

# ANTONIO RAIOLA

## CONTACT INFORMATION

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## EDUCATION

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2020-present

**Ph.D. in Economics**  
University Carlos III, Madrid, Spain.  
Advisor: Miguel Angel Delgado.

2018-2020

**M.Res. in Economic Analysis**  
University Carlos III, Madrid, Spain

2015-2017

**M.Sc. in Economics and Political Economy**  
Alma Mater Studiorum, Bologna, Italy  
*Summa cum laude*

2011-2015

**B.Sc. in Economics and Informatics**  
University G. D'Annunzio, Pescara, Italy

## REFERENCES

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Miguel Angel Delgado (Advisor)  
Department of Economics  
University Carlos III  
delgado@est-econ.uc3m.es  
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Carlos Velasco  
Department of Economics  
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Juan Carlos Escanciano  
Department of Economics  
University Carlos III  
jescanci@eco.uc3m.es  
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## RESEARCH FIELD

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Primary Research Field: Econometrics and Statistics, Specification Testing, and Counterfactual Analysis.  
Secondary Research Field: Labor Economics and Poverty Analysis.

## JOB MARKET PAPER

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### "Testing Conditional Moment Restrictions: A Partitioning Approach"

**Abstract:** This paper proposes  $\chi^2$  tests for assessing the specification of regression models or general conditional moment restrictions (CMR). The data is partitioned based on the explanatory variables into several cells, and the  $\chi^2$  tests evaluate whether the difference between the observed average of the dependent variable and its expected value under the model specification, within each cell, arises by chance. In contrast to existing omnibus procedures,  $\chi^2$  tests are asymptotically pivotal and fairly insensitive to the curse of dimensionality. The computation of statistics is straightforward and does not require bootstrapping or smoothing techniques. Importantly, the asymptotic properties of the test are invariant to sample-dependent partitions, which can be chosen to favor certain alternatives. A Monte Carlo study provides evidence of the good performance of  $\chi^2$  tests using samples of small or moderate size compared with existing omnibus alternatives, particularly in high-dimensional settings. An empirical application regarding returns to education of African American students in the US complements our finite sample study.

## WORK IN PROGRESS

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”Counterfactual Analysis Based on Grouped Data: Application to Poverty and Material Deprivation”, (joint with Minghai Mao, Lianoning University)

”On Nontrivial Power of Panel Slope Homogeneity Tests in the Presence of Grouped Patterns”, joint with Nazarii Salish (University Carlos III of Madrid)

## TEACHING EXPERIENCE

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2020-2023 Mathematics, MEDEG Master, UC3M  
Main Professor

2020 Econometrics, undergraduate, UC3M  
TA for Professor Miguel Angel Delgado.

2020-2022 Econometrics II, Phd, UC3M  
TA for Professor Carlos Velasco.

2020 Econometric Techniques, undergraduate, UC3M  
TA for Professors Jesus Gonzalo and Nazarii Salish.

## SEMINAR, WORKSHOP AND CONFERENCE PRESENTATIONS

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2023 Seminar, Toulouse School of Economics (Toulouse, France)

2022 IAEE Conference, King’s College (London, England)

2022 Seminar, Mannheim University (Mannheim, Germany)

2021 UC3M Workshop (UC3M, Madrid, Spain)

## SCHOLARSHIPS

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2020-2023 FPI grant, Ministerio de Ciencia y Innovacion (PRE2020-092876)

2020-2021 PIFP Scholarship

2018-2020 Academic Scholarship University Carlos III of Madrid. Full grant.

## PREDOC EXPERIENCE

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2017 Junior Analyst, Prometeia Advisor SIM s.p.a.

## OTHER

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Languages Italian (native), English (fluent), Spanish (advanced).

Programming Tools R, Stata, Matlab, Python, Latex.

Citizenship Italian.

2019-2021 Economics Department’s TA coordinator, University Carlos III of Madrid