

Ann Reg Sci (2007) 41:749–752
DOI 10.1007/s00168-007-0142-6

EDITORIAL

Entrepreneurship in regional economic development: some methodological applications

A mini-special edition of papers: the annals of regional science

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Received: 25 May 2007 / Accepted: 20 June 2007 / Published online: 4 August 2007
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Considerable interest has emerged in the field of regional science regarding the role of entrepreneurship in regional economic development and policy. This is witnessed by a steadily increasing set of publications on this fascinating issue or related topics including, for example, [Acs et al. \(2006\)](#), [Acs and Armington \(2006\)](#), [Audretsch and Keilbach \(2005\)](#), [De Groot et al. \(2004\)](#), [Fritsch \(1997\)](#), [Johansson et al. \(2006\)](#), [Karlsson et al. \(2006\)](#), [McQuaid \(1996\)](#), [Yu and Stough \(2006\)](#). With this new development there has been a variety of attempts to measure and model entrepreneurship in an effort to examine it in the context of regional economic development and innovation ([Audretsch and Keilbach 2005](#), [De Groot et al. 2004](#)). However, the methodological and contextual scope has been limited mostly to various regression techniques, and advanced econometric and spatial econometric modeling efforts. This small but focused special edition is designed and aimed to explore, illustrate and demonstrate a broader application of methods and further to examine entrepreneurship in the context of broader territorial, network and endogenous contexts.

While entrepreneurship has been a new and dynamic focus of regional analysts, interest in it has emerged in a broader theoretical context driven by recent changes in economic growth theory, namely endogenous theory. The endogenous perspective in a regional context focuses attention on the fact that local effort is one of the determinative factors in the performance of a regional economy. While this notion may have been lost or at least de-emphasized by theoretical economists during the last half of the twentieth century, the formulation of endogenous growth theory ([Romer 1986](#)) brought back recognition that local resources and their deployment in a market

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fitted strategy make a significant contribution to growth. Local effort and resources are conditioned by a region's history, resources, market fit, institutions, leadership and orientation to entrepreneurship (Stimson et al. 2006). Further, Stimson et al. (2005) suggest that a way to measure regional endogenous growth is as the regional shift component of a shift-share analysis. In fact they have undertaken a modeling effort with this measure as the dependent variable in an analysis for a sample of non-urban regions in Australia. Stough et al. (2007) has applied this approach to a sample of US metropolitan areas as well. So it is important to recognize that the rise in interest in entrepreneurship as an important variable in regional economic growth is also motivated by major changes that have occurred in economic theory in general and in the area of economic growth theory in particular. An overview of new contributions—both theoretically and methodologically—to modern regional and urban growth research can be found in Capello and Nijkamp (2004).

There are four papers in this mini-special edition. The contributions they make vary from embedding the entrepreneurship variable in a modern regional forecasting model to the systematic analysis of a small set of case studies of entrepreneurs using rough set analysis to examine the effect of local and global networks on performance. In between these extremes the other two papers consider the notion of an entrepreneurial city and ways of examining such phenomena using network connectivity modeling such as the analysis of power and exponential law distributions of urban activity hubs and the analysis of FDI in Eastern and Central European countries using nested logit modeling to better understand the location of new economic activity and related entrepreneurship.

The first paper by Roberta Capello, entitled “A Forecasting Territorial Model of Regional Growth: The MASST Model” moves the forecasting methodology for regional economic growth forward in a significant way. MASST signifies the elements of this interesting model which are MACroeconomic, Sectoral, Social and Territorial. This model goes beyond regional econometric and input output models and computable general equilibrium models by incorporating endogenous and cumulative growth factors (increasing returns) and social, and spatial or territorial concepts into the model. Further, agglomeration and local spillover effects as well as local resource endowments are also included which of course, among other things, lead to the formal inclusion of the entrepreneurship dimension in the model. The model is applied to a sample of regions from the countries in the European Union. The results are presented and the policy implications of the results are then examined and limitations of the model discussed.

The second paper is entitled “Spatial Activity and Labor Market Patterns: A Connectivity Analysis of Commuting Flows in Germany” and is written by Giovanni Russo, Aura Reggiani and Peter Nijkamp. The title of this paper leaves the reader with the question of how it relates to entrepreneurship. Its aim is to demonstrate a relationship between entrepreneurial activity and spatial labor markets by conceptualizing the city (or regional center) as an entrepreneurial node in a network of such places. Network connectivity modeling using power law and exponential law working hypotheses is used to examine patterns of network connectivity of commuting flows of an extensive cross-section data set in Germany to model the presence of economic activity hubs that are argued to resemble “entrepreneurial cities”.

Marina van Geenhuizen in the third paper entitled “Modeling Dynamics of Knowledge Networks and Local Connectedness: A Case Study of Urban High Technology Companies in The Netherlands” examines the relationship between the function of local and global networks in the operations of a small sample of entrepreneurs. Because of the small sample size the analysis utilizes rough set analysis as a way of bringing more systematics to the analysis. The analysis reveals among other things that both local and global networks coexist in urban places like that within which this study occurred (Leiden and surrounding areas in the Randstad) and that when global networks and linkages are heavily deployed local network utilization is weakened, i.e., becomes less important. This is an interesting and useful paper because it attempts to bring a systematic approach to a sample that is quite small. The analysis is rewarded with findings as outlined above that serve as strong hypotheses for future research.

The final paper by Fazia Pusterla and Laura Resmini is entitled “Where do Foreign Firms Locate in Transition Countries? An Empirical Investigation”. The authors utilize a nested logit model to examine the location choices of foreign manufacturing plants in four Central European countries and to estimate factors that influence the choice process. Foreign Direct Investment (FDI) is used to determine where investment and thus location choices are made. The authors offer several reasons why FDI is a good indicator or measure for the study including its potential to show the locus of such investments and to suggest where significant job and other related enterprise impacts are or will occur. One of those, of course, is the potential spillover of company formation effects (foreign or local subsidiary) or local initiative generated via demonstration effects. One quite interesting aspect of the study is that it examines two sub-samples, technology intensive FDI companies and non-technology intensive FDI companies. The authors find that the significant location decision factors for the two types of companies are different.

The above contributions highlight the importance of sophisticated modeling work for a better understanding of the complexity of the entrepreneurial space-economy. They are by no means exhaustive, but representative for the type of advanced analytical methods that are needed to put spatial dynamics research at a higher stage. They also suggest that modern applied research on spatial innovation, entrepreneurship and dynamics has to be mainstreamed with the existing research in economic growth theory, industrial organization and economic geography, which is one of the *raison d’être* of regional science.

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