

PAOLO ZACCHIA

Italian national, born in Rome on December 17th, 1985. *Web:* sites.google.com/site/paolozacchia/

CONTACTS

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RESEARCH INTERESTS

Productivity and Innovation, Networks, Economic Geography, Applied Econometrics

CURRENT EMPLOYMENT

2019 – present **Visiting Assistant Professor**, CERGE-EI, Prague
2015 – present **Assistant Professor**, IMT School for Advanced Studies, Lucca

EDUCATION

2009 – 2015 **Ph.D. in Economics**, University of California, Berkeley
Principal Advisor: Prof. **Enrico Moretti**
2007 – 2009 **M.S. in Economics**, Università di Bologna
2004 – 2007 **B.S. in Economics**, Università di Pisa

PREVIOUS EMPLOYMENT

2012 (Fall) **Research Analyst**, European Bank for Reconstruction and Development
Research on the productivity and innovation of firms in transition economies

TEACHING EXPERIENCE

2016 – 2019 **Lecturer**, IMT School for Advanced Studies
Econometrics (*Ph.D. sequence*), Microeconomics (*preparatory Ph.D. course*)
2015 (Fall) **Guest Lecturer**, IMT School for Advanced Studies
Productivity and Innovation (*module of a Ph.D. elective course*)
2011 – 2015 **Graduate Student Assistant (TA)**, University of California, Berkeley
Urban Economics (*reader only*), Statistics and Econometrics (*intermediate*),
Economic Analysis – Macroeconomics (*intermediate*)

PUBLICATIONS

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

Forthcoming at: *The Review of Economic Studies*; [link](#) (advance access).

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.

WORKING PAPERS

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

Status: in preparation; [link](#) (working paper).

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 idiosyncratic considerations of military and strategic nature. 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. We find that in the modern Russian economy, despite the massive cuts in government support to R&D that followed the dissolution of the USSR, Science Cities 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. Within a spatial equilibrium framework, we interpret these findings as the result of the interaction between persistence and agglomeration forces. Furthermore, we rule out alternative explanations that have to do with the differential use of public resources, and we find limited support for a case of equilibrium reversion. Lastly, an analysis of firm-level data suggests that locating closer to Science Cities generates stronger spillover effects on firms’ innovation and performance indicators.

Santiago Pereda Fernández and Paolo Zacchia: “Identification of Social Effects with Endogenous Networks and Covariates: Theory and Simulations.”

Status: in preparation; [link](#) (working paper).

Abstract. The estimation of spillover and peer effects presents challenges that are still unsolved. In fact, even if separate algebraic identification of the endogenous and exogenous effects is possible, these might be contaminated by the simultaneous dependence of outcomes, covariates and the network structure upon spatially correlated unobservables. In this paper we characterize the identification conditions for consistently estimating all the parameters of a spatially autoregressive or linear-in-means model in presence of linear forms of endogeneity. We show that identification is possible if the network of social interactions is non-overlapping up to three degrees of separation, and the spatial matrix that characterizes the co-dependence of individual covariates and peers’ unobservables is known to the econometrician. We propose a GMM approach for the estimation of the model’s parameters, and we evaluate its performance through Monte Carlo simulations.

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

Status: extended abstract available on request.

Abstract. Using administrative data for the universe of firm-to-firm transactions in Costa Rica, we study the role and the prevalence of “good suppliers:” those upstream firms that provide better inputs to their downstream buyers. 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 – through the lenses of a production-network formation model – the frictions that preclude buyers from matching with the good suppliers. Finally, we perform economy-wide counterfactual simulations about different configurations of industrial policy that would support the good suppliers. Our results would speak about issues of misallocation in developing economies, as well as about the role of input-output relationships in agglomeration economies.

OTHER WORK IN PROGRESS

“Spatial Competition in Cities: Hotel Pricing on UEFA Football Days.” Joint with **Claudio Piga, Carlo Reggiani** and **Yevgeniya Shevtsova**.

“Temporary Work Agencies and Labor Market Sorting.” Joint with **Francesco Del Prato**.

“Equilibrium Firm Size Distribution with Heterogeneous Suppliers: Theory and Evidence.” Joint with **Kenan Huremović**.

INVITED SEMINARS

- 2019 Universität Innsbruck, University of Nottingham, University of Warwick, CERGE–EI (Prague), École Polytechnique (Paris-Saclay), Université de Cergy-Pontoise
- 2018 Hungarian Academy of Sciences, 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

- 2019 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)

ORGANIZATION OF CONFERENCES AND WORKSHOPS

7th annual Workshop on Networks in Economics and Finance (NETEF), IMT School for Advanced Studies, 2018 – organized jointly with the CIRANO network and the Walton College (U. of Arkansas)

Member of the IMT School’s organizational committee along with **Kenan Huremović**, **Massimo Riccaboni** and **Sara L. Olson**

AWARDS AND SCHOLARSHIPS

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| 2013 – 2014 | Dean’s Normative Time Fellowship, U.C. Berkeley |
| 2011 | <i>Grace Katagiri</i> Prize for the best econometrics paper, U.C. Berkeley |
| 2009 – 2011 | <i>Marco Fanno</i> Fellowship for Italian Graduate Students in Economics |
| 2007 – 2009 | Full Scholarship, Università di Bologna (<i>Collegio Superiore</i>) |
| 2004 – 2007 | Full Scholarship, Sant’Anna School of Advanced Studies (Pisa) |

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)