Research on regional digitalization effect and its influencing factors in China from the perspective of firm heterogeneity

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At present, digital transformation has become an important engine to promote China's economic growth under the new development pattern. However, unbalanced development has caused the problem of digital divide, which limits the healthy and sustainable development of economy and society. Based on China's inter-regional input-output model that distinguishes enterprise heterogeneity, this paper constructs a digital accounting framework to quantitatively analyze the characteristic differences of the digital level of enterprises in different regions, industries and ownership in China, explore the "digital divide" problem generated in the process of China's digital development, and further analyze the main driving factors in the process. The basic data used in this paper include the inter-provincial input-output table of China that distinguishes enterprise ownership in 2002, 2007, 2012 and 2017 compiled by Chen et al. (2023), as well as the digital data published by China E-commerce Research Center and National Bureau of Statistics.
The major contributions are as follows: (1) By dividing the content of embedded factors into digital activities and non-digital activities, a unified digital accounting framework is constructed at the production level, and China's digital level index is defined from the perspective of backward industrial correlation to supplement the research on China's domestic and cross-border digital accounting; (2) Add enterprise ownership information on the basis of region-industry level, measure the current situation and development trend of China's digitalization scale and digitalization level from three dimensions of region-enterprise-industry, and discuss the "regional digital divide" and "enterprise digital divide" generated in the process of China's digitalization development; (3) The time and spatial structure decomposition method is adopted to conduct an in-depth analysis of the factors affecting the change of China's digitalization level, focusing on identifying the key driving forces promoting the growth of China's digitalization level, and interpreting the role of Hong Kong, Macao and Taiwan invested enterprises and other foreign invested enterprises in the differentiated development of digitalization level in China's provinces.