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## **DOES ARTIFICIAL INTELLIGENCE PROMOTE COMMON PROSPERITY WITHIN ENTERPRISES? - EVIDENCE FROM CHINESE-LISTED COMPANIES IN THE SERVICE INDUSTRY**

As the core driving force of a new round of industrial transformation, artificial intelligence (AI) has brought new opportunities and challenges to global economic and social development. The most significant economic challenge AI triggers is income distribution. These challenges are equally severe in China. Faced with a long-standing wealth gap, China's proposed goal of "common prosperity" has been continuously impacted by AI in recent years. Improving workers' incomes and remuneration is essential for promoting shared prosperity. However, with the widespread application of AI in the service industry, the labor market in the service industry has been increasingly impacted. The challenges brought by AI to the employment absorption capacity of the service industry and the resulting changes in labor income share have attracted strong social attention. We used data from Chinese A-share service industry-listed companies from 2008 to 2022 to examine the impact of AI applications on the labor income share in service industry enterprises and verify its channels of action.

Artificial intelligence is widely used in industrial robots, speech recognition, search engines, computer software, and other fields. It rapidly triggers a wave of machine replacement in the industrial field and profoundly changes the service industry's work mode and job configuration. Owing to the impact of Baumol's disease, the service industry has low productivity and is prone to a structural slowdown during economic servitization. Fundamentally, "Baumol's disease" is caused by a service industry that requires many human resources to be invested and completed face-to-face, slow technological progress, and difficulty achieving large-scale production. However, in recent years, the new generation of AI represented by generative artificial intelligence (AIGC) has continuously made breakthroughs that will have a significant impact on the production mode, factor input, technological progress, and production efficiency of the service industry, thus potentially curing "Baumol disease" in the service industry and improving its productivity.

However, while AI improves productivity in the service industry, can it distribute income fairly and share the cake well? The latest "2022 World Inequality Report" released by the World Inequality Lab shows that at the beginning of China's reform and opening up in 1978, the top 10% and bottom 50% accounted for 27% of income, respectively. The gap between these two levels has widened annually, especially since the 21st century, and the wealth gap has become increasingly

prominent. In 2021, the top 10% will account for 42% of income, while the bottom 50% will account for only 15%. The Gini coefficient has long exceeded the international warning lines. The problem of income inequality in China is becoming increasingly severe. What role does AI play? At present, empirical evidence on this aspect is limited.

In this study, we chose the perspective of AI as a technological innovation, providing a new perspective to explain the decline in the labor income share of Chinese service industry enterprises. We explore the inherent impact mechanism and transmission path of AI on the labor income share from the effects of employment structure changes on capital-labor substitution, wage rate effects, and productivity effects.

*1. Artificial intelligence applications in service industry enterprises will reduce their share of labor income.* The service industry plays a huge role in attracting employment, covering diverse professions such as catering services, retail sales, education, and healthcare, and providing workers with a wide range of employment opportunities. At the same time, some service positions do not require many qualifications and specific skills, creating a low-threshold employment starting point and flexible employment forms and providing income security for various groups. However, the application of AI in the service industry has impacted the labor market and employment structure, leading to changes in the employment participation of workers with different skills, positions, and levels, affecting their income status.

*2. Artificial intelligence applications in service industry enterprises reduce the share of labor income by squeezing out low-educated workers.* According to the task allocation method proposed by Autor, the general workforce is engaged in general labor tasks, whereas the high-tech workforce can engage in non-general tasks. If the matching rate between the labor force and labor tasks in society is higher, the unemployment rate will be lower, and vice versa. Therefore, AI will partially replace human labor by squeezing out low-educated employment.

*3. Artificial intelligence applications in service industry enterprises reduce the share of labor income by squeezing out frontline job opportunities.* Most positions eliminated by AI are production-oriented frontline jobs that perform routine tasks. The proportion of workers engaged in frontline work in enterprises is continuously decreasing in terms of overall employment, but it also creates many new positions, such as development and maintenance personnel for AI.

*4. Artificial intelligence applications in service industry enterprises will significantly increase productivity and exceed wage rates, thereby reducing the share of labor income.* The share of labor income is also influenced by the relationship between wage rates and labor productivity. If the driving effect of AI on labor productivity exceeds its effect on improving wages, it will lead to a decrease in the share of labor income. Artificial intelligence can improve production efficiency to a certain extent, which is conducive to increasing capital income and promoting a new round of capital accumulation. AI can increase the share of capital income, thereby reducing the share of labor income. Because capital is usually held by a small number of people and more labor still relies on providing labor for income, the positive effects of AI on capital benefit only a few people. Therefore, the heterogeneity AI brings to

the two production factors of labor and capital is not conducive to fair income distribution between factors.

5. *Reducing the degree of labor market segmentation and enhancing workers' bargaining power can help alleviate the negative impact of AI on the labor income share in the service industry.* While AI replaces some frontline workers, it also creates suitable positions for non-frontline workers, which is the main source of the increase in labor income share. However, in areas with severe labor market segmentation, there are significant obstacles to labor mobility, which may result in companies using AI. At the same time, some highly educated and skilled laborers cannot flow into these enterprises, leading to slower growth in the labor income share. An important reason for the decrease in the labor income share caused by the application of AI is that it has replaced a portion of low-educated, low-skilled, or frontline workers, as well as the unfair distribution of added value between labor and capital in enterprises. Therefore, if we want to curb the decline in the share of labor income or further increase the share of labor income, the key lies in improving the relative bargaining power between workers and capital owners. On the one hand, in the face of the impact of AI applications, improving workers' bargaining power can protect them from being easily replaced, forcing entrepreneurs to retrain this part of the workforce to adapt to automated production. On the other hand, with improved bargaining power, workers can gain more benefits from the distribution of the total surplus in the enterprise.

This study has important policy implications for stabilizing the employment absorption capacity of the service industry, improving labor income, and promoting prosperity.

First, improving the labor skills training system, increasing on-the-job education and vocational skills training for workers, enhancing the education level of low-educated workers, and actively promoting their re-employment. Enterprises should be encouraged to carry out pre-job training for new skills, improve the skill level of labor, adapt to the needs of new positions created by AI, better complement the advantages of AI, alleviate the impact of unemployment caused by the application of AI, and stabilize and improve worker income.

Second, it optimizes the regional labor mobility system and mechanism, breaks down labor mobility barriers between regions, and reduces labor mobility costs. At the same time, it is necessary to accelerate the construction of inclusive social security systems such as unemployment insurance, improve the negotiation ability of workers, provide more comprehensive and reliable protection for workers and unemployed individuals, mitigate the adverse impact of frictional unemployment caused by technological changes in the low-skilled labor market and income distribution, and improve the relative position of labor remuneration in income distribution.

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