

# *Quantitative Analysis and Incentive Policy Design of Manufacturing Tax in Heilongjiang Province*

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**Abstract:** Based on the analysis of the main tax types of the manufacturing tax revenue in Heilongjiang Province from 2017 to 2022 including total index, proportion index, structure analysis and annual statistical analysis of the main tax types, this paper concludes that the top three tax sources in Heilongjiang Province are automobile manufacturing, general equipment manufacturing, and special equipment manufacturing, but the transformation to high-end manufacturing is difficult, such as high-speed train manufacturing. It can be seen that "adding core and wisdom" to the manufacturing industry is an inevitable choice to participate in the competition of the fourth industrial revolution. "Core" represents high-end core, especially control technology and "wisdom" represents high-end talents. "Lack of core and less intelligence" is the image metaphor of China's manufacturing industry, especially the equipment manufacturing industry. "China's intelligence" is the core of industrial transformation to achieve the digitalization, intelligence and networking of the manufacturing industry and promote the transformation and upgrading of the manufacturing industry.

## 1. Introduction

Manufacturing industry is the main body of the national economy and the backbone of China. With the change of the new competition in the global manufacturing industry, in order to cope with the severe challenges of the fourth industrial revolution, many countries have formulated a strategic plan to revitalize the development of manufacturing industry<sup>[1]</sup>, have forced China to launch the "Made in China 2025" strategy docking with the national strategy. Heilongjiang Province put forward the construction goal of "Strong Industry Province". Heilongjiang has issued the "14th Five Year Plan" for the transformation and upgrading of the manufacturing industry in Heilongjiang Province, accelerating the development of strategic emerging industries, and firmly shouldering the major political responsibility of safeguarding the country's "Five Major Security"; We need to strengthening China's equipment manufacturing industry; Committed to technological innovation, providing strong technical support for the country. <sup>[2]</sup>The 2023 Government Work Report of Heilongjiang Province proposed the goal of striving for the next five years, insisting on winning with quality, focusing on building a modern economic system, and accelerating the construction of

an industrial strong province. Therefore, accelerating the high-end and modernization of manufacturing is the key to promoting industrial modernization, and is also an important way to achieve the strategic transformation from a "a big manufacturing country" to a "a leader in manufacturing ", and from "Made in China" to "Intelligent Manufacturing in China".<sup>[3]</sup>

## 2. Quantitative analysis of manufacturing tax revenue in Heilongjiang Province

### 2.1 Analysis of various tax indicators

The tax data of manufacturing industry in Heilongjiang Province from 2017 to 2022 are shown in Table 1:

Table 1: Tax data of manufacturing industry in Heilongjiang Province from 2017 to 2022

Unit: ten thousand yuan

Year/Project	2017	2018	2019	2020	2021	2022
Total tax	5 106 157	5 302 931	4 902 532	4 616 203	5 187 610	5 039 201
Domestic value-added tax	1 873 267	1 887 201	1 523 884	1 339 534	1 530 796	1 094 931
Domestic consumption tax	2 009 920	2 044 341	2 188 475	2 105 119	—	—
Enterprise income tax	567 321	654 942	526 106	551 547	723 597	622 416
Individual income tax	90 929	110 190	80 433	79 911	86 522	97 580
Resource tax	3 930	4 788	5 135	3 372	3 234	4 469
City maintenance and construction tax	279 283	280 419	251 920	233 690	231 344	265 293
House tax	81 902	93 389	100 288	96 560	108 581	108 617
Stamp duty	23 057	26 571	29 050	29 797	37 940	40 037
Town land use tax	142 371	160 580	149 511	127 528	157 509	137 122
Land value added tax	4 623	7 342	5 553	15 295	4 425	12 160
Vehicle purchase tax	6 664	6 000	6 308	7 442	—	—
Vehicle and vessel tax	160	171	205	137	187	6 146
Land occupation tax	9 017	5 142	6 501	6 832	789	4 096
Deed tax	10 135	15 091	18 445	11 644	10 960	5 574
Environmental protection tax	0	5 389	7 712	6 381	6 851	6 022
Other taxes	0	1 375	3 006	265	—	—

Data source: Heilongjiang Provincial Taxation Bureau

From Table 1, it can be seen that the property tax has not been affected by the epidemic and has slightly increased. This requires a clear understanding of the positioning of the property tax: whether it is a regulatory tax or a national tax, as the property tax system does not have a general content.

From the various tax data of the manufacturing industry in Heilongjiang Province from 2017 to 2022, it can be seen that the total tax revenue of the manufacturing industry in Heilongjiang Province was relatively low in 2019 and 2020, rebounded in 2021, and decreased in 2022. This indicate that 2019 and 2020 were affected by the epidemic, resulting in sluggish manufacturing revenue and correspondingly low taxes. Overall, there is a downward trend, accompanied by a rebound in 2021 but a decrease in 2022, indicating that tax reduction policies in recent years have had a good effect on reducing the tax burden on the manufacturing industry. The domestic value-

added tax shows a downward trend, the domestic consumption tax shows an upward trend, and the corporate income tax is basically stable, which to some extent reflects the current tax reduction policies in recent years that focus on indirect taxes, while the tax reduction effect of direct taxes is average. China should pay attention to the formulation of tax reduction policies for direct taxes and the regulatory prediction of tax reduction effects.<sup>[4]</sup>

## 2.2 Analysis of the proportion of tax revenue and manufacturing tax revenue to GDP

The proportion of tax revenue and manufacturing tax revenue to GDP in Heilongjiang Province from 2017 to 2022 is shown in Table 2:

Table 2: The proportion of tax revenue and manufacturing tax revenue to GDP of Heilongjiang Province from 2017 to 2022

Unit: 100 million yuan

Year/Item	GDP	Gross Tax Revenue	Manufacturing Gross Tax Revenue	Overall tax burden(%)	Manufacturing tax burden(%)
2017	12313	1894.94	510.62	15.39	4.15
2018	12846	2112.82	530.29	16.45	4.13
2019	13544	1977.49	490.25	14.60	3.62
2020	13633	1704.60	461.62	12.50	3.39
2021	14879	1710.76	518.76	11.50	3.49
2022	15901	1718.84	503.92	10.81	3.17

Data source: Heilongjiang Provincial Taxation Bureau

The overall tax burden in Heilongjiang Province showed a downward trend from 2017 to 2022, indicating that the tax and fee reduction policies in recent years have had good effects. The manufacturing tax burden in Heilongjiang Province (the proportion of manufacturing tax revenue to its GDP) is basically showing a downward trend, which to some extent shows that the tax and fee reduction policies in recent years have had a good effect in reducing the tax burden on the manufacturing industry. It should be noted that the downward trend of manufacturing tax burden is not as fast as the downward trend of total tax burden, indicating that the tax reduction policies in the manufacturing industry are not reaching the average level. The country and Heilongjiang Province should pay more attention to the formulation and implementation of tax reduction policies in the manufacturing industry.

## 2.3 Analysis of the proportion of major tax income of manufacturing industry to its total tax income

The proportion of various major tax revenues in the manufacturing industry of Heilongjiang Province to its total tax revenue from 2017 to 2022 is shown in Table 3:

The total tax revenue of the manufacturing industry in Heilongjiang Province accounts for about 25% of the total tax revenue, and has reached around 30% in the past two years.

From Table 3, it can be seen that the manufacturing tax revenue in Heilongjiang Province is an important component of the total tax revenue. If we want to increase local financial resources by increasing the tax revenue in Heilongjiang Province, we should attach great importance to the development of the manufacturing industry.

Table 3: The proportion of major tax revenue of manufacturing industry to total tax revenue of Heilongjiang Province from 2017 to 2022

Unit: ten thousand yuan

Year/Item		2017	2018	2019	2020	2021	2022
Total tax	Heilongjiang Province	18 949 352	21 128 218	19 774 860	17 045 973	17 107 561	17 188 395
	Manufacturing industry of Heilongjiang province	5 106 157	5 302 931	4 902 532	4 616 203	5 187 610	5 039 201
	proportion(%)	26.95	25.10	24.79	27.08	30.32	29.32
Domestic value-added tax	Heilongjiang Province	7 016 364	7 538 685	6 806 209	5 682 419	6 268 955	5 491 529
	Manufacturing industry of Heilongjiang province	1 873 267	1 887 201	1 523 884	1 339 534	1 530 796	1 094 931
	proportion(%)	26.70	25.03	22.39	23.57	24.42	19.94
Domestic consumption tax	Heilongjiang Province	2 283 498	2 335 175	2 494 483	2 419 799	—	—
	Manufacturing industry of Heilongjiang province	2 009 920	2 044 341	2 188 475	2 105 119	—	—
	proportion(%)	88.02	87.55	87.73	87.00	—	—
Enterprise income tax	Heilongjiang Province	2 857 206	3 333 338	2 999 241	2 482 918	2 590 332	3 557 216
	Manufacturing industry of Heilongjiang province	567 321	654 942	526 106	551 547	723 597	622 416
	proportion(%)	19.86	19.65	17.54	22.21	27.93	17.50
Individual income tax	Heilongjiang Province	1 036 370	1 181 537	817 162	775 014	833 461	867 601
	Manufacturing industry of Heilongjiang province	90 929	110 190	80 433	79 911	86 522	97 580
	proportion(%)	8.77	9.33	9.84	10.31	10.38	11.25

Data source: Heilongjiang Provincial Taxation Bureau

### 3. Conclusions

To achieve the establishment of an internationally competitive advanced equipment manufacturing base and a strategic base for major technological equipment in the Northeast region, and to ensure the "Five Major Security" of national defense, it is possible to consider applying for a pilot program at the national level. <sup>[5]</sup>For example, we need to take the lead in implementing low value-added tax rates and enterprise income tax transformation in the equipment manufacturing industry in Northeast China.

The current tax system's value-added tax design has its own shortcomings. From the perspective

of the design mechanism of value-added tax and income tax, there are overlaps between the two tax categories in terms of taxpayers, tax subjects, tax basis, tax rates, and other aspects. The regulatory economic function of tax categories is weakened, and it can be considered to take the lead in reducing tax burden by reducing one level of tax rate, and suppressing the virtual increase of value-added tax by compiling a value-added table; We can pilot the transformation of corporate income tax system, transitioning from classical system to attribution system or dual tax rate system.

### **3.1 Implementing special tax policies for specific industries or regions in the old industrial base of Northeast China as a pilot**

For example, we need to implement a policy of reducing value-added tax by one level for leading enterprises such as China First Heavy Industries, AVIC Corporation, Dong'an Power, Changchun FAW, Shenyang Machine Tool, and Dajin Heavy Industry. The enterprise income tax system is the first to realize the transformation from the classical system to the vesting system or the dual tax system. If a dividend is distributed to a joint stock company the share of the shareholders shall be taxed at a reduced rate of 10% or exempt from taxation.

For example, implementing a policy of reducing the value-added tax rate by one level for leading enterprises such as China First Heavy Industries, AVIC Corporation, Dong'an Power, Changchun FAW, Shenyang Machine Tool, and Dajin Heavy Industry, as well as for the equipment manufacturing industry; The corporate income tax system has taken the lead in achieving transformation, transitioning from a classical system to a attribution or dual tax rate system. If dividends are distributed to a joint-stock company, the portion received by shareholders shall be taxed or exempted at a 10% tax rate.

### **3.2 Strive for regional tax preferential policies**

From the perspective of guarding the "North Gate" of the motherland and maintaining the "Five Major Security" in our province, with a focus on solving a series of problems such as location disadvantage and talent loss, we earnestly request the government to grant our province a policy of reducing the enterprise income tax rate by 15% for encouraged industrial enterprises. The encouraged industries in the demonstration zone will be exempt from corporate income tax for 5 years, and the duty-free shopping quota in the demonstration zone will be increased to 8000 yuan or 10000 yuan per person per day. In addition, we earnestly request the government to provide tax support policies for the transformation and upgrading of the equipment manufacturing industry in our province's old industrial base. As a northeastern border province and an old industrial base, our province's equipment industry is one of the four traditional advantageous and characteristic industries, a key industry for the development of the province, and a solid foundation for industrial transformation and upgrading. In order to accelerate the construction of the "Six Longjiang" and promote the realization of the "Eight Revitalizations", we should focus on building a modern industrial system of "4567", continuously improve the core competitiveness of the high-end equipment manufacturing industry, promote the development of high-end intelligent agricultural machinery equipment, promote the industry to move towards mid to high end, create a batch of new growth drivers such as high-end equipment, and form a new engine for economic development.

### **3.3 Develop new tax preferential policies**

To formulate income tax incentives for innovative venture capital, reference can be made to the experience of countries such as the United States and France. Core technology venture capital income tax preferential policies can be formulated, such as exempting 50% of its investment

income from corporate income tax and implementing a halving policy on the remaining part, to incentivize individuals or enterprises to improve their level of independent innovation investment.

### **3.4 Promptly introduce new tax policies to incentivize leading advantageous and characteristic industries**

Accelerating the high-end and modernization of manufacturing is the key to promoting industrial modernization, and is also an important way to achieve the strategic transformation from "a big manufacturing country" to a "a leader in manufacturing", and from "Made in China" to "Intelligent Manufacturing in China". For example, accelerating the transformation of technological achievements in advanced high-end equipment manufacturing industry, strengthening intelligent research and development in basic industries, encouraging "intelligent equipment+", and strengthening the agglomeration role of innovation leading zones in advanced equipment manufacturing industry are all needed.

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