

Shri P. Vasudevan, Executive Director, Reserve Bank of India took charge as Director, CAFRAL from September 26, 2025



About Director CAFRAL: Shri Vasudevan Parameswaran is a career central banker with over three decades of experience in the Reserve Bank of India (RBI). He has been extensively involved in payment system development in India and has led and successfully implemented many large payment system initiatives and projects in the country. He was closely associated in building and developing institutions like National Payments Corporation of India (NPCI), Clearing Corporation of India Ltd., (CCIL), Reserve Bank Innovation Hub (RBIH), etc.

Highlights of CAFRAL Activities

Newspaper Articles

- [“IBC as a preventive for funds diversion,”](#) by Dr Gautham Udupa, Associate Professor, CAFRAL in The Hindustan Times, August 20, 2025
- [“India’s patent landscape: universities as changemakers,”](#) by Dr Vidhya Soundararajan, Assistant Professor, CAFRAL in The Hindu, August 18, 2025
- [“After a brief pause, physical branches are back in Indian banks,”](#) by Dr Nirupama Kulkarni, Professor, CAFRAL in The Hindu, August 11, 2025
- [“Women’s Entrepreneurship: Time for a Holistic Strategy”](#) by Dr Vidhya Soundararajan, Assistant Professor, CAFRAL in Mint, 23rd July 2025.

Policy Article

[“Do rural roads promote inclusive entrepreneurship?”](#) by Dr Vidhya Soundararajan, Assistant Professor, CAFRAL in Ideas for India (I4I), July 22, 2025.

SEMINAR/CONFERENCE PRESENTATIONS

Dr. Gautham Udupa presented his paper “Desirability of Competition in Currency of Invoicing” at the Econometric Society World Congress in Seoul, South Korea, on August 18, 2025.

Abstract: Two stylized facts underline the US dollar's role in the world financial markets, namely 1) dominance of dollar denomination in the cross-border asset/debt markets as well as for international trade transactions and 2) country- and firm-level dollar invoicing shares are stable. This paper, using dollar invoicing with Euro invoicing after the decline in dollar credit. Prior research documents substantial losses to trade volume and relationships following trade credit supply shocks. We establish a novel dollar invoicing channel by documenting that these losses are concentrated among

transaction-level import data and exploiting an unanticipated US monetary policy action, documents that Indian importers reduce the share of dollar invoiced imports by 11.9% in response to a 1 percentage point decline in the cross-border dollar credit supply, challenging the second stylized fact and providing causal evidence in support of complementarities between dollar-denominated debt and trade contracts. Importers substitute

firms unable to substitute away from dollar invoicing. In essence, we highlight that flexibility in trade invoicing currency acts as a shock absorber against currency-specific credit shocks, while inflexibility amplifies the adverse effects of credit shocks on trade. Lastly, global banks shield trade by supporting invoicing in alternate currencies.

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:

Home bias: Do Regional Feds overweight headquarters housing prices?, Dr. Narayan Bulusu, Bank of Canada, September 15, 2025



Abstract: Do signals from ‘closer to home’ have outsized salience in the formation of expert judgments? We investigate this hypothesis by examining the sentiment about residential housing expressed by presidents of US Federal Reserve Banks in the meetings of the Federal Open Market Committee. While

sentiment about the regional residential housing market is strongly correlated with the conditions in the Federal Reserve District, we find that it is dominated by the housing price growth in their headquarters. We uncover evidence suggesting that the strength of social ties could drive this ‘home bias’.

Building New Human Capital in Weak Education Systems: What Works, What Doesn’t, and Does It Matter”, Dr. Abhiroop Mukhopadhyay, The Economics and Planning Unit at the Indian Statistical Institute–Delhi, September 10, 2025.



Abstract: The literature on the “New” human capital highlights the critical role of higher order cognitive skills, personal skills - curiosity, being entrepreneurial, aspirational as well socio-emotional skills. While recent literature suggests they can be taught, how to impart these skills in low capacity settings is a challenge. We present results from three large Randomized Control Trial experiments based on different pedagogy interventions in public schools of three states of India (Uttarakhand, Uttar Pradesh and Andhra Pradesh). The interventions target various broad aspects of human capital. In Uttar Pradesh, science experiments are introduced to

students in middle school to make them curious; in Uttarakhand, a pedagogy based on Theatre targets building socio-emotional and soft skills of middle school students; in Andhra Pradesh an entrepreneurial mindset development program is delivered in school to make secondary school students think out-of-the-box. The overall results from these interventions are mixed- the successes and failures inform the literature on the technological possibilities of pedagogy and the constraints that such methods face. We also highlight the role of local labour markets and their interaction with accumulation of human capital.

Frosty Climate, Icy Relationships: Cold and Intimate Partner Violence in Rural Peru, Dr. Leah Lakdawala Associate Professor of Economics, Wake Forest University, July 16, 2025.



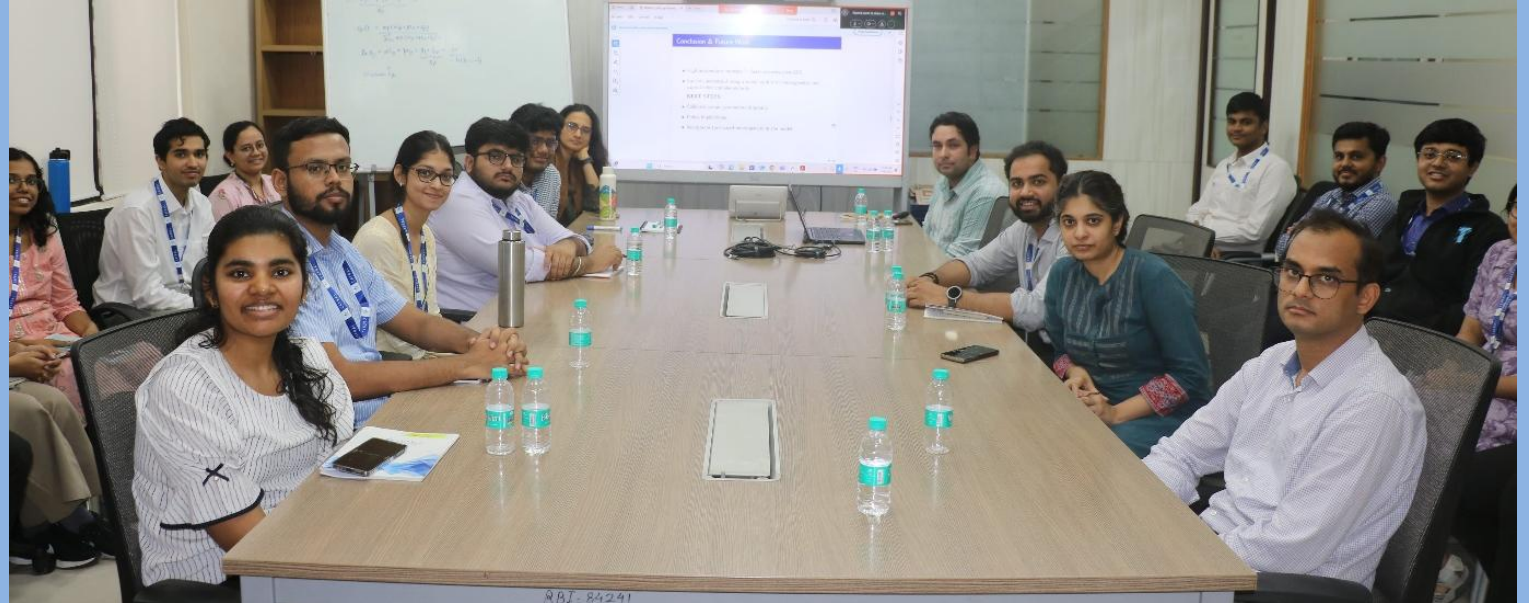
Abstract: Violence against women --- in particular, Intimate Partner Violence (IPV) --- is a health concern for women across the world. We study the effect of cold exposure on IPV among Peruvian women. Using a dataset that matches women to

To our knowledge, we are the first to measure relative significance of these two channels by using variation in cold timing to distinguish shocks that affect IPV through changes in income from those that act through time spent indoors. We

weather exposure, we find that cold shocks increase IPV: 10 degree hours below -9C increases the probability of experiencing domestic violence by 0.5 pp. These effects are larger for more extreme temperature thresholds. We then provide evidence that cold influences IPV through two main channels. First, extreme cold reduces income. Second, extreme cold limits time spent outside of the household, potentially increasing exposure of women to violent partners.

find that the effect of cold on IPV is mostly driven by low temperatures that occur during the agricultural growing season, when income is most affected; 10 degree hours below -9C during the growing season increases the probability of experiencing IPV by 1.6 percentage points. In contrast, we find that cold exposure outside of the growing season has no statistically significant effect on IPV.

Automation and Employment Recovery After the Great Recession, Dr. Ronit Mukherjee, Ashoka University, July 9, 2025.



Abstract: We document a novel empirical finding: regions in the United States that were more exposed to automation before the Great Recession experienced faster employment recoveries following that recession. This finding can be understood using a simple model of firm heterogeneity with capital accumulation. Comparing economies with different degrees of automation intensity, we find that less automation-intensive economies

recover slower relative to more automation intensive economies following a transitory negative TFP shock, as they have a relatively lower level of automation capital and tend to reduce automation capital investment more after the shock. Consequently, they benefit to a lesser degree from the complementarity between automation capital and labour, resulting in a slower recovery of employment.

Gender Barriers, Structural Transformation, and Economic Growth”, Dr. Gaurav Chiplunkar, University of Virginia, July 3, 2025.



Abstract: The representation and significance of women in the labor force have grown significantly over the past five decades around the globe. Using nationally representative data from over 90 countries, we document distinct gender patterns in employment transitions across both sectors and occupations

declining gender barriers - defined as gender-specific distortions in employment and wages - have been a key driver of the observed rise in female labor force participation, the expansion of the service sector, and increases in real GDP per

during this period. Using a model of occupational and sectoral choice and focusing on six major economies, we find that capita from 1970 to 2018, but with substantial variation across countries.

Distributional Effects of Agricultural Interventions in India, Dr. Shreshth Garg, Assistant Professor, Department of Economics, University of Pennsylvania, July 2, 2025.

Abstract: How do government programs that distort prices in agricultural markets affect producers and consumers along the income distribution? We study the distributional effects of three of the largest and longest-running agricultural interventions in India: fertilizer subsidies, procurement of crops at minimum support prices (MSP), and sale of subsidized grains to households. These interventions directly impact hundreds of millions of people and cost about 1.2% of India's GDP. To examine their effects, we introduce and estimate a structural model of supply and demand with heterogeneous risk-averse producers, who choose a portfolio of crops and crop-specific inputs, and heterogeneous households who make consumption decisions. Using the estimated structural parameters, we solve for counterfactual equilibria in which these interventions are phased out. Our main results show that these programs provide large benefits to the poorest consumers but also hurt some of the smallest farmers.

Highlighting Select CAFRAL New Working Papers

Do Creditor Rights Reduce Tunnelling? Evidence from India's Bankruptcy Law Reforms, September 2025

Authors: Gautham Udupa, Associate Professor, CAFRAL (with Prasanna Gai, Ashia Sundaram, and Akshat Singh)

Abstract: We study the impact of a bankruptcy reform that improved creditor rights and legal efficiency on the tunnelling of funds through related party transactions within the corporate group in India. We exploit a triple difference estimation strategy comparing related party transactions between a 'treatment' and 'control' group of financially distressed firms, before and after reform, and in Indian states where court systems were less efficient relative to other states. Improved creditor rights reduced tunnelling by inducing borrowers to willingly cut back on bank debt, financial-related party transactions, and dividend payouts.

Food, Fuel, and Facts: Distributional Effects of External Shocks, September 2025

Authors: Gautham Udupa, Associate Professor, CAFRAL (with Arpita Chatterjee and Saroj Bhattarai)

Abstract: We show that exogenous global commodity price shocks lead to a significant decline over time in Indian household consumption. These negative effects are heterogeneous along the income distribution: households in lower income groups experience more adverse consumption effects following an exogenous rise in food prices, whereas households in the lowest and the two highest income groups are affected similarly following an exogenous rise in oil prices. We investigate how income and relative price changes contribute to generating these heterogeneous consumption effects. Global food price shocks lead to significant negative wage income effects that mirror the pattern of negative consumption effects along the income distribution. Both global oil and food price shocks pass through to local consumer prices in India and increase the relative prices of fuel and food, respectively. Expenditure share of food increases with such a rise in relative prices, which provides unambiguous evidence for non-homothetic preferences. Specifically, we show that food, compared to fuel, is an essential consumption good for all income groups in India.

Optimal deposit insurance in a macroeconomic model with runs, September 2025

Authors: Vedant Agarwal, Assistant Professor, CAFRAL

Abstract: This paper examines the effects of deposit insurance in a quantitative macroeconomic model that incorporates the risk of deposit runs faced by banks. During systemic panic episodes, alert uninsured depositors tend to withdraw their funds from banks they perceive as vulnerable. While deposit insurance reduces banks' susceptibility to such runs, it may also weaken their risk management incentives, resulting in a U-shaped relationship between insurance coverage and the risk of bank failure. The model suggests that the welfare-maximizing level of deposit insurance coverage for the U.S. in 2008 closely aligns with the observed level. A moderate increase in coverage may be optimal in contexts of heightened depositor alertness—driven by technological or demographic factors—, greater fiscal capacity or stronger capital requirements.

Climate-conscious investors, carbon disclosures, and efficiency, September 2025

Authors: Vedant Agarwal, Assistant Professor, CAFRAL (with J. Suarez)

Abstract: We analyze whether carbon disclosures can substitute for carbon emission taxation when emissions generate negative externalities. In our setup, climate-conscious investors adjust their funding terms based on their beliefs about firms' carbon intensities, which firms can choose to disclose at a cost. In equilibrium, the least carbon-intensive firms disclose and are financed at terms based on their carbon intensity, while nondisclosing firms are financed at more expensive pooling terms. Encouraging disclosures reduces investment and therefore emissions by non-disclosing firms, but may increase investment and emissions by newly disclosing firms, overall having ambiguous effects on total emissions and social welfare.

Intergroup Contact and Its Effects on Discriminatory Attitudes: Evidence from India, September 2025

Authors: Shreya Bhattacharya, Assistant Professor, CAFRAL

Abstract: The contact hypothesis posits that having diverse neighbors may reduce one's intergroup prejudice. This hypothesis is difficult to test, since individuals self-select into neighborhoods. Using a slum relocation program in India that randomly assigned neighbors, I examine the effects of exposure to other caste neighbors on trust and attitudes towards members of other castes. Combining administrative data on housing assignment with original survey data on attitudes, I find evidence corroborating the contact hypothesis. Exposure to more neighbors of other castes increases inter caste trust, support for inter caste marriage, and the belief that caste injustice is growing. I explore the role of friendships in facilitating these favorable attitudes. The findings shed light on the positive effects of exposure to diverse social groups through close proximity in neighborhoods

Technology in Agriculture and Religious Conflict, September 2025

Authors: Shreya Bhattacharya, Assistant Professor, CAFRAL

Abstract: I examine the effect of the Green Revolution on religious riots in India between 1957 and 1985. Using an instrumental variable framework on a district-level panel dataset, I find that riots are longer after the Green Revolution is introduced, with a 1% increase in the duration of a riot. Employing alternative measures of riot intensity and incidence, I find suggestive evidence of an overall increase in religious conflict after the introduction of mechanization via the Green Revolution. I show that the Green Revolution reduces the opportunity cost of engaging in conflict by reducing the demand for labor in agriculture due to mechanization. There is suggestive evidence to show that religious violence is exacerbated in an election year. Additional results indicate the mitigation of the effects of the Green Revolution on conflict in a good rainfall year and an increase in the intensity of conflict in districts in north India. My findings shed light on the unintended consequences of technology in agriculture as well as the mechanisms through which this technology influences ethnic conflict.

Smartphone Ownership, Economic Empowerment and Women's Property Rights: Experimental Evidence from Malawi, September 2025

Authors: Shreya Bhattacharya, Assistant Professor, CAFRAL (with Philip Roessler, Tanu Kumar, Peter Carroll, Boniface Dulani, and Daniel Nielson)

Abstract: One of the most important technological advances over the last quarter-century has been the global diffusion of mobile phones. Yet, important inequities in digital rights persist. In many low-income countries, women are significantly less likely to own smartphones than men. We report the results of a large-scale randomized controlled trial (n=1,500) in Blantyre, Malawi that aims to better understand the causal impact of reducing the mobile gender gap and effective strategies to bolster women's property rights over smartphones. We target our intervention to married women who at the outset of the study did not own a mobile phone. Participants were randomly assigned to one of four treatment groups: individual smartphone treatment; couples smartphone treatment; cash; and control. We are thus able to identify the effects of mobile connectivity on women's economic well-being, household bargaining, and empowerment, benchmarked to the cash equivalent value of the smartphones. In the couples' treatment, women participants received the handsets, but their husbands were also invited to the phone distribution to take part in a training program designed to increase acceptance of women's use of smartphones, property rights over the device, and men's public recognition of those rights in front of other community members. Drawing on data collected 9 months after the intervention, we estimate the impact of smartphone ownership and couples' training on women's household bargaining power, empowerment, and community beliefs about the rights of women to own and use smartphones. Our research thus provides important insights into the influence of household and social factors on the effects of digital technologies in low-income countries—and mechanisms to strengthen digital rights for women.

The Sources of Researcher Variation in Economics, September 2025

Authors: Shreya Bhattacharya, Assistant Professor, CAFRAL (with Nick Huntington-Klein, Claus Portner, et al)

Abstract: We use a rigorous three-stage many-analysts design to assess how different researcher decisions—specifically data cleaning, research design, and the interpretation of a policy question—affect the variation in estimated treatment effects. A total of 146 research teams each completed the same causal inference task three times each: first with few constraints, then using a shared research design, and finally with pre-cleaned data in addition to a specified design. We find that even when analyzing the same data, teams reach different conclusions. In the first stage, the interquartile range (IQR) of the reported policy effect was 3.1 percentage points, with substantial outliers. Surprisingly, the second stage, which restricted research design choices, exhibited slightly higher IQR (4.0 percentage points), largely attributable to imperfect adherence to the prescribed protocol. By contrast, the final stage, featuring standardized data cleaning, narrowed variation in estimated effects, achieving an IQR of 2.4 percentage points. Reported sample sizes also displayed significant convergence under more restrictive conditions, with the IQR dropping from 295,187 in the first stage to 29,144 in the second, and effectively zero by the third. Our findings underscore the critical importance of data cleaning in shaping applied microeconomic results and highlight avenues for future replication efforts.

Stagnant Manufacturing in India: The Role of TFP and Trade, September 2025

Authors: Meenakshi Shekhar, Assistant Professor, CAFRAL

Abstract: Manufacturing is crucial for economic development, yet it faces stagnation or decline in many developing and underdeveloped countries today. India, in particular, has experienced stagnant manufacturing compared to other recently industrialized Asian nations like South Korea and China, while its services sector has thrived. Using a three-country, three-sector open economy general equilibrium model, the paper attempts to understand the role of various channels of structural change in India. The model builds in the income effects, asymmetric TFP growth, and trade effects as significant channels for analysis and is calibrated using the relevant data for India, China, and the Rest of the World. Then, some counterfactual experiments are done to analyze the structural change. Counterfactual experiments reveal that while trade has provided some compensation, sloppy TFP growth in Indian manufacturing rather than services explains the sectoral growth bias towards the services. The direct comparison with China suggests little structural divergence, even if TFP would have grown to the Chinese equivalent. Moreover, TFP growth and trade liberalization alone cannot fully account for the prolonged stagnation of India's manufacturing sector in this model.

Sluggish Growth or Premature Decline? A Comparative Study of Indian Industrialization with China, September 2025

Authors: Meenakshi Shekhar, Assistant Professor, CAFRAL

Abstract: Indian manufacturing has remained stagnant in terms of its share in value-added and employment. While India and China started their growth journeys around the same time, China underwent rapid industrialization, whereas India's manufacturing sector stagnated, and its services sector boomed. This paper uses a dynamic open economy general equilibrium model with endogenous capital accumulation and income and price effects to compare the structural transformations of India and China. The findings reveal that India's sluggish manufacturing is largely due to slow productivity growth and low investment rates. However, Indian manufacturing has not prematurely declined but has yet to take off. If India's TFP had grown at the same rate as China's, the manufacturing share would have increased by 1.5-fold, and per capita income would have risen by more than double. Export-promoting industrial policies and increased investment could drive further growth in the manufacturing sector.

Removing Small-Scale Reservations and Quality Upgradation: Evidence from India, August 2025

Authors: Vidhya Soundararajan, Assistant Professor, CAFRAL (with Kamallesh Paturkar)

Abstract: Product quality is an important marker of economic growth and development. We study the impact of dismantling product reservation for small-scale industry production in India on product quality, shedding light on the relationship between firm size constraints, competition, and quality improvements. Exploiting the Indian government's phased dereservation of previously reserved products between 2000 to 2007, we find that dereservation incentivized incumbent firms to produce better quality products. The effect is predominantly driven by large and productive firms. Firms constrained by the SSI policy (within the range of 5-10 million rupees investment in plant and machinery) also experienced an increase in quality, indicating a firm-size expansion effect. Large firms that improved the quality after dereservation also experienced an increase in capital intensity and skill intensity. We found that quality up-gradation also depends on the industry's quality ladder (scope for product differentiation). Firms with a long industry quality ladder compete purely on quality catch-up, whereas firms operating in industries with a short quality ladder experience a decline in prices. We also observed the decline in quality-adjusted prices, indicating an improvement in consumer welfare. The quality results remain consistent across different variants of quality measures and alternate quality measure based on variable markups. To estimate heterogeneous treatment effects arising from the staggered treatment setup, we employ the De Chaisemartin and d'Haultfoeuille (2022) estimator. Our results are robust to a range of fixed effects and trends, including industry-year fixed effects, industry-time trends, state-year fixed effects, state-time trends, and product-specific time trends.

Electoral Incentives and Educational Outcomes: Evidence from High-Stakes Examinations in India, August 2025

Authors: Kaushalendra Kishore, Assistant Professor, CAFRAL (with Tiestha Thakur)

Abstract: We study how electoral cycles influence student performance in high-stakes examinations in India. Using data from 26 Indian states with staggered election schedules, we find that pass rates are significantly (weakly) higher in Class XII (Class X) state board exams leading up to the state election. We rule out increased public spending as a probable mechanism. The gain accrues only to the regular school-going students and not the private candidates. This suggests that better delivery of educational services by schools through increased teaching efforts, and not grade inflation, through lenient grading, lax exam invigilation, or easier exams, is the key mechanism. Teachers put more effort when the incumbent government desires because the latter controls their transfers and postings. The effects are stronger for Class XII exams, probably because these students are of voting age and thus politically more salient. Overall, the paper highlights that while electoral incentives can boost performance in the short term, the challenge lies in sustaining these improvements beyond election cycles.

Open Payment Infrastructure and Market Participation: The Role of Interoperability in Financial Inclusion, July 2025

Authors: Nirupama Kulkarni, Professor, CAFRAL (with Shashwat Alok, Pulak Ghosh, Manju Puri)

Abstract: How do architectural choices in payment system design affect financial market participation and structure? We examine this question by exploiting India's launch of the Unified Payments Interface (UPI), an open, interoperable payment infrastructure that enables seamless cross-platform transactions across banks and fintech applications. Unlike closed-loop systems that create institutional silos, UPI's open architecture allows users to transact across any participating platform, fundamentally altering the competitive landscape and access dynamics in financial markets. Using comprehensive data covering 19.8 million retail investors (2015-2020), we find that regions with greater exposure to early UPI-adopting banks experience substantial increases in financial market participation: 6.1% more monthly transactions and 8.6% more active investors per standard deviation of UPI exposure. Through multiple identification strategies—including natural experiments with bank holidays and telecommunications expansion, and direct comparison with State Bank of India's closed YONO platform—we demonstrate these effects stem specifically from UPI's interoperability rather than general digitization. We identify four complementary mechanisms: reduced transaction frictions enabling faster market response, lowered entry barriers for small participants, network externalities from cross platform integration, and transformation of savings behavior. However, open architecture's democratization comes with systemic costs: small investors exhibit riskier behavior including lower diversification and negative long-term excess returns. Our findings reveal how payment infrastructure design choices create economy-wide implications for financial inclusion, market structure, and stability, providing crucial evidence for policymakers designing next-generation payment systems globally.

If you wish to be included in the mailer list of CAFRAL Research Seminars [please click here](#)

Highlights of Learning Programs

Program on Credit Risk & Stressed Assets Management | September 22-23, 2025 | Forum & Capitol, Taj President, Cuffe Parade, Mumbai



CAFRAL conducted a two-day program on Credit Risk and Stressed Asset Management on September 22–23, 2025. Shri C. Sankaranarayanan, Senior Program Director, CAFRAL outlined the program overview, emphasizing the main areas of focus.

Shri Manas Ranjan Mohanty commenced the program with a warm welcome to all participants and delivered the inaugural address, highlighting the ever-changing dynamics in the credit risk landscape of the banking industry.

The program discussed the evolving macro-economic environment and the current lending scenario, with a focus on credit flow across various segments. It also deliberated on the issues and challenges in financing emerging sectors, followed by insights into credit risk management using data analytics and AI/ML across the loan lifecycle. The sessions examined risk-based pricing and RAROC, as well as the evolving changes in credit risk

management and expected loan loss provisioning. The program further explored various tools and strategies for recovery. The discussions also centered on early warning signals and monitoring of the credit portfolio, supervisory observations and concerns relating to credit risk management in financial intermediaries, and the impact of the Insolvency and Bankruptcy Code on behavior in the credit market. Additionally, the program covered issues and concerns in the digital lending and co-lending ecosystem, concluding with deliberations on dynamic portfolio management and credit risk stress testing.

As the program concluded, Shri C. Sankaranarayanan, Senior Program Director acknowledged the valuable participation of all speakers and attendees, thanking them for their thoughtful engagement and contribution to the enriching deliberations.

Program for Non-Executive Chairman & Directors on the Boards of Banks, FIs and NBFCs | September 9-10, 2025 | Forum & Capitol, Taj President, Cuffe Parade, Mumbai



CAFRAL organised a two-day Program for Non-Executive Chairman & Directors on the Boards of Banks, FIs and NBFCs on September 9-10, 2025. Shri Manas Mohanty, Additional Director, CAFRAL, commenced the program with a warm welcome and delivered the inaugural address emphasizing the principle - "The Board is as good as the Management - and the Management is only as good as the Board."

Shri R. Lakshmi Kanth Rao, Executive Director, Reserve Bank of India gave the keynote address, deliberating on governance and compliance frameworks essential for building operational resilience in the financial sector. The program discussed key aspects requiring Board-level attention for risk-based supervision. The discussions also covered financial crime risk management and explored HR challenges in financial institutions, underscoring the importance of leadership and human capital in sustaining performance. Another important theme centred on the management of stressed assets and

evolving approaches under the Insolvency and Bankruptcy Code. The program additionally examined the strengthening of fraud risk management through effective early warning systems. It provided a strategic overview of enterprise-wide risk management and the interplay between governance and business growth. Participants also gained insights into governance considerations related to IT and cyber security risk. The deliberations further extended to the roles and responsibilities of directors across key Board committees in banks, NBFCs, and financial institutions, offering a holistic understanding of governance expectations and the evolving responsibilities of Board members.

The program concluded with a heartfelt thanks from Shri C Sankaranarayanan, Senior Program Director, CAFRAL who expressed his gratitude to all the speakers and participants for their active engagement and valuable contributions to the program.

Conference of Chief Risk Officers: Evolving Risk Landscape | August 21-22, 2025 | Rendezvous, Hotel Taj Mahal Palace, Colaba, Mumbai



CAFRAL organized a two-day Conference of Chief Risk Officers: Evolving Risk Landscape on August 21-22, 2025. Shri C. Sankaranarayanan, Senior Program Director provided an overview of the program, highlighting its structure and key themes.

Shri Manas Ranjan Mohanty, Additional Director commenced the conference with a warm welcome and addressed the Chief Risk Officers and other distinguished participants by elaborating on how to manage risk and drive innovation through psychological safety. He highlighted how the banking industry is at a fascinating juncture where opportunities and risks coexist, particularly with advancements in technology, and how economic growth remains robust despite prevailing uncertainties.

The keynote address, delivered by Shri Dinesh Khara, Former Chairman, State Bank of India, where he spoke about the re-imagining of risk in the face of tomorrow's evolving threat landscape. This was followed by a special address by Shri Jayant Kumar Dash, former Executive Director, Reserve Bank of India on the shifting risk horizon and rising regulatory expectations. The

conference deliberated on crisis management, including business continuity metrics and methodologies, and further examined key aspects of model risk management and approaches to navigating market volatility. It also focused on the comprehensive toolkit approach of the RBI for operational resilience, along with discussions on new-age strategic risk management frameworks in an era shaped by automation and data analytics. The sessions covered next-generation security challenges driven by AI/ML and included a detailed panel discussion on the human element in risk management, leadership pipeline development, fostering a risk-aware culture, and balancing business needs with risk considerations. Participants also deliberated on third-party risk management, evolving regulatory challenges, industry best practices, and shared their experiences.

The conference concluded with closing remarks by Shri C. Sankaranarayanan, Senior Program Director who conveyed his gratitude to all speakers and participants for their insightful deliberations and the depth they brought to the discussions.

Virtual Program for Compliance and Risk Officers of Axis Bank Ltd. | August 7, 2025 | Online.

CAFRAL conducted a one-day Virtual Program for Compliance and Risk Officers of Axis Bank Ltd., on August 07, 2025. An overview of the program was delivered by Shri C. Sankaranarayanan, Senior Program Director setting the context for the sessions ahead.

Shri Manas Ranjan Mohanty, Additional Director commenced the program with a warm welcome and inaugural address.

The program discussed key themes central to strengthening compliance and risk management in financial institutions. It focused on effective compliance practices in banks and the evolving regulatory expectations shaping them. The governance, risk, and compliance framework—and its role in embedding a strong and sustainable compliance culture—was

also deliberated, followed by an examination of the enforcement framework for non-compliance. The sessions highlighted the importance of proactive and effective risk management and provided insights into risk-based supervision and the assessment of compliance risk. The program further explored financial crime from a KYC-AML perspective, emphasizing regulatory concerns and expectations, and concluded with a detailed discussion on cyber security within the governance, risk, and compliance landscape.

In closing, Shri C. Sankaranarayanan, extended his sincere thanks to the speakers and the participants from Axis Bank for their active involvement and constructive contributions throughout the program.

Program on Financial Frauds & Forensic Audit | August 4-5, 2025 | Forum & Capitol, Taj President, Cuffe Parade, Mumbai



CAFRAL organized a two-day Program on Financial Frauds & Forensic Audit on August 4- 5, 2025. Shri Manas Mohanty, Additional Director, CAFRAL, commenced the program with a warm welcome and delivered the inaugural address.

The program discussed a wide range of issues related to frauds and financial crimes, beginning with an overview of the evolving regulatory and supervisory landscape. Participants were exposed to key insights on various types of financial frauds, financial crimes, and investigative approaches. The sessions also deliberated on strengthening fraud risk management through robust internal frameworks, followed by discussions on forensic audit methodologies, tools, and analytical techniques used to detect irregularities. The program further examined how financial and ratio analysis can assist in uncovering fraud, along with practical aspects of conducting internal investigations.

The discussions deepened into specialised areas such as trade-based money laundering frauds, the use of technology to prevent frauds in loan accounts, and emerging trends and tools for combating digital frauds. The program also covered legal elements of fraud investigation, including evidence collection, record maintenance, and legal resolutions, supported by relevant use cases. Participants additionally shared experiences, enriching the collective understanding of real-world challenges and best practices in fraud prevention and investigation.

The program concluded with a heartfelt thanks from Shri C Sankaranarayanan, Senior Program Director, CAFRAL who expressed his gratitude to all the speakers and participants for their active engagement and valuable contributions to the program.

Virtual Program on Asset Liability & Liquidity Risk Management | July 29, 2025 | Online.

CAFRAL organized a one-day Virtual Program on Asset Liability & Liquidity Risk Management on July 29, 2025. Shri Manas Mohanty, Additional Director, CAFRAL, commenced the program with a warm welcome and inaugural address.

The program discussed a broad spectrum of themes related to liquidity risk management and balance sheet resilience in the financial sector. The sessions covered the management of liquidity risk by financial sector players, along with a detailed deliberation on ALM and liquidity risk management, including contingency funding plans and stress scenarios. The programme also deliberated on liquidity risk and solvency, focusing on contractual maturity mismatches and the monetisation of assets. Another important area of discussion was ALM, intra- day

liquidity, and strategic balance sheet management, highlighting the importance of sound liquidity planning. The risks arising from interlinkages and concentration of funding across banks, NBFCs, mutual funds, and AIFs were also examined. Additionally, the program discussed the classification and valuation of investment portfolios and the management of interest rate risk in the banking book, offering participants a holistic understanding of the key challenges and risk dynamics in liquidity and balance sheet management.

The program concluded with a heartfelt thanks from Shri C Sankaranarayanan, Senior Program Director, CAFRAL acknowledging the contributions of all speakers and participants.

Program on Know Your Customer (KYC) and Anti Money Laundering (AML) for Senior Executives in Risk and Compliance Department in Banks, FIs and NBFCs | July 21-22, 2025 | Mumbai.

CAFRAL conducted a two-day Program on Know Your Customer (KYC) and Anti Money Laundering (AML) for Senior Executives in Risk and Compliance Department in Banks, FIs and NBFCs on July 21-22, 2025. The program overview was presented by Shri C. Sankaranarayanan, Senior Program Director outlining the structure and key focus areas of the sessions

Shri Manas Ranjan Mohanty, Additional Director addressed the distinguished participants with his inaugural address. He set the context by discussing how Operation Red Stinger highlighted breaches and gaps in the KYC-AML framework, including methods of converting black money into white by fragmenting large deposits. He further emphasized that KYC-AML is not merely a banking concern but a strategic issue. It forms an integral part of the broader global financial security framework. The program offered a comprehensive overview of KYC and AML risk management, covering emerging regulatory and compliance issues along with key supervisory observations and practical

use cases. Sessions highlighted the Central KYC Registry, responsibilities of Reporting Entities, and the role of enterprise risk management in strengthening KYC and AML practices. Participants gained insights into the application of data analytics, advanced technologies, and RegTech for effective compliance, as well as critical themes such as trade-based money laundering, recent fraud case studies, and capital market regulations relating to financial crime. The discussions further explored transaction monitoring challenges, the future direction of financial crime risk management, and perspectives on combating financial crime from the FIU.

The program concluded with a heartfelt Thanks from Shri C. Sankaranarayanan, Senior Program Director, CAFRAL who expressed gratitude to all the speakers and participants from banks, Financial Institutions and NBFCs for their active engagement and valuable contribution to the program.

Virtual Program on Customer Education and Protection: Issues & Challenges | July 16, 2025 | Online

CAFRAL organized a one-day Virtual Program on Customer Education and Protection: Issues & Challenges on July 16, 2025. Shri Manas Mohanty, Additional Director, CAFRAL, commenced the program with an inaugural address, emphasizing the importance of strong institutional framework required for effective customer service, customer protection, and grievance redressal.

The programme discussed a wide range of themes central to strengthening customer service in the financial sector. The keynote address delivered by Shri Neeraj Nigam, Executive Director, Reserve Bank of India outlined the broader framework for customer service, consumer protection, and regulatory expectations. The program deliberated on root-cause analysis of maintainable complaints, the strengthening of grievance-

redressal mechanisms and strategies to financial education to empower consumers. The discussions also explored challenges faced in delivering effective customer service in the financial services sector, along with the use of technology for enhancing customer service and consumer protection. The program also highlighted the legal aspects of consumer complaints and insights from consumer forum cases, providing participants with a comprehensive understanding of the operational and regulatory dimensions of consumer-centric practices.

The program concluded with a heartfelt thanks from Shri C Sankaranarayanan, Senior Program Director, CAFRAL who expressed gratitude to all the speakers and participants for their active engagement and valuable contributions.

Upcoming Research Seminars

Dr. Kriti Khanna, Assistant Professor in Economics from Plaksha University on October 15, 2025.

If you wish to be included in the mailer list of CAFRAL Research Seminars [please click here](#)

Upcoming Learning Program

Program on Operational Risk Management for Senior Officials of Banks, FIs & NBFCs | October 16, 2025 | Forum & Capitol, Taj President, Cuffe Parade, Mumbai

Background:

The Indian Financial Sector is currently facing an increasingly complex and dynamic risk environment with Operational Risk Management (ORM) emerging as a key area of concern for regulators, Board of Directors and Top Management. These risks - stemming from failure of internal process, people and systems, or external events such as cyber-crimes, data breaches and third-party failures - pose significant challenges to the stability, resilience and reputation of financial institutions.

Recent high-impact incidents, including large-scale digital disruptions, accounting frauds and cyber-attacks on the banks, NBFCs and FIs have underscored the need for a robust operational risk governance at the highest levels of institutions. Regulators, including the Reserve Bank of India (RBI), have also expressed concerns around the role of boards and senior management in overseeing operational risk management frameworks.

Given the wide ramification of operational risk failures, it is critical that Senior Financial Sector officials are well equipped to understand, identify, assess, and manage their institution's operational risk challenges and lay down strong mitigation measures. This program has been specifically designed to address this imperative for a resilient financial sector.

Objective: The program aims to empower and enable the Senior Officials of banks, financial institutions, and NBFCs in managing emerging operational risk within their respective organizations. The program will also deliberate on regulatory expectations, global best practices relating to ORM. The program will help the participants to build a more resilient, risk-aware and governance-focused organizational culture to ensure operational excellence and seamless customer experience.

Participants' Profile:

- Head/ Dy Head / Assistant Head of Operational Risk Management Division.
- Head/ Dy Head / Senior officials attached to Audit, Inspection, Operations, Compliance, BCP & DRP Manager, Cyber Security, IT Divisions, Digital Banking Operations.

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Program on Compliance & Risk for Senior Officers of Banks, Financial Institutions and NBFCs | November 10-11, 2025 | Forum & Capitol, Hotel Taj President, Cuffe Parade, Mumbai

Background:

Compliance functions in financial intermediaries, need to transform from functions focused on conservatism, preservation and remediation to ones, that in addition to maintaining regulatory compliance, operate in a more strategic and predictive capacity. Compliance will be most effective in a corporate culture that emphasizes standards of honesty and integrity. and which flows from the top, from the board of directors and senior management. The increasing complexities in operations, use of new age banking tools, collaboration with FinTech's and many activities being outsourced, compliance risk management has emerged as a distinct risk management discipline. Any non-compliance to the legal, regulatory or applicable laws may result in regulatory interventions and adversely impact the regulated entities. Therefore, it is imperative, for all the regulated entities to put in place a robust compliance framework aligned with the extant regulations and develop a culture of compliance in their organizations.

Objective:

This two-day program would provide an opportunity to the participants for an enhanced understanding of the emerging compliance landscape and challenges. It will also help them to understand the regulatory perspective, expectations and concerns.

Participants' Profile:

Top and Senior Officials dealing with Risk and Compliance, C-Suite officers from Banks, Financial Institutions and NBFCs

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Virtual Program on IT Governance, Risks, Controls & Assurance | November 12, 2025 | Online

Background:

The rapid digitalization of the financial sector has brought unprecedented opportunities for innovation, efficiency, and customer service. At the same time, it has exposed the institutions to heightened risks related to cyber-security, data privacy, regulatory compliance, and operational resilience. In this ever-changing environment, banks, Financial Institutions (FIs), and Non-Banking Financial Companies (NBFCs) are expected to adopt a robust IT governance framework, strengthen their risk management practices, and establish effective assurance mechanisms. Senior executives, being responsible for strategic oversight of IT infrastructure, need to be well-versed in the areas of regulatory expectations and emerging technology risks, so as to ensure public trust in their institutions and to maintain financial stability.

Objective:

The virtual program seeks to enhance the understanding of IT governance framework and regulatory requirements, identify key IT risks and explore appropriate mitigation strategies & examine the design and implementation of effective IT control framework. The program will strengthen knowledge of control and assurance mechanisms for improved oversight and resilience of organization's data and IT governance framework.

Participants' Profile:

1. Board members dealing with IT Governance and Internal Control & Assurance Function
2. Senior Officials of banks, FIs, and NBFCs who are responsible for:
 - IT Governance & Strategy (CIOs, CTOs, Heads of IT, Chief Digital Officers)
 - Risk Management (CROs, Heads of Operational Risk, IT Risk Managers)
 - Internal Audit & Assurance (Chief Auditors, Heads of IS Audit, Senior Audit Executives)
 - Compliance & Cybersecurity (Chief Information Security Officers, Compliance Heads)

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