PhD Traineeships in the Directorate General Economics

Reference 2019-182-TRA

<table>
<thead>
<tr>
<th>Type of contract</th>
<th>PhD traineeship</th>
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<tbody>
<tr>
<td>Salary</td>
<td>The PhD trainee grant is €1,940 per month plus an accommodation allowance.</td>
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<tr>
<td>Working time</td>
<td>Full-time</td>
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<td>Place of work</td>
<td>Frankfurt am Main, Germany</td>
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<tr>
<td>Closing date for</td>
<td>07 November 2019</td>
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<tr>
<td>applications</td>
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Your team

You will be part of the Directorate General Economics (DG/E) of the European Central Bank (ECB).

Our activities cover the euro area as a whole, the individual euro area countries and the non-euro area EU countries. Our output includes articles and research in publications such as the Economic Bulletin, Annual Report, Occasional Paper Series and Working Paper Series.

We are seeking recent PhD graduates or students who are close to completing their PhD studies for our 2020 traineeship programme. The successful candidates will be assigned to one of the following four divisions within the Directorate General Economics described below, according to preference and business needs.

The Business Cycle Analysis Division (BCA) analyses and forecasts real macroeconomic developments in the euro area and the largest euro area countries. It also conducts sectoral analyses and economic sentiment surveys of households and non-financial corporations.

The Prices and Costs Division (PAC) monitors, analyses and forecasts inflation and its determinants in the euro area and individual countries and sectors within the euro area.

The Supply Side, Labour and Surveillance Division (SSL) analyses and forecasts developments in potential output, productivity and labour markets, and monitors issues related to deepening Economic and Monetary Union (EMU) and country surveillance.

The Fiscal Policies Division (FIP) monitors and assesses the fiscal policies of the EU Member States, forecasts fiscal developments in the euro area countries, and analyses the effects of fiscal policy on the macroeconomy and issues related to deepening EMU.

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 PhD trainee you will:

- conduct empirical analyses using state-of-the-art economic and econometric models;

- contribute to the enhancement of analytical, econometric and forecasting tools in collaboration with, or under the supervision of, staff members; you may have the opportunity to submit resulting papers for publication in the ECB’s Working Paper Series and academic journals.

More specifically, you will:

- in the BCA Division: develop models and/or tools to analyse and forecast business cycle fluctuations and domestic demand components, particularly consumption and investment, analyse spill-overs between countries and sectors, and exploit micro data at the firm and household levels;

- in the PAC Division: develop models and/or tools to analyse and forecast wage and price developments and their drivers, including inflation expectations and profit developments, and analyse granular data on prices, wages and firms’ balance sheets to better understand the sources of low inflation in the euro area;

- in the SSL Division: develop models and/or tools: (i) on the intersection of labour economics and corporate finance, also with a strong focus on the analysis of very granular datasets, (ii) to investigate the effects of digitalisation on firms’ entry and exit, with a view to understanding the impact of digitalisation on productivity, or (iii) to empirically assess the determinants of capital flows into and out of euro area countries, with a view to deepening understanding of their impact on macroeconomic conditions and financial systems;

- in the FIP Division: develop models and/or tools to assess the interaction between monetary policy, fiscal policy and the financial sector, assess debt sustainability risks, analyse options for deepening EMU, including analysis of a fiscal capacity for EMU, risk sharing and spillovers of fiscal policies, and explore the impact of fiscal policy on output and inflation.

As a PhD trainee you will work closely with the respective division’s economists and research analysts, contributing to short-term tasks and longer-term projects.

**Qualifications, experience and skills**

**Essential:**

- a PhD in economics, finance, statistics, data science, engineering or a related field, or at least two calendar years of PhD studies in economics, finance, statistics, engineering or a related field at the closing date for applications;

- a sound knowledge of applied modelling and econometric techniques, especially panel data and/or time series analysis;
a working knowledge together with proven experience of statistical, data science and econometric packages such as Stata, R, Python, MATLAB or EViews, or advanced expert knowledge of other programming languages;

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.

Desired:

- experience in applying structural vector autoregressions (VARs), panel VARs, global VARs, Bayesian VARs, non-linear VARs (time-varying parameters, Markov switching), co-integration analysis;

- experience of factor models and state space/unobserved component models;

- experience in applying macroeconomic models, e.g. dynamic stochastic general equilibrium (DSGE), backward-looking or agent-based, overlapping generation models, using DYNARE or coding own procedures;

- knowledge of microeconometric empirical methods (reduced-form or structural), including experience in handling large-scale micro datasets at the firm, individual or sectoral level;

- knowledge of empirical methods for use in the areas of international macroeconomics and international trade;

- knowledge of network models for application to trade and international financial transactions, as well as correlation networks;

- familiarity with methods for working with big data (machine learning, web scraping, text mining); experience in working on Hadoop or cloud platforms.

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

PhD traineeship of between 3 and 12 months in total.

All trainees will be assigned a supervisor, but will be expected to complete their tasks using their own initiative and to work largely autonomously. They will have access to the ECB’s library, as well as to computing and statistical resources.

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

Application and selection process