

我国区域技术创新能力空间相关性及扩散效应实证分析——基于1997-2008空间面板数据

王锐淇^{1,2}

1. 解放军后勤工程学院 后勤信息工程系, 重庆 400042;
2. 重庆大学 经济与工商管理学院, 重庆 400040

The empirical analysis about spatial correlation and diffusion impact in regional technological innovation
Based on 1997-2008's spatial panel data

WANG Rui-qi^{1,2}

1. Logistics and Information Engineering Department, Logistics and Engineering College, Chongqing 400042, China;
2. School of Economics and Business Management, Chongqing University, Chongqing 400040, China

- 摘要
- 参考文献
- 相关文章

全文: [PDF \(1437 KB\)](#) [HTML \(1 KB\)](#) 输出: [BibTeX](#) | [EndNote \(RIS\)](#) [背景资料](#)

摘要 本文在知识生产函数的基础上, 将三种知识扩散渠道纳入分析范围, 结合传统影响区域技术创新能力的因素进行综合考虑。同时结合空间计量经济学分析工具, 以全国总体样本, 分地区子样本和两两地区分类比较子样本为分析对象, 对技术创新能力和相关影响因素在区域内部及区域间的扩散效应进行了实证研究。不同样本的分析结果表明: 全样本和分地区样本两个视角分析均证实了我国整体各省份间以及地区和地区的技术创新能力具有显著的空间相关性, 但是地区内部和地区间的空间相关性形式有所区别。具体的变量估计结果显示: 三种空间知识扩散渠道变量中, 一地区周边地区的FDI和进出口贸易无论是区域间还是在区域内部的分析层面上均没有对本地的技术创新能力产生显著影响; 在影响区域创新能力的传统变量中, 全国总体以及大部分地区内部的技术市场活跃度, 科技人员保有量和进出口贸易对区域整体技术创新能力有显著影响。

关键词: 区域创新能力 知识扩散 扩散渠道 空间计量经济

Abstract: Based on the knowledge production function, this paper brought three knowledge diffusion channels and traditional elements that influenced the regional technological innovation into analysis process. After that, it used the spatial econometrics to do empirical analysis on the relevant elements and diffusional effects towards entire country, solo region and two-two regions separately. The different results illustrated that there exists remarkable spatial relationship towards entire country's and regional technological innovation. Additionally, different samples showed different spatial relational form. The specific variables estimation result showed that the three spatial knowledge diffusion channel variables didn't play remarkable influence to the local technological innovation. In the traditional variables that influenced the local technological innovation, the dynamics of knowledge market, knowledge labor and import-export trade played remarkable influence.

Key words: regional technological innovation knowledge diffusion diffusion channel spatial econometrics

收稿日期: 2010-06-11;

引用本文:

王锐淇. 我国区域技术创新能力空间相关性及扩散效应实证分析——基于1997-2008空间面板数据[J]. 系统工程理论实践, 2012, 32(11): 2419-2432.

WANG Rui-qi. The empirical analysis about spatial correlation and diffusion impact in regional technological innovation —— Based on 1997-2008 spatial panel data[J]. Systems Engineering - Theory & Practice, 2012, 32(11): 2419-2432.

服务

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ E-mail Alert
- ▶ RSS

作者相关文章

- ▶ 王锐淇

[1] Hoekman B M, Maskus K, Saggi K. Transfer of technology to developing countries: Unilateral and multilateral policy options[J]. World Development, 2005, 33(10): 1587-1602.

[2] Posner M V. International trade and technical change[J]. Oxford Economic Paper, 1961, 13: 323-341.

[3] Grossman G M, Helpman E. Quality ladders and product cycles[J]. The Quarterly Journal of Economics, 1991, 106: 557-586.

- [4] 黄静波, 孙晓琴. 技术创新与出口: 理论与实证研究的发展[J]. 国际贸易问题, 2007(9): 55-60. Huang J B, Sun X Q. Technological innovation export: Main developments in theoretical and empirical studies[J]. Journal of International Trade, 2007(9): 55-60.
- [5] Fujita M. Spatial Economics[M]. Edward Elgar, Cheltenham, 2005. 
- [6] Fujita M, Krugman P. The new economic geography: Past, present and the future[J]. Papers in Regional Science, 2004, 83: 139-1.
- [7] Sinani E, Meyer K E. Spillovers of technology transfer from FDI: The case of Estonia[J]. Journal of Comparative Economics, 2004, 445-466. 
- [8] Kugler M. Spillovers from foreign direct investment: Within or between industries?[J]. Journal of Development Economics, 2006, 81: 444-477. 
- [9] Liu Z Q. Foreign direct investment and technology spillovers: Theory and evidence[J]. Journal of Development Economics, 2008, 81: 176-193. 
- [10] 薄文广, 马先标. 外商直接投资对中国技术创新作用的影响分析[J]. 中国软科学, 2005(11): 25-33. Bo W G, Ma X B. The effect analysis of FDI on China's technology innovation[J]. China Soft Science, 2005(11): 25-33. 
- [11] 潘镇. 外商直接投资是否促进了中国的科技进步——来自各地区的经验证据[J]. 中国软科学, 2005(10): 125-133. Pan Z. Does FDI benefit science and technical development in China? -- The evidence from the provincial data[J]. China Soft Science, 2005(10): 125-133.
- [12] 冼国明. 外国直接投资对中国企业技术创新作用的影响——基于地区层面的分析[J]. 经济科学, 2006(3): 78-80. Xian G M. The effect of FDI on Chinese enterprises'creativity -- Basing on the regions[J]. Economic Science, 2006(3): 78-80.
- [13] 陈劲, 陈钰芬, 余芳珍. FDI对促进我国区域创新能力的影响[J]. 科研管理, 2007(1): 44-68. Chen J, Chen Y F, Yu F Z. The impact of FDI on regional innovation capability[J]. Science Research Management, 2007(1): 44-68. 
- [14] Haddad M, Harrison A. Are there positive spillovers from direct foreign investment? Evidence from panel data for morocco[J]. Journal of Development Economics, 1993, 42: 51-74. 
- [15] Aitken B J, Harrison A E. Do domestic firms benefit from direct foreign investment? Evidence from Venezuela[J]. The American Economic Review, 1999, 89: 605-618. 
- [16] Kinoshita Y. Technology Spillovers Through Foreign Direct Investment[M]. Mimeo, New York University, 1998.
- [17] 何洁. 外商直接投资对中国工业部门外溢效应的进一步精确量化[J]. 世界经济, 2000(12): 29-36. He J. The further calculation about diffusion effect of FDI towards Chinese industry department[J]. World Economy, 2000(12): 29-36. 
- [18] Porter M. The Competitive Advantage of Nations[M]. Basingstoke: Macmillan, 1990.
- [19] 范红忠, 侯晓辉. 国际贸易对一国研发投入及自主创新能力影响的实证研究[J]. 国际贸易问题, 2007(2): 33-36. Fan H Z, Hou X H. An empirical study on the effect of international trade on a country's R&D expenditure and innovation capability [J]. Journal of International Trade, 2007(2): 33-36. 
- [20] Griliches Z. Issues in assessing the contribution of R&D to productivity growth[J]. Bell Journal of Economics, 1979(10): 92-116. 
- [21] Anselin L. Spatial Econometrics: Methods and Models[M]. Kluwer Academic Publishers, Dordrecht, 1988a.
- [22] 何兴强, 王利霞. 中国FDI区位分布的空间效应研究[J]. 经济研究, 2008(11): 137-142. He X Q, Wang L X. Empirical analysis on spatial linkage in FDI across China[J]. Economic Research Journal, 2008(11): 137-142. 
- [23] 何江, 张馨之. 中国区域经济增长及其收敛性: 空间面板数据分析[J]. 南方经济, 2006(5): 44-47. He J, Zhang X Z. Chinese regional economic growth and convergence: Spatial panel data analysis[J]. South China Journal of Economics, 2006(5): 44-47.
- [24] 王火根, 沈利生. 中国经济增长与能源消费空间面板分析[J]. 数量经济技术经济研究, 2007(12): 98-103. Wang H G, Shen L S. A spatial panel statistical analysis on Chinese economic growth and energy consumption[J]. Quantitative & Technical Economics, 2007(12): 98-1
- [25] 骆永民. 中国科教支出与经济增长的空间面板数据分析[J]. 河北经贸大学学报, 2008(1): 36-38. Luo Y M. An empirical analysis based on spatial panel data for Chinese economic growth and the expenditure on education and scientific research[J]. Journal of Hebei University of Economics and Trade, 2008(1): 36-38.
- [26] 项云帆, 王少平. 基于空间Panel Data的中国区域人均GDP收敛分析[J]. 中国地质大学学报: 社会科学版, 2007(5): 79-81. Xiang Y F, Wang S P. Spatial panel data analysis for China's regional per-capita GDP convergence[J]. Journal of China University of Geosciences: Social Sciences Edition, 2007(5): 79-81.
- [27] 王剑. 外商直接投资区域分布的决定因素——基于空间计量学的实证研究[J]. 经济科学, 2004(5): 116-125. Wang J. The key element about regional arrangement of FDI -- Basing on spatial econometrics[J]. Economic Science, 2004(5): 116-125.
- [28] 王立平, 彭继年, 任志安. 我国FDI区域分布的区位条件及其地理溢出程度的经验研究[J]. 经济地理, 2006(2): 45-53. Wang L P, Peng J N, Ren Z. The empirically analysis of spatial econometrics to local factors of Chinese FDI regional distribution and to the extent to geographical spillovers[J]. Economic Geography, 2006(2): 45-53.
- [29] 苏#
- [30] 芳, 胡日东. 中国FDI区域分布决定因素的动态演变和地理溢出程度——基于空间面板数据的实证研究[J]. 经济地理, 2008(1): 54-62. Su Z F, Hu R.

- [31] Anselin L, Gallo J L, Jayet H. Spatial Panel Econometrics[M]. Berlin: Springer, 2005, 8: 1-37.
- [32] Moran P. The interpretation on statistical maps[J]. Journal of the Royal Statistical Society, 1948, 10: 234-251.
- [33] Anselin L, Bera A, Florax R, et al. Simple diagnostic tests for spatial dependence[J]. Regional Science and Urban Economics, 1996, 26: 77-104. 
- [34] Anselin L, Rey S. Properties of tests for spatial dependence in linear regression models[J]. Geographical Analysis, 1991, 23: 112-1
- [35] Anselin L, Florax R. Small Sample Properties of Tests for Spatial Dependence in Regression Models[M]//New Directions in Spatial Econometrics, Springer, Berlin, 1995, 21-74.
- [36] Barro R J, Xavier M S I. Economic Growth[M]. McGraw-Hill, New York, 1995. 
- [37] 吴玉鸣. 大学、企业研发与区域创新的空间统计与计量分析[J]. 数理统计与管理, 2007(2): 318-324. Wu Y M. A spatial econometric analysis on university, enterprise research & development and regional innovation[J]. Application of Statistics and Management, 2007(2): 318-324.
- [38] Feldman. The Geography of Innovation[M]. Kluwer Academic Publishers, Dordrecht, 1994. 
- [39] Young A. The razor's edge: Distortions and incremental reform in the People's Republic of China [J]. Quarterly Journal of Economics, 2000, 115(4): 1091-1135. 
- [40] 钟笑寒. 地区竞争与地方保护主义的产业组织经济学[J]. 中国工业经济, 2005(7): 50-56. Zhong X H. Towards an industrial organization economics on regional competition and local protectionism[J]. China Industrial Economy, 2005(7): 50-56.
- [41] 严冀, 陆铭. 分权与区域经济发展: 面向一个最优分权程度的理论[J]. 世界经济文汇, 2003(3): 55-66. Yan J, Lu M. Authority allocation and regional economy development[J]. World Economic Forum, 2003(3): 55-66. 
- [42] LeSage J. The theory and practice of spatial econometrics[EB/OL]. The Web Book of Regional Science, 1999.
- [43] 张江雪. 我国三大经济地带就业弹性的比较: 基于面板数据模型的实证研究[J]. 数量经济技术经济研究, 2005(10): 100-110. Zhang J X. A comparison of employment elasticity in three economic regions of China[J]. Quantitative & Technical Economics, 2005(10): 100-1. 
- [44] Ledyaeva S. Spatial econometric analysis of determinants and strategies of FDI in Russian regions in pre- and post- 1998 financial crisis periods[R]. BOFIT Discussion Paper 15/2007.
- [1] 高远东;陈迅. 中国省域产业结构的空间计量经济研究[J]. 系统工程理论实践, 2010, 30(6): 993-1001.