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# Davide Suverato

<https://www.davidesuverato.net> — [dsuverato@ethz.ch](mailto:dsuverato@ethz.ch)  
*Married to Stefanie, father of Flavia and Livia*

## CONTACT INFORMATION

Full name: Davide Suverato  
Birth date: 1982-05-28  
Email: [dsuverato@ethz.ch](mailto:dsuverato@ethz.ch)

## 1 EDUCATION

### 1.1 Academic degrees

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2008 -	2013	Ph.D. in Economics, Bocconi University. Advisors: Gianmarco Ottaviano, Antonella Trigari, Pietro Muliere.
2004 -	2006	M.Sc. in Management, Economics and Production Engineering, Polytechnic of Milan, Advisors: Fabio Sdogati, Lucia Tajoli, final mark: 110/110 <i>cum laude</i> .
2001 -	2004	B.Sc. in Management and Production Engineering, Polytechnic of Milan. Advisor: Fabio Sdogati.

## 2 QUALIFICATIONS

### 2.1 Academic employment history: assistant professorship

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Sep. 2019 -	now	Senior Researcher in International Economics, ETH Zurich.
Nov. 2018 -	Aug. 2019	Postdoctoral researcher, Technical University of Munich.
Sep. 2013 -	Oct. 2018	Postdoctoral researcher, LMU University of Munich.

### 2.2 Academic employment history: parental leave

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Feb. 2024 -	Apr. 2024	Birth of my second daughter.
Apr. 2020 -	Jun. 2020	Birth of my first daughter, during COVID and lockdown in Milan.

### 2.3 Academic employment history: lecturer in academic programmes

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Mar. 2019 -	Sep. 2019	Lecturer of International Economics, Bocconi University.
Mar. 2018 -	Aug. 2019	Lecturer of Macroeconomics, Polytechnic of Milan.
Mar. 2018 -	Aug. 2019	Lecturer of Microeconomics, Polytechnic of Milan.

### 2.4 Academic employment history: research visiting fellow

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Apr. 2017 -	Jun. 2017	London School of Economics, invited by Gianmarco Ottaviano.
Jan. 2012 -	Nov. 2012	Harvard University, invited by Elhanan Helpman.

### 2.5 Employment in business school programmes

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Sep. 2014 -	now	Faculty, Graduate School of Management, Polytechnic of Milan, accredited AACSB, AMBA, EQUIS, Top 100 FT Global MBA Ranking.
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### 2.6 Employment in professional non-academic appointments

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Feb. 2023 -	now	Consultant for ISPI, Institute for Studies on International Politics, Milano.
May 2008 -	Aug. 2008	Consultant for Early Warning System on CDS at ABAX Bank, Milano.
Oct. 2006 -	Nov. 2009	Consultant for the analysis of International competitiveness, at IRS, Milano.
Jan. 2004 -	Apr. 2004	Technician analyst for Quaker Chemical, at Marcegaglia Group, Ravenna.

## 3 SCIENTIFIC EXPERTISE

### 3.1 Publications in peer reviewed journals

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- Doerr, S., Marin, D., Suverato, D. and Verdier, T. (2024) “**International Trade and the Allocation of Capital Within Firms**”, *Journal of International Economics*, ISSN 1873-0353, conditionally accepted.
  - Perroni, C., and Suverato, D. (2023) “**Skill Scarcity and Export Intensity**”, *Canadian Journal of Economics / Revue canadienne d'économique*, 56: 719-757, ISSN 1540-5982.

### 3.2 Publications in working paper series

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- Ottaviano, G., and Suverato, D. (2024) “**Fantastic Beasts and Where to Find Them**”. *CEPR Discussion Paper Series*, (No. 18935) ISSN 2045-6573, CEPR Press.
  - Egger, P., Erhardt, K., and Suverato, D. (2024) “**How Aggregate Uncertainty Shapes the Spatial Economy**”. *CEPR Discussion Paper Series*, (No. 19016) ISSN 2045-6573, CEPR Press.

- Suverato, D. (2014) “**Trade and the Labor Market: a Dynamic Model with on-the-job Search**”. *Centro Studi Luca d’Agliano, Development studies working papers*, (No. 2014-368) ISSN 2282-5452, University of Milan.
- Muliere, P., Suverato, D. (2014) “**Income and Wealth Distributions in a Population of Heterogeneous Agents**” *Munich Discussion Paper*, (No. 2014-21) DOI: 10.5282/ubm/epub.20928, University of Munich.

### 3.3 Publications in policy reports

- Orefice, G., Suverato, D. (2018) “Misure non tariffarie: quali sono e quanto costano alle imprese italiane?”, in “L’Italia nell’Economia Internazionale” Rapporto ICE 2017/2018, pp. 94-101, ISBN 978-88-98597-14-7, ISSN 977 -2282-685008.
- Suverato, D. (2017) “Un protezionismo che non protegge e le sue conseguenze sulla distribuzione del reddito”, in “L’Italia nell’Economia Internazionale” Rapporto ICE 2016/2017, pp. 66-71, ISBN 978-88-98597-09-3, ISSN 2282-6858.
- Orefice, G., Sdogati, F., Sokol, A., Suverato, D. 2009, “IRS Osservatorio sulla Crisi: l’Interscambio Commerciale”, Nota congiunturale novembre 2009, pp. 8-18.
- Orefice, G., Sdogati, F., Sokol, A., Suverato, D. 2009, “L’interscambio commerciale” in “IRS Osservatorio sulla Crisi”, Nota congiunturale giugno 2009, pp. 7-13.
- Orefice, G., Sdogati, F., Suverato, D. 2008, “Osservatorio sulla competitività delle esportazioni bergamasche: le tendenze recenti e le novità del 2007” e “Il modello di internazionalizzazione delle imprese bergamasche” in “IRS Rapporto sull’Economia Bergamasca nel 2008”, pp. 40-96.
- Orefice, G., Sdogati, F., Suverato, D. 2007, “Osservatorio sulla competitività delle esportazioni bergamasche: le tendenze recenti e le novità del 2006” e “La competitività internazionale dell’industria bergamasca” in “IRS Rapporto sull’Economia Bergamasca nel 2007”, pp. 41-146.

### 3.4 Description of own research (please refer to the enclosed Research Statement for a detailed description)

My main field of research is International Economics, with a focus on international trade theory and quantitative general equilibrium trade models with labor market imperfections.

My approach is characterized by general equilibrium frameworks with heterogeneous agents under imperfect competition and dynamic stochastic optimal control in mean field games and differential games.

I organize my planned research output based on three key research questions: (a), (b), and (c), hereafter. Paragraph (d) describes projects on hold. References are indicated in parentheses [#], and listed below.

**(a)** *How do the distributions of welfare and market shares respond to local resource shocks in integrated, inefficient economies subject to national industrial policies?* [1], [2], [3], [4].

*Idea and output.* The original idea is to develop a general equilibrium multi-sector framework starting from the partial equilibrium Melitz-Ottaviano model, to the goal of conducting quantitative and counterfactual welfare analysis that could account for distortions due to endogenous markups within-sector. This has been a major investment, started in 2017 during my visit to LSE, that now pays off with 4 ongoing projects and a new, flexible, and richer quantitative framework. I plan to make use of this asset to conduct counterfactual analysis of the effect on welfare of resource shocks and industrial policies in integrated open economies.

*Independent contributions.* In [1], I am responsible for the development of the new theoretical framework, the welfare analysis in comparison with previous work by Arkolakis, Costinot, Donaldson, and Rodríguez-Clare (2012, 2019), the resource shock analysis in comparison with previous work by Hulten (1978), Baqaee and Farhi (2019, 2024), and the empirical analysis. In [2], I am responsible for the development of the new theoretical framework and I am co-responsible for the normative policy predictions and the pass-through estimation. In [3], I am responsible for the innovative flexible distribution approach that allows us to inform price distributions based on the gravity estimation implied by [1] and I designed the econometric specification. In [4], I am responsible for the extension of the theoretical framework of [1] to account for monopsony power in the labor market and within-country wage dispersion.

*Significance.* This line of research makes a contribution to the quantitative trade literature. We have been invited to present the results at the **Princeton Summer Trade Workshop** (June 2024) and preliminary results from this research have been cited in the **Handbook of International Economics** (Chapter 7, Volume 5, 2022). Specifically, in [1], the heterogeneity of sectors in technological concentration implies an incomplete pass-through of growth shocks on welfare, which is specific to multi-sector open economies and reveals episodes of immiserizing growth that would be hidden under state-of-the-art quantitative trade models used for policy analysis. In [2], we show necessary and sufficient conditions for the existence of non-discriminatory industrial policy, thus applicable in practice, that implement the social optimum. In [3], we show the conditions under which a structural estimation of trade flows is sufficient to infer the price distribution at the exporter-importer-product level and the productivity distribution at the country and product level. In [4], we extend the conclusions of [1] when agents consume different baskets of products depending

on their income, and we show that impacts on the welfare distribution might change dramatically.

**(b)** *How does the spatial distribution of economic activity respond to aggregate uncertainty when large macroeconomic shocks are channeled through international trade and mobility?* [5], [6], [7].

*Idea and output.* The idea, and ultimate goal, is to fill a significant gap in the analysis of welfare gains from trade in the workhorse approaches: almost all quantitative trade spatial models are solved under perfect foresight, and the very recent setups that account for uncertainty are based on perturbation methods around perfect foresight, which are not suited for large uncertainty shocks (a *perturbation outside the attraction region* in Judd’s terminology). Since my appointment at ETH in 2019, I have made a major investment in developing a new methodology to solve large-scale dynamic spatial general equilibrium models under uncertainty, without relying on approximation around perfect foresight. To win this challenge I build on the recent math literature on Mean Field Games, specifically in discrete time and discrete state space.

This investment pays off with three ongoing projects, all discussed with leading scholars in the literature and one currently under submission. The next steps are to push this agenda further and evaluate the impact of unprecedented large shocks, such as climate change, mass migration, and artificial intelligence.

*Independent contributions.* In [5], I am responsible for the development of the new mathematical framework that casts the evolution of a spatial dynamic general equilibrium model with heterogeneous agents making decisions under aggregate uncertainty as a Mean Field Game in discrete time and discrete state. In addition, I am co-responsible for the quantification of the model. In [6], I am responsible for the generalization of the mathematical methodology of [5] in two directions: to accommodate non-stationary equilibria and to relax the assumption of “independence of irrelevant alternatives”. In addition, I am co-responsible for the quantification of the model. In [7], I am responsible for the modeling of trade imbalances, including assets of different liquidity and housing market transactions. I then apply the solution method in [5] to investigate mobility and the risk of a housing market bubble in China.

*Significance.* This line of research makes a contribution to the quantitative spatial literature ([5] and [7]) and to the macro literature with heterogeneous agents ([6]) by providing the first approach that accounts for aggregate uncertainty when the extent of the shock is such that perturbation around perfect foresight does not suit the research question. The methodology has benefited from interactions with leading scholars in the field: Lorenzo Caliendo and Fernando Parro, during their research visit at ETH Zurich in May 2023, and Rafael Dix-Carneiro during his research visit at the University of Zurich in 2023. We have been invited to present the results at the **Yale International Trade Workshop** (November 2023).

**(c)** *How does international trade impact competition for scarce resources, both between countries and within local labor markets among different skill levels?* [8], [9], [10], [11].

*Idea and output.* The idea behind this line of research is to investigate the consequences of international trade through the lens of competition for scarce resources. Sharing this view with co-authors has produced, so far, four research questions and as many projects, two of them published, in which the scarce resources under study are: skilled labor in [8] with Carlo Perroni and [9] with Elhanan Helpman, within-firm capital assets in [10] with Dalia Marin and Thierry Verdier, and innovative ideas in [11] with Peter Egger.

*Independent contributions.* In [8], I am responsible for the development of the export function that accounts for non-iceberg trade costs and implies a greater relative demand in the export market for goods produced with scarcer skills in the domestic market. I am also responsible for the empirical analysis that supports both the mechanism and the novel predictions of the theory. In [9], I am responsible for modeling the dynamic differential game played by large multiproduct firms strategically choosing their investment levels to crowd out small firms while competing oligopolistically against other large firms. In [10], I am responsible for modeling the within-firm competition for funds across divisions and nesting this innovative channel in a trade model of multiproduct firms. In [11], I am responsible for a generalization of my original framework in [1] to account for quality. This generalization also leads to the structural estimation of taste for quality versus quantity, taste for variety versus quality, and scope for quality.

*Significance.* The results from this line of research provide contributions to the literature on international trade theory, as they show a tractable way to, respectively: [8] abandon iceberg-trade-costs (rejected in the data) in favor of modeling skill-complementary production of export services; [9] model the dynamic strategic games played by large firms when deciding upon investment and product scope; [10] model marginal costs at the product level as endogenous to internal market competition for assets; [11] model quality-upgrading decisions at the firm level and pricing to market at the origin-destination-product level as endogenous to the cost of gathering innovative ideas in the country of production. Preliminary results of this line of research have been discussed in **CEPR** meetings (June 2018, June 2023) and are the subject of a **VoxEU** column (August 2020).

**(d)** *Brief description of projects on hold,* [12], [13], [14], [15].

In my Ph.D. thesis I developed general equilibrium heterogeneous-firm trade models with job-posting and on-the-job search to investigate trade-induced competition in the labor market (in [12], [14], and [15]) and a statistic-based approach to model the production function given workforce composition in local labor markets, which lends itself to predict income and wealth distributions (in [13]).

These projects were set on hold due to the impossibility of acquiring data at the level needed to prove the distinctive predictions of the models, requested during the submission stage. I am confident in pushing this agenda further with access to high-resolution matched employer-employee data and firm-to-firm trade data.

## References

- [1] Ottaviano, G., and Suverato, D. (2024) **“Fantastic Beasts and Where to Find Them”**. *CEPR Discussion Paper Series*, (No. 18935) **ISSN 0265-8003**, CEPR Press.
- [2] Melitz, M., Oshmakashvili, M., Ottaviano, G., and Suverato, D. (2024) **“Markup distortions and optimal non-discriminatory industrial policy”**, *Bocconi University*, mimeo.
- [3] El-Mallakh, N., Ottaviano, G., and Suverato, D. (2024) **“Gravity before Pareto: from Trade Flows to Price Distributions”**, *Bocconi University*, mimeo.
- [4] Ottaviano, M., and Suverato, D. (2022) **“Technological change, market power and wage inequality in the global economy: a general equilibrium approach”**, *Bocconi University*, mimeo.
- [5] Egger, P., Erhardt, K., and Suverato, D. (2024) **“How Aggregate Uncertainty Shapes the Spatial Economy”**. *CEPR Discussion Paper Series*, (No. 19016) **ISSN 0265-8003**, CEPR Press.
- [6] Egger, P., Erhardt, K., and Suverato, D. (2023a) **“Solving Large Spatial Dynamic Economy Models with Aggregate Uncertainty in Discrete Time”**, *ETH Zurich*, mimeo.
- [7] Egger, P., Li, J., Ouyang, J., and Suverato, D. (2023b) **The dynamics of regional trade imbalances and spatial labor reallocation in China**. *ETH Zurich*, mimeo.
- [8] Perroni, C., and Suverato, D. (2023) **“Skill Scarcity and Export Intensity”**, *Canadian Journal of Economics / Revue canadienne d'économie*, 56: 719-757, **ISSN 1540-5982**.
- [9] Helpman, E. and Suverato, D. (2024). **A model of large firms**. Bocconi University, *mimeo*.
- [10] Doerr, S., Marin, D., Suverato, D. and Verdier, T. (2024) **“International Trade and the Allocation of Capital Within Firms”**, *Journal of International Economics*, **ISSN 1873-0353**, conditional accepted.
- [11] Egger, P., Stefanova S., and Suverato, D. (2023c) **Skill-Based Quality Upgrading and Trade: Country Differences in Innovation Capacity Matter**. *ETH Zurich*, mimeo.
- [12] Suverato, D. (2014) **“Trade and the Labor Market: a Dynamic Model with on-the-job Search”**. *Centro Studi Luca d'Agliano, Development studies working papers*, (No. 2014-368) **ISSN 2282-5452**, University of Milan.
- [13] Muliere, P., Suverato, D. (2014) **“Income and Wealth Distributions in a Population of Heterogeneous Agents”** *Munich Discussion Paper*, (No. 2014-21) **DOI: 10.5282/ubm/epub.20928**, University of Munich.
- [14] Battisti, M., Felbermayr, G., Suverato, D. (2016) **“Migrant Networks, Search Frictions and Labor Market Outcomes”**, *LMU Munich*, mimeo.
- [15] Cosar, K., Suverato, D. (2016) **“The Stolper-Samuelson Theorem when the Labor Market Structure Matters”**, *LMU Munich*, mimeo.

## 3.5 Academic seminars and conference presentations, selected list

2024, May	Department of Economics, University of Aarhus, Aarhus.
<b>2023</b>	
2023, October	Department of Economics and Finance, University of Stavanger, Stavanger.
2023, June	CEPR - European Research Workshop in International Trade (ERWIT), Torino.
2023, March	Düsseldorf Institute for Competition Economics (DICE), Düsseldorf.
<b>2022</b>	
2022, October	Italian Economic Association, Torino.
<b>2021</b>	
2021, May	CESifo Global Economy Area Conference, Munich.
<b>2020</b>	
2020, October	Paris Trade seminar, Paris School of Economics, Paris.
<b>2019</b>	
2019, September	German Economic Association, Leipzig.
2019, December	Department of Economics, Bocconi University, Milan.
<b>2018</b>	
2018, November	Trade and Development Workshop, Geneva Graduate Institute, Geneva.
2018, September	European Trade Study Group (ETSG), Warsaw.
2018, June	Industrial Organization and Spatial Economics, St. Petersburg.
2018, June	CEPR - European Research Workshop in International Trade (ERWIT), St Gallen.
2018, May	Royal Economic Society Conference, University of Sussex.
2018, January	Department of Management, Technology, and Economics, ETH Zurich.

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## 2017

2017, December	International Trade and Regional Economics, HSE Moscow.
2017, September	European Trade Study Group (ETSG), Florence.
2017, June	Italian Trade Study Group, Bergamo.
2017, May	CESifo Area Conference on Global Economy, Ifo Institute, Munich.
2017, April	Department of Economics, London School of Economics, London.

## 2016

2016, November	Dep. of Management, Economics and Industrial Engineering, Polytechnic of Milan.
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## 2015

2015, September	European Trade Study Group (ETSG), Paris.
2015, August	Annual Congress of the European Economic Association, Mannheim.
2015, July	Department of Business and Economics, University of Passau, Passau.
2015, May	CAGE International Trade Research Day, University of Warwick, London.
2015, April	Midwest International Trade meetings Spring 2015, Columbus, Ohio.

## 2014

2014, December	FIW Research Conference, WU Wien.
2014, September	European Trade Study Group (ETSG), Munich.
2014, August	Annual Congress of the International Institute of Public Finance, Lugano.

## 2013

2013, September	European Trade Study Group (ETSG), Birmingham.
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## 2012

2012, November	European Winter Meeting of the Econometric Society, Konstanz.
2012, October	Department of Economics, University of Michigan, Ann Arbor, Michigan.
2012, October	Department of Economics, Harvard University, Cambridge, Massachusetts.

### 3.6 Grants, fellowships and third-party funding

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2019 - 2022	Co-PI: project funding financed by the Swiss National Science Foundation, title of the project “ <i>Winners and Losers from Trade and Investment Liberalization: A Global Capital Market Perspective</i> ”, principal investigator Peter Egger, hosting institution ETH Zurich, amount 315'404 CHF.
2014 - 2018	PI: LMU Research Fellowship, financed by Excellence Initiative of the German Research Foundation, amount 39'000 EUR.
2012 - 2013	PI: Research grant, financed by Bocconi University, amount 19'500 EUR.
2008 - 2012	PI: Ph.D. Fellowship, financed by Italian Ministry of Education and Bocconi University, amount 50'400 EUR.

### 3.7 Affiliation to research centers

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July 2024 -	now	CESifo, research network in Global Economy.
May 2019 -	now	Research fellow at Chair in European Studies, Bocconi University.
Jan. 2018 -	now	Research fellow at Center for Applied Research on International Markets, Banking, Finance and Regulation, Bocconi University.

### 3.8 Organization of international conferences and participation in scientific committees

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2024	<i>Workshop on Global Risks and Their Transmission to Local Markets Through Trade and Foreign Investment</i> , Villars-sur-Ollon, 14-17 February, keynote speakers: Lorenzo Caliendo, Mathieu Parenti and Fernando Parro.
2023	<i>Research Workshop in International Trade and Labor Markets</i> , Zurich, 30-31 May, keynote speakers: Lorenzo Caliendo, Rafael Dix-Carneiro and Fernando Parro.
2017	<i>Public Economic Policy Responses to International Trade Consequences</i> , Munich, 23-24 March, keynote speakers: Elhanan Helpman and Gianmarco Ottaviano.
2017	Scientific committee of the <i>Italian Trade Study Group</i> , Bergamo, 8-9 June.

### 3.9 Refereeing in academic journals (alphabetical order)

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Economic Letters, Economica, European Economic Review, European Journal of Operational Research, German Economic Review, International Economic Review, International Economics, International Tax and Public Finance, Journal of International Economics, Labour Economics, Quarterly Journal of Economics, Review of International Economics, Theoretical Economics.

## 4 TEACHING EXPERTISE

### Summary

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Number of courses taught as a Teacher: **13**; of which **4** in B.Sc. programs and **9** in M.Sc. and Ph.D. programs.  
Number of courses taught as a T.A.: **15**; of which **6** in B.Sc. and **9** in M.Sc. and Ph.D. programs.  
Number of supervised theses: **11**; of which **2** B.Sc. and **9** M.Sc.  
Years of experience in teaching at business schools: **10**

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#### 4.1 Teaching practices (please refer to the enclosed Teaching Statement for a detailed description)

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I believe in teaching as a sequence of (i) observation of society, (ii) identification of intellectual challenges, (iii) rigorous theoretical grounding, (iv) verification and confutation of alternatives, and (v) service to society, with the ultimate goal of fostering engagement and autonomous use of knowledge.

My courses incorporate lectures, discussions of daily news, case studies, and supporting materials (such as data, scientific literature, or mathematical handouts). In a typical class, I start with a historical perspective to provide the context in which certain ideas have been developed and highlight their relevance for today's and future challenges, i.e., students' time. I learn from students' evaluations, but also — and perhaps more — from their questions during our discussions. I see this feedback as an asset that prompts me to revisit my material and tailor it for better service to future students and to myself as a teacher and continuous learner.

#### 4.2 List of taught courses, by institution, topic, cycle of study, and academic years.

(My role is the one of responsible for the course, unless otherwise specified)

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ETH Zurich, Department of Management, Technology and Economics

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- International Economics, Trade and Multinational Firms, M.Sc., Ph.D.  
academic years: 2019-2020, 2020-2021, 2021-2022, 2023-2024.

Bocconi University, Department of Economics

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- Topics in International Trade, M.Sc., Ph.D.  
academic year: 2019-2020.
- Dynamic Stochastic General Equilibrium and Labor Market (t.a. for Antonella Trigari), M.Sc., Ph.D.  
academic years: 2010-2011, 2011-2012.
- International Economics (t.a. for Gianmarco Ottaviano, Lucia Tajoli), B.Sc.  
academic years: 2009-2010, 2010-2011.
- Political Economy (t.a. for Francesco Giavazzi, Roberto Perotti), B.Sc.  
academic years: 2009-2010, 2010-2011.

LMU University of Munich, Department of Economics

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- Topics in International Trade, M.Sc., Ph.D.  
academic years: 2014-2015, 2015-2016.
- Seminar: International Trade, Productivity and Inequality, B.Sc., M.Sc.  
academic years: 2016-2017, 2017-2018.
- Public Economics (t.a. for Andreas Haufler), M.Sc.  
academic year: 2014-2015, 2015-2016, 2017-2018.

Polytechnic of Milan, Department of Management, Economics and Industrial Engineering

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- Macroeconomics, B.Sc.  
academic years: 2017-2018, 2018-2019.
- Microeconomics, B.Sc.  
academic years: 2017-2018, 2018-2019.
- International Economics (t.a. for Fabio Sdogati), M.Sc.  
academic years: 2007-2008, 2008-2009, 2009-2010, 2010-2011.
- International Economic Institutions (t.a. for Lucia Piscitello, Lucia Tajoli), B.Sc.  
academic years: 2007-2008, 2008-2009.

Polytechnic of Milan, Graduate School of Management

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- International Economics, MBA, Executive MBA  
years: 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024.
- Economics, MBA, Executive MBA  
years: 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024.
- International Business, MBA  
years: 2015, 2016, 2017, 2018, 2019, 2020.

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#### 4.3 Supervised theses

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- Dimitrios Paradeisiadis, M.Sc. *The Impact of Energy Shocks on Growth via their Propagation through the International Input-Output Network*, 2023, ETH Zurich.
- Phuong Anh Do, B.Sc. *The effect of international trade on income risk*, 2018, LMU University of Munich.

- Elke Asen, B.Sc. *The effect of international market integration on inequality*, 2018, LMU University of Munich.
- Bharat Vankadari, M.Sc. *The Effect of Input Tariff Reduction on Aggregate Productivity: Evidence from the “EXIM” policy reforms in India*, 2018, LMU University of Munich.
- Isabel Romina Marisa Linda Naumann, M.Sc. *Risk-taking of Financial Intermediaries and Misallocation of Funds in the Real Economy*, 2018, LMU University of Munich.
- Maya Alf, M.Sc. *Greenfield FDI versus M&A: the determinants of firm’s decision*, 2017, LMU University of Munich.
- Ali Tabak, M.Sc. *The Effect of Financial Liberalization Reforms on Trade Performance: Evidence from Turkey*, 2017, LMU University of Munich.
- Benjamin Obst, M.Sc. *International Exchange of Information and Tax Havens*, 2016, LMU University of Munich.
- Simon Leonard Skipka, M.Sc. *Tax competition for a duopoly: The case of heterogeneous firms*, 2016, LMU University of Munich.
- Steffen Zenglein, M.Sc. *The effect of TTIP on the German international trade flows*, 2016, LMU University of Munich.
- Maximilian Neumeier, M.Sc. *The Joint Role of Policy Intervention and Firm Heterogeneity to Determine the Welfare Gains of an Open Economy*, 2014, LMU University of Munich.

## 5 ADMINISTRATIVE EXPERTISE

### 5.1 Management and decision making

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- My experience of direct management and decision making is rooted in my professional appointments (see point 1.7). As consultant for research institutes and private investment banks I was directly responsible for managing the implementation of performance indices used in production of policy recommendations and financial services.

### 5.2 Personnel and financial administration

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- In 2024 at ETH Zurich, I have been responsible for the obtaining and managing funds financed by the Swiss National Science Foundation to organize the *Workshop on Global Risks and Their Transmission to Local Markets Through Trade and Foreign Investment*.
- In 2023 at ETH Zurich, I have been the employer responsible for a 6-month position of research assistant.
- During the years of my Excellence Initiative Fellowship (2014-2018), I was responsible for budgeting and financial administration of the allocated funds.

### 5.3 Research administration

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- I was responsible for the administration, budgeting, and accounting reporting of the three research conferences (in Munich, Villars-sur-Ollon, and Zurich) listed in point 2.5.
- As part of my affiliation with the Chair in European Studies at Bocconi University since 2019, I have been involved in managing the research outcomes of M.Sc. students participating in a pre-doc program, with Professor Gianmarco Ottaviano as the main advisor. I am particularly glad to have contributed to the research development of Francesco Losma (currently in the Ph.D. program at Oxford University), Marta Mojoli (currently in the Ph.D. program at the University of Zurich), and Yuting Wei (currently in the Ph.D. program at Bocconi University).

### 5.4 Course administration

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- In Polytechnic of Milan, Graduate School of Management I am responsible for the course design and administration of Macroeconomics, cycles EMBA Flex 2023 and EMBA Flex 2024.
- In Polytechnic of Milan, Department of Management, Economics and Industrial Engineering I was responsible for design and administration of the courses of Microeconomics and Macroeconomics in the academic years 2017-2018 and 2018-2019.

### 5.5 Assignments related to educational policy

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- As part of my affiliation to the Chair in European Studies at Bocconi University, I am responsible for the evaluation of students’ graduation awards of the Achille and Giulia Boroli Foundation, reserved to Bocconi students who completed their degree with a thesis on the European Union.

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## 6 COMMUNITY INTERACTION

- As part of my affiliation with the Chair in European Studies at Bocconi University, I am responsible for the development of the website <https://newie.unibocconi.eu/>, which has the mission to disseminate applied research on European studies among students and non-academic society, promoting engagement and collaboration with European institutions.
- I am active as consultant for the Institute for Studies in International Politics (ISPI), and I have done consulting work for the Italian Chambers of Commerce and the Italian Trade Agency (ICE, financed by ISTAT and Banca d'Italia). I am the author of several chapters in the annual reports "Rapporto sull'economia bergamasca" for the years 2008 and 2009, and two chapters in the ICE annual report "L'Italia nell'economia internazionale", year 2017, ISBN 978-88-98597-14-7 and year 2018, ISBN 978-88-98597-14-7.

## 7 ACADEMIC REFERENCES

List of scholars and their roles in the assessment of my proficiency in an academic job (alphabetical order)

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**Peter Egger**, as mentor and coauthor

Professor at the Department of Management, Technology and Economics, ETH Zurich

email: [pegger@ethz.ch](mailto:pegger@ethz.ch)

**Elhanan Helpman**, as mentor and coauthor

Professor at the Department of Economics, Harvard University

email: [ehelpman@harvard.edu](mailto:ehelpman@harvard.edu)

**Dalia Marin**, as mentor and coauthor

Professor at TUM School of Management, Technical University of Munich

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**Gianmarco Ottaviano**, as Ph.D. advisor, mentor and coauthor

Professor at the Department of Economics, Boroli Chair in European Studies, Bocconi University

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Updated: July 2024.



July 17, 2024

**Cover letter for the RTT position at Dipartimento di Economia, Management e Metodi Quantitativi of Università degli Studi di Milano**

Dear Members of the Committee,

I am writing to express my sincere interest in the Tenure-Track position at Dipartimento di Economia, Management e Metodi Quantitativi of Università degli Studi di Milano. I am confident to make a solid contribution to the Department thanks to a robust pipeline of research projects and a solid network of leading international scholars in the field of International Economics.

The Ph.D. in Economics at Bocconi University, with advisors Gianmarco Ottaviano and Antonella Trigari, and the visiting fellowship at Harvard with the supervision of Elhanan Helpman and Marc Melitz, established my expertise in International Economics and Labour Economics. My first academic appointments, at LMU and TUM, with Dalia Marin, have enriched my research competence in the direction of Firm Organization. During my current appointment at ETH Zurich, with Peter Egger, I further deepened my expertise in Applied Economics. Today, I can count on a solid research agenda, organized into three main lines of research.

With Gianmarco Ottaviano and Marc Melitz, we work on a novel theoretical and applied open-economy framework in which the equilibrium is not efficient, to study the effect of resource shocks [1], and the role of industrial policy [2], addressing the debate on resilience, decoupling, national security, and protectionism.

With Peter Egger and Katharina Erhardt, [3], [4] and [5], we have developed a novel methodology to solve dynamic stochastic general equilibrium spatial models and quantify how production location and resource accumulation respond to uncertainty about major trends in technological, natural and life-science variables. The goal is to contribute to the debate on trade imbalances, technology shocks, climate change and mass migration.

With Elhanan Helpman, Dalia Marin, Carlo Perroni and Thierry Verdier, we investigate how competition for scarce resources (skills [6], assets within the firm [7], oligopoly market shares [8]) determines firm performances (export conduct [6], Tobin's Q profitability [7], product scope and innovation [8]), addressing the debate on product-differentiation, resource mis-allocation, and strategic investment paths of large firms.

I am excited to share and continue exploring these frameworks in collaboration with the Faculty. Given the remarkable strength of the Department, in particular in fields such as International Economics, Labour Economics, Political Economy and Applied Economics, I am looking forward to investing in a common research agenda on quantitative general equilibrium models, industrial policy, and open macroeconomics that accounts for welfare and labor market responses to resource shocks and global trends in the spatial distribution of growth. Moreover, my research network already benefits from the great community of scholars based in Milan. Thus, I see being located in Milan as a great asset to strengthen my research output and impact. On these premises, I will offer and gain enormously by extending my network to new collaborations.

Regarding teaching, I am enthusiastic about contributing to students' education in Economics and mentoring them in B.Sc., M.Sc., and in Ph.D. programs. My expertise in teaching both theoretical and applied courses, as well as supervising theses, spans fields such as general equilibrium microeconomics, open-economy macroeconomics, search and matching, and international economics. This experience has been gained in international contexts, across several countries, and at a number of leading European institutions. Furthermore, I have longstanding expertise in promoting cooperation with foreign universities, as demonstrated by my role at the Chair in European Studies at Bocconi University. Based on this experience, I am prepared to take on administrative responsibilities and I am aware of the importance and duty of participating in university committees.

Enclosed, please find the requested documentation, including my research and teaching statements. I look forward to the opportunity to discuss how my research and teaching experience align with the goals of the Department at Università degli Studi di Milano.

Thank you for considering my application.

Sincerely,

**Davide Suverato**

## References

- [1] Ottaviano, G., and Suverato, D. (2024) “**Fantastic Beasts and Where to Find Them**”. *CEPR Discussion Paper Series*, (No. 18935) **ISSN 0265-8003**, CEPR Press.
- [2] Melitz, M., Oshmakashvili, M., Ottaviano, G., and Suverato, D. (2024). **Markup distortions and optimal non-discriminatory industrial policy**. Bocconi University, *mimeo*.
- [3] Egger, P., Erhardt, K., and Suverato, D. (2024) “**How Aggregate Uncertainty Shapes the Spatial Economy**”. *CEPR Discussion Paper Series*, (No. 19016) **ISSN 0265-8003**, CEPR Press.
- [4] Egger, P., Erhardt, K., and Suverato, D. (2023a). **Solving large spatial dynamic economy models with aggregate uncertainty in discrete time**. ETH Zurich, *mimeo*.
- [5] Egger, P., Li, J., Ouyang, J., and Suverato, D. (2023b). **The dynamics of regional trade imbalances and spatial labor reallocation in China**. ETH Zurich, *mimeo*.
- [6] Perroni, C., and Suverato, D. (2023) “**Skill Scarcity and Export Intensity**”, *Canadian Journal of Economics / Revue canadienne d'économie*, 56: 719-757, **ISSN 1540-5982**.
- [7] Doerr, S., Marin, D., Suverato, D. and Verdier, T. (2024) “**International Trade and the Allocation of Capital Within Firms**”, *Journal of International Economics*, **ISSN 1873-0353**, conditional accepted.
- [8] Helpman, E. and Suverato, D. (2024). **A model of large firms**. Bocconi University, *mimeo*.

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## RESEARCH STATEMENT

My work is aimed at advancing three main research agendas:

1. Understanding how international trade impacts welfare and the distribution of market shares across firms; in particular, investigating how local resource shocks propagate through the trade network in a context characterized by inefficient markets and industrial policy.
2. Understanding how the spatial allocation of people and economic activities evolves over time, with specific interest in the role played by uncertainty about major socio-economic, natural, and technological trends.
3. Understanding the role that international trade plays in a context of competition for scarce resources, with a particular focus on the demand for labor skills, and on the composition of assets and market shares across products within conglomerate firms.

The fields in which my research is mostly rooted are International Economics, Quantitative Spatial General Equilibrium, Labour Economics, and Dynamic Stochastic Optimal Control.

I now summarize my projects, organized according to the research questions; please refer to my CV for a complete list, with an assessment of independent contributions and the significance of the results. In the last section, I discuss existing projects on hold, ongoing, and new directions of research.

### 1. Resource shocks, industrial policy and welfare in open economy

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Quantitative models are one of the key developments in International Economics. In the last two decades they became the workhorse setup for welfare analysis in response to technological shocks, trade shocks and policy shocks. This success is accredited for rich and tractable general equilibrium frameworks that are well suited for counterfactual analysis. The price to pay is the pervasive assumption of demand exhibiting constant elasticity of substitution (CES). The consequences of this assumption for welfare analysis are far from being innocuous: in short, under CES the equilibrium is constrained efficient, thus, welfare comparisons fail - by design - to capture the role of inefficiencies ex-ante and ex-post shocks that propagate through the trade network.

My research in this area started developing a new quantitative trade model, as rich and tractable, but as well suited for welfare analysis when the market equilibrium is inefficient. I apply this framework to document welfare gains and losses from local resource shocks in open economy that are not visible through the CES lenses (Paragraph 1.1), and to study non-discriminatory industrial policies that pull inefficient market allocations toward the social optimum (Paragraph 1.2).

**1.1 Fantastic beasts.** In the paper [Ottaviano and Suverato \(2024\)](#) we “hunt and find” welfare changes induced by local resource shocks that are invisible in quantitative trade models with CES demand. Specifically, we develop a multi-country multi-sector general equilibrium trade model with heterogeneous firms, endogenous entry and monopolistic competition but with the distinctive feature of a demand exhibiting variable elasticity of substitution. Under these circumstances a local resource shock, e.g. the discovery of oil, triggers reallocation of labor across sectors and wage changes (in the sector hit by the shock and in all others through general equilibrium linkages) but the pass-through of efficiency gains on welfare is incomplete, whereas it would be complete under CES preferences.<sup>1</sup>

We demonstrate that episodes of ‘immiserizing growth,’ when compared with a CES benchmark, are statistically significant by analyzing a panel of 76 countries and 17 manufacturing industries spanning the period 1995-2020. In all documented cases of immiserizing growth, it occurs when the shock impacts sectors characterized by a few large firms that are significantly more productive than potential new entrants, notably the oil sector. Moreover, the same local resource shock may result in welfare gains for

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<sup>1</sup>This mechanism reminds of the debate on the “Dutch disease”, “immiserizing growth” and “resource curse”. However, while the classical literature derives quite extreme theoretical conditions for the emergence of this phenomenon, we show that, specifically because the economy is open to trade, variable elasticity of substitution and heterogeneity in technological concentration across sectors can rationalize what has been - so far - considered a paradoxical result.

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some countries but welfare losses for others. Therefore, our findings serve as a policy warning regarding both the opportunities and threats associated with resource-driven specialization.

**1.2 Non-discriminatory industrial policy.** In [Melitz, Oshmakashvili, Ottaviano, and Suverato \(2024\)](#), currently a work in progress, we extend the previous setup to demonstrate the existence of a class of demand functions that are necessary and sufficient for the implementation of non-discriminatory first-best industrial policies. We characterize both the demand function and the equilibrium of an otherwise standard general equilibrium model with heterogeneous firms under monopolistic competition. This result represents more than just an important theoretical achievement; it also offers practical appeal due to the implementability of its predictions. In contrast to existing related models, the policy prescribed by our theory entails taxes and subsidies that are not based on firms' idiosyncratic productivity, which is unobservable and non-contractable

Capitalizing on this practical and unique advantage, we proceed with two exercises. Firstly, we outline the industrial policy that, based on our demand system, is tailored to provide the appropriate incentives for a market equilibrium to mimic the first-best scenario. Secondly, (and this is what we are working on right now) we investigate whether, given the salient observed demand patterns, the policy recommendations of the model result in a second-best allocation that is preferable to market outcomes. The preliminary results we are obtaining are indicative of the effectiveness of active industrial policy, and we aim to present these findings as guiding principles to serve the ongoing industrial policy debate.

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## 2. Dynamic spatial reallocation under uncertainty

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Economists and policymakers alike are interested in understanding how the spatial allocation of economic activity is affected by changes to the fundamentals of the economy, such as trade policy shocks, trends in automation and robotization, climate change, or the sudden emergence of geopolitical tensions. Spatial general equilibrium models are a workhorse tool to quantify counterfactuals for the reallocation of economic activities. However, one aspect that has received little treatment is that agents make forward-looking decisions under uncertainty about actual realizations of economic fundamentals and uncertainty is itself an important determinant of reallocation decisions. The reason for overlooking the role of uncertainty is essentially due to tractability.<sup>2</sup> Therefore, my research in this area started developing a novel solution method for dynamic stochastic spatial general equilibrium models, specifically tailored to accommodate discrete time, discrete categorical state, and large uncertainty shocks.

I apply this methodology in a first project that compares the evolution of the spatial distribution of jobs in France under uncertainty versus its perfect foresight benchmark (Paragraph 2.1). A second project is dedicated to characterize the general methodology as a solution method for discrete mean field games (MFG) with aggregate uncertainty (Paragraph 2.2). In a third project I exploit the full potential of the methodology to study the joint distribution of jobs, savings, and house prices in China, and its implications for within-country regional trade imbalances (Paragraph 2.3).

**2.1 Uncertainty shapes the spatial economy.** In the paper [Egger, Erhardt, and Suverato \(2024\)](#) we develop and quantify a state-of-the-art dynamic stochastic spatial general equilibrium model to assess how uncertainty about economic fundamentals impacts the spatial reallocation of people. We differentiate from the literature as we answer about the role of uncertainty in discrete time and without relying on approximation around a perfect foresight path. The first feature accounts for a discontinuity between the period in which location decisions are made and the next-period in which agents might regret their move but now found it is too late for a profitable re-optimization. The second feature is important since uncertainty emerges with higher moments, thus, a solution that preserves the non-linear structure of the model is attractive as opposed to lower-order or perfect foresight analogues.

On these premises, we demonstrate that uncertainty is not – only – a driver for freezing investment decisions (including mobility and specialization), as shown in the macro literature. The impact of uncertainty on individual lifetime welfare is negative on average, but it triggers heterogeneous welfare

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<sup>2</sup>Dealing with the curse of dimensionality typical of heterogeneous agent models (HAM), especially in the context of a discrete state space (where spatial decisions are categorical) and large uncertainty shocks, poses challenges. In particular, solution strategies for HAM based on perturbation methods are not well-suited for such scenarios.

changes: substantial portions of the population lose much more than the average (*are stuck in less attractive jobs*) while some agents actually gain (*since others did not reallocate*). Consequently, the spatial distribution of economic activity deviates systematically when agents make decisions under uncertainty compared to what would emerge under perfect foresight, even if the deterministic fundamentals of the economy are unchanged. Through this channel, uncertainty *per se* generates a source of comparative (dis)advantage across jobs.

These results contribute to the debate about backlash against globalization and serve as a warning that welfare analyses based on perfect foresight can substantially overestimate the speed and effectiveness of reallocation. In particular, the failure lies in a misrepresentation of the option value to reallocate. We demonstrate this by considering agents who face an idiosyncratic risk of aging. Young agents can gain more but also lose more than older ones, as the latter are characterized by a shorter expected lifetime and, hence, a lower value of reallocation.

**2.2 A solution method for large discrete stochastic MFGs.** In [Egger, Erhardt, and Suverato \(2023\)](#), currently a work in progress, we establish the theoretical foundations for a solution of dynamic stochastic general equilibrium models that enhances the state-of-the-art in four key directions:

- (i) the state space is large and consists of both categorical and continuous choice variables;
- (ii) time is discrete and the optimal control problem accommodates non-stationary dynamics;
- (iii) shocks can be the outcome of both idiosyncratic risk and aggregate uncertainty;
- (iv) shocks can be large, such as unforeseen discrete changes in secular trends.

We first state the sets of (quite general) assumptions within which we prove existence and uniqueness of a transition path that solves the individual stochastic dynamic optimal control problem. Then, we cast the aggregate equilibrium of the economy as a MFG resulting from the system of individual problems under rational expectation, preserving the nonlinear structure of the model. Hence, we state and illustrate the algorithm that numerically solves the MFG.

Finally, we are currently working on providing exemplary simulations to document the merits of the approach in applications where heterogeneous economic agents optimally choose continuous and discrete outcomes, (e.g. consumption/saving choice, education, job careers, residence) under idiosyncratic risk (e.g. aging or tastes for social outcomes) and aggregate uncertainty (e.g. about climate change, mass migration or the adoption of artificial intelligence). We believe that this new methodology is a breakthrough in addressing the large scale and secular shocks in the current debate in economics and social sciences: climate change, mass migration, geopolitical tensions and technological change.

**2.3 Dynamics of jobs, savings, house prices and trade imbalances.** In [Egger, Li, Ouyang, and Suverato \(2023\)](#), currently a work in progress, we develop a spatial dynamic general equilibrium multi-sector and multi-region model of the Chinese economy trading with the rest of the world. Trade imbalances arise from the aggregation of forward-looking consumption and saving decisions made by rational agents, who, each period, (i) supply labor in a sector-region, (ii) consume in their region, (iii) save in either a region-specific asset – housing – or in the international bonds market and (iv) decide in which region and sector to be active in the next period. These decisions are made under uncertainty about future aggregate economic outcomes.

The model generates endogenous trade imbalances, both regional within China and national vis-a-vis the rest of the world. Frictions to labor mobility and trade among regions and sectors imply, respectively, a sluggish reallocation of the labor force and distortions in the patterns of comparative advantage. Furthermore, aggregate uncertainty generates swings in the transitional dynamics of consumption/saving patterns and in the composition of asset portfolio that are not present under a perfect foresight scenario.

We are calibrating the model with a unique Input-Output database containing both Chinese city-sector-to-city-sector sales of intermediate goods and that of final goods, information on the labor mobility across cities and sectors in China, and a survey of savings, assets and investments of Chinese households in each city; together with available Chinese Custom data and World Bank Orbis data. The goal is to benchmark the dynamics predicted by the model with the salient features of observed spatial distribution of consumption, saving, labor mobility, house prices, regional and national trade imbalances. This will shed light - as never done before - on the reallocation of resources within China.

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### 3. Competition for scarce resources

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In this line of research I address one of the longest-standing questions in economics: Which products should be traded, why and in which direction? Answers are typically given in terms of a welfare comparison. In short, Ricardian theories explain patterns of comparative advantage, and indeed trade-induced welfare gains, by means of technological differences; alternatively, theories based on factor proportions conclude that the factor-content embedded in trade flows leads to a more efficient reallocation of resources than what can be achieved by means of national factor endowments. Ultimately, both views predict that one should observe export (import) of products characterized by lower (higher) opportunity cost. Furthermore, if the comparison is taken between firms, then the same conclusion applies also to theories of firm selection into the export market, with lower-marginal-cost-firms gaining a disproportionately greater market share.

Although these explanations find support in country-level and firm-level studies, this is not what we see when examining product-level data: *ceteris paribus*, products that employ relatively more scarce, hence, costly, resources are the ones with a greater share in the export markets relative to the domestic market. This means that, Ricardian theories, factor-proportion theories and explanations based on factor-neutral firm-heterogeneity are not - alone - sufficient to inform us about the allocation of resources, within the firm, across products and export markets. This has motivated me to investigate skill-based product differentiation (Paragraph 3.1), internal capital market of conglomerate firms (Paragraph 3.2), and the strategic product scope and investment paths of large multi-product firms (Paragraph 3.3).

**3.1 Input-based product differentiation.** In the paper [Perroni and Suverato \(2023\)](#) in the *Canadian Journal of Economics* we develop a model of international trade based on two distinctive features:

- (i) firms behave heterogeneously because the labor skill types they employ are differentially scarce in the economy and confer distinct characteristics to their products - what we call *input-based product differentiation*;
- (ii) the incidence of trade costs in final export prices is smaller for higher-priced products; thus, we abandon the pervasive assumption of “iceberg trade costs”, constantly rejected in the data, in favor of a novel modeling of export services that has broader empirical support.

In contrast to existing models, ours does not hinge on exogenous productivity differentials and does not need to assume an ex-ante ranking of products or worker types in terms of their intrinsic quality. The association of high-price products with high-wage workers at firms with greater measured productivity emerges as an equilibrium outcome: under monopolistic competition and increasing returns to scale, comparatively scarcer skills are concentrated in fewer firms, which are larger, pay higher wages and charge higher prices.

Using French administrative data, we document evidence of the relationship between the scarcity of a firm’s inputs and its export conduct. Furthermore, the calibrated quantitative version of the model predicts significant wage polarization. In particular, the predicted trade-induced wage inequality mirrors the observed evidence: reduction of inequality at lower wages and increase of inequality at higher wages. These results offer a novel view in the debate concerning trade and inequality, with a reason why trade favors disproportionately demand for resources that are comparatively scarce.

**3.2 Internal capital market of conglomerate firms.** To understand the product lines that conglomerate firms finance, produce, and export, and to learn about how competition impacts these decisions, it is essential to examine the internal allocation of funds. In the paper [Doerr, Marin, Suverato, and Verdier \(2024\)](#) in the *Journal of International Economics* we develop a model of multi-product heterogeneous conglomerate firms with the distinctive features of an agency problem between “*empire-builder*” divisional managers (who have private knowledge on their divisions’ technology) and headquarters (who allocate capital across divisions by return on asset). Thus, we extend the trade theory on multi-product firms to account for an internal capital market, whose functioning is micro-founded in a finance theory of organization.

In equilibrium, the within-firm capital allocation is not efficient: managers of better-performing segments at the better-performing firms over-report the true costs of their divisions, thereby satisfying their appetite for running large divisions while still facing a limited risk of not being financed. This



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mechanism implies that the cost structure of multi-segment firms is endogenous to the firm's organization and responds directly to market competition. This is a major advance with respect to canonical models considered in International Economics, in which the cost structure is exogenous. The implications of a trade-induced tougher competition in the product market go beyond the reallocation of market shares toward the most efficient segments (as shown in the literature). Two further and counteracting adjustments are at work: greater distortions in the internal capital market of large more-productive firms, even more biased toward the better-performing segments; reduction in the incentives for over-reporting, due to a greater probability of not being financed in a more competitive environment.

We test the model's predictions with detailed data on public US firms at the segment level. We document that multi-segments firms allocate more capital to segments than single-segment firms with comparable costs, and we build on the literature showing that directors on multiple boards are less effective at monitoring to test that a plausible mechanism for mis-allocation is, indeed, cost over-reporting by divisional managers. Finally, we exploit the increase in import penetration from China to document, on the one hand, the increase in allocated assets to the better segments but also, on the other hand, that this effect is milder when looking at firms in which the lack of monitoring is less severe. These results confirm mechanisms and conclusions of our model and offer an original but possibly richer and as well micro-founded approach to the debate on super-star firms and globalization.

**3.3 Strategic investment paths.** In [Helpman and Suverato \(2024\)](#), currently a work in progress, we model the differential game played by large multiproduct firms strategically choosing their investment levels against other large firms, considering that their demand for skilled labor crowds out the entry of small firms. The goal is to learn about the investment paths and product scope of large firms in a scenario where a single large firm internalizes the extent of strategic competition due to other large firms. Indeed, large firms are not treated as exchangeable agents; they do not simply respond to moments of the aggregate state of the economy (e.g., total investment), as is the case in MFGs. Instead, each large firm weighs the state and actions of each other large firm differently when making investment decisions.

We are working on the characterization of the optimal policies. Our preliminary results suggest that when large firms internalize their individual impact on market prices and, at the same time, perceive the fringe of many small firms as follower competitors, the strategic dynamic optimal control problem prescribes more aggressive investment and product scope policies compared to those under monopolistic competition. Next, with a calibration of the model, we plan to document the evolution of the investment paths and product scope of large firms at the expense of varieties and market shares served by small firms. This view will serve as a guideline for contributing to the debate on anti-competitive “killer acquisitions” and the “slowing-down of entrepreneurship” recently documented in the literature.

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## 4. Past and future: projects on hold, projects ongoing, and new directions of research

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My future agenda is a consistent set of long-standing research interests since my Ph.D., and the new developments of the lines of research presented in Sections 1-3.

**4.1 Projects on hold.** In my Ph.D. thesis, “*Three essays in Trade, Labor, and Inequality*”, I developed two theoretical frameworks: (i) general equilibrium heterogeneous-firm trade models with job-posting and on-the-job search to investigate trade-induced competition in the labor market; and (ii) a statistic-based approach to model the production function given workforce composition in local labor markets, which lends itself to predicting income and wealth distributions.

In my job market paper [Suverato \(2014\)](#), I show how trade-induced firm exit determines higher unemployment and lower job finding probability, causing welfare costs in the short run. However, this allocation is unstable: the low labor market tightness triggers the recovery. New exporters expand employment by poaching workers from relatively low-productivity firms, and the - now tougher - competition in the labor market increases wages. Welfare gains from trade are unambiguous in the long run: job losses are offset, workers are reallocated to better firms, and the average wage is higher. I then extended this framework in two directions.

In [Cosar and Suverato \(2016\)](#), we investigate under which conditions a trade-induced increase in market tightness can be strong enough to overturn the predictions of the Stolper-Samuelson theorem: namely, a decrease in the relative price of skill-intensive goods does not imply a decrease in the relative

wage of skilled labor. In [Battisti, Felbermayr, and Suverato \(2016\)](#), we investigate the role of native versus immigrant social networks as a source of heterogeneity in the likelihood of finding a job. We show that, to the extent that immigrants are more likely to be unemployed than natives, they provide their employers with relatively lower market tightness. This effect has rich interactions with both the trade-induced exit of the least-productive firms and poaching by more productive firms.

In a fourth project [Muliere and Suverato \(2014\)](#), I develop a statistical process of technology adoption that converges to a generalized Cobb-Douglas production function, thus microfounding this popular modeling choice. Unlike existing characterizations based on a discrete-choice approach, the key new elements of my characterization are the given workforce composition in the local labor market of the firm and an idiosyncratic effort in exploring new modes of production. In this setup, I show that the total factor productivity and the factor share parameters of the production function can be rationalized and measured as the outcome of the observed R&D intensity chosen by the firm.

The first three projects have distinctive predictions that link the export-intensive margin of firms with their labor demand for specific worker characteristics, which correlate with tightness in the labor market (e.g., search effort, skill, and social network, respectively); the fourth project links the composition of the workforce in the local labor market to the R&D intensity of firms hiring in that labor market. Based on referee reports, investigating these channels in a neat way requires firm-to-firm transaction data matched with employer-employee data in which job-to-job flows are tracked over time and space. Unfortunately, this is beyond the level of the French administrative data I have been working with so far. Thus, in the future, I plan to finalize these projects with access to data that provide the necessary level of observation. This has motivated my interest in the Scandinavian community of research institutions, toward which I have been strengthening my relationship in recent years.

**4.2 Projects ongoing.** The new general equilibrium framework for quantitative and counterfactual analysis in an open economy with endogenous firm entry, discussed in Section 1, is complementary to the two approaches that are at the frontier. On the one hand, the work by Arkolakis, Costinot, Donaldson, and Rodríguez-Clare (2012, 2019) accommodates firm entry but either under CES preferences or by ruling out differences across sectors in technological concentration. On the other hand, previous work by Hulten (1978) and more recent contributions by Baqaee and Farhi (2019, 2024) provide a rich description of how resource shocks propagate through the trade network, but they do not account for firm entry and selection. In particular, both setups do not focus on the within-sector distortions that are captured, instead, in our setup by sectoral choke prices and within-sector variable markups. These two distinctive channels trigger new research questions.

In a working paper [Ottaviano and Suverato \(2022\)](#), we extend the original framework to account for labor heterogeneity and monopsony in the labor market. This implies that, in equilibrium, different agents are characterized by different choke prices, depending on their income. Hence, through optimal pricing, firms implicitly target different income groups. This mechanism creates a rich set of heterogeneous welfare responses to local resource shocks in an integrated economy, thus providing a new angle to micro-found the documented backlash against globalization.

In the work in progress [El-Mallakh, Ottaviano, and Suverato \(2024\)](#), we exploit the predictions of the original framework about endogenous choke prices (at the country of origin and sector level) and endogenous markups (at the country of origin, country of destination, and sector level) to learn about the price distributions behind observed trade flows, without restricting productivity to be Pareto distributed (common practice for tractability but is also rejected in the data). We show that the structural revenue equation predicted by the model can be decomposed to isolate moments of the price distribution at the country of origin, country of destination, and sector level. In a context in which PPML estimation is unbiased, we provide a very general approach to determine price distributions from observed trade flows at the HS6 digits and the implied productivity and quantity distributions.

Both endogenous markups and choke prices (which can be related to willingness to pay) gain further research interest when viewed through the lens of vertical differentiation, hence quality, as well as horizontal differentiation. In the work in progress [Egger, Stefanova, and Suverato \(2024\)](#), we use the gravity equation and the equilibrium equations for labor costs by skill, predicted by the model augmented with quality, to conduct a structural estimation of (i) taste for quality versus quantity, (ii) taste for variety versus quality in consumers' preferences, and (iii) scope for quality at the origin-destination and



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sector level.

**4.3 New directions of research.** The distinctive feature of the line of research presented in Section 2 is that it provides an approach to deal with choices made under uncertainty about unprecedentedly large aggregate shocks (e.g., catastrophes or major technological breakthroughs) in a globally integrated spatial economy. I will use this methodology to address two key challenges of our time.

First, *mass migration and climate*. I am collecting data (main source: UNHCR) to document the loss in economic activity due to people being forcibly displaced and their subsequent reallocation. This phenomenon is dramatically gaining attention, particularly in relation to climate change.<sup>3</sup> However, the classical balance between arbitrage forces and mobility frictions of stationary dynamic spatial models is not suitable for rationalizing the consequences of this shock. Instead, I plan to understand the economic spatial consequences of climate-induced mass migrations, taking advantage of my methodology that does not require either stationary transitions or approximations around perfect foresight.

Second, *AI and the spatial distribution of economic activity*. I am collecting data (main sources: surveys by OECD and ILO) to document what I refer to as a “Malthusian catastrophe” in the debate about AI and labor markets. In brief, the trap can be stated as follows: If the adoption of AI is exponential while AI leads to a linear increase in labor productivity, conditions may emerge such that real wages fall. I argue that this conclusion arises from workhorse approaches based on (i) a fixed grid of sectors and skills, and, mostly, (ii) a closed economy. If AI implies that the problem fails to be ergodic, then the set of actions evolves over the transitional dynamics: new occupations emerge while real wages of old occupations (i.e., in the fixed grid of initial sectors and skills) might fall. In an open economy, as long as variety matters, specialization leads to comparative advantage patterns in new occupations versus old occupations. As my approach is well-suited to accommodate non-ergodic games, it offers a different perspective on the debate compared to merely focusing on the complementarity between existing occupations and AI, with spatial implications that have - so far - been unpredictable.

I am committed to advancing this research agenda. I am grateful to the network of coauthors who are making this journey with me, and I am thankful to those who will have trust in this research effort. I would be glad to share thoughts and views at [dsuverato@ethz.ch](mailto:dsuverato@ethz.ch).

Thanks for reading about my research,  
Davide Suverato

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<sup>3</sup>To put this research question into context, several statistics are striking: about 73% of people in need of international protection come from only five countries; about 40% of all refugees are hosted in only five countries; if ten years ago 1 in every 125 people on Earth was forcibly displaced, today, 1 in every 69 people on Earth is forcibly displaced; since 2008, on average, 21.5 million people every year have been forcibly displaced due to weather-related hazards (source: UNHCR Global report 2023).

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## TEACHING STATEMENT

### Why I believe in teaching

Having grown up in a family of workers with no higher degrees beyond compulsory education, high school and eventually university were seen merely as practical pathways to finding a good job. Now that I look back, I can only express my gratitude to my parents, who made me understand that “as long as you are a student, you are free”, and to those teachers who filled those words with content: intellectual challenges first, then trust, and opportunities. Personally, I do not need further evidence to firmly claim that teachers change lives.

### Pedagogical approach

As an educator in the field of Social Sciences, my approach **i** starts with the observation of Society (*why do we, people, do what we do?*), **ii** takes a journey in rigorous theoretical ground (using math for what it is, *a consistent sequence of logical statements*) and **iii** comes back to Society (*given what we do, what do we get?*) before **iv** reaching any normative conclusion (*what should we be doing?*).

This sequence of steps prevents two major and opposing risks, specifically in Economics, that is giving the impression that: either, ‘there is just one way of doing things no matter what students think’; or ‘at the end Economics is not a true science, everything is arbitrary, so you can believe whatever you want’. My teaching experience has shown that when a concept is discussed following the sequence **i-iv**, all the necessary ingredients of excellent teaching are provided: critical thinking, confrontation based on the paradigm assumption-mechanism-effect, and practical interpretation in preparation for real-world challenges.

Furthermore, through this journey, I feel that students not only learn and develop analytical skills but, most importantly, they learn because they are free to think about how Economics works: instead of pushing dogmas, I let them think about alternatives and guide them to their logical consequences. This empathy creates true engagement and also gives a lot in return, both sides experiencing a feeling of accomplishment that becomes a passion for lifelong learning.

### Course design

In my courses, I incorporate a blend of lectures, discussions of daily news, case studies, and supporting materials (such as data, scientific literature, or mathematical handouts). I pay particular attention to the relevance of economic theories for actual real-world policies. In a typical class, I start with a historical perspective to provide the context in which certain ideas have been developed. However, I always make sure that students can see a date of their own present, which tells them why what they are going to spend hours on is relevant for them. For instance, I typically include press conferences (from IMF, WTO, or Central banks) and search for (or build my own) simulations and data analysis of topics in the current debate.

### Teaching curriculum and future orientation

I have a long experience of teaching in B.Sc. and M.Sc. programs in both departments of Engineering and Economics. For the latter, my experience extends also to Ph.D. programs. Furthermore, I have more than a decade of experience in teaching at MBA and Executive MBA programs. Here is a list of the fields in which I have concentrated my teaching experience the most:

- International Economics, with a focus on International Trade and International Business
- Dynamic Stochastic General Equilibrium Theory and Quantitative Models
- Macroeconomics, fields of: Labour Economics, Public Economics and Political Economy

I offer to continue teaching these courses of course, but looking ahead, I am committed to developing and adapting curriculum to address needs of the Faculty and emerging trends in the field of Economics. This includes topics such as: Economics of Resources, Economics of Climate Change and Economics of Mass-Migrations.