

Research on Rural Labor Transfer: Data Analysis from Northeast China

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Abstract: Based on a comprehensive big data analysis of the local and migrant workers in the three northeastern provinces, we have obtained insights into the scale distribution, migration flow, employment situation, and challenges faced by this workforce. This analysis aims to inform the top-level design and create a conducive environment for the development of rural electricity, thereby promoting the rationalization of rural labor transfer and sustainable development in the region. The data reveals a diverse pattern in the distribution of migrant workers, with some provinces experiencing a higher influx of migrant labor than others.

Keywords: Northeast; Transfer of Rural Labor; Policy Advice; Employment of Migrant Workers; Sustainable Development.

1. The Current Situation of the Rural Labor Force Transfer in Northeast China

1.1. Current Situation of Rural Labor Force Areas in Liaoning Province

1.1.1. Scale of Rural Labor Force in Liaoning Province

Liaoning province, as the main grain production base in China, has a relatively large per capita agricultural arable land area. Compared with other regions, its agricultural absorption capacity for rural labor force is more prominent. When agriculture is not busy, the main workers in the family will also choose to do temporary workers, but they mainly work in local enterprises and rural enterprises, so that they can obtain a certain economic income. In the busy agricultural season, people still tend to return to the countryside for agricultural activities. With the economic transformation of all over the country, especially the government's new attention to the development of the old industrial base in northeast China, Liaoning Province also began to follow and actively promote the development of the secondary and tertiary industries. In order to cope with the rapid growth of large and medium-sized urban industries and emerging service industries, we must absorb a large number of rural workers from the countryside as a labor reserve, which also promotes the migration of rural labor to some extent. Such resource transfer not only provides rich human capital for the process of industrialization and urbanization, but also improves the income status of farmers and optimizes their quality of life. Liaoning province has a unique geographical location, and its land is rich and mixed, providing a good growth environment for crops. Combined with the advantages of Liaoning Province as an old industrial base in northeast China, its industrial base is quite stable, and these factors provide strong support for the transfer of rural labor force in Liaoning Province to some extent. However, compared with those economically advanced countries and regions, Liaoning province is still under considerable pressure. In terms of the statistical methods of rural surplus labor force, different documents provide their own choices, while this study selected the relevant statistical data of the Chinese Academy of Social Sciences. According to statistics from the Chinese

Academy of Social Sciences, by the end of 2022, the surplus labor force in Liaoning province will reach 295.62 million, meaning that the "scale of labor force to be transferred" is still quite large.

1.1.2. Transfer Structure of Rural Labor Force in Liaoning Province

In recent years, with the rapid development of urbanization in China, rural labor mobility has become an increasingly concerned social issue. The transfer of rural labor force not only promotes the improvement of farmers' income level, but also provides a new path to solve the problems of "agriculture, rural areas and farmers". Rural labor mobility has brought about profound changes to the rural economy, society and environment. In the new period, how to solve the major problem of the transfer of rural surplus labor force is related to the realization of the goal of building a well-off society in an all-round way, and also affects the development strategy of the whole country. As a representative province in northeast China, the transfer of rural labor force in Liaoning province presents its unique characteristics and current situation. Under the background of the national implementation of rural revitalization strategy, the study and analysis of rural labor transfer in Liaoning province has a very positive significance for promoting the integrated development of urban and rural areas in Liaoning province. At present, the scale of rural labor force transfer in Liaoning province is gradually expanding. With the gradual disappearance of demographic dividend and the acceleration of urbanization process, the migration of rural labor force to cities in Liaoning Province has become an inevitable trend. According to the analysis of big data, the number of migrant workers in Liaoning province reached 4.896 million in 2022, up 2.2 percent from the previous year. With the economic development of Liaoning province entering the new normal, the total number of migrant workers in Liaoning province will still maintain a rapid growth trend in the next few years. Data showed that the total number of migrant workers was 2.803 million, accounting for 57.3 percent of the province's migrant workers, up 7.3 percent compared with last year. The number of local migrant workers was 2.093 million, accounting for 42.7 percent of the total, down 4.0 percent from last year. Under the background of great downward pressure on the economy, severe employment situation and the accelerated pace of industrial

transformation and upgrading, the number of migrant workers shows a continuous downward trend. According to statistics from Liaoning Province, the proportion of young migrant workers has gradually decreased in recent years, especially those aged from 31 to 40, which has dropped from 24.7 percent in 2018 to 15.0 percent in 2021. The migration trend of the labor force is more biased towards the provincial area. From the perspective of population flow, there is an obvious gap between rural areas and cities in Liaoning province.

1.2. Current Situation of Rural Labor Force Areas in Jilin Province

1.2.1. Scale of Rural Labor Force in Jilin Province

Since 2018, Jilin province has adopted the strategy of rural revitalization, and vigorously promoted the transfer of 3.8313 million people and returned to their hometown, reaching 95.8 percent of the annual target. So far, the province's rural labor force has realized an orderly flow. Under the economic pressure, the income of migrant workers remains at a relatively high level, and 33.7% of them choose to work in the province, while 39.7% tend to seek job opportunities outside the province. Rural labor force to non-agricultural industries, urban areas after the transfer of more employment opportunities and benefits. Among the transferred employment, the wage income reached 35.559 billion yuan, achieving a net increase of 540 million yuan. The training of the rural labor force has achieved remarkable results. We have successfully trained 6,356 labor brokers, achieving 97.7% of the annual target. Through training and entrepreneurial activities, to promote the transfer of rural labor force to non-agricultural industries. We will carry out projects to improve farmers' vocational skills, and encourage professional cooperatives of agricultural machinery and fruit planting technology to cooperate with leading agricultural enterprises. Establish a skill training system for the rural labor force. In order to shape the brand group of "Jilin Agricultural technicians", we plan to cultivate 18 new brands. We will actively promote practical science and technology in rural areas and cultivate new types of professional farmers. In order to promote the sustainable development of modern agriculture, we should strengthen the guidance and services to specialized farmer cooperatives and leading enterprises. We will accelerate the training of a new type of professional farmers, encourage young rural people to work out and find jobs, carry out various forms of training, and improve their skills and overall quality.

1.2.2. Rural Labor Force Transfer Structure in Jilin Province

By the end of 2022, 174,700 new urban jobs had been created in Jilin province, completing 75.96% of the annual plan. A total of 2,6052 million rural workers were transferred to employment, completing 96.49 percent of the annual plan. The employment situation in the province continued to recover, the results of policies and measures to stabilize employment and promote employment were further shown, and the main indicators of employment continued to recover rapidly.

With the increasing efforts of the government, industrial development, project construction and expansion of main entities have played a more powerful role in driving employment. Through the mode of "free application" and "one-key payment", the province has implemented the combination policy of "slow reduction, compensation and expansion", and the social security policy to help enterprises

has released a dividend of 11.674 billion yuan. Key groups, including registered unemployed people, received 21,000 jobs in vocational skills training, 41,600 unemployed urban people were reemployed, assisted 532 households with zero employment, and kept zero jobs. We will promote the transfer of employment of rural workers, launch a campaign to increase their rural incomes, and promote employment in local and nearby areas. By the end of July, 1.830,800 surplus rural labor force had been employed locally.

1.3. Current Situation of Rural Labor Force in Heilongjiang Province

1.3.1. Scale of Rural Labor Force in Heilongjiang Province

According to the Statistical Bulletin of National Economic and Social Development of Heilongjiang Province, in 2022, 374,000 new urban jobs were created from January to December 2022, 124.6% of the annual plan; 317,000 unemployed, 186.2% of the annual plan; 100,000 people with employment difficulty, 200.6% of the annual plan. By the end of December, there were 202,000 registered urban unemployed people in the province, down 83,000 year-on-year, down 29.1 percent.

Secondly, in order to realize the modern agricultural revitalization plan, as the "ballast stone" of national food security, to promote agricultural modernization and accelerate the development of large-scale, digital and modern agriculture. Perfect employment work support, employment policy coordination, public employment services, statistical analysis, unemployment dynamic monitoring and labor relations mediation stable employment "six big system" to promote economic growth to broaden the job space, strengthen policy measures to the outbreak, stimulate entrepreneurial energy release employment potential, strengthen key groups employment accurate support.

1.3.2. Transfer Structure of Rural Labor Force in Heilongjiang Province

In recent years, with the continuous deepening of urban and rural economic development and the continuous promotion of structural adjustment, the trend of rural labor transfer and employment in Heilongjiang Province has shown a rising trend. This phenomenon not only reflects the growing employment demand of rural labor force, but also reflects the active efforts of Heilongjiang Province in promoting agricultural modernization, rural revitalization and urban-rural integration development.

From the perspective of age structure, the labor force transferred to employment is mainly concentrated between 20 and 40 years old, and the number of this age group accounts for more than half, showing the characteristics of youth. This trend shows that more and more young people are no longer satisfied with the traditional mode of agricultural production, but choose to go out of the countryside to find more employment opportunities and development space in cities or other areas. This also reflects from the side that Heilongjiang Province has made some achievements in the rural labor force training and skill improvement, making more young people have the ability and skills to engage in non-agricultural industries.

However, in terms of education level, the overall education level of the transferred labor force is lower. More than three-quarters of the labor force is educated in junior high school or below, while the number of high-level talents with junior college or above is very small. To some extent, this restricts

the competitiveness of rural labor force in non-agricultural employment, and also affects their ability to transfer to a higher level and a wider field. Therefore, improving the education level of rural labor force, strengthening vocational skills training and quality improvement is an important direction for Heilongjiang Province to promote the transfer and employment of rural labor force in the future.

In order to better understand the situation of rural labor transfer and employment in Heilongjiang Province, we can draw lessons from the research results of Liu Zhiyong and others in the "Research on Lower Rural Operation and Labor Transfer in Heilongjiang Province". Through the analysis of the data on the age and education distribution of the transferred labor force from 2018 to 2020, we can find that the transferred employment trend of the rural labor force in Heilongjiang Province shows a trend of continuous acceleration over time. At the same time, with the introduction of a series of national supporting policies and the deepening of the integrated development of urban and rural areas, the prospect of rural labor transfer and employment in Heilongjiang Province will be broader in the future.

2. Comparative Analysis of the Rural Labor Force Transfer in the Three Northeastern Provinces

2.1. Common Points of Rural Labor Force Transfer in the Three Northeastern Provinces

In terms of rural labor transfer, northeast China and other parts of China have many common, such as the total amount of transfer is large, the transfer speed is slow; mainly flow to more developed cities and towns, most of them are only temporary migrant work, the citizenization will is not high; the provincial transfer, etc. However, as an old industrial base and an important grain base, the three northeast provinces also have different places from other regions of China in rural labor transfer. The common points of rural labor transfer in the three northeast provinces are summarized as follows:

2.1.1. Difficult Employment of the Surplus Rural Labor Force

In the vast land of northeast China, the contradiction between supply and demand of rural labor force is becoming increasingly prominent. With the continuous progress of agricultural technology, the rural labor productivity has been significantly improved, but it has also led to the continuous increase of the total amount of rural surplus labor force. Due to the lack of effective skills training, the quality of these transferred rural labor force is generally low, and it is difficult to adapt to the needs of the current urban labor market.

The progress of agricultural technology, such as the wide application of mechanization and the gradual promotion of intelligence, has greatly improved the efficiency of agricultural production, but also reduced the demand for labor force in rural areas. This means that a large number of rural labor force is released and new employment opportunities. However, these workforce often lack the necessary skills and knowledge, making them much less competitive in the labour market.

On the other hand, with the development of urban economy and the upgrading of industrial structure, the urban demand for labor force is also changing. Low-skilled, cheap workers are no longer the mainstay of the market, but instead are those

with skills that can deliver efficiency. This change of demand undoubtedly brings greater challenges to the transfer of rural labor force.

In order to alleviate this contradiction, we need to take a series of measures. First of all, we should increase the skills training of the rural labor force to improve their skill level and comprehensive quality. This can be achieved by setting up special training institutions, introducing excellent training teachers, and making scientific training plans. At the same time, it also needs to strengthen the employment guidance for the rural labor force to help them understand the market demand and find a suitable employment direction.

Secondly, we need to further promote the adjustment and upgrading of the rural industrial structure. Through the development of rural secondary and tertiary industries, we will create more employment opportunities and attract more rural labor force to transfer locally. This can not only relieve the pressure of urban employment, but also promote the sustainable development of rural economy.

Finally, the government and all sectors of society should also pay more attention to, and support them. The government can introduce relevant policies and measures, such as providing employment subsidies and support for starting businesses, to encourage rural labor to transfer employment and start their own businesses. All sectors of society can also provide more employment opportunities for the rural labor force by providing internship opportunities and building recruitment platforms.

2.1.2. The Scope of Rural Labor Force Migration is Small

When interpreting the data of migrant workers in Liaoning in 2022, we can find some interesting and important trends. First of all, on the whole, the number of migrant workers in Liaoning reached 2.803 million, accounting for 57.3 percent of the total migrant workers, up by 2.7 percentage points compared with 2021. This growth trend shows the activity and motivation of migrant workers to find employment.

When we further analyze the path of migrant workers, it can be clearly seen that the transfer in the province occupies a dominant position. Specifically, the number of cross-city people in the province reached 998,000, with a year-on-year increase of 10.9%. The data reflects the preference of migrant workers for finding job opportunities in the province. Meanwhile, the city was 466,000, up 7.1% year on year, and the county was 631,000, up 5.7%. These data further confirm the trend that migrant workers tend to be more likely to find jobs nearby in the province.

In contrast, the number of workers leaving the province also increased, but the increase was smaller, at 4.1 percent. This may be because the province needs to face more life pressure and adaptation problems, such as language, culture, living habits and other differences. By contrast, working in the province can better maintain the original lifestyle and social network, reduce the cost of living, and be easier to get support from family and friends.

In addition, it is worth noting that the year-on-year increase of migrant workers working from outside the province was 8.5%, 4.4 percentage points higher than that of migrant workers working outside the province. This shows that in the process of labor transfer, although migrant workers are more inclined to find jobs nearby in the province, they are also more inclined to choose in cities or larger towns, rather than in rural areas or small towns when looking for employment opportunities in the province. This may be because cities or

larger townships provide more jobs and higher income levels.

2.1.3. Industrialization Development Affects the Transfer of Rural Labor Force

The most important label of the three northeastern provinces is the old industrial base, which is adjacent to Russia and faces Japan and South Korea in the east. The superior geographical position and strong industrial base make the northeast region the most important industrial base in China during the period of priority industrial development in China. The geographical location of northeast China is its unique advantage. It not only borders on Russia, enjoys the vast hinterland to the north, but also faces Japan and South Korea across the river, with the gateway status to the east. The superiority of this geographical location makes the northeast region to easily communicate and cooperate with domestic and foreign markets, thus providing infinite possibilities and broad space for its industrial development.

However, the fact that northeast China has become the most important industrial base in China is also geographically advantageous because of its strong industrial base. At the beginning of the founding of new China, northeast China rapidly developed into an important pillar of China's industry by virtue of its rich mineral resources and human resources. A large number of steel, machinery, chemical and other industrial enterprises have been established here, making great contributions to the industrialization process of the country.

In the period of priority development of industry, northeast China has ushered in the golden period of development. With the support of national policies and a large amount of capital investment, the industrial foundation of northeast China is stronger and the industrial system is more perfect. A large amount of industrial output value and tax revenue have not only brought economic prosperity to the northeast region, but also provided a strong support for the development of the whole country.

In addition, northeast China also has rich agricultural resources and tourism resources. The vast black land and rich water resources make the agricultural production here very developed, providing sufficient raw materials and labor force for the industrial development. At the same time, the unique natural scenery and rich historical culture of northeast China have also attracted a large number of tourists to come for sightseeing, injecting new vitality into the development of regional economy.

3. Problems Faced by the Transfer of Rural Labor Force

3.1. Survey Results and Statistics

Using winter in the period, for the three provinces part of the online questionnaire survey, 300 questionnaires, including 290 effective questionnaire, effective questionnaire rate is as high as 97.6%, the survey for the labor ability of rural groups, aged between 15 and 60, an average of 33.94 years old, the average per capita land area of 8.13 mu. Among them, the transfer between towns accounted for 20.27%, which is in line with the current production and operation model in rural areas. More men choose to go out to work, while women choose to do housework at home and take care of the elderly and children.

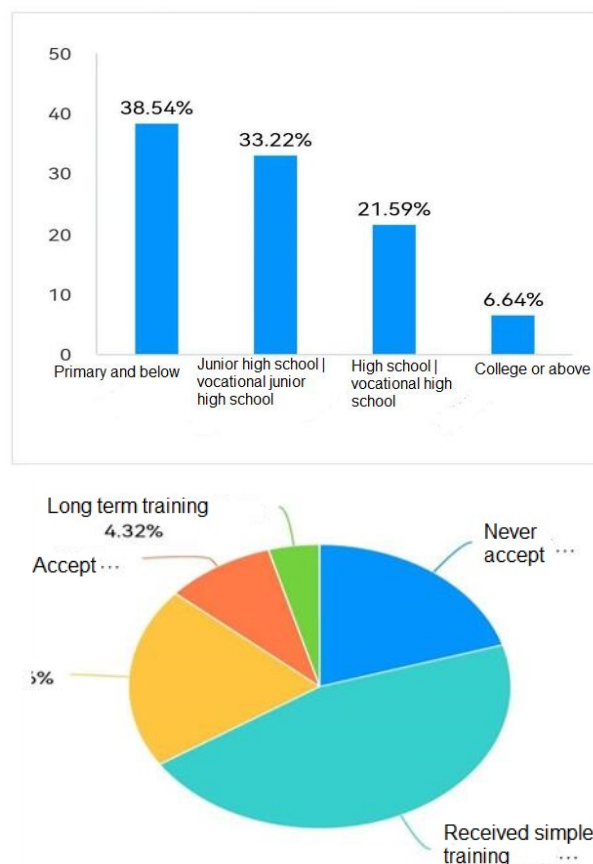


Fig 1. Results of online questionnaire survey on rural labor ability groups

3.2. Factors Affecting Labor Transfer and Their Existing Problems

The main factors of the transfer of rural surplus labor force in northeast China come from various factors such as improving family income, improving the quality of life, changing the farming mode and improving labor productivity.

In the case of imperfect credit and insurance, migration is considered as a guarantee mechanism to ensure the stability of agricultural income. Second, the relative position of the migrant's income in his group and the "family economic situation" determined by the income distribution determine the direction and behavior of migration. Third, according to the survey of educational level, most of the population have a low cultural foundation, mainly concentrated in the educational level of primary school and junior middle school, accounting for 38.54% and 33.22%. The rural labor force in Liaoning province lacks the necessary professional skills and cultural literacy, which is difficult to meet the needs of economic development in the new era. In the context of economic structural transformation, a high-quality, multi-skilled labor force is needed. Due to the low knowledge background, it is difficult to adapt to the development needs of modern economy. Four from the perspective of agricultural professional training, rural labor force on the basis of the overall cultural foundation is lower, also lack of vocational training and market information, most of the rural labor force can only be engaged in production and labor-intensive industries, this relatively single career structure is difficult to meet the modern demand for diversified employment and career development. The lack of effective vocational training and market information makes it difficult for the rural labor force to expand the employment channels, unable to achieve new breakthroughs, and effectively increase their income.

4. Countermeasures and Suggestions for the Occurrence of Problems

4.1. To Improve the Intellectual Quality of the Rural Labor Force, Starting from Education

Education is the foundation of national development. The government should increase the investment in rural basic education, improve the conditions of running schools in rural areas, increase the investment in educational resources in rural areas, and strengthen the coordinated development of basic education and vocational education.

4.2. Vigorously Carry Out Vocational Skills Training

Guided by the market demand, guide the rural labor force to pay attention to vocational education, publicize the rural labor force to combine their own strengths and interests, choose reasonable training courses, so that they can master the skills suitable for themselves and the market demand. Take multiple measures simultaneously to improve the physical quality of the rural labor force. In rural areas and guide them to strengthen physical exercise; in cities, the government can encourage employers to hold sports activities, encourage the whole people to participate in physical exercise and improve their physical fitness.

4.3. The Government Plays a Major Leading Role

We will improve the social security system, ensure the most basic social security and medical insurance coverage for rural labor, improve the old-age insurance system, expand the coverage of work-related injury insurance, supervise enterprises to protect the legitimate rights and interests of rural labor, ensure that the same rights, and ensure that rural labor enjoys the basic social security. From the system to improve the psychological quality of rural labor, further break the barriers between urban and rural, cancel the household registration system, encourage rural labor force in the psychological level to break the "rural", "city" curing impression, set up the ownership of rural labor, make the rural labor force not for identity census register inferiority complex, better into the city.

5. Conclusion

The transfer of rural labor force in northeast China will

continue to maintain the growth trend in the future, but it also faces new challenges and opportunities. With the continuous development of science and technology and the popularization of the Internet of Things, artificial intelligence and other technologies, it will bring great changes to the traditional agricultural industry, derive more emerging occupations and industries, and provide a broader employment space and development prospects for the rural labor force. Therefore, for the transfer of rural labor force in Liaoning Province, it is necessary to constantly adapt to the technological progress and market changes, and improve vocational skills, so as to better adapt to the needs of environmental development. At the same time, the government also needs to strengthen the top-level design, increase policy support and guidance, to provide a better development environment and employment space for the transfer of rural labor force, and promote the benign interaction and common development between rural and urban areas.

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