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Special issue on health econometrics: Editors' introduction

This issue of Regional Science and Urban Economics features a selection of papers presented at the 3rd Health Econometrics Workshop that was held on 7–9th December 2012 at the University of Siena (Italy). The Workshop was organised and sponsored by Aboutpharma magazine along with the Inter-University Research Centre on Public Services at University of Milan-Bicocca (Italy), the University of Bergamo (Italy), and Brunel University (UK). In the spirit of initiatives such as the Annual Health Econometrics Workshop and the European Workshops on Econometrics and Health Economics, the purpose of this biannual meeting is to provide a forum where policy makers, economists and econometricians discuss the use of statistical and econometric methods to address issues in the field of health economics. The 3rd Health Econometrics Workshop focused on topics in health economics in which spatial considerations figure prominently.

The meeting was attended by 50 participants from around the world and 17 scientific papers were presented. There were seven keynote speakers, leading scholars in the subject, invited to contribute: Alberto Holly from the University of Lausanne (Switzerland), Badi Baltagi from Syracuse University (USA), and Daniel McMillen from the University of Illinois (USA), Jonathan Skinner from Dartmouth College (USA), and John Mullahy from the University of Wisconsin-Madison (USA). The limited number of presentations permitted ample time for discussion.

Moreover, the workshop was a platform to disseminate scientific findings to policy makers and other nonacademic stakeholders. The workshop opened with a plenary roundtable session entitled “Italian Regional Health Care Systems: How to manage them?” that included presentations by Prof. Sabina Nuti from Scuola Superiore Sant'Anna of Pisa, Luigi Marroni from the Tuscany Region, Carlo Alberto Peruccio from AGENAS, and Prof. Giorgio Vittadini from University Milano-Bicocca.

All of the papers selected for this special issue have gone through the usual process of peer review for Regional Science and Urban Economics, and we would like to thank all of the referees for their hard work.

Summary of contributions

Baltagi and Yen study the effect of hospital ownership on treatment rates allowing for a source of spatial correlation among hospitals. Using a panel of 2342 hospitals over 2005–2008, they find significant spatial correlation of medical service treatment rates among hospitals. They also get mixed results on the effect of hospital ownership on treatment rates that depend upon the market structure where the hospital is located and which vary by treatment type.

Siciliani, Gravelle, and Santos consider whether one hospital's quality is affected by the quality provided by other hospitals in the same market. The authors focus on a sample of English hospitals in 2009–10 and a set of 16 quality measures. Their results suggest that a hospital's quality is positively associated with the quality of its rivals for seven out of the sixteen quality measures.

Martini, Berta, Mullahy, and Vittadini study the trade-off between health outcomes and hospitals' efficiency using a data set from Lombardy, Italy, for the period 2008–2011. By applying a three-stage econometric model, the authors find that there is a trade-off between efficiency and outcomes, as more efficient hospitals have worse mortality rates but better readmission rates.

Mortari, Atella, Belotti, and Depalo empirically investigate the determinants of local authority public health expenditure in Italy. Following the characteristics of 188 local authorities during the period from 2001 to 2005, they adopt spatial econometric models and find results consistent with some degree of interdependence between neighbouring municipalities in spending decisions.

Filippini, Heimsch, and Masiero develop an economic framework that allows for interaction among competing physicians and patients exposed to bacterial infections, showing that spatial effects of consumption may generate ambiguous results. Using Swiss quarterly data on antibiotic consumption for the year 2002, disaggregated by 240 small geographic areas, the authors find evidence that dispensing practices increase antibiotic use after controlling for determinants of demand and access, and spatial effects.

Cohen, Osleeb, and Yang estimate a set of cost function models, using annual data for each of Connecticut's 30 hospitals over a ten-year time period. The authors adopt panel data semi-parametric regression models and find that a life expectancy measure for years above average lifespan is positively and significantly related to hospital costs.

Francese, Piacenza, Romanelli, and Turati study the determinants of Caesarean sections and the role that regional policies and institutions may play in controlling for appropriateness of healthcare services. In particular they follow the characteristics of 20 Italian regions over 1998–2005, and adopt spatial panel models. Their results suggest that decentralized DRG tariffs might be an effective policy tool to control inappropriateness, once the role of private hospitals is taken into account.

Lagravinese, Moscone, and Tosetti, and Lee investigate the relationship between air pollution and hospital admissions for chronic obstructive pulmonary disease in Italy, at province level, over 2004–2009. They allow pollution measures to be subject to measurement error and possibly correlated with the error term. Using an IV approach, they find that higher levels of particulate matter and carbon monoxide are associated with higher hospitalization rates for children, while ozone has an influence on hospital admissions of the elderly.

Bhattacharjee, Maiti, and Petrie explore the general equilibrium spatial structure of health outcomes and health behaviours across Scottish health boards, using a variant of the spatial Durbin model that allows for a priori unknown spatial weights matrices. Using pooled cross-

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sectional data from three rounds of the SHeS from 2008 to 2010, their results suggest substantial spatial dynamics in behaviours across Health Boards and that these spillovers are asymmetric.

Arbia, Dickson, Espa, and Giuliani propose a methodology for the analysis of the spatial dynamics of firm entry and exit based on micro-geographic data. The paper applies the proposed methodology to study firms' entries and closures in the pharmaceutical and medical device manufacturing industry during the years 2004–2009 in the Italian region, Veneto. The analysis indicates that firm formation and firm exit phenomena are significantly affected by the spatial interactions between neighbouring competitors.

Eibich and Ziebarth use Hierarchical Bayes Models to estimate spatial effects in individual health, using household panel data from the German SOEP matched with administrative county-level. The authors find strong and highly significant spatial dependencies and clusters at a regional level in their measure of health.

Dickerson, Hole, and Munford provide an assessment of alternative estimators for a fixed-effects ordered model in the context of estimating the relationship between subjective well-being and commuting behaviour. Using the data from waves 6 to 18 (1996–2008) of the British Household Panel Survey, the authors find no evidence that longer commutes are associated with lower levels of subjective well-being as measured by self-reported overall life satisfaction. In addition, the authors find that ordered models are more appropriate than linear ones when modelling life satisfaction.

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Guest Editors

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