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

ETH Zurich Switzerland, 2021-	**Research Fellow** at the *Environmental Policy Lab,* with Prof. Rachael Garrett • Topic: "Analysis of supply chain policies to reduce deforestation"
Stanford University USA, 2019-2021	**Post-doctoral Fellow** at the *Center on Food Security and the Environment,* with Prof. David Lobell and Marshall Burke • Topic: "Crop insurance: new insights from satellite data"

EDUCATION

UC Davis USA, 2014 -2019	**Phd** in Agricultural and Resource Economics • Thesis: "Disentangling area and yield effects in supply response"
University of Geneva Switzerland 2003-2008	**Master and Bachelor** in Economics • Thesis Topic: *The link between price spread and asymmetric transmission for Swiss agricultural products* Grade: 5.75/6 Awarded by Arditi prize in Political Economy
Humboldt University Berlin, Germany 2005-2006	**Academic exchange year** • Attended several classes on agricultural policy and agricultural 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 control issues 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

2022 Using Satellite Imagery and Machine Learning to Estimate the Livelihood Impact of Electricity Access, *Nature, 611:7936* (with N. Ratledge et al.)

Exposures and Behavioural Responses to Wildfire Smoke, *Nature Human Behaviour*, (with M. Burke et al.) www

Optimal index insurance and basis risk decomposition: an application to Kenya. With David Lobell. Conditionally accepted at *American Journal of Agricultural Economics*

The Effects of Agricultural Policy on Supply and Productivity: Evidence from Differential Changes in Distortions, accepted in *Agricultural Economics* (with N. Hendricks et al.)

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

- *Optimal index insurance and basis risk decomposition: an application to Kenya*. With David Lobell. Pdf Revise and Resubmit at AJAE

- *Researchers' Degrees-of-Flexibility and the Credibility of Difference-in-Differences Estimates: Evidence From the Pandemic Policy Evaluations*. With Joakim Weil et al. NBER working paper

- *Incomplete adoption and implementation of zero-deforestation commitments drives leakage and laundering in the Brazilian cattle sector*. With S. Levy, R. Garrett and E zu Ermgassen

- *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

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

AWARDS

UC Davis dissertation year fellowship

Fullbright 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