Analysis of Factors Influencing Heilongjiang Province Financial Revenue

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Abstract: At present, China's economic development has stepped into the new normal, the speed of economic growth from the rapid growth of about 10%, go down to about 7%, the economic structure optimization and upgrading from factor driven, investment driven to innovation driven. Under this background, Heilongjiang Province has entered the stage of the economic growth rate goes down, backward production capacities and the urgent need to upgrade and optimize the industrial structure, the transformation of the development is pushed for time, the pressure is obvious. On the basis of the economic background, factors affecting the financial income of Heilongjiang Province are analyzed.

Financial revenue occupies a very important position in the development process of market economy. It provides funding and support for all activities of government revenue, the government functions, such as economic function, financial function and public service functions are depend on the financial support to achieve. The district revenue scale is affected by many factors but mainly depend on the growth of local economic. At present, China's economy is facing many problems, such as, the decline in growth rate, structural adjustment and the digestion of the early stimulus politics, downward pressure on the economic continues to increase, in this economic background, the urgent situation of economic development in Heilongjiang Province. Since the "12th Five-Year Plan" period, the economic growth in our province has raised first. Between 2010 to 2014, the growth rate of GDP is slow, due to the continued economic slowdown, weak recovery, the finance of Heilongjiang Province has also been affected, even appeared negative growth in financial revenue in 2015, the sustainability of financial revenue growth faces severe challenge. Therefore, starting from the status quo of the financial income in Heilongjiang Province, analyzing the factors affecting the financial income of Heilongjiang Province, and exploring the countermeasures to maintain the sustained and healthy development of the financial income of Heilongjiang Province, to promote the economy and finance sustainable development.

1. The impact of economic development level on the sustainability of financial revenue
1.1 The operation mechanism of the relationship between economic development level and financial revenue

Financial revenue is closely related to the economic development level，the scale and the growth rate of the financial revenue, is not depend on the government's will, but affected by many kinds of factors, for example, the economic, political, social, environmental and historical cultural tradition. Essentially，it's restricted and influenced by economic conditions, by regions, the higher a regional economic development level is, the higher the gross regional product. In general, the greater the region's total revenue is, the higher the proportion of GDP. Looking from the negative factors, the national economic downward pressure is still large, will have great influence on our province's produce; Daqing oilfield crude oil output continues to scale down, the oil price is still in the low volatility, coal prices, food prices are hard to rebounded, the traditional economic structure is hard to promote the sustained economic growth. Economic development level is not high, financial revenue will be downturn in a long period.

Since 2000, financial revenue has been growing rapidly, with financial revenue in Heilongjiang Province rising from 18.534 billion Yuan in 2000 to 116.588 billion Yuan in 2015, an increase of 5.3 times. The GDP of Heilongjiang Province in 2000 was 315.14 billion Yuan, reaching 1508.367 billion Yuan in 2015, up 3.8 times. Compared with the growth rate of GDP, the growth rate of financial revenue is obviously accelerated.

Fig. 1 shows that there is obvious linear relationship between GDP and financial revenue, the growth rate of financial revenue fluctuates in the same direction as GDP, illustrates that economic development is the main influence factors of financial revenue, inevitably affects the sustainability of financial revenue, economic development in Heilongjiang Province has slowed down, and the

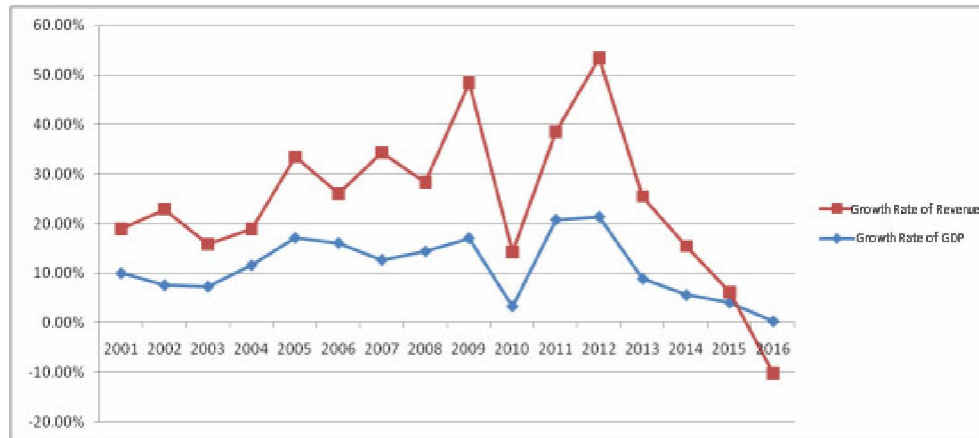financial revenue sustainability in Heilongjiang   Province have faced with enormous challenges.

Fig. 1 The trend of financial revenue and GDP growth in Heilongjiang Province
Source: National bureau of statistics website

1.2 Empirical analysis of the relationship between financial revenue and economic development

In order to further study and analyze the relationship between financial revenue and GDP growth in Heilongjiang Province, econometric model was introduced. The total GDP was selected as the explanatory variable, the financial revenue was interpreted as the variable, and the original data between 1993 and 2015 were analyzed by OLS regression analysis. We selected a part of the sample data after a large number of comparative analysis, as shown in table 1, among it, select the financial revenue in Heilongjiang Province as the explained variable Y_1, select the Heilongjiang Province GDP as the variable X_1.

Table 1 The GDP and Financial revenue of Heilongjiang Province (a hundred million Yuan)

Year	Financial revenue	GDP
1993	108.11	1198.3
1994	84.66	1604.9
1995	101.31	1991.4
1996	126.88	2370.5
1997	150.56	2667.5
1998	157.27	2774.4
1999	170.13	2866.3
2000	185.34	3151.4
2001	213.64	3390.1
2002	231.89	3637.2
2003	248.86	4057.4
2004	289.42	4750.6
2005	318.21	5513.7
2006	386.84	6211.8
2007	440.47	7104
2008	578.28	8314.37
2009	641.66	8587
2010	755.58	10368.6
2011	997.55	12582
2012	1163.17	13691.58
2013	1277.4	14454.91
2014	1303.31	15039.38
2015	1165.88	15083.67

According to the GDP and Financial revenue of   Heilongjiang Province (Fig 1), there is a clear linear

relationship between GDP and local financial revenue. Therefore, the linear function relationship is applied directly.

$$Y_1 = f(x) = b_0 + b_1 X_1 \qquad (1)$$

In order to observe the relationship between local financial revenue and GDP in Heilongjiang Province, we use Eviews to estimate and obtain the output results as shown in table 2.

Table 2 Analysis Results of Eviews Software

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-95.12341	19.63316	-4.845037	0.0001
X	0.087736	0.002440	35.95067	0.0000
R-squared	0.984012	Mean dependent var		482.4530
Adjusted R-squared	0.983250	S.D. dependent var		418.1774
S.E. of regression	54.12090	Akaike info criterion		10.90326
Sum squared resid	61510.50	Schwarz criterion		11.00200
Log likelihood	-123.3875	Hannan-Quinn criter.		10.92809
F-statistic	1292.451	Durbin-Watson stat		0.668488
Prob (F-statistic)	0.000000			

T -test: As we can see from the estimated results, the determination coefficient is 0.984012. The fitting of the model is ideal, and the statistical test of the coefficient of significance is 35.95067. Under the premise that the significance level is 0.05, the threshold value of the t distribution table is 1.721 in the degree of freedom of 21, because 35.95067 is greater than 1.711, so reject the original hypothesis. It shows that GDP has a significant impact on financial revenue.

F-test: Under the premise of a significant level of 0.05, the degree of molecular freedom is 21, and the threshold value of the F distribution table is 4.32, because F=1292.451> 4.32, so the overall regression equation can be considered significant.

R-squared: the fitting degree of financial revenue and GDP regression equation of Heilongjiang Province is high, the overall significance is better, and the error term is not related to the sequence. The sample decision coefficient R^2=0.98, which means that the explanatory power of the sample regression line is 98%. That is to say, the financial income can be explained by 98%, and the model has a high degree of fitting.

Economic significance: Through this analysis, we know that there is a positive linear relationship between local financial revenue and GDP growth, which is consistent with the relationship between GDP and local financial revenue. For every 100 million Yuan increase in GDP, local government revenue could increase by 877.36 million Yuan. The revenue of Heilongjiang Province grows with the increase the increase of GDP.

2. The impact of industrial structure on the sustainability of financial revenue

2.1 The operation mechanism of the relationship between industrial structure and financial revenue

There is a very close relationship between financial revenue and industrial structure, the different proportions between the construction of three industrial structures affect the level and scale of the financial revenues, as a result, from the aspects of the industrial structure to analyze financial revenue, and to put forward some corresponding measures for the optimization of industrial structure adjustment, so as to promote sustainable revenue growth.

2.1.1 Primary industry and revenue

Agriculture is the foundation of the national economy. It directly affects the development of national economy and has certain influence on the financial revenue. The part of agricultural Belongs to the financial revenue, because of the industrial and agricultural product price scissors, in the light industrial output value of agricultural products as raw materials, some comes from the transfer of agricultural products value. And output value of the agricultural products as raw materials accounts for a large proportion of light industrial products output, this situation illustrates, a portion of the revenues handed over by the light industry department should be the value of the transfer from the agricultural products. The direct contribution of agriculture to financial revenue is not high, especially after the abolition of agricultural tax, the contribution rate of agriculture to financial revenue has been further decreased.

As a large agricultural province, Heilongjiang Province, known as the China's granary, is an important commodity grain base. The first industrial of Heilongjiang Province in 2014 added value 261.136 billion Yuan, increased by 5% compared with 2013, while the agriculture occupies the first industry's dominant position, but the agricultural product processing industry development lags behind, the agricultural products mostly for primary and low value-added products, the price is low, and also the low contribution to financial revenue.

2.1.2 Secondary industry and revenue

Industrial sector is the dominant sector of the national economy, for the most part of national income is created by industry, that is to say, the industry decides the whole process of the financial allocation, to reflect the economic benefits of financial revenue. The part of financial revenue belongs to the industrial comes from light industry, relative to heavy industry, there is less investment in the light industry sector, the construction cycle, production time and production time is short, so the payback period of funds is short, the economic benefits can realized quickly, so is the main source of revenue. Another part comes from the heavy industry sector, the part of financial income which comes from the heavy industry is high, as the process of the industrial modernization and scientism, the continuous development of new technology, its contribution to financial revenue will increase.

The secondary industry has always been the pillar industry of national economy and the support of the economic growth in Heilongjiang Province, well the industry have always occupied the dominant position of the secondary industry in Heilongjiang Province, the added value of the secondary industry in Heilongjiang Province in 2014 was 554.441 billion Yuan, including industrial added value is 478.388 billion Yuan, accounting for 86% of the added value of the secondary industry. In heavy industry, basic raw materials and resource processing industry are dominant, and most of them belong to high-energy, high-pollution and low-value sunset industries. New high-tech industries and new technology enterprises with new economic growth point started late, the scale is small, the proportion is low and development is inadequate.

2.1.3 Tertiary industry and revenue
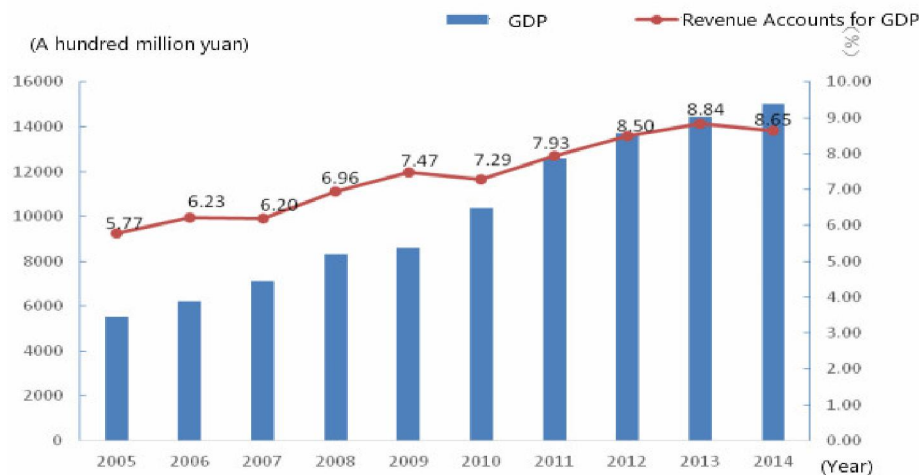
Fig. 2 The financial revenue of Heilongjiang Province accounts for the proportion of GDP
Source: National bureau of statistics website

Along with the development of the social productive forces, the improvement of the level of science and technology, the tertiary industry has been vigorously developed, the service sector has been increased, the categories are complete, and the division of labor is becoming more and more detailed. The ratio of the GNP they create and achieve is increasingly high, the chance to provide tax is increasing. The employment elasticity of Service sector is big, labour intensive, knowledge intensive and technology intensive exist side by side, these have a unique advantage in absorbing labor force, provide a variety of employment opportunities widely, especially in absorbing a large number of workforce moving from the primary and secondary industry. Heilongjiang Province has been the industrial base, the

tertiary industry started relatively late, the output value are mainly concentrated in the commercial, ice and snow tourism, transportation, domestic services and other traditional industries, there are still some problems at present, firstly, the insufficient total amount, the added value of transportation, warehousing and postal service is 68.312 billion Yuan in 2014, the added value of wholesale and retail is 158.5 billion Yuan and the added value of accommodation catering is 43.879 billion Yuan, these three traditional industries of the tertiary industry output value proportion is 39%. Compared with the developed provinces, the added value of the service industry in our province is less than one seventh of Guangdong province. Secondly, the structure is unreasonable, mainly concentrate on the traditional

industries such as wholesale, retail trade, transportation, warehousing and postal service, new industries such as software services, leasing, residents service lag behind, workers are less and inexperienced, thirdly, fewer workers in service industry, personnel quality is not high and the investment is insufficient.

2.2 The empirical analysis of the relationship between financial revenue and industrial structure

The paper selects the output value of the tertiary industry in Heilongjiang Province as the explanatory variable and studies the influence of the tertiary industry on the financial revenue. The financial revenue of Heilongjiang Province was selected as the explanatory variable Y_2, and the output value of the tertiary industry was represented by X_2, and the sample data area was selected from 1993 to 2015. Using Eviews to compute, the results of regression analysis are shown in table 3.

Table 3 Analysis Results of Eviews Software

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.419055	23.94155	0.268114	0.7912
X	0.185093	0.007106	26.04603	0.0000
R-squared	0.969974	Mean dependent var		482.4530
Adjusted R-squared	0.968544	S.D. dependent var		418.1774
S.E. of regression	74.16694	Akaike info criterion		11.53346
Sum squared resid	115515.4	Schwarz criterion		11.63219
Log likelihood	-130.6347	Hannan-Quinn criter.		11.55829
F-statistic	678.3957	Durbin-Watson stat		0.930407
Prob (F-statistic)	0.000000			

Estimation model results:

$$Y_2 = 6.4 + 0.19X_2 \qquad (2)$$

Model test:

(1) Economic significance inspection: the slope of the sample regression equation is 0.185, shows that the tertiary industry output value in Heilongjiang Province each increase of 10 billion Yuan, will increase the financial revenue of 1.85 billion Yuan, the tertiary industry has strong influence on the increase of financial revenue.

(2) R-squared: the sample decision coefficient is 0.969974, and the adjusted sample decision coefficient is 0.968544, indicating that the total deviation of the sum of the squares is explained by the sample regression line. Therefore, the sample regression equation is good for the fitting of sample points.

(3) F-test: Under the premise of a significant level of 0.05, the degree of molecular freedom is 1, and the degree of denominator freedom is 4.32, because F=678.3957> 4.32, so it can be considered that the overall regression equation is significant.

3 Conclusion

This paper assesses the impact of economic development on financial revenue accurately through some economic indicators, in terms of the specific conditions of Heilongjiang Province, financial revenue is closely related to GDP growth, there is a strong positive correlation between them, therefore, to alleviate the financial difficulties of Heilongjiang Province, give full play to the finance of the optimized allocation of resources, and promote the stability of the rapid economic development in Heilongjiang Province, we must start with deepening the reform of economic system in Heilongjiang Province, to promote the economic growth mode radical transformation and to promote economic development.

Reference

1. Gu Yanping, Wang Dingyi. Heilongjiang: Why is lower the proportion of financial revenue in GPS [N]. China Economic Journal, 2010(B05).
2. Shen Yiwei. Study on structure optimal of financial revenue in Liaoning Provine [D]. Shengyang, Liaoning University. 2013.
3. Lu Meiling. Study on relationship between financial revenue and economy increase [D]. Shengyang, Liaoning University. 2013.

12/24/2017