

# FOULIARD JEREMY

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## POSITION

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**Research fellow, London Business School** *September 2017 - Present*  
Topics : Systemic risk, online machine learning, macroprudential policies.  
ERC Grant project under the supervision of **Hélène Rey**

**Technical Advisor, Bank for International Settlements** *March 2019 - June 2019*  
Topics : Online Machine learning, evaluation of macroprudential policies.  
Under the supervision of **L. Gambacorta and Luiz Awazu Pereira da Silva**

**Visiting Scholar, University of California, Berkeley** *March 2017 - August 2017*  
Thesis : “Are fiscal rules guardians or criminals ? An investigation of public debt impact on economic growth” .  
Under the supervision of **Yuriy Gorodnichenko**.  
Contribution to : ” Fiscal Stimulus and Fiscal Sustainability ” A. Auerbach and Y. Gorodnichenko, *NBER Working Paper Series*, 2017.

## EDUCATION

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**Master 2 APE** *September 2020 - Present*  
*Paris School of Economics*  
Topic : French police use of force, under the supervision of **Thomas Piketty and Julia Cagé**

**Master in Public Affairs** *September 2019 - September 2020*  
*Ecole Normale Supérieure (ULM) - Université Paris 1 Panthéon Sorbonne*

**Master 1 in Economics** *September 2016 - August 2017*  
*Ecole Polytechnique - HEC*  
Master’s thesis : “Business Cycle and Crime : a Panel VAR analysis”, under the supervision of **Emmanuelle Taugourdeau**.

**B.Sc. in Economics and in Sociology** *September 2015 - August 2016*  
*Universités Paris 1 et Paris 4 Panthéon Sorbonne -*

**Ecole Normale Supérieure (Paris-Saclay)** *September 2015 - Present*  
Social Sciences Department

**Classe Préparatoire B/L** *September 2013 - August 2015*  
Institution des Chartreux

## PUBLICATIONS

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### Books

- *L'exclusion sociale ou comment faire société*, Collection Essais, Bréal, May 2021 (expected)
- *L'exclusion sociale*, Thèmes et Débats, Bréal, 2017.

### Working Papers

- "*Answering the Queen : machine learning and financial crises*", 2020 - with M. Howell (CrossBorder Capital) and H.Rey (London Business School) .

**Abstract** Financial crises cause economic, social and political havoc. We use the general framework of sequential predictions also called *online machine learning* to forecast crises out-of-sample. Our methodology is based on model averaging and is "meta-statistic" since we can incorporate any predictive model of crises in our set of experts and test its ability to add information. We are able to predict systemic financial crises twelve quarters ahead out-of-sample with high signal-to-noise ratio in most cases. We analyse which experts provide the most information for our predictions at each point in time and for each country, allowing us to gain some insights into economic mechanisms underlying the building of risk in economies.

- "*Confidence interval in online predictions*", 2021 - with P. Alquier (Riken Center for Artificial Intelligence).

**Abstract** : Online prediction with expert advice has become a popular approach in machine learning. It also received a beautiful theoretical treatment, which shows that it is possible to predict as well as the best convex combination of expert without any stochastic assumption on the data. However, it does not include confidence intervals, and indeed, without stochastic assumptions, this notion does not even make sense. In this paper, we propose to study empirical and theoretical implications of aggregating a number of finite models coming without confidence intervals as well as with confidence intervals in the framework of conformal predictions.

- "*Is this time different? Crises across centuries*", 2021 - with H.Rey (London Business School)

**Abstract** : Carmen Reinhart and Ken Rogoff have written that "no matter how different the latest financial frenzy or crisis always appears, there are usually remarkable similarities with past experience from other countries and from history". Can we really use the same models to predict the 20th century Great Depression and the 21st century Great Recession? We find we can predict out-of-sample the 1929 Great Depression, all 20th century systemic crises as well as the 21st century ones based exclusively on models estimated on the period 1870-1910.

## TEACHING

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**Teaching Assistant in Social Sciences**

*September 2020 - Present*

*Lycée Jacques Amyot*

Classe préparatoire B/L (khâgne)

**Teaching Assistant in Macroeconomics**

*September 2020 - Present*

*Université Paris-Descartes*

Semester 1

2nd undergraduate - for Prof **O. Allain**

**Lecturer in Statistics and Machine Learning**

*September 2018 - December 2019*

*Skema Business School*

Semester 1

3rd undergraduate

## SEMINARS AND CONFERENCES

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**Seminars(presented by myself) :** Bank for International Settlements (2019), HCSF-Banque de France (2019), London Business School (2019/2018), Nowcasting(2019/2018), Université de Nice-GREDEQ-CNRS (2019).

**Conferences (presented by my co-author H. Rey ) :** BIS Annual conference (2019), American Association meetings (2021).

## SKILLS

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**Languages :** French(native), English (fluent, TOEIC : 900), Italian (notions).

**Softwares :** Stata,R,Python,L<sup>A</sup>T<sub>E</sub>X.

## CHARITY WORK

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**English and Math teacher for Syrian Refugees**

*Summer 2019*

*Charity "L'abeille asso*

**Teacher in Economics**

*2019*

*Université Paris 3 Sorbonne*

Diploma for Refugees (Diplôme Universitaire Retour aux Etudes Supérieures des Personnes Exilées)

**Teacher**

*September 2015 - March 2017*

*Entraide Solidaire Amicale*

For high-school students who are struggling

## SPORTS

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**Judo :** Brown belt.

**Surf :** Applicant to the ISA Level 1 Surf Instructor Qualification in Summer 202).

## **DISTINCTION - FELLOWSHIP**

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Ecole Normale Supérieure fellowship (2015-2020)

Laureate of the French National Eloquence Contest (2012)