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THE IMPACT OF MANUFACTURING INDUSTRY DEVELOPMENT ON VIETNAM'S ECONOMIC GROWTH

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In the past 10 years, the processing and manufacturing industry (PMI) has always been affirmed as the industry that has the largest contribution to export turnover and FDI attraction, and has the largest contribution to the growth rate of the whole economy. However, the production is still mainly processing, using low and medium technology, is greatly dependent on imports, etc. making the value added to the whole low PMI , and has not yet contributed significantly to improving the quality and sustainability of Vietnam's economic growth (EG). By using Input-Output Table (I-O) method and qualitative methods, this article will focus on analyzing the status of contributions of PMI to Vietnam'sEG in recent years, thus, it will make some conclusions and recommendations promote the development of PMI along with promote and improve the quality of Vietnam's EG in the next period.

Keywords: *processing and manufacturing industry; economic growth; added value, linkages.*

1. Introduction of research issues

In recent years, the processing and manufacturing industry (PMI) is considered to be a key industry leading the overall growth of the industry and the economy, with a high growth rate in 2018 of 12.98%, although it is lower than the increase in 2017 but much higher than the increase in 2012-2016 and higher than the general growth of the economy. PMI is also the largest FDI attraction, accounting for 57.47% of the total registered capital and 48.47% of the total number of cumulative projects that are still valid until the end of 2018. However, PMI is still focusing on low-to-medium technology industries, is highly dependent on imports, etc. resulting in low added value, and has not yet contributed significantly to improving the quality of EG. Using the I- O method, the study will conduct the calculation of the impact factors of PMI on production value, added value, linkage coefficients of the economy, thereby, clarify the achievements and limitations in the industry's contribution to Vietnam's EG in recent years, which are the basis for proposing solutions for the development of PMI in the future.

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2. Overview of the role of processing and manufacturing industry in economic growth

2.1. Overview of a number of relevant studies

Due to the special contributions of PMI, there have been many domestic and foreign studies giving theories about the role of PMI in economic growth.

According to *Nicholas Kaldor*, 1966, there is a close link between the value added growth of industry and the growth of GDP. Kaldor'sFirst Growth Rule can be summed up in the phrase "***Industrial production is the engine of growth***". Kaldor's Second Growth Rule, also known as Verdoorn's Rule, reflects the relationship between output growth and productivity growth in industrial production. Verdoorn's Rule also provides evidence of the existence of increasing static and dynamic profits in the industry. This theory continues to be inherited and developed in some newer studies such as *Pacheco-López & Thirlwall, 2013, Libanio & Moro, 2016,* etc.

Then, *Kniivilä*, *2007* argues that the PMI plays a special role in the development process because (i) industrial production activities contribute to overall growth through technological change and technological change in PMI, creating a direction for productivity growth for other economic industries; and (ii) when the PMI increases its share of GDP, it will affect changes in domestic demand and changes in comparative advantages, industries with faster growth will contribute more to overall growth and labor productivity. The conclusion of the study indicates that industrial development is becoming an important foundation for EG. After the early stages of economic development, the growth in industry has contributed primarily to EG in the long run and poverty reduction.

Similarly, *Chang, Andreoni, & Kuan, 2013* pointed out that, firstly, PMI is the main source of technology-oriented productivity growth in the modern economy. Secondly, the production of PMI, especially the production of goods, is the "learning centers" of technology capitalism because it is capable of producing production inputs (machinery, chemicals, etc.). Thirdly, the production of PMI also is the source of organizational innovation. Fourthly, production of PMI is the main source of demand for high productivity activities in other industries. And fifthly, PMI produces material and non-perishable products that are more commercially viable than agriculture and services.

The arguments continue to be inherited and developed in the studies of *Szirmai, 2012; Szirmai & Verspagen, 2010, 2015*, the author also affirmed that production and industrialization were the driving force for the growth in developing economies during 1950-2005. The arguments are summarized as follows: (1) There is an empirical correlation between the level of industrialization and per capita income in developing countries; (2) Productivity in industry is higher than in agriculture; (3) The transfer of resources from industrial production to services provides a structural burden change, as the contribution of services increases, total per capita income growth will tend to slow down; (4) The production of PMI provides special opportunities for capital accumulation in developing countries; (5) PMI provides special opportunities for economies of scale; (6) PMI provides special opportunities for technological progress; (7) The influence of linkage and diffusion on industrial production is stronger than in agriculture or mining; (8) As per capita income increases, the share of agricultural spending in total spending decreases and the share of spending on industrial goods increase (Engel rule); etc.

2.2. Theoretical framework on the role of PMI in economic growth

Processing and manufacturing industry means establishments engaging in the mechanical, physical or chemical transformation of raw materials, substances or components into new products, as well as

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establishments in assembling components of products manufactured for purposes other than construction (*Levinson, 2017*).

According to D*ecision No. 27/2018/QD-TTg of the Prime Minister on Vietnam's economic sector system*, PMI (industry group 1: C) includes 23 industry groups 2, namely: food producing and processing (10); beverage production (11); manufacture of tobacco products (12); textile (13); manufacture of clothing (14); production of leather and related products (15); processing wood and producing products from wood and bamboo (excluding beds, wardrobes, tables, chairs), production of products from straw and plaiting materials (16); production of paper and paper products (17); Print and copy various types of records (18); production of coke and refined petroleum products (19); production of chemicals and chemical products (20); production of medicine, pharmaceutical chemicals and medical materials (21); production of products from rubber and plastic (22); production of products from other non-metallic minerals (23); metal production (24); production of products from precast metal (excluding machinery and equipment) (25); manufacturingof electronic products, computers and optical products (26); production of electrical equipment (27); production of machines and equipment not classified in any category (28); manufacturing of automobiles and other motor vehicles (29); manufacturing of other means of transport (30); manufacturing beds, wardrobes, tables, chairs (31); Other PMIs (32); and repairing, maintenance and installation of machinery and equipment (33).

The role of PMI in economic growth

Based on the review of relevant studies, an analytical framework for the role of PMI in economic growth can be presented as follows:

First, PMI is economic of scale; therefore, an economy with developed PMI can boost exports, increase production value and added value of the economy.

Second, PMI promotes the process of attracting and accumulating capital and restructuring labor in economies.

Third, PMI has a role to increase productivity for the economy through the process of technological innovation and production organization innovation.

Fourth, PMI promotes the linkage between manufacturing sectors in the economy.

3. Research methods and data sources

3.1. Research method of the impact of the development of PMI on EG

To analyze the impact of PMI on EG, the study will use a combination of both qualitative and quantitative methods.

Qualitative method such as descriptive statistics, comparison, collation, etc. is used to analyze the role of PMI to productivity in the economy, promote FDI attraction and export.

Quantitative method: In this study, the author uses the Input-Output analysis (I - O) to calculate the impact factors. Applying the meaning of the Leontief inverse matrix, the author will consider the impact of PMI on production value (PV), added value (AV) of the economy, and calculate the associated impacts and diffusion and impact on imports (I).

Basic relationship:

$(A^d + A^m).X + Y^d + Y^m - M = X$

$\Rightarrow A^d.X + Y^d + A^m.X + Y^m = M = X$ *(1)*

In which:

$A^d.X$ is the vector of intermediate costfor domestic products;

$A^m.X$ is the vector of intermediate costfor imported products;

Y^d is the vector of final demand fordomestic products;

Y^m is the vector of final demand for imported products (including personal final consumption needs, final consumption of the Government, asset accumulation and export).

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Import demand is divided into two purposes: for production (Am.X) and for final consumption (Y^m) or: $A^m.X + Y^m = M$,

Then, equation (1) is rewritten: $A^d.X + Y^d = X$

$$\Rightarrow X = (I - A^d)^{-1}.Y^d \quad (2)$$

Thus, the relation (2) returns to Leontief standard relation in non-competitive form, the Leontief inverse matrix $(I - A^d)^{-1}$reflects a lot better on the sensitivity and diffusion of industries in economy.

Application of Input-Output model in diffusion impact analysis:

Calculate the total effect:

According to *Cuong, Trinh, & Hung, 2004* the way to calculate the economic effects through the I/O Multipliers is as follows:

Total effect on production value:

$\Delta X = (I - A^d)^{-1}\Delta Y^d$ (add up the column of the Leontief inverse matrix)

The total effect on added value: $\Delta V = v\Delta X$

In which: ΔV is the change in added value caused by changes in final demand as determined above; v is the vector in line with the added value and the coefficient (the average added value of a unit of production value of each economic sector).

The total effect on imports: $\Delta M = m\Delta X$

In which: ΔM is the changes in the total import value proposed to satisfy the new final demand and m is the vector representing the average total import value of a unit of production value of each economic sector.

Diffusion to import

In non-competitive I/O form, we have the relationship: $(A^d + A^m).X + Y^d + Y^m - M = X$

On the other hand, this relationship can also be written: $X-A^m.X=A^d.X+C^d+I^d+E+C^m+I^m-M=TDD-M^p$

In which: *total domestic demand* (including intermediate consumption, final consumption, investment and export) $TDD = A^d.X + C^d + I^d + E$; we have:

$X = (I-A^m)^{-1}.(TDD- M^p)$

Or: $X = (I-A^m)^{-1}.(TDD+ C^m+I^m + E - M^p)$

The matrix $(I-A^m)^{-1}$ is called the matrix of import factor.

$IM_i = \sum m_{ij}$ (Add up the column of the matrix $(I-A^m)^{-1}$)

Diffusion coefficient on import = $n.IM_i/\sum IM_i$

If this coefficient is greater than 1, these industries are proved to stimulate import and dependent heavily on import factors. If this coefficient is less than 1 and smaller, it indicates the dependence on the external factors is lower and the domestic industries have a more competitive advantage.

Backward linkages and forward linkages:

- Backward linkages:

To consider the relative diffusion of a industry in the economy, the output factor of this sector is compared to the average value of the output factor of all industriesin the economy by the following formula: $\mu_j = \frac{O(mul)_j}{\frac{1}{n}\sum_{i=1}^{n} O(mul)_i}$; In which: μ_j is called backward linkages of j industry; (Add up the column of Leontief inverse matrix);

Industries with a backward linkage index greater than 1 are considered to be highly spread. An increase or decrease in final demand for products of these industries will significantly affect other industries and the economy as well.

- Downward linkages:

Measure the importance of an industry as a source of material products and services for the entire production system. This linkage is referred to as the economy's sensitivity and measured by the sum of the elements in the row of Leontief inverse matrix compared to the average of the entire system. The downward linkage index for an industry is calculated as follows: $\omega_i = \frac{FL_i}{\frac{1}{n}\sum_{i=1}^{n} FL_i}$

In which: FL_i is the total value that industry i supplies to other industries in the whole production system of the economy when the final demand value in each industry increases by 1 unit, $FL_i = \sum_{j=1}^{n} \beta_{ij}$

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(Add up to the row of Leontief matrix); ω_i is the downward linkage index of industry i. Industries of which ω_i is greater than 1 are considered highly sensitive (ie they play an important role as an input source for the economy). These industries need to be ensured to develop stably to serve the development of other industries of the economy.

3.2. Data source

In order to clarify the current situation of the development and contribution of PMI to Vietnam's EG, the author uses the main data source which is secondary data from the General Statistics Office.

In addition, to calculate the impact of PMI development on EG in Vietnam, the article will use the Input-Output analysis table (I-O table) provided by the General Statistics Office in 2012 and 2016, assuming that the I-O table 2012 represents the economic structure of Vietnam in the period of 2011-2015; I-O table 2016 represents the trend of fluctuations from 2016-2020.

Based on the concept and classification of PMI groups according to the Vietnamese product industry system, the author identifies the groups of corresponding PMI products in I-O 2012 and I-O 2016 and conducts a group of industries to calculate the impact of SI, EI to EG.

Because the product list in I-O 2012 and 2016 includes 164 industry codes, the author will shorten 164 industries into 18 industry groups of level 1 (according to the Vietnam Product List) to easily identify and analyze impactsof PMIonEG in Vietnam, as well as compare among industry groups in the economy.

4. Study results and discussion

4.1. Overview of the contribution of processing and manufacturing industry to Vietnam's economic growth

In recent years, PMI has always been the leading industry in Vietnam's economic growth, the leading contributor to economic growth, export growth and capital attraction from foreign direct investment. According to the General Statistics Office (2019), in the period of 2014 - 2018, the average PMI accounts for 14.49% of GDP, which tends to be higher than the period of 2009-2013 (14.24%) but lower than the period of 2005-2010 (an average of 17.9% of GDP), increasing from 13.18% in 2014 to 16% in 2018. When considering the growth rates of industries, PMI is the dominant. In the last 5 years, PMI has a high growth rate in the economy with an average increase of 11.46%/year, ranking first. This shows the positive role of PMI contributing to EG in Vietnam.

Regarding FDI attraction and contribution to export

Among economic industries, PMI is the industry that attracts most of FDI and contributes mainly to Vietnam's export growth. By the end of 2018, PMI attracted 57.5% of the total FDI and 48.5% of the projects (accumulated valid projects) of the whole economy. In addition, by the end of 2018, the export of PMI accounted for 93.2% of the total export value. Some of the main export products include: electronics, computers and components; phones and accessories; shoes; textiles and textile materials; etc.

However, PMI is also the industry that accounts for a large proportion of the import value of the economy, accounting for 88.7% in 2018. This shows a large dependence on imports in production activities of PMI.

Regarding the contribution of PMI to the productivity of the economy

When compared to other economic industries, PMI is the second largest industry in terms of added value growth, and second only to Information and Communication, Manufacturing and Distribution of electricity and gas in terms of TFP growth. PMI is considered to have a good growth, both in terms of quality and quantity, anindustry with rapid capital increase and the ability to attract and increase large

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labor force, and at the same time, an industry with a rapid increase in terms of TFP, therefore, it has contributed significantly to the overall growth rate of productivity and quality of economic growth.

Korea, Japan, and Taiwan are also countries with very high labor productivity in the field of PMI, much higher than Vietnam's labor productivity, respectively 11.5 times, 11 times and 10.5 times;

Table 1: *Growth rate of added value, capital, labor, TFP and the contribution of factors to economic growth of industries in the period of 2011 – 2016*

Industry	Growth rate (%)				Contribution of factors to economic growth (%)		
	Growth rate of AV	Growth rate of capital	Growth rate of labor	Growth rate of TFP	Capital growth	Labor growth	TFP growth
NLN, TS	2,83	6,01	-1,40	1,31	96,8	-49,5	52,7
Mining	2,04	10,23	-2,55	-1,96	257,2	-61,0	-96,2
PMI	**10,01**	**12,35**	**4,92**	**2,42**	**44,4**	**31,5**	**24,2**
Manufacturing and Distribution of electricity and gas	11,12	9,17	3,35	3,40	61,9	7,5	30,6
Construction	6,1	15,42	3,41	-1,51	88,5	36,3	-24,8
Wholesale, retail, repair	8,92	14,71	3,28	2,05	51,6	24,9	23,5
Transport, warehouse	5,98	8,74	2,2	1,3	55,5	24,4	20,0
Accommodation service, food and drink	6,4	10,28	6,4	-1,08	56,5	80,3	-36,9
Information and media	8,78	5,35	4,89	3,53	27,0	31,6	41,4
Finance, banking, insurance	6,81	9,53	6,74	-0,85	53,8	60,5	-14,2

Source: Vietnam National Productivity Institute, 2018

In terms of labor structure working by economic industry, PMI currently accounts for the second largest proportion of attracting employees working in the industry. From 2010 to the present, the proportion of labor in the industry has increased, from 13.5% in 2010 to 17.9% in 2018, reflecting the labor movement trend in the positive direction of the economy. (*General Statistics Office, 2019*).

However, Vietnam's PMI still has many limitations. In terms of labor productivity, the labor productivity of the industry is low, much lower than the overall productivity level of the whole economy and lower than most Asian countries. In the field of processing and manufacturing, Singapore has a productivity level 15 times as high as that of Vietnam; Malaysia 8.2 times; Indonesia, Thailand and the Philippines are 4 to 5 times as high as (V*ietnam National Productivity Institute, 2018*).

On the other hand, PMI remains low in the global value chain; participating only in low value-added stages such as processing and assembly; it is unable to proactively supply for production, especially for industries that have to import raw materials such as textiles, footwear, electronics, chemicals, etc. Therefore, Vietnam's PMI achieves large export scale, but the actual added value received is not commensurate. Low localization rates have a constraining effect on Vietnam's growth rate and quality (*Vietnam National Productivity Institute, 2018*).

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In addition, high value-added products are concentrated in only a few foreign-invested industries, weak and inadequate domestic enterprises are depending heavily on foreign machinery and raw materials. Underdeveloped supporting industry is one of the basic reasons why PMI has not created a strong resilience, nor been able to participate in global production and value chains.

4.2. Impact of processing and manufacturing industry on Vietnam's economic growth

Table 2: *Impact coefficients of PMI and other industries of the economy in the period of 2011 - 2015 and 2016 – 2020*

		2011-2015					2016-2020				
		Impact on production value	Impact on added value	Backward linkage	Forward linkage	Spill-over factor to import	Impact on production value	Impact on added value	Backward linkage	Forward linkage	Spill-over factor to import
1	Agricultural, forestry and fishery products	1,74	0,63	1,06	1,38	1,12	2,11	0,64	1,13	1,45	1,20
2	Mining products	1,81	0,71	1,10	0,93	1,57	1,82	0,61	0,97	0,86	1,28
3	**PMI products**	**1,90**	**0,49**	**1,16**	**3,89**	**1,82**	**2,20**	**0,50**	**1,18**	**4,67**	**1,65**
4	Electricity, gas, hot water steam and air conditioning	1,53	0,94	0,93	0,83	0,63	1,62	0,80	0,87	0,77	0,67
5	Exploited natural water; Service of management and treatment of garbage and waste water	1,49	0,74	0,91	0,69	0,96	1,76	0,68	0,94	0,62	1,04
6	Construction products	1,81	0,55	1,10	0,77	1,46	2,24	0,55	1,20	0,71	1,48
7	Wholesale and retail services; Service of repairing automobiles, motors, motorbikes and other motor vehicles	1,44	0,83	0,88	0,98	0,57	1,78	0,77	0,95	0,96	0,75
8	Warehouse transport services	1,69	0,61	1,03	0,99	1,25	2,11	0,60	1,13	0,96	1,31
9	Information and communication services	2,85	0,88	1,74	1,01	2,43	1,96	0,61	1,05	0,92	1,28
10	Financial, banking and insuranceservices	1,53	0,86	0,93	1,03	0,52	1,80	0,81	0,96	0,99	0,64
11	Real estate business	1,32	0,87	0,80	0,82	0,31	1,65	0,84	0,89	0,81	0,52
12	Professional, scientific and technological services	1,67	0,82	1,02	0,81	0,93	1,86	0,72	1,00	0,83	0,93
13	Administrative and support services	1,39	0,71	0,85	0,68	0,58	1,92	0,72	1,03	0,62	0,92
14	Service of the Communist Party, socio-political organizations, state management, security and defense,etc.	1,29	0,87	0,79	0,61	0,42	1,63	0,79	0,87	0,54	0,68
15	Education and training services	1,31	0,94	0,80	0,63	0,36	1,56	0,84	0,84	0,56	0,54
16	Medical services and social assistance	1,54	0,60	0,94	0,62	1,52	1,86	0,56	1,00	0,54	1,43
17	Art, amusement and entertainment services	1,66	0,82	1,01	0,70	0,62	1,86	0,80	1,00	0,62	0,64
18	Other services	1,56	0,76	0,95	0,63	0,93	1,84	0,69	0,98	0,55	1,02

Source: Process and calculation from Table I-O 2012, 2016,General Statistics Office

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In terms of the impact on production value and added value, when comparing the impact coefficients of PMI and the remaining industry groups, PMI is becoming a group that has a major impact on production value of the economy, in the period of 2011 - 2015, the impact coefficient on production value of PMI reached 1.90, ranking second among 18 groups of industries, just behind the group of Information and Communication Services. The impact coefficient on the production value of PMI continues to increase in the period of 2016 - 2020, reaching 2.2, second only to the group of construction products. *In terms of added value*, in the period of 2016-2020, the impact coefficient on added value of PMI tends to increase slightly (from 0.49 to 0.50), but basically, PMI has the impact coefficient on added value lower than all industries, reflecting that the positive impact of the industry on economic growth is still limited.

In terms of linkage impact: a highlight is that PMI is the industry with the largest forward linkage coefficient among the 18 industry groups and the backward linkage coefficient ranking is the second. In particular, the forwardlinkage coefficient of PMI is relatively large (*3.89 in the period of 2011-2015 and continues to increase to 4.67 in the period of 2016-2020*), demonstrating the role of big supply of PMI for all remaining industries in the economy. In addition, the coefficient of backward linkage of PMI is also greater than 1 (*corresponding to the values of 1.16 and 1.18 in two periods*), the industries with the backward linkage index greater than 1 will be considered as the industry with a large diffusion effect, thus, an increase or decrease in the final demand for the products of PMIs will significantly affect other industries and the economy as well. As a result, it can be assessed that, PMI has a great linkage impact on other industries in the economy, the development of PMI has a great impact on the production activities of the remaining industries in the economy.

In terms of the impact on imports, from Table 2, it can be seen that PMI is currently the industry with a relatively large coefficient of diffusion to import (respectively 1.82 and 1.65 in the two periods), however, the trend is descending. Thus, the production of Vietnam's PMI still depends heavily on the import of production materials and raw materials, making the industry's contribution to the added value of the economy still low. This raises the need to develop supporting industries in the country to increase the localization rate, thereby, raising the contribution of PMI to the added value of the economy, which is also contributing to Vietnam's economic growth in the following years.

5. Conclusions and recommendations on policies and solutions to develop PMI related to promoting Vietnam's economic growth in the following years.

5.1. The conclusions

From the analysis of contribution of PMI to Vietnam's EG, it can be seen that, in recent years, the PMI has achieved significant achievements, which is the main driving force for the EG of Vietnam. The main achievements in the development process of PMI in Vietnam can be summarized as follows:

Firstly, the growth rate of the PMI is always at the leading position, contributing mainly to the GDP growth rate of Vietnam and significantly contributing to the overall production value of the whole economy.

Secondly, PMI is the industry that attracts most of the FDI capital and contributes mainly to Vietnam's export growth.

Thirdly, PMI is the industry that ranks second in terms of added value growth rate, and third in terms of TFP growth rate.

Fourthly, PMI is the industry that attracts a large number of employees, currently accounts for the second largest proportion of attracting employees working in the industry.

Fifthly, PMI is an industry capable of promoting large links with other production industries in the economy, which reflects in both forward and backward linkage coefficients.

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However, in addition to the achievements, PMI also faces some basic limitations as follows:

Firstly, despite the large growth rate of TFP, labor productivity of PMI remains low, much lower than the overall productivity level of the whole economy and lower than most Asian countries.

Secondly, PMI has a very limited contribution to the added value of the economy, it still remains low in the global value chain; participating only in low value-added stages such as processing and assembly; unable to take initiatives in supply, production depends heavily on import activities.

Regarding the causes leading to the limitations in the process of contribution of PMI to the EG in Vietnam:

Firstly, the underdevelopment of supporting industries. The underdeveloped supporting industry makes the level of meeting the domestic industrial production demand low, the production of PMI relies heavily on production materials and raw materials imported or provided by FDI enterprises, making the localization rate low, the industry's added value is always low.

Secondly, the policy of attracting and effectively using FDI capital is still low. Although attracting a large amount of FDI in PMI, the current FDI capital mainly focuses on downstream industries, assembling industries, with little investment in upstream industry, supporting industry, etc,; the main reason is due to the policy of attracting FDI at all costs with little attention to the priority investment areas of the localities today. On the other hand, the efficiency of using FDI capital is still low, focusing on low-tech industries, using cheap labor, less investment and technological innovation.

Thirdly, the backwardness of technology, the quality of human resources. Because most domestic enterprises are small and medium-sized, they are less likely to apply new and advanced technology in industrial production; at the same time, the low quality of industrial human resources, which does not meet the requirements of enterprises, is also the reason why it is difficult for the whole industry of PMI to quickly increase productivity and product quality.

Fourthly, the weak linkage among internal PMIs. Although PMI is highly linked with the rest of the production industries in the economy, the inter-industry connectivity is still very weak. Due to the underdevelopment of supporting industries, the connection between domestic enterprises and assembling enterprises, FDI enterprises are still very limited, domestic enterprises only provide simple components and spare parts of very low technology and added value.

5.2. Recommendations on policy and solution

In the coming period, PMI will still be considered as a key economic industry for Vietnam's economic growth. Vietnam has signed and implemented new generation free trade agreements, which are expected to bring many important opportunities for Vietnam's industry to continue developing in the coming time, but also pose many challenges that require enterprises to improve their competitiveness so that they can contribute more to economic growth. In order to promote achievements, overcome limitations and make good use of new opportunities, in the coming time, Vietnam's PMI needs to focus on the following solutions:

Firstly, promote the development of supporting industries to raise the localization rate and restrict import. Developing supporting industries will be one of the first important solutions to be able to promote the development of PMI and raise its contribution to economic growth. The Government's policies should be prioritized to be implemented in the direction of promoting the development of supporting industries, creating necessary motivation for attracting investment, technology, etc. into this manufacturing industry.

Secondly, increase the attraction and efficient use of FDI in the direction of focusing on high-value added industries and promoting linkages with domestic enterprises. Currently, PMI is the industry that is attracting the most FDI, however, the connection between FDI enterprises and domestic enterprises is still very limited, domestic enterprises are weak and lack in capital, science, technology, man-

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agement skills, etc.,it is necessary to have support from FDI enterprises to develop production and expand output markets. In order to do this, the Government also needs to focus on the development and implementation of policies to attract and use FDI, so that it is possible to orient FDI enterprises to focus on the industries that bring large added value and have commitments in supporting and promoting linkage with domestic enterprises. On the side of domestic enterprises, it is also necessary to enhance the initiative in connecting production and business with FDI enterprisesand multinational corporations to create favorable conditions for production activitiesand promote enterprise development.

Thirdly, promote technology innovation, production innovation and improve the quality of industrial human resources. The Government and enterprises themselves need to have policies to promote the process of continuous technological innovation, innovation of production processes and especially, improve the quality of human resources. This will create an impetus for increasing productivity, promoting economic growth. Solutions can be implemented through strengthening the connection between enterprises and training institutions; building and developing industrial labor information systems to create an environment for the connection among the parties.

Fourthly, promote the linkage in the production of PMI and between PMI and the remaining industries. It is necessary to further promote the role of supply and demand in production of PMI to promote production linkages among industries in the economy; at the same time, promote the linkage among sub-sectors in the whole PMI to raise the localization rate, promote added value within the industry, as well as for the whole economy. In order to do this, the Government needs to focus on building and enhancing the efficiency of industrial parks and clusters, creating an operating environment and enhancing connectivity for enterprises.◆

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Summary

Trong 10 năm trở lại đây, Công nghiệp chế biến, chế tạo (CN CBCT) luôn được khẳng định là ngành có đóng góp lớn về kim ngạch xuất khẩu, thu hút FDI, là ngành có đóng góp lớn nhất vào tốc độ tăng trưởng chung của toàn nền kinh tế. Tuy nhiên, sản xuất còn mang tính chất gia công là chủ yếu, sử dụng công nghệ thấp và trung bình, phụ thuộc rất lớn vào nhập khẩu,… khiến cho giá trị gia tăng toàn ngành CN CBCT còn ở mức thấp, chưa có đóng góp đáng kể vào việc nâng cao chất lượng và tính bền vững trong tăng trưởng kinh tế (TTKT) Việt Nam. Sử dụng phương pháp bảng cân đối liên ngành (I - O) và các phương pháp định tính, bài viết sẽ tập trung phân tích thực trạng đóng góp của ngành CN CBCT đối với TTKT Việt Nam những năm vừa qua, từ đó, đưa ra một số kết luận và đề xuất, kiến nghị nhằm thúc đẩy phát triển CN CBCT gắn với thúc đẩy và nâng cao chất lượng TTKT Việt Nam trong giai đoạn tiếp theo.

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