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IMPROVEMENT OF COMPETITIVENESS TO ATTRACT FDI TO VIETNAM IN THE CONTEXT OF INDUSTRIAL REVOLUTION 4.0

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In the past 30 years (1988 - 2018), the foreign direct investment has contributed positively to the development of Vietnam because FDI attraction is considered one of the policy priorities in this period. However, the Industrial Revolution 4.0 (IR 4.0) is strongly affecting most of the socio-economic activities of mankind, including FDI attraction. This article aims to analyze changes in Vietnam's advantages and challenges in order to improve the competitiveness in attracting FDI in the context of IR 4.0. Besides comparing Vietnam's comparative advantages with other regional countries, the author also puts Vietnam in the competition for attracting FDI with developed countries in the backshoring trend forecasted that will be thrive in the context of IR 4.0.

Keywords: Industrial revolution, competition, FDI

1. Introduction

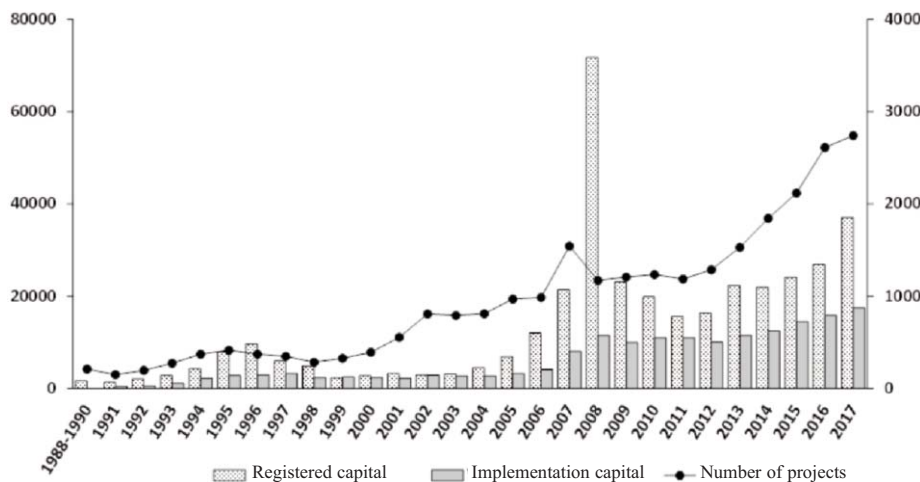
In the past 30 years (1988 - 2018), the foreign direct investment into Vietnam tends to increase strongly (see Figure 1) and has made a positive contribution to the development of Vietnam such as promoting growth and transfer economic structure towards modernization and integration, supplementing investment capital for the whole economy and contributing to the state budget, creating jobs and promoting foreign trade, etc.

Up to now, there have been many domestic authors studying the topic of FDI in general and FDI attraction in particular, such as the works of Phan Thi Quoc Huong (2014), Phan Viet Chau (2015), Nguyen Quynh Tho (2017), Ministry of Planning and Investment (2013, 2018), etc. Although these studies have mentioned many advantages in Vietnam's FDI attraction, they have not analyzed how these advantages change in the context of the industrial revolution 4.0. In addition, the backshoring trend is expected to thrive in the context of

IR 4.0 and will significantly affect Vietnam's ability to attract FDI but it has not been mentioned by the domestic studies. The following article is to analyze current competitive advantages, to assess competitive advantages and to propose directions to effectively exploit Vietnam's competitive advantages in attracting FDI in the context of IR 4.0.

2. Overview of theory and approaches on competitiveness to attract FDI in the context of IR 4.0

In political economics, the competition is an economic competition between subjects in the production of goods in order to seize favorable conditions in the production, utilization or consumption of goods from which to obtain the most benefits for themselves. According to Michael Porter (1980), the competition is to gain market share. Nature of the competition is to seek profit, which is a higher profit than the currently average profit of an enterprise. Results of the competition process are the average of profit in the industry in direction of deep improvement, resulting in a decrease in price.



Source: GSO, 2018

Figure 1: The situation of attracting foreign direct investment in Vietnam during the period from 1988 to 2017

According to Karl Marx: "The capitalist competition is emulation, fierce struggle among capitalists in order to seize favorable conditions in production and consumption of goods to earn super-super profits". In-depth researching on capitalist production and capitalist competition, Marx discovered that the basic competition rule is the rule of adjusting the average profit rate among the industries. According to the business dictionary (1992) in the UK: "The competition in the market mechanism is defined as rivalry between businessmen to win the same kind of production resources on their sides."

Today, in the market economy, the competition is a condition and a factor of business stimulation, a driving force for development of production and business activities and increase of labor productivity to create the development of society in general. Some basic characteristics of competition include: the nature of economic relations between economic entities together; the competition taking place over a period of time and space which are not fixed.

The competitiveness is a permanent concern of both central and local governments (provinces or cities). In this study, the author has based on the framework of national competitiveness analysis of

Michael Porter (1990, 1998, 2008) to evaluate the competitive capability to attract FDI into Vietnam in the context of the industrial revolution 4.0. According to Michael Porter (2008), the unique meaningful-concept of the competitiveness is productivity, in which the productivity is measured by added value by a unit of labor (or a unit of capital) created in a unit of time. The productivity is the most

important determinant of long-term living standards and is the root cause of per capita income. For sustainable productivity growth, the economy must be constantly upgraded.

The competitiveness to attract FDI in the context of the industrial revolution 4.0 is to build a circulating economy - Green growth cooperation - the new economic model of the world, that there is no longer a concept of waste and all resources that are utilized thoroughly and effectively; the future of employment in the era of technology 4.0 is artificial intelligence, universal Internet, automation.

The author approaches competitiveness for attracting FDI in the context of IR 4.0 in the direction of assessing changes of Vietnam's advantages and limitations on the current FDI attraction before the impact of IR 4.0. In addition, the author also chose a multidimensional approach to research objects: in the context of IR 4.0, Vietnam must not only compete in attracting FDI with regional countries but also compete with developed countries because of the backshoring trend of investors. The author also uses document analysis, including: Statistical analysis, synthesis and generalization; Method of comparing the history;

Inductive method to clarify for the analysis and judgment of the research.

3. Competitiveness to attract FDI to Vietnam compared to that of other countries in the region

Since the time of opening up to receive FDI capital, compared to other countries in the region, Vietnam has increasingly demonstrated its strong attraction to foreign investors. In 2015, the scale of FDI inflows to Vietnam rose to the second rank in ASEAN (after Singapore) (ASEAN, 2018). More remarkably, compared in to some countries in the region, the FDI inflow proportion from outside ASEAN of Vietnam in recent years is has been much higher¹. This shows the diversity level of investor origin from other regions and continents. These considerable achievements in FDI attraction compared to other countries in the region are based on the following outstanding competitive advantages:

The first advantage is about low labor costs and abundant labor force: Vietnam ends 2017 with the population of 93.7 million people, including nearly 55 million people of the working age; Vietnam also has the third largest labor force in Southeast Asia (after Indonesia and the Philippines) (General Statistics Office, 2018). In addition to the advantages of scale, the average salary per employee is relatively low, which is considered as the leading reason in attracting FDI enterprises to choose to invest in Vietnam instead of other countries in the region (see Figure 2). Compared to the other countries in the "Asian tiger" group², Vietnam has the lowest average salary paid for workers

Thus, in the competition of FDI attraction for labor-intensive industries such as textiles, electronic

components assembly, food - beverages processing, etc., Vietnam clearly has advantages compared to other countries in the group of abundant labor resources and low labor costs. Apart from the "Asian tiger" group, Vietnam previously had to compete with China in attracting FDI into the labor - intensive segments; however, nowadays because the salary of Chinese workers increase rapidly, its attraction to FDI investors has been reduced considerably. Nonetheless, instead of China, Vietnam is currently competing with some other ASEAN countries (such as Myanmar, Cambodia) and South Asian countries (India, Bangladesh) in FDI attraction in these industries.

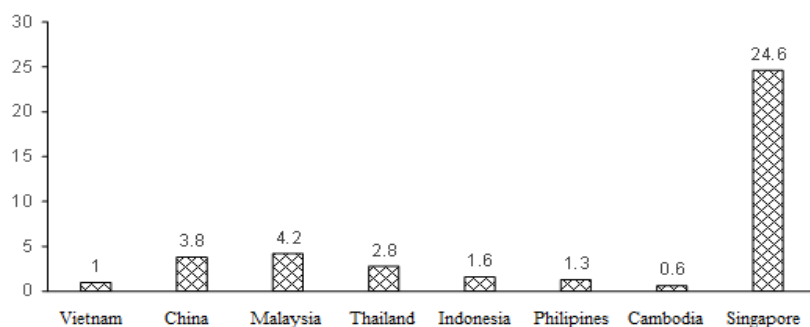
However, the current advantage of abundant labor resources and low labor cost of Vietnam is expected to be clearly affected by the Industrial Revolution 4.0. The overarching impact of Industrial Revolution 4.0 on employment issues is the reduction in demand for unskilled labor (due to the tendency of widespread use of automation technology and robots in the future) and requirements for human resource of higher quality to be able to coordinate the use of smart devices in production. The competition in employment is not only among people themselves but also between people and machines. The report "Scarcity of Human Resource in 2016" of Manpower forecasts that by 2020, the number of unskilled jobs will decrease rapidly for the replacement of jobs demanding more sophisticated skills³.

In the near future (about 10-15 years), Vietnam still maintains its advantage of abundant labor resources and low labor costs due to the limitation in automation and robots application in some aspects,

1. In 2015, 81.8% of FDI into Vietnam came from non-ASEAN countries while that proportion of countries such as Indonesia, Malaysia, Myanmar and Cambodia respectively 43.8%, 75.9%, 21, 0% and 75.0%. (ASEAN, 2018).

2. Including 05 countries: Malaysia, Thailand, Indonesia, Philippines and Vietnam (Ministry of Planning and Investment, 2018)

3. The report gives noteworthy forecast figures: 36% of the work will require employees' core skills to have complex problem solving ability, 19% of jobs require social skills and 18% of jobs need handling skills, about 65% of children born between 1995 and 2012 in the future will do unprecedented jobs at this time due to the rapid development of technology. (Ministry of Planning and Investment, 2018)



Source: The author calculated from data of General Statistics Office (2018)

Figure 2: Comparison between average salary level per laborer of Vietnam and that of some countries in 2017 (Vietnam = 1.0)

* Note: The salary level is calculated in normal USD

resulting in requirements for manual labor (such as electronic component assembly, garments, etc.)⁴. Additionally, the labor cost in Vietnam is still relatively cheap compared to that in other countries in the region (because the gap is considerable and not easily narrowed in the short period). Nonetheless, with the rapid growth and spread of Industrial Revolution 4.0, in the distant future (over 15 years), the advantage of abundant and cheap labor resources will disappear gradually due to the human replacement with machines and demand for high quality labor.

The second advantage is the consumer market: With the population of 93.7 million people, Vietnam is considered as an important consumer market in the development expansion strategy of the world's leading corporations. Market scale tends to expand rapidly because of the increasingly enhanced living

standards of people, especially the rise of the middle class. For that reason, apart from high demand for traditional consumer goods such as food, beverages, construction materials, household appliances, etc., the demand for new types of goods and services (such as real estate, accommodation and catering services, education, wholesale and retail service)⁵ also has great attraction to FDI investors. In Southeast Asia, Vietnam has the third population size only to Indonesia and the Philippines.

It also has a dominant population size compared to the rest of countries so in these domestic market - based development segments, Vietnam has a relatively obvious advantage. The advantage of the scale of Vietnam's domestic market is now forecasted to be promoted in the Industrial Revolution 4.0 era. Vietnam consumer market tends to expand for both groups of goods and services: (1) infrastructure equipment for Industrial Revolution 4.0 (smart phone, telecommunications technology, etc.) and (2) consumer goods and services products with the application of Industrial Revolution 4.0 (robots, catering, transportation services, etc.). In addition, the prospect of directly acquiring the achievements of Industrial Revolution 4.0, ignoring some applications of the Industrial Revolution 3.0 that Vietnam has not yet applied and the low survival level in Vietnam at present should also be considered

4. CEO of Adidas with head office in Germany has recently shown that 13 companies set about 90% of production facilities in Asia, although the company plans to increase production and full automation in "fast manufacturing factories" in Germany and Atlanta (USA), using robots and training personnel in the production of sports shoes with 3D printing soles, these automation plants will only produce about a million pairs, ie. only a very small part of the 360 million pairs sold by the company globally (Ministry of Planning and Investment, 2018)

5. Accumulated to June 20th, 2018, real estate attracted 17.0% of total registered FDI capital; corresponding figures for accommodation and catering, education and retail sectors are 3.8%, 2.0% and 1.3% (Foreign Investment Agency, 2018).

as the attraction for FDI investors in many fields⁶. Vietnam's neighborhood market is also expected to expand not only by the impact of production capacity and foreign trade policy but also by the significant impact of Industrial Revolution 4.0: Vietnam has an initial advantage in terms of market size, labor, and has an important geopolitical position compared to some countries in the region (Cambodia, Myanmar, Laos) so it can be selected as a center by FDI investors, especially for the investment in infrastructure of Industrial Revolution 4.0 applications and a hub for data and information of the region.

In the context of Industrial Revolution 4.0, the impact of the actually spatial factor will be obscured by virtual space, but the geographical position of Vietnam will still be a significant competitive advantage by specialization in production; the ability to participate in the goods value chain still has differences among countries. It should be seen that despite the increasing extent of the virtual space, the consumer market for material goods is constantly increasing. Therefore, countries with favorable locations for international trade like Vietnam are very attractive in the region. In addition, Vietnam has outstanding advantages in tropical agricultural production and the distance in transporting raw and preliminarily processed materials from Vietnam to North American and EU markets is quite far. For that reason, direct investment in processing projects in material areas is forecasted to be the trend for foreign investors to save production costs.

In the context of Industrial Revolution 4.0, Vietnam's attractiveness capacity has also been significantly enhanced from the advantages of stable political environment, preferential investment poli-

cies and progressively improved business environment as well as the increasingly deepened international economic integration through signed FTAs.

Besides the above advantages, from the perspective of competition to attract FDI, Vietnam has some outstanding limitations as follows:

First and foremost, Vietnam has a limitation in labor force. Labor productivity plays the decisive role in production efficiency and is considered as the leading indicator for the assessment of labor force quality. However, regarding this indicator, Vietnam has considerable inferiority compared to other countries around us (see table 1). The low quality of labor resources significantly reduces the competitiveness of FDI attraction in Vietnam, especially in the context in which human resource quality is improved slowly and the growth rate in average income per laborer is several times as fast as that in labor productivity at (WorldBank, 2018). In addition, this constitutes a vicious cycle in the human resource exploitation in Vietnam: Lack of high quality labor FDI enterprises focus on investment in cheap labor-intensive sectors - laborers find various job opportunities without training, resulting in their less interest in learning to improve their skills, training institutions are not under pressure to improve their training quality - lack of high quality labor.

The quality of human resources remains Vietnam's obstacle in the context of Industrial Revolution 4.0. The reason is the gap in the quality of Vietnam's labor resources compared to many countries in the region is even at increased risk because the qualification and ability of applying achievements of Industrial Revolution 4.0 will change labor productivity very quickly. The quality of Vietnamese labor resources is expected to

6. *In some areas today, such as finance - banking, many applications of Industrial Revolution 3.0 achievements of Vietnam are still limited (for examples: the application of card payment instead of cash, etc.) and Vietnam can completely apply new forms of payment directly in the context of Industrial Revolution 4.0 instead of applying it in succession like other developed countries. The relatively low living standards of the Vietnamese people leads to a limited range of goods and services but the market size is expected to grow strongly in the Industrial Revolution 4.0 era as Grab transport services (due to the difficult condition of owning cars), online shopping, etc.*

Table 1: Comparison between labor productivity of Vietnam and some other countries in 2016

Nation	Labor productivity (t USD)	Compared to Vietnam (Vietnam = 1,0)
Vietnam	11.0	1.0
Singapore	132.8	12.1
China	26.8	2.4
Malaysia	59.1	5.4
Thailand	29.9	2.7
Indonesia	25.7	2.3
Philippine	19.4	1.8
Cambodia	6.2	0.6
Mianma	9.7	0.9

Source: Vietnam National Productivity Institute (2018)

improve thanks to educational reforms⁷, and the pressure to transform to compete with regional manpower because with the new technology of Industrial Revolution 4.0, various economic activities in Vietnam can be implemented by citizens of other countries.

Secondly, *Institutional quality* is one of Vietnam's obstacles in competing with other countries in the region in terms of FDI attraction. The outstanding limitations often pointed by FDI investors are other non-transparent costs, etc. (WEF, 2017). Although the Government of Vietnam and other localities receiving FDI have taken certain actions to gradually remove these barriers, in fact, this is still a considerable obstacle in various areas and localities (Poetry, 2017). *In the context of Industrial Revolution 4.0, institution is forecasted to still be an obstacle* since various institutional factors are difficult to be replaced completely by machines and technology of Industrial Revolution 4.0 (such as policy, law formulation, management, supervision capacity, etc.). Nonetheless, under the impact of Industrial Revolution 4.0 (application of features in artificial intelligence, huge data in information analysis and

decision making, application of new technologies in management, monitoring, etc.) and innovation determination of the Government, transparency, openness towards institutional global standards will be increasingly improved. This has important meaning in creating trust for FDI investors and improving competitiveness in Vietnam's FDI attraction.

The third one is the financial and infrastructure limitations for Industrial Revolution 4.0. Capacity of meeting infrastructure (trans-

portation, logistic) is currently a major obstacle for FDI investors. In addition, in the context of Industrial Revolution 4.0, compared to some countries in the region such as Singapore, Thailand, Malaysia, Indonesia, Vietnam's financial potential for the establishment of infrastructure and human resources for Industrial Revolution 4.0 is still limited. For examples, the internet price is still relatively high⁸, the national digital data system is quite sketchy and inconsistent, etc. However, in a certain extent, Vietnam's financial and infrastructure limitations for Industrial Revolution 4.0 create opportunities for FDI enterprises to invest in this field.

4. Vietnam's competitive advantages of FDI attraction in the backshoring trend

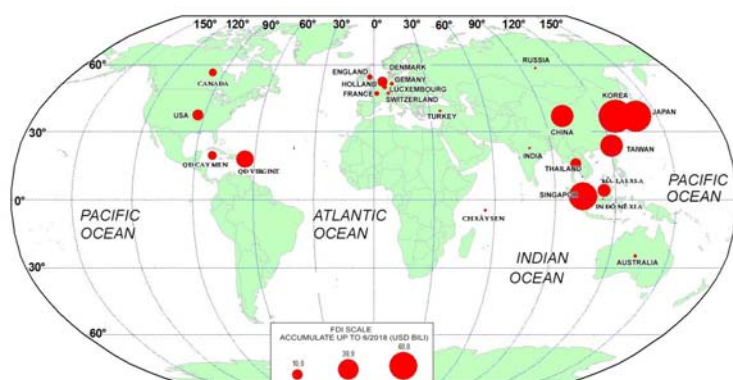
According to the enterprise survey results, the reason why investors choose backshoring is the inconsistency between their development strategy and the development strategy of the FDI recipient country, issues of product quality produced in foreign countries, domestic consumers' demands on delivery time and product design, increased labor costs in countries receiving FDI (Kinkel, 2013)

7. It should be noted that the effects of educational and training reforms are always lagging so the risk of relatively falling behind to some countries in the region is entirely possible.

8. According to research results from BDRG Continental and Cable.co.uk, as of December 14th, 2017, the average monthly cost of broadband (broadband) in Vietnam is 62.3 USD while the large Southeast Asian countries have lower prices such as Thailand (26.9 USD), Singapore (39.0 USD), Malaysia (42.5 USD), Philippines (53.7 USD), Cambodia (52.9 USD).

(Lydia Bals, 2015). The tendency of backshoring has a stronger prospect in the context of Industrial Revolution 4.0 because of two following reasons: (1) the advantage of cheap labor of developing countries to receive FDI will gradually decrease, while instant applicability of Industrial Revolution 4.0 in developed countries with higher quality human resources will be more convenient; (2) the production in developed countries will be more effective due to the application of automation technology, robots (instead of using more laborers in developing countries who receive FDI) and convenience of meeting the needs of that country market (transportation cost reduction, assurance of quality inspection process, etc.) (WEF, 2018).

(East Asia, South Asia and Southeast Asia), the demand for consuming goods and services, especially essential products requiring geographical distribution such as food, beverages, tourism, etc. is very high. For these product groups, although in the context of Industrial Revolution 4.0 and the impact of backshoring trend, it is still necessary to distribute in the place of consumer market to achieve the highest economic efficiency. In addition, regarding advantages of on-site raw materials and the favorable level in accessing to neighboring markets, Vietnam is obviously more advantageous in attracting investors from the EU, North America and Southwest Asia compared to returning to their country to invest.



Source: The author compiles diagrams from data of Foreign Investment Agency (2018)

Figure 3: FDI Investors for Vietnam with the scale of over 500 million USD 1988 - 2018 Period

The current FDI source into Vietnam comes from all continents, about 30 countries and territories with registered FDI capital accumulated to June 2018 reaching over 500 million USD (see figure 3). In these countries, especially the United States and the EU, the backshoring trend is forecasted to take place strongly in the context of Industrial Revolution 4.0. However, in the competition to attract FDI capital, Vietnam has the following basic advantages:

Consumer market has the most important advantage: with a large population size and located in (or near) 3 of the 4 most populous areas in the world

Tax incentives and rental rates, etc. of Vietnam are also a competitive advantage compared to investing in developed countries. Additionally, despite the impact of Industrial Revolution 4.0, the theory of comparative advantage will still be true: developed countries (currently accounting for the majority of backshoring-oriented enterprises) will choose to produce goods or the stages that bring high added value while countries with lower development levels (in the near future) like Vietnam will still have to undertake the production of goods or stages that bring lower added value.

5. An overview of the improvement of competitiveness policy to attract Foreign Direct Investment

The Law on Foreign Investment in Vietnam issued in 1987 was assessed by international investors as clear and attractive. Thereafter, this code was amended and supplemented six times (in 1990, 1992, 1996, 2000, 2005 and 2014) to the new situation of the country. From the Law on Foreign Investment issued in 1987 to the Law on Investment and the Law on Enterprises in 2014 is a big step of the Vietnamese legal system, creating an equal legal

corridor with incentive and preferential policies without discrimination, to regulate investment and business activities of domestic and foreign investors and businesses. In particular, the Law on Investment in 2014, created a breakthrough in thinking, considers investment and business activities under the rights and obligations of investors and businesses; State only plays a guiding role, creating favorable investment and business environment; monitoring and inspecting to overcome market imperfections.

The Law on Investment in 2014 is compatible with WTO rules, as well as the regulations of other organizations that Vietnam has participated in, the investment incentive policies of Vietnam have been unified, without discrimination between domestic and foreign investors. Many investment policies have also been implemented like Decree 210/2013/ND-CP dated December 19, 2013 of the Government on Policies to encourage enterprises to invest in agriculture and rural areas.

Regarding investment policies by geographical areas, the Government has also issued the Decree No. 118/2015/ND-CP dated November 12, 2015 of the Government once again redefining the list of geographical areas of investment incentives including 55 out of 64 cities and provinces nationwide.

The policy of supporting industry development in Vietnam has many significant changes, in order to create conditions for FDI enterprises to access the market of input materials. Decision No. 34/2007/QD-BCN of 2007 of the Ministry of Industry approving the Planning on development of supporting industry until 2010 and vision toward 2020 clearly defined the orientations for developing supporting industries in the garments and textiles, leather shoes, electronics, automobile manufacturing and assembly, mechanical engineering, orientations for developing the above industries and specific development objectives for each of these supporting industries. In 2011, the Government issued Decision 12/2011/QD-TTg on policies to develop a number of supporting industries in order to implement

policies to encourage supporting industries development for industries: mechanical engineering, electronics - informatics, automobile manufacturing and assembly, garments and textiles, leather shoes and supporting industries for high - tech industry development.

The Law on Enterprises and the Law on High - Technology in 2008, the provisions of the law on the development supporting of small and medium-sized enterprises in Vietnam, the policies for developing human resources for supporting industries have been issued and adjusted recently, contributing to creating a full legal foundation for the development of supporting industries in Vietnam. However, policies to support the development of input materials markets for FDI enterprises seem to be lacking and weak. The Prime Minister's Decision 12/2011/QD-TTg has not yet created much impact because the preferential support for enterprises in supporting industries is not new compared to the policy of supporting small and medium enterprises. FDI agricultural enterprises applying high technology also received many incentives when investing in Vietnam. According to the Law on High-Technology of 2008, the Prime Minister's Decision No. 19/2015/QD-TTg dated June 15, 2015 specifies criteria for determining high - tech enterprises; Decision No. 66/2014/QD-TTg of the Prime Minister dated November 25, 2014 approving the list of high technology prioritized for development investment and List of high - tech products encouraged to develop; Circular No. 13/2015/TT-BNNPTNT of the Ministry of Agriculture and Rural Development on March 25, 2015, guiding the order and procedures for recognizing new technological and technological advances in agriculture and rural development.

Investment incentive policies, especially on taxes, have been effective in the first phase, when Vietnam took advantage of static comparative advantages to increase the amount of FDI capital, create jobs and boost exports.

6. Some policy proposals aimed at improvement of competitiveness to attract FDI in the context of industrial revolution 4.0

Through the above analysis, to improve competitiveness to attract FDI in the context of industrial revolution 4.0, Vietnam needs to implement synchronously, promptly and effectively the following groups of solutions:

First, a group of policies to solve institutional bottlenecks: Industrial revolution context 4.0 requires institutional reforms in general and institutional issues directly related to FDI attraction in particular. The mainstream approach to these institutional changes is in line with the effects of the industrial revolution 4.0, harnessing the achievements of the industrial revolution 4.0 and moving towards international standards. Specifically:

- *Completing institutions in managing FDI* towards international standards in the context of industrial revolution 4.0 should be conducted in the following orientations: (1) the improvement of the application of 4.0 industrial revolution achievements in management, especially in data and space management applications (ensuring proper implementation of planning and environmental impact management...) to improve management efficiency by saving time, incurred negative costs; (2) timely updates of technological changes in areas related to FDI activities in the industrial revolution 4.0 (eg the impact of new production and business technologies on the natural environment, culture... of Vietnam) in order to have appropriate reactions on the principle of only intervening with policies and administrative management when such activities harm the benefits of the community and the nation.

- *The forms of investment promotion need to change drastically in the context of industrial revolution 4.0* because the transmission of information

and data across the country becomes simple. Therefore, it is necessary to have policies to promote modern and highly spreading investment promotion forms with foreign investors such as webGIS application.

Besides the above works, the Government should set up a number of legal frameworks (regulatory sandbox). In this way, competent state agencies quickly enacted into laws, legal guidelines to promptly respond to a rapid change of situation due to the impact of the industrial revolution 4.0. Those policies are tested and controlled by a committee. After a period of testing, these policies will be approved to prevail if they are highly effective or stop implementation if they are not feasible or ineffective.

Second, policies to solve bottlenecks on human resources need to be implemented synchronously with target groups directly related to the operation of the FDI sector:

- *For management staff,* it is necessary to have a policy on training and capacity building (both in terms of knowledge and skills), requiring general thinking and good skill of handling situation in the context of industrial revolution 4.0. In addition, there should be preferential policies in the recruitment of quality managers to meet the requirements of the work in the context of industrial revolution 4.0.

- *For the direct staff worker,* stronger reforms are needed in human resource training according to knowledge and skill requirements of labor in the context of industrial revolution 4.0. In the short term, it is recommended to select and invest in a number of key training institutions in multi-disciplinary direction to meet the human resources with general thinking in the era of industrial revolution 4.0 instead of the intensive training as before. In

addition, it is necessary to focus on propaganda to raise public awareness about careers in the context of industrial revolution 4.0: it is necessary to proactively equip knowledge and skills in which focus on creativity and owners dynamic instead of passive thinking waiting for simple work as before.

- *For a team of domestic entrepreneurs:* The development of a team of domestic entrepreneurs, especially in innovative enterprises, will create great attraction for FDI investors. Therefore, in order to develop this team, the Government needs to have policies to support innovative, creative startups and propaganda and training to change the awareness of team of domestic entrepreneurs in investment activities in general and cooperation activities with FDI sector in particular.

Third, for infrastructure bottlenecks in attracting FDI in the context of industrial revolution 4.0, The Government should focus on early deployment of establishing infrastructure 4.0 to promote the application of 4.0 industrial revolution achievements in general and improve competitiveness in FDI attraction in particular. In order to solve financial difficulties for this activity, the Government needs to identify the main role of constructive, oriented or assuming the investment role of "bait" in some projects that are difficult to attract FDI; and the main financial resources for industrial revolution infrastructure 4.0 should be mobilized from the domestic private sector and the FDI sector.

Fourth, the Government should soon identify and promulgate FDI attraction policies to strategic sectors (new generation FDI), prioritize industries that are strongly impacted and have the potential to apply the achievements of industrial revolution 4.0 in Vietnam, especially agriculture, tourism, information technology, finance.

- *In terms of agriculture,* the impact of industrial revolution 4.0 is expected to dramatically change agricultural production thanks to achievements in biotechnology. Early selection of key agricultural products has a competitive advantage of Vietnam and accelerates research and application of industrial revolution 4.0 achievements for such products (at all stages: planting, harvesting and preserving, processing is a reasonable option to promote investment promotion and FDI attraction into agriculture.

- *In terms of tourism,* with a lot of potential for tourism development and a large geographical balance for development investment, tourism is seen as an industry that will attract great FDI in the context of the industrial revolution 4.0 but the Government should have solutions to make planning more transparent (especially planning for developed tourism areas) to create confidence for FDI investors (due to the long - term investment nature of this type); pay more attention to the promotion of Vietnam's tourism image as well as limiting the inherent weaknesses of the tourism industry (in terms of infrastructure, quality of human resources...).

- *In terms of information technology,* this is the industry group that is most affected by the industrial revolution 4.0 so to develop and improve competitiveness and FDI attraction in this area, the Vietnam Government should prioritize investment in key human resources (both for domestic human resources, overseas Vietnamese experts and foreigners) and upgrade IT infrastructure to keep pace with the region and the world. Along with material improvement, policies associated with information technology should aim at international standards in order to facilitate the connection, data sharing and information, thus helping to

effectively exploit this key resource in the context of industrial revolution 4.0

- *In terms of finance*, this is an industry that strongly affected by the industrial revolution 4.0 and also promises to receive special attention from FDI investors. However, due to the highly sensitive nature of the industry, Finance activities 4.0 can only be highly effective and sustainable in a transparent and compatible legal framework with international standards. Therefore, in order to attract FDI investors and promote the application of Financial Technology 4.0 (Fintech, Findata), the Government should soon promulgate regulatory policies to standardize the contents of Finance technology (about security, payment methods...).

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Summary

Trong 30 năm qua (1988 - 2018), đầu tư trực tiếp nước ngoài đã có đóng góp tích cực đối với sự phát triển của Việt Nam vì thu hút FDI được xem là một trong những ưu tiên chính sách trong giai đoạn. Tuy vậy, cuộc cách mạng công nghiệp 4.0 (CMCN 4.0)

đang tác động mạnh mẽ tới hầu hết các hoạt động kinh tế - xã hội của nhân loại, trong đó có hoạt động thu hút FDI. Bài viết này nhằm phân tích sự thay đổi về lợi thế, thách thức của Việt Nam nhằm nâng cao năng lực cạnh tranh về thu hút FDI trong bối cảnh CMCN 4.0. Bên cạnh việc so sánh các lợi thế cạnh tranh của Việt Nam so với các quốc gia trong khu vực, tác giả cũng đặt Việt Nam trong cuộc cạnh

tranh về thu hút FDI với các nước phát triển trong xu hướng backshoring (Xu hướng backshoring được giải thích là sự thay đổi vị trí của các doanh nghiệp trước đây từng tiến hành hoạt động đầu tư ở nước ngoài quay trở lại đầu tư ở Tổ quốc (original country) (Lydia Bals, 2015) được dự báo là sẽ phát triển mạnh trong bối cảnh CMCN 4.0.

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