摘　要

农业农村的发展在中国的经济发展中一直扮演着关键的角色，是国家战略发展的重要组成部分，我国农业农村现代化进程也取得了阶段性进展。但在现代化进程中，我国还面临着多方面的挑战，发展不平衡和城乡差距等问题仍然存在。在此背景下，数字技术的应用成为推动农村现代化的关键力量，数字乡村战略的提出更是为农业农村现代化的数字化发展提供了新的机会和挑战。尽管数字技术创新为农村发展带来了巨大机遇，但也有数字鸿沟、技术普及不平等以及城乡差距加大等问题应运而生。同时，结合现有研究可以发现，鲜有学者对数字技术在农业农村现代化中起到何种作用进行深入分析。因此，研究数字技术对农业农村现代化的影响，对于破解现阶段农业农村发展存在的困境，从而进一步推动我国农业农村现代化的发展具有重大意义。

在探究数字技术如何影响农业农村现代化前，需要对数字技术和农业农村现代化的发展现状展开分析。首先，本文从数字技术发展与创新投入产出两个维度构建数字技术的指标体系，从产业兴旺、生态宜居、乡风文明、治理有效、生活富裕五个维度构建农业农村现代化的指标体系，基于 2010~2021 年中国 30 个省（市、自治区）的相关面板数据，采用熵权 TOPSIS 法对数字技术和农业农村现代化分别进行测度，然后采用莫兰指数以及核密度估计法分别对数字技术和农业农村现代化的时空演变特征进行分析。其次，本文构建了空间杜宾模型来探究数字技术如何影响农业农村现代化发展水平，并使用动态的空间杜宾模型进行稳健性检验。最后，将 30 个省份按东、中、西部地区进行划分，并对其异质性问题展开研究。

经过实证研究，本文可以得出以下结论。第一，数字技术的提高对农村现代化水平发展具有正向的促进作用。第二，数字技术对农业农村现代化的影响存在空间溢出效应，即当一个地区数字技术水平较高时，也会对周边地区的农业农村现代化水平产生影响，且这种影响通常是正向的。第三，数字技术对农业农村现代化影响的空间溢出效应还存在区域异质性，具体而言，东部地区空间溢出效应的影响最为明显，其次是中部地区，而西部地区空间溢出效应的影响非常小。针对以上结论，本文提出了以下三点建议，一是要推动数字技术在农业农村现代化中的广泛应用；二是需促进数字技术的跨区域传播和合作；三是要因地制宜，提供差异化的政策支持，从而为进一步提升农业农村现代化水平，缩小城乡差距，实现共同富裕作出贡献。

关键词：农业农村现代化；数字技术；熵权 TOPSIS 法；核密度估计；空间杜宾模型

Abstract

The development of agriculture and rural areas has consistently played a key role in China's economic growth, constituting a vital component of the country's strategic development. The modernization process of agriculture and rural areas in China has achieved phased progress. However, during this modernization process, China faces various challenges, including issues of uneven development and the urban-rural gap. In this context, the application of digital technology has become a crucial force driving rural modernization. The introduction of the 'digital countryside' strategy has provided new opportunities and challenges for the digitized development of agricultural and rural modernization. Although digital technology innovation has brought tremendous opportunities for rural development, it has also led to issues such as the digital divide, unequal technology dissemination, and an increasing gap between urban and rural areas. Moreover, combining existing research reveals that there is limited in-depth analysis by scholars on the role of digital technology in the modernization of agriculture and rural areas. Therefore, studying the impact of digital technology on the modernization of agriculture and rural areas, addressing the current challenges in the development of agriculture and rural areas, and further propelling the development of agricultural and rural modernization in China hold significant importance.

Before exploring how digital technology influences the modernization of agriculture and rural areas, an analysis of the current status of digital technology and the modernization of agriculture and rural areas is necessary. Firstly, this thesis constructs indicators for digital technology from two dimensions: the development of digital technology and innovation input-output. It also constructs indicators for the modernization of agriculture and rural areas from five dimensions: prosperous industries, livable ecology, civilized rural customs, effective governance, and affluent living. Based on relevant panel data for 30 provinces (municipalities, autonomous regions) in China from 2010 to 2021, the Topsis entropy method is employed to measure digital technology and the modernization of agriculture and rural areas. Subsequently, the Moran index and kernel density estimation method are used to analyze the spatiotemporal evolution characteristics of digital technology and the modernization of agriculture and rural areas. Secondly, this thesis constructs a spatial Durbin model to explore how digital technology influences the level of development in the modernization of agriculture and rural areas and conducts robustness tests using a dynamic spatial Durbin model. Lastly, the thesis divides the

30 provinces into eastern, central, and western regions and investigates their heterogeneity issues.

Through empirical research, this thesis draws the following conclusions: Firstly, the improvement of digital technology has a positive promoting effect on the development level of rural modernization. Secondly, there is a spatial spillover effect of digital technology on the modernization of agriculture and rural areas. When a region has a higher level of digital technology, it also influences the level of modernization of agriculture and rural areas in surrounding regions, and this influence is generally positive. Thirdly, there is regional heterogeneity in the spatial spillover effect of digital technology on the impact of agriculture and rural modernization. Specifically, the spatial spillover effect is most evident in the eastern region, followed by the central region, while the impact of the spatial spillover effect in the western region is very small. Based on these conclusions, this thesis proposes the following three recommendations: Firstly, promote the widespread application of digital technology in the modernization of agriculture and rural areas. Secondly, facilitate the cross-regional dissemination and cooperation of digital technology. Thirdly, tailor policies differentially to provide support, thus contributing to further enhancing the level of modernization of agriculture and rural areas, narrowing the urban-rural gap, and achieving common prosperity.

Key Words: Modernization of Agriculture and Rural Areas; Digital Technology; Topsis Entropy Method; Kernel Density Estimation; Spatial Durbin Mode

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