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**PERMANENT ADDRESS**

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**RESEARCH INTERESTS**

Primary: labour economics; economics of education, skills and human capital.  
Secondary: microeconometrics; intergenerational mobility.

**REFERENCES**

Ghazala Azmat  
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Robert Gary-Bobo  
Professor  
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**EDUCATION**

*Sciences Po, Paris, France*  
Ph.D. in Economics, 2017–2021 (Expected).  
Supervisors: Prof. Ghazala Azmat & Prof. Jean-Marc Robin.  
M.Sc. in Economics, Sept. 2015 – July 2017. Summa cum laude (top 2%).

*University of Cambridge, England*  
Advanced Diploma in Economics, Sept. 2013 – July 2014.

*University of Birmingham, England*  
B.Sc. in Mathematics and Chemistry, Sept. 2008 – July 2012. First-class honours.

**RESEARCH PAPERS**

*A non-parametric finite-mixture approach to difference-in-difference estimation, with an application to professional training and wages*  
with Robert Gary-Bobo, Julie Pernaudet, and Jean-Marc Robin.

We develop a finite-mixture framework for nonparametric difference-in-difference analysis with unobserved heterogeneity correlating treatment and outcome. Our framework includes an instrumental variable for the treatment, and we demonstrate that our method allows us to relax the no common trend restriction usually required in difference-in-difference analysis. We also show that outcomes

can be Markovian provided there are multiple post-treatment observations. Our main theoretical contributions are the substitution of an instrument for the common-trends assumption, and a non-parametric identification proof. Empirically, we apply our framework to evaluate the effect of on-the-job/professional (re)training on wages, using novel French linked employee-employer data. Estimating our model using the EM-algorithm, we find small ATEs and ATTs on hourly wages of between 2% and 3%. However, we find larger effects on hours and annual wages with both ATEs and ATTs of over 5%. Extending our model to include *observed* as well as unobserved heterogeneity produces very similar results.

## WORK IN PROGRESS

### *Who goes to university and why? A comparison across cohorts (1985 – 2015)*

I investigate the relative importance of earnings expectations versus other factors on young people's educational decisions and career choices. Exploiting detailed longitudinal data on two UK cohorts, I model educational and career decisions and use a combination of choice data, wages and survey questions to better understand the factors that impact their decisions. I compare these factors across time (cohort vs cohort) and across socio-economic status (within cohorts). My results suggest that for both cohorts non-earnings factors are more important than earnings expectations in determining whether a student decides to continue on to higher education, and are also the main driver of the SES-gap in educational attainment. These non-earnings factors are also responsible for the huge growth in degree attainment between the 1970 and 1990 cohorts, with earnings expectations remaining largely constant across cohorts. Meanwhile, the increase in non-earnings factors between 1970 and 1990 cohorts is equivalent to a 50% increase in earnings expectations. Decomposition analysis of the non-earnings factors is ongoing, and will hopefully shed light on the main components of these "psychic costs".

### *Revisiting the wage returns to university via a non-parametric finite-mixture approach to difference-in-difference estimation*

Using a novel methodology I estimate the wage returns to a university education in the UK for two cohorts separated by 20 years: one who left school at the beginning of a period of huge expansion in university attainment (1988) and the other who left school as the expansion slowed (2008). My novel methodology exploits the economic content of the Roy model to justify exclusion restrictions, allowing non-parametric identification of a model with unobserved heterogeneity. The model is flexible enough to allow any number of post-schooling observations, so we can compare results on short panels (both cohorts) with those exploiting longer panels (1988 school leavers). Estimation is currently ongoing.

## TEACHING EXPERIENCE

### *Sciences Po, Paris*

Graduate Microeconomics 3, Teaching Assistant (TA), 2017–2018.

Introduction to Econometrics (Undergraduate), Lecturer, 2018–2019.

Intermediate Microeconomics (Undergraduate), TA, 2017–2019. Head TA, 2020.

## OTHER EXPERIENCE

### *Department for Transport, London, England*

Summer internship, Government Economic Service, 2016

### *Technopolis, Brighton, England*

Economic consultant, 2014–2015

## SCHOLARSHIPS AND AWARDS

Doctoral School Scholarship, Sciences Po, 2017–2020.

Summa cum Laude (top 2%), Sciences Po, 2015–2017.  
Natural Sciences Award, University of Birmingham, 2009.

#### **CONFERENCE AND SEMINAR PRESENTATIONS**

2019: Sciences Po Lunch Seminar.  
2018: Sciences Po Lunch Seminar.  
2017: PhD Seminar, Sciences Po.

#### **COMPUTER SKILLS**

R, Stata, Julia.

#### **LANGUAGES**

English (native), French (conversational).