

# The analysis of financial development in Northeast China from 2005 to 2021

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**Abstract:** From 2005 to 2021, the GDP of the three provinces in Northeast China increased from 1.479373 trillion yuan to 5.569882 trillion yuan, and the total economic volume increased significantly. The number and capital scale of banking financial institutions in the three provinces in Northeast China continued to grow, providing strong support for economic development. However, due to the relatively simple financial model in Northeast China, the development of the financial industry in various regions is unbalanced. To deepen the development of the financial industry in Northeast China, efforts should be made to enrich the market structure of the financial system, continuously reform and innovate the financial system in line with the economic development of Northeast China, strengthen the coordination of development and reform, and optimize the financial ecological environment.

**Keywords:** North-east; Financial development; Structural reforms

## 1. Introduction

Finance is the lifeblood of the economy, and the economy is the foundation of finance. The two are interdependent and cannot exist without each other. In the context of building a new development model, finance must play a crucial role in promoting Northeast China's transformation. Since the implementation of the Northeast Revitalization Strategy, the overall economic development in the region has shown a positive trend. As the economy continues to develop, there is an interaction between financial development and industrial structure in the three provinces of Northeast China. Over the past decade since the implementation of the "Northeast Revitalization" policy, the financial sector in the region has developed rapidly, with an increasingly sophisticated financial system and significant improvements in the quality and efficiency of financial services.<sup>[1]</sup> However, there are still some challenges that need to be addressed in order to achieve coordinated development between finance and the economy. Therefore, in order to achieve sustainable development, the financial system needs to continuously improve quality, enhance efficiency, and pursue innovative development.

## 2. Development of the banking sector in the north-east

### 2.1. Banking financial institutions

In recent years, with the implementation of the strategy to revitalize Northeast China, various financial institutions, especially state-controlled commercial banks, have gradually increased their credit support for the three provinces in Northeast China, leading to record highs in the deposits, loans, and new loans of financial institutions in the region.<sup>[2]</sup> The banking sector in Northeast China has achieved rapid development. Overall, from 2005 to 2021, the number of banking institutions in Northeast China has generally shown a growth trend, except for a slight decrease in some years. As shown in Figure 1, there were 19,911 banking institutions in Northeast China in 2005, which increased to 20,607 in 2021, an increase of 696 institutions over the past 16 years, with a growth rate of 3.5% and an average annual growth rate of 43.5. The number of employees in the banking sector in Northeast China was 301,164 in 2005 and increased to 381,177 in 2021, an increase of 53,436 employees over the past 16 years, with a growth rate of 17.8% and an average annual growth rate of 3,339.8. The average number of employees per banking institution in Northeast China was 45.5 in 2005 and increased to 55.1 in 2021, with a growth rate of 21.1%. The proportion of employees in the banking sector to the total population of the province was 0.30% in 2005 and increased to 0.42% in 2021. The

total assets of banking institutions in Northeast China were 2.7796 trillion yuan in 2005 and increased to 18.0284 trillion yuan in 2021, with a total increase of 14.2488 trillion yuan and an average annual growth rate of 890.55 billion yuan. The growth rate was 5.7% in 2021. In 2006, 2009, and 2012, the number of banking institutions and employees in the three provinces in Northeast China saw significant decreases due to the poor financial environment in the region at that time and the instability of the financial system caused by the global financial crisis. In recent years, the financial industry in Northeast China has developed relatively steadily. At the same time, private banks have begun to establish branches, with the approval and establishment of Liaoning Revitalization Bank and Jilin Yiyuan Bank adding vitality to the development of the banking industry in Northeast China.

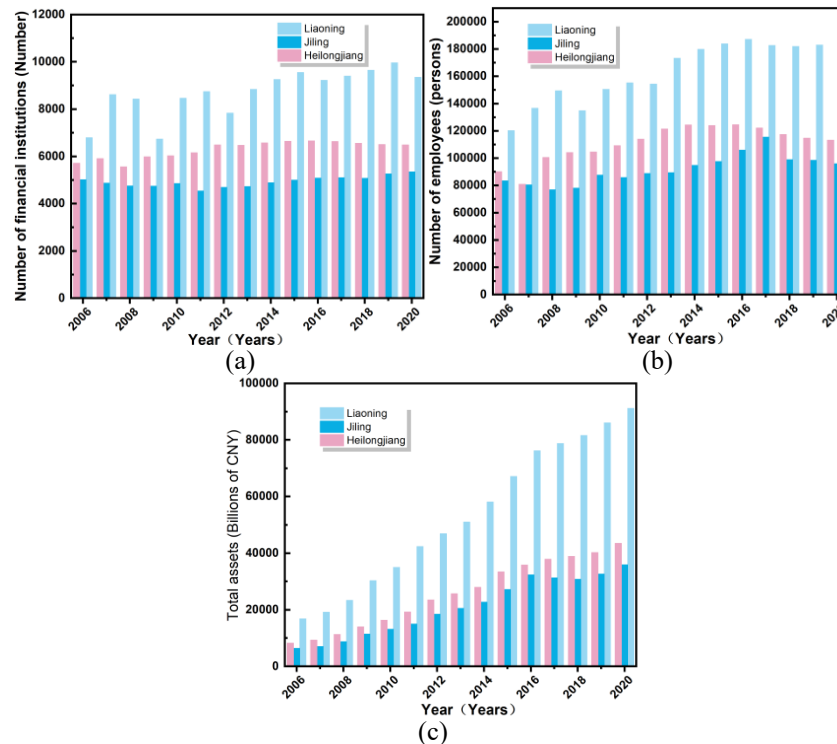


Figure 1: (a) Number of Banking Financial Institutions, (b) Employees and (c) Total Assets in the Three Northeastern Provinces, 2005-2021

## 2.2. Size of banking sector funding

The rapid growth of the banking industry's financial scale. The implementation of the strategy to revitalize the old industrial bases in Northeast China has rapidly improved the financial strength of the banking industry in the three provinces in Northeast China. A measure of a region's financial scale can be obtained using the total deposits and loans of financial institutions at the end of the year. The larger the value, the larger the financial scale. Therefore, this article will use the total deposits and loans of financial institutions in Northeast China as a measure of the region's financial scale. From 2005 to 2021, the deposits and loans of financial institutions in the three provinces in Northeast China have shown an upward trend. As of the end of 2021, the deposits and loans of financial institutions in the three provinces in Northeast China reached 23.60658 trillion yuan, as shown in Figure 2. As shown in Table 2, in terms of deposits, the balance at the end of 2021 was 5.8 times that in 2005, reaching 13.39117 trillion yuan. The average per capita deposit balance reached 168,578.6 yuan, an increase of 5.57% year on year, with an average annual growth of 692.61 billion yuan. In terms of loan balances, the balance at the end of 2021 was 6.62 times that in 2005, reaching 10.21541 trillion yuan. The average per capita loan balance reached 127,970.9 yuan, an increase of 4.72% year on year, with an average annual growth of 542.02 billion yuan. At the end of 2021, the total deposits and loans reached 23.60658 trillion yuan, which was 6.13 times that in 2005. The total GDP of the three provinces in Northeast China reached 5569.882 billion yuan, which was 3.77 times that in 2005. Compared with the data in 2005, both the financial scale and economic output have significantly improved.

From a phased perspective, the growth rates of deposits and loans in the three provinces in Northeast China from 2005 to 2007 were relatively stable in the early stage, but significantly reduced

in 2007, especially for deposit growth rates. The main reason for this was the relatively poor financial ecological environment in the region, coupled with the impact of the financial crisis on the enthusiasm of the people for deposits and loans. From 2008 to 2012, due to the gradually increasing effect of various revitalization policies, especially the governance of the financial ecological environment, as well as the introduction of policy measures to counter the international financial crisis since the fourth quarter of 2008, the new deposits and loans in the three provinces in Northeast China reached record highs, with average annual growth rates (based on 2007) of 17.71% and 18.70% for deposits and loans, respectively, which were significantly higher than the average annual growth rates in the previous five years and even throughout the decade.

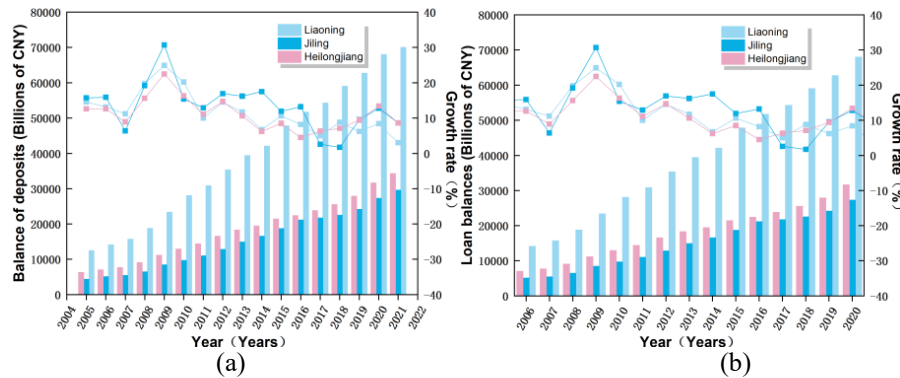


Figure 2: Balance of (a) deposits and (b) loans in the banking sector and their growth rates in the three northeastern provinces, 2005 to 2021

After 2012, the overall trend has been steady with some decreases, which is related to the overall economic environment of the country. As the country's economic reform enters a deep water zone and downward pressure continues to increase, GDP growth slows down, leading to a slight decrease in the growth rate of deposits and loans. However, the decline in 2017 has already marked slowdown, indicating that downward pressure on financial development has been alleviated to some extent. As the lifeblood of the economy, financial support is crucial for promoting the all-round revitalization of Northeast China. Since 2018, the deposits and loans of banking institutions have continued to rise. Due to the impact of the COVID-19 pandemic, the growth rate of deposits and loans has slightly decreased in the past two years, but with the full economic recovery, future performance is promising.

### 2.3. Changes in deposit and loan ratios

The loan-to-deposit ratio refers to the comparison of the total amount of bank loans with the total amount of deposits, which can reflect the bank's operating costs and the direction of fund utilization. When the loan-to-deposit ratio is high, the bank has more funds available for lending, which is beneficial for local high-quality enterprises that need financing and can help them grow and expand. A low loan-to-deposit ratio may be unfavorable for enterprise development, especially for small and medium-sized enterprises, but it may also avoid the emergence of new non-performing assets. As can be seen from Figure 3, from the end of 2005 to the end of 2021, the loan-to-deposit ratio in Northeast China as a whole showed an upward trend, which has begun to slow down and stabilize in recent years. As of the end of 2021, the loan-to-deposit ratios in Heilongjiang, Jilin, and Liaoning provinces were 71.1%, 83.2%, and 75.9% respectively. However, with the continuous development of the financial situation, the "75% loan-to-deposit ratio" regulation that has been used by the banking system for more than ten years is now outdated. In the current context of interest rate marketization, financial disintermediation, economic deceleration, and monetary policy shifts, this regulation is no longer appropriate, which has suppressed loan issuance and actually restricted the transmission of relatively loose liquidity in the interbank market to the real economy.

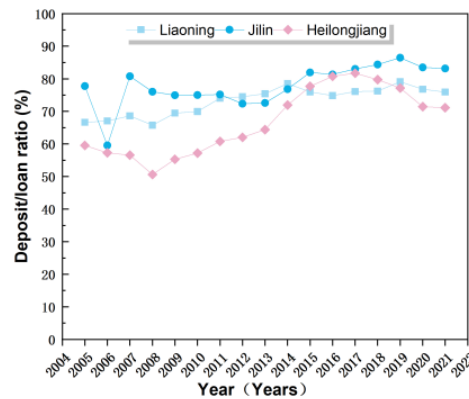


Figure 3: Ratio of deposits and loans in local and foreign currencies in the banking sector in the three northeastern provinces, 2005-2021

#### 2.4. The role of finance in economic development

The financial correlation ratio refers to the relationship between the financial scale and GDP, which can be used to measure the contribution of the financial system to economic development. As China's current financial market is still dominated by bank credit, the indicator used to measure the financial scale often adopts the sum of bank deposits and loans. Therefore, in this paper, the sum of financial deposits and loans is used to calculate the financial correlation ratio, which is defined as the ratio of the sum of financial deposits and loans to GDP. As can be seen from Table 1 and Figure 4, the financial correlation ratios of the three provinces in Northeast China have the same development trend, showing an overall upward trend, indicating that the overall level of financial development in Northeast China has been improved. Except for a slight decline from 2009 to 2011, it has been on an upward trend since then, and the upward trend has been increasing year by year until 2016. However, after 2017, the growth rate has begun to slow down. It should be noted that the numerical value of the financial correlation ratio is not higher the better. A high financial correlation ratio means an increase in the total scale of financial assets, but too high a financial correlation ratio may mean that financial assets have not been effectively utilized, resulting in a waste of social resources. Therefore, the financial correlation ratio only reflects the increase in financial scale, but cannot reflect whether financial efficiency has improved.<sup>[3]</sup> When studying the level of financial development, both "quality" and "quantity" are equally important. Therefore, research on financial development efficiency will also be conducted later.

Table 1: Financial correlation ratio of the three northeastern provinces, 2005-2021

Years	Liaoning	Jilin	Heilongjiang	North-Eastern provinces
2021	4.46	4.10	3.95	4.24
2020	4.81	4.08	3.98	4.41
2019	4.52	3.84	3.65	4.12
2018	4.42	3.69	3.57	4.02
2017	4.40	3.64	3.51	3.97
2016	4.43	3.68	3.40	3.96
2015	4.16	3.39	3.26	3.72
2014	3.75	2.93	2.74	3.27
2013	3.60	2.73	2.54	3.09
2012	3.45	2.54	2.43	2.94
2011	3.28	2.48	2.33	2.82
2010	3.43	2.65	2.45	2.97
2009	3.09	2.71	2.39	2.81
2008	2.56	2.34	1.92	2.33
2007	2.57	2.39	1.96	2.35
2006	2.81	2.51	2.08	2.52
2005	2.86	2.80	2.10	2.60

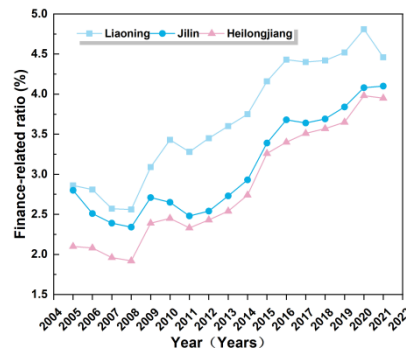


Figure 4: Financial Related Ratio of the Three Northeastern Provinces from 2005 to 2021

### 3. Reflecting the problems of financial development in the north-eastern region

#### 3.1. Uneven development across regions

Based on the analysis in the previous text, it can be seen that there are significant differences in the banking development speeds of the three provinces in Northeast China. The overall financial development level in Northeast China is relatively general, and the relatively backward regions of the financial industry exhibit contiguous distribution characteristics, while the developed regions are relatively scattered. The cities with a high level of financial development are Harbin, Changchun, Shenyang, and Dalian, all of which are sub-provincial cities. Among them, Dalian is a planned city, while the other three are capital cities. Taking Liaoning Province as an example, as shown in Table 2, there are large differences in the deposits and loans of financial institutions (including foreign capital) among various regions in Liaoning Province. The deposits and loans of Shenyang and Dalian far exceed those of other regions. These cities are also the core regions with highly developed economies in Northeast China. On the one hand, the demand for financial services in these cities is higher than that in other cities. On the other hand, as the core industrial sector of modern economic development, the financial industry has also promoted regional economic growth to a certain extent.<sup>[4]</sup>

Table 2: Balance of deposits and loans in local and foreign currencies of financial institutions (including foreign capital) in various regions of Liaoning Province (in billions of yuan)

Regions	Balance of local and foreign currency deposits with financial institutions	Balance of local and foreign currency loans to financial institutions
Shenyang	14446.3	19230.1
Dalian	14701.7	13540.3
Anshan	3235.1	2442.1
Fushun	1615.1	1059.1
Benxi	1284.4	1400.1
Dandong	1868.2	1346.1
Jinzhou	2655.3	4052.2
Yingkou	2598.3	2224.1
Fuxin	1009.7	1025.9
Liaoyang	2229.7	1931.5
Panjin	1670.7	1471.4
Tieling	1232.2	811.5
Chaoyang	1573.8	1123.5
Huludao	1572.0	1476.5

#### 3.2. Financial structure still to be optimised

From Table 3, it can be seen that the total deposits and loans of Liaoning, Jilin, and Heilongjiang provinces account for 2.90%, 1.28%, and 1.38% of the national total, respectively, which are lower than those of other provinces listed in the table. In terms of the financial correlation ratio, all three provinces in Northeast China are higher than the national average. As mentioned earlier, a high financial correlation ratio is caused by the inefficient utilization of resources. China's capital market

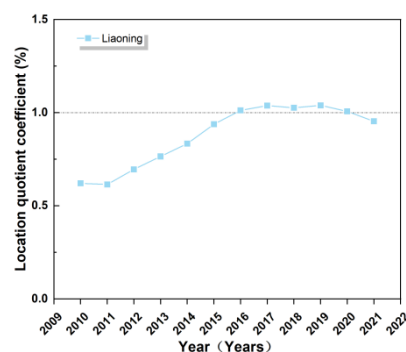
started relatively late, and the pricing system is still imperfect. In addition, the financial system in Northeast China is not well-developed, and residents lack rich investment options, so they can only save. However, the efficiency of converting savings into investment is relatively low. Idle social funds cannot be effectively utilized, and cannot be guided to advanced industries.<sup>[5]</sup> The low efficiency of the financial system will lead to a waste of social resources, preventing the rational and efficient allocation of funds, which will have a negative impact on the upgrading of the industrial structure.

*Table 3: Comparison of financial development-related indicators between the three northeastern provinces and the country as a whole from 2005 to 2021 (in billions of yuan)*

Regions	Deposit balance	Loan balance	Total deposits and loans	Finance-related ratio	GDP
Liaoning	69995	53134	123130	4.46	27584
Jilin	29596	24609	54206	4.10	13235
Heilongjiang	34319	24409	58728	3.95	14879
Shanghai	175831	96032	271863	6.29	43214
Zhejiang	170816	165755	336571	4.58	73515
Guangzhou	293169	222234	515403	4.14	124369
National	2322500	1922903	4245403	3.74	1133239

### 3.3. Financial sector lacks comparative advantage in the Northeast

The location quotient is an important indicator used to measure the level and status of development of a particular industry or sector within a region. It is a mathematical representation of the ratio between the share of the output of a particular industry or sector in the total production value of the region and the share of that industry or sector's total output in the national total output. When the location quotient is greater than 1, it indicates that the industry or sector has a high degree of specialization, belongs to a specialized sector, and has a comparative advantage in that region. Taking the highly developed financial industry in Liaoning Province as an example, in 2010, the location quotient for the financial industry in Liaoning Province was only 0.62, as shown in Figure 5. This indicates that although Liaoning Province has a relatively developed financial industry, it still has room for further improvement. Therefore, it is necessary to strengthen the development of the financial industry in Liaoning Province to improve its comparative advantage and competitiveness in the region.



*Figure 5: Location quotient coefficient of financial industry in Liaoning Province, 2010-2021*

While the coefficient of the primary industry and the coefficient of the secondary industry have exceeded 1, the financial industry is even much lower than the average value of the overall coefficient of the tertiary industry. However, the location quotient for the primary and secondary industries has already exceeded 1, and the financial industry is even far below the average value of the overall third industry. Judging from the changes shown in the figure, the financial industry in Liaoning Province has achieved rapid development in the past ten years. In 2016, the location quotient of the financial industry exceeded 1, but even in 2019, when the coefficient was the highest, it was only 1.03. This indicates that the financial industry still does not have a comparative advantage in the Liaoning Province region, and can even be said to be in a relatively disadvantaged position.

#### **4. Recommendations for financial development in the north-east**

##### ***4.1. Optimising the financial structure and building a multi-level market***

A region's financial structure can only better promote and coordinate with each other if it is adapted to the local economic development and industrial structure. Currently, the financial structure in Northeast China remains relatively simple, with fewer types and quantities of financial institutions. The main financing channels are indirect financing methods represented by bank credit, while direct financing methods represented by stocks and bonds are more cost-effective for enterprises. Although direct financing has seen some development, its scale remains small and the financing methods are relatively simple. To meet the needs of the continuously developing economy and continuously optimized industrial structure in Northeast China, and better serve the real economy in the region, it is necessary to accelerate the construction of a multi-level capital market.

##### ***4.2. Improving financial efficiency and encouraging financial innovation***

The development of finance not only requires expanding its scale and increasing the quantity, but also focusing on the efficiency and quality of financial development. The new economic situation imposes higher requirements on the efficiency and service quality of finance. If we only expand the scale without improving the efficiency of finance, it may even hinder the upgrading of the industrial structure and the development of the real economy. Currently, the financial system in Northeast China is dominated by traditional financial institutions such as banks, lacking financial innovation and still suffering from low efficiency. We should encourage financial innovation on the current limited financing channels, appropriately relax government administrative control over the financial market, and encourage financial institutions to launch innovative financial instruments. We should also accelerate the research and development of financial derivatives to better guide more private capital into the real economy, supporting economic development and industrial structure optimization. At the same time, we should also actively strengthen supervision of the financial market. Financial marketization and strengthening financial regulation are not contradictory, but rather complementary. Only by strengthening the standardized construction of the financial market, improving the regulatory system for financial markets, and preventing major financial risks can we provide a better market environment for the stable development of finance and the economy, promote positive circulation of economic development, and better promote the optimization and upgrading of the industrial structure.<sup>[6]</sup>

#### **5. Conclusions**

With the implementation of the policy for revitalizing Northeast China, the financial industry in the region has steadily developed, with continuous expansion of the financial scale. However, there is still uneven development among different regions in Northeast China, and the financial structure needs to be improved. The specialization level of the financial industry in Northeast China is relatively low, and it is necessary to optimize the financial development structure, build a multi-level market, continuously improve financial efficiency, and enhance the innovation capacity of the financial industry.

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