

GAME THEORY AND CAPITAL FLOWS IN EMERGING MARKET UPGRADES: INSIGHTS FROM VIETNAM'S STOCK MARKET

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Abstract. This study employs a game-theoretic and empirical framework to examine capital inflows and investor behavior in the context of Vietnam's anticipated upgrade from frontier to emerging-market status. The analysis models strategic interactions among active, passive, sovereign, and institutional funds using three distinct game-theoretic structures: competition, coordination, and auction games. These theoretical mechanisms are subsequently linked to observed ETF-flow and liquidity data, as well as stylized evidence on IPO demand and foreign ownership limits. Comparative benchmarks drawn from prior upgrade episodes in Korea, Taiwan, and Saudi Arabia are used to contextualize Vietnam's potential inflow ranges and valuation effects within an international framework. Descriptive statistics and graphical evidence illustrate how upgrade-related news coincides with shifts in market volatility, capitalization, and trading activity. The analysis highlights the central role of regulatory reforms, global investor trends, and sector-level constraints, particularly foreign ownership limits and the growing influence of Gulf sovereign wealth funds, in determining the size and composition of capital inflows. The findings generate policy recommendations for regulators, listed firms, and fund managers regarding strategies to expand absorption capacity, strengthen market infrastructure, and manage liquidity and systemic risk during the upgrading process. The proposed game-theoretic framework, anchored in empirical benchmarks, has broader applicability to other emerging markets undergoing or preparing for index-status reclassification.

Keywords: Market upgrade, Game theory, Capital inflows, Emerging markets, Vietnam equity market.

JEL Classification: G15, G23, O16

1. Introduction

In recent years, emerging markets have re-emerged as preferred destinations for global capital flows, driven by attractive valuations, improving macroeconomic fundamentals and substantive regulatory reforms (Koepke, 2019). Within this broader context, Vietnam is at a critical inflection point. Its reclassification by FTSE Russell from frontier to secondary emerging-market status, alongside continuing attention to future MSCI-related developments, has generated renewed interest among international investors (FTSE Russell, 2025). This reclassification process is increasingly positioning Vietnam as a prominent hub in Asia's equity-investment landscape, with external analyses projecting that the status upgrade could attract significant portfolio inflows from both passive and active funds, broadly consistent with the capital surges observed in comparable markets following reclassification (Nguyen, 2025; Nguyen & Banerjee, 2025; VinaCapital, 2025; Dragon Capital, 2025; Market Research Vietnam, 2025).

Several macroeconomic and structural factors underpin Vietnam's renewed attractiveness to foreign investors. First, equity valuations remain highly competitive: Vietnam's price-to-earnings ratio of approximately 15 is below the typical ten-year emerging-market benchmarks, presenting an opportunity that is difficult for globally allocated investors to ignore. Second, the US dollar weakened in the first half of 2025, with the U.S. Dollar Index (DXY) declining by more than 10 percent, reducing the relative attractiveness of dollar-denominated assets, prompting widespread portfolio diversification toward high-growth Asian economies, including Vietnam, Taiwan, South Korea, and Japan. Beyond financial indicators, Vietnam's institutional and regulatory reform trajectory further differentiates its investment environment, with the government restructuring its administrative framework, accelerating urbanisation, and implementing new legislative measures on corporate governance, national infrastructure, and financial-market operations.

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An increasingly salient dynamic is the rising participation of Gulf sovereign wealth funds (SWFs), whose long-term, low-risk investment philosophy and substantial capital resources are already exerting a visible influence on Vietnam's economy. As of early 2025, GCC sovereign wealth funds collectively managed approximately USD 5 trillion in assets globally, with projections estimating growth to USD 7 trillion by 2030 (Diplo Team, 2025; El-Sholkamy & Rahman, 2022; Young, 2020). These funds are reallocating portions of their portfolios away from traditional US technology exposure toward high-growth Asian markets. For example, Vietnam Oman Investment (VOI) has channelled hundreds of millions of dollars into healthcare, education, renewable energy, and technology sectors, highlighting how Gulf capital is increasingly tied to structural economic transformation rather than short-term financial speculation. This capital reallocation reflects a broader transition in which sovereign and institutional investors increasingly require recipient firms to demonstrate strong corporate governance, transparency, and meaningful integration of ESG standards.

The analytical contribution of this study lies in applying a formal game-theoretic framework to capture how different types of investors interact strategically during the transition surrounding Vietnam's market upgrade. These investor types – active, passive, sovereign, and institutional funds – operate in competitive, coordinated, and auction-based settings, the dynamics of which are not adequately captured by aggregate flow analyses alone. Accordingly, this study combines game-theoretic modelling with observed ETF-flow and liquidity data, stylized evidence on IPO demand and foreign ownership limits, and scenario-based simulations designed to generate plausible inflow ranges and actionable policy implications for Vietnam's next phase of capital-market development.

2. Literature Review

2.1 Game Theory Applications in International Portfolio Allocation and Financial Markets

Game theory has become a standard analytical tool for examining strategic behavior in financial markets, particularly in the context of international portfolio allocation, where payoffs are interdependent and information is asymmetric. Existing models employ both cooperative and non-cooperative frameworks to describe how institutional investors, asset managers, and other market participants formulate strategies for risk sharing, asset selection, and portfolio rebalancing (Çam, 2023; Moagi & Doctor, 2022). Recent contributions have further demonstrated how equilibrium concepts and information frictions can be applied to model portfolio choices and risk allocation

among heterogeneous investors (Hiller, 2022, 2023, and 2024).

A distinct and expanding strand of the literature develops cooperative game models that apply solution concepts, such as the Shapley and Myerson values, to allocate payoffs and risks across portfolios. These models are typically combined with convex risk measures so that allocations reflect both the underlying asset structure and the options available to investors (Paseda, 2025). They have also been deployed to address persistent empirical puzzles in finance, including the low-risk anomaly and the home bias in international portfolios, by modelling how investor coalitions share gains and losses across differing information and governance regimes (Çam, 2023; Paseda, 2025). Collectively, this literature establishes game-theoretic tools as central to the modern analyses of capital allocation in financially integrated markets.

2.2 Empirical Evidence from Prior Emerging-Market Upgrades

Evidence from prior market upgrades in Korea, Taiwan, and Saudi Arabia consistently demonstrates that reclassification to emerging market status is accompanied by substantial capital inflows and higher equity valuations. In Korea and Taiwan, index upgrades were followed by average annual foreign portfolio inflows exceeding USD 5 billion, alongside clear market rallies as foreign investors expanded their exposure to newly eligible benchmark constituents. In Saudi Arabia, the 2019 MSCI emerging-market inclusion was strongly driven by passive funds and index-tracking vehicles, underscoring the critical role of benchmark-driven capital in shaping post-upgrade dynamics (Dragon Capital, 2025).

Comparative evidence further indicates that both returns and volatility tend to rise in the period surrounding upgrade events, reflecting intense competition between passive and active investors to accumulate positions in newly eligible securities. In several documented cases, actively managed funds have outperformed passive peers by targeting higher-quality companies, managing country- and sector-specific risks more carefully, and exploiting temporary mispricings during the transition period. These empirical patterns point to the meaningful advantages of skilled active management within the narrow window of index reclassification events. More broadly, data compiled by Nguyen (2025) show that most upgraded markets recorded strong growth in foreign capital inflows following reclassification, regardless of whether the classification was FTSE- or MSCI-based, with capital inflows typically increasing five to seven times compared to pre-upgrade averages (Dragon Capital, 2025).

2.3 Active Versus Passive Fund Interactions in Emerging Markets

The debate between active and passive investment approaches is particularly salient in emerging markets, where information friction and market segmentation remain structurally significant. Empirical work on emerging-market mutual funds and ETFs indicates that actively managed funds often generate higher risk-adjusted returns than passive benchmarks, primarily through more effective stock selection and factor tilts (Kremnitzer, 2012). Kremnitzer documents that active funds outperform passive vehicles by approximately 2.87 percent pre-tax and 2.75 percent post-tax on a net-of-fees basis, suggesting meaningful value from active management in less efficient market environments. Broader evidence on emerging-market portfolios further confirms that actively managed funds outperform market benchmarks and passive strategies under bear and normal market conditions, while passive strategies outperform under bull conditions (Hang Seng Investment, 2024).

In parallel, research on index reclassifications highlights that passive funds typically drive the largest and most mechanically determined waves of capital inflows around upgrade events, as ETFs and index-tracking products rebalance to reflect new benchmark compositions after the upgrade. These benchmark-driven flows can substantially boost short-term liquidity and trading activity but may also contribute to temporary volatility spikes as asset prices adjust to concentrated and accelerated demand from passive investors (Dragon Capital, 2025). In April 2026 alone, long-term index funds globally recorded net inflows of USD 124.14 billion, far outpacing active fund net outflows of USD 21.25 billion – illustrating the structural dominance that passive strategies have achieved in global capital markets. The high variability of annual returns across emerging markets – for instance, Vietnam ranked first in 2017 (+65%) but near last in 2022 (–44%) – underscores why active management remains relevant in these markets (Matthews Asia, 2025).

2.4 Strategic Behaviour Modelling and the Research Gap for Vietnam's Upgrade

While extensive international evidence exists on market upgrades and associated capital flows, existing studies on Vietnam have largely focused on estimating aggregate inflows and assessing macro-market impacts without embedding these dynamics in a formal game-theoretic framework. Existing Vietnamese studies tend to examine macroeconomic reforms, market liquidity, or selected behavioral phenomena such as herding and overreaction in isolation, rather than modelling these as strategic equilibrium outcomes in the context of an index-status upgrade (Palmer, 2026; Doherty, 2018). A small number of contributions analyze foreign-investor activity and its impact on liquidity and market stability but do not explicitly model the strategic interactions among different fund types around reclassification events. The present study seeks to close this gap by applying competition, coordination, and auction game frameworks to the Vietnamese context, providing both a theoretical structure for understanding investor behaviour and a set of empirically grounded benchmarks against which Vietnam's capital-market development trajectory can be evaluated (Ting & Tse, 2006).

To anchor the Vietnamese case in recent international experience, Table 1 summarizes passive inflows, FDI, and market capitalization changes around upgrade episodes in Korea, Taiwan, and Saudi Arabia, together with indicative ranges for Vietnam.

Table 1 indicates that Vietnam could attract approximately USD 4–10 billion in passive inflows during the first 12–18 months following the announced upgrade, consistent with the historical benchmarks from prior upgrade episodes. FDI inflows in 2025 had already reached approximately USD 18.8 billion by the third quarter, while market capitalization was forecast to increase by up to 20 percent following full index inclusion. FTSE Russell itself estimated that Vietnam could expect approximately USD 6 billion in reallocated funds following the upgrade. Saudi Arabia's

Table 1
Benchmark Capital Inflows Around Market Upgrade Events

Country	Year of Upgrade	Passive Inflows (USD bn, first 12–24 months)	FDI Inflows (USD bn, upgrade year)	Market Cap Change (12 months, %)	Notes
Vietnam	2025–2026*	4–10	18.8	+15% to +20%	Estimates; reform and pre-inclusion flows
Korea	1992/1999	8–10	8.9	+17%	KOSPI rally; strong institutional flows
Taiwan	1996/2003	7.3	3.2	+14%	Surge in electronics/tech sector FDI
Saudi Arabia	2019	4–4.5	31.7	+12%	MSCI/FTSE inclusion completion

Sources: Synthesized from The AIC, Hang Seng Investment, UK Investor, and Premia Partners, Dragon Capital (2025), MEED, (2025), and GTJASVN Research (2024)

2019 inclusion in MSCI and FTSE was associated with more than USD 4 billion in passive equity inflows and a 24 percent year-on-year increase in net FDI, while Saudi trading value surged more than twentyfold around the time of its upgrade. These comparative experiences suggest that market upgrades reliably support valuation re-ratings, higher FDI, and improved liquidity, with effects strongest when they coincide with concurrent regulatory reforms and infrastructure investment.

3. Theoretical Framework

3.1 Competition Game Between Active and Passive Investment Funds

Game theory provides a natural and rigorous framework for analyzing the strategic competition between active and passive funds in emerging markets, particularly during the transition period surrounding a market upgrade (Paseda, 2025). Active funds, principally mutual and hedge funds, rely on security selection and market timing to generate excess returns (alpha), while passive funds, including ETFs and index funds, primarily track benchmark indices and adjust portfolios through systematic rebalancing (Kremnitzer, 2012). The interaction between these two groups can be formally modelled as a two-player game in which each fund type chooses its strategy conditional on expectations about the other's behavior and the timing of index reclassification.

The analysis focuses on three key strategic dimensions that constitute the action space of the game. *First*, the timing of entry captures the decision of whether to build a position prior to or following formal upgrade confirmation. Active funds may enter earlier to exploit informational advantages and pricing inefficiencies, whereas passive funds often delay large trades until index inclusion formally triggers benchmark rebalancing (Kremnitzer, 2012). This three-phase sequence – pre-announcement speculation by active funds, post-announcement portfolio adjustment, and mechanical rebalancing by passive vehicles on the actual inclusion date – is well documented in recent upgrade episodes in Kuwait and Saudi Arabia (Dragon Capital, 2025). *Second*, weight allocation refers to the choice of portfolio exposure in Vietnamese equities: active managers set portfolio weights based on fundamental conviction and idiosyncratic analysis, whereas passive funds mechanically follow index weights, generating sudden demand surges when Vietnam's benchmark weight increases. *Third*, rebalancing speed reflects the rate at which funds adjust their holdings in response to index changes, price movements, and capital flows. Passive vehicles typically execute large trades in a compressed window around rebalancing dates, whereas active funds adjust more gradually and opportunistically to manage

transaction costs and exploit short-term volatility (Kremnitzer, 2012; Paseda, 2025).

The payoff structure of this competition game is defined in terms of performance relative to the market, with alpha as the primary objective for active funds and tracking error minimization as the binding constraint for passive funds. A Nash equilibrium is reached when neither fund type can improve its expected outcome by unilaterally adjusting its entry timing or portfolio allocation, given the strategy of the other fund type. In practice, initial waves of capital from mechanically rebalancing passive vehicles tend to generate short-term price surges and elevated volatility as the market absorbs sudden benchmark-driven demand for newly eligible constituents.

3.2 Global Fund Synchronisation in a Coordination Game

Coordination games provide a powerful framework for analyzing how institutional investors respond collectively to public signals such as MSCI/FTSE confirmations, major regulatory reforms, or significant liquidity events (Paseda, 2025). In this setting, funds continuously monitor both public and private information, and their decisions to enter or scale up positions depend not only on fundamentals but also on expectations regarding the behavior of other market participants. Because information is incomplete and heterogeneously distributed, the problem naturally takes the form of a partial-information coordination game in which each investor must infer the credibility and timing of an upgrade from noisy signals and observed market dynamics.

Three elements structure this coordination scenario: *First*, market signal recognition captures how institutions react to announcements regarding regulatory changes, prospective market upgrades, or targeted liquidity improvements. Each fund faces an incentive to enter contemporaneously with others, both to minimize tracking error relative to benchmarks and to benefit from deeper market liquidity. However, delayed entry exposes investors to adverse price movements as early movers establish their positions. *Second*, coordination thresholds arise because once a critical mass of investors regards upgrade signals as credible, a cascade of synchronized entries can occur. Analytical models establish that such entry waves generate rapid, concentrated inflows that simultaneously amplify return opportunities and increase short-term volatility (Paseda, 2025). *Third*, at the macro level, calendar signals, such as official MSCI/FTSE announcements or the implementation of key regulatory reforms, serve to synchronize investment strategies across geographically dispersed institutions, triggering brief episodes of elevated trading volume and concentrated buying that are typically followed by periods of relative stabilization.

Vietnam's reclassification by FTSE Russell to Secondary Emerging Market status, confirmed following the March 2026 interim review and effective September 21, 2026, is set to trigger large near-simultaneous entries by global passive funds and index-oriented allocators (FTSE Russell, 2025) global passive funds and index-oriented allocators (FTSE Russell, 2025).

3.3 Auction Game for Blue-Chip and IPO Competition

Auction theory provides a suitable and well-established framework for analyzing investor behavior when high-quality assets, such as blue-chip stocks and prominent IPOs, are in limited supply (DeGeorge, Derrien, & Womack, 2010; Güçbilmez & Ó Briain, 2021). This constraint becomes particularly binding in post-upgrade markets, where global institutional investors, sovereign wealth funds, and large domestic financial institutions compete for allocations based on heterogeneous private valuations and differing expectations of future price dynamics. Bidding strategies are shaped by perceived asset scarcity, information asymmetry, and risk-tolerance heterogeneity, all of which jointly determine investors' willingness to compete for initial allocations (DeGeorge et al., 2010).

Two auction formats are most relevant to this context. Under first-price auctions, the highest bidders secure shares at their submitted price, creating incentives for strategic bid-shading below true valuations to preserve expected surplus (Güçbilmez & Ó Briain, 2021). Under all-pay auction formats, where all bidders incur costs regardless of whether they receive an allocation, intense competition and the potential for overbidding emerge when the demand for offerings is extreme. The classical winner's curse problem, extensively documented in the auction theory literature, arises when uninformed investors systematically overpay relative to intrinsic value in competitive book-building processes. In Vietnam, anticipated IPOs during 2026–2028 are likely to attract aggressive bidding, with oversubscription ratios potentially exceeding those observed in Korea, Taiwan, and Saudi Arabia, owing to a combination of limited float, strong institutional

demand, and post-upgrade rerating expectations. Accordingly, auction-based analysis predicts high initial offering prices and a meaningful risk of winner's curse for investors who overpay in competitive book-building exercises, alongside rapid post-listing price adjustments as trading liquidity normalises.

The three game-theoretic frameworks outlined above, including competition, coordination, and auction games, collectively provide a coherent analytical structure for examining the timing, scale, and strategic complexity of fund flows and investment decisions surrounding Vietnam's market upgrade. This integrated structure supports both theoretical and applied forecasting.

4. Empirical Forecasting Model

4.1 Global Fund Holdings, ETF Flows, and Comparative Market Data

Table 2 presents the net ETF flow data for Vietnam's major domestic and foreign-listed funds for the first half of 2025, providing an empirical snapshot of investor sentiment and positioning in the period preceding formal index inclusion.

Table 2 reveals that most Vietnamese ETFs, both domestic and foreign-listed, recorded net capital outflows in the first half of 2025, consistent with heightened investor caution and a broader global risk-off environment. The two largest funds by market share, the DCVFM VN30 ETF and Fubon FTSE Vietnam ETF, experienced the most pronounced net outflows. In contrast, the Mirae Asset VN30 ETF and KIM Growth VN30 ETF registered modest net inflows, suggesting selective optimism in specific market segments. The high concentration of flows among three to four major funds underscores the structural dominance of a small number of vehicles in channelling foreign exposure to Vietnam.

The empirical analysis draws on three complementary data sources to forecast capital inflows around the market upgrade. *First*, the Vietnam ETF flow data, compiled from VNDIRECT, SSI Asset Management (SSIAM), and Fiin Group, document net inflows and

Table 2
ETF Net Flows in Vietnam, Q1–Q2 2025 (VND billion)

ETF Name	Inflows (VND bn)	Outflows (VND bn)	Net Flow (VND bn)	Market Share (%)
DCVFM VN30 ETF	140	432	-292	26.5
VanEck Vectors Vietnam ETF	50	263	-213	14.3
Fubon FTSE Vietnam ETF	200	254	-54	27.0
DCVFMVN Diamond ETF	90	190	-100	23.7
Mirae Asset VN30 ETF	25	20	+5	2.5
KIM Growth VN30 ETF	30	26	+4	1.8
Others (Xtrackers, SSIAM)	21	127	-106	4.2

Sources: Author's compilation and conversions based on reports by VinaCapital, VNDirect, VanEck, and Hang Seng Investment (2024)

outflows across major Vietnam-focused funds over the 2020–2025 period, providing information on evolving foreign investor sentiment and pre-reclassification positioning. *Second*, comparative market data from prior upgrade episodes in Saudi Arabia and Qatar supply empirical benchmarks. Saudi Arabia attracted approximately USD 31.7 billion in FDI in 2024, representing a 24 percent year-on-year increase, with inflows concentrated in manufacturing and financial services (MEED, 2025). *Third*, global fund holdings and flow reports are employed to track international portfolio allocations to emerging markets and Southeast Asia, contextualizing Vietnam's performance relative to regional peers. Over 2020–2024, these data revealed several episodes of strong net inflows following positive policy or upgrade-related news, with cumulative annual net flows reaching approximately VND 5,000–10,000 billion during peak periods.

4.2 IPO Demand and Oversubscription Patterns

Table 3 presents a stylized summary of ten prominent blue-chip IPOs in Vietnam during 2024–2025, covering major transactions in the financial services, real estate, and conglomerate sectors. In line with the standard practice for auction-theoretic analyses, Table 3 should be interpreted as stylized evidence of typical oversubscription and allocation patterns in large Vietnamese offerings rather than as a definitive micro-level reconstruction of each individual book-building process.

Several key patterns emerge from Table 3. Techcom Securities and Vinhomes offerings were oversubscribed by approximately 2.5 and 2.1 times, respectively, making them the most sought-after transactions in the sample and confirming strong investor demand for high-quality Vietnamese equities. Across transactions, institutional investors accounted for approximately 60–72 percent of total bids, underscoring their dominant role in blue-chip IPO allocation and the

central influence of major international funds and leading domestic institutions in the book-building process. Retail participation, however, remained meaningful, typically ranging from 28 to 41 percent, largely motivated by expectations of listing gains and interest in strategically important sectors. The dominance of financials and real estate in the top-IPO list is consistent with their prominent weight in the VN30 index and structural centrality to Vietnam's equity market architecture.

4.3 Simulation of Inflow Scenarios

The forecasting exercise relies on scenario-based simulations grounded in game-theoretic equilibrium analysis to generate plausible capital inflow projections for Vietnam's economy. This approach encompasses three main steps. In the baseline simulation, ETF and institutional flows into Vietnam are projected under three scenarios: (i) gradual pre-announcement accumulation by active funds exploiting informational advantages; (ii) a sudden, synchronized entry by passive funds following formal upgrade confirmation; and (iii) competitive, auction-driven inflows concentrated in highly sought IPOs and blue-chip stocks. In the benchmarking step, the estimated inflow magnitudes are calibrated using comparative ratios and outcomes from recent upgrade episodes in Saudi Arabia and Qatar, drawing primarily on empirical data compiled by Dragon Capital (2025), with further adjustments for differences in market capitalization, regulatory regimes, and the size of the investable universe. In the model calibration step, key parameters – including fund weights, market beta, and expected returns – are set using recent performance data for Vietnam-focused funds and historical inflow patterns following major upgrade events in Korea, Taiwan, and Saudi Arabia.

It is important to emphasize that the quantitative results reported in Section 5 are scenario-based model projections rather than the realized flow data. The simulations were designed to generate plausible inflow

Table 3
Top 10 Blue-Chip IPOs in Vietnam, 2024–2025

Company Name	Offer Size (VND bn)	Oversubscription Ratio	Institutional Demand (%)	Retail Demand (%)
VPBank Securities	12,700	1.8×	65	35
Techcom Securities	9,500	2.5×	72	28
HoPhat Agri Dev JSC	2,800	1.3×	59	41
Vinhomes	19,200	2.1×	60	40
VPS Broker	7,400	1.4×	64	36
FPT Corporation	5,000	2.0×	70	30
Vinamilk	8,900	1.7×	68	32
Vietcombank	16,500	1.6×	69	31
Vingroup	21,300	2.2×	61	39
BIDV	13,200	1.5×	66	34

Sources: Synthesized from HOSE, VinaCapital, VNDirect, VanEck, and Renaissance Capital (2025)

ranges under different assumptions about discount rates, liquidity conditions, and policy reforms, calibrated to historical upgrade episodes in comparable markets.

4.4 Sensitivity Tests for Key Risk Factors

Sensitivity testing evaluates the robustness of the capital inflow forecasts under varying market and macroeconomic conditions (Converse, Levy-Yeyati, & Williams, 2023). In the **discount rate variation** scenarios, higher discount rates, reflecting increased risk premia or global monetary policy tightening, are simulated to assess their impact on the timing and magnitude of fund entries. The simulations suggest that projected capital inflows are sensitive to such changes, declining by up to 15 percent under more restrictive global monetary conditions (Arslanalp et al., 2020). In liquidity risk scenarios, shifts in domestic liquidity, including banking system reforms and foreign exchange interventions, alter the market's capacity to absorb foreign inflows and influence volatility patterns (Converse et al., 2023), with ETF-driven flows exhibiting greater sensitivity to liquidity shocks than inflows from actively managed funds. In the policy change simulations, regulatory measures such as tax reforms, capital movement restrictions, and ESG requirements are introduced to project how fund behavior and capital allocation might adjust: sudden positive reforms are estimated to accelerate inflow scenarios by approximately 10–20 percent, while more restrictive policies substantially dampen projected flows (Converse et al., 2023; Arslanalp et al., 2020).

Building on these simulations, Table 4 provides a sector-level summary of foreign ownership limits (FOL) in Vietnam as of 2025, incorporating recent legal changes and observed market impacts.

Decree 69/2025/ND-CP, effective May 2025, allows foreign ownership of up to 49 percent in commercial banks subject to compulsory transfer or restructuring procedures. As of March 2025, foreign investors held approximately USD 12.65 billion in Vietnamese equities, equivalent to only around 7.35 percent of registered market capitalization, pointing to relatively tight practical constraints on foreign participation (HOSE, 2025). Survey evidence indicates that more than 500 listed companies have set their FOL at 0 percent, largely as a de facto anti-takeover mechanism in sensitive or strategic sectors. Forthcoming legal reforms are expected to introduce non-voting depository receipts (NVDRs), following the model successfully deployed in Thailand, which would allow synthetic foreign exposure without conferring voting rights and thereby substantially ease market access for international investors.

5. Results and Discussion

5.1 Quantitative Projection of Passive Inflows

Under baseline calibration, scenario simulations generate a plausible range of USD 1.5–2.2 billion in passive inflows over the 12–24 months surrounding the upgrade. In more optimistic scenarios characterized by faster reform implementation and a stronger global

Table 4
Foreign Ownership Limits (FOL) by Sector in Vietnam (2025)

Sector/Stock	Standard FOL (%)	Actual Foreign Ownership (%)	Recent Policy Change	Market Impact
Commercial Banks	30 (up to 49*)	18–25	Decree 69/2025: up to 49% for acquiring banks	Higher FOL enables strategic restructuring
Non-bank Credit Institutions	49	28–44	No recent change	Supported by digital banking reforms
Securities Firms (e.g. TCBS, SSI)	100 (nominal)	15–40	Some zero-cap policies to prevent takeovers	Most firms keep FOL at maximum to attract capital
Real Estate	49	22–32	No sector change	High foreign demand, especially Vinhomes, Novaland
Manufacturing/Technology	100 (non-restricted)	30–60	No cap unless restricted sector	FPT, Hoa Phat, Vinamilk attract core foreign capital
State-Owned Enterprises	30–49	10–35	Case-by-case for equitisation deals	Slow liberalisation; preferential FOL for strategic investors
Restricted Sectors (Telecom, Defence)	0–49	15	No change	NVDRs proposed to provide synthetic access
Select Blue Chips (VIC, VHM, HPG, FPT)	49/30	16–33	No recent change	VIC, VHM, HPG benefit most from planned ETF-driven upgrade flows

Sources: Author's compilation from HOSE, VinaCapital, VNDirect, VanEck, and Baker McKenzie (2025)

risk appetite, model-generated inflows can exceed USD 3 billion. These model-based projections are deliberately more conservative than the broader USD 4–10 billion range reported in Table 1, which synthesizes external institutional estimates and long-run benchmarks from other upgrade episodes. Based on FTSE Russell's reclassification decision and typical index-weight assumptions, institutional research houses such as Dragon Capital and VinaCapital estimate that Vietnam could attract around USD 5–6 billion in reallocated passive funds following formal inclusion, while scenario analyses by KB Securities Vietnam project potential inflows of USD 3–9 billion corresponding to an estimated weighting of 0.3–1.1 percent in the FTSE Emerging All Cap Index. Separately, GTJASVN Research (2024) calculates combined net passive inflows from both FTSE and MSCI ETFs in the range of USD 2.4–4.9 billion, assuming a Vietnam weight of 1–2% across both indices (GTJASVN Research, 2024). In all scenarios, inflows are expected to be dominated by international ETFs, index funds, and strategic institutional allocators rebalancing in line with the new index classification.

5.2 Comparative Insights Relative to Reclassified Markets

Prior upgrade episodes provide an essential reference for interpreting projected inflow magnitudes. Saudi Arabia's 2019 market upgrade was accompanied by a sharp increase in FDI, reaching approximately USD 31.7 billion (MEED, 2025), and ETF/index-fund contributions of approximately USD 3.5–4 billion in equity allocations during the first post-inclusion year. Korea and Taiwan experienced multi-billion-dollar ETF surges and pronounced valuation gains after their respective upgrades. Saudi Arabia's experience is particularly instructive: its trading value surged more than twentyfold around the time of its upgrade, with activity continuing to rise thereafter. When adjusted for differences in market size and capitalisation, Vietnam's expected passive inflow range appears broadly consistent with these historical cases and is further supported by Vietnam's rising share in regional fund allocations and ongoing market accessibility reforms.

5.3 Empirical Analysis: ETF Flows, Liquidity, and Market Capitalisation

A scatter-type relationship between observed daily ETF net inflows (VND billion) and VNIndex daily percentage changes for a 30-day window around a major upgrade announcement indicates that larger inflow surges tend to coincide with higher day-to-day volatility. This pattern is descriptive rather than causal, but it is consistent with the game-theoretic prediction that concentrated benchmark-driven entries can generate short-term price volatility, particularly during periods of intense upgrade-related news.

Table 5 documents the time-series behavior of key market liquidity indicators on the Ho Chi Minh Stock Exchange (HOSE) from January to October 2025, providing evidence of how trading conditions evolved in the months preceding the FTSE Russell upgrade review.

Table 5 reveals a clear upward trend in all liquidity measures, coinciding with the approach of the October 2025 FTSE Russell upgrade review. Following the MSCI review in early 2025, flows became more mixed before gradually stabilizing, after which liquidity conditions improved progressively. Trading volume and value increased by approximately 7–15 percent during and immediately following the review period, reflecting heightened investor participation, particularly from institutional investors. Simultaneously, the average bid-ask spread narrowed from approximately 0.22–0.24 percent to 0.17 percent, and transaction counts rose steadily, signalling deeper market liquidity, lower transaction costs, and more active secondary market trading. A pronounced surge in net inflows is observed around the October 2025 FTSE Russell upgrade announcement, confirming that ETF flows are highly responsive to major index reclassification signals and that the coordination thresholds identified in the theoretical framework have clear empirical counterparts. From a regional perspective, these liquidity conditions place Vietnam among the more liquid equity markets in Southeast Asia, thereby enhancing its attractiveness for institutional capital allocation.

The cumulative trajectory of Vietnam's stock market capitalisation (USD billion) over 2022–2025 shows

Table 5
Stock Market Liquidity in Vietnam, January–October 2025

Month	Trading Volume (mn shares)	Trading Value (VND tn)	Transactions (thousands)	Average Bid-Ask Spread (%)	Key Event
January 2025	850	20.4	1,120	0.24	Baseline
March 2025	780	18.9	1,070	0.26	Liquidity drop after Fed tightening
June 2025	910	23.2	1,220	0.22	Q2 corporate earnings
September 2025	892	21.1	1,200	0.19	Pre-upgrade speculation
October 2025	980	24.3	1,300	0.17	FTSE Russell upgrade review

Sources: Synthesized from HOSE, VinaCapital, VNDirect, VanEck, KIS Securities and Baker McKenzie (2025)

a steady increase during the pre-upgrade phase from January 2022 to August 2024, followed by a sharp acceleration between September 2024 and March 2025 as upgrade-related expectations intensified, with total capitalisation reaching approximately USD 370 billion by December 2025. This dynamic is consistent with the view that index inclusion tends to trigger a visible re-rating of market valuations, although contemporaneous macro-financial developments are also likely to have contributed independently to the observed increase.

6. Conclusions and Policy Implications

6.1 Summary of Findings

This study applied game-theoretic models to interpret and forecast global investor behavior around Vietnam's transition to emerging-market status. The competition between active and passive funds demonstrates that ETF- and index-driven allocations are likely to generate large, rapid capital injections, resulting in temporary surges in market liquidity and short-term volatility during the reclassification window. The coordination game highlights the potential for synchronized institutional entry once credible upgrade signals, such as official index confirmations and key regulatory reforms, are publicly observed, with such moves capable of amplifying both investment opportunities and short-lived market dislocations. The auction and bidding framework indicates that when high-quality assets are in limited supply, particularly blue-chip stocks and major IPOs, they are likely to attract intense competition and command high offering prices, with a meaningful risk of winner's curse for investors who overpay in competitive book-building processes.

From a quantitative perspective, the study's scenario simulations generate a baseline inflow range of USD 1.5–3+ billion in passive capital over the first 12–24 months following upgrade confirmation, calibrated against historical benchmarks from Korea, Taiwan, Saudi Arabia and Qatar. Model-based estimates also point to upward re-rating effects during the upgrade assimilation phase, with higher valuations reflecting stronger demand from benchmark-constrained investors than downgrade-constrained investors. Short-term volatility is expected to intensify around key announcement and rebalancing dates, but is projected to normalise over the medium term as market participation broadens and infrastructure continues to develop.

6.2 Policy Implications

The projected capital inflows have several measurable implications that warrant proactive policy responses.

For regulators, further liberalizing foreign ownership limits, particularly for banks and large conglomerates, is essential to expand market absorptive capacity and ensure that passive fund flows are not constrained by statutory caps that precede meaningful benchmark reweighting. The introduction of NVDRs, following the Thai model, would complement FOL liberalization by providing synthetic access without conferring governance rights. Strengthening trading, clearing, and settlement infrastructure will help absorb larger transaction volumes and mitigate systemic risks as capital inflow velocity increases. Transparent and internationally aligned IPO procedures will be critical to channelling auction-game dynamics toward efficient price discovery rather than winner's curse outcomes (El-Sholkamy & Rahman, 2022).

For listed firms, particularly those in financial services and real estate that dominate the VN30 index, issuers targeting foreign institutional investors must enhance disclosure quality, strengthen ESG practices, and streamline listing processes to position themselves competitively for the anticipated increase in global investor demand. For asset managers, both domestic and international, the transition to emerging-market status calls for refined portfolio strategies capable of managing stronger competition, higher short-term volatility, and a rapidly evolving information environment. Dynamic allocation, factor-timing, and liquidity-management approaches are likely to be favoured as new post-upgrade equilibria emerge.

6.3 Limitations and Future Research Directions

Several limitations constrain the present analysis and point to productive avenues for future research. First, empirical evidence on investor-level micro-behaviors in Vietnam remains relatively scarce, particularly order-level data, intraday positioning, and fund-level timing decisions, which constrain both model calibration and the external validity of the results. Second, key structural parameters, such as risk preferences, coordination thresholds, and beliefs about policy credibility, may shift in response to regulatory changes, macroeconomic shocks, and geopolitical developments that are not fully captured by the static specifications adopted here. Third, the quantitative projections are scenario-based and sensitive to assumptions about global monetary conditions, the pace of domestic reform, and geopolitical risk, and should be interpreted as plausible inflow ranges rather than point forecasts.

Future research could extend the present framework in several dimensions. Incorporating richer micro-level behavioral data, including order-book dynamics and fund-level trading records, would improve both model calibration and the identification of game-theoretic

equilibrium strategies. Exploring evolutionary and mixed-strategy dynamics would allow the framework to account for probabilistic switching, regime shifts, and dynamic decision rules that better reflect the partial rationality empirically observed in emerging markets. Examining information asymmetry more explicitly – including how heterogeneity in data access and analytical capacity shapes fund timing and bidding intensity during crowded trade windows – would strengthen auction-theoretic analysis. In the longer

term, integrating behavioral economic mechanisms such as herding, attention constraints, and loss aversion into the game-theoretic structure could explain the observed deviations from benchmark rational equilibria. Finally, the growing role of algorithmic trading, fintech-enabled retail participation, and digital investment channels in Vietnam's market warrants dedicated investigation, as these innovations may fundamentally reshape strategic interaction, liquidity transmission, and market resilience in future upgrade cycles.

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