



# The Actuary India

Magazine of the Institute of Actuaries of India

July 2023

CLIMATE RISK

**CLIMATE CHANGE  
RISK AND THE ROLE  
OF ACTUARIES**

BANKING, LIFE INSURANCE

**PRICING LIMITATIONS ON  
LIFE INSURERS COMPARED  
TO COMMERCIAL BANKS**

CS2, EXAMINATION

**CS2 - IS IT REALLY  
THAT HARD TO  
CRACK?**

MODELLING; PYTHON

**FITTING LOGNORMAL  
DISTRIBUTIONS  
TO CLAIMS DATA**





Table of  
**contents**

(Click on the titles to read more)

**Editorial**

**Letters to the Editor**

**Job Listing**



**Features**

**Climate change risk and the role of Actuaries**

**Anchal Narwani** delves into the emerging challenges climate change presents for actuaries and financial institutions. The consequences of rising sea levels, extreme weather events, and the shift towards a low-carbon economy introduce both 'physical' and 'transition' risks. Actuaries play a pivotal role in quantifying and mitigating these risks, influencing insurance pricing, investment choices, and broader financial strategies.

**Pricing limitations on life insurers compared to commercial banks**

In this interesting article, **Sanket Kawatkar** compares how life insurers and banks in India set their prices. Banks have more freedom to earn from the interest they charge, while life insurance products have stricter pricing rules. Sanket raises questions about these differences and proposes a fairer, more competitive approach.



**Resources**

**CS2 - Is it really that hard to crack?**

**Ananya Jain** recounts her successful CS2 exam experience, emphasising the significance of consistency over motivation. Her advice includes establishing study routines, attempting questions even on off days, using a revision booklet, practising past papers, focusing on paper B, and mastering theoretical concepts—valuable tips for excelling in actuarial exams.

# Table of contents

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## Fitting Log Normal distributions to claims data

**Mansi Aggarwal** is back with a detailed walkthrough on fitting distributions to insurance claims data using Excel, Python and R. This article explores and compares the benefits of using all three along with a working example for easy reference.

## Culture

### Experience of the editors

Our six editors share their individual experiences of what it's like to work on The Actuary India

## Events

Get a synopsis of IAI events and webinars reported by various dedicated actuaries and students.

- [13th Webinar on Data Science and Analytics](#)

## Puzzles

Solve puzzles using emojis as letters. Guess the letters, and we've given you a clue to help. Take your time and try as many times as you need. Don't give up! These puzzles are not harder than replicating portfolios. Have fun with this brain teaser created by **Kathan Jain**, the Puzzle master.

- [Venturing wider](#)

# Job Listings



**GENERAL INSURANCE CORPORATION OF INDIA**  
(A Government of India Company)  
"SURAKSHA, 170, J. TATA ROAD, CHURCHGATE, MUMBAI 400 020

**APPOINTMENT OF FULL TIME APPOINTED ACTUARY ON FIXED TERM (CONTRACT) BASIS**

GIC Re, the 'Indian Reinsurer' and 15<sup>th</sup> largest Reinsurance Company in the world with the network in India and abroad is inviting Applications for the post of 'Appointed Actuary – Non-Life' & 'Appointed Actuary - Life' on Full Time & Contract Basis for Non-Life & Life Reinsurance Business: -

<b>Name of the Post</b>	<b>Appointed Actuary (Non-Life Reinsurance Business &amp; Life Reinsurance Business)</b>
<b>No. of Post</b>	<b>Two (One each)</b>
<b>Age</b>	The candidate should not be over the age of 55 years as on 30.06.2023.
<b>Qualifications</b>	The candidate should be a Fellow or an Affiliate Member in accordance with the Actuaries Act, 2006. He/ She should be a "Fellow" of Institute of Actuaries of India with specialization in Non-life / Life Insurance as prescribed by Institute of Actuaries of India. The candidate should satisfy all the requirements specified in regulation No. 3 sub regulation (B) of IRDA (Appointed Actuary) Regulation, 2022.
<b>Emoluments and Benefits</b>	Negotiable based on experience and qualification. Please indicate last drawn and expected salary.
<b>Duties and Obligations</b>	As per Regulation 8 of IRDA (Appointed Actuary) Regulation, 2022.  Rendering actuarial advice to the management particularly in the areas of their operations viz: Investments and Reinsurance. This would involve amongst others Reserving; CAT modelling; Exposure accumulation/ monitoring/ control; RBC; Economic Capital; Stress testing; ALM; FCR; Ensuring Solvency; Pricing; Product design; Insurance contract wordings; Team building; Actuarial valuation/ estimation/ analysis etc.  Furthermore, it is essential that we comply with any other activities or regulations mandated by the Authority.
<b>Service Conditions</b>	Should be resident of India. After appointment he/she should not act as an Appointed Actuary of any other Insurance Company nor work in any other capacity in any Non-Life /Life Insurance Company.
<b>Selection Procedure</b>	The selection procedure shall be by way of personal/ online interview. The employment will be on contract basis.
<b>Undertaking</b>	The appointee shall furnish a notarized contract in the prescribed format on the stamp paper of requisite value at the time of joining.
<b>How to apply</b>	The Candidates can apply through the Link given on GIC Re Website under Careers section.
<b>Last Date for Application</b>	5 <sup>th</sup> August 2023

**General Instructions:**

1. Corporation reserves the right to restrict the number of candidates to be called for interview.
2. The decision of the Corporation will be final and binding in all the matters.
3. In case, it is found at any stage of recruitment that the candidate does not fulfil the eligibility criteria and or he/she has furnished any incorrect/false/incomplete information or has suppressed any material fact(s), the candidature will stand cancelled. If any of these shortcomings are noticed even after appointment his/her services are liable to be terminated forthwith. Before applying for this post, the candidate should ensure that he/she fulfils the eligibility and any other norms mentioned in this advertisement. The decision of the Corporation in respect of the matters concerning eligibility of the candidate, the stages at which such scrutiny of eligibility is to be undertaken, the documents to be produced for the purpose of conduct of interview selection and other matters relating to recruitment will be final and binding on the candidate.
4. The Corporation shall not entertain any correspondence or personal enquiries. Canvassing in any form will disqualify the candidate.

HR Department, Head Office

## ACTUARIAL VACANCIES

Reinsurance Group of America, Incorporated (NYSE: RGA) is a global industry leader specializing in life and health reinsurance and financial solutions that help clients effectively manage risk and optimize capital. Founded in 1973, RGA celebrates its 50th anniversary in 2023. Over the past five decades, RGA has become one of the world's largest and most respected reinsurers and is guided by a fundamental purpose: to make financial protection accessible to all.

RGA has been named to *Fortune* magazine's 2023 list of the World's Most Admired Companies, an acknowledgement that reflects our legacy of innovation, dedicated client focus, community responsibility, commitment to diversity, and long-term value creation. RGA serves clients and partners in key markets around the world and has approximately \$3.3 trillion of life reinsurance in force and assets of \$82.7 billion as of September 30, 2022. To learn more about RGA and its businesses, visit [www.rgare.com](http://www.rgare.com)

**Job Location – Mumbai** (Candidates should be open for relocation to Mumbai)

### 1. Designation: **Deputy Chief Manager / Chief Manager – Valuation**

**Qualification:** Bachelor's degree. Minimum 11 papers as per the current curriculum. Qualified Actuary is highly preferred

**Work Experience:** 8-10 years' experience in handling various aspects of the Valuation function of Insurance / Re-insurance companies. Candidates from Life Insurance and Life Reinsurance are highly preferred

**Other Requirements:** Strong verbal and written communication skills. Strong IT skills – sound working knowledge of SQL, VBA and Excel and any actuarial/statistical software (Preferably Prophet). Ability to work in cross-functional teams/projects.

#### **Job Description:**

- Indian statutory reporting and experience in other reporting regimes such as LDTI, solvency II, IFRS etc is preferred.
- Experience in responding to regulatory queries.
- Explaining results and responding to stakeholders' queries
- Modelling new blocks of business on Prophet platform
- Preparing Business Plans and Capital forecasts
- Performing Experience Analysis, Loss Ratio Analysis and proposing assumptions with appropriate documentation
- Communication with executives and maintaining excellent relationships with the Finance, Administration and Pricing teams are key components of the role.
- Finding ways to automate processes to improve the team's efficiency
- The role also involves communication and coordination with stakeholders in the Regional Valuation team and Corporate Valuation team
- Guiding and mentoring team in all aspects of valuation

### 2. Designation: **Senior Manager – Valuation**

**Qualification:** Bachelor's degree. Minimum 7 papers as per the current curriculum.

**Work Experience:** 5-7 years' experience in handling various aspects of the Valuation function of Insurance / Re-insurance companies. Candidates from Life Insurance or Life Reinsurance are highly preferred

**Other Requirements:** Strong verbal and written communication skills. Strong IT skills – sound working knowledge of SQL, VBA and Excel and any actuarial/statistical software (Preferably Prophet). Ability to work in cross-functional teams/projects.

#### **Job Description:**

- Valuation of liabilities and solvency calculation across different regimes
- Preparing regulatory forms and responses to regulatory queries
- Modelling new business preferably on Prophet platform
- Performing experience studies, business planning and risk management.
- Communication with executives and maintaining excellent relationships with the cross functional local and regional teams are key components of the role.

Please send your updated CV to [avani.bhatti@rgare.com](mailto:avani.bhatti@rgare.com)

# **Announcements**





# Institute of Actuaries of India

Statutory body established under an Act of Parliament

Unit No. F-206, 2nd Floor, F Wing, Tower II, Seawoods Grand Central,  
Plot no R-1, Sector 40, Nerul Road, Navi Mumbai - 400706  
+91 22 6243 3333 +91 22 6243 3322

## **December 2023 ACET Examination - Registration Announcement**

The upcoming December 2023 ACET examination has been scheduled on 23<sup>rd</sup> December 2023.

IMPORTANT DATES - ACET29 December 2023	
Registration starts	13 <sup>th</sup> July 2023 at 3.00 PM
Registrations close	23 <sup>rd</sup> November 2023 up to 3.00 PM
Date of exam	23 <sup>rd</sup> December 2023- (10.00 am to 1.00 pm)
Date of results	30 <sup>th</sup> December 2023

For more details visit at [www.actuariesindia.org](http://www.actuariesindia.org)

For any examination related queries email us on [acet@actuariesindia.org](mailto:acet@actuariesindia.org)

**Institute of Actuaries of India**



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## 20<sup>th</sup> Current Issues Retirement Benefits (20<sup>th</sup> CIRB) Seminar

Advisory Group	:	Advisory Group on Pension, Other Employee Benefits and Social Security
Date	:	25 <sup>th</sup> & 26 <sup>th</sup> August 2023
Time	:	0900 - 1730
Venue	:	The Orchid Hotel, Vile Parle, Mumbai

### Background: -

So much has happened since we last met in a CIRB seminar. Webinars have (and will continue to have) a great role in learning. However, nothing like meeting with industry professionals, friends and colleagues in person. Join us to learn about a wide range of topics in the area of employee benefits, social security and retirement benefits from India and around the world.

The last few years has seen unprecedented issues related to workforce dynamics and capital markets due to the pandemic, war and geo-politics. India has not been immune from global events.

We will be aiming to have eminent speakers from the profession and outside our profession, outlining macro and technical issues. We will aim to cover Insurance Perspective on Retirement, New Mortality on Group Annuity, Life Insurance POV on Annuity products, Provident Fund challenges from experts from the experienced actuaries and professionals amongst other topics. We will have round table discussion of how some of the issues have been tackled in some parts of India and abroad.

### The topics to be covered will include:

- DB Pension risk management trends
- A deep dive into the area of Employee Stock Plans. Covering how the new age startups structure their plans while providing benefits to their employees and keeping cost in control.
- While we heard in the last CIRB session, individual annuitants mortality table, it is now time for Group Annuitants Mortality Table from the Actuarial Oversight and Review Committee who will in detail present the findings and compare the rates with other comparative rate.
- Insights from a Life Insurance Actuary on Annuity product trends and actuarial perspective
- Hear from Group Insurance expert on how ALM is managed with retirement funds in life insurance companies.
- Opportunities, challenges and lessons from experienced consulting actuaries who have been practicing for a long time.
- Thoughts from Accounting Standard Board member
- Insights from Practicing PF expert on how he supports companies with their PF challenges.
- Almost all Newspapers have been running articles for the last one year on the Supreme court decision on the Higher Pension option for employees, hear from the expert on the topic .

### Who Should Attend?

Any current or potential professionals in the area of social security, employee benefits and retirement plans. This seminar is useful for not just Fellows/ Associates, but all stakeholders. Especially students of the Institute.

**Presenters:** We will have a number of eminent guest speakers on strategic topics, as well as experienced actuarial professionals in the Employee Benefits industry would be speaking in this seminar and sharing their experiences and insights with the audience.



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## Registration Fees (Excluding 18% GST):

Categories	INR
Students & Associate Members	Rs. 6,000
Affiliate & Fellow Members	Rs. 12,000
Non-Members	Rs. 12,500

CPD Credit as per APS 9 (ver. 4) for IAI members: 12hrs. Technical- Pensions and Employee Benefits

Registration last date: 19<sup>th</sup> August 2023; Registration on first come & first serve basis

Dress Code: Business Casual

Point of Contact: paresh@actuariesindia.org

Register at: <https://bit.ly/3R84faU>

Institute of Actuaries of India

## Our Team



**Kunj Behari Maheshwari**  
Chief editor

Kunj Behari Maheshwari is a partner at Willis Towers Watson Actuarial Advisory LLP and the Head of Life Insurance consulting for India and Sri Lanka within WTW's Insurance Consulting and Technology division.

He is passionate about actuarial work, research and volunteers regularly towards initiatives at the IAI. He enjoys swimming and being outdoors.



**Prakhar Mody**  
Editor

Prakhar is a qualified actuary with extensive experience in financial risk management and technology transformations having worked with banks, insurers, financial institutions and corporate clients across the globe.

He is also an avid gamer with an interest in fictional novels and trekking.



**Anirudh Bansal**  
Editor

Anirudh is the founder of InsurTech Actuary and is a General Insurance Actuary. He is passionate about microinsurance, innovation and InsurTech startups.



**Rajeshwarie Iyer**  
Editor

Rajeshwarie Iyer is working as the VP, Head Specialty Bangalore for SwissRe Global Business Solutions. She is a Fellow of the Institute of Actuaries of India and the Institute and Faculty of Actuaries UK. Rajeshwarie has worked in General Insurance in reserving, pricing and regulatory reporting and is currently underwriting reinsurance.

She volunteers actively for the profession and is a classical dancer who enjoys swimming, blogging and reading.



**Kathan Jain**  
Editor

Kathan works at Ankolekar & Co. as a senior associate. He's obsessed with food and enjoys binge-watching & solving puzzles in his free time.



**Ekta Mehta**  
Editor

Ekta Mehta is an associate actuary currently involved in with-profits and experiences analysis-related tasks throughout the year. She spends her free time solving large-sized jigsaw puzzles, volunteering in several actuarial capacities and helping young adults to enhance their communication, speech & drama skills.

The Institute of Actuaries of India (IAI) is a statutory body established under The Actuaries Act 2006 (35 of 2006) for regulating the profession of Actuaries in India. The provisions of the said Act have come into force from the 10th day of November 2006, in terms of the notification dated 8th November 2006, issued by the Government of India in the Ministry of Finance, Department of Economic Affairs.

The Actuary India is the flagship magazine of the IAI that has been in publication for over two decades. We aim to provide our members and the larger actuarial community a platform to connect, exchange views and promote thought-leadership and research beneficial to the profession.