SOME SOLUTIONS FOR PROMOTING THE DEVELOPMENT OF SUPPORTING INDUSTRIES IN BAC NINH PROVINCE, VIETNAM

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ABSTRACT

This study was designed to analyze the reality of the development of supporting industries in Bac Ninh province, the author analyzes the results achieved, the limitations, and the cause of the limitations. On that basis, proposing solutions to develop supporting industries in the province of Bac Ninh. Data for the study are collected from the annual summary report of the Bac Ninh Statistical Office. These data will help the author in analyzing to achieve the research goal.

Keywords: Supporting industries, Bac Ninh province, development.

1. Introduction

Industrial development has become an indispensable and important requirement of the nations in general as well as of localities. To be able to develop industry stably and sustainably, the development of supporting industries plays a very important role. The development supporting industry will be a brand channel contributing to building the foundation to develop an autonomous and modern industry, increasing national competitiveness, compensating for the declining strength in low-cost labor in Vietnam. The development of supporting industry will help enterprises choose a development strategy that is appropriate for the value-added chain within the country, the region, and the world, and at the same time create opportunities to promote the SME sector in the country strongly developed.

The speedy development in industrial production leads to a large demand for raw materials for production. For many years, most enterprises in Bac Ninh province used imported raw materials to produce finished products. Supporting industries in Bac Ninh province in particular and the country in general, have not met the demand for raw materials for domestic production in both quantity and quality.

From this fact, this study was carried to examine the current status of the development of supporting industries in Bac Ninh province, the achievements, and limitations in supporting industry development. On that basis, the author proposes some solutions to develop supporting industries in Bac Ninh province, which are necessary works.

2. Research overview

Solution for supporting industry development as one of the fields receiving the attention of many researchers around the world, Kitti Limskul (1999), in his research, he used the data from a survey on the situation of industrial development support in Thailand after the 1997 Asian financial crisis through enterprise interviews. The author has pointed out the need for strategic adjustments across industries accordingly after the crisis, the author offers a series of solutions to adjust post-crisis industrial policy such as strengthening industries, supporting models such as automobile, electronics... promoting the model of industrial linkage, building industrial parks, industrial clusters, which emphasizes the necessity to build a complete supporting industry system. Offering solutions for supporting industry development, Halim Mohd Noor et al. (2002) proposed a solution to develop supporting industries for the electronics industry, especially emphasizing the important role of government in supporting the innovation and creative promotion of domestic enterprises to provide support for the development of electronics industry. Meanwhile, Porter E. Michael (1990), analyzed and explained the term: "related and supporting industries" the author analyzes this term quite deeply through giving the theory of national competitiveness through the "diamond" model. Which related and supporting industries are considered as one of the four decisive factors to the competitive advantage of a nation. "Related and supporting industries" are considered as the existence of an internationally competitive supplier and related industry. The author has divided this factor into two parts: supporting industries and related industries. Accordingly, the development of an industry to be achieved must be based on the ability to create, innovate, and efficiently use investment capital through mutual interaction and sustainable linkages. The crystal structure of the diamond between four groups of factors, including the emphasis on the role of supporting industries.

Ryuichiro, Inoue (1999), surveyed the development of supporting industries in Thailand and Malaysia after the Asian economic crisis of 1997. From that, pointed out the provision to adjust the strategy of developing industries accordingly after the crisis. The authors have proposed a series of solutions to adjust industrial policies after the crisis such as: enhancing the development of automobile and electronics supporting industries... promoting the model of industrial linkage, building industrial parks, clusters ..., which emphasizes the need to build a complete supporting industry system. Also, choose Malaysia as a research site, but Thomas Brandt (2012) choosing to analyze the current situation of the mechanical supporting industry in Malaysia, on the criteria of molds and machining, machine manufacturing industry, metal rolling industry, casting industry,... From that, it is confirmed that machinery has grown rapidly over the past three decades in parallel with the overall development of the national manufacturing industry, Malaysia has been internationally recognized for its production capabilities and quality in many fields of the mechanical industry. From there, the author assumes the tremendous contribution of the mechanical supporting industry to national economic development. Therefore, to develop the mechanical supporting industry requires maintaining a competitive advantage through advanced learning skills, expertise, skills, and experience spanning these complex operations by reducing total costs, reducing time to market, tracking and managing new products, managing global operations, services to customer and supplier needs quickly, setting up high-value service center capable of growing with the growth of enterprises.

Another solution for the development of supporting industries that are of interest to researchers, in Ratana E (1999), the author selected Thailand and Japan as the research site, with the data collected, the author has deeply analyzed the relationship between small and medium enterprises and the development of supporting industries. From there, the author points out the close relationship between small and medium enterprises and supporting industry development. Simultaneously, the study clearly shows that supporting industries are mainly implemented by small and medium enterprises. Therefore, if supporting industries want to develop, they must create conditions to promote small and medium enterprises to develop. Research affirmed the important role of supporting industries play in

promoting the development of small and medium-sized enterprises.

3. Research method

3.1. Data collection methods

Data for the study are collected from annual summary reports of the Statistical Office of Bac Ninh Province.

3.2. Data analysis methods

*) Descriptive statistics method

Statistics is a system of methods used to collect, process, and analyze numbers (quantities) of large number phenomena to find out the nature and inherent law of them (the quality) in terms of specific time and place. Descriptive statistics are used to describe the basic characteristics of data collected from experimental research in different ways.

Both the descriptive statistics and inference statistics provide simple summaries of samples and metrics. Along with the simple graphical analysis, they create the foundation for quantitative analysis of data. To understand the phenomena and make the right decisions, it is necessary to grasp the basic methods of data description.

*) Methods of Comparison, Compared

This is the main method used in the analysis to determine trends and volatility levels of analytical indicators. To do this, it is necessary to determine the original number for comparison (the data of the previous year), determine the conditions for the comparison, the goal for comparison.

4. Current development of supporting industries in Bac Ninh province

In recent years, the province has identified the development of supporting industries as the main direction, because this is an industry that creates high added value, and the products meet the diverse needs of domestic and foreign assembly enterprises. In the period 2010-2018, the number of enterprises operating in this field tends to increase:

Bảng 1: Number of SI enterprises by industry group and by type of enterprise in Bac Ninh province in the period 2010-2018

Unit: Enterprises

Years	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total	**98**	**154**	**162**	**181**	**201**	**258**	**279**	**397**	**443**
By industry group									
1. Textile supporting industry	11	21	19	20	28	30	29	28	36
2. Footwear supporting industry	4	4	3	4	3	4	3	3	4
3. Electronics - informatics	14	24	33	49	75	107	125	243	264
4. Support car and motorcycle production	10	11	18	26	19	26	30	15	26
5. Mechanical engineering	58	92	89	80	75	88	90	90	90
6. High technology	1	2	1	3	1	3	2	18	23
By the type of enterprises									
Domestic enterprises	72	106	109	98	95	82	79	35	8
Venture enterprises	1	1	2	4	2	3	2	4	4
Enterprises with 100% foreign capital	25	47	51	79	104	173	198	358	431

Source: Bac Ninh Statistical Office

The number of supporting industry enterprises in Bac Ninh province in the period 2010-2018 tends to increase (average 38.33% / year). Compared to the whole country, the proportion of the number of supporting industry enterprises in the province accounted for from 9.36% in 2010 to 23.41% in 2018. In 2016, the number of supporting industry enterprises increased by 8.14% compared to 2015, After 2 years, by 2018, the number of

supporting industry enterprises has increased stronger and reached an increase of 11.59%. By type of enterprises: The number of 100% foreign-owned enterprises increased faster than all, in 2010 there were 25 enterprises by 2018, this number reached 431 enterprises. The number of domestic enterprises tends to increase, the type of joint venture has uneven and too few fluctuations.

The remarkable growth in quantity is due to many documents and policies that the province has implemented and applied well in production and business, promoting the rapid development of enterprises in the supporting industry such as Decree No. 12/2011 / QD-TTG of the Prime Minister on policies for the development of several supporting industries ”; along with that is a circular guiding the implementation of financial policies of the Ministry of Industry and Trade; Joint circular guiding to support the training and retraining of human resources for small and medium enterprises or a decision approving " The planning for the development of Vietnam's supporting industries to 2020, with a vision to 2030" ... has contributed to an increase in the number of supporting industries, especially in the electronics - informatics industry.

Table 2: Number structure of supporting industries by industry groups in Bac Ninh province, the period 2010-2018

Unit: %

Years	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total	100	100	100	100	100	100	100	100	100
By industry group									
1. Textile supporting industry	11.22	13.64	11.73	11.05	13.93	11.63	10.39	2.02	1.35
2. Footwear supporting industry	4.08	2.60	1.85	2.21	1.49	1.55	1.08	0.76	0.90
3. Electronics - informatics	14.29	15.58	20.37	27.07	37.31	41.47	44.80	66.25	66.37
4. Support car and motorcycle production	10.20	7.14	11.11	14.36	9.45	10.08	10.75	3.78	5.87
5. Mechanical engineering	59.18	59.74	54.94	44.20	37.31	34.11	32.26	22.67	20.32
6. High technology	1.02	1.30	0.62	1.66	0.50	1.16	0.72	4.53	5.19
By the type of enterprises									
1. Domestic enterprises	73.47	68.83	67.28	54.14	47.26	31.78	28.32	8.82	1.81
2. Venture enterprises	1.02	0.65	1.23	2.21	1.00	1.16	0.72	1.01	0.90
3. Enterprises with 100% foreign capital	25.51	30.52	31.48	43.65	51.74	67.05	70.97	90.18	97.29

Source: Bac Ninh Statistical Office

Through the Table 2, the number of supporting enterprises in the province is mainly in two groups of industries: electronics - informatics and mechanical engineering. Which, domestic enterprises in the supporting sector tend to decrease and FDI enterprises increase. As of 2018, the types of enterprises with foreign investment account for about 98% of the total number of enterprises in the industry. Since the major projects of the multinational corporation, Bac Ninh province have determined that without promoting the supporting industry (SI), it is impossible to absorb effectively the spillover effects and sustainable industrial development. Large companies have created a driving force for the development and diversification of electronics and informatics industries. The

province has adjusted the industrial development planning, from the planning of 8 major branches to focus on the development of electronics - informatics and precision engineering industries. These are industries that have conditions to absorb the application of advanced technology and develop along the value chain. Over the years, the province ranked 5th nationwide on the development of supporting industries in particular and socio-economic development in general.

Table 3: Value-added (at constant prices 2010) supporting industries Bac Ninh period 2010-2018

Targets	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018
Value added	Billions dong	1.891.888	2.591.749	3.589.788	4.993.635	7.189.939	9.936.445	11.830.945	53.453.300	60.736.100
Quantity increased (decrease) continuity	Billions dong	-	699.861	998.039	1.403.847	2.196.304	2.746.506	1.894.500	41.622.355	72.828.000
The speed increased (decrease) continuity	%	-	36,99	38,51	39,11	43,98	38,20	19,06	35,1	13,62

Source: Bac Ninh Statistical Office - Annual Enterprise Survey 2010-2018

The value-added of the supporting industries of Bac Ninh province in the period 2010-2018 increases an average of 29.4% per year (corresponding to 17,357,087.67 million VND / year). Considering specifically the growth rate of each year: In 2011, compared with 2010, it will increase by 36.99% (ie an increase of 299,861 million dongs); In 2012, it increased by 38.51% compared to 2011 (reaching 998,039 million VND). The value-added of this industry in the province increased sharply in 2014 (43.98%) and 2015 (38.2%). In 2016, the growth rate of this indicator reached 19.06% compared to 2015. The growth rate in 2017 reached 41,622,355 million VND, which means an increase of about 35.1% compared to 2016. Finally, 2018 was a year of slowing down when the index of SI enterprises increased only 13.62% compared to 2017.

Table 4: Capital efficiency of the supporting industry in Bac Ninh province in the period 2010-2018

Years	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018
Capital size	Billions dong	5.243.107	7.231.220	9.933.610	12.582.040	17.327.285	22.923.464	23.796.543	59.871.900	84.103.200
VA	Billions dong	1.891.888	2.591.749	3.589.788	4.993.635	7.189.939	9.936.445	11.830.945	34.075.357	22.231.300
Capital efficiency	dong/ dong	0,3608	0,3541	0,3613	0,3968	0,4199	0,4334	0,4971	0,57	0,26

Source: Bac Ninh Statistical Office - Annual Enterprise Survey 2010-2018

Capital efficiency reflects how many dongs of earned can be generated from 1 dong of investment. This indicator shows that the industry has used capital very well, maximizing the capacity of machines in production. The supporting industry requires capital for production, especially investment capital sources for machinery and equipment, and the application of new technologies to participate in the supply chain. Table 2.4 shows that capital efficiency of the supporting industries in Bac Ninh province tends to increase: in 2010, 1 dong of capital mobilized in production created 0.3608 dongs of value-added; By 2017: a capital has created 0.57 dong of value-added, but by

2018 there was a slight decrease, the cause of this may stem from the US-China trade war, which affected the Vietnamese industrialization industry. Intending to become an important "link" in the global supply chain of multinational corporations, the province strives to become a center of high-tech industry, which the electronics industry is the key industry. The province has had many policies to support SI enterprises in the province, flexibly applying Decree 111/2015 / ND-CP on priority and incentives for key industries to create capital sources, contributing to improving the effective use of capital in production, improve the efficiency of labor in all fields, maximize resources:

Table 5: Labor productivity (resource capacity) of the SI sector in Bac Ninh province, 2010-2018

Years	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018
Capital size	People	12.659	15.838	24.378	28.383	32.967	51.592	52.087	136.048	149.449
VA	Million dong	1.891.888	2.591.749	3.589.788	4.993.635	7.189.939	9.936.445	11.830.945	34.075.357	22.231.300
Capital efficiency (according to VA)	Million dong/ person	149,45	163,64	147,24	175,93	218,09	192,59	227,14	250,47	148,76

Source: Bac Ninh Statistical Office - Annual Enterprise Survey 2010-2018

Labor productivity of the supporting industries in the province tends to increase and is always higher than the average labor productivity of the whole country. On average, 1 employee in the supporting industry of the province in 2010 created 149.45 million VND of value-added (the whole country reached 122.39 million VND / person), in 2017 it was 250.47 million VND / person (nationwide. 122.25 million VND / person). In the period 2010-2018, the growth rate of capital size is always much higher than the rate of growth in labor size, the province's industrialization and modernization are increasing investment, expanding production, enhancing industrialization and modernization of equipment, machines, human labor power decreased gradually. Increase the scale of capital investment in equipment and machinery to improve labor productivity. In addition, to improve capital efficiency, the enterprise has acquired and inherited the previous scientific achievements and has a plan to build a research and development infrastructure, invent many inventions to create more competitive products, which are unique and diversified products that satisfy many different needs. Newly created products are registered for patents, to create copyrights in production activities. This is an important point to create a separate step for enterprises, helping the province to attract more assembling companies to invest and create relationships. Because these unique products are the factors that stimulate creativity for companies that assemble, create new products, and promote their own production.

With the above results, Bac Ninh province has become one of the leading provinces in promoting SI. Therefore, the thesis selects the province as the research site. To determine the system of factors affecting the industrialization of Bac Ninh, beyond the theoretical basis, the thesis combined to carry out a qualitative study to identify the influencing factors to develop models suitable for the characteristics of the province in the next section

5. Some solutions to contribute to the development of supporting industries in Bac Ninh province

Create conditions for domestic enterprises to improve production capacity and business so that the enterprises can wholly satisfy the requirements of servicing and supplying components and products to major enterprises, especially the high standards of high-tech FDI enterprises.

For supporting industry enterprises that need to build business strategies, expand markets, focus on both domestic and export markets, the immediate goal is to become potential suppliers. Then, a high-end supplier and a long-term strategy must be an exporter of supporting industries (SI) to both regional and global markets.

Increasing the attraction of highly qualified workers to the supporting industry, increase jobs, contribute to reducing the unemployment rate after the transition of an economic model from agriculture to industry.

Renewing vocational training modalities, trained workers must be suitable to the level required by SI and FDI enterprises.

The State should have plans to support training for local workers to meet the general requirements of enterprises.

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