American Journal of
Economics
(AJE)

Research on the Equilibrium of China's Employment Structure (2015-2023): Industry, Population and Regional Dimensions

Kun Zhou, Yuxin Lu, Shuying Yu, Wenyu Yang

American Journal of Economies
ISSN 2520 - 0453 (Online)
Vol. 10, Issue 1, pp 52 - 69, 2026

www.ajpojournals.org

Research on the Equilibrium of China's Employment Structure (2015-2023): Industry, Population and Regional Dimensions

Kun Zhou[1], Yuxin Lu[1], Shuying Yu[1], Wenyu Yang[1]
[1]School of Business, Yancheng Teachers University, Yancheng, 224002, China

Article history
Submitted 25.11.2025 Revised Version Received 23.12.2025 Accepted 28.01.2026

Abstract

Purpose: The purpose of this study is to construct the equilibrium measurement system of China's employment structure and reveal its evolution law. Based on the three-dimensional framework of industry population region, this paper establishes comprehensive indicators, sorts out the dynamic trends driven by aging and industrial upgrading, identifies spatial differentiation and regional structural differences, and puts forward optimization policies.

Materials and Methods: This study uses CRITIC objective weighting method and multi system coordination index model were used to scientifically evaluate the balance of employment structure through static/dynamic coordination index to ensure the comparability of analysis.

Findings: The results show that the overall deviation of the employment structure of the tertiary industry shows a downward trend, but the employment ratio of key industries rises; The imbalance of age structure is aggravated and the sex ratio is stable; The urban-rural employment ratio showed a V-shaped curve. The inter provincial differentiation is significant, the static index fluctuates greatly, and the dynamic index has been improved for a long time, but its stability is insufficient, reflecting the driving characteristics of industry, population and region.

Unique Contribution to Theory, Practice and Policy: Theoretically, it reveals the synergetic influence mechanism of industry population region on employment resources, and enriches the explanation of structural employment contradictions. In terms of policy, it is suggested to establish dynamic monitoring, coordinate industrial and employment policies, and implement regional differentiation. In practice, it provides guidance for government planning and enterprise manpower adjustment, alleviates the contradiction between "recruitment difficulty" and "employment difficulty", and enhances economic resilience.

Keyword: *China, Equilibrium, Employment Structure, CRITIC Weight Method*

JEL Codes: *J21, J24, J82*

American Journal of Economies
ISSN 2520 - 0453 (Online)
Vol. 10, Issue 1, pp 52 - 69, 2026
www.ajpojournals.org

INTRODUCTION

Based on structural equilibrium theory, labor allocation efficiency theory and welfare maximization employment structure theory, this paper analyzes the current situation of China's employment structure equilibrium. Among them, the structural equilibrium theory emphasizes that the elements of the economic system (industry, technology, employment structure) need to be dynamically adapted, and deviation is easy to lead to imbalance. According to the theory of labor force allocation efficiency, the core of employment structure is to improve total factor productivity through the optimal allocation of labor force in sectors, regions and skills. And the employment structure theory of welfare maximization binds the goal of balance with social equity, and advocates that the employment structure needs to match the development stage, demographic characteristics and welfare demands in order to narrow the gap and promote common prosperity. At present, the global employment structural contradictions are prominent. Measuring the deviation between the actual and ideal employment structure is the key premise to test the structural balance, improve the allocation efficiency and approach the welfare goal.

Since joining the World Trade Organization in 2001, China has successfully ranked among the "world factories" relying on its rich and high-quality labor resources. However, the deep-seated problems of China's employment structure have gradually become prominent due to the dual impact of the aging population and the acceleration of industrial upgrading. Comprehensively measuring the degree of deviation between the employment structure and the ideal structure is the key premise to realize the efficient allocation of resources, narrow the gap between urban and rural areas, and promote common prosperity. The purpose of this study is to build a measurement system for the balance of China's employment structure, systematically analyze the deviation trend of employment structure, and provide data support and decision-making reference for policy-making.

This study uses CRITIC weight model, multi system coordinated development static index model and dynamic index model to measure China's employment structure equilibrium index from 2015 to 2023 based on data sources such as China's high tech Industry Statistics Yearbook, China's population and Employment Statistics Yearbook, China's Labor Statistics Yearbook and the official website of the national Bureau of statistics.

Compared with existing studies, the importance of this study is reflected in: first, in the theoretical framework, it breaks through the limitations of the traditional single dimension (such as age, gender or region), constructs a three-dimensional comprehensive measurement system of "industry population region", systematically integrates the deviation degree of industrial structure, the balance of population structure and the adaptability of regional urban and rural employment, and solves the shortage of fragmented measurement. Second, in terms of methodology, the critical objective weighting method is introduced to avoid subjective bias. Combined with the static and dynamic index model of coordinated development of multiple systems, the time series tracking and provincial comparison of the employment structure equilibrium from 2015 to 2023 are realized, which makes up for the lack of dynamic evolution analysis in previous studies. Third, in the construction of indicators, quantifiable three-level indicators are designed. Through standardized processing and weight integration, the measurement results are both theoretical rigor and policy operability.

Overall, the paper not only combs the historical evolution of the employment structure, but also reveals its spatial differentiation characteristics through provincial comparison, which further highlights the important value of the optimization of the employment structure in promoting high-quality economic development. The core value of this study is to provide an

empirical basis for solving the structural contradiction between "employment difficulty" and "recruitment difficulty", and help the employment structure develop in a balanced direction.

Problem Statement

Existing studies have confirmed that, driven by population aging and industrial structure adjustment, China's employment market presents a structural contradiction of insufficient labor supply and difficult job matching. However, there are still research gaps in the systematic measurement system for the balance of China's employment structure. Based on the three-dimensional framework of industry, population and region, this study constructs the measurement index of China's employment structure equilibrium. This paper uses descriptive statistics to comprehensively sort out and analyze the historical evolution of employment structure, and reveals its spatial differentiation law through the comparative study of provincial panel data. The research results can provide important reference for policy makers to optimize employment promotion and industrial support policies, and then promote sustainable economic growth.

Research Objective

The purpose of this study is to build a measurement system for the equilibrium of China's employment structure and reveal its evolution law, focusing on the following dimensions:

1. Under the three-dimensional framework of industry population region, a quantifiable index system for measuring the balance of employment structure is constructed. Through the CRITIC objective weighting method to solve the deviation problem of traditional subjective weighting, it aims to contribute a replicable objective measurement paradigm in methodology and provide a benchmark for cross regional and cross temporal comparison.
2. Analyze the historical evolution track of China's employment structure balance from 2015 to 2023, and sort out its dynamic change trend driven by population aging and industrial upgrading. The long-term trend is revealed through the dynamic index model of multi system coordinated development. Methodologically, it makes up for the lack of dynamic continuity analysis in existing research, and realizes the upgrading from "section observation" to "process simulation".
3. Through the comparison of provincial panel data, reveal the spatial differentiation characteristics of employment structure equilibrium, and identify the structural differences in different regions.
4. Put forward policy suggestions to optimize the balance of employment structure, provide decision-making reference for solving the structural contradiction of "employment difficulty" and "recruitment difficulty", promote the coordinated development of employment quantity and quality, and help achieve common prosperity and sustainable economic growth.

Research Questions

1. How to build a comprehensive measurement index system for the balance of China's employment structure?
2. What is the dynamic evolution trend of China's employment structure balance driven by population aging and industrial upgrading from 2015 to 2023?
3. What are the significant spatial differentiation characteristics of the employment structure equilibrium in China's provinces?
4. Based on the deviation analysis of employment structure, how to effectively alleviate the contradiction between "employment difficulty" and "recruitment difficulty"?

Relevance and Importance of the Research

This study focuses on the multi-dimensional measurement of the balance of China's employment structure, focusing on how the industrial structure, population structure and regional structure jointly affect the allocation efficiency of employment resources. The research results will provide a systematic analysis framework for policy makers, economists and job market researchers, and help to understand the deep mechanism of structural employment contradictions in China's economic transition. By constructing the industry population region three-dimensional measurement system, this study aims to reveal the key crux of the imbalance of employment structure and provide support for promoting common prosperity.

LITERATURE REVIEW

This review aims to systematically analyze the multi-dimensional measurement framework of China's employment structure equilibrium, focusing on the three-dimensional interaction among industry, population and region. After China joined the WTO in 2001, it has become a "world factory" relying on its labor advantage (Pang et al., 2024). However, in recent years, industrial upgrading has promoted the dominance of the tertiary industry, accounting for 56.75% in 2024. The labor-intensive enterprises that traditionally absorb the employed population gradually migrate to Vietnam, Bangladesh and other countries with the increase of labor costs (DHAR et al., 2023). The uniqueness of China's current employment market is that it is undergoing the dual transformation of accelerating population aging (Bai&Lei, 2022) and deepening industrial upgrading (Wang et al., 2023), which makes the employment structural contradictions increasingly prominent. For example, the coexistence of "employment difficulty" and "recruitment difficulty" highlights the problem of resource mismatch (Qian et al., 2024). The new literature after 2020 emphasizes that the balance of employment structure is the key basis for realizing the efficient allocation of resources and common prosperity.

However, the existing measures are mostly limited to a single dimension, such as age structure (Mao et al., 2018), gender ratio (Lu j et al., 2023), regional distribution (Zhang et al., 2015) or industry distribution (Lu l et al., 2023). They only analyze the local characteristics of employment structure from an isolated perspective, and fail to build a three-dimensional linkage framework of "industry population region". This fragmentation measurement is difficult to capture the interaction effect of industrial structure upgrading, population age change and regional mobility, resulting in the lack of integrity of policy recommendations and the complexity of multiple transformation superimposition. 2. traditional indexes often rely on expert scoring or equal weight assignment (such as entropy weight method and AHP method), which is easy to introduce artificial bias and ignore the internal variability and conflict of indexes. 3. most of the existing indexes are based on cross-sectional data or short-term panel data, lacking long-term time series analysis. Therefore, how to measure the equilibrium of employment structure from three dimensions of industry, population and region, comprehensively analyze the evolution mechanism of employment structure deviation, and provide theoretical support for policy optimization is particularly important.

MATERIAL AND METHODS

The purpose of this study is to construct the measurement system of China's employment structure equilibrium and reveal its evolution law. It includes the following steps:

First of all, build the index system related to the balance of employment structure. The balanced development of employment structure is the only way to reduce the gap and share the fruits of development. Therefore, the construction of employment structure equilibrium index system is

American Journal of Economies
ISSN 2520 - 0453 (Online)
Vol. 10, Issue 1, pp 52 - 69, 2026
www.ajpojournals.org

of great significance and practical needs to alleviate the employment problem at this stage. According to the "14th five year" employment promotion plan, the main objectives of China's employment are the overall stability of the employment situation, the steady improvement of the quality of employment, the effective alleviation of structural employment contradictions, the continuous release of the momentum of entrepreneurship driven employment, and the significant enhancement of the ability to cope with risks. On the basis of existing literature, this paper classifies the indicators of employment structure equilibrium in China from different dimensions, and finally forms three dimensions: industrial structure equilibrium, population structure equilibrium and regional structure equilibrium. The employment structure balance index system is shown in Table 1.

Table 1: Indicators System of Employment Structure Balance

1st index	2nd index	3rd index	Detailed Explanation and Calculation Formula	Unit	Impact
Equilibrium of employment structure	Equilibrium of industrial structure	Deviation Degree of Employment Structure of Three Industries	The Deviation Degree of the First, Second and Third Industries and the Employment Structure	%	Negative
		deviation degree of employment structure in key industries	The Deviation Degree of Key Industries and Employment Structure	%	Negative
	Equilibrium of population structure	Age structure ratio of employment	The difference between the employment rate of 20–39-year-olds and that of 40–59-year-olds	%	moderate
		Gender ratio of employment	ratio of employment between men and women	%	moderate
	Regional structural equilibrium	Urban-rural employment structure ratio	The difference between the ratio of rural employment to rural population and the ratio of urban employment to urban population	%	moderate

Then, based on the data sources such as the statistical yearbook of China's high tech industry, the statistical yearbook of China's population and employment, the statistical yearbook of China's labor and the official website of the National Bureau of statistics, we calculated the deviation degree of China's three major industries' employment structure, the deviation degree of key industries' employment structure, the employment age structure ratio, the employment gender structure ratio and the employment structure ratio of urban and rural population from 2015 to 2023.

Considering that the dimensions and directions of the original three-level index variables are not completely consistent, it is not suitable to compare directly. Therefore, CRITIC weight method (Alinezhad & Khalili, 2019) is considered for data preprocessing. The closer the index value is to its ideal value, the greater the contribution to the order of the system. In order to make all indicators have the same direction, the specific standardized treatment method is as follows:

American Journal of Economies
ISSN 2520 - 0453 (Online)
Vol. 10, Issue 1, pp 52 - 69, 2026
www.ajpojournals.org

$$v_{ij} = \begin{cases} \dfrac{x_{ij} - \min\{x_{ij}\}}{\max\{x_{ij}\} - \min\{x_{ij}\}}, x_{ij} \text{ is positive indicater} \\ \dfrac{\max\{x_{ij}\} - x_{ij}}{\max\{x_{ij}\} - \min\{x_{ij}\}}, x_{ij} \text{ is Negative indicator} \\ 1 - \dfrac{|x_{ij} - \alpha|}{\max\{\max\{x_{ij}\} - \alpha, \alpha - \min\{x_{ij}\}\}}, x_{ij} \text{ is a moderate indicator} \end{cases}$$

…… (1)

$V_{ij} \in [0,1]$ is the standardized index value, and Max $\{x_{ij}\}$, min $\{x_{ij}\}$ and α are the upper limit, lower limit and ideal value of index X_{ij} respectively, so as to make the index data have theoretical and practical significance, and also facilitate the comparison of other periods and different data conditions.

In order to avoid the subjectivity of artificial weighting, CRITIC weighting method is used for weighting. This method belongs to the objective weighting method, which combines the variability and conflict of the index to assign the value. The index variability is measured by standard deviation. The greater the value, the greater the variability, the more information reflected, and the greater the weight. The standard deviation of the j-th index is $\sigma_j = \sqrt{\frac{1}{n-1}\sum_{i=1}^{T}\left(v_{ij} - \frac{1}{n}\sum_{j=1}^{n} v_{ij}\right)^2}$, and the conflict with all indexes is $R_j = \sum_{k=1}^{n}(1 - r_{jk})$, where r_{jk} is the correlation coefficient of the j-th and k-th indexes. Therefore, the CRITIC weight of the jth indicator is:

$$w_j = \sigma_j R_j / \sum_{j=1}^{n} \sigma_j R_j$$

…… (2)

$w_j > 0$ and $\sum_{j=1}^{n_i} w_j = 1$

Finally, using synergetics theory, we try to build a coordinated development index model. Specifically, the employment structure equilibrium composite system s is regarded as a composite of three subsystems: industrial structure equilibrium S1, population structure equilibrium S2 and regional structure equilibrium S3. The linear weighting method is used to integrate the data, and the comprehensive evaluation value $v^i(S_k^{(2)}) = \sum_{j=1}^{n_j} w_{ij}\, v_{ij}$ (k = 1,2,3) of the second level index $\mathbf{S}_k^{(2)}$ in the T year is constructed. The comprehensive evaluation value of the composite system s and subsystem sk of the employment structure equilibrium in the T year can be obtained by layer by layer calculation.

The system coordinated development index is used to measure the coordinated development state of subsystems or elements. The higher the comprehensive evaluation value of each subsystem or element and the smaller the deviation, the higher the coordinated development level of each subsystem or element, and the higher the overall coordination degree of the system. Therefore, the static coordinated development index of the T-Year employment structure balanced composite system s is:

$$\mathbf{C}^t = \sqrt{\left(\prod_{k=1}^{N} \mathbf{v}^t(S_k)\right)^{1/N}}\, N \sum_{k=1}^{N} \alpha_k\, \mathbf{v}^t(S_k) / \sum_{k=1}^{N} \mathbf{v}^t(S_k) \quad \ldots\ldots\ldots\ldots\ldots\ldots (3)$$

American Journal of Economies
ISSN 2520 - 0453 (Online)
Vol. 10, Issue 1, pp 52 - 69, 2026

Where α_k is the CRITIC weight of S'_κ and $\sum_{k=1}^{N} \alpha_k = 1$, n is the number of subsystems. The dynamic coordinated development index of the system is the result of the continuous accumulation of its static coordinated development index. Considering the continuity of coordinated development among subsystems in terms of time sequence, the dynamic coordinated development index of the balanced composite system of employment structure in China is defined as:

$$C_d^t = \sum_{i=0}^{T-1} C^{t-i} / T \quad \text{..... (4)}$$

Wherec^{t-i}represents the static coordinated development index of s in the t-i period and the number of T periods. When $t_1 < t_2$, $c_d^{t_1} < c_d^{t_2}$ indicates that the system coordination is optimized; If $C_d^{t_1} = C_d^{t_2}$ is equal, there is no change. If $c_d^{\tau_1} > c_d^{\tau_2}$ the system coordination is deteriorating.

Statistical Analysis

From 2015 to 2024, the deviation degree of employment structure of China's three major industries showed a trend of "continuous decline in fluctuation" (Figure 1). The deviation degree continued to fall from 2015 to 2021. After falling to 0.32 in 2021, it rebounded slightly to 0.352 in 2022, and returned to the decline channel and fell to 0.31 in 2023-2024. This change directly reflects that the matching degree of "output value proportion" and "employment personnel proportion" of China's three major industries continues to increase over time, and the allocation balance of employment resources among industries gradually increases. Behind this long-term improvement is the result of the deep adaptation between the upgrading of industrial structure and the adjustment of employment structure, including the absorption of labor force by the expansion of service industry, the matching of high-end industry to skilled talents, the transfer of surplus labor force after the improvement of agricultural efficiency, and the guidance of policies on employment, such as the activation of rural employment, the cultivation of new employment forms, and the strengthening of vocational skills training, so as to jointly promote the coordinated development of employment structure towards "output value employment".

American Journal of Economies
ISSN 2520 - 0453 (Online)
Vol. 10, Issue 1, pp 52 - 69, 2026
www.ajpojournals.org

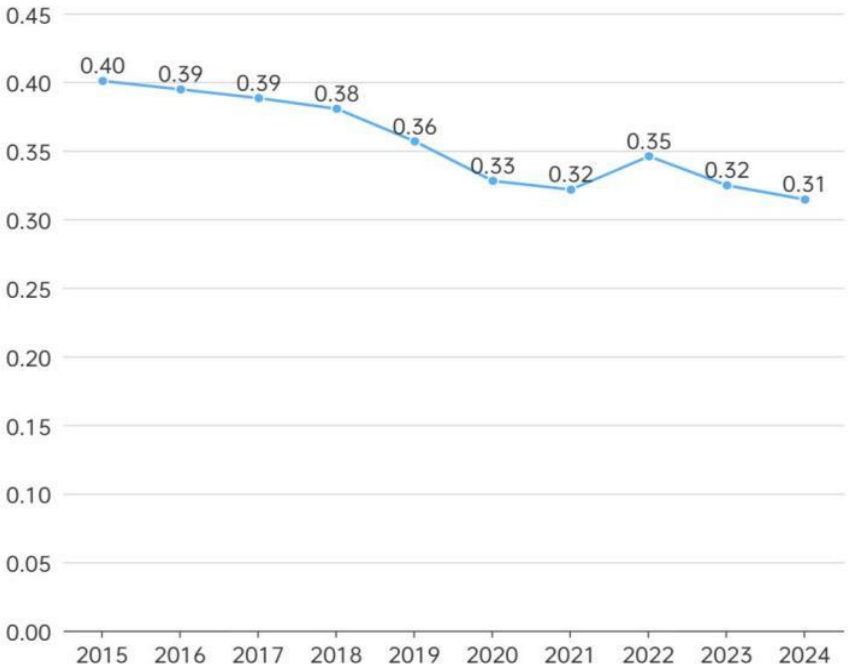

Figure 1: 2015-2024 China's Employment Structure Deviation in Three Major Industries

In 2022, the deviation degree of employment structure of the three major industries in China's provinces showed distinct regional differentiation characteristics. From the perspective of spatial pattern, the low deviation regions are mostly concentrated in the eastern coastal areas with abundant economic vitality and fast pace of industrial upgrading. The coordination between industrial output structure and employment absorptive capacity is stronger in these regions, and the allocation of employment resources is relatively balanced, highlighting the benign interactive logic of industrial structure iteration and employment structure optimization; High deviation regions are widely distributed in some provinces of the central and western regions and Northeast China. The mismatch between the industrial output structure and the employment structure is prominent, which is restricted by factors such as the high proportion of traditional industries, the lack of employment empowerment of emerging industries, and the poor connection between urbanization and industrialization, making it difficult for the employment structure to meet the needs of industrial development. On the whole, this regional heterogeneity is deeply related to regional industrial development stages and resource endowment differences. It also reflects the role of cross regional labor mobility and policy guidance in shaping the employment structure, and provides a spatial target for the subsequent promotion of the collaborative optimization of "industry employment" structure.

American Journal of Economies
ISSN 2520 - 0453 (Online)
Vol. 10, Issue 1, pp 52 - 69, 2026

www.ajpojournals.org

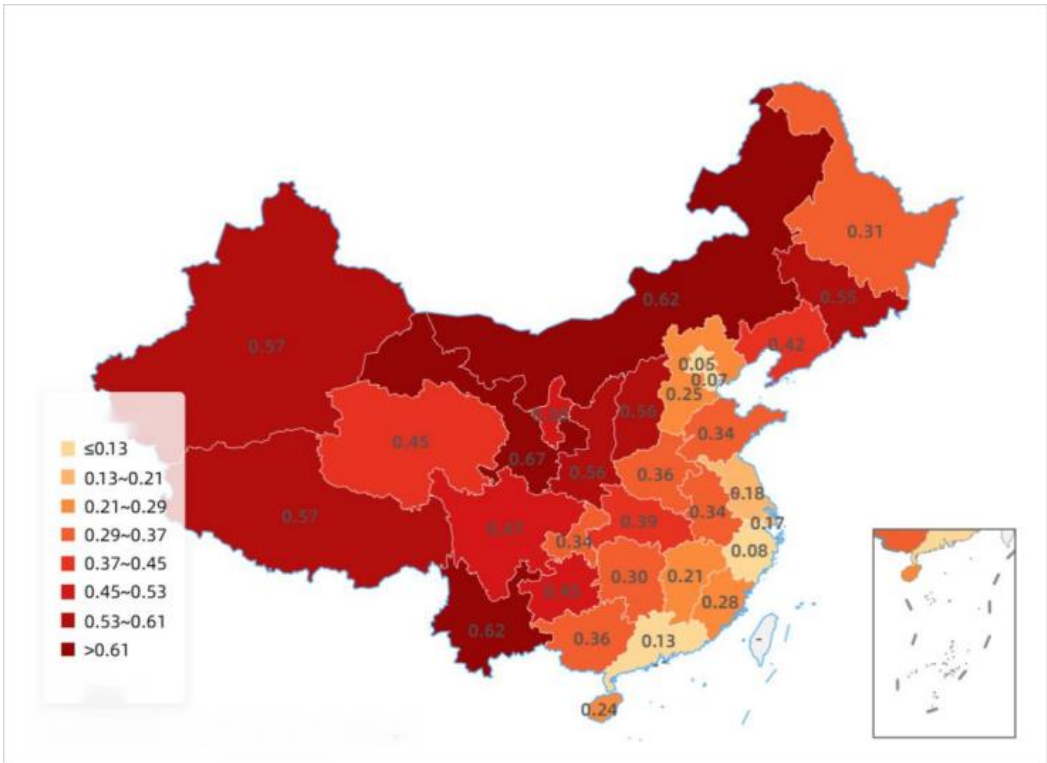

Figure 2: Deviation Degree of Employment Structure of China's Three Industries In 2022

From 2015 to 2023, the deviation degree of employment structure in China's key industries showed the characteristics of periodic fluctuations and late rise (Figure 3). From 2015 to 2017, the deviation degree of employment structure remained stable at 0.11 for three consecutive years, indicating that the matching pattern between the Employment layout of key industries and industrial development was relatively balanced at this stage; From 2018 to 2019, the degree of deviation dropped significantly to 0.06 and maintained for two years, or reflected the adaptive adjustment of employment resource reallocation in the early stage of industrial structure transformation, and the employment absorption capacity of some industries shrank in stages with industrial upgrading; From 2020 to 2021, the deviation degree rose slightly to 0.07, reflecting the gradual repair of the matching degree of the employment market in the new development environment; From 2022 to 2023, the degree of deviation accelerated, reaching 0.12 in 2022 and further rising to 0.14 in 2023, indicating that with the acceleration of industrial digitalization, high-end transformation and upgrading, the employment absorption structure of key industries accelerated reconstruction, employment resources flowed to industries with stronger development vitality, and the interaction between employment structure and industrial upgrading continued to increase.

American Journal of Economies
ISSN 2520 - 0453 (Online)
Vol. 10, Issue 1, pp 52 - 69, 2026
www.ajpojournals.org

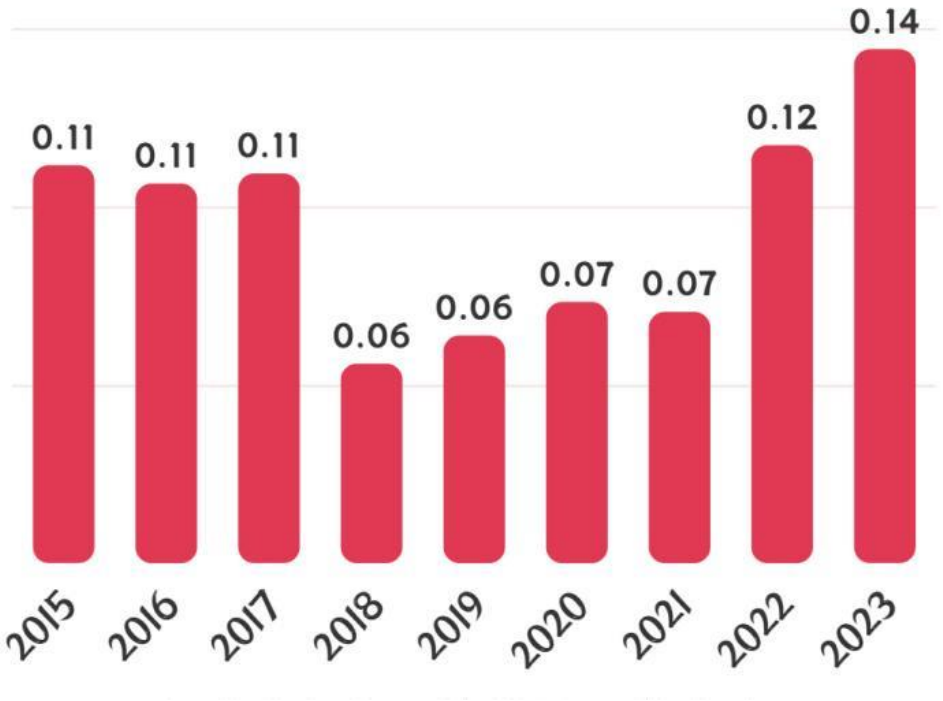

Figure 3: Deviation Degree of Employment Structure of Key Industries in China

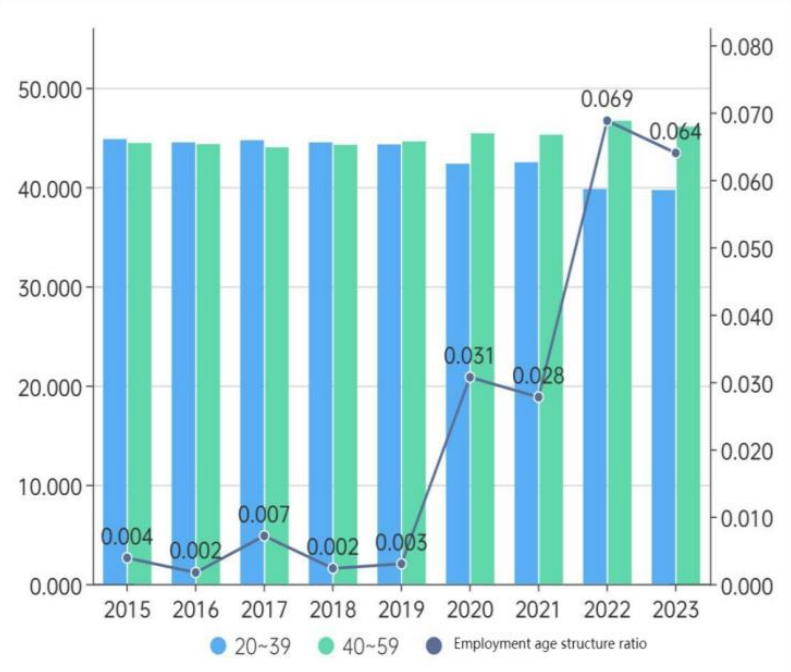

Figure 4: China Employment Age Structure Ratio

From 2015 to 2019, China's employment age structure ratio as a whole was in a low fluctuation state, with values of 0.0039, 0.0017, 0.0071, 0.0023 and 0.003 in each year, reflecting that the

proportion of the employed population aged 20-39 and 40-59 was relatively balanced at this stage, and the employment age structure was close to the "ideal" state. Since 2020, the structural ratio has continued to rise. It will be 0.0307 in 2020, slightly dropped to 0.0278 in 21, jumped to a peak of 0.0688 in 2022, and fell to 0.064 in 2023, but it is still high. This trend not only reflects that the proportion of the employed population aged 20-39 has slowed down or even declined, but also reflects that the proportion of the 40-59 age group has continued to increase, indicating that the proportion difference between the two major employment groups has continued to expand, and the trend of the employment age structure deviating from the "ideal" state has intensified (Figure 4). On the whole, the employment age structure in China from 2015 to 2023 was stable at first and then increased. The structural differentiation after 2020 needs to pay attention to the impact of changes in the age distribution within the working age group on the employment market.

Figure 5: China Employment Gender Structure Ratio

From 2015 to 2023, the gender structure of employment in China showed the characteristics of a slow decline in the proportion of men, a steady increase in the proportion of women, and a balanced gender structure. From the perspective of gender proportion of employed persons, the proportion of men has gradually adjusted from 57.10% in 2015 to 56.70% in 2023, a cumulative decrease of 0.4 percentage points; The proportion of women rose from 42.90% in 2015 to 43.30% in 2023, a cumulative increase of 0.4 percentage points. The gap between the proportion of men and women in employment narrowed over time. As far as the employment gender structure ratio is concerned, the index fluctuates in the range of 0.13-0.14: it declined slightly from 2015 to 2018, rebounded briefly in 2019, fell again in 2020, maintained a relatively high level from 2021 to 2022, and declined again in 2023, reflecting that the balance of the gender structure of the employment market is gradually increasing (Figure 5).

When measuring the balance of regional structure, the employment structure ratio of urban and rural population is selected as the index, which is measured by the difference between the employment proportion of urban population and rural population. In view of the lack of

relevant statistical data of the rural population except for the specific age groups involved in the three agricultural censuses, this study decided to use the difference between the proportion of urban employment and the total urban population and the proportion of rural employment and the total rural population as the regional employment structure ratio.

From 2015 to 2023, the employment structure ratio of China's urban and rural population showed a periodic fluctuation characteristic of "first falling and then rising", which clearly reflected the adjustment track of urban and rural employment pattern in the process of urbanization and the optimization trend of rural employment under the guidance of policies (Table 2).

Table 2: Urban-Rural Employment Structure Ratio

Year	Urban Employed Personnel	Rural Employed Personnel	Urban Population	Rural Population	Urban-Rural Employment Structure Ratio
2015	40916	35404	79302	59023	0.0838
2016	42051	34194	81924	57308	0.08337
2017	43208	32850	84343	55668	0.07781
2018	44292	31490	86433	54108	0.06954
2019	45249	30198	88426	52582	0.06259
2020	46271	28793	90220	50992	0.05179
2021	46773	27879	91425	49835	0.04789
2022	45931	27420	92071	49104	0.05955
2023	47032	27009	93267	47700	0.061959

From the basic changes of urban and rural employment and population proportion, the number of urban employees continued to increase from 409.16 million in 2015 to 470.32 million in 2023, and the proportion remained stable in the range of 50% to 51% (only temporarily decreased to 49.89% in 2022), reflecting the steady absorption of urban employment by urbanization. The number of rural employees fell from 354.04 million to 270.09 million, accounting for 56.62% from 59.98%, reflecting the long-term trend of rural labor transfer to cities and towns.

Focusing on the employment structure ratio of urban and rural population, its value dropped from 0.0839 in 2015 to 0.0478 in 2021, and then rose to 0.0620 in 2023, forming a V-shaped curve of "contraction before repair". The early decline was due to the rapid reduction of rural employment during the acceleration of urbanization and the aggravation of the imbalance of urban and rural employment structure. The Rural Revitalization Strategy after 2021 is closely related to the promotion of rural industry revitalization and the increase of employment and entrepreneurship in rural areas, resulting in a narrow decline in the proportion of rural employment, a slight correction in the proportion of urban employment, and a gradual improvement in the adaptability of urban and rural employment.

This change not only reflects the dynamic adjustment of urban and rural population and employment in the process of urbanization, but also highlights the optimization of rural employment pattern under the guidance of policies, which has built a solid support for the development of urban and rural integration at the employment level.

Based on the standardized three-level index data, the CRITIC weight is calculated layer by layer year by year (Table 3). Three secondary indicators can be obtained through linear weighted calculation, and then the comprehensive evaluation value of the employment structure balance system can be obtained, as shown in Figure 6.

Table 3: Urban-Rural Employment Structure Ratio

1st index	2nd index	CRITIC weight	3rd index	CRITIC weight
Equilibrium of employment structure	Equilibrium of industrial structure	0.2223	Deviation Degree of Employment Structure of Three Industries	0.5424
			deviation degree of employment structure in key industries	0.4576
	Equilibrium of population structure	0.6223	Age structure ratio of employment	0.9175
			Gender ratio of employment	0.0825
	Regional structural equilibrium	0.1554	Urban-rural employment structure ratio	1

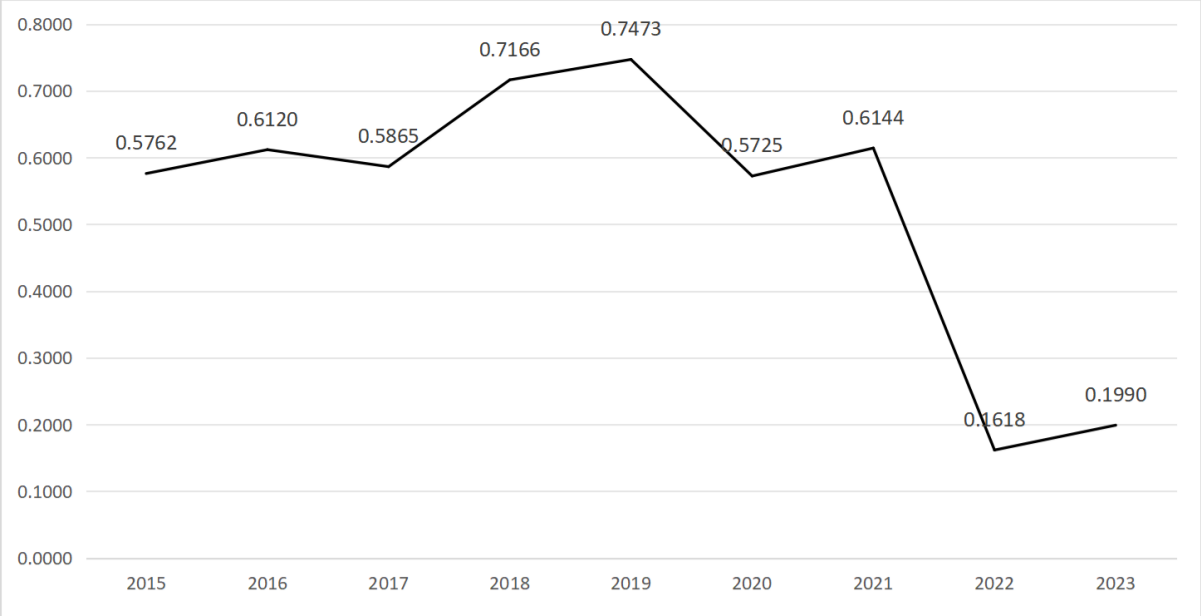

Figure 6: China Employment Structure Equilibrium System Comprehensive Evaluation Value

Figure 7 shows that the employment structure equilibrium (static) index fluctuates significantly, gradually rising from 0 to 0.810 in 2015-2019, falling back to 0.734 in 2020, rising slightly to 0.763 in 2001, and then falling sharply to 0.219 in 2022 and rising to 0.384 in 2023, reflecting that the employment structure is less stable due to the adjustment of industry, population and other factors.

American Journal of Economies
ISSN 2520 - 0453 (Online)
Vol. 10, Issue 1, pp 52 - 69, 2026
www.ajpojournals.org

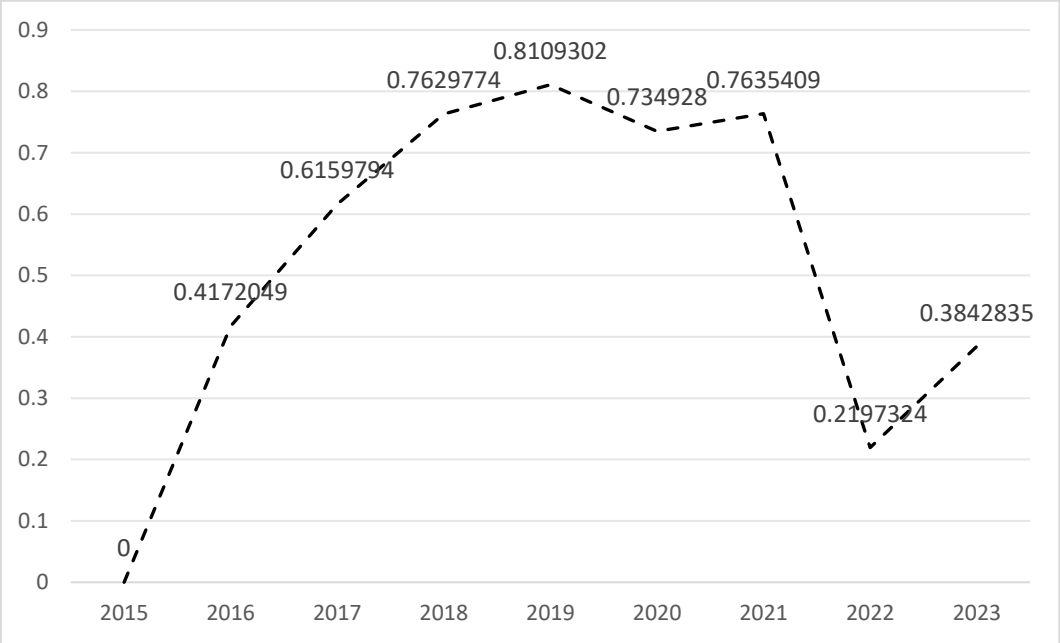

Figure 7: Employment Structure Equilibrium Index (Static)

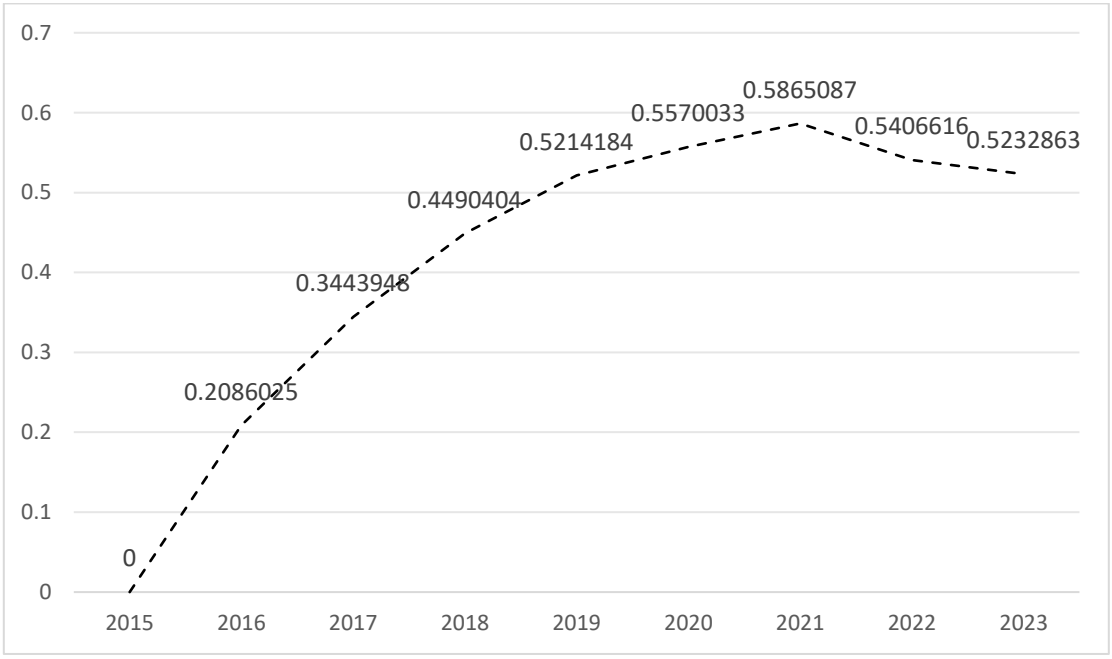

Figure 8: Employment Structure Equilibrium Index (Dynamic)

The employment structure equilibrium (dynamic) subsystem index increased from 0 to 0.586 in 2015-2021, and fell slightly to 0.523 in 2023 (Figure 8). Although it achieved growth in the early stage, it fluctuated in the late stage, reflecting that the stability of the dynamic and coordinated development of the employment structure dimension needs to be enhanced after achieving certain results.

FINDINGS

The results show that the balance of China's employment structure is significantly affected by three factors: industrial structure upgrading, population aging and regional differences, and these factors together drive the efficiency change of employment resource allocation. It has

been confirmed that there is a negative correlation between the deviation degree of industrial structure and the synergy of employment structure. For example, the deviation degree of employment structure of the three major industries decreased from a high level in 2015 to 0.31 in 2024, indicating that the matching degree of industrial output value and employment proportion has increased in general, but the volatility highlights the persistence of structural contradictions. In addition, the study found that although the impact of population structure changes was not as direct as that of industrial factors, it still had a far-reaching effect on the employment market: the employment age structure ratio rose from the low level in 2015 (such as 0.0039) to 0.064 in 2023, reflecting the expansion of the difference in the proportion of young and middle-aged labor force, which exacerbated the imbalance of age structure; However, the gender structure ratio of employment fluctuates in the range of 0.13 – 0.14 and tends to be balanced, indicating that the gender difference has narrowed but its contribution to the overall balance is limited. The analysis also reveals that regional differences play a key role in the employment dynamics. The urban-rural employment structure ratio fell from 0.0839 in 2015 to 0.0478 in 2021 and then rose to 0.0620 in 2023, forming a V-shaped curve, indicating that the interaction effect of urbanization and Rural Revitalization policy has alleviated the urban-rural imbalance, but the provincial differentiation (such as low deviation in eastern provinces and high deviation in central and western regions) highlights the spatial imbalance. Therefore, this study verifies the complexity and volatility of the equilibrium of the employment structure through the comprehensive index measurement. The static coordinated development index fluctuated significantly from 2015 to 2023 (for example, it fell to 0.219 in 2022), while the dynamic index showed a long-term improvement trend (the dynamic index in 2023 was 0.523). It emphasizes that industrial upgrading, population policy and regional coordination need to work together to solve the contradiction between "employment difficulty" and "recruitment difficulty". On the whole, the study found that it did not deny the core assumption that the optimization of employment structure can promote common prosperity, but suggested that policy intervention should be more precise and sequential.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study systematically evaluates the equilibrium of China's employment structure (2015-2023), focusing on the structural deviation under the three-dimensional framework of industry, population and region. Under the dual pressure of population aging and industrial upgrading, the employment market is faced with the structural contradiction of "recruitment difficulty" and "employment difficulty", and it is urgent to quantify the deviation between the actual structure and the ideal structure. The research creatively constructs the measurement system including the deviation degree of three major industries, the deviation degree of key industries, the age/gender structure ratio, the urban-rural employment ratio and other indicators, and uses the critical weight method and the multi system coordination index model to carry out empirical analysis based on authoritative data such as the China Labor Statistics Yearbook. Quantitative analysis reveals that the deviation degree of employment structure of the three major industries shows a "fluctuating downward" trend (to 0.31 in 2023), but the deviation degree of key industries continues to rise (to 0.14 in 2023), reflecting the acceleration of industrial upgrading and the reconstruction of employment supply and demand. The employment age structure ratio soared from 0.0039 to 0.064 (2023), highlighting the aggravation of the imbalance between young and middle-aged labor forces; The gender structure ratio stabilized (0.13 – 0.14 interval), and the balance improved slowly. The employment structure ratio between urban and rural areas fluctuated in a V-shaped manner (rebounded to 0.062 in 2023), with significant inter

provincial differences - the eastern coastal deviation was low (such as 0.07 in Guangdong), and the central and western regions and Northeast China were on the high side.

The dynamic coordination index shows that the static index of employment structure equilibrium fluctuates violently (plummeting to 0.219 in 2022). Although the dynamic index has improved for a long time (reaching 0.523 in 2023), it is not stable enough. The research shows that the upgrading of industrial structure is the core driving force of equilibrium (the weight accounts for 22.23%), and the imbalance of population structure (the weight is 62.23%) and regional differences (the weight is 15.54%) pose key challenges. The results provide accurate policy basis for solving structural contradictions, optimizing "industry employment" policy coordination, and promoting common prosperity, and also open up a new perspective for the Employment Research of global transition economies

Recommendations

Based on the empirical findings of the study on the equilibrium of China's employment structure (2015-2023), the following policy suggestions are put forward for the three-dimensional structural contradictions among industry, population and region:

1. Dynamic monitoring of the deviation degree of employment structure: decision makers need to establish a monitoring mechanism for the deviation degree of normalized employment structure, focus on tracking the deviation index between the three major industries and key industries, and warn the risk of labor supply and demand mismatch through real-time data. China can learn from the indicator system of the "14th five year" employment promotion plan, and incorporate the deviation degree into the policy evaluation framework to provide the basis for precise intervention.
2. Deepen industrial upgrading and employment adaptation: continue to promote the transformation path led by high-tech industries and emerging service industries, and optimize the employment structure of key industries. For example, through tax incentives and R&D subsidies to encourage enterprises to strengthen skills training, the contradiction between the high deviation of the secondary industry and the labor demand gap of the tertiary industry can be alleviated.
3. Strengthen the population structure balance policy: to deal with the imbalance of age structure, it is necessary to improve the lifelong education system and flexible retirement system, expand the coverage of youth vocational skills training, and alleviate the pressure of aging through fertility support policies. The balance of gender structure ratio needs to be consolidated through anti-discrimination legislation and flexible employment system.
4. Optimize regional coordination and Urban-Rural Integration: for inter provincial differentiation, differentiated measures should be taken - the eastern coast should strengthen urban employment services, and the central and western regions should absorb labor through Rural Revitalization industries. The current V-shaped rebound in the ratio of urban and rural employment structure shows that the policy has taken initial effect, and it is necessary to continue to promote the household registration reform and the balanced layout of infrastructure.

The Chinese government has adopted policies such as the "Rural Revitalization Strategy" and the "high-quality employment action" to narrow the regional gap between urban and rural areas and enhance industry employment synergy. The above suggestions can be further integrated into the national employment promotion system, strengthen the toughness of the employment structure through multi-dimensional policy coordination, and help achieve the goal of narrowing the gap.

REFERENCES

Alinezhad, A., & Khalili, J. (2019). CRITIC method. In New methods and applications in multiple attribute decision making (Madm) pp. 199 – 203. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-15009-9_26

Bai, C., & Lei, X. (2020). New trends in population aging and challenges for China's sustainable development. China Economic Journal, 13(1), 3-23. https://doi.org/10.1080/17538963.2019.1700608

Dhar, B. K., Tiep Le, T., Coffelt, T. A., & Shaturaev, J. (2023). US-China trade war and competitive advantage of Vietnam. Thunderbird International Business Review, 65(2), 255-263. https://doi.org/10.1002/tie.22325

Hong, X. (2022). Revealing the synergetic development evolution mechanism of economic growth, energy consumption, and environment: An empirical analysis based on haken model and panel data. Discrete Dynamics in Nature and Society, 2022(1), 6324351. https://doi.org/10.1155/2022/6324351

Lu, J., Xiao, Q., & Wang, T. (2023). Does the digital economy generate a gender dividend for female employment? Evidence from China. Telecommunications Policy, 47(6), 102545. https://doi.org/10.1016/j.telpol.2023.102545

Lu, L., Yin, S., Wen, F., & Xu, Q. (2023). The spatial structure of labour force employment in China's industries: Measurement and extraction. Economic Analysis and Policy, 77, 472-486. https://doi.org/10.1016/j.eap.2022.12.001

Mao, R., Xu, J., & Zou, J. (2018). The labor force age structure and employment structure of the modern sector. China Economic Review, 52, 1-15. https://doi.org/10.1016/j.chieco.2018.05.010

Pang, S., Li, Z., & Wang, Y. (2024). Digital technology and domestic value-added ratio in export: Evidence from China's pilot zones for integrating informatization and industrialization. Economic Analysis and Policy, 84, 424-439. https://doi.org/10.1016/j.eap.2024.08.030

Qian, T., Bian, J., & Chen, J. (2024). The status quo, causes, and countermeasures of employment difficulties faced by college graduates in China. Labor History, 65(4), 528-543. https://doi.org/10.1080/0023656X.2023.2283065

Wang, F., Wu, M., & Du, X. (2023). Does industrial upgrading improve eco-efficiency? Evidence from China's industrial sector. Energy Economics, 124, 106774. https://doi.org/10.1016/j.eneco.2023.106774

Zhang, H., Zhang, H., & Zhang, J. (2015). Demographic age structure and economic development: Evidence from Chinese provinces. Journal of Comparative Economics, 43(1), 170-185. https://doi.org/10.1016/j.jce.2014.07.002

Acknowledgments and Conflicts of Interest Declaration.

The authors declare no conflicts of interest regarding the publication of this study. This research was conducted independently without any financial or personal relationships that could be construed as influencing the work. All data sources are publicly available and cited appropriately, ensuring transparency and objectivity in the analysis. The findings and conclusions presented herein are solely those of the authors and do not reflect the views of any funding bodies or institutions.

License