

Enhancing the Role of FDI in Developing Productive Forces In Thai Nguyen: Strategic Solutions

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Abstract: *In recent years, Foreign Direct Investment (FDI) has played a pivotal role in promoting the development of productive forces in Thai Nguyen Province, an emerging industrial hub in northern Vietnam. The impact of FDI is evident through technology transfer, the establishment of supply chains, human resource development, and the enhancement of competitiveness among domestic enterprises. This paper proposes several strategic solutions to maximize the effectiveness of FDI in developing productive forces, including improving investment attraction policies, strengthening industrial linkages, developing technical infrastructure, and promoting high-quality human resource training. These efforts aim to contribute to building a modern, sustainable production base and elevating Thai Nguyen's economic standing in the new era.*

Keywords: *economy, international economic integration, foreign direct investment, productive forces, industry, Thai Nguyen*

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I. INTRODUCTION

In the process of industrialization, modernization, and international economic integration, Foreign Direct Investment (FDI) has emerged as a critical driver in advancing the development of productive forces in developing countries, including Vietnam. With its capacity to provide substantial capital, advanced technology, modern management practices, and access to global market networks, FDI not only enhances production capabilities but also facilitates labor structure transformation, fosters the emergence of new industries, and gradually upgrades the production value chain at the local level.

Thai Nguyen, originally a province primarily reliant on agriculture and resource extraction, has leveraged the wave of FDI to achieve fundamental transformations in its economic structure. The presence of major investors, particularly in high-tech processing and manufacturing industries, has contributed to restructuring the local production base toward modernization, while stimulating the formation and development of a skilled technical workforce, supporting industries, and an industrial ecosystem.

In the context of the vigorous unfolding of the fourth industrial revolution, assessing the role of FDI in developing productive forces in Thai Nguyen is essential to clearly identify its practical contributions and existing challenges. This evaluation serves as a foundation for proposing solutions to enhance the efficiency of attracting and utilizing FDI, thereby supporting the goals of sustainable development and elevating the province's production capacity.

II. CONTENT

In the context of globalization and the dynamic movement of international investment capital, Thai Nguyen has astutely seized integration trends to align its development with contemporary demands. Through consistent, flexible policies focused on administrative reform and improving the investment environment, the province has fostered strong confidence among foreign investors. The synergy between strategic vision and concrete actions has enabled Thai Nguyen to successfully attract Foreign Direct Investment (FDI), progressively establishing itself as an appealing destination on Vietnam's investment map. Remarkable growth figures not only underscore the attractiveness of the local investment climate but also demonstrate that FDI is becoming a vital force in advancing productive forces, modernizing the economy, and enhancing Thai Nguyen's competitive position in the international investment arena.

2.1. The Role of FDI in promoting the development of productive forces in Thai Nguyen

Amid globalization and international economic integration, FDI serves not only as a critical source of capital for the economy but also as a powerful catalyst for advancing the development of productive forces, particularly in regions with industrial potential like Thai Nguyen. In recent years, the growing presence of FDI enterprises has driven positive transformations in labor structure, technical expertise, and production organization,

significantly contributing to improvements in labor productivity and the development level of productive forces in the province.

1.1. FDI – A Driver of productive forces modernization

Prior to becoming a standout in investment attraction, Thai Nguyen was a traditional agro-industrial province, with over 60% of its workforce engaged in agriculture in the early 2000s, and most local enterprises operating in small-scale mining or manufacturing. However, since 2013—when the Samsung Group decided to invest in the Samsung Electronics Vietnam – Thai Nguyen (SEVT) project with a total capital of 5 billion USD—the province’s economic landscape and labor structure have undergone profound changes.

FDI enterprises such as Samsung, Hansol, Doosan, Jasan Group, and Ecoba have not only brought substantial capital but also introduced advanced technologies, automated production processes, and international operational standards. According to data from the Thai Nguyen Department of Planning and Investment, as of the end of 2024, the province hosts 219 active FDI projects with a total registered capital of nearly 11 billion USD, predominantly in high-tech sectors, electronics, components, and mechanical engineering. This has marked a significant leap in the quality of productive forces.

Specifically, Samsung Thai Nguyen currently employs over 28,000 workers directly, the majority of whom are skilled technical laborers trained to operate high-tech production lines. Additionally, numerous local workers have transitioned from agriculture to industry through vocational training, soft skills development, and digital literacy programs. As a result, the proportion of trained workers in Thai Nguyen has surged from 45% in 2015 to nearly 70% in 2023, reflecting a clear trend toward modernization in the production structure.

The presence of FDI enterprises has also fostered a continuous learning environment through technology and modern management skills transfer. Local engineers and technical staff gain access not only to cutting-edge machinery but also to opportunities to work in globally standardized settings, laying the foundation for a high-quality workforce. Concurrently, domestic enterprises are compelled to upgrade their production processes, organizational skills, and innovation capabilities to qualify as satellite suppliers within the global value chains led by FDI.

Furthermore, according to a 2024 report by the Thai Nguyen People’s Committee, the average labor productivity in the FDI industrial sector has increased 2.5 times compared to 2014. This not only enhances economic efficiency but also reduces reliance on resource extraction, paving the way for more sustainable and in-depth growth.

Thus, it can be affirmed that FDI serves as a strategic lever in modernizing productive forces in Thai Nguyen. From a province predominantly reliant on agriculture and resources, Thai Nguyen is steadily transforming into a high-tech industrial hub in the northern midland and mountainous region—a convergence point for skilled labor, advanced technology, and the vibrant momentum of a modern economy.

1.2. FDI – A catalyst for enhancing the quality of human resources in Thai Nguyen

Beyond its evident contributions in capital and technology, FDI has marked a significant turning point in elevating the quality of human resources in Thai Nguyen—a critical factor for long-term and sustainable development. As FDI enterprises, particularly technology conglomerates such as Samsung, Hansol, and Doosan, have poured capital into the province, the demand for highly skilled labor equipped with modern industrial mindsets has become more pressing than ever.

This practical necessity has exerted positive pressure on the local vocational training and higher education systems. Training institutions such as Thai Nguyen University of Technology, Thai Nguyen University of Information and Communication, College of Economics and Technology, and College of Electromechanics have proactively reformed their teaching methods, strengthening collaboration with FDI enterprises through a “market-driven training” model. This approach not only enables students to engage with modern technologies and skills during their studies but also fosters seamless connections between training and recruitment, bridging the gap between theory and practice.

These changes have yielded tangible results. According to data from the Thai Nguyen Department of Labor, Invalids, and Social Affairs, from 2015 to 2023, over 40,000 young workers received vocational training or internships at FDI enterprises. Exposure to advanced production lines and international-standard management processes has allowed them to enhance their technical expertise while cultivating professional conduct, discipline, and teamwork skills—essential attributes in modern industrial production environments.

Notably, many FDI enterprises in Thai Nguyen have proactively implemented on-site training programs or sponsored short-term overseas training for local workers. Upon their return, these individuals often assume pivotal roles in management and technical operations, while transferring advanced knowledge and skills to the broader local workforce. Consequently, from a labor force primarily engaged in low-skill tasks, Thai Nguyen is gradually developing a new generation of highly specialized workers capable of rapidly adapting to technological transformations and global integration pressures. This qualitative shift in human resources not only serves FDI enterprises but also inspires a spirit of innovation among domestic firms. To remain competitive, local companies

have had to raise recruitment standards, improve processes, and enhance internal training, thereby elevating the overall quality of the labor market across the province's economy.

Thus, FDI serves not only as a source of capital and technology but also as a large-scale practical training ground where Thai Nguyen's human resources are educated, challenged, and nurtured. This robust human capital foundation positions the province for a breakthrough in its journey to become a modern industrial hub in northern Vietnam and nationwide in the years ahead.

1.3. FDI – A driver of industry structure transformation and productive forces upgrading in Thai Nguyen

A profound “restructuring” of the local economy—particularly in the industrial sector—is one of the standout roles of FDI. In Thai Nguyen, this capital inflow not only modernizes the internal dynamics of productive forces but also drives a transformation in industry structure toward sustainability, modernity, and integration with global value chains.

As previously analyzed, Thai Nguyen was historically a typical agro-industrial province, heavily reliant on mining and traditional metallurgy. These sectors typically offered low added value, exerted significant environmental pressures, and were vulnerable to global commodity price fluctuations. However, since the influx of FDI—particularly from technology giants like Samsung Electronics, Doosan Vina, and Hansol Technics—the province's industrial structure has undergone a marked shift.

On one hand, Thai Nguyen is emerging as a hub for electronics and high-tech component manufacturing in northern Vietnam. Large-scale projects in electronics, semiconductors, energy storage batteries, displays, and camera modules have accounted for an increasing share of the province's total industrial output. On the other hand, supporting industries have also emerged and flourished, supplying raw materials, components, packaging, and logistics to FDI enterprises.

Crucially, this transformation is not unilateral. Local enterprises in Thai Nguyen have progressively adapted, enhancing their capabilities to participate in the supply chains of FDI companies, thereby forming vertical and horizontal industry linkages. This has given rise to a highly specialized, large-scale production network, laying the groundwork for a modern industrial ecosystem where large, medium, and small enterprises can coexist and thrive.

This shift in industry structure has also provided a foundation for Thai Nguyen's productive forces to develop in depth rather than through mere expansion, as was the case previously. Production no longer prioritizes quantity but focuses on added value, labor productivity, technical standards, and global market responsiveness. This trajectory is essential for Thai Nguyen's integration into the Fourth Industrial Revolution era, where demands for technology, quality, and sustainability are increasingly stringent.

In summary, FDI is not merely an external resource but a powerful catalyst enabling Thai Nguyen to transform from a traditional heavy industry model to a creative, high-tech industrial framework. This shift not only enhances the province's competitiveness but also establishes a solid foundation for sustainable long-term development, aligning with its goal of becoming a modern industrial center by 2030 and its vision for 2045.

1.4. FDI – A bridge for disseminating advanced management practices and upgrading productive forces in Thai Nguyen

Beyond providing capital, technology, and employment, Foreign Direct Investment (FDI) plays a pivotal role in disseminating modern production management practices, profoundly impacting the operational capacity, managerial mindset, and organizational level of Thai Nguyen's industrial sector.

In Thai Nguyen, this process is vividly demonstrated through the presence of multinational corporations such as Samsung, Hansol, and Doosan, which enforce stringent requirements for processes, efficiency, and international standards. As FDI enterprises establish large-scale factories, they introduce standards such as ISO, 5S, Lean Manufacturing, and modern Supply Chain Management (SCM). These are implemented comprehensively and rigorously.

This not only fosters a professional work environment for tens of thousands of workers but also enables domestic enterprises in Thai Nguyen, particularly those in supporting industries linked to FDI firms, to access and adopt advanced management models. Over time, many local companies have proactively applied these models to enhance productivity, reduce costs, and improve product quality, gradually aligning with international standards and deepening their integration into global value chains.

Moreover, young human resources, especially engineers and managers in Thai Nguyen working at FDI enterprises, gain exposure to modern industrial settings characterized by high discipline and operational efficiency. This experience not only sharpens their technical skills but also equips them with organizational thinking, planning, and problem-solving capabilities—foundational elements for successful entrepreneurship or leading domestic enterprises toward professionalization and structure.

More significantly, the diffusion of modern management practices and corporate culture from FDI extends beyond the confines of foreign-invested factories. Under the indirect influence of FDI, a professional and

efficient production ecosystem is gradually taking shape in Thai Nguyen, with domestic enterprises increasingly recognizing that managerial capacity—not merely capital or cheap labor—is critical for global competitiveness.

Thus, FDI is not merely an economic investment flow but also a conduit for transferring organizational knowledge and modern production management expertise. By serving as a bridge for global knowledge and management practices, FDI is enabling Thai Nguyen to upgrade its productive forces in both breadth and depth, laying a robust foundation for sustainable, long-term industrial development.

2. Strategic solutions to enhance the role of FDI in developing productive forces in Thai Nguyen

2.1. Strategic selection of FDI to support productive forces upgrading

Rather than continuing to pursue FDI projects with large capital but low technological content, Thai Nguyen should shift toward attracting investment aligned with high technology and knowledge diffusion. This strategic approach aims to enhance the local productive forces in terms of both technical capacity and managerial expertise. To achieve this, the province should prioritize attracting FDI into foundational industries such as electronics, precision mechanics, and new materials—sectors with strong potential to generate spillover effects to supporting industries. Simultaneously, Thai Nguyen should select strategic investors based not only on capital scale but also on commitments to technology transfer, development of local supplier networks, and utilization of high-skilled labor. Such meticulous selection of FDI partners will enable Thai Nguyen to cultivate a modern, dynamic production ecosystem capable of self-upgrading in the long term.

2.2. Establishing mechanisms to Link FDI with domestic enterprises and skilled labor

For FDI to truly catalyze the development of productive forces in Thai Nguyen, reliance solely on the internal capabilities of foreign-invested enterprises is insufficient; a tightly interconnected local production ecosystem must be established. Within this ecosystem, three key stakeholders—FDI enterprises, domestic firms, and the labor force—should be linked in a mutually supportive structure. First, fostering linkages between FDI and domestic enterprises should be prioritized by promoting value chain integration. FDI enterprises should be incentivized, or even subject to appropriate legal obligations, to increase localization rates—i.e., sourcing products, components, and services from domestic suppliers. To facilitate this, local authorities can act as coordinators by organizing supporting industry fairs, developing databases of potential domestic enterprises, and implementing supply-demand “matchmaking” programs to help local firms access and participate in the global supply chains of FDI enterprises.

Concurrently, establishing a skills training network linking educational institutions, FDI enterprises, and regulatory bodies is vital to ensure the local workforce can meet the technical demands of modern production. These training programs should emphasize practical production needs, aligning closely with the technologies, processes, and standards applied by FDI enterprises. This will create a “qualified” labor force capable of serving not only FDI needs but also enhancing the competitiveness of domestic enterprises integrating into global value chains.

This triadic linkage—between FDI, domestic firms, and the labor force—will foster a resilient interactive system, transforming FDI enterprises from isolated “technology islands” into catalysts that diffuse technology, skills, and modern production mindsets across the local economy. This forms the foundation for Thai Nguyen’s productive forces to develop in a modern, autonomous, and highly adaptable manner amid global competition.

2.3. Investing in production, technology, and institutional infrastructure to enhance FDI absorption capacity

A core condition for FDI to effectively enhance productive forces in Thai Nguyen is the province’s capacity to absorb technology, which depends not only on human capabilities but also on physical and institutional infrastructure. These two pillars determine the ability to “receive” and “transform” the technological, procedural, and managerial value that FDI enterprises bring.

In terms of technical infrastructure, Thai Nguyen must continue to invest strategically in upgrading and completing industrial park systems to meet the standards of high-tech enterprises. Specifically, logistics systems should ensure efficient connectivity between industrial parks, seaports, and airports to support global supply chains; power systems must be stable to meet the continuous production needs of high-tech factories; and environmental and wastewater treatment systems must comply with standards to promote sustainable development. Additionally, developing digital infrastructure—such as high-speed internet and industrial data platforms—is indispensable in the era of smart manufacturing.

Parallel to physical infrastructure, investment policy reform is essential to enhance interactions among authorities, enterprises, and investors. Thai Nguyen should continue streamlining administrative procedures, simplifying investment licensing processes, increasing transparency in governance, and establishing post-licensing support mechanisms. For instance, the province could set up dedicated task forces to provide legal assistance, advise on identifying potential local partners, and support recruitment of skilled labor—value-added services effectively implemented by many advanced provinces and cities.

The synergy between hard infrastructure (physical) and soft infrastructure (institutional) will not only enable Thai Nguyen to attract high-quality FDI but, more critically, enhance the efficiency of linkages between FDI enterprises and local production factors—from domestic firms to the labor force. As the province's technology absorption capacity improves, the processes of learning, transferring, and localizing knowledge will proceed more smoothly, contributing to a productive force capable of independent and sustainable development in the long term.

2.4. Establishing a system for evaluation, monitoring, and incentivizing FDI enterprises for sustainable development

The development of productive forces in the context of deep global integration today must be closely tied to the goal of sustainable development, wherein FDI serves not only as an economic resource but also as a critical factor shaping long-term growth quality. To ensure FDI genuinely contributes to this process, the activities of FDI enterprises must be placed within an appropriate framework of monitoring and incentives. First, establishing a periodic evaluation system is essential to comprehensively reflect FDI's role—not only in financial terms but also in qualitative aspects such as training and utilization of skilled labor, collaboration with domestic enterprises, and the extent of technology transfer. These indicators will provide an objective basis for identifying FDI enterprises that make substantial contributions to enhancing the endogenous capacity of the local production system. On this foundation, a transparent incentive and sanction mechanism should be implemented: enterprises that are proactive, compliant, and have a strong spillover effect on productive forces should receive preferential treatment, such as expanded production land, reduced infrastructure service fees, or trade promotion support; conversely, enterprises that breach commitments, evade tax obligations, or cause environmental pollution should face strict, transparent penalties to safeguard a healthy and sustainable investment environment. Only when FDI is embedded within a rational monitoring and regulatory system can productive forces develop in a modern, autonomous, and efficient manner.

III. CONCLUSION

In summary, FDI is not merely a supplementary capital source for economic development but also a vital driver for advancing technological levels, labor quality, and production capacity in Thai Nguyen. However, for FDI to truly fulfill its role in sustainably developing productive forces, comprehensive solutions are required—from selectively attracting investment and strengthening linkages with domestic enterprises to enhancing human resource quality and improving institutional frameworks and monitoring mechanisms. Only when FDI is integrated into a harmonious development ecosystem can the province transform its potential into endogenous capacity, establishing a solid foundation for long-term socioeconomic development.

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