



EUROPEAN CENTRAL BANK

EUROSYSTEM

## Student Research Assistant Trainee or PhD Trainee

Reference 2019-196-TRA

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<b>Type of contract</b>	Traineeship
<b>Who can apply</b>	EU nationals eligible for our traineeship programme ( <a href="https://www.ecb.europa.eu/careers/what-we-offer/traineeship/html/index.en.html">https://www.ecb.europa.eu/careers/what-we-offer/traineeship/html/index.en.html</a> )
<b>Salary</b>	The trainee grant is €1,070 per month plus an accommodation allowance.
<b>Working time</b>	Full-time
<b>Place of work</b>	Frankfurt am Main, Germany
<b>Closing date for applications</b>	02 December 2019

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### Your team

You will be part of the Directorate General Research (DG/R) and will support its work by compiling and analysing cross-sectional, time-series and panel datasets, and/or by contributing to the solution and estimation of linear and nonlinear general equilibrium models.

The Student Research Assistant Traineeship Programme is aimed at high-performing students 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 especially if you are currently pursuing postgraduate studies (master's or PhD) in the same subject fields.

The ECB is an inclusive employer and we strive to reflect the diversity of the population we serve. We encourage you to apply, irrespective of your gender, gender identity, ethnicity, sexual orientation, age, religion, disability or other characteristics.

### Your role

As a Student Research Assistant Trainee you will:

- construct and maintain monetary, financial and economic databases;
- present data in conjunction with basic economic and statistical analysis;
- develop mathematical, statistical and econometric procedures for research projects;
- support and maintain software tools and hardware installations;

- help to maintain internet and intranet systems within DG/R.

Depending on your area of technical expertise, you will be assigned to projects in one of the following teams or divisions:

- Financial Research Division, where you would provide research assistance in financial and monetary economics (e.g. theoretical and empirical banking, asset pricing, macro-financial linkages, systemic risk and financial stability), either by conducting microeconomic/time-series analyses (primarily in Stata and MATLAB) or by applying big data/machine learning techniques (knowledge of SQL and Python would be an asset);
- Monetary Policy Research Division, where you would support research projects on monetary policy and macroeconomic issues, either by analysing econometric/time-series, microeconomic, cross-sectional and panel datasets (primarily in Stata and MATLAB) or by developing dynamic stochastic general equilibrium (DSGE) and heterogeneous agent models; knowledge of Python and natural language processing would be an asset;
- Senior Management team, where you would help to solve models, as well as compile and analyse large microeconomic cross-sectional and panel datasets on a wide range of topics;
- Monetary-Macroprudential Policy and Financial Stability team, where you would support research projects focusing on the effects of monetary and macroprudential policies, in terms of how they interact with each other and how they affect the stability of the financial sector;
- Household Finance and Consumption Network team, where you would support the analysis of household heterogeneity in the euro area, either by conducting econometric studies based on data from the Household Finance and Consumption Survey or by developing structural models;
- Price-setting Microdata Analysis team, where you would support research projects on the macroeconomic consequences of price setting, either by conducting econometric analyses of web-scraped, scanner and official microdata or by developing theoretical models.

As a participant in the Programme, you will have the opportunity to work closely with DG/R's economists and management. You will support them in academic research projects and in work of an operational nature, such as the preparation of policy-related notes addressed to the ECB's Executive Board. This will enable you to develop your analytical skills and gain an insight into the ECB's research activities and policymaking processes. The Programme will also expose you to new ideas and stimuli that can provide a useful foundation for your future career and/or graduate studies. You will be part of a multicultural team that strives for continuous innovation to make a positive impact on the lives of European citizens.

### **Qualifications, experience and skills**

Essential:

- for a traineeship: at least a bachelor's degree (and ideally a master's degree or a period of study towards a master's degree) in economics, statistics, finance, computer science, mathematics or a related field;
- for a PhD traineeship: at least two years of PhD studies in economics, statistics, finance, computer science, mathematics or a related field;

- familiarity with macroeconomic and financial statistics as presented in international databases (e.g. the ECB's Statistical Data Warehouse, Eurostat statistics, Bank for International Settlements (BIS) statistics and International Monetary Fund (IMF) International Financial Statistics);
- excellent command of at least one of the following four high-level programming languages: MATLAB, Stata, Python or R;
- an advanced (C1) command of English and an intermediate (B1) command of at least one other official language of the EU, according to the Common European Framework of Reference for Languages, <https://www.coe.int/en/web/common-european-framework-reference-languages/table-1-cefr-3.3-common-reference-levels-global-scale>;
- familiarity with at least some of the following databases/providers: Bloomberg, Thomson Reuters Datastream, Haver Analytics, Bureau van Dijk, Fitch Connect, SNL Financial and Dealogic;
- very good knowledge of spreadsheet and database software, such as Microsoft Excel, SQL, Microsoft Access and FAME, and, in particular, the ability to use Excel graphing, pivot tables and summary statistics functions.

Experience in at least one of the following areas of technical expertise:

- solving and estimating DSGE models;
- solving heterogeneous agent and/or nonlinear macro models;
- analysing macroeconomic or financial time-series data;
- compiling and analysing large microeconomic databases (e.g. high-frequency data, administrative data, household or firm-level surveys, balance sheet data and price-setting data).

You are curious and eager to learn, and want to further develop your ability to analyse complex information. You are keen to collaborate with others, pursue team goals and learn from other people's diverse perspectives. You strive to know and anticipate stakeholder needs, and will signal any need for change and propose alternative solutions.

### **Further Information**

The traineeship will be for an initial duration of 3-6 months, with a possible extension up to a total of 12 months, depending on organisational needs and individual performance. Please indicate your preferred starting date and total duration (3-12 months) in your application. Applications from candidates who are available outside the summer months are particularly welcome.

The traineeship grant is €1,070 per month plus an accommodation allowance.

The PhD traineeship grant is €1,940 per month plus an accommodation allowance.

The recruitment process for this position may include an online interview via WebEx.

### **Application and selection process**

For further information on how to join us,

**<http://www.ecb.europa.eu/careers/before-you-apply/html/index.en.html>**.