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# **Programme on Demystifying Statistical Techniques for Risk Management**

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**August 7 – 12, 2017**

*Coordinator*  
**Dr Arindam Bandyopadhyay**



**National Institute of Bank Management  
Pune, India**

**R**isk management is, first and foremost, a 'science' and then an 'art'. The purpose of risk analysis is to assist risk officers better understand the risks (and opportunities) they take and evaluate the options available for their control so as to enable them to make a much better and conscious decision. Given the appetite for risk, if one uses accurate and relevant data, reliable financial models and best analytical tools, one can minimise risk and make the odds work in one's favour.

Data analysis, statistical modelling, and their applications are the fundamental requirements for measurement and managing the effect of risk. Indian banks will have to necessarily develop a comprehensive self-understanding of the design and operation of a sound risk management system, including modelling, their business applications and uses as well as their limitations. In this context, knowledge of basic statistical techniques and their usage in banking in general and risk management in particular, is the need of the hour.

NIBM is offering this intensive and practical exercise-oriented risk management training programme especially for bank executives to understand the tools and techniques to handle statistical data for identifying and measuring various types of risks at individual level as well as at the institutional level. It is necessary that building blocks of the risk assessment process (or techniques) is understood widely for a smooth migration towards the more sophisticated risk management system.

### Key Learning Objectives

- To demystify the participants with statistical and quantitative techniques for identifying and estimating crucial risk parameters in the banking business.
- To update the participants on the latest developments and techniques in the field of risk management including Basel II advanced approaches, Basel III and ICAAP requirements.
- To adopt sophisticated approaches to regulatory requirements (including validation and stress testing) and benefit from the transition to risk-based oversight (economic capital and business forecasting).

### Pedagogy

The programme will be highly participative in nature. The participants will be introduced to garner hands-on experience with up-to-date statistical tools for data handling and estimation in Excel worksheet and statistical software packages.

### Coverage

#### Basics

- Overview of risk management in the current scenario - identification, measurement and management of risk, data challenges and requirement, data cleaning and formatting, etc.
- Statistical Techniques: Basic statistics for risk measurement - measure of moments, probability distributions, hypothesis testing, mean and variance equality tests, discriminant analysis, correlation, multivariate regression analysis, time series forecasting, diagnostic tests for model validations and simulation techniques.
- Basic mathematics and their applications - interpolation and expectation theorem, probability, optimization techniques, factor analysis, value-at-risk approach, back testing and stress testing, etc

#### Specific Computation Methods

- **Credit Risk:** Credit scoring models, estimation of PD, EAD, LGD, transition matrix analysis; correlation of default; expected loss and unexpected loss; credit VaR, economic capital and RAROC; stress testing and model validation.
- **Market Risk:** Identification and measurement for equity and bonds; market VaR with normal distribution and Extreme Value Theorem (EVT) to arrive at market capital and risk-adjusted performance; market risk modelling approaches - variance-covariance approach; historical simulation versus Monte Carlo simulation.
- **Liquidity Risk:** Liquidity risk estimation for advances and deposits; modelling methods; and liquidity stress testing.
- **Operational Risk:** Measurements of high frequency, low severity, and low frequency high severity events using simulation-based LDA approach; stress testing of scenario analysis; case-study of banks using Excel workout and software data analysis.
- **Concentration Risk:** Measurement of concentration risk and portfolio diversification effect, portfolio construction and simulation methods; estimation of concentration risk capital.
- **Risk-Adjusted Performance:** Business performance analysis and efficiency metrics and integration of risks.

### Target Group

**This programme is designed for executives/officers/professionals posted or who are likely to be posted in the Risk Management/Economic Research/Analytical Division. Some prior knowledge of statistics is assumed.**

### Dates

August 7 – 12, 2017

The programme will start at 9.00 am on August 7 and will conclude by 4.00 pm on August 12, 2017.

### Venue

NIBM Campus, Kondhwe Khurd  
Pune, India.

### Accommodation

The programme is fully residential. Participants will be provided well-furnished single room AC accommodation in the Institute's hostel complex on the campus. However, they will not be permitted to bring their family members to stay on the campus. In case any Officer/Executive with physical/medical disability is being nominated, kindly inform us in advance with particulars of disability to facilitate necessary arrangements.

The Institute has facilities for outdoor and indoor games and a large walking/jogging trail for physical fitness besides a yoga centre. Participants are therefore encouraged to bring appropriate clothes/gear.

## Programme Coordinator

**Dr Arindam Bandyopadhyay**

Associate Professor

Associate Dean (Research & Consultancy)

(Finance Area Group)

**Last Date for  
Receiving Nominations:**

July 28, 2017

**Last Date for  
Availing Early Bird Incentive of 5%:**

July 22, 2017

(See fee structure on  
home page of the website)

## Nominations and Enquiries

Please address your enquiries and  
nominations to:

Dr Arindam Bandyopadhyay

Programme Coordinator

National Institute of Bank Management

NIBM Post Office, Kondhwe Khurd

Pune 411 048, India.

Tel. : 0091-20-26716000 (EPABX)

0091-20-26716311 (Direct)

Mobile : 8551032624

Fax : 0091-20-26834478

E-mail : arindam@nibmindia.org

Website : www.nibmindia.org

## Programme Fee (per participant)

US \$ 2400 for foreign participant

(See fee structure on home page of the website for incentive)

	Fee	ST	SBAC	KKC	Fee+ST+ SBAC+KKC	TDS
Mem. Banks :	50400	7056	252	252	57960	5040
Non-Mem. Banks :	58800	8232	294	294	67620	5880

The fee includes the cost of tuition, board and lodging facilities, teaching material, etc. (Service Tax (ST) @ 14%, Swachh Bharat Abhiyan Cess (SBAC) @ 0.5%, Krishi Kalyan Cess (KKC) @ 0.5% and TDS @ 10%. Kindly send the TDS Certificate on priority to NIBM).

### Mode of Payment for Indian Participants

- The fee may preferably be transferred by RTGS/NEFT/ECS to our A/c No. 20002400021 with Bank of Maharashtra, NIBM Branch, Pune (IFSC Code MAHB0001124). NIBM PAN No. AAATN0040P and ST No. AAATN0040PST001.
- National Institute of Bank Management  
NIBM Post Office, Kondhwe Khurd, Pune 411 048, INDIA.

### Mode of Payment for Foreign Participants

#### Mode of Remittance: SWIFT\*

1. Name & Address of our Bankers : **Oriental Bank of Commerce  
C-2, Shop No. 4-5, Bramha Estate  
Kondhwe Khurd, Pune 411 048  
Maharashtra, India**
2. Name of the Account : **National Institute of Bank Management**
3. NIBM's Bank Account No.  
with Oriental Bank of Commerce : **Current A/C 11281131004402**
4. Bank's Swift Code : **ORBCINBBFCP**
5. Oriental Bank of Commerce A/c No.  
with Correspondent Bank : **36152559**
6. Preferred currency : **USD**
7. Correspondent Bank : **CITIBANK N.A.**
8. Swift code for Citi Bank : **CITIUS33**

**\* The Foreign Bank  
Charges/ SWIFT  
charges/Commission  
is to be borne by the  
remitter. The fees  
mentioned in the  
invoice/brochure is to  
be paid to NIBM, net  
of all bank charges.**

**\*Payments will be accepted only through electronic mode.  
Cheques/DDs/Pay Orders will not be accepted.**

- **For all electronic remittances, kindly send a confirmatory e-mail at: [accounts@nibmindia.org](mailto:accounts@nibmindia.org) giving details of the remitter and participant, name and dates of programme, etc.**

Please see programme fee structure on home page of the website for early bird incentive, incentives for SAARC and other developing countries, mode of remittance, Pune City route map and local conveyance.