

# João Jerónimo

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 📄 JoaoJeronimoHW

## Summary

UK-based economist with 5 years of post graduate experience in quantitative research and data analysis. Proficient in R, Stata and Python for statistical modeling, data visualization, causal inference, and machine learning applications. Experienced in quantitative research, teaching, and policy-related projects. Strong macro-labour foundation, extensive experience working with advanced statistical techniques and high-dimensional data.

## Education

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| <b>Heriot-Watt University</b><br><i>PhD in Economics</i> <ul style="list-style-type: none"> <li>◦ Research: Macro-labour, Econometrics</li> <li>◦ <b>Coursework:</b> Advanced Macroeconomics I and II; Bayesian Econometrics</li> </ul>  | <i>Oct 2021 –</i>           |
| <b>University of Minho</b><br><i>MSc in Economics</i> <ul style="list-style-type: none"> <li>◦ GPA: 18/20 (<i>summa cum laude</i>)</li> <li>◦ <b>Coursework:</b> Economic Analysis, Econometrics, Financial Economics, Monetary Economics, Banking Economics, Insurances and Actuarial Calculus, Applied Econometrics, Applied Statistics, Advanced Analysis in <math>\Re</math>, Differential Equations, Geometry, Discrete Mathematics, Algebra</li> </ul> | <i>Sept 2017 – Jan 2020</i> |
| <b>University of Minho</b><br><i>BA in International Relations</i> <ul style="list-style-type: none"> <li>◦ GPA: 16/20 (<i>magna cum laude</i>)</li> <li>◦ <b>Coursework:</b> Economic policy, Political Philosophy, European Union Policy and Legislative Framework, Linear Algebra, Calculus, Mathematical Analysis. Econometrics I, Econometrics II, Physics I.</li> </ul>  | <i>Sept 2014 – Jun 2017</i> |

## Experience

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|--|---|
| <b>Doctoral Researcher</b><br><i>Heriot-Watt University</i> <ul style="list-style-type: none"> <li>◦ Wrote logistic and survival regression models to estimate firm-level supply elasticities and analyze its cyclical variation</li> <li>◦ Worked with European administrative matched employer-employee data and wrote multiple R and Stata scripts for data visualization and analysis</li> <li>◦ Implemented Gauss-Seidel algorithm to decompose high-dimensional two-way fixed effects optimization problem into smaller, sequential updates of parameter blocks, significantly reducing computational complexity and memory requirements</li> <li>◦ Wrote structural economic model to predict response of labor market outcomes to policy changes and exogenous shocks</li> </ul> | <i>Edinburgh, UK</i><br><i>Sep 2022 –</i>             |
| <b>Research fellow</b><br><i>University of Lisbon</i> <ul style="list-style-type: none"> <li>◦ Data gathering, cleaning and analysis</li> <li>◦ Streamlining data across multiple formats</li> <li>◦ Automation of data extraction processes through web scraping using Python, resulting in significant reductions in weekly working hours</li> <li>◦ Writing VBA scripts for simultaneous operations in large matrices, improving streamlining efficiency</li> </ul>   | <i>Lisbon, Portugal</i><br><i>Jan 2019 – Jun 2021</i> |

## Publications

### Interactions between financial constraints and economic growth

Jul 2023

J. Jerónimo, A. Azevedo, P.C. Neves, M. Thompson

[10.1016/j.najef.2023.101943](https://doi.org/10.1016/j.najef.2023.101943) [↗](#)

## Awards

- UK Research and Innovation (UKRI) Scholarship for Academic Merits, 2021- 2024 (£57,711)
- National Award for Academic Merits, highest graded national students 2018/2019, MSc in Monetary, Banking and Financial Economics, University of Minho, Braga, Portugal (3170€)
- Excellence Award for Academic Merits, Full Tuition Reimbursement Academic Year 2017/2018, MSc in Monetary, Banking and Financial Economics, University of Minho, Braga, Portugal (625€)
- Excellence Award for Academic Merits, Full Tuition Reimbursement Academic Year 2015/2016, BA International Relations, University of Minho, Braga, Portugal (1064€)

## Projects

### How to Enhance Forecasts of the Scottish Economy with New Hire Wages and Machine Learning

[github.io.com/sfc](https://github.io.com/sfc) [↗](#)

- Independent project where I analyze the core methodology of a Scottish forecasting institution and develop two extensions/changes to enhance forecasting accuracy
- Tools Used: Python

### Inflation forecasting with Neural Networks

[github.com/ml](https://github.com/ml) [↗](#)

- Wrote and compared the relative performance of three classes of forecasting models - linear regression, random forests and neural networks - to predict quarterly CPI
- Tools Used: Python

### Inflation forecasting with Bayesian Econometrics

[github.com/ml](https://github.com/ml) [↗](#)

- Partially replicated work of Chan et al (2013) and estimated unobserved components moving average time series models, with and without stochastic volatility, to produce estimates of posterior inflation means
- Tools Used: MATLAB

### Bias estimation of lagged IV

[github.com/macro](https://github.com/macro) [↗](#)

- Application of Wang and Bellemare (2019) to estimate the least squares and IV bias of specifications using lagged instruments
- Tools Used: R, Stata

### Heterogeneous treatment effects

[github.com/RSM](https://github.com/RSM) [↗](#)

- Ongoing research project. Empirical validation of structural labor demand model. Heterogeneous diff-in-diff across deciles of policy exposure (sectoral minimum wage bite) prior to exogenous policy shock. Data visualization
- Tools Used: R

## Technologies

**Languages:** R (tidyverse, plm, lme4, dplyr, fixest), Stata, Python (pandas, scikit-learn, NumPy, beautifulsoup), MATLAB (BEAR toolbox), HTML + CSS

**Data:** Excel, VBA, SQL (beginner)

**Methods:** Causal inference, linear regression, panel data, time series, machine learning

## Others

Summer School in *Wage determinants*, with Prof. Derek Neal. Barcelona University, Spain (2023)

Summer School in *Modern Monetary Theory and European Macroeconomics*, with Prof. Dirk Ehnts. Maastricht University, Netherlands (2017)