

# Mario Rafael Silva

Assistant Professor of Economics

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## Education

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**Ph.D. Economics** — University of California, Irvine 2012 – 2017

*Dissertation:* Essays on Liquidity, Monopolistic Competition, and Search Frictions

*Committee:* Guillaume Rocheteau (Chair), William Branch, Fabio Milani

**B.S. Mathematics** — Stanford University 2005 – 2009

## Academic Positions

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**Assistant Professor of Economics** Aug 2021 – Present

Department of Accountancy, Economics, and Finance, Hong Kong Baptist University

**Assistant Professor of Economics** Oct 2017 – Jul 2021

Department of Economics and Finance, Tongji University

**Teaching Assistant** Sep 2012 – Jun 2017

Department of Economics, University of California, Irvine

Courses: Basic and Intermediate Microeconomics, Intermediate Macroeconomics, Intermediate Econometrics, Game Theory, Global Economy

## Other Experience

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**Data Analyst** — ECON ONE Research (Economic Consulting) Mar – Aug 2012

Processed transaction-level data for a horizontal price-fixing case in the polyfoam industry (settlement: \$433 million); primary tool: SAS.

**Research Assistant** — UC Irvine (Profs. Cohen & Glazer) Jun – Aug 2013

Analyzed correlation between university alumni donations and patent output (Bloomberg Law, Westlaw Campus).

## Publications

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**Silva, Mario R. and Urias, Marshall.** “Productive Demand and Sectoral Capacity Utilization.” *Economic Modelling*, 2025.

Develops a three-sector model incorporating goods market frictions to decompose capacity utilization and attribute variation in the Solow residual to demand, technology, and mismeasurement. Bayesian estimation with sectoral utilization data shows shopping-effort demand shocks explain most forecast-error variance in output and the Solow residual, and replicate observed sectoral comovement.

**Silva, Mario R. and Gabrovski, Miroslav.** “Unemployment and Labor Productivity Comovement: The Role of Firm Exit.” *Journal of Economic Dynamics and Control*, 2025.

Extends the Diamond-Mortensen-Pissarides model with sunk entry costs and distinct business-destruction and match-separation channels, resolving the counterfactual near-perfect predicted unemployment-productivity correlation. Calibration to job-turnover and recall-rate information replicates observed contemporaneous and dynamic labor-market correlations.

**Silva, Mario R.** “Unsecured Credit, Product Variety, and Unemployment Dynamics.” *Macroeconomic Dynamics*, 2020.

Analyzes feedback between revolving credit limits and endogenous firm entry. Financial shocks prove essential for

matching observed unemployment and credit dynamics, including the Great Recession rise in unemployment; productivity shocks alone produce a noticeably worse fit.

**Silva, Mario R.** “Corporate Finance, Monetary Policy, and Aggregate Demand.” *Journal of Economic Dynamics and Control*, 2019.

Studies how heterogeneous financial frictions and monopolistic competition shape the pass-through from nominal interest rates to real lending rates, investment, and corporate cash holdings. Firms finance stochastic investment with bank credit or money. Financial constraints raise monetary-policy sensitivity; a mean-preserving spread of frictions reduces investment and output, strengthens transmission, and lowers the external finance share. Estimates industry-level markups using the production approach.

**Silva, Mario R.** “New Monetarism with Endogenous Product Variety and Monopolistic Competition.” *Journal of Economic Dynamics and Control*, 2017.

Examines how inflation interacts with market structure under CES and variable-elasticity preferences. Under variable elasticity, inflation can increase firm size, reduce markups, and raise welfare even as output falls. Under CES preferences the Friedman rule is optimal and the welfare cost of inflation rises monotonically with the markup, exceeding that in a fixed-variety economy.

**Bajaj, Ayushi, Rocheteau, Guillaume, Hu, Tai-Wei, and Silva, Mario R.** “Decentralizing Constrained-Efficient Allocations in the Lagos-Wright Pure Currency Economy.” *Journal of Economic Theory*, 2016.

## Working Papers

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**Qiu, Zhesheng, Silva, Mario R., and Urias, Marshall.** “Role of Endogenous Business Formation and Exit for Unemployment and Vacancy Dynamics.”

Extends Bilbiie, Ghironi, and Melitz (2012) to allow heterogeneous producers with exit risk from product obsolescence and idiosyncratic productivity shocks. Sunk costs make both business creation and vacancy posting partially predetermined. Firm exit immediately eliminates jobs and posted vacancies, so vacancy persistence tracks product-line longevity; match-separation shocks destroy filled jobs but leave product lines intact, implying only destruction shocks generate Beveridge-curve comovement. Estimated via Bayesian simulated method of moments.

**Branch, William and Silva, Mario R.** “Liquidity, Unemployment, and the Stock Market.”

Examines the joint dynamics of asset-market liquidity, labor-market outcomes, and equity prices in a search-theoretic framework.

## Teaching Experience

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### Hong Kong Baptist University

2021 – Present

*Advanced Macroeconomics* (ECON 7800)

MSc, 2021–2023

Macroeconomic measurement; OLG models and liquidity; RBC/DSGE with extensions; financial frictions; endogenous firm entry; liquidity-based monetary policy; heterogeneous agents; search-and-matching unemployment. Computation in Julia.

*Economics of Digital Currencies* (ECON 4035 / ECON 7640)

UG/MSc, 2022, 2025

CBDC design, financial inclusion, effects on bank deposit funding and investment, monetary policy interaction. Co-taught with Kim-Sau Chung. Group policy presentations.

*Data Analytics for Business Decision Making* (BUSI2045)

UG, 2025, 2026

Python-based introduction to data management, inferential statistics, and research design. Final project: questionnaire design and hypothesis testing. Interactive delivery via Jupyter Notebooks.

### Tongji University

2017 – 2021

*Macroeconomics* (PhD level)

Spring 2019, 2020

*Money and Banking*

MSc, Fall 2018, 2019, 2020

Commodity money, fiat money, inflation, international monetary systems, capital, liquidity, financial intermediation, the payments system, bank risk, and financial multipliers. OLG framework following Champ, Freeman, and Haslag.

*Market Structure, Innovation, and the Macroeconomy*

MSc, Spring 2018, 2019

Insights from industrial organization and their aggregate implications for innovation, growth, trade, and new-good formation.

## Grants, Honors, and Awards

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<b>General Research Fund (GRF)</b> — Hong Kong Research Grants Council	2023/24
Project No. 12502123. Bayesian estimation of liquidity-augmented model with endogenous business formation: application to inflation. HK\$454,136 ( $\approx$ USD 58,000).	
<b>National Natural Science Foundation of China</b> — Research Fund for International Young Scientists	2018
<b>Graduate Dean's Dissertation Fellowship</b> — UC Irvine	2017
<b>Economics Merit Fellowship</b> — UC Irvine	2012 – 2017
<b>Summer Research Fellowship</b> — UC Irvine	2014, 2015, 2016
<b>Pass with Distinction</b> — Macroeconomics Qualifying Examination, UC Irvine	Jun 2013

## Conference Presentations and Seminars

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- 2025 3rd Asia Pacific Search and Matching Workshop, CUHK; Society for Economic Measurement Conference, Athens (Jul); Seminar, National University of Kaohsiung (May)
- 2024 Seminar, University of Macao (Sep); Society for Economic Measurement Conference, Atlanta (Aug); Hong Kong Junior Macroeconomics Workshop (May); Money and Macroeconomics Workshop, Melbourne (Mar)
- 2023 Western Economics Association International, Melbourne (Apr)
- 2022 HKBU Junior Macro Group (Aug); National Taiwan University (Apr)
- 2021 Seminars: HKBU; Università di Roma Tor Vergata; Federal Deposit Insurance Corporation
- 2019 Peking University HSBC, Shenzhen (Oct); Western Economics Association International, San Francisco (Jul); Seminar, Shanghai University of Finance and Economics (May)
- 2018 Society for Economic Measurement Conference, Xiamen University (May); Seminar, Ashoka University (Apr)
- 2017 Society for Computational Economics, New York (Jun); Midwest Macroeconomics Conference, Baton Rouge (May)
- 2016 Western Economics Association International, Portland (Jun); West Coast Search and Matching Workshop, San Francisco Fed (May); Midwest Macroeconomics Conference, Purdue University (May)
- 2015 Midwest Macroeconomics Workshop, St. Louis (May)

## Professional Associations

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American Economic Association; Econometric Society; Western Economic Association International; European Economic Association; Hong Kong Junior Macro Group (organizer)

## Refereeing

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*Economic Inquiry*; *Macroeconomic Dynamics*

## Technical Skills

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**Software:** Python, Julia, Matlab, R, Stata, SAS, Dynare, L<sup>A</sup>T<sub>E</sub>X, Git, Claude Cowork

**Methods:** Bayesian DSGE estimation (Metropolis-Hastings), Bayesian simulated method of moments, structural VAR, panel data, Local projections, GMM, GLM

## Languages

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Spanish (native); English (fluent); Italian (conversational)