# Cover

*Please read the note on the Danish PhD program structure in my statement.*

## Applicant

Jacob Marott Sundram

PhD student

Department of Economics, University of Copenhagen

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## Reference

Søren Hove Ravn

Associate Professor

Department of Economics, University of Copenhagen

Øster Farimagsgade 5, 1353 Copenhagen K, Denmark

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Attn: NBER February 25, 2022

# Statement

*Graduate Student Workshop on Heterogeneous-Agent Macroeconomics*

*Note:* The Danish PhD program structure is different from many other countries, including the US. This means that I have already taken several PhD level courses (and been TA for a PhD level course). These PhD courses include courses in macroeconomics (starting with the 3-equation New Keynesian model) and dynamic programming. Thus, I spend almost all my time actively conducting research.

My research interests are in the intersection of heterogeneous-agent models, international macroeconomics, and business cycles. I study the role of heterogeneity in the transmission of and synchronization of business cycles across countries. A key aspect is how different agents are affected unequally by international spillovers. I believe that this is understudied and yet crucially important for understanding business cycles in the modern world. Currently, I am studying how global booms transmit to small open economies through the lens of an open economy HANK model. My goals are (i) to match the empirical evidence on spillovers better than representative agent models, (ii) to understand how agents are affected differently by foreign shocks, (iii) how the responses to foreign shocks vary across sectors, and (iv) how to conduct policy in the face of foreign shocks.

My research is conducted within the I-HANK (International Heterogeneous-Agent New Keynesian) project with associate professors Søren Hove Ravn and Jeppe Druedahl (my supervisors), assistant professor Laura Sunder-Plassmann, PhD student Nicolai Waldstrøm, and two postdocs joining in September.

I want to attend the graduate student workshop on heterogeneous-agent macroeconomics to improve my knowledge of the literature on heterogeneous-agent models and learn the relevant methods for solving the models I use in my research. As an example, this knowledge is crucial in my current project, where I'm designing an open economy heterogeneous-agent business cycle model. Specifically, knowledge of the HANK literature will guide the design of my open economy HANK models and familiarity with solution methods will help me solve, simulate, and estimate my model in a timely and practical manner.

*Jacob Marott Sundram*

**Jacob Marott Sundram**

PhD student

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Research interests: Heterogeneous-agent macroeconomics, international macroeconomics, business cycles



# CV

## Positions

- Department of Economics, University of Copenhagen 2021 - 2025

PhD Student

- Department of Economics, University of Copenhagen 2021

Teaching Assistant (Adv. Macro: SVAR)

- Danmarks Nationalbank 2018 - 2021

Research Assistant (Economics and Monetary Policy)

- Department of Economics, University of Copenhagen 2020

Teaching Assistant (Macro Principles of Economics)

- Ministry of Finance 2017 - 2018

Student Assistant

## Studies

- PhD in Economics 2021 - 2025

Department of Economics, University of Copenhagen

- Master in Economics 2019 - 2023

Department of Economics, University of Copenhagen

- Bachelor in Economics 2016 - 2019

Department of Economics, University of Copenhagen

## Selected PhD Level Courses

- Advanced Financial and Macro Econometrics (Grade: 12/12)
- Advanced Macroeconomics: Structural Vector Autoregressive Analysis (Grade: 12/12)
- Advanced Microeconometrics (Grade: 12/12)
- Social Data Science: Econometrics and Machine Learning (Grade: 12/12)
- Advanced Macroeconomics: Business Cycles (Grade: 12/12)
- Dynamic Programming (Grade: 12/12)

## Other Competences

- Danish (Native)
- English (Fluent)
- Python
- Git
- MATLAB
- DYNARE
- Visual Basic
- R
- SAS
- DST Micro Data
- Stata
- LaTeX