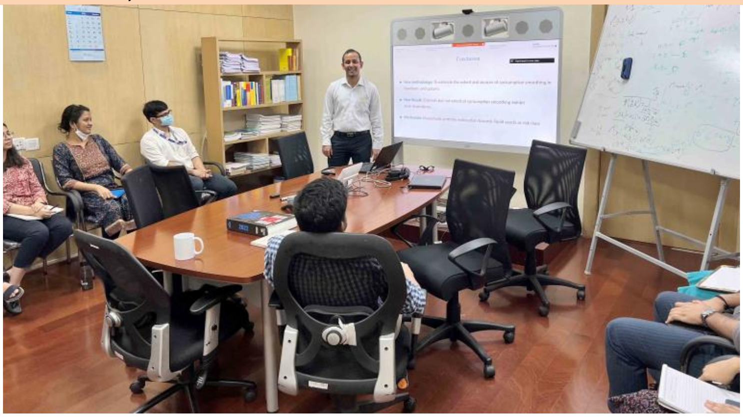
Rewarding Failure by Dr. Nishant Ravi, ISB on November 2, 2022



Paper Abstract

We explore when and how to reward failure in a dynamic principal-agent relationship with experimentation. The agent receives flow rents from experimentation, and divides his time between searching for evidence of success and failure about the underlying project. The principal commits in advance to rewards conditional on the type of evidence. At each instant, the principal makes a firing decision. We show that the principal's optimal equilibrium features a stark reward structure—either the principal does not reward failure at all or rewards success and failure equally.

Insurance Cyclicality by Dr. Anand Chopra, IIT Kanpur on November 30, 2022



Paper Abstract

This paper investigates how households smooth consumption against idiosyncratic wage shocks in recessions and expansions. Labour market uncertainty amplifies during recessions, captured through the cross-sectional dispersion of wages. I focus on the relative contribution of two insurance mechanisms to wage changes, namely, adjustments in labour supply and assets, during periods of high and low uncertainty. I exploit variation in expenditure, hours worked and wages over the business cycle to wage shocks, and apply it to US household panel data. I document a new empirical fact — the contribution of labour supply to consumption smoothing increases during labour market downturns. Households with low liquid wealth show the strongest asymmetric labour supply response between recessions and expansions. To jointly explain these empirical facts, I develop an incomplete market life-cycle model with multiple asset-types (liquid and illiquid) and an aggregate state that affects wage dispersion. The model shows that the key mechanism is the shift in portfolio composition towards liquid assets during high uncertainty periods.

Meeting with India Expert Network of the European System of Central Banks on November 29, 2022

Dr. Risto Herrala (Bank of Finland), Dr. Biswajit Banerjee (Advisor to the governor of the National Bank of Slovakia), and Dr. Giovanni Vittorino (Banca D'Italia) visited CAFRAL to interact with the research team and discuss one of their ongoing research project that deals with the effect of Insolvency and Bankruptcy Code on Indian firm's leverage.

If you wish to be included in the mailer list of CAFRAL Research Seminars please click here

Upcoming Learning Program

Conference of Heads of Chief Human Resources Officers (CHROs) and Chief Learning Officers (CLOs) of Banks, Financial Institutions (FIs) and NBFCs January 24, 2023| Rendezvous, Hotel Taj Mahal Tower, Apollo Bunder, Colaba, Mumbai

Background:

The HR landscape has been changing rapidly after the onslaught of Covid-19 and in the wake of unprecedented economic and financial sector developments impacting the future of work. The pandemic has tremendously impacted the workplace culture and set a new normal which has continued in many organizations even after its tapering. This has been prompting the HR function to initiate newer strategies, workforce deployment and skilling / re-skilling. The advent of technology has brought in a fundamental change necessitating strategic workforce redeployment and repositioning. It is therefore imperative to understand the paradigm shift in workplace culture, the evolving HR landscape and its need for adaptation in the financial sector. Thus, there is a critical need to discuss and reassess the training needs, deliberate on the new trends and the potential role of CAFRAL in bridging the new skill gaps in banks, FIs & NBFCs.

Conference Objective:

Against this backdrop, CAFRAL is conducting a half-day Conference of the Chief Human Resources Officers (CHROs) and Chief Learning Officers (CLOs) of HR of banks, FIs and NBFCs to deliberate on the new trends and to provide crucial inputs to CAFRAL on the new learning challenges. It would also provide an opportunity for interaction and ideation with HR experts on recent trends and developments in the capacity building space, relevant key issues and on emerging HR requirements.

Participants' Profile

Chief Human Resources Officers (CHROs), Chief Learning Officers (CLOs) and Heads of their Teams

Nominate Now

Program on Cyber Risk & Resilience: Evolving Paradigm February 16, 2023 | Rendezvous, Hotel Taj Mahal Tower, Apollo Bunder, Colaba, Mumbai

Background:

Cyber-attacks on banks and financial institutions are becoming increasingly pervasive and sophisticated. Cyber risk is today a business risk of critical nature, impacting financial assets, business continuity, trust and reputation. A cyber-incident not properly contained could have a contagious effect, disrupting critical financial infrastructure with serious financial stability implications. With evolving use of technology, it has become imperative to provide the right kind of focus in creating a secured environment and adequate trust in electronic transactions amongst different players and users. Therefore, it is important that at leadership level in banks and other financial institutions there is an adequate understanding of the economic drivers and digital pathways that lead to cyber vulnerabilities, identify emerging risks and address control & process issues. Banks and Financial institutions need to align their strategies, policies and process continuously in line with the evolving paradigm in cyber risk & resilience.

Conference Objective:

This one-day program aims at contributing to capacity building at senior & top executive level, providing insights into the emerging trends in cyber-defence from the perspectives of strategy, governance and technology. Recent trends in cyber risk & resilience will be discussed to facilitate improved cyber defence mechanisms.

Participants' Profile

The program is open for the following executives from banks, financial institutions & NBFCs:

- Heads of Risk Management
- CISOs/CTOs
- Top and Senior Officials dealing with information security, cyber-crimes & frauds, cyber risk management
- Directors on Boards

Nominate Now