

## ABSTRACTS

**Research on the Rationality of China's Industrial Wages**

Bai Peiwen · Li Xianglin · 2 ·

Using the industry data from 2003 to 2019, this paper studies the rationality of industry wages in Chinese regions. The results show that wages distribution among industries is obviously irrational. Monopolistic industries are in front rank in terms of average wage income, while competitive industries are basically in weak positions. The inter industry wage gap is gradually increasing, and the liquidity shows decreasing and tends to be fixed. Average wages in labor scarce areas (such as southwest China) are higher, whereas those in labor intensive areas (such as central China) are lower. The overall decline of wage incomes in developed areas is smaller, while that in other areas is larger. The irrational wage income gap between different industries in China is mainly due to the different wage determination mechanisms induced by the heterogeneity of industrial structure. The rationality of industrial wages in various regions presents strong regional related characteristics, which are affected by the surrounding economic environment and policy factors. Factors such as technological progress, urbanization rate, state-owned level, education level and medical-care level have great impact on the rationality of industrial wages. Based on the above research, this paper puts forward some suggestions about promoting the rational distribution of industry wages and fair employment of workers.

**The Impact of Market Integration on Consumption Upgrading:****A Study Based on "Quantity" and "Quality"**

Huang Zelin · Qin Shuyue · 18 ·

Using China's inter-provincial panel data from 1997 to 2019, this paper analyses the impact of market integration on the improvement of residents' consumption level and consumption structure, with focus on two dimensions, i.e. "quantity" and "quality", of consumption upgrading. The research finds that: (1) market integration and residents' consumption upgrading generally have an relationship of first inhibition and then promotion. After 2012, market integration has changed from inhibition to promotion on residents' consumption upgrading, especially on rural residents' consumption, high-income areas and eastern areas. (2) Product diversity, the fitness of production and demand, and product quality upgrading can effectively adjust the impact of market integration on the improvement of consumption level. Product diversity can also adjust the impact of market integration on the upgrading of consumption structure. Only when the matching production with demand is low and the upgrading range of product quality is large, the impact of market integration on the upgrading of consumption structure is significant. (3) The development of the Internet has strengthened the effect of market integration on the consumption level, and it causes market integration to promote and then inhibit the upgrading of consumption structure. The reason is that the integration of the Internet with development and enjoyment consumer goods is low, which cannot meet the current quality needs and personalized needs of people in pursuit of better life.

**The Impact of General-purpose Technology on the Employment Structure:****Evidence from "Broadband China" Demonstration City**

Chen Jianwei · Su Lifeng · 32 ·

This paper uses the policy of "Broadband China" demonstration city to construct a Difference-in-Differences settings with staggered adoption to identify the effects of General-purpose technology (Information and Communication Technology) on transformation of the employment structure. The results show that: (1) ICT accelerates the transformation of urban employment structure from manufacturing to service industry. Demonstration city policy has significantly reduced the employment share of manufacturing sector, and the dynamic effects gradually increase after the implementation of the policy. (2) The market scale of city helps explain the heterogeneity of the transformation effect of employment structure. Cities with larger market size have relatively stronger effects on employment structure transformation. (3) Network effect is an important mechanism for general-purpose technology to affect employment structure. What can be ob-

served are a positive effect on the employment share of information service industry with strong network effect, an insignificant effect on the share with weak network effect, and a negative effect on the share of financial service industry, which is highly dependent on intermediate input of information service. However, the increment of employment share in industries with strong network effect is lower than the decrease in manufacturing employment share, which potentially means that the general-purpose technology may cause structural unemployment when promoting the transformation of employment structure.

#### **Artificial Intelligence Application, Human-machine Collaboration and Labor Productivity**

*Hu Shengming and Others* • 48 •

By introducing the degree of matching between human and machine into expand task-based model, based on data from China Labor-force Dynamics Survey, this paper theoretically and empirically explores the impact of artificial intelligence application on labor productivity and the important role of human-machine collaboration. The research finds that: (1) the relationship between artificial intelligence application and labor productivity presents an inverted U-shaped curve that first rises and then falls. The appropriate application of artificial intelligence can improve labor productivity, but excessive application will cause labor efficiency losses due to human-machine mismatch. (2) The enhancement of labor synthetic ability can improve the match degree between human and machine, thereby increasing labor productivity. The enhancement of labor non-cognitive ability such as emotional stability, social and trust relative to cognitive ability can significantly promote the effect of artificial intelligence application on labor productivity. (3) Human-machine collaboration in different occupations and tasks has different preferences for labor abilities. The primary and secondary industries prefer workers with cognitive ability, while the tertiary industries prefer non-cognitive ability. Human-machine collaboration in professional and technical occupations prefers both cognitive and non-cognitive abilities, while that in service and production occupations prefers cognitive abilities. Routine and non-mental tasks prefer cognitive abilities, but non-routine and mental tasks prefer non-cognitive abilities. The paper suggests that it should be necessary to rationally lay out the application scope of artificial intelligence and pay attention to cultivating non-cognitive abilities of workers in order to increase labor productivity and bring about more adequate and higher-quality employment.

#### **Research on the Impact of Population Change on Northeast Economic Growth**

*Liu Rumei and Others* • 63 •

The northeast is the region with the most serious population decline in China according to the data of the seventh national population census. Its population changes are mainly characterized by negative population growth, accelerated aging and serious population outflow. The paper empirically analyses the impact of population change on the northeast economic growth by using the panel data of three provinces of the northeast from 2003 to 2019. The results show that the negative population growth leads to the decrease of the total population and the shortage of effective labor supply. The acceleration of population aging leads to an increase in the burden of social security, the cost of enterprises and government debt. The outflow of population leads to the massive loss of capital and human capital, which hinders the progress of technology and the improvement of labor productivity. These factors have had a negative impact on the northeast economic growth. The low level of marketization and the lack of human capital and technological progress in the northeast also restrict the northeast economic growth to a certain extent.

#### **The Difference of the Returns to Higher Education between Migrant Workers and Local Workers:**

##### **From the Perspective of Urban Heterogeneity**

*Huang Jing Zhu Mengdi* • 77 •

In view of the new characteristics of China's migrant population with higher education level, this paper uses the data of China's Labor Dynamics Survey to analyze the difference of the return rate to higher education between migrant population and local labor, and to study the heterogeneity in different cities. The results show that migrant population has a higher rate of return to higher education than the local labor, and higher education plays a stronger role in improving the income of migrant population, especially in first-tier and new first-tier cities, and to inter-provincial and rural-urban migrant population. The migrant population with higher education has a significant self-selection effect, and individuals with more ability have a stronger willingness to move to the big cities with higher production efficiency, thus obtaining a higher rate of return to education. This paper argues that the promotion of people-oriented urbanization should comply with the law of population flow, eliminate systematic regional division, remove the obstacles to free flow of labor, and promote the optimal allocation of human capital.

**The Impact of Human Capital on the Performance of AI Enterprises:****Evidence from 282 AI Listed Companies in China***Wang Xueyi He Taiyi*·88·

Based on the panel data of 282 AI enterprises in China from 2010 to 2019, this paper studies the impact of human capital on the performance of AI enterprises in the perspectives of efficiency wage theory, contract theory and R&D investment consideration. The results show that: (1) the performance growth of AI enterprises is highly dependent on senior management talents and technical human capital. (2) The scarcity of human capital determines that executive compensation should be maintained at a high level. Under the condition of following the efficiency wage and compensation contract, improving executive compensation can enhance the profitability of AI enterprises by improving enterprise organizational performance, management performance and executive performance. However, it is not that the higher the executive compensation level, the more corporate performance can be created. Its impact effect is often subject to the construction of enterprise human resources system, management level and modern enterprise governance system. (3) A certain scale of R&D personnel in AI enterprises can produce the advantage of scale of R&D, promote enterprise technological innovation, and enhance the output of enterprise technological achievements and the efficiency of market transformation. (4) In AI enterprises, the interaction effect between R&D investment and technical human capital is more significant. Improving R&D intensity can promote enterprises to shape enterprise strategic advantages, talent advantages, technical advantages and core competitiveness, so as to expand market share and profit space. (5) The impact of human capital on the performance of AI enterprises has obvious industry heterogeneity and regional heterogeneity, which is closely related to the differences of AI enterprises, industrial layout, industry characteristics and regional economic and social development level.

**New Occupations and Economic Cycle in the Digital Economy Era***Ding Shulei Zhang Kangsi*·102·

In the era of digital economy, new occupations have opened up new employment space and expanded the employment pool. The paper claims that the deepening of social division of labor is the logical thread of new occupations, and the innovation of digital technology and the need for a better life are the driving force to new occupations. With the accelerated integration of digital technology and the real economy, China's economic cycle has taken on new characteristics, including intelligent production, networked circulation and digital consumption. New occupations have an important impact on the mode of production by improving data productivity and optimizing the relationship of data production. At the same time, new occupations provide strong support for speeding up the economic cycle through the smooth production process. At present, the new occupations are in the situation of both supply and demand, but the talent gap is huge; at the same time, the new occupations are faced with obstacles such as imperfect market development and inadequate protection of rights and interests. Therefore, it is urgent to improve the construction of new occupations ecological system, accelerate the operation mechanism construction of data factor market, consolidate the industrial foundation capacity, continuously promote the optimization and upgrading of industrial structure, comprehensively deepen the reform of college education, actively build the dynamic mechanism of professional discipline setting and adjustment, and establish and improve the rights and interests protection system. Taking multiple measures to promote new occupations will become a new driving force to promote economic development, improve people's livelihood and smooth economic cycle.

**Current Situation and Problems of Fertility Research in China:****Observation from the Perspective of Research Methods***Song Jian Zheng Hang*·114·

Based on the literature on fertility from 2016 to 2021, this paper summarizes and sorts out the status quo and problems of fertility research in China from the perspectives of research methods, and puts forward suggestions for future research. Around the three core issues of how low the fertility rate is, what the mechanisms that affect it are, and how to effectively improve the fertility rate in China, the current fertility research has been productive, but also brought about many disputes and puzzles. From the perspective of research methods, an important manifestation of the problem is the lack of effective complementarity between quantitative and qualitative research methods. Quantitative research mainly focuses on the description, explanation and coping strategies of low fertility rate, attaching importance to data estimation, factor analysis and policy evaluation. Subjective issues are not discussed enough, theories are not integrated enough, fertility mechanism is unclear, and the effectiveness of policy suggestions is weak. Qualitative research focuses on fertility culture, fertility mechanism, and fertility dilemma of special groups, emphasizes cultural understanding and field investigation and pays insufficient attention to low fertility, with a single theoretical perspective, and marginalized research topics. In the context of continuous low fertility and relaxed fertility policy, further research should focus on integrating the advantages of the two methods and learn from each other.