

FRANCESCA ROSSI

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DATE OF BIRTH: 05-04-1979

SEX: F

CITIZENSHIP: Italian

UNDERGRADUATE STUDIES:

1998-2003 Pavia University, Italy.
Laurea cum Laude in Physics.
Research thesis: "Path Integrals in Physics and Finance".

1994-2004 Conservatorio "Vittadini", Pavia, Italy.
BA in Music (piano) – result 10/10.

GRADUATE STUDIES:

2008 – present Ph.D. in Economics, London School of Economics.
Thesis title: "Improved Testing Procedures for Spatial Autoregressive Models".
Expected completion: June 2011.

2007-2008 Master of Research in Economics, the London School of Economics.
Research paper: "A Comparison of Different Estimators for a Mixed Regressive Spatial Autoregressive Model".

2005-2007 Master of Science in Econometrics and Mathematical Economics (two years programme), the London School of Economics.
Extended essay: "Lévy Processes in Finance".

THESIS ADVISOR AND REFERENCES:

Prof Peter M. Robinson (Advisor)
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DESIRED TEACHING AND RESEARCH:

Primary Fields: Econometric Theory, Spatial Econometrics.

Secondary Fields: Applied Econometrics, Statistics.

TEACHING EXPERIENCE:

2009- present	Econometric Analysis, graduate level, LSE.
2008/2009	Introduction to Econometrics, undergraduate level, LSE
Summer 2009	Introduction to Econometrics, LSE summer school.
Summer 2008	Introduction to Econometrics, LSE summer school.

RELEVANT POSITIONS HELD:

2009- present	Tutorial fellow, LSE.
2007- present	Research assistant for Prof. P.M. Robinson, LSE.
2008-2009	Research collaboration, Pavia University, Department of Engineering/ ENEL (Impact of the introduction of RES risk/volatility on a conventional generation portfolio).
Summer 2008	Internship, Unicredit Group (Equity Structuring and Quantitative Research division).
2004-2005	Research assistant for Prof. G. Marseguerra, Department of Econometrics and Mathematical Economics, Catholic University, Milan.

PRESENTATIONS:

2011	Ph.D. Presentation Meeting of the Royal Economic Society.
2010	Econometrics and Statistics Workshop, LSE. Semiparametric Methods in Economics and Finance, LSE. UC3M-LSE, Workshop on Econometrics, London. Work in Progress of Econometric Theory, LSE.
2009	UC3M-LSE, Workshop on Econometrics, Madrid. Work in Progress of Econometric Theory, LSE.

LANGUAGES

English (fluent spoken and written), Italian (native), French (basic).

HONORS, SCHOLARSHIPS AND FELLOWSHIPS:

2005-2006	Bank of Italy, scholarship "G.Mortara".
2006-2007	Fondazione Luigi Einaudi, Torino, Italy, scholarship.

PROFESSIONAL ACTIVITIES:

Referee for The Econometrics Journal.

COMPLETED PAPERS:

Job Market Paper:

“Improved Test Statistics for Pure Spatial Autoregressive Models”.

This paper develops more accurate tests for lack of spatial correlation than ones based on the usual central limit theorem. We test nullity of the lag parameter in a pure spatial autoregression based on least squares and Gaussian maximum likelihood estimates. In each case, depending on assumptions on the spatial weight matrix, the rate of convergence of the estimate can be slower than the square root of n , where n is sample size. Correspondingly, the error in the normal approximation can be larger than the usual parametric order. This provides particularly strong motivation for employing instead refined statistics which entail closer approximations. These are based on (formal) Edgeworth expansions. In Monte Carlo simulations we demonstrate that the new tests (and one based on a bootstrap, which is expected to have similar properties) outperform one based on the usual normal approximation in small and moderate samples. The new tests are also applied in two empirical examples.

“Finite Sample Corrections for the Lagrange Multiplier Test in Spatial Autoregressive Models”, with P.M. Robinson, working paper.

Lagrange multiplier tests of spatial uncorrelatedness in a pure spatial autoregressive model have advantages over other forms of testing. They are typically based on the chi square first-order asymptotic approximation to the distribution of the test statistic. In small samples this approximation may be poor. We develop refined tests based on Edgeworth expansion. These are compared by Monte Carlo simulations to ones that are respectively based on a bootstrap, and on the exact finite sample distribution. Generally such tests are found to significantly outperform those based on the chi square approximation. We also develop Edgeworth-based tests for uncorrelatedness of disturbances in a regression model, against the alternative of spatial autoregressive disturbances.

OTHER PROJECTS:

“Refined Tests for Spatial Independence in Mixed Spatial Autoregressive Models”, with P.M. Robinson, work in progress.

In this paper we focus on testing for spatial independence when the data follow a mixed spatial autoregressive model, i.e. a spatial autoregression where also a set of exogenous regressors is present. We test the nullity of the spatial parameter based on least squares and instrumental variables estimates. Since in much empirical work only small or moderately-sized samples are available, the error in the normal approximation may be large and hence testing conclusions unreliable. We derive higher order corrections for standard tests, which are expected to improve upon the approximation based on the central limit theorem. Such corrections are based on feasible formal Edgeworth expansions and bootstrap procedures. A Monte Carlo study confirms that the new tests outperform ones based on the central limit theorem in small and moderately-sized samples.