REQUEST FOR EXPRESSIONS OF INTEREST
INDIVIDUAL CONSULTANT : TRAINER ON DSGE AND MATLAB

AFRICAN DEVELOPMENT BANK
"01 BP 1387 Abidjan 01 – Côte d'Ivoire"
"Development Research Department (EDRE)"
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<u>Expressions of interest are being requested for a Consultant Position</u>

Brief Description of the assignment: **Training staff on DSGE models and Matlab**

Department issuing the request: **The Macroeconomic Policy, Debt Sustainability and Forecasting Division (EDRE.2)** of the Development Research Department.

Place of assignment: **Abidjan, Cote D'Ivoire**

Duration of the assignment: **1st February 2017 to 30th November 2017**

Tentative Date of commencement: **1st February 2017**

Last date for expressing interest: Expression of interest must be submitted no later than: **6th January 2017** at 5:00pm Abidjan time (GMT) mentioning: Trainer on DSGE and MATLAB

Applications to be submitted to:
    Ms. VERONIQUE AFFOUE AKA
    African Development Bank
    Head Quarters Building
    Avenue Joseph Anoma
    01 BP 1387 Abidjan – Plateau
    Cote d'Ivoire
    Tel: +225-2026-4285
    Email: V.AKA@AFDB.ORG & J.ODUOR@AFDB.ORG

    Any questions and requests for clarifications may be sent to: _j.oduor@afdb.org_

<u>TERMS OF REFERENCE FOR: -AN INDIVIDUAL CONSULTANT</u>

i   Background
The Macroeconomic Policy, Debt Sustainability and Forecasting Division of the Development Research Department is responsible for undertaking research on macroeconomic policy issues; conducting debt sustainability analysis and forecasting for policy analysis, within the Bank's broad developmental work and operations support to the RMCs. Specifically, activities of the Division focus on the following, inter alia: (i) Undertake policy research on the Bank's High 5s and macroeconomic issues in order to strengthen the Bank's operations and interventions and improve the quality of policy dialogue and advocacy in the RMCs; (ii) Conduct debt sustainability analysis using cutting edge methodological tools in order to improve the Bank's macroeconomic surveillance and understanding of sovereign debt risk profile and the policy tools RMCs can deploy to contain debt distress; (iii)

Conduct macroeconomic forecasting and economic outlook for the RMCs; (iv) Provide cutting edge analytical support to Senior Management through timely economic intelligence work; (v) Conduct impact assessment of different external and policy shocks on economic growth and poverty, resource mobilisation, investment and other macroeconomic issues and how these in turn affect the achievement of the Bank's transformational agenda of the High 5s across Africa; (vi) Collaborate with partner institutions; research think tanks and universities, both within and outside Africa, in order to deepen analytical capacity and broaden the scope and outreach of the Bank's research work and (vii) Lead the production and dissemination of all the Bank's flagship publications and other knowledge products on Africa's emerging macroeconomic and development issues and on the High 5s priority areas.

ii   The role

The Division is seeking to strengthen the capacity of the staff to conduct DSGE Modelling and is inviting highly qualified and experienced individual consultants to provide short (one-week) training sessions on DSGE, Matlab and Dynare over the course of 2017. The Division envisages to have three one-week sessions spread over the year.

iii   Duties and responsibilities of the consultant

Under the overall guidance by the Director of the AfDB Development Research Department, immediate supervision of the Manager, Macroeconomic Policy, Debt Sustainability and Forecasting Division and working closely with the task manager, the Consultant's tasks will be to train participants on:

1. The building blocks of dynamic stochastic general equilibrium (DSGE) models
2. Introduction to Matlab and Dynare programming
3. The construction and Bayesian estimation of DSGE macroeconomic models in Dynare and their use for optimal policy analysis
4. How to formulate, solve and analyze small-scale DSGE models in Matlab and Dynare
5. How to interpret formal results obtained from the analytical and numerical analysis of DSGE models, reporting them in economic and intuitive terms
6. Perform policy analysis in the baseline New Keynesian models
7. The main empirical methodologies used to validate DSGE models
8. How DSGE models are implemented for both business cycle and normative analyses at modern policy institutions
9. Advanced Matlab and Dynare Programming, applied dynamic programming, non-linear solution and estimation methods, DSGE models with heterogeneous agents and DSGE models with occasionally binding constraints
10. Use of DSGE-VAR Models for Policy Analysis: Estimation of and Forecasting with DSGE-VAR models
11. Review and provide feedback on small-scale models developed by the participants as part to gauge comprehension and application of course materials
12. Perform any other duties as may be assigned by the Division Manager

iv   Duration and Location

The consultant will work over a ten-month period, from 1st February 2017 to 30th November 2017. The consultant will be required to travel to Abidjan, Cote D'Ivoire three times for the duration of the training programme and spend a week during each visit to conduct training. In each of the three training sessions, it is expected that the consultant will dedicate a total of 5 working days of full time teaching and practical coaching of staff on methodologies and practical implementation of DSGE model techniques.

v   Competencies

- At least a PhD degree (or its university equivalent) in Economics, preferably Macroeconomics/Econometrics, Applied Statistics or a related development field
- At least 10 years of relevant professional and practical experience in DSGE modelling, preferably gained in a learning institution, development policy oriented institution or a research organization

- Proven experience in building theoretical and/or empirical DSGE models for macroeconomic forecasting and simulation.
- Proven ability to deliver academic and policy relevant training to diverse group of researchers
- Client and results oriented individual, with strong analytical and communication (both verbally and written) skills, sense of accuracy, attention to detail and able to work in a multicultural setting.
- The working languages of the AfDB are French and English. For this task, fluency in English is required; knowledge of the other is desirable.

vi   Remuneration for the Assignment

The Consultants will be engaged on a part-time basis over a period of 4 months within which all deliverables should be met. He/She will be paid a lump sum for the entire period commensurate with the number of years of experience and deliverables and in line with the Bank's guidelines for engagement of individual consultants. The Bank will also cover travel expenses in line with the Bank Travel Policy for consultants.

Please attach an updated Curriculum Vitae on the basis of the template below:

MODEL CURRICULUM VITAE (CV)

Title of the Assignment:
Department:

Surname: First Name:
Birth Date: Nationality:
Address: Country:
Telephone: E-mail:

Are any of your family members (spouse/partner, father/mother, Brother/sister, Son/daughter, etc.° employed in the African Development Bank?			Yes ☐ No ☐ If « Yes », the following data must be provided
Name	Relationship	Organisation Unit	Place of Assignment

Language Level	Read	Written	Spoken
English	☐ Fair ☐ Good ☐ Excellent	☐ Fair ☐ Good ☐ Excellent	☐ Fair ☐ Good ☐ Excellent
French	☐ Fair ☐ Good ☐ Excellent	☐ Fair ☐ Good ☐ Excellent	☐ Fair ☐ Good ☐ Excellent
Other (specify)	☐ Fair ☐ Good ☐ Excellent	☐ Fair ☐ Good ☐ Excellent	☐ Fair ☐ Good ☐ Excellent

Key Qualifications:

Please provide (i) a summary of your experience and training highlighting the most relevant for the proposed assignment, and (ii) the responsibilities which you exercised. Utilise one half-page maximum.

Education (University Level and above only):

Name of University - City - Country	Period		Diploma Obtained	Main Topic / Major
	From	To		

Professional Training:

Name of Training Institution- City - Country	Type of Training	Period		Certificates or Diploma Obtained
		From	From	

Employment Record:

Begin with your most recent employment. For each job since your Master Degree achievement, please indicate:
-                Name of the Employer
-                Type of Activity/Business of the Employer
-                Title / Function
-                Place of Employment
-                Brief Description (three lines maximum) of main accomplishments and responsibilities

Reference:

Please indicate the name and address of three persons with no family relationship with yourself, familiar with your character and titles.

I hereby certify that the responses which I provided above are all, to the best of my knowledge, true, complete and accurate. I acknowledge that an inaccurate statement or essential omission in a personal declaration or another document required by the African Development Bank might result in the rejection of my application, termination of my Contract or any other administrative sanction by the Bank. The African Development Bank may verify any statements which I made in this application.

Date: _____

Signature :