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Research Papers

Titles: Tracing the Economic Transfer and Distribution of Total Body Water: A Structural Path Decomposition Analysis of Chinese Sectors

Abstract:

Within the context of China's green economy aimed at sustainable development, research on the linkage between water resources and industry has garnered considerable attention in the academic community. However, the impact of total body water (TBW) transfer and allocation embodied in the labor force—the primary economic actors—has not been addressed in the economic sector. On methodology, the “EEIO-SDA-SPD-II” (ISSI) model employed in this study encompasses measurements methods, such as an environmentally extended input–output model (EEIO), structural decomposition analysis (SDA), structural path decomposition (SPD), and the imbalance index (II), to explore the crucial paths, driving factors, and distribution of water transfer in TWB spanning 15 Chinese industries between 2007 and 2022. The findings indicate that the shifts in TBW in the manufacturing sector are more discernible when viewed through the lens of social driving factors. The construction business exhibits the most significant increase in male total body water (MTBW), whereas the education sector reflects the rapid growth in female total body water (FTBW). Pertaining to final demand, domestic consumption constitutes the primary contributor category to the increase in TWB, followed by fixed capital formation and exports. According to the SPD results, the construction sector exerts the greatest influence on the transfer of MTBW, while the education sector is characterized by the highest path coefficient value for FTBW. In contrast, the manufacturing sector shows the most pronounced initial path. Based on the imbalance index analysis, agriculture derives the greatest economic gains from TBW input, whereas the education sector yields the lowest.

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