

中国林业劳动生产率的时空演化特征及影响因素解析

——基于动态空间面板模型

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摘要:【目的】研究中国林业劳动生产率的时空关联特征,分析其影响因素和时空溢出效应,并提出促进中国林业劳动生产率增长的对策建议。【方法】利用2010-2020年中国大陆31个省份的林业劳动生产率面板数据,通过单变量和双变量Moran指数检验区域林业劳动生产率的时空关联特征,在此基础上,分别建立无时空效应、时间效应、空间效应和时空效应4个模型进行对比,最终选择建立动态空间面板模型分析林业劳动生产率的影响因素及时空效应分解。【结果】1)中国区域林业劳动生产率存在循环累积时间效应和正向时空交互效应;2)本地林地劳动比、产业集聚水平、产业结构优化、劳动者报酬、技术进步、纯技术效率和规模效率的提升对当地林业劳动生产率有促进作用,其中林地劳动比和劳动者报酬的贡献率最高;3)资本劳动比和劳动者报酬的提升对邻近地区林业劳动生产率有负向溢出效应,而技术进步和规模效率的提升对邻近地区林业劳动生产率有正向溢出效应;4)除资本劳动比的长期效应不显著外,其他因素的长期效应与短期效应方向一致,平均影响程度是短期效应的2.368倍。【结论】提高林业劳动生产率,应充分考虑各因素的本地效应和空间溢出效应,同时考虑政策措施的长期影响,谨慎权衡各种因素的作用。

关键词: 林业劳动生产率;影响因素;时空效应;Moran指数;动态空间面板模型

Analysis of the spatial and temporal correlation effects of forestry labor productivity and its influencing factors in China

——Based on the Dynamic Spatial Panel Model

Abstract: 【Objective】 To investigate the spatio-temporal correlation patterns of forestry labor productivity in China, examine the factors influencing it and their spillover effects, and propose actionable measures to boost forestry labor productivity. 【Method】 Using panel data from 31 mainland Chinese provinces between 2010 and 2020, the study employs univariate and bivariate Moran indices to test the spatio-temporal correlation characteristics of regional forestry labor productivity. Based on the findings, four models are established and compared: no spatio-temporal effect, temporal effect, spatial effect, and spatio-temporal effect. Ultimately, a dynamic spatial panel model is selected to analyze the factors driving labor productivity and their spatio-temporal effects. 【Result】 1) There are cumulative circular time effects and positive spatio-temporal interaction effects on regional forestry labor productivity in China. 2) The improvement of local forest land labor ratio, industrial agglomeration level, industrial structure optimization, labor remuneration, technological progress, pure technical efficiency and scale efficiency have contributed to local forestry labor productivity, among which the contribution rates of forest land labor ratio and labor remuneration are the highest. 3) The improvement of capital labor ratio and labor remuneration have negative spillover effects on neighboring forestry labor productivity, while the improvement of technological progress and scale efficiency have positive spillover effects. 4) Except for the capital labor ratio, which is insignificant, the long-term effects of other factors are in the same direction as their short-term effects, and their average degree of influence is 2.368 times that of the short-term effects. 【Conclusion】 To improve forestry labor productivity, policymakers should consider the local effects and spatial spillover effects of each factor and carefully weigh the effects of various factors while taking into account the long-term effects of policy measures.

Keywords: forestry labor productivity; influencing factors; spatio-temporal effects; Moran index; dynamic spatial panel model