

# The Economic Development Study of Northeast China During the Pandemic of Covid-19

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## ABSTRACT

This article focuses on northeast China's economic development and explores the region's economic developments one by one from a historical viewpoint. To begin, the development of northeast China is examined through three historical stages: the modern period before the founding of New China, which was dominated by industrial development; the planned economy system period after the founding of New China, during which the planned economy became the "leader" of the Republican economy; and the reform and opening-up period, during which the economy was in decline due to the transformation of the economic system and adjustment of economic policy. Second, this essay discusses industrial transformation and upgrading in northeast China. The paper examines the development emphasis of industrial transformation, moving from secondary to tertiary industries and steadily increasing the tertiary industry's proportion of GDP. The paper also determined that state-owned firms should continue to reform in order to avoid a more significant brain drain and that private enterprises should be reinvigorated in order to foster entrepreneurial development. Finally, this report discusses Northeast China's prospective growth following the outbreak. The tertiary industry in Northeast China was severely impacted by the outbreak. The frozen Silk Road, on the other hand, gave certain economic benefits to northeast China's international commerce, which helped to soften the impact of the disease.

**Keywords:** COVID-19, development study, northeast China, economics after COVID-19

## 1. INTRODUCTION

### 1.1. Background

This article mainly covers three aspects. Firstly, the development of northeast China is analyzed from three historical stages: the modern period before the founding of New China, which was dominated by industrial development; The planned economy system period after the founding of New China, in which the planned economy became the "leader" of the Republican economy; The period of reform and opening up in which the economy was in decline due to the transformation of the economic system and adjustment of economic policy. Secondly, this article describes the industrial transformation and upgrading in northeast China, with the gradual decline of the secondary industry and the gradual rise of the primary industry and the tertiary industry. It mainly analyzes the development

focus of industrial transformation, as well as the conjecture and theory of some scholars. These include increasing the share of tertiary industry in GDP; Alleviate the phenomenon of brain drain caused by the unsmooth reform and development of state-owned enterprises and revitalizing private enterprises; Pay attention to the sustainable development of mining cities. Finally, this paper point out the future development of Northeast China after the epidemic. The impact of COVID-19 on the North-East is more persistent, especially after winter when the epidemic is more likely to spread. However, perhaps due to historical factors, the trade of crude oil and natural gas between China and Russia has mitigated the impact of the epidemic, and thus brought some inspiration to the economic development of Northeast China.

## 2. ECONOMY HISTORY OF NORTHEAST CHINA

In recent years, the structure of the share that different companies hold in the video streaming market has not changed much. More share means more subscribers. More subscriber means the strategy has more market competitiveness. Meanwhile, the structure of the video streaming market is relatively solid, with a high barrier to new entries. Therefore, by analyzing the strategy of some selected main players, after market-based figure comparison and further argumentation, the research then concludes the competitive dynamics of the video streaming market.

### *2.1. In the period before the founding of New China:*

In the modern period before the founding of New China, Northeast China experienced a special stage of development, because the Qing army entered the pass, the northeast area was closed and could not be developed. After the Opium War, the economy of northeast China began to enter a new period. The reclamation of common people promoted the economic development of northeast China, and a large number of official lands was transformed into civilian land. Meanwhile, the processing industry with agricultural products as raw materials also developed rapidly. Before the founding of New China, Northeast China was liberated earlier. On November 23, 1948, the Northeast Bureau issued a resolution on the Situation and Tasks in Northeast China after liberation, proposing that Northeast China had begun a new era, which is an era of economic construction based on new conditions and new foundations. The northeast Bureau adopted a series of economic development strategies, such as the establishment of several important economic leading organs; Trying to find sources of industrial investment; Strengthening economic planning work. Then it has a relatively complete system of heavy industry, such as Benxi Steel Mill, Fuxin coal mine, Xiaopengman Dam and so on.

### *2.2. The planned economic system period after the founding of New China:*

In 1953, after the great success of national economic recovery, New China began to formulate and implement its first five-year plan, giving top priority to industrialization. At that time, the Soviet Union gave strong support to the new socialist China. In order to support China's industrialization, the Soviet Union provided sufficient technical and financial support for about 156 projects. There were 58 projects in the northeast, accounting for 37% of the total. This kind of large-scale help laid an important foundation for the industrial base of new China's northeast. In the period of

socialist construction, northeast China has not only developed rapidly in the industry but also formed new industrial advantages by resource exploitation. Additionally, the development of various regions in the northeast also makes the northeast primary industry and the second industry far ahead. The development of BeiDaHuang promotes the development of the primary industry in northeast China and makes it an important grain base in China. The development of Daqing oilfield promotes the secondary industry in Northeast China and makes it an important petrochemical base. Forestry development has made northeast China an important timber supply base for the country. During the period of socialist construction, northeast China became the "leader" of the national economy with the help of many favorable conditions brought by the planned economy and obtained the leading position of national economic growth. But after the reform and opening up, the economic growth of northeast China is not so optimistic.

### *2.3. Reform and opening-up period:*

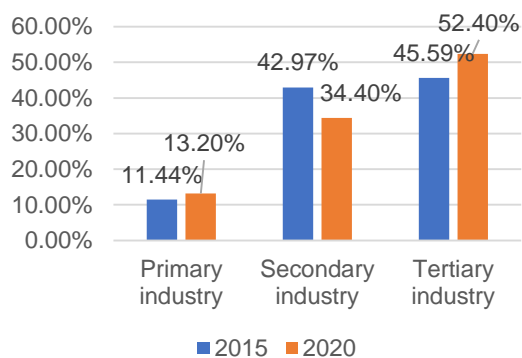
Although the economic growth rate of northeast China since 1978 has been higher than before the reform and opening up, the average growth rate of the three provinces in northeast China from 1978 to 2017 was 9.1 percent, lower than the national average in the same period. By 2017, the proportion of northeast China's economy in the country had seriously declined. The above shows that the economic development of northeast China has been worse than before since the reform and opening up. This phenomenon can be attributed to economic system transformation, the negative impact of natural resource economy and macroeconomic environment, insufficient investment [1], labor outflow [2], etc. At the same time, the special cultural characteristics also have a certain impact on economic growth, including the northeast, people value justice over profit, business awareness is not strong enough [3] In fact, the different performance of northeast China in different stages of development is mainly determined by resources and policies. The resources are limited, with the exploitation of resources, there will be a day when the energy will run out. The economic policy of opening to the outside world has restricted the development of northeast China, and the former advantages of development have been gradually lost[4]. Not only is it difficult to gather new resources, but also the existing resources have begun to drain. However, this policy has enabled the eastern coastal area to take the lead in development and become the new leading economic growth area to replace the northeast area.

### 3. INDUSTRIAL TRANSFORMATION AND UPGRADING IN NORTHEAST CHINA

The Industrial structure in northeast China in the years 2015 and 2020 has been demonstrated as below:

**Table 1.** The industrial structure in northeast China

Year	Primary industry	Secondary industry	Tertiary industry
2015	11.44%	42.97%	45.59%
2020	13.2%	34.4%	52.40%



**Figure 1.** The industrial structure in northeast China

**Table 2.** Service Industry Output Growth in Northeast China

Item	2003	2004	2005	2006	2007	2008	2009
Shares in GDP (%)	39.55	39.23	37.50	36.98	36.16	35.01	38.67
Output (million)	50.31	57.06	64.42	73.18	85.17	99.45	120.20

According to Table 2, the output of the service sector in the Northeast has maintained its growth trend from 50.31 million RMB in 2003 to 120.20 million RMB in 2009, but its share in the local GDP has not increased significantly, which can be explained by the strategic policy of supporting the secondary sector and the industrialization phase [9]. This can be explained by the strategic policy of supporting the secondary sector and the industrialization phase [9].

According to Ji's research from 2019, the service industry in the three northeastern provinces has been gradually upgraded, and the proportion has started to grow. The service industry's transition and upgrading, as well as the transformation of driving factors, have all been accomplished. The financial sector in Liaoning, Jilin, and Heilongjiang now has a lot of room for growth [10]. At this time, it appears that the Northeast's transition from secondary to the tertiary industry has been rather effective. However, the resources spent are

To be more specific, the primary and tertiary sectors grew by 1.76% and 6.81% respectively from 2015 to 2020, while the share of the secondary sector decreased by -8.57%. Some scholars see this as evidence of the modernization of the North East economy, but others feel that the growth in the primary and tertiary sectors is a result of the decline in the secondary sector[5,6]. Next, this paper will explore industrial transformation and upgrading in Northeast China from three perspectives.

Firstly, the industrial structure of the Northeast is characterized by a large proportion of secondary industry and an underdeveloped service sector, with heavy industry accounting for 75% of the industrial sector structure, which is much higher than the national average [7, 8]. However, the development of the tertiary industry will attract more labor, which will change the distribution of labor within the industry. In addition, the development of the service sector makes it possible to also make the income distribution to be fairer. Additionally, the development of the tertiary industry will attract more labor, which will change the distribution of labor within the industry [9].

insufficient, and this is an issue that should be addressed in the next phase.

On the other hand, a sound market economy mechanism has yet to be established in the Northeast, with a large proportion of the state-owned economy and large enterprises for historical reasons, and underdeveloped small and medium-sized enterprises and private economies [7]. As a result, the institutional mechanism is relatively inflexible in the reform and development of the market economy. The rigidity of institutional mechanisms in market-oriented and international operations is also an important factor hindering the high-quality development of the Northeastern economy [11]. As a consequence of this industrial structure, economic growth has been driven by investment and factor inputs, but high levels of investment in fixed assets have not necessarily increased employment and economic links between urban and rural areas are still fragile [7, 8]. Moreover, the slow economic growth and the slowdown and even closure of

enterprises have led to a massive exodus of people from the Northeast, especially some skilled personnel and innovative R&D workers, exacerbating the vicious circle of lack of innovation in these regions due to the brain drain [8, 11].

Liu also argues that the underdevelopment of the private economy has inhibited the willingness to innovate, with most resources still going to the old state-owned enterprises and insufficient resources being allocated to the new sectors of the economy. Liu also suggests that it is imperative to accelerate the reform of central state-owned enterprises while encouraging the development of the private economy as a new economic engine in the Northeast, thereby breaking the overwhelming dominance of state-owned enterprises [8].

The last point mentioned in this article is the transformation of mining cities in Northeast China. About 20 mining cities are struggling for survival. The problems of industrial decline, unemployment, urban poverty and ecological degradation are more serious than in other regions. The stable employment rate is only around 60%. After decades of highly intensive exploitation of resources, the carrying capacity of the resources and environment has declined sharply. In particular, in the central northeast and coastal areas, regional water resources and land capacity can hardly meet economic and social needs, in addition to the imminent depletion of mineral resources in certain areas[8]. Therefore, the transformation of mining cities is both an urgent issue and a long-term one that needs to go hand in hand with sustainable development.

The development priorities for industrial transformation and upgrading in Northeast China can be summarised as 1) further increasing the share of the tertiary sector in GDP and 2) encouraging the development of markets and private enterprises to rejuvenate the market. Additionally, 3) the sustainable development of mining cities.

#### 4.THE IMPACT OF COVID-19 ON THE NORTHEAST ECONOMY AND OPPORTUNITIES IN THE POST-EPIDEMIC ERA

##### 4.1.Impact of Covid-19

The nationwide outbreak occurred during the winter and spring which could be regarded as agricultural downtime, so the primary sector was relatively unaffected, with the value-added of the primary sector falling by 3.2% year-on-year in the first quarter. The secondary sector, however, was affected by unfavorable factors such as restrictions on the movement of human resources, lack of epidemic prevention materials, shortage of raw materials for production and impeded

transportation of products. The national output value fell by 9.6 percent year-on-year in the first quarter, with manufacturing and construction output falling by 10.2 percent and 17.4 per cent respectively [12].

The value-added of the tertiary sector fell by 5.2 percent year-on-year in the first quarter, a smaller decline than in the secondary sector, but the restaurant, accommodation, tourism and transport sectors were severely damaged. In the first quarter, revenue from the catering sector fell by 44.3 percent year on year, and the year-on-year decline in March continued to increase compared to December, showing that the impact of the epidemic on the tertiary sector was deeper and more lasting [12].

According to Luan and Zhang, the Northeast of China was ranked as one of the 15 regions whose economies were severely hit by the epidemic in the first quarter of 2020. The impact of the epidemic on the secondary sector in the three northeastern provinces in the first quarter of 2020 exceeded that of the country as a whole, with the value-added of the secondary sector in Jilin (-13.2%), Liaoning (-10.7%) and Heilongjiang (-9.9%). In addition, the impact of the epidemic on the tertiary sector in Heilongjiang was second only to Hubei, where it was most severe: it fell by 7.9 percent, and by 6.3 percent in Liaoning, while in Jilin the year-on-year growth rate of the tertiary sector in the first quarter was not lower than the national level. The growth rate of per capita consumption expenditure in the Northeast region in the first quarter of 2020 was lower than the overall national level [12].

**Table 3.** Year-on-year growth in consumer spending per capita in the first quarter of 2020 in the three northeastern provinces

	Total	Urban	Rural
Heilongjiang	-14.6%	-14.1%	-16.1%
Liaoning	-9.3%	-11.4%	-0.5%
Jilin	-8.6%	-10.17%	-4%

According to customs data, China's total import and export of goods in the first quarter was 6.57 trillion, down by 6.4% year-on-year due to the impact of the epidemic. In the first quarter, the total import and export volume of Heilongjiang, Liaoning and the region remained positive year on year, mainly driven by the import trade. Heilongjiang relies on trade with Russia, and imports of crude oil, natural gas and other energy sources from the pipeline have been stable, which to a certain extent has mitigated the impact of the epidemic [12].

## 4.2. Opportunities in the Post-Epidemic Era

With the global warming caused by greenhouse gases, the development and use of the Arctic Ocean and the North Pacific shipping lanes will become possible, while bringing historic opportunities for the development of Northeast Asia and the North Pacific Economic Circle. The opening of the "Silk Road on Ice" will promote new growth points for the economies of Northeast Asia and the countries of the Arctic Ocean Rim, which, from the current perspective, have the relatively weak infrastructure and high market demand potential, and have a very large demand for production factors such as markets, capital and technology in the economic region with Northeast China as a bridgehead, in addition to infrastructure. In addition to infrastructure, there will be new opportunities for energy and chemical-heavy industries as well as for digital construction, tourism and the consequent production and living services. This presents a historic opportunity for the North-East regional economy to achieve quality development through economic restructuring, with significant implications for the development of North-East Asia as a whole and the economic integration of the North Pacific and Arctic Rim [13].

Whether deepening reform or optimizing industrial structure, the economic development of northeast China cannot do without talents. There are more than a few double first-class universities in northeast China, but relatively few students or even postgraduates trained in the double first-class universities can stay and develop in Northeast China. Apart from the fact that college students living in the economically advanced south are less likely to stay in the northeast, those living in the northeast are also seeking development in southern cities. These may be the reason why the class of state-owned enterprises is solidified, and private enterprises lack opportunities. Many college students cannot match their college courses with their jobs after finishing them, which is a waste of talents for the country as well as time for individuals. Therefore, it is suggested that colleges and universities cooperate with private enterprises to directly transport talents for private enterprises to reduce the waste of talent resources and maximize the matching degree between majors and jobs. In particular, personnel training in the secondary industry, mining, oil and some resources research. For example, from labor production mode to automatic production mode: intelligent oil fields, intelligent minerals. At the same time for power, enterprises can also carry out intelligent inspection, intelligent testing and other projects. Most of the above results from the cooperation with universities, enterprises appeal to universities and employment opportunities for college students, and universities provide R&D and talents for enterprises. However, technological advances have led

to a rise in unemployment to some extent. Those who are laid off in the secondary industry can be converted into the tertiary industry, which to some extent promotes the development of the tertiary industry in northeast China and increases its share.

## 5. CONCLUSION

This article mainly studies the economic development of northeast China and analyzes the economic changes of northeast China one by one from the historical perspective. This paper finds that the main reasons for the economic decline in northeast China since the reform and opening up are the loss of population, the consumption of resources and the adjustment of economic policies. Additionally, the paper analyzes the development focus of industrial transformation, from the secondary industry to the tertiary industry gradually increasing the tertiary industry in GDP share. The article also found that state-owned enterprises should deepen the reform to avoid the brain drain more and more serious phenomenon, with revitalized private enterprises to promote the development of enterprises. During the epidemic period, the tertiary industry in Northeast China was greatly affected. However, due to the good relations with Russia, the iced Silk Road brought certain economic benefits to northeast China's foreign trade, which also buffered the impact of the epidemic. The paper suggests that state-owned enterprises should change their inherent thinking and deepen their reform by contacting advanced management concepts. The government should give more economic policies to help private enterprises develop. At the same time because of the establishment of good relations with various countries to maintain a long-term foreign trade economy.

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