FACTORS AFFECTING FOREIGN DIRECT INVESTMENT IN A PROVINCIAL LEVEL IN VIETNAM: AN INTEGRATED THEORETICAL FRAMEWORK AND PROPOSED RESEARCH MODEL

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Abstract: ***The article develops a theoretical framework and research model to analyze factors influencing provincial foreign direct investment (FDI) inflows in Vietnam based on a synthesis of three theories: Ownership Location internalization theory (OLI), New economic geography theory (NEG) and New institutional economic theory (NIE). Based on this framework, the study also proposes future empirical research directions in the context of increasingly fierce competition in attracting FDI.***

• Keywords: *FDI, OLI theory, NEG theory, NIE theory, research framework, provincial level.*

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1. Introduction

In the context of globalization and deep international economic integration, foreign direct investment (FDI) plays a pivotal role in promoting industrialization, modernization and national competitiveness. For developing countries like Vietnam, FDI is not only a crucial supplementary source of capital but also a conduit for advanced technology transfer, managerial expertise and job creation.

Despite Vietnam's sustained efforts to attract FDI over the past three decades, the distribution of FDI across provinces remains uneven. While some provinces have emerged as "FDI hubs" with substantial inflows, many others continue to face challenges in attracting foreign investors. This disparity underscores the significant influence of endogenous factors such as institutions, infrastructure, geographic location and labor quality.

Research into the determinants of FDI attraction provides empirical and scientific justification for formulating targeted strategies and policy solutions aimed at strengthening FDI inflows. This is critical for achieving the broader socioeconomic development goals of both national and sub-national governments. In this regard, the development of a robust theoretical framework is a prerequisite it forms the theoretical backbone of the study.

Although the OLI (Ownership Location Internalization), NEG (New Economic Geography) and NIE (New Institutional Economics) theories have been widely applied in the literature on FDI, there remains a lack of studies that systematically integrate all three pillars into a unified research framework with internally consistent logic and testable hypotheses, particularly at the provincial level in Vietnam. This paper seeks to fill this gap by proposing an integrated framework accompanied by specific hypotheses and empirically testable propositions, thereby providing a foundation for subsequent multidimensional studies of FDI at the sub-national level.

The study employs a qualitative research approach based primarily on secondary data. The author synthesizes existing theories, models, and relevant concepts to construct a comprehensive and theoretically grounded research framework.

2. Theoretical foundations and Literature review

In Vietnam, numerous studies have examined FDI attraction from various analytical angles. However, most have employed unidimensional approaches that focus exclusively on one category of determinants and have yet to establish a comprehensive and theoretically integrated framework at the provincial level.

Research on Economic-Material factors (OLI)

The OLI paradigm, introduced by Dunning in 1976 and expanded in 1980, is a foundational theory in explaining the behavior of multinational enterprises. It posits that a firm will engage in FDI only when it possesses three simultaneous advantages: ownership (O), location (L) and internalization (I).

Most domestic studies have adopted the OLI

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framework, particularly emphasizing location-specific advantages (L), such as market size (measured by GRDP and population), labor costs, and public utilities and logistics infrastructure. For example, Nguyen Van Bon and Nguyen Minh Tien (2014) and Nguyen Duc Nhuan (2017) empirically validated the roles of these variables in northern and central provinces, respectively. They found that provinces with better physical infrastructure, large populations and competitive labor costs tend to attract more FDI. However, these studies often have overlooked the roles of institutional quality and interregional economic structures, limiting their ability to explain FDI disparities among provinces with otherwise similar conditions.

Research on Spatial effects and Investment agglomeration (NEG)

New economic geography (NEG), initiated by Krugman (1991), introduces models that emphasize increasing returns to scale and declining transportation costs. According to NEG, firms tend to cluster in regions with high market demand and dense industrial ecosystems. Forward and backward linkages lower transaction and transportation costs, while firm agglomeration promotes knowledge diffusion and access to specialized labor markets.

In Vietnam, this perspective has led to research on spatial spillover effects and geoeconomic positioning. Studies such as those by Tran Hoa et al. (2021) utilized spatial regression models to show that provinces near growth poles (e.g., Hanoi, Ho Chi Minh City) exhibit higher FDI attraction, driven by spillover effects and supply chain linkages. However, spatial factors in these studies are often often considered as mere control variables or isolated influences, with limited integration into institutional or economic analyses.

Research on institutional quality and investment environment (NIE)

New institutional economics (NIE), with key contributions from North (1990), identifies institutions as the central determinants of transaction costs. In the context of FDI, variables including property rights protection, administrative transparency and effectiveness, and regulatory stability directly shape investment risk and influence investors' location choices.

Institutional quality - particularly governance capacity, procedural transparency, and informal costs - has increasingly been recognized as a key determinant of FDI inflows. A robust, transparent, and stable institutional environment reduces uncertainty, mitigates legal risks, and enhances location attractiveness. Bui Kieu Anh & Le Minh Son (2021) found that provinces with higher Provincial competitiveness Index (PCI) scores tend to attract more FDI. Similarly, Nguyen Thi Mai Huong (2021) established a positive relationship between administrative reforms and FDI absorptive capacity.

In general, most prior research has concentrated on economic input factors while downplaying the roles of institutions or spatial interlinkages. Theoretical studies with high generalizability remain limited, which constrains efforts to design quantitative models and conduct interregional comparisons. More importantly, existing studies often follow unidimensional theoretical paths and fail to capture the interaction between economic, institutional and spatial determinants at the provincial level. This paper addresses this gap by proposing an integrated theoretical framework based on OLI-NEG-NIE and a corresponding empirical model, contributing novel insights and academic value to Vietnam's FDI literature.

3. Developing a theoretical framework for factors influencing provincial-level FDI attraction

3.1. Rationale for an integrated framework

The formulation of an integrated research framework is underpinned by three key theoretical and practical rationales:

First, to study the determinants of FDI at the provincial level, three foundational theoretical pillars are essential:

(i) Ownership location internalization (OLI): The OLI theory emphasizes sub-national locationspecific advantages, including market size, labor costs, physical infrastructure as core elements at the sub-national level, directly influencing investment costs and productivity.

(ii) New economic geography (NEG): focuses on spatial clustering, where FDI tends to concentrate in localities with high enterprise density, robust industrial support systems, and strong regional connectivity, thereby generating spillover effects.

(iii) New institutional economics (NIE): underscores the importance of institutional quality in creating a predictable and transparent investment environment, thereby reducing transaction costs.

Second, the integration of OLI, NEG and NIE frameworks is substantiated by both empirical findings and theoretical reasoning. Vietnamese studies (e.g., Bui Kieu Anh & Le Minh Son, 2021) show that enhancing FDI attraction requires simultaneous improvements in economic-material conditions, institutional quality and spatial capabilities.

Third, a comprehensive integration of OLI-NEG-NIE at the provincial level remains absent in Vietnamese FDI research. While these theories have been individually applied at the national, regional, or

sectoral levels, no published work in Vietnam has yet established a unified framework encompassing all three with clear theoretical logic and empirical testing design. This paper addresses this void by proposing a tri-pillar model wherein:

i) OLI represents tangible local economic factors (e.g., market potential, labor, infrastructure),

ii) NEG captures spatial dynamics and regional linkages, and

iii) NIE incorporates institutional quality and governance.

3.2. Applying theoretical perspectives to framework construction

Applying the OLI theory

The OLI framework provides a robust basis for explaining the motivations behind FDI decisions. Among its components, location advantages (L) are particularly salient at the provincial level, as ownership (O) and internalization (I) are generally assumed to be firm-specific and exogenous in sub-national studies. Therefore, provinces compete to attract FDI by optimizing input structures, expanding market accessibility and enhancing public service quality.

Empirical models using the OLI framework typically include indicators such as market size and potential, labor cost and quality and physical infrastructure conditions. However, limitations of the OLI approach include:

(i) A tendency toward enumeration of factors rather than dynamic interaction modeling;

(ii) An implicit assumption of static, exogenous location advantages, ignoring their potential endogeneity; and

(iii) A lack of consideration for interregional spatial effects or competitive dynamics.

Applying the NEG theory

NEG theory helps explain why FDI projects tend to concentrate in a few developed provinces, forming economic clusters. Common indicators include local returns to scale, enterprise density and spatial variables.

Nonetheless, standard NEG models have notable limitations:

(i) Unrealistic assumptions, such as perfect labor mobility and uniformly decreasing transport costs rare in developing economies;

(ii) Limited attention to institutional factors, despite their proven influence on firm location decisions in diverse governance contexts.

Applying the NIE theory

In empirical research, institutional quality is often measured through indicators such as the Provincial Competitiveness Index (PCI), business environment indices, startup and operational costs, and perceived corruption levels.

Despite its insights, NIE also presents certain limitations:

(i) Many institutional dimensions especially informal ones are difficult to quantify;

(ii) The relationship between FDI and institutions may be bidirectional, where FDI can improve institutions and vice versa, necessitating advanced econometric techniques to address endogeneity.

In response, the proposed framework is structured around a *"Material Spatia Institutional"* matrix. These three theoretical axes are mutually reinforcing and collectively define a province's FDI attractiveness, while also allowing for two-way interactions and feedback effects.

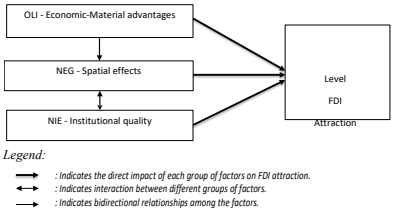
Table 1. Theoretical research framework based on the three pillars: "Material * Spatial * Institutional"

Framework axis	Core content	Role in FDI attraction
OLI - economic-material advantages	Economic-material conditions (market, labor, infrastructure, costs)	Provide "tangible benefits" for firms to optimize production-distribution activities
NEG - spatial effects	Industrial agglomeration, knowledge spillovers, reduced transportation costs	Explain spatial dynamics and the emergence of "growth poles"
NIE - institutional quality	Property rights, transparency, procedural and informal costs	Define the risk and certainty of the business environment

Source: Author's synthesis and construction

The proposed framework visually illustrates the determinants of provincial FDI attraction, summarized as follows:

Diagram 1 - Theoretical research framework



This framework is not merely a listing model but reflects the dynamic and multidimensional nature of FDI decision-making:

- Strong institutions (NIE) amplify agglomeration effects (NEG) as firms feel secure in expanding their value chains.

- High-quality labor (OLI) enhances technological spillovers within a region.

- Enterprise clustering (NEG) may create feedback pressure on local governments to upgrade institutional quality to meet new FDI requirements.

- This highlights the complexity of FDI attraction, which depends not only on a province's internal attributes but also significantly on spatial environment and institutional quality.

4. Research model and Hypotheses testing

4.1. Research hypotheses

Based on the theoretical framework, the following hypotheses are constructed to test the influence of the three theoretical pillars OLI (economic material), NEG (spatial effects) and NIE (institutional quality) on FDI attraction at the provincial level. Recent studies have also begun to examine interactions among these factors. To reflect the multidimensional nature of FDI influenced not only by linear impacts but also by interdependencies among the pillars, the following hypotheses are proposed:

Table 2. Research hypotheses

Hypothesis	Content	Source
H1	Economic-material factors (OLI) positively influence FDI attraction	Dunning (1980); Nguyen Van Bon & Nguyen Minh Tien (2024); Anwar & Nguyen (2020)
H2	Spatial effects (NEG) positively influence FDI attraction	Phuong Hoa Tran et al. (2021)
H3	Institutional quality (NIE) positively influences FDI attraction	Bui Kieu Anh & Le Minh Son (2021); Bissoon (2021)
H4	Stable macroeconomic factors positively influenceFDI attraction	Azam (2019); Khachoo & Khan (2018)
H5	Multidimensional interactions among factors either strengthen or weaken FDI impacts	Bui Kieu Anh & Le Minh Son (2021); OLI-NEG-NIE Integrated theory

Source: Author's research results

4.2. Model construction

Unlike unidimensional studies, this model adopts a multidimensional and integrative approach, reflecting not only the internal economic conditions of provinces but also the institutional and spatial environments. In addition, the model incorporates control variables for macroeconomic conditions such as national GDP growth, inflation, and exchange rates to ensure robustness and reduce noise from external factors.

Proposed model for assessing provincial-level FDI attraction:

$$FDI = \beta_0 + \beta_1 OLI + \beta_2 NEG + \beta_3 NIE + \beta_4 MACRO + \mu$$

The linear regression specification based on theoretical constructs:

Dependent variable: FDI - Level of FDI attraction in a given province

(i) Independent variables: OLI (economic-material advantages), NEG (spatial effects), NIE (institutional quality)

(ii) Control variable: MACRO - macroeconomic environment

(iii) Coefficients and parameters: Intercept (β_0), regression coefficients (β_i, where i = 1, 2,...), and error term (μ)

4.3. Variables in the research model

Dependent variable:

FDI attraction: Reflects the realized inflows of FDI at the provincial level (e.g., volume, disbursement progress, investor satisfaction) and investors' future intentions regarding reinvestment or referrals.

Independent variables:

OLI - Economic-Material advantages: According to Dunning (1980), location advantage is the primary determinant of FDI. Key factors include:

- Market size and potential: Measured via GRDP, economic growth rate, and population (Nguyen Van Bon & Nguyen Minh Tien, 2024).

- Labor cost and quality: Low wages and high-skilled labor have opposing effects on FDI decisions (Anwar & Nguyen, 2020).

- Physical infrastructure: Includes transportation, electricity, water, telecommunications, and logistics identified as critical factors in both Vietnamese and international studies (Meyer & Nguyen, 2023; Nguyen Duc Nhuan, 2022).

NEG - Spatial effects

This dimension emphasizes returns to scale and spatial spillovers, explaining FDI concentration in economic hubs:

- Density of existing FDI firms: Indicates industrial cluster development and technological spillover (Krugman, 1991; Tran Hoa et al., 2021).

- Accessibility to neighboring markets: Measured by adjacent GRDP or proximity to regional centers.

- Supply chain and supporting industry linkages: Enhance investment appeal by reducing transaction costs (Nguyen Thi Mai Huong, 2021).

NIE - Institutional quality

Identified by North (2017) as central to transaction costs and investment behavior:

- PCI index: A composite measure of local governance and transparency.

- Informal costs: Reflect perceived corruption levels, with strong impact on investor decisions

- Administrative reform effectiveness and policy stability: Crucial for FDI disbursement and sustainability.

Control variable:

MACRO - Macroeconomic environment, including:

- National GDP growth: Signals profitability and purchasing power (Azam, 2019).

- Inflation and exchange rate: If well-managed, reduce input risks and currency exposure (Khachoo & Khan, 2018).

- International integration: Agreements such as FTA, WTO, CPTPP enhance investor confidence (Thu Thi Hoang, 2017).

The role of this control variable is to ensure overall stability and minimize estimation bias when evaluating the impact of provincial-level variables.

5. Conclusion and Recommendations

5.1. Conclusion

The proposed research framework is based on the matrix of "Material * Spatial * Institutional" dimensions, integrating the three pillars OLI, NEG, and NIE to explain how multinational firms make FDI location decisions at the provincial level.

The OLI model provides a foundational explanation of FDI motivation, with a focus on location-specific advantages (L), such as market size, labor quality and cost, and infrastructure. However, it tends to be enumerative, assumes static and independent location factors and often omits spatial influences.

NEG theory contributes a spatial dimension to FDI analysis by explaining why FDI concentrates in specific growth poles. It highlights regional market potential, industrial density and spillover effects. Yet, its assumptions like perfect labor mobility and uniform transport cost reductions are often unrealistic in transitional economies and it pays limited attention to institutional factors.

NIE theory argues that institutions both formal and informal are central to determining transaction costs, directly influencing operational risks and location decisions. While it supports evaluating governance indicators and corruption perceptions, it faces challenges in quantifying informal institutions and addressing endogeneity in FDI-institution interactions.

This integrated framework assumes that investment decisions result from complex interactions among tangible advantages, spatial dynamics, and institutional quality. Combining OLI, NEG and NIE offers a solid empirical foundation, enriching the analytical capacity while addressing the limitations of each theory in isolation.

Moreover, the framework anticipates two-way effects: for instance, strong institutions can amplify agglomeration benefits; a high-quality labor force can transform market size into productivity gains; and digital infrastructure can extend FDI spillovers to neighboring provinces. It also clearly separates material from social (institutional) advantages and models spatial externalities and institutional thres-holds, thereby reducing omitted variable bias and enhancing the reliability of empirical findings.

In theory, this framework improves upon traditional OLI by incorporating spatial (NEG) and institutional (NIE) dimensions. In practice, it enables provincial governments to simultaneously develop public utilities and logistics infrastructure, institutional capacity and regional linkages to foster sustainable FDI attraction.

5.2. Recommendations

To implement the research effectively and scientifically, the following considerations are proposed:

Regarding variable measurement:

Use specific, reliable indicators for each factor group. For example: GRDP and growth rate for market size; trained labor ratio for workforce quality; internet subscriptions for public utilities and logistics infrastructure; and PCI for institutional quality.

Consider interaction terms among factor groups to uncover complex relationships and sufficient conditions for impacts.

Regarding empirical methodology:

Prioritize panel data econometrics and spatial econometric models such as the Spatial Durbin Model (SDM) to simultaneously test agglomeration effects and institutional quality, as well as capture FDI spillovers from neighboring provinces.

Address potential endogeneity especially between FDI and institutional quality using advanced techniques such as Difference GMM or System GMM.

Regarding data:

Collect complete and timeconsistent data from official and credible sources.

Focus on newly registered FDI data for analyzing location decisions or implemented FDI for assessing actual investment effectiveness.

Regarding policy implications:

Research findings should be interpreted to offer specific, feasible policy recommendations to improve provincial FDI environments.

Emphasize the importance of balanced development across all factor groups rather than focusing solely on one, due to the interactive and complementary nature of these determinants.

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