

A Study on the Differences in Economic Development between East and West China

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Abstract. This study probes into the root cause of the economic development gap between East and West China. In the background, China's vast geographical conditions, historical investment patterns, and policy support have led to significant differences in development between the eastern and western regions. The objective of this paper is to analyze in depth how these factors interact and affect the economic development of the two regions. The research focuses on geographical factors, industrial structure, productivity, and education level. The study found that the eastern region's geographical advantages, policy support, and industrial diversity promoted its economic prosperity, while the western region's geographical barriers, resource dependence, and educational shortcomings restricted its development. In the future, comprehensive measures, including infrastructure construction, policy support, innovation promotion, and education reform, are needed to close this gap. Balanced and sustainable economic growth in China requires the coordinated development of the eastern and western regions, which will also help improve the living standards of the people throughout the country and promote the overall prosperity of the country.

Keywords: Regional Disparities; Economic Development; Geographical Factors; Industrial Structure; Education Level.

1. Introduction

1.1. Background

In the past decades, China's rapid development has attracted the attention of the world, and the speed of China's rise is very rare in modern history and is a great achievement for the Chinese people. One of the reasons for China's rise is its strong economic growth. China's GDP rose from 67.2 billion yuan in 1978 to 101.6 trillion yuan in 2020, with per capita GDP rising from 119 yuan to 32,189 yuan, which has brought an unprecedented improvement in people's living standards and enabled China to successfully achieve the goal of a moderately prosperous society in an all-round way. However, with the acceleration of economic development, the economic development gap between various regions in China has gradually widened, especially in the eastern and western provinces of China. Although the economic growth rate in the western province of China has remained at a high level in recent years, the gap between the two provinces has always been obvious under the rapid development of China's economic conditions. It is a very important research work to find out the reasons for the huge gap between the economic development of the eastern and western regions, which will help improve the gap between the economic development of the eastern and western regions, and help China's economy to achieve balance and find a direction.

1.2. Related Research

Steven et al. collected and analyzed the distribution of exports, foreign direct investment, employment rate, and industrial structure of various provinces in China in the past 23 years, and concluded that although infrastructure investment, manufacturing transfer, and energy development have narrowed the economic development gap between central and western China and China's coastal areas, science and technology, and service industry are particularly important now. China's growth is still shifting to the coast [1]. By observing the impact of the 2008 global financial crisis on China, Meine realized there was a problem with China's economic structure. The difference in the development model of China's east and west is one of the major problems in China's economic

structure. In the past decades of development, a large number of labor forces have moved from western China to eastern China, which has made the development gap between the central and western regions continue to widen [2]. Sun analyzed the obstacles brought by geographical factors to the development of Western China through the geographical and weather characteristics of many coastal areas in Western China and concluded that due to different geographical characteristics, Eastern China received strong support from the government in the early stage of development, while western China did not receive good resource support in the early stage. Then, in the late 1920s, foreign direct investment and government gradually began to move west [3].

By combing the characteristics and analysis of different periods of China's regional development, Yang concluded that it was a process of constant policy adjustment from emphasizing balanced regional economic development, relying on redistribution, and prohibiting foreign direct investment in the early stage of China's development to emphasizing regional comparative advantage, accepting regional differences and encouraging foreign investment and international interaction. It is also one of the causes of uneven development [4]. Lai analyzed the origins of the Western Development Program by collecting data on China's economic development over the years, showing that the program was designed to address economic, regional, ecological, and security issues. The implementation of the plan is examined in terms of infrastructure, environment, investment, economic adjustment, human capital, and population welfare. The last part discusses the advantages, obstacles, and prospects of western development. I say this because the West's drive is likely to run into economic, political, and cultural roadblocks - including official corruption, inefficient government, ethnic divisions, and inefficient economic returns [5]. Victor collected the economic data and policy changes of the Western region over the years to explain that China's Western development has not effectively created an environment and effective incentives for local enterprises at the micro level, and has not effectively created enterprises with international competitiveness in the western region, which is partly caused by the policy has not played its due effect [6].

By collecting the economic data (fixed asset investment, industrial distribution) and other data in the past year on central and Western China, policy-making, and the influence of the West, David explained the main reasons for the unequal development between central and Western China and the coastal areas. The initial development policies were not implemented to the end, and a large amount of resources and investment were concentrated in the coastal areas, leading to the widening gap in the development degree between central and western China and the coastal areas [7]. Through economic data, government perspectives, and the effectiveness of policies, Shih explained that the reason why the development of Western China has not caught up with the development of Eastern China cannot be entirely attributed to industrial production and export, and many geographical problems and human capital scarcity problems have also been plaguing western China for a long time [8]. Cao, in collaboration with 20 authors from 15 different universities, analyzed the development history of Western China from multiple perspectives, such as social, economic, and political perspectives, and concluded that the education of the people in the West was a major reason for the backwardness of the West and that ethnic mobility and China's urbanization had a huge impact on the west [9]. Deng et al. used a regression model to analyze why urbanization in today's China, which often represents the degree of urban development, develops to different degrees in many cities in western China, where people live in similar environments. The reasons for this are employment structure, education level, and population size [10].

1.3. Objective

The main content of this paper is to explore: what causes the gap between the east and west of China in economic development has shown a huge gap. First, based on the harsh geographical and natural conditions of the western region, we will study the situation of transportation in the west and why the west needs to rely more on ground transportation compared with the east. Secondly, by analyzing the industrial structure of the western region and the adjustment of the industrial structure in the future, this paper analyzes what is the industrial advantage of the western region, and what

causes the western industry to lag behind the eastern industry. Third, when the productivity gradually reached the peak, the growth rate of workers' wages slowed down or even declined, and low-end industries in the east moved to the west where labor costs were lower, but this may not narrow the economic gap between the east and the West. Fourth, the backward level of education directly leads to the shortage of human resources in the west, which makes the West lack of innovation ability to a certain extent, which is also a factor worth considering.

2. The gap in productivity distribution between the East and the West

2.1. Geography

According to the CIA World Factbook, China has the third largest land area in the world, about 9.6 million square kilometers, of which about 9.32 million square kilometers are land and about 270,000 square kilometers are water. The coastline has a total length of about 32,000 km (the west coast of the mainland and the island line), mainly located in eastern and southern China. China's geological landscape is rich and diverse. From the highest Tibetan plateau in western China (average elevation 4,500 meters) to the central basin and mountain range (average elevation 1,000-2,000 meters) and the eastern plain (1,000 meters). According to China's official geographic data, plateaus account for 33.3 percent of the total topographic area, basins for 11.98 percent, and plains for 18.75 percent. The high altitude and mountains that dominate the western landscape became the first obstacle to its development. Construction materials and personnel need to cross rugged mountains and long uphill roads to reach the west, which greatly increases transportation time and costs, as well as transportation risks. Therefore, in the early days of China's reform and opening up, China's eastern coastal areas became the engine of China's economy and the key development support area, while the western region developed more slowly due to geographical factors. Secondly, the west of China is far from the sea of China, which leads to the lack of an extremely important mode of transportation in the west from ancient times to the present. This prevented the west from taking on the important task of international trade between China and other countries in the early days.

2.2. Industrial structure

The industrial structure of the western region in the early stage of development due to its remote geographical location, the average distance from the trade outlet to the sea is about 1300 km, which makes the western region in the early stage not attract a lot of foreign investment, manufacturing, and export dividends. Later, preferential policies reduced the cost of land in the West and began to attract investment to build factories, which slowly formed the industrial structure dominated by manufacturing, agriculture, and resource mining in the West. Although Western exports have increased in the past 10 years, Eastern exports still account for 80% of the total. In the eastern part, which is dominated by finance, science and technology, and trade exports, years of industrial development have laid a solid foundation and a strong economic machine for the eastern industrial structure. Although the economic growth rate of the East has slowed down in recent years, the economic growth rate of the West is higher than that of the East, but the overall degree of development of the West is still a big gap with the East.

2.3. Productivity

There are many reasons why the productivity of the western region is not as good as that of the eastern region, and the inconvenient transportation caused by the complicated geographical conditions has a huge impact at this time. The transportation cost of construction in the west is higher than that in the east due to the inconvenient transportation, which makes the construction speed in the west slow and the cost high. This will lead to the west for the middle, middle and high-end industry investment attractiveness will decline compared with the East. And often more high-end industries can effectively stimulate the economy. In addition, the productivity of middle and low-end industries in eastern China has gradually become saturated in recent years, which has led to a slowdown in the

growth of workers' wages and a rise in labor costs. These middle and low-end industries are no longer suitable for the eastern region, so they are moving to the western region, which does not bring great economic improvement to the western region where the labor cost is lower than that of the eastern region.

2.4. Education Level

According to the more accurate Index of Regional Education Advantage (IREA) designed by Xiang, John et al., it can be seen that the IREA scores of Beijing and Shanghai are much higher than those of other regions nationwide. This means that the names of the two cities have the highest level of education in China. From 2004 to 2014, the education level in the western region has greatly improved, an important reason behind this is that the government attaches great importance to the education level in the western region and invests more resources and policy support for the education construction in the western region. However, due to the sustainability of the policy, the improvement of the education level in the western region is intermittent and cannot maintain stable growth.

3. Suggestions and inspirations

3.1. Industrial transfer and adjustment

With the strong development of eastern China in recent years and the stimulus of large-scale strong policies, the prices of land, labor and production factors in eastern China are gradually increasing. This has led to the need for industries from the east to move west, but this is already happening. For example, a few years ago, Henan undertook the manufacturing of Apple mobile phones in China and became the world's largest iPhone OEM. Chongqing undertook the upstream industry chain and OEM of notebook computer manufacturing and became the world's largest notebook computer manufacturing factory. These manufacturing shifts have been a huge positive for the Midwest. However, the orderly transfer of industries is particularly important at this time. As mentioned above, due to the backward development of transportation in the west due to geographical reasons, higher transportation costs will be incurred when industries are transferred from the east to the west. Therefore, it is a necessary measure to appropriately increase transportation lines or upgrade the original transportation. This can effectively reduce the transportation cost of industry transfer. Secondly, the government needs to increase investment in infrastructure for the west, not only to do a good job of utility infrastructure for enterprises, but also the surrounding supporting facilities need to pay attention to reduce the cost of industrial transfer as much as possible, and increase the industrial capacity of the western region.

3.2. Infrastructure

In addition to the basic infrastructure mentioned above, other types of infrastructure planning also need to receive as much attention as possible. In order to be able to strengthen the west of the future medium industry and medium and high industry capacity to undertake. The west needs to build infrastructure with specific industries such as smart energy infrastructure, the western region is rich in natural resources, whether it is photovoltaic power generation, wind power generation, or ore collection are gathered in large numbers in the west, energy type infrastructure can effectively transport these energy across the country, used in local and other regions of the industry to go to. Logistics infrastructure is also an important part, in order to better integrate with the Belt and Road plan, the construction of a strong logistics infrastructure can be well combined with the Belt and Road, and the output and energy of the west more efficiently transported to other countries.

3.3. Education Adjustment

There is an obvious gap between the education level in western China and that in central and eastern China. At this time, the government should increase its expenditure on education in the west,

establish schools with strong teacher resources, and introduce more favorable welfare policies to attract teachers from other regions to enter the West. And a complete education system, to reduce the problem of children in the western region to go to school difficulties, reduce the cost of poor families. In addition, efforts should be made in the early physical development of children in the west. Poverty has always been a problem in the West, and poverty often has a certain impact on children's physical and intellectual development, which requires the government to increase more financial expenditure to increase subsidies for each family, so that children can supplement more nutrition. Start by fundamentally increasing the child's own ability to learn.

4. Conclusion

To sum up, the significant differences in economic development between China's eastern and western regions can be attributed to the complex interplay of geography, history, policy and economic factors. Geographically, the complex terrain of western China, characterized by rugged mountains, plateaus and a lack of navigable waterways, poses huge challenges for transportation costs and logistics. This geographical disadvantage impedes access to trade and investment in the region, further exacerbating the development gap.

Historical investment patterns and policy decisions have favored the eastern coastal region, attracting foreign direct investment and promoting the development of manufacturing, finance, technology and other industries. In contrast, the western region is affected by agriculture and resource extraction due to its remoteness.

Economic factors, including differences in industrial structure and productivity, also play a crucial role. The eastern region has nurtured advanced industries and seen wage levels rise, while the western region has become a destination for low-end industries seeking lower labor costs.

In addition, differences in education levels between the two regions have contributed to the difference, with the West experiencing intermittent improvements in education due to policy fluctuations. Addressing these gaps will require a multifaceted approach, including continued infrastructure development, policy support for the Western region, efforts to promote innovation, and a focus on equitable educational opportunities. Balancing regional development is critical to the stability and growth of China's overall economy, and understanding the root causes of these differences is a key step in achieving that balance.

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