Research on the Influence of National Unified Market Construction on Labor Employment Structure

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Abstract. Using data from 2017 to 2023, this study employs a two-way fixed effects model to examine the impact of China's unified national market development on labor employment structure through dual dimensions of skills and industries. The research measures urban market integration using relative price methodology, categorizing employment skill structures into educational attainment and task-specific dimensions. Results demonstrate that the unified market initiative significantly increases employment opportunities for highly educated workers while reducing positions requiring lower educational qualifications, driving a shift in employment tasks from routine operational roles to non-traditional and knowledge-intensive positions. Additionally, the study reveals a statistically significant 1% positive impact on employment in high-tech industries, advanced manufacturing, and premium service sectors, confirming the structural bias toward high-skilled and high-end industries. The research further establishes industrial upgrading and market competition intensity as core transmission mechanisms, providing empirical support for optimizing labor resource allocation and facilitating coordinated development between the unified market and high-quality employment.

Keywords: national unified market; employment skill structure; employment skill structure

1 Introduction

The core objective of building a unified national market is to dismantle regional protectionism and market fragmentation, remove critical bottlenecks hindering economic development, and facilitate the free flow of production factors across broader regions[1]. This aims to establish a more efficient, standardized, fair, and fully open market. In this context, creating a unified, open, competitive, and rule-aligned national market has become a strategic choice to resolve market segmentation, enhance factor mobility, and improve employment quality[2]. By breaking down regional barriers, reducing institutional transaction costs, and advancing market-oriented reforms of production factors, market unification can not only optimize labor resource allocation efficiency but also diversify flexible employment opportunities. Promoting high-quality full employment, implementing the employment-first strategy, improving

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employment promotion mechanisms, and fostering an employment-friendly development model are essential[3]. Achieving more comprehensive and higher-quality employment is not only an inherent requirement for driving high-quality development and comprehensively building a modern socialist country, but also a crucial foundation for practicing people-centered development principles and advancing common prosperity.

2 Literature Review

The unified national market promotes industrial agglomeration and industrial chain integration by breaking regional barriers and industry monopolies, driving the transformation of manufacturing employment toward higher-end sectors[4]. Research by Li et al. (2025) indicates that regional economic integration has reshaped employment structures through industrial upgrading, significantly boosting employment in secondary and tertiary industries. This facilitates labor migration from traditional sectors (e.g., agriculture and low-end manufacturing) to service industries and high-tech fields, thereby shifting employment structures from secondary to tertiary industries. However, regional market integration shows no significant impact on primary industry employment. Qi Yingfei and Guan Xin (2025) found that market unification in the Yangtze River Delta region significantly enhances corporate employment absorption capacity, with this effect being more pronounced in labor-intensive enterprises. Li Dan and Lü Xinmeng (2025) discovered that the employment growth from the national unified market primarily occurs in informal employment, with service industries serving as the main absorber of such employment.

The development of a unified national labor market facilitates the transition of workforce from traditional industries to service sectors and high-tech fields by reducing barriers to cross-regional mobility, improving factor allocation, and enhancing skill complementarity, thereby achieving continuous optimization of employment skill structures[5]. Wu Weiping et al. (2025) demonstrated that the advancement of a unified national labor market, through relaxing population mobility restrictions and promoting cross-regional labor allocation, significantly improved employment skill structures. Chen et al. (2024) noted that under the backdrop of labor market integration, household registration system reform serves as a key institutional variable, indirectly shaping employment skill structures by facilitating cross-regional labor mobility.

3 Research Design

3.1 Data Source and Processing

This paper sets the study period from 2017 to 2023, a time when the continuous advancement of the national unified market can comprehensively reflect the dynamic characteristics of employment and recruitment during the process of policy reform and economic transformation. Taking China A-share listed companies as research samples, the relevant data are sourced from the Guotai (CSMAR) database and the Wind database. The recruitment data of enterprises are obtained from mainstream domestic

recruitment websites during the period from 2017 to 2023, and after removing duplicate information, they are matched with listed companies[6]. The macro data and indicators involved in this paper are derived from the annual editions of the "China Statistical Yearbook", "China Labor Statistical Yearbook", "China Industrial Statistical Yearbook", and "China Economic Census Yearbook (2008)". Drawing on existing research, this paper excludes samples with listing status as ST or *ST, as well as those lacking important variables.

Dependent variable: Labor force employment structure (Struc). This chapter categorizes employment structure into two dimensions: skill-based and industry-based. The skill-based structure is further divided into two types. The first is the skill structure based on the level of education, which regards the postgraduate degree or above as high skill labor force, the university degree as middle skill labor force, and the high school degree or below as low skill labor force (in the analysis, the middle vocational education is included in the high school degree, and the higher vocational education is included in the college degree).The second category comprises job-specific skills and occupational competency assessments. All job positions are classified into four types: non-routine operational tasks, routine operational tasks, routine cognitive tasks, and non-routine cognitive tasks. Workers engaged in non-routine cognitive tasks are classified as high-skilled labor, those performing routine cognitive and non-routine operational tasks as intermediate-skilled labor, and those handling routine operations as low-skilled labor.

Variable: Measurement of the National Unified Market Initiative (Unify). The relative price method is employed to assess the development of a unified national market at the city level. Within the framework of the price index method, the seven major categories of consumer price indices for each city are first collected. For any two cities, the price differences of similar goods are calculated as first-order logarithmic differences, and their absolute values are then taken ($\left|\Delta Q_{ijt}^{k}\right|$).and by removing the mean value of the relative price of each commodity, the inherent heterogeneity of commodities is eliminated, and only the price dispersion caused by the difference of transaction cost is retained (q_{ijt}^{k}).The market segmentation index of a city is calculated by taking the average of the price dispersion variance of the city and the other cities in the country, and the market integration index is constructed by taking the reciprocal of the market segmentation index.

$$\left|\Delta Q_{ijt}^{k}\right| = \left|\ln\left(\frac{p_{it}^{k}}{p_{it-1}^{k}}\right) - \ln\left(\frac{p_{jt}^{k}}{p_{jt-1}^{k}}\right)\right| \tag{1}$$

$$q_{ijt}^{k} = \left|\Delta Q_{ijt}^{k}\right| - \overline{\left|\Delta Q_{t}^{k}\right|} \tag{2}$$

Control Variables: This study employs the following control variables: (1) Return on Assets (ROA), defined as the ratio of net profit to the average total assets. (2) Debt-to-Asset Ratio (Lev), calculated as the year-end total liabilities divided by total assets. (3) CashFlow Ratio (CashFlow), measured as the net cash flow from operating activities divided by total assets at the end of the period. (4) Herfindahl Concentration, the sum of squared ownership shares held by the top five major shareholders. (5) As-

setGrowth Rate (AssetGrowth), calculated as the ratio of current year's total assets to the previous year's total assets minus 1. (6) Economic Development Level (GDP), represented by the logarithm of regional per capita gross domestic product. (7) Aging Rate (Ageing), the proportion of the population aged 65 and above to the total population. (8) Urbanization Rate (Urban), the ratio of non-agricultural population to registered population. (9) Industrial Structure (Industry), the ratio of the added value of the tertiary industry to regional gross domestic product.

3.2 Model Building

To empirically analyze how the construction of a unified national market impacts the upgrading of employment structure, this paper employs a dual fixed-effects model to separately verify the relationship between the construction of a unified national market and the labor employment structure. The regression model is set up as follows:

$$Struc_{it} = \alpha_0 + \alpha_1 Unify_{it} + \alpha_2 controls_{it} + \mu_i + \delta_t + \varepsilon_{it} \quad (3)$$

To investigate whether the upgrading of industrial structure and market competition intensity exert a transmission effect on labor employment structure within the national unified market framework, this study adopts Jiang Ting's (2022) methodology. By treating industrial structure upgrading and market competition intensity as dependent variables respectively, we construct a regression model to analyze their impacts on labor employment. The specific model specification is as follows:

$$TS_{it} = \alpha_0 + \alpha_1 Unify_{it} + \alpha_2 controls_{it} + \mu_i + \delta_t + \varepsilon_{it} \quad (4)$$

$$HHI_{it} = \alpha_0 + \alpha_1 Unify_{it} + \alpha_2 controls_{it} + \mu_i + \delta_t + \varepsilon_{it} \quad (5)$$

4 Empirical Results and Analysis

4.1 Descriptive Statistics

Table 1 presents the descriptive statistics of the primary variables in this study, providing a foundation for conducting subsample regression.

Table 1. Descriptive Statistics

variable	sample capacity	average value	standard deviation	Min	Max
Regular Operation Type	19927	42.621	27.272	0.000	86.170
Unusual operations	19927	13.175	15.875	0.000	77.180
Conventional cognitive type	19927	14.812	9.663	0.000	50.750
Unconventional cognition	19927	1.683	4.850	0.000	27.240
highly educated	19927	8.999	9.677	0.000	51.240
Secondary Education	19927	50.816	21.867	0.000	95.170

low academic qualification	19927	47.033	23.971	0.000	89.140
Unify	19927	2.850	0.305	0.170	3.167
ROA	19927	0.026	0.086	-0.418	0.214
Lev	19927	0.446	0.214	0.059	0.967
CashFlow	19927	0.045	0.070	-0.179	0.253
Herfindahl	19927	0.146	0.108	0.014	0.535
AssetGrowt	19927	0.146	0.317	-0.394	2.025
GDP	19927	11.951	0.701	10.238	13.185
Ageing	19927	0.128	0.030	0.077	0.187
Urban	19927	0.674	0.248	0.179	1.000
Industry	19927	0.595	0.123	0.354	0.839

4.2 Baseline Regression Results

Table 2 presents the benchmark regression results of the national unified market construction and labor employment skill structure, examining its impact on employment skill distribution. Regarding education-based skill structure, the unified market construction shows a significant positive coefficient at the 1% level for high-education skills, while showing no significant effect for medium-education skills. For low-education skills, the coefficient is significantly negative at the 5% level, indicating that the unified market significantly increases employment opportunities for highly educated workers while reducing positions for less educated groups, with limited impact on medium-education populations. In task-based skill structure, Unify demonstrates a significant negative coefficient at the 1% level for routine operational skills, while showing significant positive coefficients at the 5% level for unconventional operational skills, 1% level for conventional cognitive skills, and 5% level for unconventional cognitive skills. This suggests a shift in employment tasks from standardized, replaceable operational positions to unconventional and cognitive-intensive roles. Overall, the alignment between education and task dimensions demonstrates robust significance: the unified market construction drives skill structure upgrades from "low to high" and "conventional to non-conventional (cognitive)" in employment, supporting the conclusion of high-skilled orientation and providing a benchmark for subsequent mechanism testing.

Table 2. Regression Results for the Structure of Employment Skills

	(1)	(2)	(3)	(1)	(2)	(3)	(4)
	highly educated	Secondary Education	low academic qualification	Regular Operation Type	Unusual operations	Conventional cognitive typ	Unconventional cognition
Unify	0.321***	0.030	-0.735**	-0.711***	0.245**	0.264***	0.207**
	(0.121)	(0.169)	(0.288)	(0.167)	(0.108)	(0.078)	(0.100)
ROA	0.278	-0.318	2.980	-0.306	0.314	-1.243	0.604*

	(0.932)	(1.720)	(2.510)	(1.633)	(0.977)	(0.953)	(0.307)
Lev	-1.620	-3.207	7.077***	2.935**	-0.689	-1.151*	0.278
	(1.407)	(2.035)	(2.109)	(1.298)	(1.371)	(0.645)	(0.294)
Dual	-0.132	0.383	-0.732	0.612*	0.197	-0.118	0.054
	(0.178)	(0.291)	(0.517)	(0.349)	(0.315)	(0.266)	(0.105)
CashFlow	0.394	-2.583	1.648	4.241**	-0.478	-0.912	-0.586
	(0.782)	(1.950)	(2.458)	(1.789)	(1.130)	(1.341)	(0.459)
Herfindahl	-0.314	5.821	-4.607	-5.159	2.469	-2.461	0.188
	(2.407)	(6.374)	(4.096)	(6.335)	(2.093)	(2.597)	(0.867)
AssetGrowth	-0.317	0.234	-0.208	0.238	-0.005	0.119	-0.032
	(0.217)	(0.382)	(0.415)	(0.341)	(0.210)	(0.216)	(0.085)
GDP	0.104	0.331	-0.904	-0.538	-0.353	-0.707	0.024
	(0.487)	(0.917)	(1.359)	(1.195)	(0.636)	(0.549)	(0.254)
Ageing	3.205	-8.022	20.850	15.916	-1.161	2.276	2.887
	(7.273)	(13.179)	(16.640)	(12.558)	(9.505)	(7.105)	(4.114)
Urban	1.594	-3.250	10.869**	5.398	-2.544	2.719	-2.095**
	(1.937)	(3.451)	(4.562)	(3.932)	(2.359)	(1.718)	(1.033)
Industry	0.443	-6.170	1.978	5.892	0.732	-6.053***	0.519
	(2.724)	(4.626)	(5.848)	(5.337)	(2.717)	(2.201)	(1.046)
_cons	1.061	29.464**	101.142***	47.530***	14.558	48.152***	1.766
	(7.934)	(14.176)	(20.465)	(14.506)	(10.583)	(9.170)	(4.674)
time fixed effect	Y	Y	Y	Y	Y	Y	Y
urban fixed effect	Y	Y	Y	Y	Y	Y	Y
N	19927	19927	19927	19927	19927	19927	19927
R^2	0.964	0.934	0.943	0.933	0.915	0.808	0.810

Note: *, **, and *** indicate significance at the 10%,5%, and 1% levels, respectively. Standard errors are provided in parentheses, as applicable.

Table 3 presents the benchmark regression results of the national unified market's impact on employment sector structure. The findings indicate that the estimated coefficient for high-tech industries shows a significant positive effect at the 1% significance level. Further analysis reveals significant positive effects at the 1% level for high-end manufacturing and high-end service sectors, with all three demonstrating statistically significant positive impacts. These results demonstrate that the unified market has driven employment structure toward high-end industries. On one hand, unified regulations and cross-regional free flow of production factors reduce transaction and coordination costs, facilitating spatial reorganization and extension of industrial chain support systems. This drives expansion of engineering, process optimization, and intelligent operation positions in high-end manufacturing through technological upgrades, quality standard convergence, and smart production line transformations. On the other hand, market integration stimulates demand for productive services including R&D design, information technology, scientific services, and financial support, creating synchronized growth in high-end service sectors such as data/software, research

services, financing and risk management, and specialized business services. The findings collectively validate the "high-end industry bias" conclusion, showing how the unified market elevates industrial division levels and value chain positions, driving labor migration from mid-to-low-end sectors to high-tech and high-value-added industries. This provides a clear benchmark for subsequent mechanism testing.

Table 3. Regression Results of Employment Industry Structure

	(1) Employment in the high-tech industry	(2) Employment in high-end manufacturing	(3) Employment in the high-end service sector
Unify	0.191***	0.249***	0.228***
	(0.071)	(0.089)	(0.075)
ROA	0.735***	0.910***	0.533*
	(0.229)	(0.290)	(0.296)
Lev	0.423	0.511	0.269
	(0.347)	(0.402)	(0.390)
Dual	0.176**	0.151	0.197**
	(0.076)	(0.095)	(0.090)
CashFlow	-0.757***	-1.447***	0.537
	(0.258)	(0.388)	(0.466)
Herfindahl	0.026	-0.792	3.180**
	(0.920)	(1.069)	(1.371)
AssetGrowth	-0.194**	-0.200*	-0.178**
	(0.083)	(0.105)	(0.083)
GDP	-0.101	-0.008	-0.012
	(0.268)	(0.337)	(0.288)
Ageing	-0.411	-5.080	11.393*
	(5.297)	(5.933)	(6.652)
Urban	0.398	0.248	0.352
	(0.916)	(1.272)	(1.066)
Industry	-1.215	-1.036	-0.813
	(1.153)	(1.353)	(1.532)
_cons	-11.631***	-11.093**	-13.090***
	(3.884)	(5.450)	(3.874)
N	6784	4818	1959
R^2	0.715	0.705	0.754

5 Conclusion

The development of a unified national market has achieved multidimensional upgrading of labor employment structures by dismantling regional barriers and facilitating factor mobility. Its high-skilled and high-end industry orientation effects have been fully validated. In practice, this policy has not only driven job transitions from low-value-added, standardized sectors to high-value-added, knowledge-intensive fields, but also provided crucial support for talent aggregation in high-tech industries and modern service sectors. However, research reveals persistent challenges including low-skilled workforce transformation and regional employment compatibility issues. Future efforts should leverage the collaborative mechanisms of the unified market to establish a tiered vocational training system, bridge the skill gap for low-education groups, optimize regional industrial-employment coordination, guide rational cross-regional labor mobility, and strengthen protections for new employment forms. Ultimately, this will create a virtuous cycle between market development and employment structure optimization, laying a solid human resource foundation for high-quality economic growth.

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