

Matthieu Stigler

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RESEARCH INTERESTS

Economics: Agricultural and environmental economics using remote sensing.

Econometrics: Time series, impact evaluation, statistical learning for causal inference.

EMPLOYMENT

University of Geneva **Assistant Professor**, Geneva School of Economics and Management
Switzerland, 2024

ETH Zurich **Research Fellow** at the *Environmental Policy Lab*, with Prof. Rachael
Switzerland, 2021-2023 Garrett

Stanford University **Post-doctoral Fellow** at the *Center on Food Security and the*
USA, 2019-2021 *Environment*, with Prof. David Lobell and Marshall Burke

EDUCATION

UC Davis **Phd** in Agricultural and Resource Economics
USA, 2014 -2019 •Thesis: "Disentangling area and yield effects in supply response"

University of Geneva **Master and Bachelor** in Economics
Switzerland •*Master thesis grade of 5.75/6, won Ardit prize in economics*
2003-2008

Humboldt University **Academic exchange year**
Berlin, Germany •Attended several classes on agricultural policy and agricultural
2005-2006 development, as well as multivariate statistical analysis

EDUCATION : SUMMER SCHOOLS

- **Empirical Strategies: IV and RD go to school.** Instructor : J. Angrist. [www](#)
- **Cointegrated VAR Model: Special Topics.** Instructors : S. Johansen, K. Juselius. [pdf](#)
- **Spatial Econometrics.** Instructors : Baltagi, Kelejian, Prucha, Paelinck, Arbia. [www](#)

WORK EXPERIENCE

2014 **Research Institute of Organic Agriculture, Switzerland, [www](#)**
Consultant, with Dr. Dominique Barjolle
•Design a manual for case-studies on research impacts' evaluation, Impresa
project

2012-2013 **Centre for Finance and Development, IHEID, Geneva, Switzerland, [www](#)**
Research and teaching assistant, with Prof J.L. Arcand
•Work on impact evaluation (RDD) and bootstrap inference with clustered data

- 2010-2012 Food and Agriculture Organization for the UN (FAO)**, Rome, Italy, [www](#)
International consultant, with Dr A. Prakash, Prof C. Cafiero
 • Work on revising FAO methodology for undernourishment measurement
 • Assistant editor and referee for FAO book “Safeguarding food Security in Volatile Global Markets”. Author of three chapters (see below) [www](#)
- 2009 Federal Agricultural Research Institute (Agroscope)**, Tänikon, Switzerland, [www](#)
Research associate, with Dr. Dr. S. Mann
 • Effects of the quota removal in the dairy sector on contracts structure
- 2008-2009 National Institute for Public Finance and Policy (NIPFP)**, Delhi, India, [www](#)
Research and teaching associate, with Dr. A. Shah and Dr. I. Patnaik
 • Research on exchange rate regimes and capital controls in emerging markets
 • Teaching of time series econometrics
- 2008 Institute of Land Use Policies and Human Environment**, University of Lausanne, Switzerland, [www](#)
Research associate, with Prof. S. Erkman
 • Economic analysis of interlinkages between industrial “ecosystems”

PUBLICATIONS

- 2024** How well does the implementation of corporate zero-deforestation commitments in Indonesia align with aims to halt deforestation and include smallholders? (with Adelina Chandra et al.) *Environmental Research Letters*, 19:4 [www](#)
 Researchers' Degrees-of-Flexibility and the Credibility of Difference-in-Differences Estimates: Evidence From the Pandemic Policy Evaluations (with Joakim Weil et al.) *Economic Inquiry*, 1–22, [www](#)
- 2023** Optimal index insurance and basis risk decomposition: an application to Kenya. *American Journal of Agricultural Economics* (with David Lobell) [www](#)
- 2022** Using Satellite Imagery and Machine Learning to Estimate the Livelihood Impact of Electricity Access, *Nature*, 611:7936 (with N. Ratledge et al.) [www](#)
 Exposures and Behavioural Responses to Wildfire Smoke, *Nature Human Behaviour*, Vol. 6, p. 1351–1361, (with M. Burke et al.) [www](#)
 The Effects of Agricultural Policy on Supply and Productivity: Evidence from Differential Changes in Distortions, *Agricultural Economics*, 54:44 (with N. Hendricks et al.) [www](#)
- 2020** Social Distancing Responses to COVID-19 Emergency Declarations Strongly Differentiated by Income. *Proceedings of the National Academy of Sciences* July 2020, (with J. Weill, O Deschenes and M. Springborn) [www](#)
- 2019** tsDyn: Threshold cointegration: overview and implementation in R, *Handbook of Statistics, Volume 41*, Elsevier [www](#)
- 2012** Book review: Methods to analyse Agricultural Commodity Price Volatility, *European Review of Agricultural Economics*, 39:4 (with A. Prakash and J. Schmidhuber) [www](#)
 Contract Management after milk quotas, in *Yearbook of Socioeconomics in Agriculture, SSA*, [pdf](#)
- 2011** *Commodity Price properties*, in Safeguarding Food Security in Volatile Global Markets,

FAO, [pdf](#)

The Economics of information and behaviour in explaining excess volatility, in Safeguarding Food Security in Volatile Global Markets, FAO (with A. Prakash) [pdf](#)

The Role of Stocks in Generating Volatility and Crisis, in Safeguarding Food Security in Volatile Global Markets, FAO (with A. Prakash) [pdf](#)

Food crisis: did prices rise faster than they fell?, Research Topics in Agricultural and Applied Economics, Bentham Science Publishers (with P. Tortora) [www](#)

2010 The end of Milk Quotas: Developments on the Swiss Milk Market, *ART report series*, no 732 (with M. Gairing and S. Mann) [pdf](#)

WORKING PAPERS

- Causal Inference with Predicted Outcomes: A satellite-based impact assessment of 'Direct Seed Marketing' in Ethiopia, Revise & Resubmit at Journal of Development Economics
- *Winners and losers from climate change: the role of adaptation in French apples*. Second author, with Laurent Giguère et al. Submitted
- *Zero-deforestation commitments in Indonesia's oil palm sector achieve high compliance but no additionality*. First author, with Heilmayr et al.
- *Incomplete adoption and implementation of zero-deforestation commitments drives leakage and laundering in the Brazilian cattle sector*. Second author, with S. Levy et al.
- *With big data come big problems: pitfalls in measuring basis risk for crop index insurance*. With David Lobell. [pdf](#)
- *On the benefits of index insurance in US agriculture: a large-scale analysis using satellite data*. With David Lobell. [pdf](#)
- *Supply response at the field-level: disentangling area and yield effects*. [pdf](#)
- *Global Yield Distributions since 1960*. With Nathan Hendricks. [pdf](#)

INVITED PRESENTATIONS

2025 Graduate Institute, Geneva, *Cattle Supply Chains and Deforestation in Brazil*

2023 Smallholder finance Workshop, Nairobi, *Designing Index Areas to Improve Quality*

EAAE Congress, Rennes, *With big data come big problems: pitfalls in measuring basis risk for crop index insurance*

Land Policy and Economic Development Workshop, University Zurich, *Using remote sensing data to study economic development: applications from Uganda and Kenya*

Economic seminar, Wageningen University, *With big data come big problems: pitfalls in measuring basis risk for crop index insurance*

Workshop on Advanced Methods for Data Collection and Use in the Social Sciences, ENS Lyon, *Remote Sensing in Agriculture and Causal Inference*

- Risk Mathematics Seminar, ETH Zurich, *With big data come big problems: pitfalls in measuring basis risk for crop index insurance*
- 2022** FLARE conference, Rome, *Are supply-chain deforestation initiatives effective? The effects of zero-deforestation commitments in Indonesia's palm oil sector*
- 2020** Agricultural Policy Conference 2020 : *Farm- or area-based insurance? New insights from satellite data.* [www](#)
- AAEA Annual (online) meeting : *Farm- or area-based insurance? New insights from satellite data.* [www](#)
- AAEA Annual (online) meeting : *Global Yield Distributions since 1960*, with N. Hendricks. [www](#)
- UC Davis, Big Ag Data Conference : *Farm- or County-level Crop Insurance? New Insights From Satellite Data*, [www](#)
- 2019** AAEA annual meeting, Atlanta : *Agricultural supply: do markets anticipate weather shocks?* Poster
- AGU Fall Meeting : *What do we learn from higher-resolution satellite data?* Poster
- UC Davis, Big Ag Data Conference : *From adaptive binning to splines: experimenting with the FDA toolbox for the yield-temperature relationship*
- Stanford University, *The dynamics of agricultural supply: disentangling area and yield response in the US Corn Belt*
- 2018** AAEA annual meeting, DC : *Supply response at the yield level: Disentangling area and yield effects*, AAEA, DC
- ETH, Zurich : *Supply response as seen from the sky: Disentangling intensification from extensification in the US Corn*
- 2011** Invited keynote speaker to Agri-Business event, *Theoretical and empirical properties of commodity prices*, EAAE 2011 Congress, Zurich, [www](#)
- EAAE Congress, Zurich : *When bad news becomes panic: an asymmetric Markov Switching GARCH model for the wheat market*
- 2010** University of Göttingen, Germany : Invited discussant of Araujo, S., PhD seminar
- University of Göttingen, Germany, Workshop on Econometric Aspects of Price Transmission: tsDyn: a collection of threshold models for Price transmission analysis*
- 2009** NIPFP Research Meeting, India: *Central Bank preventing Appreciation/Depreciation*, [pdf](#)

REFEREE

Journals: Science, American Journal of Agricultural Economics (AJAE), European Review of Agricultural Economics (ERA), Global Environmental Change, Computational Statistics and Data Analysis, Spanish Journal of Agricultural Economics

AWARDS

SFIAR Team award led by co-author Samuel Levy, [www](#)
SNF Starting Grant, CHF 1.8 M
SNF Ambizione grant, CHF 800K
UC Davis dissertation year fellowship
Fulbright Scholarship for a PhD program in the USA
Arditi Fundation Prize best Master Thesis in economics, \$5'000, Switzerland
Grant of \$25'000 from Fund for Innovation and Efficiency, FAO
Prize for excellency in Latin and ancient Greek studies, High School, Switzerland
Literature prize for a text published in Book : « 20 Years of Civil Service »

TEACHING ACTIVITIES

Teaching assistant, UC Davis. Econometrics (240A, 240B), microeconomics (204A)
Transparency in Research, instructor for the BITSS workshop in Colombia. [www](#)
Econometric time series, National Institute for Public Finance and Policy, India
Introduction to the R software, FAO, Rome (4 days session), WTO, Geneva (2 days)

COMPUTER SKILLS

Statistical software: Advanced R, Matlab, LaTeX (edited two books : [pdf](#) and [www](#))
R packages developed: -**tsDyn** : *Nonlinear time series models with regime switching*, [www](#)
-**RDDtools**: a toolbox for regression discontinuity design, [www](#)
-**RcompHam94** : *replicating Hamilton's Time Series Analysis*, [www](#)
R packages maintainer: -**lfe**: *Linear Group Fixed Effects*, [www](#)
-**partsm**: *Periodic Autoregressive Time Series Models*, [www](#)
R packages contributor: **Urca** ([www](#)), **vars** ([www](#)), **broom** ([www](#)), **classInt** ([www](#)), **xtable** ([www](#)), **rsdmx** ([www](#))

LANGUAGE SKILLS

French	First language. Excellent oral and written skills (literature Prize)
English	Excellent oral and written skills (Toefl : 115/120, GRE : 95%)
German	Excellent oral and written skills
Spanish	Excellent oral skills, good written skills
Italian	Good oral skills
Hindi	Basic conversation

REFERENCES

Prof. **David Lobell**, Postdoc supervisor, Stanford University, [www](#)

Prof. **Marshall Burke**, Postdoc supervisor, Stanford University, [www](#)

Prof. **Aaron Smith**, Thesis supervisor, UC Davis, [www](#)