Position Details

Traineeships (bachelor's/master's and PhD) in the Directorate General Research

Reference   2017-025-TRA

Function

You will be part of the ECB's Directorate General Research (DG/R) Student Research Traineeship Programme and will work in one of the following areas of technical expertise:

- macroeconometric modelling and forecasting;

- structural models for monetary and macroprudential policy analysis;

- time series analysis of macroeconomic and financial data;

- panel and cross-sectional analysis of microeconomic and financial data.

The programme is aimed at highly promising candidates, with a strong quantitative background and an interest in policy-relevant and applied research. You are encouraged to apply if you have completed a bachelor's degree in economics, statistics, finance, computer science, mathematics or a related field, and you are enrolled in post-graduate studies (master's or PhD) for the same subject fields.

As a participant in the programme, you will have the opportunity to work with DG/R's economists and management, typically in the form of research assistance. You will support the economists in academic research projects, as well as in work of an operational nature, such as the preparation of policy-related notes addressed to the ECB's Executive Board.

The opportunity to work closely with DG/R research economists will allow you to develop your analytical skills and gain an insight into the ECB's research activities and policymaking processes, thereby exposing you to new ideas and stimuli for your future postgraduate studies.

The traineeship will be in DG/R for an initial period of three to six months, with a possible extension up to a total of twelve months depending on organisational needs and individual performance. Please indicate your preferred total length of stay (between three and twelve months) and starting date in your application. Applications from candidates who are available outside the summer months are particularly welcome.

As a Student Research Trainee, you will be entrusted with the following main tasks:

- constructing and maintaining monetary, financial and economic databases;

- presenting data in conjunction with basic economic and statistical analysis;

- programming mathematical, statistical and econometric procedures for research projects;

- supporting and maintaining software tools and hardware installations;

- helping to maintain internet and intranet systems in DG/R.

According to your area of technical expertise, you will work within one of the following teams:

Macroeconometric modelling team:

- contributing to the development, solution and estimation of the ECB's multi-country model, using primarily MATLAB and Dynare.

Macroprudential modelling team:

- contributing to the development, solution and estimation of the ECB's main model for macroprudential policy analysis, using MATLAB and Dynare.

Household Finance and Consumption Network team:

- compiling and analysing data from the Household Finance and Consumption Survey, using primarily Stata or SAS;

- contributing to the solution of heterogeneous agents models.

Financial Research Division:

- compiling large time series datasets, often with high-frequency data, and analysing them with various techniques (i.e. vector autoregressions (VARs), Markov-switching models, state-space models, etc.);

- compiling and analysing large microeconomic cross-sectional and panel datasets, using primarily Stata or SAS.

Monetary Policy Research Division:

- compiling time series datasets and analysing them with various techniques (i.e. VARs, Markov-switching models, state-space models, etc.);

- compiling and analysing large microeconomic cross-sectional and panel datasets, using primarily Stata or SAS;

- contributing to the solution and estimation of linear and nonlinear structural models for monetary policy analysis, using MATLAB and Dynare.

Senior management team:

- compiling and analysing time series, cross-sectional and panel datasets.

Qualifications and experience

You will bring to the role:

For all areas of technical expertise:

- for standard traineeships, a bachelor's degree in economics, statistics, finance, computer science, mathematics or a related field, and ideally at least one year of completed master's studies in the same fields;

- for PhD traineeships, at least two years of completed PhD studies in economics, statistics, finance, computer science, mathematics or a related field;

- familiarity with macroeconomic and financial statistics as contained in international databases (e.g. the ECB's Statistical Data Warehouse (SDW), Eurostat, Bank for International Settlements (BIS) statistics and International Monetary Fund (IMF) financial statistics);

- familiarity with at least some of the following databases/providers: Bloomberg, Datastream, Haver Analytics, Bankscope, SNL Financial and Dealogic;

- a very good knowledge of spreadsheet and database programmes such as MS Excel, SQL, Access and FAME as well as, in particular, Excel graphing capabilities, pivot tables and summary statistical functions;

- a very good knowledge of at least one or more standard econometrics packages, in particular MATLAB, Stata, R, EViews, OxMetrics, RATS and GAUSS;

- experience with large databases (e.g. high-frequency data, administrative data, household or firm-level surveys, balance sheet data, etc.) would be an asset;

- efficient graphing and output reporting (pivot tables, figures, and summary statistical functions) with Excel, MATLAB, Stata or other software packages; knowledge of Latex would be an asset;

- a general understanding of programming in a high-level language (such as C++, FORTRAN, Java or HTML) would be an asset;

- knowledge of heterogeneous agents' models and global solution methods would be an asset;

- experience/familiarity with content management systems (CMS) such as Wordpress would be an asset;

- an advanced command of English with proven drafting ability;

- an intermediate command of at least one other official language of the EU;

- a working knowledge of MS Office, in particular Word, Excel and PowerPoint.

For the macroeconometric modelling team:

- a deep understanding of, and experience with, solution, estimation and forecasting methods for structural and reduced-form econometric models (including structural VAR, semi-structural models, factor model and state-space/unobserved component models) is required; a good knowledge of Bayesian techniques would be an asset.

For the macroprudential modelling team:

- experience with calibration and solution techniques of dynamic general equilibrium models (possibly including higher-order methods, non-linear methods, extended-path, transition dynamics, GMM, ML, Bayesian, etc.) and proficiency in MATLAB and Dynare are required; knowledge of models with credit frictions and macro, banking and financial (micro and time series) data would be an asset.

For the Household Finance and Consumption Network team:

- familiarity with some microeconomic datasets is required; familiarity with the Eurosystem Household Finance and Consumption Survey would be an asset.

Competencies

You will also bring your ability to communicate effectively, manage your own workload independently, prioritise tasks, manage multiple assignments simultaneously and support other team members.

Closing Date for Applications: 20.02.2017

Further Information

Traineeship/PhD traineeship for an initial period of three to six months, with the possibility of an extension to up to twelve months in total in the same business area, subject to individual performance and organisational needs.

To further enhance the diversity of its workforce, the ECB particularly encourages applications from female candidates.

How to apply

Applications are to be made in English and submitted using our online application form. An "Applicants' Guide" can be downloaded from our recruitment pages.

The recruitment process may include a pre-screening exercise and a telephone interview.

Before applying, applicants should check that they meet the conditions set out in Article 4 of the rules governing the traineeship programme:
https://www.ecb.europa.eu/careers/what-we-offer/traineeship/html/index.en.html

Further information on the ECB's traineeships can be found via the above link.

Applicants are accepted from nationals of the Member States of the European Union.

The requirements laid down in the vacancy notice must be met by the closing date for applications.

This vacancy notice may be used to fill the same position again, or similar positions, within 12 months of the selection decision.