

DEVELOPMENT OF LABOR STRUCTURE IN BINH DUONG PROVINCE SUSTAINABILITY – CURRENT STATUS AND CHALLENGES

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Abstract

Binh Duong Province is one of the regions with very significant population and labor force growth. The development and transformation of the labor structure have positively contributed to the province's labor productivity growth and economic growth, while at the same time contributing to the development of Vietnam in general. This paper combines descriptive statistics, comparisons, contrasts, and trend assessments to identify the characteristics, changes, and transitions in the labor structure of Binh Duong Province from 2015 to 2023. The results show a sustained increase in population and labor force; the labor structure has moved significantly away from the agricultural sector; demand for technical and assembly workers increased sharply; the number of service and sales workers steadily increased and became mainstream. The challenge for Binh Duong Province is that while the group of highly skilled workers is growing, the increase is not evenly distributed; the group of highly skilled professionals is growing rapidly while the group of intermediate-level professionals and secretaries is declining due to replacement by technology.

Keywords: Binh Duong province, development, labor structure

1. Introduction

Labor structure is a key driver of economic growth and labor productivity. Labor structure not only reflects the distribution of national and regional labor resources across different economic sectors, but also the state of economic development, employment conditions, and labor demand in national, regional, and local sectors. The study and analysis of the labor force structure will help plan appropriate strategies for economic development and improve the quality of human resources in the country and the region.

Binh Duong Province is one of the most industrialized provinces and cities in Vietnam and has the highest average income all over the country. The labor force in the province has always played a central role in the socio-economic development process and has become a decisive resource for sustainable development and international integration. Analyzing the labor structure of Binh Duong Province is not only helpful to understand

the current status of human resources, but also an important basis for building appropriate socio-economic development strategies and policies in each period. This paper assesses the current labor structure in Binh Duong Province from 2015 to 2024, examines changes in size, and trends, and identifies salient features and challenges in the development of local human resources in the future.

2. Documents and methods

Research on labor, labor structure, and changes in labor structure in Vietnam as a result of economic growth, employment, and technological innovation is a topic of great interest to scientists. Recently, several detailed studies, both theoretical and practical, have been conducted. Vu Thi Thu Huong (2017), under the theme Changes in Labor Structure in Vietnam: factors and roles affecting economic growth, studies the current state of economic growth and changes in labor structure in Vietnam from 1995 to 2014, factors affecting changes in labor structure and changes in labor structure in economic growth and made policy recommendations to make the process of labor structure change more effective and further contribute to economic growth. Le Phuong Thao (2021), on the theme of The Impact of Technological Change on Labor Structure Transformation in Vietnamese Manufacturing and Processing Industries, examined the impact of technological change on labor structure transformation in Vietnamese manufacturing and processing industries and the intra-industry transformation process among industry groups classified at different levels of technology use. The process of transformation was assessed and some directions and solutions were proposed to improve the efficiency of technology use to facilitate the transformation of labor structure according to the requirements of sustainable growth. Pham Thi Du (2024) studies the impact of technological change on labor structure transformation in the manufacturing industry in Vietnam. The study identifies several issues related to the rationale for technological change and the impact of technological change on labor structure change in different industries. It assesses the current impact of technological change on labor structure transformation in Vietnam's manufacturing sector. Provide recommendations to promote technological innovation that contributes to labor restructuring in Vietnam's manufacturing sector. Ha Tien Thang (2020) studies labor structure change in new rural construction in Tay Binh Province. This work provides a holistic review of research and theory on labor structure transformation in emerging rural construction. It describes the current situation, directions, and main solutions that contribute to the transformation of labor structure in emerging rural construction in Thai Binh Province. Pham Thi Kim Xuyen (2019) assessed changes in the labor structure and employment of people in agricultural land restoration areas (in Ngoc My Village, Quoc Oai District, Hanoi and Thien Ke Village, Binh Xuyen District, Vinh Phuc Province). Analyzed and clarified the current situation of people's labor structure and employment in agricultural land restoration areas. The people's assessment of the land expropriation situation. Analysis and comparison of changes in labor and employment structure before and after the restoration of agricultural land. Pointing out the factors influencing the labor and employment structure. To identify the situation of people's adaptation after land expropriation and to point out the factors affecting people's adaptation. Doan Van Truong (2021) studies changes in rural labor structure due to the impact of labor migration in Thanh Hoa Province. The author analyzed and evaluated the current situation of rural labor structure transformation due to the impact of labor migration in the rural areas of Trieu Son District (Thanh Hoa Province), and thereby proposed solutions that will positively affect the rural labor structure transformation process in the area.

Continuing the work of previous authors, this study uses population and labor statistics for Binh Duong Province from 2015 to 2023, using indicators of total population, total number of workers, and classification by occupational group and job title, specifically the groups included are: managers, high-level professionals, intermediate professionals, secretaries, service workers, sales workers, agriculture, forestry, and fishing workers, artisans, assemblers, simple occupations, and other groups. All data are used from statistical publications of the General Department of Statistics of Binh Duong Province for the years 2016, 2019, 2021, and 2023.

In terms of methodology, this article uses descriptive statistics in combination with comparisons, contrasts, and trend assessments to identify characteristics, variations, structural changes, and challenges in each period. The labor structure by occupational group and position is examined about the general development of the total population and the size of workers in the Binh Duong province's economy.

3. Assessment of the current labor structure in Binh Duong Province (2015-2023)

Binh Duong Province is the third most populous province in the Southeast region (after Ho Chi Minh City and Dong Nai). Between 2015 and 2023, the population grew continuously from 2,069,247 (2015) to 2,823,427 (2023) with an average growth rate of 4.2%/year. Of these, 2018-2020 had the highest population growth rate (over 5%), while 2021 had the lowest population growth rate of 2.4%.

Binh Duong Province is strategically located adjacent to Ho Chi Minh City, Vietnam's major economic, cultural, and scientific and technological center. Binh Duong Province is also an important transportation hub for the Southeast region and is located on major transportation routes such as National Highway 1A, National Highway 13, and National Highway 14, creating favorable conditions for economic development and attracting investment. This attracts workers from other regions to Binh Duong Province and provides more opportunities for them to work. In recent years, Binh Duong Province has been one of the most developed industrial parks in Vietnam. These industrial parks attract thousands of workers from neighboring provinces and rural areas as well. Many processing and export industries are concentrated in the industrial parks, creating more jobs and income for the people. Binh Duong Province is one of the most stable and fastest-growing regions in Vietnam. Economic stability creates confidence and security for investment and expansion, increasing demand for labor.

The above conditions are prerequisites for developing a labor force. According to statistics, the labor force participation rate in Binh Duong Province has always been stable at 64-65% of the total population. In 2015, 1,530,230 workers were engaged in economic activities in Binh Duong Province. By 2023, the labor force will be 1,845,322. On average, 53,000 workers participate in the economic sector each year in Binh Duong Province. Along with population growth, the number of workers aged 15 and older working in the economic sector increased by an average of 3.9% per year. The year with the highest growth rate was 5.2% (2018). The year with the lowest growth rate was 3.6%. The increase in the labor force working in the economic sector is closely linked to population growth, which tends to be more stable.

In the first quarter of 2024, the labor force aged 15 years and older was approximately 1.9 million, continuing a steady increase compared to the same period last year. The labor force has returned to its normal growth trend, similar to that before the pandemic of the new coronavirus infection. Notably, labor force growth in Binh Duong Province was not

as affected by the COVID-19 pandemic in 2020-2021, despite the impact of the COVID-19 pandemic. Figure 1 shows the correlation between population growth and the size of the labor force aged 15 and older working in the economy, according to the framework of 10 major occupational groups translated by the General Directorate of Statistics from the ILO system. The graph shows that population and labor force are strongly and stably correlated, even when economic and social conditions fluctuate, especially during the violent outbreak of the COVID-19 pandemic. Binh Duong Province was heavily affected by the pandemic, but its population size and labor force have remained stable.

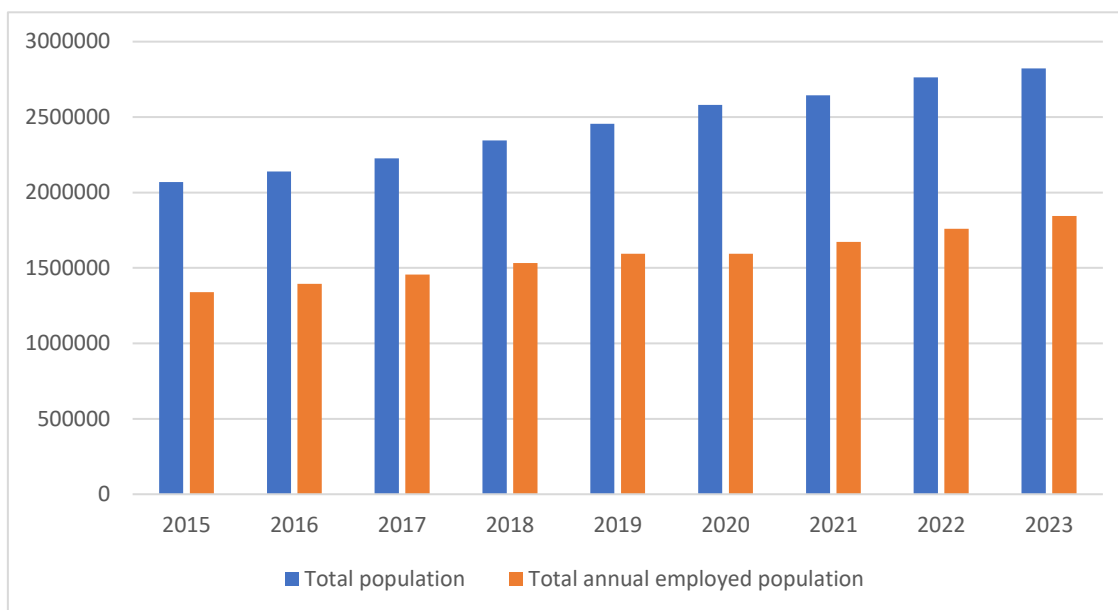


Figure 1. Correlation between population growth and labor force in the economy of Binh Duong Province 2015-2023

The labor force working in the economy of Binh Duong Province demonstrates the labor structure of a well-developed industrial area. Of the total over 1.9 million workers, they are rationally distributed into nine occupational groups: leaders, high-level technical workers, intermediate technical workers, employees, personal services, security and sales, agriculture, forestry, and fisheries, craftsmen and related workers, machinery and equipment assemblers and operators, and simple occupations. This is perfectly in line with the region's economic operating conditions, which have been driven by the expansion of the industrial park system and the strong development of foreign-invested economic zones. Many major transportation infrastructure projects, ring roads, and radial axes have been completed and put into use. Regional linkage projects such as the My Phuoc-Tan Van road and roads and bridges connecting Binh Duong and Tay Ninh provinces have been and continue to be effective. Many processing and export industries are concentrated in the industrial parks, creating more jobs and income for the people. The highest percentage of migrant workers was in Binh Duong Province at 26.3%. This means that about 26 out of every 100 workers in Binh Duong Province are migrants from other provinces. Binh Duong Province had the highest percentage of migrant workers at 26.3%. This means that out of every 100 workers in Binh Duong, about 26 are migrants from other provinces. This percentage is much higher than in Bac Ninh Province, which has the second highest rate of immigration in Vietnam (15.8% of workers are immigrants). Figure 2 shows the labor structure of Binh Duong Province in 2023 by nine occupational groups.

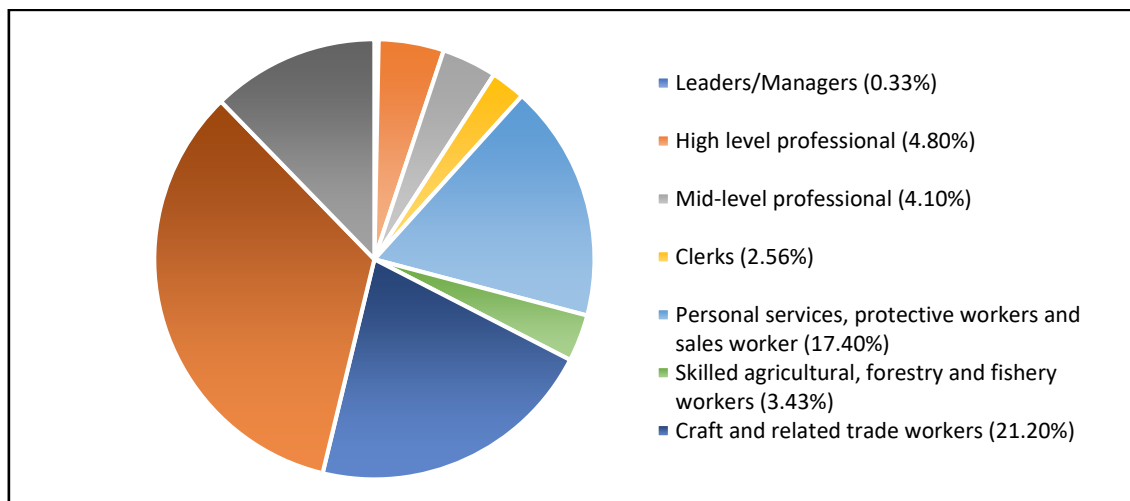


Figure 2. Labor structure by 9 occupational groups in Binh Duong Province in 2023

Regarding the labor structure by occupation, the administrative and high-tech professional segment generally did not change significantly, fluctuating from 10,313 in 2015 to 11,559 in 2019, but decreasing to 5,370 in 2023. This indicates that in recent years the state apparatus sector has implemented a policy of adjustment and rationalization of the administrative apparatus of the public administration sector. Within the general trend of streamlining apparatus, the business sector is also actively introducing new technologies and automation in its management and operations, thus reducing the use of human resources. For the higher professional group, the number of employees decreased from 61,329 in 2015 to 36,885 in 2016 but has since increased again, exceeding 74,000 between 2019 and 2022. In particular, the number is expected to increase to 88,024 by 2023. This reflects the surge in demand for highly skilled workers in the context of industrialization, modernization, and digital transformation. The intermediate professional and secretarial segment is expected to trend steadily upward from 52,466 (2015) to 72,900 (2019) before declining sharply to 55,433 (2022) and then increasing to 74,171 (2023). The number of secretaries will surge from 63,154 (2015) to a peak of 102,637 (2019) and then gradually decline to 58,834 (2022), showing that these occupations are affected by automation and technological innovation. The two groups with the largest declines in labor rates were managers (about 50%) and secretaries (26%). See Figure 3.

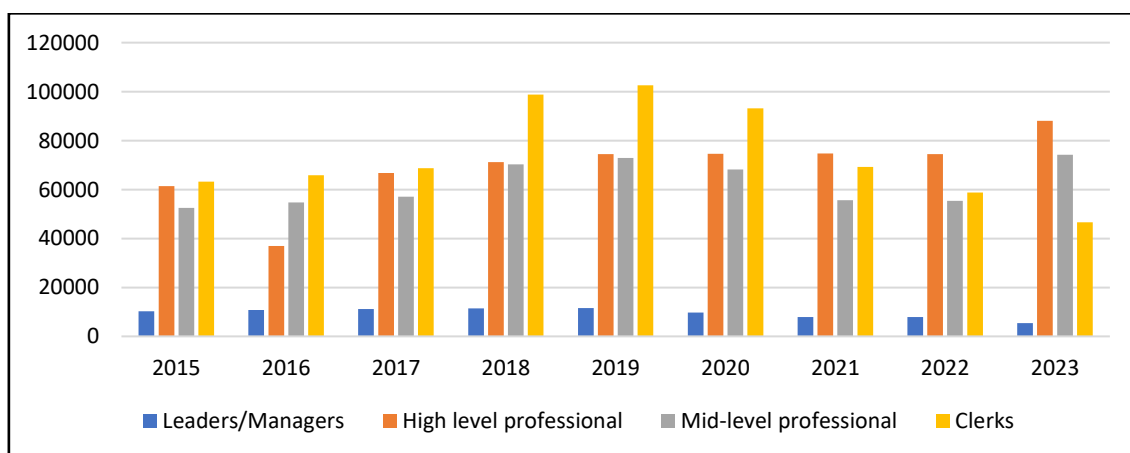


Figure 3. Changes in labor structure by occupation: managers, high-level professionals, intermediate professionals, secretaries 2015-2023

The Services and Sales group is the fastest and most stable growing group, increasing from 220,313 (2015) to 321,193 (2023), especially after 2020 due to significant increases in demand for consumer services, e-commerce, and logistics. Meanwhile, the number of agriculture, forestry, and fishing workers continuously declines from 64,090 (2015) to 39,949 (2022), indicating a continued shift of the labor force from agriculture to industry and services. The artisans and assemblers group is showing a steady growth trend, with the assemblers group in particular surging from 368,188 (2015) to 391,261 (2023), reflecting the strong development of the processing, manufacturing, and electronics industries. The simple occupations group also grew steadily from 186,781 (2015) to 239,842 (2022), concentrated in services, manufacturing, and construction, while meeting the demand for unskilled workers. Assemblers and sales services were the two groups that showed the greatest growth, with the assembly group growing by 70% and the sales services group by 45%.

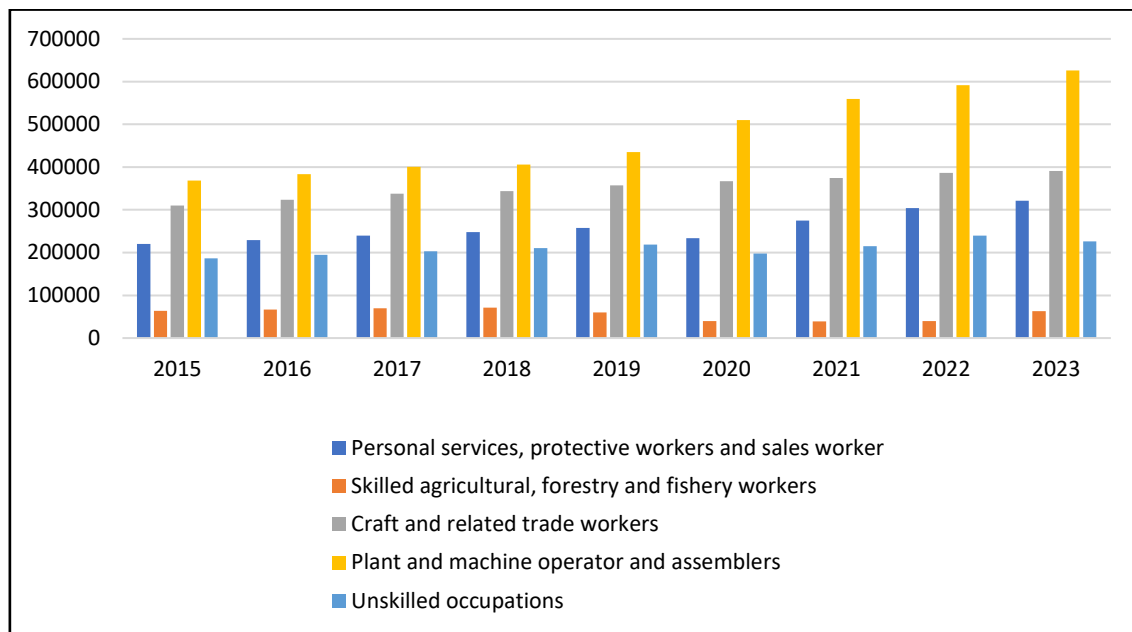


Figure 4. Changes in labor structure by occupation: sales services, agriculture, forestry, fishing, artisans, assemblers, and simple occupations 2015-2023

4. Characteristics and challenges of the labor structure in Binh Duong Province

Binh Duong Province's population and labor force have been steadily increasing. The period from 2015 to 2023 recorded relatively stable population and labor force growth despite the impact of COVID-19. This reflects Binh Duong Province's status as one of the country's leading industrial centers, with a modern industrial park system, abundant FDI capital, a well-developed logistics network, and the highest per capita income in the country (expected to reach 8.29 million VND per person per month by 2023). A development model based on modern industry and high-quality services has created hundreds of thousands of jobs and led to rapid population growth and a surge in labor demand in all industries. The population and labor force structure of Binh Duong Province can fully meet the socio-economic development plan of Binh Duong Province from 2021 to 2030 with a vision to 2050, by 2030, Binh Duong Province will become a central management city. The average economic growth rate from 2021 to 2030 is targeted to be about 10% per year, and the GRDP per capita in 2030 is expected to reach about US\$15,800. The target urbanization rate is 88-90%.

Binh Duong Province's labor force is distributed across all nine industry groups, with the greatest increase in demand for technicians and assemblers. This reflects the development of the processing, manufacturing, and electronics industries, where demand for assembly labor has increased by more than 60% over the past eight years. This is also a major sector contributing to the state's economic growth. According to the Department of Planning and Investment, by early 2025, 4,433 foreign direct investment (FDI) projects will be granted valid investment registration certificates in Binh Duong Province, with total registered capital exceeding US\$42.5 billion. Processing and manufacturing tops the list, with 3,788 projects and total investment capital exceeding US\$31.8 billion, accounting for 85.5% of the total number of projects and 74.9% of the total registered capital.

Services and e-commerce are inevitable trends in the current economic structure of Binh Duong Province. Especially since the COVID-19 pandemic, consumer and logistics demand has increased dramatically, resulting in a steadily growing service and sales workforce. Binh Duong Province is strongly developing key service and support industries such as e-commerce, finance, banking, logistics, and quality human resource development. It develops agriculture to ensure food security, stabilize people's livelihood, and develop high-tech agriculture and ecological agriculture.

The labor situation in Binh Duong Province shows that the labor force has largely moved away from the agricultural sector. The percentage of the agricultural labor force is rapidly declining, indicating a clear shift toward urbanization, industrialization, and service and industrial production. In addition, the number of highly skilled workers increased, but the increase was not evenly distributed. The senior-level professional group grew rapidly, while the intermediate-level professional and secretarial groups declined due to replacement by technology.

There are several potential deficiencies in the labor structure of Binh Duong Province regarding labor and employment issues. The first is the imbalance between supply and demand for skilled technical workers. There may be a potential risk that workers have a higher level of education than required for their jobs. The labor market could be distorted if wage workers accept jobs with lower qualifications than those for which they were trained. Accepting people with college or junior college degrees to work for pay in simple jobs not only affects production and business but also wastes investments in education and training. With the current labor structure, the labor market in Binh Duong Province risks an imbalance between supply and demand for labor. While labor shortages occur when the economy is experiencing high levels of investment, an excess of labor is a difficult problem to deal with when facing difficulties or recession. The increase in the number of wage and salary workers affects labor and social security laws and policies, occupational safety issues, and labor market issues, leading to inadequate labor management and labor employment policies.

A major challenge is the lack of quality human resources. Although the number of highly skilled workers is increasing, it is not meeting the needs of companies, especially in high-tech industries. Technology and automation are changing rapidly. Many secretarial and mid-level labor positions are gradually being replaced by software and machines, requiring retraining and job changes. Differences in the labor force between industries are another disadvantage. Labor is rapidly draining out of agriculture and is being absorbed disproportionately by services and industry.

5. Conclusion

Binh Duong Province's transition to a new stage of development must be accompanied by the development of advanced technologies, the development of market mechanisms, and the integration of world scientific knowledge to achieve a modern industrial economy, while at the same time ensuring current market demand for highly qualified human resources. To ensure the implementation of the development strategy, Binh Duong Province must invest in development and maintain and continuously increase the percentage of the population participating in the labor force. The labor force should be considered as a measure of the size of the working-age population that is employed or actively seeking employment. The higher the participation rate, the better the economy.

The labor structure in Binh Duong Province has undergone positive changes between 2015 and 2023, in line with trends in socioeconomic development, industrialization, and urbanization. However, to ensure sustainable development, the province needs to focus on developing quality human resources, strengthening policies to support labor force transition, adapting to new technologies, and building a flexible career ecosystem.

The variation of the labor force by occupation suggests a direction to conduct statistical analysis and determine the main trends of the labor market in Binh Duong Province, considering the positive trend, the labor group tends to increase as the number of workers with the highest professional qualifications increases. From there, we propose career-oriented policies and forecasts for workers and trends in the employment market.

The labor structure of Binh Duong Province suggests a research direction for labor market development in Vietnam in the process of promoting industrialization and modernization related to knowledge development and international integration. The labor market is one of the key contents of economic innovation and development and has always attracted the attention of scientists, experts, and policymakers. Moreover, in the process of international economic integration, labor issues play an important, urgent, and long-term role in the sustainable development of the economy.

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