

**PAOLO ZACCHIA**  
CURRICULUM VITAE – MARCH 2026

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Italian national, born in Rome on December 17th, 1985. *Personal website:* [www.paolozacchia.com](http://www.paolozacchia.com)

**CONTACTS**

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**RESEARCH INTERESTS**

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Productivity, Labor and Innovation; Economics and Econometrics of Networks; Spatial Economics

**CURRENT POSITIONS**

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2025 – present     **Assistant Professor**, Ca' Foscari University of Venice  
2021 – present     **Assistant Professor**, CERGE-EI, Prague (*on leave since November 2025*)

**RESEARCH AFFILIATIONS**

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2025 – present     **Research Fellow**, Centre for Economic Policy Research (CEPR)  
International Trade and Regional Economics programme  
2024 – present     **Research Fellow**, Institute of Labor Economics (IZA)

**EDUCATION**

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2009 – 2015     **Ph.D. in Economics**, University of California, Berkeley  
2007 – 2009     **M.S. in Economics**, University of Bologna  
2004 – 2007     **B.S. in Economics**, University of Pisa

**PREVIOUS POSITIONS**

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2019 – 2021     **Visiting Fellow**, CERGE-EI, Prague  
2015 – 2021     **Assistant Professor**, IMT School for Advanced Studies, Lucca  
2012 – 2013     **Research Analyst**, European Bank for Reconstruction and Development  
(on leave from U.C. Berkeley)

## PUBLICATIONS

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**Santiago Pereda Fernández** and **Paolo Zacchia**: “Identification of Network Effects with Spatially Endogenous Covariates: Theory, Simulations and an Empirical Application.”

Published in: *Econometric Reviews*, 44(9), September 2025 (pp. 1321-1360). [[link](#)]

**Helena Schweiger**, **Alexander Stepanov** and **Paolo Zacchia**. “The Long Run Effects of R&D Place-based Policies: Evidence from Russian Science Cities.”

Published in: the *American Economic Journal: Economic Policy*, 14(3), August 2022 (pp. 322-351). [[link](#)] [[VoxEU summary](#)]

**Paolo Zacchia**. “Knowledge Spillovers through Networks of Scientists.”

Published in: *The Review of Economic Studies*, 84(7), July 2020 (pp. 1989-2018). [[link](#)]

**Paolo Zacchia**. “Benefiting Colleagues but not Cities: Localized Effects from the Relocation of Superstar Inventors.”

Published in: *Research Policy*, 47(5), June 2018 (pp. 992-1005). [[link](#)]

## WORKING PAPERS

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**Alonso Alfaro-Ureña** and **Paolo Zacchia**: “Matching to Suppliers in the Production Network: a Quantitative Framework.”

Status: conditionally accepted at the *American Economic Journal: Microeconomics*. A prior version is released as the CERGE-EI working paper no. 775. Financially supported by Charles University’s PRIMUS program (2021-2023).

**Abstract**. We build a model of production network formation that enables econometric estimation of the determinants of supplier choice, like trade costs or matching frictions. The model informs an estimator obtained from a transformation of the multinomial logit likelihood function that conditions on two network statistics: the out-degree of sellers (a sufficient statistic for the seller marginal costs) and the in-degree of buyers (which is determined by decisions of buyers, like “make-or-buy”). In an empirical application, this estimator shows that a major Costa Rican highway contributed to shuffle the spatial distribution of firm-to-firm linkages.

**Francesco Del Prato** and **Paolo Zacchia**: “The Heterogeneous Consequences of Reduced Labor Costs on Firm Productivity.”

Status: under revision. A prior version is released as the CERGE-EI working paper no. 783. Project approved for the 2020 VisitINPS program.

**Abstract**. We explore the effect of a reduction in overall labor costs, indirectly induced by an Italian reform that weakened employment protection legislation, on the productivity distribution of manufacturing firms. Due to the unique institutional features of the Italian collective bargaining system, in the manufacturing sector the reform led to a clean reduction in average worker compensation unrelated to firm-level organizational or managerial decisions. This decrease in labor cost resulted in a reduction in average total factor productivity (TFP) among less productive firms, and an increase at the upper end of the distribution. We pair these findings with increased entry and exit dynamics among low-productivity firms, suggesting the presence of an adverse selection mechanism at the bottom of the TFP distribution, enhanced by the reform. We formalize this concept via a general equilibrium model that links productivity to frictions in the markets for inputs.

**Francesco Del Prato, Yaroslav Korobka and Paolo Zacchia.** “Generalized AKM: Theory and Evidence.”

Status: in preparation. Financially supported by the Czech Ministry of Education’s ERC-CZ grant no. LL2319 (2023-2025).

**Abstract.** This paper develops an estimator for quadratic forms in semiparametric models where covariates enter through an unknown function. The leading application is a generalized AKM wage decomposition: we estimate worker and firm variance components and sorting while flexibly partialling out observed worker and firm characteristics. The estimator combines leave-one-out bias correction with series approximation, is robust to heteroskedasticity and many fixed effects, and is consistent when both fixed effects and basis terms grow with sample size under a strengthened smoothness condition. Simulations show large bias reductions relative to plug-in estimators in nonlinear settings. In linked Portuguese employer-employee data, adding rich controls to linear AKM generates large discontinuities, whereas the generalized estimator yields coherent movements across control sets and basis richness, with sorting attenuating toward zero as flexibility increases.

**Aslan Bakirov, Francesco Del Prato and Paolo Zacchia.** “TWICE: Tree-based Wage Inference with Clustering and Estimation.”

Status: under review. Financially supported by the Czech Ministry of Education’s ERC-CZ grant no. LL2319 (2023-2025).

**Abstract.** How much do worker skills, firm pay policies, and their interaction contribute to wage inequality? Standard approaches rely on latent fixed effects identified through worker mobility, but sparse networks inflate variance estimates, additivity assumptions rule out complementarities, and the resulting decompositions lack interpretability. We propose TWICE—Tree-based Wage Inference with Clustering and Estimation—a framework that models the conditional wage function directly from observables using gradient-boosted trees, replacing latent effects with interpretable, observable-anchored partitions. This trades off the ability to capture idiosyncratic unobservables for robustness to sampling noise and out-of-sample portability. Applied to Portuguese administrative data, TWICE outperforms linear benchmarks out of sample and reveals that sorting and non-additive interactions explain substantially more wage dispersion than implied by standard AKM estimates.

**Cagin Keskin and Paolo Zacchia.** “Capital Injection in the Production Network.”

Status: in preparation. Financially supported by the Czech Ministry of Education’s ERC-CZ grant no. LL2319 (2023-2025).

**Abstract.** We study the effects of acquisitions on firms and their production networks in Türkiye using rich administrative firm-to-firm transaction data. Leveraging a staggered event-study design, we compare post-acquisition outcomes of target firms and their trading partners to matched controls. Acquisitions increase the intangible intensity of target firms but have no consistent effects on conventional performance measures. A key finding is that the network consequences of acquisitions depend on the acquirer’s origin. Domestic acquisitions lead to tangible capital deepening and strengthen existing buyer-supplier relationships along the intensive margin, while foreign acquisitions tend to shift production toward outsourcing and diversify network connections. We argue that these differences stem from variation in firms’ relationship capability: their ability to sustain productive links in a network governed by incomplete contracts.

**Vít Illichmann and Paolo Zacchia.** “Adversarial Structural Estimation on Graphs.”

Status: in preparation. Financially supported by the Czech Ministry of Education’s ERC-CZ grant no. LL2319 (2023-2025). [Python package]

**Abstract.** We study structural estimation on networks in the empirically common case of a single large observed graph. We propose an adversarial estimator that minimizes statistical distance between observed

and simulated node-specific distributions of local network neighborhoods. The paper provides two theoretical results: population identification via a divergence characterization of the estimation criterion function, and consistency under growing-graph asymptotics with cross-observation dependence. A key contribution is computational. We provide a reproducible estimation workflow that integrates fixed-point simulation, efficient focal-neighborhood data construction, and alternating minimax training with stabilization tools suitable for large-scale runs. The workflow is model-agnostic in a broad class of network structural models and is straightforward to implement with modern software. In benchmark simulations, the procedure scales to large graphs and recovers structural parameters with high precision.

**Francesco Del Prato and Paolo Zacchia:** “Gatekeeping, selection and welfare.”

Status: under review.

**Abstract.** We study staged entry with costly gatekeeping in a differentiated-products economy: entrepreneurs observe noisy signals before paying a resource-intensive activation cost. Precision improves selection but requires more resources, reducing entry and variety: welfare need not rise with precision. Under CES preferences, the activation cutoff is efficient as profit displacement offsets the consumer-surplus gain from variety. Welfare losses arise from verification costs shrinking the feasible set of varieties, not from misaligned incentives. Because the market responds efficiently to any given regime, these losses cannot be corrected via Pigouvian taxes.

#### SELECTED WORK IN PROGRESS

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“Good and bad suppliers.” Joint with **Alonso Alfaro-Ureña, Arsenii Scherbov, Jose Vasquez.**

Info: financially supported by Charles University’s PRIMUS program (2021-2023).

**Abstract.** We document an ample degree of dispersion of supplier quality, defined as the effect of a supplier’s inputs on its buyer’s sales, in the Costa Rican production network. Supplier quality also appears uncorrelated with buyer unobservables, suggesting the existence of both informational and spatial frictions affecting firms’ choice of suppliers. We quantify these two forces via a structural model of production network formation.

“Human capital value chains in local labor markets.” Joint with **Francesco Del Prato.**

Info: project approved for the 2023 VisitINPS program.

**Abstract.** In local labor markets, workers often move at early stages of their careers from lower-paying firms that provide them training, to better-paying, specialized firms. We call this mechanism “human capital value chain” and we document its implications on both workers’ wage paths and local agglomeration externalities.

“Estimation of correlated games.”

**Abstract.** I consider the problem of estimating the parameters of a game where players are allowed to play correlated equilibria (Aumann, 1974). I show that the existence of correlation between strategies is testable, and I develop an empirical application of the proposed estimator to assess spatial collusion in airline entry.

## TEACHING EXPERIENCE

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- 2026 – 2027    **Lecturer**, Ca' Foscari University of Venice (*scheduled*)  
Microeconomics (*undergraduate and graduate level*)
- 2019 – 2025    **Lecturer**, CERGE-EI  
Statistics (*Ph.D. level, core*); Microeconometrics (*graduate level, 2021-2023*)  
Industrial Organization (*graduate level, 2024-2025*)
- 2015 – 2021    **Lecturer**, IMT School for Advanced Studies  
Econometrics (*Ph.D. level, core*); Microeconomics (*preparatory Ph.D. class, 2016-2018*); Productivity and Innovation (*Ph.D. elective module, 2015*)
- 2011 – 2015    **Graduate Student Instructor**, University of California, Berkeley  
Urban Economics (*reader, intermediate, 2015*); Statistics and Econometrics (*intermediate, 2014*); Economic Analysis: Macro (*intermediate, 2011-2014*)

## GRANTS, AWARDS AND FELLOWSHIPS

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- 2023 – 2025    Czech Ministry of Education, ERC-CZ grant (for prospective ERC applicants)  
Project title: “Hierarchical networks and their Microeconomic Origins”  
Principal Investigator grant: 5,293,000 CZK ( $\approx$  260,000 USD)
- 2021 – 2023    Charles University’s PRIMUS Research Programme, fifth round  
Short project title: “(Mis)matching to Suppliers in the Production Network”  
Principal Investigator grant: 2,810,250 CZK ( $\approx$  136,000 USD)
- 2020 – 2021    *Jan Švejnar and Katherine Terrel* excellence in teaching award, CERGE-EI
- 2020 – 2021    Charles University’s JUNIOR Fund for researchers based outside Czechia  
Fellowship supporting the local visiting position at CERGE  
Total fellowship amount: 900,000 CZK ( $\approx$  44,000 USD)
- 2013 – 2014    Dean’s Normative Time Fellowship, U.C. Berkeley
- 2011            *Grace Katagiri* Prize for the best econometrics paper, U.C. Berkeley
- 2009 – 2011    *Marco Fanno* fellowship for graduate students in Economics
- 2007 – 2009    Full scholarship, Università di Bologna (*Collegio Superiore*)
- 2004 – 2007    Full scholarship, Sant’Anna School of Advanced Studies, Pisa

## INVITED SEMINARS

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- 2026    University of Economics in Bratislava
- 2025    Universität Linz, London School of Economics: Management Department
- 2024    Università di Padova, Universidad de Cantabria
- 2022    University of Ottawa
- 2021    Università di Roma Tor Vergata, Università di Bologna
- 2019    Universität Innsbruck, University of Nottingham, University of Warwick, CERGE-EI, École Polytechnique (Paris-Saclay), Université de Cergy-Pontoise
- 2018    Hungarian Academy of Sciences, STICERD at the London School of Economics

- 2017 Università di Genova, GREQAM Université de Marseille
- 2016 L.M.U. (Munich), Max Planck Institute (Munich), K.U. Leuven, Einaudi Institute for Economics and Finance (Rome), I.I.E.S. at the Higher School of Economics (Moscow), Università di Bologna
- 2015 Sant’Anna School of Advanced Studies (Pisa), New Economic School (Moscow), IMT School for Advanced Studies (Lucca), Stockholm School of Economics, Banca d’Italia

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PRESENTATIONS AT CONFERENCES AND WORKSHOPS

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- 2025 Annual Conference of the Italian Economic Association, Naples (*invited*)
- CEPR-IFC Workshop on “Targeting Development Finance,” Paris (*invited*)
  - Workshop on Networks and Development: fourth edition, Naples
- 2024 European Winter Meeting of the Econometric Society, Palma de Mallorca
- Bank of Italy-CEPR-EIEF-OECD Conference on Production Networks, Rome
  - Workshop on International Economic Networks (WIEN), Vienna
  - Global Economic Networks Workshop, Tübingen
- 2023 Annual VisitINPS conference, Rome (*invited*)
- Meeting of the European Association of Labour Economics, Prague
  - Society of Labor Economics Meeting, Philadelphia (*accepted, replaced by coauthor*)
- 2022 European Winter Meeting of the Econometric Society, Berlin
- 2020 Innovation Workshop at the University of Luxembourg (*invited, canceled*)
- 2019 European Winter Meeting of the Econometric Society, Rotterdam
- Northwestern Junior Workshop on the Econometrics of Networks, Evanston (*invited*)
  - Annual Conference of the International Association for Applied Econometrics, Nicosia
- 2018 European Winter Meeting of the Econometric Society, Naples
- 13th Meeting of the Urban Economics Association, New York
  - 4th Geography of Innovation Conference, Barcelona
- 2017 7th EIEF-UNIBO-IGIER Workshop on Industrial Organization, Bologna
- XVIII April International Conference on Economic and Social Development, Moscow
- 2016 AQR Workshop on Regional and Urban Economics, Barcelona
- Annual Conference of the International Association for Applied Econometrics, Milan
  - North American Summer Meeting of the Econometric Society, Philadelphia
  - 3rd Geography of Innovation Conference, Toulouse
- 2015 Pacific Conference for Development Economics (PacDev), San Diego
- 2014 14th International Workshop on Computational Economics and Econometrics, Rome
- Munich Conference on Innovation and Competition (MCIC), Kreuth

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ORGANIZATION OF CONFERENCES AND WORKSHOPS

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- 2024 European Winter Meeting of the Econometric Society, Palma de Mallorca  
Member of the program committee for the Industrial Organization field
- 2023 Meeting of the European Association of Labour Economics, Prague  
Member of the local organizational committee (CERGE-EI)

2018 7th Workshop on Networks in Economics and Finance (NETEF), Lucca  
Member of the local organizational committee (IMT School for Advanced Studies)

#### NATIONAL-LEVEL QUALIFICATIONS

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2023 – 2034 *Abilitazione Scientifica Nazionale per le funzioni di professore di seconda fascia*  
(Italy): scientific field 13/A1 (Economics) and 13/A4 (Applied Economics)

#### STUDENT PLACEMENT

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2026 Sona Badalyan (Ph.D.; co-advisor): post-doc at the University of Bonn  
2025 Amos Caphas Njoku (Ph.D.): continuing Ph.D. at the University of Glasgow  
2024 Francesco Del Prato (Ph.D.; main advisor): Assistant Professor at Aarhus University  
2022 Francesco Del Prato (Ph.D.; main advisor): post-doc at the Paris School of Economics  
2021 Giorgi Chavchanidze (Master's): Ph.D. at Boston College, Finance  
Santiago Campos-Rodriguez (pre-doc): Ph.D. at U.C. Irvine, A.R.E.

#### REFEREEING ACTIVITY

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*AEJ: Economic Policy; Annals of Regional Science; Econometric Reviews; Industrial and Corporate Change; International Economic Review; Journal of Development Economics; Journal of Economic Geography; Journal of Economic History; Journal of Law, Economics, and Organization; Journal of Political Economy; Journal of the European Economic Association; Quarterly Journal of Economics; Research Policy.*

#### PROFESSIONAL AFFILIATIONS

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American Economic Association, Econometric Society, European Economic Association

#### LANGUAGES

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Italian (native), English (fluent), Spanish (fluent), German (advanced), Russian (intermediate), Czech (intermediate)