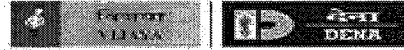




बैंक ऑफ़ बड़ोदा  
**Bank of Baroda**



**REQUEST FOR PROPOSAL (RFP)**

**FOR**

**APPOINTMENT OF A FIRM TO PERFORM:**

**INTEREST RATE RISK (IRR) MODEL:  
MODEL VALIDATION, SENSITIVITY ANALYSIS & BACK-TESTING**

**OF**

**NEW YORK BRANCH**

**Dated: June 22, 2023**



**REQUEST FOR PROPOSAL (RFP) FOR APPOINTMENT OF A FIRM TO PERFORM: INTEREST RATE RISK (IRR) MODEL: MODEL VALIDATION, SENSITIVITY ANALYSIS & BACK-TESTING OF BANK OF BARODA NEW YORK BRANCH**

**Key Information on the RFP Response Submission**

#	Particulars	Timeline
1	RFP Issuance Date	June 22 <sup>nd</sup> , 2023
2	RFP Co-ordinator	1. Chief Executive (US Operations) 2. Asst. General Manager (Risk Management)
	Telephone	+1 646-597-7231 +1 646-597-7232
	Email id	<a href="mailto:ce.usa@bankofbaroda.com">ce.usa@bankofbaroda.com</a> <a href="mailto:risk.usa@bankofbaroda.com">risk.usa@bankofbaroda.com</a>
	Communication Address for Proposal Submission	Chief Executive (US Operations) BANK OF BARODA, Mezz # 1 One Park Avenue New York, NY – 10016
3	Last Date of Written request for clarifications on RFP, if any.	3:00 pm on June 28 <sup>th</sup> , 2023
4	Last Date of Submission of RFP (Closing Date)	2:00 pm on July 13 <sup>th</sup> , 2023
5	Technical Proposal Opening Date	3:00 pm on July 13 <sup>th</sup> , 2023
6	Financial Proposal Opening date	5:00 pm on July 13 <sup>th</sup> , 2023 (The Financial Proposals of only those who qualify in Technical Proposal will be opened)
7	Timeline for completion of the assignment	The selected firm has to complete the assignment within 4 to 6 weeks from date of assignment letter issued by the Bank.

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**RFP for appointment of a firm to perform: Interest Rate Risk (IRR) Model: Model Validation, Sensitivity Analysis & Back-Testing**

**I) OBJECTIVE**

Bank of Baroda ("Client" or "Bank"), New York Branch is seeking services for third party firm for model validation, Sensitivity Analysis & Back-testing of the Banks use of Interest Rate Risk (IRR) model in accordance with the Federal Deposit Insurance Corporation ("FDIC"). As part of the IRR model implementation, the Bank is required to complete a full scope model validation following the guidelines set forth in SR11-7 / OCC 2011- 12. The Final Validation Report will include an overall rating as well as an explanation of any findings, observations and recommendations and their criticality with the related evidence as applied.

**II) ELIGIBILITY**

1. The firm should have been in existence for at least five years as on 31.12.2022 (in case of mergers/acquisition/restructuring or name change, the date of establishment of the prior/original Partnership Firm/Limited Company can be taken in to account)
2. Should have adequate financial standing, market reputation, competent personnel and experience to undertake the assignment.
3. Must have a minimum total turnover/revenue of at least USD 100.00 mn in the past two years as on December 31, 2021 and December 31, 2022.
4. Should have knowledge and experience of Banking and related business areas. Also should have hands on experience in conducting assignment for Banks and Foreign Banking Organizations. Experience of working on similar projects for India based Foreign Banking Organizations will be an added advantage.
5. The team leader assigned for the bank should have been involved in at least one similar assignment. All the Individuals engaged in the assignment should have sufficient training as per regulatory and Industry Standard.

The bidder must give detailed information/records substantiating the above requirements. Any bid not containing the above information will be rejected.

**III) SCOPE**

Bank of Baroda, New York Branch is seeking to complete a full scope model validation & back-testing of its Interest Rate Risk model and its implementation. The Bank also seeks to verify the sensitivity of the key assumptions critical to the Branch's operations. Additionally, the Bank would like assistance with determining whether assumptions are reasonable and conform to model appropriateness. Selected firm will perform these services in accordance with all relevant legal and regulatory requirements to include; SR Letter 11-7, Supervisory Guidance on Model Risk Management dated April 4, 2011; Office of the Comptroller of the Currency ("OCC") (OCC Bulletin 2011-12); FDIC Supervisory Guidance on Model Risk Management (FIL-22- 2017), dated June 7, 2017; and FDIC's Guidance on Developing the Key Assumptions for Analysis of Interest Rate Risk dated winter 2014. This is to include, but is not limited to;

1. Full scope model validation
2. Sensitivity Analysis of IRR Model Assumptions
3. Back-testing

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## 1. Full scope model validation

Selected firm will have to perform full scope model validation of Interest Rate Risk (IRR) model used by the Bank of Baroda New York Branch. Following activities are to include, but is not limited to;

VALIDATION AREA	VALIDATION EXPECTATION
Process validation	Review changes to model documentation Verify if prior recommendations have been implemented
Data inputs and assumptions	Review: <ul style="list-style-type: none"><li>▶ Source data for completeness, accuracy, and appropriateness</li><li>▶ Data import into model</li><li>▶ Data Controls</li><li>▶ Key assumptions</li></ul>
Model Theory and Estimation	Review: <ul style="list-style-type: none"><li>▶ Reasonability of the Model's theory, and ensure it is generally accepted and supportable</li><li>▶ Review the reasonability of the Model's use for its intended purpose</li><li>▶ Review any developmental evidence for the model, as appropriate</li></ul>
Validating Model Results	Review: <ul style="list-style-type: none"><li>▶ Statistical goodness of fit</li><li>▶ Model coefficients</li><li>▶ Economic sense of parameters</li><li>▶ Comparing to industry benchmarks</li><li>▶ Model performance on hold-out samples</li></ul>
Model Code and Mathematics	Review: <ul style="list-style-type: none"><li>▶ Developed models are correctly deployed</li><li>▶ Computational accuracy of the deployed models</li><li>▶ Additional assumptions made after development</li></ul>
Ongoing Validation of Model Results	Review: <ul style="list-style-type: none"><li>▶ Parameter tolerance limits, and actions needed if metrics fall outside the tolerance limits</li><li>▶ Periodic comparison of results to external benchmarks</li></ul>
Reports	Review: <ul style="list-style-type: none"><li>▶ Clarity of periodic management reports containing model results, assumptions, and limitations</li></ul>
Model Validation Policy	Review: <ul style="list-style-type: none"><li>▶ Existence of a clear model validation policy</li><li>▶ Roles and responsibilities for the model review group</li></ul>

VALIDATION AREA	VALIDATION EXPECTATION
Documentation	Review: <ul style="list-style-type: none"> <li>▶ Documentation to facilitate independent review and replication of the models</li> <li>▶ Documentation summarizing model results, key features and milestones in model development</li> </ul>
Change Management Control	Review: <ul style="list-style-type: none"> <li>▶ Policies and procedures governing changes to model assumptions, data sources etc.</li> <li>▶ Policies requiring changes to be well controlled and documented</li> </ul>
Model Security and Version Control	Review: <ul style="list-style-type: none"> <li>▶ Policies and procedures surrounding model security – password protections and access etc.</li> <li>▶ Policies and procedures surrounding version control – all deployed versions are up-to-date and new versions are properly supervised before and during implementation.</li> <li>▶ Disaster recovery procedures</li> </ul>
Quality of Model Development Staff	<ul style="list-style-type: none"> <li>▶ Review credentials of model development staff</li> </ul>
User Acceptance Testing	<ul style="list-style-type: none"> <li>▶ Review credentials of model development staff</li> </ul>
Sensitivity Testing Techniques	Review: <ul style="list-style-type: none"> <li>▶ Reasonability of the sensitivity testing techniques used by the Bank.</li> </ul>
Back-testing Techniques	Review: <ul style="list-style-type: none"> <li>▶ Documents describing the back- testing techniques performed as part of ongoing monitoring.</li> </ul>

## 2. Sensitivity Analysis of IRR Model Assumptions

Selected firm will have to perform the Sensitivity Analysis for the following assumptions by Balance Sheet section model.

- a) **Prepayment rate assumption:** Perform a Sensitivity Analysis on the Prepayment Rate assumption to identify if this assumption is critical to the branch's operation, which the FDIC defines as a measure that "represents the change in cash flows from an asset's contractual repayment schedule."
- b) **Decay rate assumption:** Perform a Sensitivity Analysis on the Decay Rate assumption to identify if this assumption is critical to the branch's operation, which the FDIC defines as a measure that "estimates the amount of existing nonmaturity deposits that will run off over time."

- c) **Deposit Beta assumption:** Perform a Sensitivity Analysis on the Deposit Beta assumption to identify if this assumption is critical to the branch's operation, which the FDIC defines as a measure that "describes the magnitude of change in deposit rates compared to a driver rate.

**3. Back-testing:**

Perform back-testing to identify any material differences between actual and forecasted Earnings-at Risk ("EaR") model results.

**IV) DELIVERABLES**

Expected deliverables include:

- Weekly status reports to show project progress along with all risks/roadblocks;
- A report will be prepared for each phase (model validation, back-testing & sensitivity analysis) and will include explanations of the validator's findings, observations and recommendations and their criticality using the client's rating scale that aligns with Model Risk Management's Policy and Procedures definitions. The model validation report will contain the following;
  1. Executive Summary of overall conclusions, findings and observations.
  2. Detailed validation scope, procedures, testing results and conclusions.
  3. For benchmarking results, detailed thresholds used to identify variances and analysis regarding why variances exist and whether variances are or are not reasonable.
  4. Validation will be performed both in accordance to SR11-7 and the Bank of Baroda's internal MRM Policy and Standards.
  5. The final report will use the Bank's Model Validation report template. The final report will have specific sections on sensitivity analysis and benchmarking the IRR model. The report will address the adequacy of these analysis.
  6. Recommended action plans to address any shortcomings.
  7. Bank-specific recommendations to enhance model performance monitoring controls based on comparisons to industry practice.
  8. An assessment of the Bank's and Vendors' implementation of recommendations made in the last validation preceding the engagement.

**V) DURATION OF CONTRACT & EXIT:**

The selected firm has to complete the assignment within 4 to 6 weeks from date of assignment letter issued by the Bank.

**VI) RIGHTS TO TITLE:**

1. The Master Service Agreement, (MSA) or similar contract must be agreed upon and signed within 30 days of agreeing on all significant terms with the Bank. The MSA provides details of responsibilities of Firm & Bank of Baroda, such as fees & payment, confidentiality and deliverables, etc. The MSA will be governed by New York laws.

2. All reports, communications, materials, information made or developed in connection with the performance of this assignment shall be promptly disclosed to and shall be the sole property of Bank of Baroda without any obligation to pay any further remuneration therefor.

## **VII) CONFIDENTIALITY**

1. The selected bidder/firm shall agree and assure the Bank that its employees and/or agents shall maintain strict confidentiality regarding all information/data related to the Bank, which might come into their possession or knowledge in the course of this contract.
2. Neither the selected bidder nor the Bank shall disclose the confidential information to a third party. Both parties will, at all times, maintain confidentiality regarding the contents of the contract and proprietary information including any business, technical or financial information.
3. The selected bidder shall indemnify any loss or damage the Bank might suffer on account of any intended/unintended lapse on its part, its employees and/or its agents in this respect.
4. The selected Firm shall be required to comply with the relevant clauses of the Information Systems Security Policy of the Bank.
5. The Bidder shall sign the Non-Disclosure Agreement.

## **VIII) CONTINUITY**

The selected Firm shall not make changes to the members of the team that will be engaged in the assignment or those otherwise in contact with Bank of Baroda during the engagement period, without prior discussion with Bank of Baroda.

## **IX) RIGHT TO VERIFICATION**

Bank of Baroda reserves the right to verify any or all the statements made in the proposal document.

## **X) BANK RESERVES THE RIGHT TO THE FOLLOWING:**

- Extend the time of submission of proposal (RFP).
- Modify this document by an amendment, which shall be intimated to the bidder in writing.
- Terminate the assignment if not proceeding in accordance with the terms of the contract and to the satisfaction of the bank.
- Modify any other terms, conditions and requirements mentioned above, as the Bank may in its sole discretion deem fit.
- Cancel the whole process without assigning any reason whatsoever.
- Select the most responsive bidder (in case no bidder satisfies the eligibility criteria in totality).
- Select the next most responsive bidder if negotiations with the bidder of choice fail to result in an agreement.

## **XI) EVALUATION PROCEDURE**

1. All bids shall be evaluated by an Evaluation Committee set up for this purpose by the Bank.
2. The evaluation shall be on the basis of price quoted by the firm who qualify in Technical

bid/professional competence. The Technical Bid/Proficiency Assessment shall have qualifying consideration only and the Commercial Assessment/Price Bid shall have 100% weightage for evaluation, and these weightage shall be taken into consideration for arriving at the L1 price.

3. The assessment methodology is as detailed under section XV below.
4. Arithmetical errors will be rectified on the following basis.
  - If there is a discrepancy between words and figures, the amount in words will prevail.
5. If the Successful Bidder does not accept the correction of the errors, its Bid will be rejected.

## **XII) METHODOLOGY OF EVALUATION**

Proficiency Assessment (Technical Bid) is for eligibility purpose only and the final selection will be based on Price bid of the bidders who qualify in the Technical bid.

Full weightage will be awarded to the bidder quoting the lowest price i.e. Total Contract Value in USD. A bidder quoting the lowest price will be awarded the contract.

**Evaluation process as decided by the Bank will be binding on the bidder.**



## ANNEXURE –A

### REQUIREMENTS, TERMS AND CONDITIONS

#### 1. GENERAL

- A. The RFP is being uploaded on Bank of Baroda, New York Branch's website ([www.bankofbaroda-usa.com](http://www.bankofbaroda-usa.com)) and it is to be responded by eligible firms.
- B. The last date for submission of RFP is **July 13, 2023** and should reach Bank of Baroda, New York Branch, One Park Avenue, New York, NY 10016 by 2.00 P.M. on that day.
- C. No proposals would be accepted after the above deadline.
- D. The Technical Bids will be opened on **July, 13, 2023 at 3.00 P.M.**  
The Financial Bids will be opened on **July, 13, 2023 at 5.00 P.M** (The Financial Bids of only those who qualify in Technical Bids will be opened) The bidder may, if so desire, depute their representative at the time of opening of Technical Bids as well as Financial Bid.
- E. The Bank reserves the right to accept any proposal or reject all the proposals, without assigning any reasons whatsoever. The Bank's decision in this regard shall be final and binding.

#### 2. Submission and Evaluation of Proposals

- i) The Proposal shall be submitted duly signed by the authorized signatory with the seal of the Firm in two separate envelopes and to be delivered at the address given below:

##### Communication Address:

**Chief Executive (US Operations)**  
**BANK OF BARODA,**  
**Mezz # 1**  
**One Park Avenue**  
**New York, NY – 10016**

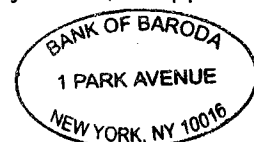
**Phone: +1 646 597 7231,**  
**+1 646 597 7232**

**E-mail id: [ce.usa@bankofbaroda.com](mailto:ce.usa@bankofbaroda.com)**  
**[risk.usa@bankofbaroda.com](mailto:risk.usa@bankofbaroda.com)**

- ✓ Part I containing the Technical and Qualification aspects hereinafter referred to as '**Technical Proposal**' and should contain details as mentioned at **ELIGIBILITY** criteria along with supporting document wherever applicable.
- ✓ Part II covering only the price schedules hereinafter referred to as the '**Price Proposal**'.

The price quoted should be all-inclusive and USD only. Only taxes; if applicable; will

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be paid extra. No additional/extra charges, fees, expenses, taxes, levies, duties, costs, etc. will be payable, for whatever reason. In specific, no costs/expenses shall be payable extra for traveling (including local conveyance), boarding, lodging, out-of-pocket expenses, liaison, etc. during the validity of the contract.

- ii) Each envelope must be sealed separately and super-scribed with following statement on each envelop:
  - 1. **RFP for appointment of a firm to perform: Interest Rate Risk (IRR) Model:- Model Validation, Sensitivity Analysis & Back-Testing. 'TECHNICAL PROPOSAL'**
  - 2. **RFP for appointment of a firm to perform: Interest Rate Risk (IRR) Model:- Model Validation, Sensitivity Analysis & Back-Testing. 'PRICE PROPOSAL'**
- iii) Technical Proposal Envelope should be completed and duly signed by the authorized signatory with the seal of the bidder.
- iv) Price Proposal Envelope should be completed and duly signed by the authorized signatory with the seal of the bidder.
- v) A Technical Proposal containing any price information will be summarily rejected.
- vi) The Bank will examine the proposal submitted by the bidders to determine whether they are complete, the documents have been properly signed, required information has been provided and the Bids are generally in order.
- vii) The Bank reserves the right to evaluate the proposals either by itself and/or in coordination with and/or by engaging any outside consultants/experts.
- viii) The Bank will evaluate proposals of the bidders as per the contents of the response to the Request for Proposal submitted by them. The bidders are requested to submit detailed information that would help evaluation.
- ix) During evaluation, the Bank, at its discretion, may ask the bidder for clarification of its offer. The request for clarification and the response shall be in writing, and no change in the substance of the submission shall be sought, offered, or permitted. The Bank reserves the right to verify the facts mentioned in the offer with respect to the information given by the bidder.
- x) After evaluation of technical bid as per procedure, the price bids of only those bidders who are short-listed by the Bank would be opened. Intimation of short listing would be given only to the short listed bidders.
- xi) The Bank would neither be bound to offer any reasons for such acceptance/ rejection nor entertain any correspondence with the technically rejected bidders in this matter.
- xii) The Request for Proposal would neither bind the Bank in any contract nor is it an offer of a contract. The details of services to be offered and documentation thereof would be undertaken with the selected bidder.
- xiii) The Bank reserves the right to terminate the assignment, if the assignment is not

proceeding in accordance with the terms of contract or to the satisfaction of the Bank, by issuing a notice to the other party not less than 90 business days before the effective date of termination.

- xiv) The Bank reserves the right to modify the assessment methodology or the weightages /marks as stated in proposal (RFP). The Bank may at its discretion modify any marks stated by the bidder after scrutiny of documents and/or after ascertaining the factual position.
- xv) The bidder selected for the assignment should adhere to the local quality standards and regulatory directions in this regard.
- xvi) All costs shall be denominated in US dollars.
- xvii) The bidder understands that in the course of submission of the offer for the said Services and/or in the aftermath thereof, it may be necessary that the bidder may perform certain jobs/duties on the Bank's properties and/or have access to certain systems, plans, documents, approvals or information of the Bank.
- xviii) The assignment has to be completed within four to six weeks from the engagement letter issued by the Bank.