

MINISTRY OF EDUCATION AND TRAINING
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**IMPACTS OF TOURISM ON
URBANIZATION AND INCOME
INEQUALITY IN VIETNAM**

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CHAPTER 1: INTRODUCTION

1.1. Research Rationales

Income inequality remains a persistent global challenge that undermines economic growth, social cohesion, and political stability. Tourism development has emerged as a significant yet contested driver of income distribution. On one hand, tourism creates employment for low-skilled workers and generates government revenues for social programs (Seetanah et al., 2023; UNWTO, 2019). On the other hand, tourism can concentrate benefits among asset holders and large investors, reinforcing structural inequalities through land intensive development and precarious employment conditions (Freitag, 1994; Valente et al., 2023; Zhang, 2021).

Critically, most existing studies examine the tourism-inequality relationship through linear, static frameworks that assume spatial independence across regions (Alam & Paramati, 2016; Chi, 2021; Subramaniam et al., 2022). This assumption represents a fundamental methodological limitation. Tourism development generates spatial spillover effects: investment in tourism infrastructure in one province reshapes labor markets, land values, and income distribution in neighboring provinces through labor mobility, investment competition, and regional tourism circuits (Anselin, 1988; LeSage & Pace, 2009; Zeng & Wang, 2021). Ignoring these spatial interdependencies risks misattributing regional processes to purely local drivers, thereby producing biased estimates of tourism's distributional effects (Elhorst, 2014).

Vietnam offers a compelling setting for investigating this spatial dimension. As a transitional economy where tourism has been elevated to a strategic leading sector (Resolution 08-NQ/TW, 2017), Vietnam exhibits substantial provincial variation in governance capacity, cultural heritage, and institutional characteristics. Despite a relatively stable national Gini coefficient over the past decade, substantive progress in reducing inequality has been limited, and the spatial structure of inequality including clustering patterns and interprovincial spillover remains underexplored. These conditions create

spatiotemporal heterogeneity in how tourism interacts with income inequality, making Vietnam a unique case for studying the tourism-inequality nexus from a spatial dependence perspective.

To address these gaps, this dissertation adopts Harvey's (1982, 2001) spatio-temporal fix (STF) framework, conceptualizing tourism development as a mechanism through which surplus capital is spatially fixed into the built environment resorts, infrastructure, and real estate while deferring social tensions through job creation and economic stimulation. Crucially, such fixes produce uneven spatial outcomes (Brenner, 2011; Jessop, 2006), making spatial econometric methods essential. The study employs Geographically and Temporally Weighted Regression (GTWR) as the primary method to capture spatiotemporal heterogeneity in the tourism-inequality relationship, complemented by a Spatial Durbin Model (SDM) to examine interprovincial spillover effects and the mediating role of urbanization. Additionally, the study incorporates SDG 11.3.1 land-use efficiency diagnostics for selected case studies to assess whether tourism-led development constitutes an efficient or exclusionary spatial fix.

This study focuses on analyzing the relationship between tourism development and income inequality by using a combination of STF and spatiotemporal approach. To achieve this, the study uses the spatiotemporal heterogeneity models with Vietnamese provincial-level data in the period 2018-2022. The study incorporates spatial indicators of land consumption and land-use efficiency, particularly SDG indicator 11.3.1 (Walsh et al., 2022) as complementary empirical evidence. This approach enables a more concrete assessment of whether tourism development functions as an efficient or uneven spatial fix. This indicator was calculated for three specific case studies (Hanoi, Da Nang, Ho Chi Minh city) to provide a more granular perspective. Thereby, the study has a number of contributions, including: (1) It puts tourism development within the dynamics of spatiotemporal fixes, highlighting how tourism development acts as a temporary resolution to regional capital overaccumulation, then producing uneven spatial outcomes in income distribution; (2) The study proposes a framework that moves beyond

conventional economic models by highlighting the role of spatially fixed capital, which may ultimately widen the income gap; (3) The study provides evidence of the need for coordinated spatial strategies.

1.2. Research Objectives and Questions

This dissertation pursues four objectives of the tourism-urbanization-income inequality nexus in Vietnam. First, it seeks to quantify the spatiotemporally heterogeneous effect of tourism development on income inequality across 63 Vietnamese provinces during 2018-2022, moving beyond the assumption of a single, uniform relationship. Second, it aims to identify the mediating role of urbanization and to test whether tourism weakens or strengthens the demographic absorption channel through which urbanization reduces income inequality. Third, it provides morphological evidence via the SDG 11.3.1 land-use efficiency framework on whether tourism-led urban expansion represents an efficient spatial fix or a speculative, land-intensive one. Fourth, it derives spatially differentiated policy recommendations that account for interprovincial spillover effects rather than treating each province as an isolated unit.

Corresponding to these objectives, four research questions guide the empirical analysis:

(RQ1) How does tourism development affect income inequality across Vietnamese provinces, accounting for spatiotemporal dependence?

(RQ2) To what extent does urbanization mediate the relationship between tourism development and income inequality, and how do spatial spillover effects shape this mediation channel?

(RQ3) How does tourism-driven urban land expansion relate to land-use efficiency, and what does this reveal about the nature of tourism as a spatio-temporal fix? (RQ4) What policy implications emerge from the spatially heterogeneous effects of tourism on income inequality for equity-oriented tourism planning?

1.3. Scope and Object of the Study

The subject of this research is the nexus among tourism development, urbanization, and income inequality in Vietnam, examined through the lens of

spatial dependence. The scope of this study includes all 63 provinces. The temporal scope covers the period 2018–2022, thereby offering variation in both the spatial and temporal dimensions of tourism-driven development. The econometric analysis draws on a balanced panel of socio-economic indicators compiled from the General Statistics Office of Vietnam (GSO) and the Provincial Competitiveness Index (PCI).

1.4. Main Contributions of the Dissertation

This dissertation makes three main contributions.

Theoretical contribution: The study extends the application of Harvey's (1982, 2001) spatio-temporal fix framework to the tourism-inequality domain, demonstrating how tourism development functions as a mechanism for fixing capital into urban space and producing uneven socio-spatial outcomes in a transitional economy. By integrating Jessop's (2006, 2007) concept of strategic state selectivity, the dissertation shows how local government decisions on land allocation and tourism-zone designation selectively facilitate certain accumulation strategies while marginalizing others.

Methodological contribution: The study pioneers a three-pronged spatial approach: (i) Geographically and Temporally Weighted Regression (GTWR) to capture spatiotemporal heterogeneity in the tourism-income inequality relationship; (ii) a Spatial Durbin Model (SDM) with mediation analysis to identify interprovincial spillover effects and the urbanization transmission channel; and (iii) SDG 11.3.1 morphological diagnostics to ground the statistical findings in physical evidence of land expansion patterns.

Empirical contribution: Based on provincial-level data from Vietnam's 63 provinces over 2018-2022, the dissertation provides new evidence that tourism weakens the equalizing demographic-absorption channel of urbanization, thereby intensifying inequality through spatial spillovers. The case-study analysis of Hanoi, Da Nang, and Ho Chi Minh City reveals morphological signatures built-up area expanding faster than population consistent with a speculative spatial fix.

1.5. Structure of the Dissertation

The dissertation is organized into five chapters.

Chapter 1 presents the research rationale, objectives, research questions, scope, contributions, and overall structure.

Chapter 2 reviews the literature on concepts and measurements of tourism, urbanization, and income inequality; the relationships among them; and identifies research gaps.

Chapter 3 develops the theoretical framework (spatio-temporal fix and state selectivity) and specifies the research methodology (baseline models, GTWR, SDM, SDG 11.3.1).

Chapter 4 reports the empirical results on spatial impacts, including baseline findings, Moran's I spatial autocorrelation evidence, GTWR spatiotemporal heterogeneity results, SDM mediation analysis, and case-study morphological evidence.

Chapter 5 discusses the main findings in theoretical perspective, derives policy implications, summarizes contributions, acknowledges limitations, and proposes future research directions.

CHAPTER 2: LITERATURE REVIEW

2.1. Concepts and measurement of key variables

2.1.1. Tourism development

This thesis conceptualizes tourism development as a socio-spatial transformation process rather than mere growth in tourist flows. In adopting the critical political-economy tradition, tourism is situated within capitalist accumulation and spatial restructuring. This perspective challenges deterministic views that certain places are naturally destined for tourism, arguing instead that tourism development results from deliberate mutations driven by stakeholders shaping infrastructure, services, and promotion (Knafou, 2000). From the 1980s onward, more critical and theoretically grounded perspectives emerged. Britton (1991) critiqued earlier work for being descriptive and “weakly theorised,” urging scholars to acknowledge the capitalistic nature of most travel and tourism production and consumption. Tourism came to be seen as part of global capitalist development, often involving transnational corporations, unequal power relations between tourist-generating and receiving regions, and the commodification of local cultures and places (Brohman, 1996). The modern perspective treats tourism as a complex socio-economic system: one that can reproduce inequalities if unchecked, but that might also be harnessed for inclusive development under the right conditions (Nugroho et al., 2025).

Tourism development is assessed through indicators that capture demand intensity, sectoral revenue generation, and macroeconomic contribution: tourist arrivals, tourism revenue, and tourism's share of GDP. This study employs revenue from accommodation and food service activities from GSO as a proxy for tourism development. According to the Tourism Satellite Account (TSA) framework, these industries are classified as “tourism-characteristic,” meaning that a substantial share of their output would not exist without visitor demand.

2.1.2. Urbanization

Urbanization is understood as a process of socio-spatial change in which tourism development supports the expansion of infrastructure and services,

leading to adjustments in land-use patterns as well as in the local economic and population structure. This definition bridges the demographic and spatial dimensions, recognizing that tourism-driven urbanization may produce physical expansion (built-up land) without proportionate demographic concentration (population absorption) a divergence that is central to the spatio-temporal fix framework.

Historically, scholars viewed urbanization through the lens of modernization, treating it as a linear, inevitable, and generally positive byproduct of industrialization (Kuznets, 1955). Lewis's (1954) Dual-Sector Model provided the foundational explanation for rural-urban migration. However, the optimism of these linear models began to fracture. Harvey (1978, 1982) reconceptualized urbanization not merely as a demographic shift, but as a "spatial fix" for capitalism. He argued that when capital faces crises of over accumulation, it switches into the built environment. From this viewpoint, urbanization is driven by the need to absorb surplus capital through real estate development and infrastructure projects. In the Asian context, McGee and Robinson (1995) introduced the concept of "desakota" to describe extended metropolitan regions where agriculture, industry, and residential land uses intermingle. The urban population rate is selected as the primary proxy variable for urbanization. For supplementary explanation of main results, the case study employs built-up land area derived from Japan Aerospace Exploration Agency (JAXA) satellite data.

2.1.3. Income inequality

Income inequality is described as "the gap between the rich and the poor" (Keeley Brian, 2015). The thesis examines the size distribution of income through several indicators. The Gini coefficient, derived from the Lorenz curve, is the most widely employed quantitative indicator. It ranges between 0 (perfect equality) and 1 (perfect inequality). The Palma ratio captures inequality dynamics at the extremes of the income distribution, defined as the ratio of the income share of the richest 10 percent to that of the poorest 40 percent. The Theil index, derived from information theory, has the advantage of additive decomposability into "within-group" and "between-group" components, making it particularly valuable for spatial and regional analyses. For empirical consistency and data

availability, the Gini coefficient is selected as the primary measure of income inequality, as GSO regularly publishes provincial-level Gini coefficients based on nationally representative household surveys.

2.2. Relationship between tourism and income inequality

2.2.1. Tourism and income inequality

Previous studies have examined the tourism-inequality relationship through neoclassical growth theory and tourism-led development models. The Tourism-led Kuznets Curve posits an inverted U-shaped relationship: inequality initially rises but eventually declines as benefits "trickle down" through labour markets (Alam & Paramati, 2016; Fang et al., 2021). The Pro-Poor Tourism (PPT) approach argues that integrating marginalized groups into tourism value chains turns the sector into an inclusive vehicle for growth. However, these frameworks neglect the structural power relations that determine who gains and who loses (Bianchi, 2009). Empirical findings highlight mechanisms through which tourism can widen inequality. Zhang (2021) shows that tourism development significantly increases income inequality in the presence of strong economic growth and openness. A critical spatial mechanism concerns the distinction between functional and personal income distribution. Piketty's (2015) demonstration that the rate of return on capital (r) exceeds economic growth (g) implies that tourism-dependent regions with rising capital intensity will experience secular increases in wealth concentration. A contrasting strand finds that tourism can reduce inequality under specific spatial and institutional conditions. Lv (2019), analysing 113 countries, reports a significant long-run negative effect of tourism expansion on regional inequality.

2.2.2. Urbanization mediating mechanism

Mullins (1991, 1994) introduced the concept of "tourism urbanization" whereby tourism functions as the primary engine for building new cities. Gotham (2005) described "tourism gentrification" where tourism-oriented commercial investment transforms residential neighbourhoods into entertainment districts. Harvey's concept of capital switching explains how tourism-led urbanization exemplifies the shift from commodity production into the built environment. The

multidimensional urbanization framework (McGranahan & Satterthwaite, 2014) distinguishes three dimensions land (physical expansion), population (demographic concentration), and economic (structural transformation) that do not always expand in unison. Tourism introduces a characteristic misalignment: land urbanization accelerates through resort and infrastructure construction, economic urbanization occurs as the service sector expands, but population urbanization may lag because tourism-oriented built environments do not generate stable, year-round employment. Gollin et al. (2016) distinguish “consumption cities” and “production cities” in developing countries consumption cities urbanize through tourism revenue without building a diversified productive base, achieving urbanization without industrialization and producing higher inequality.

2.2.3. Spatial spillover effects of tourism development

Spatial spillover effects operate through five interconnected channels. First, labour mobility: tourism expansion in one province attracts workers from neighbours, altering wage structures across regional labour markets. Second, investment competition: provinces compete for mobile tourism capital through land allocation, tax incentives, and infrastructure provision, generating “race-to-the-bottom” dynamics. Third, multi-destination tourism circuits: tourists visiting multiple provinces create revenue interdependencies that transmit distributional effects. Fourth, land-use transformation and housing-market capitalization: tourism reshapes urban land use in ways that expand urban land while weakening population density. Fifth, environmental and congestion externalities: tourism growth has been linked to increases in CO₂ emissions and environmental pressure.

Anselin’s (1988) taxonomy distinguishes substantive spatial dependence from nuisance spatial dependence. The Spatial Durbin Model (SDM) nests both forms by including spatially lagged dependent and independent variables. LeSage and Pace (2009) developed the framework for interpreting SDM coefficients as direct and indirect effects. Zeng and Wang (2021) provided a study examining spatial spillovers of domestic tourism on urban-rural income inequality across China’s 31 provinces using panel SDM, finding significant

negative indirect effects. These findings underscore those conventional methods assuming spatial independence risk misattributing regional processes to purely local drivers (Baltagi, 2021).

2.3. Research gaps and contributions

The literature review identifies several critical gaps.

First, *theoretical fragmentation across spatial domains*: literature treats tourism, urbanization, and income inequality as largely separate analytical domains, lacking a coherent “three-legged” analytical framework in which tourism acts as driver, urbanization functions as transmission mechanism, and income inequality emerges as outcome.

Second, *disconnect between critical spatial theory and quantitative tourism research*: Harvey’s spatiotemporal fix and Jessop’s state theory remain largely absent from econometric tourism-inequality analyses.

Third, *assumption of spatial and temporal stationarity*: much empirical literature relies on static econometric models assuming that the tourism-inequality relationship is uniform across regions and stable over time.

Fourth, *inadequate operationalization of urbanization*: urbanization is commonly proxied solely by the share of urban population, providing limited insight into the physical expansion of urban space.

Fifth, *lack of integration between physical morphological evidence and econometric analysis*: existing studies employ either econometric models or spatial analysis but rarely combine them.

Sixth, *limited evidence from transitional economies*: most studies examine advanced economies where urban systems are relatively mature.

CHAPTER 3: THEORETICAL FRAMEWORK AND RESEARCH METHODOLOGY

3.1. Theoretical framework

3.1.1. Spatio-temporal fix theory

The theoretical backbone draws on David Harvey's concept of the spatio-temporal fix (Harvey, 1978, 1981, 1982, 2001, 2003). Harvey argues that capitalism is inherently prone to crises of overaccumulation situations in which surplus capital and surplus labor coexist without profitable avenues for reinvestment. To defer such crises, capital "switches" from the primary circuit of commodity production into the secondary circuit of the built environment: real estate, infrastructure, and fixed capital formations. The concept of the "spatial fix" has a dual meaning: capital is literally fixed (immobilized) in physical space, and geographical expansion provides a temporary fix (resolution) for overaccumulation crises. Once capital is fixed in place, it creates geographical inertia a form of path dependence in which regions become locked into specific accumulation trajectories. When the spatial fix fails, devaluation crises ensue.

In this dissertation, tourism development is conceptualized as a paradigmatic instance of Harvey's capital switching. When provinces attract tourism investment, surplus capital flows into resort complexes, condotels, theme parks, and supporting infrastructure all forms of fixed capital in the built environment. The state plays a critical role in facilitating this switch through land allocation, tax incentives, and infrastructure provision. The temporal dimension operates through the promise of future tourism revenues: long-term investments are justified by projected visitor demand, effectively deferring the realization of value into the future.

3.1.2. State selectivity theory

Jessop fills a gap in Harvey's framework by conceptualizing the state not as a neutral instrument but as a terrain whose institutional structures systematically privilege certain strategies, actors, and spatial forms of capital accumulation over others (Jessop, 1990, 2002, 2007). Jessop's concept of "strategic selectivity" posits that the state's organizational architecture creates an

uneven playing field that advantages some accumulation strategies while disadvantaging others. Provinces that designate special tourism zones, streamline land-use conversion, offer tax holidays to resort developers, and invest public funds in tourism-oriented infrastructure are exercising strategic selectivity. Jessop also introduces "temporal sovereignty" the state's capacity to set the time horizons of economic activity through planning regulations and investment incentives.

3.1.3. Analytical framework

The dissertation translates the theoretical insight that capital is fixed in the built environment into an empirical framework linking tourism, urbanization, and income inequality. Three methodological choices follow directly: (i) GTWR to capture spatial-temporal heterogeneity, (ii) SDM to account for spatial dependence and spillovers, and (iii) the use of SDG indicator 11.3.1 to examine whether observed urban expansion keeps pace with population-related demand. A mapping table links each STF concept Capital switching, Spatial temporal fix, Demographic absorption, Spatial transmission, and STF efficiency to its theoretical meaning and empirical proxy variable in the study. Capital switching is proxied by log of accommodation and food service revenue (Intourf). The spatial temporal fix is captured through the SDG 11.3.1 framework (LCR). Demographic absorption is measured by urban population rate (lnurban). Spatial transmission is captured through spatial lags in the SDM ($W \cdot \text{Intourf}$, $W \cdot \text{lnurban}$). STF efficiency is measured through the Land Use Efficiency (LUE) indicator.

Traditional regression models assume that relationships between variables are uniform across space and stable over time. However, the theoretical framework foregrounds uneven development: provinces are embedded in different economic structures, spatial positions, and institutional capacities, so the same expansion of tourism can translate into very different distributional outcomes. GTWR addresses this problem by extending GWR with a temporal dimension, producing location-specific and time-specific coefficients rather than a single global estimate. SDM enables the thesis to estimate the mediation links while accounting for spatial interdependence. The SDG 11.3.1 diagnostic

connects statistical associations to the form of urbanization most relevant to a spatio-temporal fix perspective.

3.2. Model specification

3.2.1. Baseline model

The thesis establishes OLS, FE and IV models. with $Inequality_{it}$ is income inequality index (Gini coefficient) in location i at time t ; $Tourism_{it}$ is the natural logarithm of accommodation and food service revenue; X_{it} is a set of control variables including PCI (institutional quality), CPI (inflationary pressure), Industrial Production Index, Multidimensional Poverty Index, and log of population. Instrumental Variables (IV) estimation addresses the endogeneity concern using geographic distance from each province to Quang Binh (the 17th parallel) as the instrument.

3.2.2. Spatial autocorrelation test (Moran's I)

To investigate whether the distribution of income inequality follows a systematic geographic pattern, Global Moran's I statistics are employed. Values near +1 indicate strong positive spatial autocorrelation (clustering of similar values); values near -1 indicate strong negative spatial autocorrelation; values near 0 suggest spatial randomness.

3.2.3. Geographically and temporally weighted regression (GTWR)

$Y_i = \beta_0(u_i, v_i, t_i) + \sum_k \beta_k(u_i, v_i, t_i)X_{ik} + \varepsilon_i$. Where i represents the space-time location, which is the value of the province at a particular observing time; (u_i, v_i) are the coordinates and t_i is the observing time of the province i ; Y_i is the income inequality in the observing time i ; X_{ik} is a vector of explanatory variables; $\beta_k(u_i, v_i, t_i)$ is a vector of regression coefficients to be estimated from the data; and ε_i is the error term.

3.2.4. Spatial weight matrix

The study employs a queen contiguity matrix, whereby two provinces are defined as neighbors if they share any boundary point, including vertices. In Vietnam, provincial governance and tourism planning operate through administrative adjacency, and tourism spillovers are transmitted through shared

transport networks, labor markets, and regional tourism corridors that follow physical contiguity.

3.2.5. Spatial Durbin Model (SDM) with mediation

The mediation process is examined through a three-step spatial econometric specification: $Inequality_{it} = \alpha_0 + \theta_1 Tourism_{it} + \beta_1 X_{it} + \mu_i + \gamma_t + \varepsilon_{it}$ (3)

$$Urbanization_{it} = \rho Wurbanization_{it} + \phi_1 Tourism_{it} + \phi_2 WTourism_{it} + \beta_2 X_{it} + \mu_i + \gamma_t + \varsigma_{it}, \quad ((4))$$

$$Inequality_{it} = \rho Winequality_{it} + \alpha_1 Tourism_{it} + \alpha_2 WTourism_{it} + \alpha_3 Urbanization_{it} + \beta_3 X_{it} + \mu_i + \varepsilon_{it}, \quad ((5))$$

Where, $Inequality_{it}$ is income inequality index in location i at time t ; $Winequality_{it}$ is the spatial lag term of income inequality; $Winequality_{it} = \sum_{j=1}^n w_{ij} inequality_{jt}$; $WTourism_{it}$ is the spatial lag term of tourism development; $WTourism_{it} = \sum_{j=1}^n w_{ij} Tourism_{jt}$; and $Urbanization_{it}$ is urbanization rate in location i at time t as intermediary variable. $Wurbanization_{it}$ is the spatial lag term of urbanization; $Wurbanization_{it} = \sum_{j=1}^n w_{ij} urbanization_{jt}$.

3.3. Morphological spatial analysis (SDG 11.3.1 Framework)

SDG indicator 11.3.1 is defined as the ratio of the Land Consumption Rate (LCR) to the Population Growth Rate (PGR), providing a compact way to assess whether the physical expansion of built-up urban land is broadly aligned with changes in human presence. A LUE value equal to 1 indicates proportional expansion. Values greater than 1 indicate urban sprawl (land consumed faster than population growth). The dissertation extends the standard framework by introducing a tourism-adjusted measure: the Tourism Growth Rate (TGR) captures changes in tourist arrivals alongside resident population. The built-up land area data is derived from JAXA satellite imagery with a resolution of 30×30 m, processed using QGIS software.

3.4. Data Description

The dissertation constructs a provincial panel from the General Statistics Office of Vietnam (GSO) and the Provincial Competitiveness Index (PCI). The dependent variable is the Gini coefficient. The independent variable is the natural logarithm of revenue from accommodation and food services. The mediating variable is the urban population rate. Control variables include PCI, CPI, Industrial Production Index, Multidimensional Poverty Index, and log of population. Each variable is justified with detailed validity arguments linked to the theoretical framework.

CHAPTER 4: IMPACTS OF TOURISM ON URBANIZATION AND INCOME INEQUALITY

4.1. Overview of research context

Vietnam's tourism sector experienced dramatic growth before being sharply interrupted by the COVID-19 pandemic. Geographic maps show spatial clustering patterns in tourism development, urbanization, and the Gini coefficient. The descriptive analysis suggests that income inequality in Vietnam exhibits clear geographical variation across provinces, motivating the use of spatial econometric methods.

4.2. Baseline Findings

First, a multicollinearity test on the data confirms that all variables have low VIF values (average VIF = 1.77), ensuring reliable inference. The impacts of tourism on income inequality are positive and statistically significant in both OLS and FE models. The tourism coefficient of 0.008 is statistically significant at the 1% level, implying that a one-unit increase in log tourism revenue is associated with a 0.008 increase in the Gini coefficient. This coefficient implies a relatively small direct impact, suggesting that tourism does not function as a primary driver of inequality through immediate local redistribution mechanisms. Over the sample period, average provincial tourism revenue grew by approximately 40–60%, which would translate to a Gini increase of roughly 0.003–0.005 points – a modest but non-trivial effect when accumulated across provinces and years. The IV model using distance to Quang Binh as the instrument confirms the causal relationship with a Cragg-Donald Wald F statistic of 19.421, exceeding the Stock-Yogo critical value of 16.38 at 10%. Among control variables, multidimensional poverty positively affects inequality (*coefficient* = 0.004, *p* < 0.01), while population negatively affects inequality (*coefficient* = -0.027, *p* < 0.01). However, these baseline results do not demonstrate spatial heterogeneity or causal mechanisms, motivating the spatial analyses that follow.

4.3. Spatio-temporal autocorrelation results

The Global Moran's I values for the Gini coefficient are positive and statistically significant at the 1% level across all years from 2018 to 2022. Specifically, the Moran's Index increased significantly from 0.278 in 2018 to a peak of 0.477 in 2019, before stabilizing between 0.43 and 0.47 in the subsequent years. The *z-scores* range from 3.38 to 5.67, substantially higher than the critical value of 2.58. The *p-values* are all approximately 0.000. These findings confirm a strong positive spatial autocorrelation of income inequality in Vietnam. Provinces with high income inequality tend to be geographically clustered near other high-inequality provinces, while provinces with low inequality are situated near similar neighbors. This spatial clustering provides a robust empirical foundation for applying spatial econometric models (GTWR, SDM) rather than conventional OLS or fixed effects approaches that assume spatial independence.

4.4. Estimated Spatio-temporal Autocorrelation Models (GTWR)

The GTWR model reveals considerable heterogeneity in the tourism development–income inequality nexus across space and time. Given the large number of local coefficients generated, results are summarized using descriptive statistics. For each year, the estimated tourism coefficients range from approximately −0.007 (minimum) to 0.021 (maximum), with means around 0.007, confirming substantial variation. Model comparisons show GTWR outperforms TWR and GWR, indicating that both geography and time jointly shape the tourism-inequality nexus.

4.5. Spatial variation of the coefficients

The GTWR results reveal a growing spatiotemporal divergence in the impact of tourism development on income inequality between 2018 and 2022. The Northern region and Southern region saw increasingly positive coefficients (dark red tones on geographic maps), implying that tourism development disproportionately benefits higher-income groups and may exacerbate income inequality. This pattern is consistent with the concentration of capital-intensive tourism infrastructure FDI-driven projects, MICE tourism, and speculative real-

estate investment that channels returns predominantly toward asset owners while generating employment that is largely seasonal, informal, and low-wage.

Conversely, the Central region remains a “blue” cluster where tourism effectively narrows the wealth gap, with negative coefficients reaching approximately −0.4485 during the pandemic recovery in 2022. Central Vietnam's tourism economy is anchored in heritage-based and culturally embedded activities the imperial citadel of Hue, the ancient town of Hoi An, the Phong Nha cave system that generate broader employment participation through small and medium enterprises, family-run accommodation, artisanal production, and community-guided tours.

4.6. Temporal variation

The divergent temporal patterns across regions represent particularly interesting findings. The U-shaped pattern in the Northern region where the tourism-inequality coefficient declines from 2018 to 2020 before rising again suggests that tourism initially generated relatively inclusive growth before shifting toward more concentrated investment patterns during post-COVID recovery. The Southern region's inverted-U pattern, peaking around 2020, reflects earlier and deeper integration into global tourism circuits, where real-estate-oriented development generated strong inequality-increasing effects during the pre-pandemic boom before moderating. The Central region presents the most distinctive pattern: tourism coefficients are predominantly negative throughout the study period. The coexistence of these distinct regional trajectories within a single country provides novel evidence that the tourism Kuznets curve is not only development-stage dependent but also spatially contingent on local accumulation pathways and institutional contexts.

4.7. Estimated Spatial Durbin Model results

The SDM decomposes tourism's impact into direct local effects and indirect spillover effects and introduces urbanization as a mediation channel. Three models are estimated:

Model (1) Baseline model: Tourism is positively associated with inequality (coefficient = 0.008, $p < 0.01$).

Model (2) Tourism-Urbanization relationship: Tourism development does not translate into stronger urban population absorption. Tourism's direct effect on urbanization is -0.008 ($p < 0.05$); the indirect (spillover) effect is -0.034 ($p < 0.05$); and the total effect is -0.042 ($p < 0.05$). The spatial autoregressive coefficient ρ is 0.138 ($p < 0.10$). This indicates that tourism expansion is associated with lower urbanization both locally and through cross-provincial spillovers.

Model (3): Urbanization exhibits an inequality-reducing association dominated by spillovers ($LR_Indirect = -0.102$, $p < 0.05$). Tourism development's long-run effect on inequality is driven primarily by the spatial channel ($LR_Indirect = 0.011$, $p < 0.05$; $LR_Total = 0.011$, $p < 0.05$). The spatial autoregressive coefficient ρ increases to 0.384 ($p < 0.01$), confirming stronger spatial dependence in the mediated model.

These results mean that tourism weakens an equalizing channel the demographic absorption pathway while simultaneously generating inequality pressures through spatial restructuring. The spillover dominance has been documented in China and Indonesia, suggesting it may represent a generalizable feature of tourism-inequality dynamics in transitional Asian economies.

4.8. Case Study Analysis (SDG 11.3.1)

The case study analysis of Hanoi, Da Nang, and Ho Chi Minh City tests whether the statistical findings have a physical counterpart. These three cities are designated “national growth poles” for the Northern, Central, and Southern regions respectively.

Land Consumption Level (LCL) results: During the 2010–2015 period, most LCL values are negative, indicating that urban space expanded more slowly than population growth a phase of relative spatial compactness. In contrast, the 2015–2020 period is characterized by strongly positive LCL values across all three cities and all indicators, implying that urban space expanded faster than both resident and tourist populations.

Land Use Efficiency (LUE) results: In the 2010–2015 period, positive LCRPGR and LCRTGR values, combined with LUE values between 0 and 1,

indicate that land expansion remained broadly proportional to growth in both resident and tourist populations. In contrast, the 2015–2020 period marks a clear breakdown: LCRTGR becomes negative across all cities, driven by the collapse of tourism demand. LUE turns negative, signaling that urban land expansion is no longer supported by overall functional population dynamics the morphological signature of “spatial urbanization without demographic urbanization.”

The COVID-19 shock functions as a revealing event: when tourism demand collapsed, built-up land continued expanding because spatial investment is temporally rigid capital already committed to construction cannot be easily redeployed. Hanoi's case illustrates how tourism operates within a broader capital-switching dynamic where projects branded as “eco-tourism resorts” function as mechanisms for converting agricultural land to higher-value urban uses. Da Nang's condotel boom-bust cycle represents the most visible manifestation of a failed spatial fix. Ho Chi Minh City exhibits the most balanced land-use efficiency among the three cases only in the first period, reflecting its diversified economic base.

CHAPTER 5: DISCUSSION AND CONCLUSION

5.1. Discussion

5.1.1. The tourism–inequality nexus: evidence of spatial heterogeneity

The GTWR results reveal that tourism’s relationship with income inequality is not uniform across Vietnam but varies fundamentally by region and over time. In the Central region, tourism is anchored in heritage-based and culturally embedded activities that generate broad employment participation, creating multiple entry points for lower-income households. By contrast, the Northern and Southern regions are increasingly dominated by capital-intensive resort development, FDI-driven projects, and speculative real-estate investment. This interpretation consists of broader international evidence. Meta-analytic work by Zhang (2021) confirmed that tourism’s inequality-increasing effect is more pronounced in developing countries where institutional safeguards for redistribution are weak. Camacho and Ramos-Herrera (2025) found that tourism consistently increases inequality in developing economies in both the short and long run. The Vietnamese evidence reconciles seemingly contradictory findings by demonstrating that both outcomes can coexist within a single country: the direction depends on the local growth model, not on tourism per se. The simultaneous presence of a U-shaped curve in the North and an inverted-U in the South within the same national policy regime has not been previously documented.

5.1.2. Spatial spillovers and the institutional coordination gap

The SDM results show that tourism’s effect on inequality operates primarily through inter-provincial spillovers rather than direct local effects. Vietnam’s fiscal decentralization system creates a structural mismatch: provinces retain most tourism-generated revenues while negative externalities—labor market disruptions, land-price inflation, environmental degradation—spill across administrative boundaries without compensating fiscal transfers. This represents a governance fragmentation that systematically rewards provinces for attracting tourism investment while externalizing distributional costs to neighbors.

5.1.3. The decoupling of spatial expansion and demographic absorption

The SDM’s mediation result shows that tourism development is negatively associated with population-based urbanization, while urbanization itself reduces inequality through spatial spillovers. Tourism creates physical infrastructure without proportionally absorbing permanent residents because the employment it generates is often seasonal, informal, and insufficient to sustain permanent urban settlement. The case study analysis confirms this across all three cities, with the COVID-19 shock exposing the latent inefficiencies. In Vietnam’s context, this decoupling is amplified by the state-ownership land regime, where the government controls land allocation, defines “public interest” for conversion, and sets compensation levels for displaced communities. Research on tourism land governance has documented that local people’s rights are insufficiently guaranteed during conversion and that no formal Land Value Capture policy exists.

5.2. Theoretical Contributions

First, the dissertation extends Harvey’s spatio-temporal framework to tourism in a transitional economy where the state simultaneously owns all land and actively promotes tourism development—a configuration not captured by existing theoretical applications. The Vietnamese case reveals a distinctive form of the spatial fix in which the state’s dual role as landowner and tourism promoter creates accumulation dynamics simultaneously more politically directed and more distributionally opaque than market-economy counterparts.

Second, the dissertation identifies and empirically documents “dual urbanization”—a pattern in which tourism accelerates land-oriented urban growth while producing negative outcomes for demographic absorption. This finding challenges the widely held assumption that tourism-led development automatically urbanizes and therefore equalizes. The concept integrates observations from “phantom urbanization” in Indian tourist destinations (Nunna & Banerjee, 2022), “coastalization” in Mediterranean destinations (Lagarias & Stratigea, 2023), and population decline alongside built-environment expansion in Croatia (Mikulić et al., 2024).

Third, the dissertation contributes a multi-scale methodological framework combining macro-level spatial econometrics (GTWR and SDM at the provincial

scale across 63 provinces) with micro-level urban morphology diagnostics (SDG 11.3.1 at the city scale). Each scale addresses specific analytical limitations of the other: GTWR captures heterogeneity but cannot identify physical mechanisms; SDM identifies the mediation pathway but produces statistical coefficients rather than observable evidence; the SDG 11.3.1 case studies ground both findings in measurable land-use dynamics.

5.3. Policy Implications

5.3.1. Strengthening regional governance and fiscal spillovers

The dominance of indirect effects implies that equity-oriented tourism policy cannot be designed at the provincial level alone. The findings support the establishment of inter-provincial fiscal equalization mechanisms and regional tourism management authorities with cross-provincial coordination mandates.

5.3.2. Integrating demographic consolidation with tourism planning

The negative tourism-urbanization relationship suggests that tourism development strategies should be evaluated not only by revenue generation but also by their capacity to support permanent population settlement, affordable housing, and stable employment. Master plans should include demographic targets alongside economic projections.

5.3.3. Enhancing land-use efficiency and value capture mechanisms

The declining land-use efficiency documented in the case studies indicates that Vietnam's current land governance framework does not adequately prevent speculative tourism-driven land conversion. The findings support the adoption of formal Land Value Capture policies and the integration of SDG 11.3.1 monitoring into provincial planning processes. The 2024 Land Law provides opportunities for implementing community benefit-sharing mechanisms in tourism development zones.

5.4. Conclusion, limitations, and future Research

5.4.1. Conclusion

This dissertation has charted the spatial contours of the tourism-urbanization-inequality nexus in Vietnam. Tourism development is positively associated with provincial income inequality at the aggregate level, but this

finding conceals substantial spatial and temporal heterogeneity. The GTWR reveals that tourism's distributional effect changes sign and magnitude across provinces and over time. The SDM mediation analysis identifies a specific mechanism: tourism weakens an equalizing demographic-absorption channel by producing spatial expansion without proportional population settlement. The case study diagnostics ground these statistical findings in physical reality, demonstrating that built-up land continues expanding even when tourism demand contracts. Tourism in Vietnam is neither inherently equalizing nor inherently inequality-enhancing; its distributional impact depends on the development model, institutional quality, spatial planning, and land governance.

5.4.2. Limitations

Several limitations warrant consideration. The study period (2018–2022) overlaps with the COVID-19 pandemic, introducing volatility that complicates causal interpretation. The Gini coefficient may not fully capture distributional dynamics at the tails of the income distribution. The detailed SDG 11.3.1 analysis could only be performed for three cities due to limited resolution of built-up area data. The dissertation does not systematically address the gender and care dimensions of tourism-induced inequality. The spatial footprint approach cannot quantify the precise magnitude of asset-based inequality channels. Finally, the GTWR captures spatial heterogeneity but relies on local linear relationships; complex non-linearities or threshold effects may be missed.

5.4.3. Future research directions

Several paths emerge: (1) high-resolution remote sensing and machine learning could automate SDG 11.3.1 calculations for all urban centers across Vietnam; (2) intra-urban analysis using cadastral or census data would reveal how tourism-led development affects different neighborhoods within cities; (3) qualitative institutional analysis would illuminate governance dynamics that quantitative models suggest but cannot directly observe; (4) gender-disaggregated analysis of tourism employment and its distributional effects would address a significant gap; (5) extending the analysis to post-2022 data would test whether the spatial patterns identified here represent durable structural features or were influenced by COVID-19's unique disruption.

**RESEARCH PROJECTS RELATED TO THE
DISSERTATION BY THE PHD CANDIDATE**

1. Le Thi Bich Ngoc, Tran Thu Thuy (2026), ‘The relationship between tourism and income inequality in Vietnam’, *Journal of Finance and Accounting Research*, No. 01 (38) - 2026

2. Tran, Thuy Thu, Nguyen, Tuan Tran and Pham, Huong Lan (2024), ‘The influence of tourism on the development of urban space: Comparison in Hanoi, Danang, and Ho Chi Minh City’, *Open Agriculture*, Open Agriculture, vol. 9, no. 1, 2024, De Gruyter