

PAOLO ZACCHIA
CURRICULUM VITAE – SEPTEMBER 2021

Italian national, born in Rome on December 17th, 1985. Currently resident in the Czech Republic.

CONTACTS

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RESEARCH INTERESTS

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

CURRENT POSITIONS

2021 – present **Senior Researcher** (*seniorní vědecký pracovník*), Economics Institute (EI) of the Czech Academy of Sciences
2020 – present **Post-doc Researcher** (*vědecký pracovník*), CERGE at Charles University

EDUCATION

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

PREVIOUS POSITIONS

2015 – 2021 **Research Fellow** (*assegnista di ricerca*), IMT School for Advanced Studies
2019 (Fall) **Adjunct Lecturer**, CERGE at Charles University
2012 (Fall) **Research Analyst**, European Bank for Reconstruction and Development

TEACHING EXPERIENCE

2019 – 2021 **Lecturer**, CERGE-EI
Statistics (*Ph.D. level, core*); Microeconometrics (*Ph.D. level, since 2021*)
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*)

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

Status: Forthcoming at the *American Economic Journal: Economic Policy*. [[link](#)]

Abstract. We study the long-run effects of historical place-based policies targeting R&D: the creation of *Science Cities* in former Soviet Russia. The establishment of Science Cities and the criteria for selecting their location were largely guided by military and strategic considerations. We compare current demographic and economic characteristics of Science Cities with those of appropriately matched localities that were similar to them at the time of their establishment, and had similar pre-trends. We find that in present-day Russia, despite the massive cuts in government support to R&D that followed the dissolution of the USSR, Science Cities still host more highly skilled workers and more developed R&D and ICT sectors; they are the origin of more international patents; and they generally appear to be more productive and economically developed. We also rule out alternative explanations related to the differential use of public resources, and we find limited evidence of reversion to the mean. By estimating a spatial equilibrium model in our matched sample, we interpret these findings as the result of the interaction between persistence and agglomeration forces.

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

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

Abstract. In this paper I directly test the hypothesis that interactions between inventors of different firms drive knowledge spillovers. I construct a network of publicly traded companies in which each link is a function of the relative proportion of two firms’ inventors who have former patent collaborators in both organizations. I use this measure to weigh the impact of R&D performed by each firm on the productivity and innovation outcomes of its network linkages. An empirical concern is that the resulting estimates may reflect unobserved, simultaneous determinants of firm performance, network connections and external R&D. I address this problem with an innovative IV strategy, motivated by a game-theoretic model of firm interaction. I instrument the R&D of one firm’s connections with that of other firms that are sufficiently distant in network space. With the resulting spillover estimates, I calculate that among firms connected to the network the marginal social return of R&D amounts to approximately 112% of the marginal private return.

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](#)]

Abstract. In this paper I examine episodes in which superstar inventors relocate to a new city. In particular, in order to assess whether the beneficial effects of physical proximity to a superstar have a restricted network dimension or a wider spatial breadth (spillovers), I estimate changes in patterns of patenting activity following these events for two different groups of inventors: the superstar’s close collaborators, and all the other inventors in a given urban area, for both the locality where the superstar moves to and for the one that is left behind. In the case of collaborators, I restrict the attention to patents realized independently from the superstar. The results from the event study register a large and persistent positive effect on the collaborators in the city of destination, as well as a simultaneous negative trend affecting those still residing in the previous location. In the long run, these effects translate into an increased difference between the two groups of about 0.16 patents per inventor. Conversely, no city-wide spillover effect can be attested, offering little support to place-based policies aimed at inducing a positive influx of top innovators in urban areas.

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

Status: under review.

Abstract. Researchers interested in the estimation of peer and network effects, even if these are algebraically identified, still need to address the problem of correlated effects. In this paper we characterize the identification conditions for consistently estimating all the parameters of a spatially autoregressive or linear-in-means model when the structure of social or peer effects is exogenous, but the observed and unobserved characteristics of agents are cross-correlated over some given metric space. We show that identification is possible if the network of social interactions is non-overlapping up to enough degrees of separation, and the spatial matrix that characterizes the co-dependence of individual unobservables and peers’ characteristics is known up to a multiplicative constant. We propose a GMM approach for the estimation of the model’s parameters, and we evaluate its performance through Monte Carlo simulations. Finally, we show that in a classical empirical application about classmates our approach might estimate statistically non-significant peer effects when conventional approaches register them as significant.

Alonso Alfaro Ureña, Jose Vasquez and Paolo Zacchia: “(Mis)matching to Good Suppliers: Evidence from Transactions Microdata.”

Status: preliminary and incomplete version available on request.

Abstract. Using administrative data for the universe of firm-to-firm transactions in Costa Rica, we study the role and prevalence of “good suppliers”, defined as those upstream firms that provide better, more valuable inputs to their downstream buyers. We then investigate the frictions that might prevent buyers from matching with good suppliers and thus become more productive. Our analysis proceeds in three phases. First, we adapt standard machine learning techniques to the estimation of production functions with many inputs in order to identify the good suppliers in the economy. Next, we quantify the frictions that may preclude buyers from matching with the good suppliers. We do so by empirically estimating a production network formation model through a conditional likelihood approach specifically suited to this problem. Finally, we perform economy-wide counterfactual simulations of industrial policies aimed at supporting good suppliers. The objective of this paper is to study matching distortions in input markets as a microeconomic origin of misallocation in developing economies and to suggest adequate policy responses.

SELECTED WORK IN PROGRESS

“The Italian productivity malaise, misallocation and the labor market: a new framework and the search for empirical evidence.” Joint with **Francesco Del Prato**.

Abstract. In reviewing tentative explanations for the stagnation of productivity growth of Southern European economies, we argue that labor market policies may have played a role by worsening factor misallocation across firms. We assess this hypothesis through a battery of empirical tests using matched employer-employee data. We document a new stylized fact: following the reforms, the variance of total factor productivity has increased across industries of the Italian economy, consistently with our misallocation hypothesis.

“Entropic network formation: theory, estimation, and empirical applications.”

Abstract. I provide an economic interpretation to the entropy-based probabilistic models of network formation used in statistical physics. Specifically, I show how these models are nested in a wider class of network formation models where agents are rationally inattentive about the characteristics of other agents.

GRANTS, AWARDS AND SCHOLARSHIPS

- 2021 – 2024 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 130,000 USD), extendable
- 2020 – 2021 Charles University’s JUNIOR Fund (Post-Doc) for international researchers
Fellowship supporting the local position at CERGE
- 2013 – 2014 Dean’s Normative Time Fellowship, 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

- 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

PRESENTATIONS AT CONFERENCES AND WORKSHOPS

- 2020 Innovation Workshop at the University of Luxembourg (invited, canceled)
- 2019 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

ORGANIZATION OF CONFERENCES AND WORKSHOPS

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

AFFILIATIONS

American Economic Association, Econometric Society, European Economic Association, Urban
Economics Association

LANGUAGES

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