Intersectoral Technology Spillover and Its Decomposition Based on the Innovation Flow Matrix.

Topic: Financial analysis
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The economic system functions as a complex network, where interdepartmental production networks formed through input-output relationships constitute the underpinning framework for economic operations. Empirical research based on input-output analysis has shifted its focus from commodity trade connections to the spillover effects of innovation. However, existing studies often explain inter-sectoral innovation spillovers using endogenous growth models, with fewer models constructed from a general equilibrium framework. This study, grounded in an inter-industry patent citation network, constructs an innovation flow matrix and integrates it into an input-output analysis model to dissect technological spillovers at the industry level. Utilizing the compiled input-output table for the digital economy, the paper places special emphasis on analyzing the spillover effects of technological progress in the digital economy on traditional sectors and their decomposition. The research findings reveal that sectoral productivity effects are concentrated within their respective sectors, yet the digital economy exhibits noticeable innovation spillovers onto traditional sectors.