

# Joël Marbet

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## Research Interests

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Monetary Economics, Macro-Finance, Computational Methods

## Education

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Ph.D. in Economics, CEMFI, Spain	2023 (expected)
Master in Economics and Finance, CEMFI, Spain	2019
M.Sc. in Economics, University of Bern, Switzerland	2015
B.Sc. in Business Administration, University of Bern, Switzerland	2014

## References & Placement Coordinators

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*Thesis committee:*

<b>Dante Amengual</b> (advisor)	<b>Galo Nuño</b>	<b>Josep Pijoan-Mas</b>
CEMFI	Banco de España	CEMFI
amengual@cemfi.es	galo.nuno@bde.es	pijoan@cemfi.es

*Placement coordinators:*

<b>Josep Pijoan-Mas</b>	<b>Tom Zohar</b>
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pijoan@cemfi.es	tom.zohar@cemfi.es

## Working Papers

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### A HANK Model with Monetary Search Frictions

*Job Market Paper*

*Abstract:* I develop a framework for studying media of exchange within Heterogenous Agent New Keynesian (HANK) models. To this end, I extend an otherwise standard HANK model with search-theoretic monetary frictions as in Lagos and Wright (2005). I show that the medium of exchange role of money breaks monetary super-neutrality in HANK, meaning that changes in the central bank's inflation target affect real variables and the wealth distribution in the long run. I then apply the framework to study how heterogeneity in the dependence on non-interest-bearing payment instruments shapes the welfare costs of inflation across wealth and income distributions. I show quantitatively that the welfare costs of inflation are about 8% higher for the wealth- and income-poor households in the economy. The result stems from the fact that poor households, in line with microdata, depend more on non-interest-bearing payment instruments, such as cash.

### Booms, Banking Crises, and Monetary Policy

*Abstract:* This paper develops a New Keynesian model that features endogenous build-ups of financial imbalances, where financial crises typically follow credit booms and are characterized

by sharp output drops. A quantitative analysis of the model shows that if the macroprudential authority does not implement the optimal policy, a central bank that is leaning against the wind, i.e. sets higher interest rates in response to build-ups of imbalances, reduces the frequency of financial crises and improves welfare at the cost of more volatile inflation. The result stems from a failure of the ‘divine coincidence’ due to financial frictions in the banking sector.

## **Inequality and the Zero Lower Bound**

Joint with Jesús Fernández-Villaverde, Galo Nuño, and Omar Rachedi

*Abstract:* This paper argues that the effects of the zero lower bound (ZLB) on aggregate dynamics crucially depend on household inequality. We establish this result within a heterogeneous agent New Keynesian (HANK) model that features an occasionally-binding ZLB. Importantly, we solve numerically for the fully non-linear stochastic equilibrium using a novel neural-network algorithm. We first highlight how the presence of the ZLB in a HANK economy alters the response of households’ decisions and macroeconomic aggregates to demand shocks. We then show that the interaction of the central bank’s inflation target and the amount of wealth inequality is a key driver of the level of real interest rates and the frequency of ZLB events. This stands in contrast of standard macroeconomic models, in which the level of real rates is pinned down as an exogenous parameter. In our setting, a drop in the inflation target reduces the level of the real interest rate because households increase their precautionary savings against the higher risk of ZLB events. As a result, ZLB events become even more likely. This channel is further amplified at higher levels of wealth inequality.

## **Presentations/Discussions at Conferences**

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### **Booms, Banking Crises, and Monetary Policy**

52nd Annual Conference of the Money, Macro and Finance Society, online	2021
14th Annual Meeting of the Portuguese Economic Journal, online	2021
28th Finance Forum, online	2021
AEFIN PhD Mentoring Day 2021, online	2021

### **Inequality and the Zero Lower Bound**

24th Central Bank Macroeconomic Modeling Workshop of Banco Central de Chile, online	2021
IV Workshop of the Spanish Macroeconomics Network, Alicante, Spain	2021

### **Discussions**

Workshop on Central Banks and Digital Currencies (CBDCs), Madrid, Spain	2022
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## **Teaching Experience**

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<i>Asset Pricing II (TA for Prof. Dante Amengual)</i> CEMFI, Madrid, Spain	2022, 2023
<i>Julia Programming Short Course</i> CEMFI Undergraduate Internship, Madrid, Spain	2020, 2021, 2022
<i>Solving Non-Linear HANK Using Neural Networks</i> Lecture given to researchers from the European Central Bank, online	2021
<i>Intro to Neural Networks</i> Lecture given to researchers from the European Central Bank, online	2021

<i>Time Series Econometrics (TA for Prof. Dante Amengual)</i> CEMFI, Madrid, Spain	2021
<i>Statistical Methods in Econometrics (TA for Prof. Pedro Mira)</i> CEMFI, Madrid, Spain	2019
<i>DSGE and Time-Series Models for Macroeconomic and Policy Analysis</i> <i>(TA for Marco del Negro, Federal Reserve Bank of New York)</i> CEMFI Summer School, Madrid, Spain	2019

## Relevant Positions

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<i>Research Assistant to Prof. Dante Amengual</i> CEMFI, Madrid, Spain	Since 2019
<i>Research Assistant to Prof. Enrique Sentana and Prof. Dante Amengual</i> CEMFI, Madrid, Spain	2018
<i>Intern Economic Analysis Switzerland</i> Swiss National Bank, Zürich, Switzerland	2015 – 2016

## Scholarships

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CEMFI Ph.D. Scholarship	Since 2021
Fundación Ramón Areces Ph.D. Scholarship	2019 – 2021
María de Maeztu Ph.D. Track Fellowship	2018 – 2019
CEMFI Master in Economics and Finance Scholarship	2017 – 2018

## Miscellaneous

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Programming/Software skills: Julia, Matlab, Python, Stata, EViews, L<sup>A</sup>T<sub>E</sub>X  
 Languages: German (native), English (fluent), French (basic), Spanish (basic)  
 Citizenship: Swiss