Journal of Enterprise Strategy & Management Innovation
Volume I, Issue 3, August 2026
ISSN: 3116-4277 (Online)
https://journal.ijhba.com/index.php/jesmi
https://slsipress.com

Closing the Corridor: Women's Advancement into Business Leadership Across the Philippines, Thailand, and Vietnam (2007–2023)

Leah F. Quinto, PhD; Cherry Ann Marie H. Espelita, MBA; Andrea Gwyneth Atento; Ramon George Atento, PhD; Elisa Tabujara[1]

[1]mtabujara@kidz-village.ac.th

Abstract

This study examines whether structural enablers commonly associated with women's economic empowerment — tertiary education, labor force participation, and income growth — are associated with women's advancement into business leadership across the Philippines, Thailand, and Vietnam, the only ASEAN economies with sufficiently continuous World Development Indicators coverage of female managerial representation to support panel analysis. Using an unbalanced panel of 41 country-year observations (2007–2023) and female share of employment in senior and middle management as the leadership outcome, the study estimates a country fixed-effects model with HAC/Newey–West standard errors. None of the three structural enablers shows a statistically significant within-country association with female leadership share (all $p > .50$), and the within-country R^2 is negligible (0.019). A parallel pooled specification without country fixed effects produces a strong, statistically significant negative coefficient on female labor force participation ($p < .001$) — a result demonstrated to be an artifact of between-country level differences rather than a genuine relationship, since it disappears once country heterogeneity is controlled. Country-specific trend analysis shows female leadership share rising significantly in Thailand (+0.77 points/year, $p < .001$) and Vietnam (+0.50 points/year, $p = .025$), while remaining statistically flat in the Philippines. The findings suggest that macro-structural investment in women's education, employment, and income cannot be assumed to translate mechanically into greater business leadership representation, and that pooled cross-country analysis in this domain risks manufacturing spurious relationships that country-disaggregated analysis reveals to be artifacts of level differences rather than structural dynamics. The study's central contribution is thus both substantive — isolating leadership attainment as a distinct, precisely measured outcome from broader empowerment indices — and methodological — an explicit demonstration of pooling bias in comparative ASEAN gender research. Causal interpretation remains limited by the observational, three-country design.

Keywords: *women's leadership; business management; ASEAN; panel data; gender empowerment; Philippines; Vietnam*

Article History: Received: May 18, 2026 Revised: June 22, 2026 Accepted: August 3, 2026

1. Introduction

Over the past two decades, Southeast Asia has recorded some of the most visible gains in women's economic participation among emerging regions, with female labor force participation rates in several ASEAN economies now exceeding those of many advanced economies. Yet participation is not the same as advancement. A woman entering the workforce in Manila, Bangkok, or Hanoi is not thereby guaranteed a path into the ranks of business leadership —

the senior and middle management positions where strategic decisions are made, resources are allocated, and organizational direction is set. This distinction between labor force presence and leadership attainment sits at the center of a persistent measurement and policy gap: national and regional development indices routinely report gains in women's employment while leaving largely unexamined whether those gains extend into the managerial and executive layers of the firms where employment occurs.

The problem is not merely academic. For policymakers designing gender-responsive industrial and labor policy, and for firms building talent pipelines under increasing shareholder and regulatory pressure around gender diversity, the practical question is not “how many women work” but “how many women lead.” Conflating the two risks two forms of error: overstating progress where employment gains mask persistent leadership ceilings, or understating progress where leadership gains in certain sectors go unrecognized because aggregate labor statistics dilute them. A government citing rising female labor force participation as evidence of closing the gender gap in business may be pointing to a trend that says little about who actually runs the enterprise.

This paper addresses that gap directly by examining women's advancement into business leadership — operationalized as the female share of employment in senior and middle management — across three Southeast Asian economies: the Philippines, Thailand, and Vietnam, over the period 2007–2023. These three countries were not selected arbitrarily. Among ASEAN's ten member states, they are the only economies for which the World Bank's World Development Indicators provide a sufficiently continuous annual record of female managerial representation to support panel time-series analysis; other regional economies, including Indonesia, Malaysia, and Singapore, are represented in the underlying data only through sparse, irregularly spaced enterprise-survey waves unsuited to inferential panel work. Rather than treat this as a limitation to be hidden, the paper treats it as a design constraint that sharpens the analysis: a smaller, data-complete three-country panel offers more defensible inference than a larger but data-thin regional sample assembled from incompatible measurement waves.

The paper's guiding objective is to determine whether — and how strongly — structural enablers of women's economic agency move together with women's representation in business leadership across these three economies. Three such enablers anchor the analysis. The first is educational attainment, on the premise that advanced human capital is a conventional prerequisite for managerial advancement. The second is broader female labor force participation, examined not as a proxy for leadership itself but as a structural precondition — a larger base of working women plausibly, though not necessarily, expands the pool from which leadership is drawn. The third is financial inclusion, captured through account ownership at formal financial institutions, on the reasoning that women's independent access to financial systems reflects and reinforces the kind of economic autonomy associated with leadership-track careers. By tracing how these three enablers relate to female managerial representation across a panel spanning three structurally distinct Southeast Asian labor markets, the paper aims to establish whether a common pattern exists or whether — as country-specific labor market institutions and gender norms would suggest — the relationship is heterogeneous across contexts.

In pursuing this objective, the paper also embeds a methodological contribution. Much of the existing cross-country literature on gender and economic development relies on composite indices that blend participation, autonomy, and institutional measures into a single score, a practice that is analytically convenient but conceptually blurring: it becomes difficult to know whether a rising index reflects more women working, more women deciding, or more women leading. This paper instead isolates leadership attainment as a distinct outcome variable and examines its structural correlates directly, offering a more precise instrument for future comparative work than composite indices allow.

The findings carry relevance for two audiences central to JESMI's readership. For scholars of entrepreneurship and strategic management, the paper offers an empirically grounded, country-differentiated account of how structural conditions relate to gender composition in business leadership — a question with direct bearing on organizational strategy, human capital theory, and comparative management research in emerging Southeast Asian contexts. For practitioners and policymakers, the paper offers a caution against treating regional women's-empowerment narratives as homogeneous: if the Philippines, Thailand, and Vietnam show materially different relationships between structural enablers and leadership representation, then policy and corporate diversity strategies calibrated to one context may transfer poorly to another. The paper does not claim to identify causal levers; consistent with an observational, associational design, it aims instead to establish which structural conditions travel with women's leadership advancement in this region, and which do not — a necessary first step before any causal or interventionist claim can responsibly be made.

2. Literature Review

2.1 Female Labor Force Participation and Leadership Attainment as Distinct Constructs

A first body of evidence establishes that female labor force participation and female leadership representation, while related, do not move in lockstep. Several studies report a positive pipeline relationship: regional labor market integration has been linked to a higher share of women in management in mid-sized German firms, and gender participation has been shown to predict women's representation in leadership within Ugandan public universities (Welch, Ahrens, & Block, 2025; Tushabe, Kyambade, Namatovu, & Oyella, 2025). Yet this relationship is consistently described as conditional rather than automatic. In family firms, the positive association between women's labor market integration and their presence in management is markedly weaker than in non-family firms, and in Gulf Cooperation Council listed firms, female labor force share operates as a moderator of board representation rather than a direct driver (Welch et al., 2025; Hamdan, Hamdan, Alareeni, Atayah, & Alhalwachi, 2021).

More striking is the evidence that participation and leadership follow separate causal logics. Studies of labor force entry emphasize macroeconomic and structural determinants — income levels, education, childcare access, fertility, urbanization, and digitalization — while studies of leadership advancement instead center on promotion systems, mentoring gaps, evaluative bias, and organizational culture as the binding constraints (Marjanović, Popović, & Milanović, 2023; Yu, Zhu, Mughal, Aparcana, & Muda, 2023; Mucheru, McAuliffe, Kesale, & Gilmore, 2024; Hamidi, Widianingsih, & Nurasa, 2024). This bifurcation is visible in outcome data: women constitute 70 percent of the healthcare workforce globally but hold only a quarter of leadership roles in the sector, and globally women hold roughly 15 percent of CEO positions despite decades of rising labor force entry (Mucheru et al., 2024; Herath, Surangi, & Hemsiri, 2024). Career-stage evidence reinforces the divergence — women in Italian universities advance approximately 1.5 years more slowly than men on average, with the gap most pronounced early in careers, and motherhood-related labor market exits interrupt the leadership pipeline in ways that aggregate participation statistics do not capture (Falco, Cuntrera, & Attanasio, 2023; Torres et al., 2024).

For the present paper, this literature substantiates the core conceptual claim underlying the research design: that female labor force participation is best treated as a structural precondition for leadership attainment rather than a proxy for it. The paper's decision to isolate female share of senior and middle management as a distinct outcome variable — rather than relying on broader participation or composite empowerment measures — is directly supported by this body of evidence.

2.2 Education and Human Capital as Pathways to Managerial Advancement

A second literature stream examines educational attainment as a structural enabler of leadership access. The evidence is consistently positive but incomplete. Women now outpace men in graduate-level enrollment in the United States and have achieved parity in higher education enrollment globally, with each additional year of women's education associated with higher labor force participation, income, and access to managerial positions (Calsy & D'Agostino, 2021; Correa, Glas, & Opara, 2025; Kusumawardhani & Wardhani, 2025). Advanced education is understood to build the knowledge, skill, and confidence base conventionally associated with leadership roles (Dhotre & Rathore, 2026). Adjacent Philippine evidence on management education likewise shows that widespread digitalization may remain selectively aligned with strategic capability formation when institutional integration is fragmented (Atento, 2025a).

However, the pathway from education to leadership weakens sharply at higher organizational tiers. Women hold 52 percent of management and professional roles in the United States workforce yet only 5 percent of Fortune 500 CEO positions and 19 percent of S&P 1500 board seats; in academia, women now surpass men in doctoral attainment but represent only 32 percent of full professors (Calsy & D'Agostino, 2021). This attenuation is attributed less to a credentials deficit than to structural and cultural barriers — network and credential disparities in executive access, nonlinear career trajectories forced upon women, and masculine organizational cultures that persist even as female educational attainment rises (Ingersoll, Glass, & Cook, 2024; Pinto, Douglas, Lane-Bonds, & McMillian, 2024; Khraban & Vyhivska, 2024).

Evidence on whether the education-to-leadership pathway strengthens with economic development is mixed and directly relevant to the present paper's cross-country design. Even in developed economies with high female educational attainment, only about a third of leadership roles globally are held by women, and Vietnam-specific evidence suggests that mentor-support structures — identified elsewhere as key enablers — were largely absent from Vietnamese higher education institutions until 2019, indicating that rising education and GDP alone do not automatically generate the institutional supports needed to convert credentials into leadership (Maheshwari, 2021). This finding is consequential for the paper's three-country design: it suggests that a common regional education coefficient should not be assumed even where educational attainment trends are similar across the Philippines, Thailand, and Vietnam. At the workplace level, evidence from Philippine trading companies further indicates that role-specific efficacy and work-environment support help convert individual capability into organizational performance (Espelita & Atento, 2026).

2.3 Financial Inclusion and Institutional Access as Enablers of Women's Economic Agency

A third stream addresses financial inclusion as an enabler of women's economic agency, with direct relevance to the paper's account-ownership indicator. Access to finance, financial literacy, and digital banking channels is positively and significantly associated with women's entrepreneurial sustainability and empowerment, and microfinance access has been shown to improve both loan application and approval rates for women entrepreneurs specifically (Andriamahery & Qamruzzaman, 2022; Wellalage & Thrikawala, 2021; Hasan, Ashfaq, Parveen, & Gunardi, 2022). Yet the same literature documents persistent credit-market discrimination that constrains the magnitude of this relationship: female-owned firms in the United States are approximately 10 percent more likely than male-owned firms to be rejected for bank loans, and women-led enterprises in Vietnam face a 34 percent higher likelihood of loan denial than men-led firms (Morazzoni & Sy, 2022; World Bank, 2022). Eliminating gender gaps in financial access is estimated to raise aggregate output by roughly 4 percent through improved capital allocation, underscoring the economic stakes of the relationship (Morazzoni & Sy, 2022).

Legal and institutional reform is identified as a complementary, though imperfectly linked, pathway. As female legislative representation rises, legal gender equality of economic opportunity tends to improve, and procurement quotas in other regions have measurably increased the share of contracts awarded to women-led businesses (Kim, 2022; Ayodeji, Akinyele, & Adegboye, 2025). Board-level representation also appears to generate downstream effects: firms with two or more women directors, or 20 percent or greater female board share, show measurably reduced non-managerial gender segregation, with effects emerging gradually over one- to three-year lags (Biswas, Roberts, & Stainback, 2021). At the same time, only 104 of 190 economies surveyed maintain legal provisions expressly prohibiting credit discrimination by gender, and implementation gaps persist even where such laws exist (World Bank, 2022; Mbangiswano, Ndlovu, & Vuthela, 2025).

This literature supports treating financial inclusion as a plausible structural correlate of leadership attainment while cautioning against overstating its explanatory power: the relationship is consistently described as necessary but insufficient, mediated by enforcement gaps and cultural norms that the present paper's associational design cannot directly test but must acknowledge in interpreting results.

2.4 Comparative ASEAN Gender-in-Management Literature

A fourth literature base directly addresses regional heterogeneity within ASEAN and provides the strongest justification for the paper's country-differentiated, non-pooled design. Comparative evidence documents substantial disparities in the legal provisioning and enforcement of gender-equality frameworks across Vietnam, Thailand, Indonesia, the Philippines, Malaysia, and Singapore, with women's parliamentary representation — a related leadership proxy — ranging from over 30 percent in Vietnam to below 20 percent in Malaysia, Thailand, and Brunei (Quyen, 2025; Khaidir, Jaapar, & Chukari, 2025). Firm-level patterns reinforce this heterogeneity: across Southeast Asian manufacturing data, technically efficient firms tend to hire fewer female workers, a tendency reversed specifically where firms have female CEOs or owners, though the magnitude of this reversal varies by country (Amornkitvikai & Pholphirul, 2024). Similarly, in a ten-country ASEAN banking sample, women in executive roles are associated with higher risk-taking and profitability, while women on boards are associated with reduced performance — relationships that vary with national banking regulatory regimes (Bouteska & Mili, 2021).

Institutional quality is repeatedly identified as a moderator rather than a background condition. Board gender diversity shows a markedly stronger positive relationship with ESG performance in Malaysia and Singapore, where regulatory enforcement of gender-diversity provisions is comparatively rigorous, than in Indonesia and Thailand (Marheni, Khan, Syahid, Fadly, & Khusnah, 2026). National culture similarly moderates outcomes: female board representation enhances environmental performance in Western economies but shows no equivalent effect in East Asian contexts, where female directors are more often younger insiders with limited independence (Chen, Yan, & Yu, 2025). Cultural and religious norms are cited as a further layer of heterogeneity — patriarchal role expectations are described as present across all ASEAN economies, but with country-specific manifestations, including Confucian hierarchical norms shaping Vietnamese organizational authority structures and Islamic religious and cultural constraints affecting women's entrepreneurial access across Malaysia, Brunei, Indonesia, Thailand, and the Philippines (Khaidir et al., 2025; Thaiduong, 2025; Franzke, Wu, Froese, & Chan, 2022; Ahmad, Zamri, & Omarali, 2024). In an adjacent Philippine policy domain, governance integrity, economic resilience, and strategic adaptability have similarly been framed as interacting domestic capacities that condition higher-level national outcomes (Atento, 2025b).

Taken together, this literature provides direct empirical precedent against treating ASEAN — or even the paper's three-country subset — as a homogeneous analytical unit, reinforcing the paper's design decision to report and interpret country-specific relationships rather than a single pooled regional coefficient. Comparable WDI-based studies of formal business entry and macro-labor-nutrition relationships across ASEAN likewise identify pronounced country-specific heterogeneity, reinforcing the need to avoid uniform regional interpretations (Atento, 2026; Quinto & Atento, 2025).

2.5 Firm-Level Versus Macro-Level Measurement of Women's Business Leadership

The fifth literature stream substantiates the paper's methodological positioning against composite gender-empowerment indices. Direct critiques of composite measurement are available: a Lithuanian study contrasting official leadership-representation statistics against employee perceptions of workplace equality found that leadership-specific deterioration was detectable in objective statistics well before it registered in subjective assessments, indicating that composite or perception-based benchmarks can mask leadership-specific trends (Babych, Petrova, Bahdine, & Sever, 2026). Separately, board-diversity reform research distinguishes empirically between representation and substantive empowerment, finding that rule-based diversity mandates increase female board representation but often produce symbolic compliance without corresponding empowerment gains, whereas comply-or-explain regimes emphasizing empowerment generate stronger innovation outcomes — a distinction a blended composite index would obscure entirely (Wang, Cui, Zhu, & Sun, 2024). In the humanitarian development literature, a review of gender-equality measurement frameworks found that only 4 percent of studies included leadership indicators at all, with none appearing in peer-reviewed composite empowerment frameworks, suggesting leadership is systematically under-measured as a distinct domain (Goulart et al., 2021). A Philippine WDI-based study illustrates the measurement distinction directly: a multidimensional women's empowerment index was positively associated with enterprise dynamism, but such an aggregate construct does not identify whether women themselves advanced into management (Menez & Atento, 2026).

Firm-level evidence further supports treating leadership representation as a construct separable from macro-level empowerment. Board-level and management-level gender diversity have been shown to drive different categories of ESG outcomes — governance scores in the case of board diversity, social scores in the case of managerial diversity — while country-level empowerment conditions affect firm performance only indirectly, through board composition, with weaker direct accounting effects (Sandretto, Rizzi, & Esposito, 2025; Hameli, Mertzanis, & Kampouris, 2023). Gender effects have also been shown to spill over differently across organizational levels, and board-level diversity effects on lower-level gender segregation emerge only after multi-year lags and only once a critical mass of women directors is reached — dynamics invisible to any single-point composite score (Edacherian, Karna, Uhlenbruck, & Sharma, 2024; Biswas et al., 2021). A purpose-built firm-level Women Leadership Index, incorporating gender, education, and experience, has been shown to predict firm financial performance in ways that purely numerical representation counts do not, reinforcing that leadership quality and leadership presence are not interchangeable (Anwar, Agustia, & Dianawati, 2025). Similarly, a tertiary-hospital case study of middle managers shows that managerial engagement is shaped by implementation climate, documentation burden, and resource constraints, mechanisms that national empowerment indicators cannot capture (Garcia & Atento, 2026).

This literature directly underwrites the paper's central methodological choice: isolating female share of senior and middle management as a single, precisely defined outcome variable, rather than embedding it within a composite empowerment index that would obscure whether observed movement reflects employment gains, autonomy gains, or leadership gains specifically.

2.6 Synthesis of Literature

Across the five literature themes, a coherent picture emerges: women's advancement into business leadership is shaped by structural enablers — education, labor force participation, and financial inclusion — but each enabler operates as a necessary rather than sufficient condition, consistently filtered through institutional, cultural, and organizational barriers that prevent automatic translation into leadership outcomes. Female labor force participation predicts leadership representation only conditionally, with the strength of the relationship varying by firm type and institutional context. Educational attainment shows a positive but attenuating relationship with leadership access, weakening progressively at higher organizational tiers regardless of whether the setting is a developed or developing economy. Financial inclusion and legal-institutional reform correlate with improved economic agency and leadership representation, but persistent enforcement gaps and credit-market discrimination limit the magnitude of these gains. The ASEAN-specific literature converges on a single overarching finding directly relevant to this paper's design: regulatory enforcement, national culture, and institutional quality moderate these relationships so substantially that pooled-regional estimates risk masking meaningful country-level heterogeneity. Finally, the measurement literature provides clear precedent for treating leadership representation as a distinct construct from broader empowerment or participation indices, since composite measures have been shown to obscure leadership-specific trends that are visible only when leadership is measured directly and separately. A parallel organizational study of localized quality management found that formal systems translated into operational performance through human factors and organizational practices, reinforcing the broader principle that structural provision alone does not guarantee higher-level outcomes (Gamasan & Atento, 2026).

2.7 Gaps in the Literature

Three gaps are evident. First, while the ASEAN comparative literature documents cross-country heterogeneity qualitatively and through cross-sectional or firm-level samples, it rarely provides longitudinal, panel-based evidence tracing how structural enablers and female leadership representation move together over time within a small set of comparable Southeast Asian economies — most existing work is either single-country or relies on one-time cross-sectional snapshots. Second, existing studies linking education, labor force participation, and financial inclusion to leadership outcomes are concentrated in Western, South Asian, or MENA contexts, or in single ASEAN countries (chiefly Vietnam); no identified study jointly examines all three structural enablers against a leadership-specific outcome across multiple ASEAN economies within a unified time-series framework. Third, despite explicit cautions in the measurement literature against composite empowerment indices, much of the applied ASEAN gender-and-business literature continues to rely on such indices or on parliamentary-representation proxies rather than direct managerial-representation data, leaving open the question of whether structural-enabler relationships hold when leadership is measured precisely at the firm-employment level.

2.8 Contribution of the Present Paper

This paper addresses these gaps by constructing a longitudinal panel (2007–2023) tracing female share of senior and middle management against three structural enablers — educational attainment, labor force participation, and financial inclusion — across the Philippines, Thailand, and Vietnam, the only ASEAN economies with data-complete annual coverage for this outcome. In doing so, it offers the region's first data-disciplined, panel-based test of these relationships using a leadership-specific rather than composite outcome measure, while explicitly reporting country-differentiated results in line with the comparative literature's caution against pooled-regional inference.

3. Methodology

3.1 Research Design

This study employs an unbalanced panel time-series design covering the Philippines, Thailand, and Vietnam over 2007–2023. The panel is unbalanced by construction: annual observations for the dependent variable are available for 17 years in the Philippines (2007–2023, gap-free), 15 years in Vietnam, and 13 years in Thailand within the study window, yielding 45 country-year observations before listwise deletion for missing covariates (41 observations in the estimation sample; see Section 4.1). Rather than restrict the sample to years common to all three countries — which would discard usable, verified data — the design retains each country's full available series, consistent with standard unbalanced-panel practice, and flags the imbalance explicitly in reported diagnostics.

3.2 Data Source and Variables

All data are drawn from the World Bank's World Development Indicators (WDI) bulk download (WDICSV.csv), extracted programmatically; no value is manually entered, estimated, or interpolated.

Dependent variable: Female share of employment in senior and middle management (SL.EMP.SMGT.FE.ZS) — the paper's operationalization of women's business leadership attainment.

Independent variables (structural enablers): Female tertiary school enrollment, gross (SE.TER.ENRR.FE) — human capital enabler; Female labor force participation rate, ages 15+ (SL.TLF.CACT.FE.ZS) — structural precondition enabler.

Controls: Log GDP per capita (current US$) — standard economic-development control; Country fixed effects — to absorb time-invariant institutional, cultural, and regulatory differences across the Philippines, Thailand, and Vietnam, consistent with the literature's caution against pooled-regional inference (Section 2.4).

Excluded from regression, reported descriptively only: Account ownership at a formal financial institution, female (FX.OWN.TOTL.FE.ZS) — Global Findex-sourced, available only in five non-annual waves per country (roughly triennial). Interpolating this series to annual frequency would violate the no-estimation data-integrity standard; it is instead reported as a supplementary descriptive table showing available-year values alongside the corresponding leadership share, to contextualize (not test) the financial-inclusion enabler discussed in Section 2.3. Firm-level indicators — female top manager share, female ownership share (IC.FRM.FEMM.ZS, IC.FRM.FEMO.ZS) — retained only as a single-wave descriptive robustness table per country, explicitly labeled as non-time-series snapshots, never pooled into inferential estimation.

3.3 Estimation Strategy

The primary specification is: $LEAD_{it} = \beta_0 + \beta_1 TERT_{it} + \beta_2 FLFP_{it} + \beta_3 lnGDPpc_{it} + \gamma_i + \varepsilon_{it}$, where i indexes country and t indexes year, γ_i denotes country fixed effects, and standard errors are computed using HAC/Newey–West correction to account for serial correlation within each country's time series. Given the panel's modest size (N = 41 across three cross-sectional units), degrees-of-freedom constraints are checked before any extended specification is estimated; if an extended model becomes unidentifiable, the baseline three-regressor specification is reported as primary and extensions are omitted rather than forced.

3.4 Validity, Reliability, and Limitations

All series are official World Bank-published indicators subject to the source agency's own validation; no primary data collection occurs. The design's central limitation is common to observational cross-country panels: associational, not causal, inference. Country fixed effects absorb time-invariant heterogeneity but cannot rule out time-varying confounders specific to each country's labor-market or regulatory evolution. The exclusion of Indonesia, Malaysia, and Singapore — despite their ASEAN relevance — is a data-availability constraint, not a substantive judgment about their importance, and is stated as a scope boundary rather than a hidden omission. The triennial financial-inclusion data and single-wave firm-level data are presented only as interpretive context, not as tested predictors, and any discussion of their patterns is explicitly hedged as descriptive rather than inferential.

4. Results and Discussion

4.1 Descriptive Statistics

Table 1. Descriptive Statistics by Country (Estimation Sample, 2007–2023)

Country	LEAD mean (SD)	LEAD range	TERT mean (SD)	FLFP mean (SD)	GDPpc mean (SD), US$
Philippines (n=17)	37.41 (7.21)	23.24–43.16	36.83 (5.92)	47.48 (2.10)	2,818 (622)
Thailand (n=13)	29.76 (3.76)	21.03–34.69	53.35 (2.79)	60.69 (1.84)	6,270 (1,038)
Vietnam (n=15)	14.52 (4.13)	8.13–22.72	28.98 (9.07)	71.48 (1.47)	2,819 (936)

Note. Estimation sample: N = 41 of 45 available panel observations; 4 rows dropped for missing tertiary-enrollment data (listwise deletion, no imputation). Source: World Bank WDI bulk download.

Three patterns are immediately visible and already informative before any regression is run. First, the three countries occupy strikingly different levels on every variable — Vietnam has by far the highest female labor force participation (71.5%) but the lowest female leadership share (14.5%), while the Philippines shows the reverse pattern (moderate FLFP, highest LEAD). Second, none of the three series overlaps much in range, meaning any pooled analysis without country controls risks conflating between-country level differences with genuine associations. Third, the raw correlation between FLFP and LEAD across the full pooled sample is strongly negative (r = –0.83) — a pattern that, read naively, would appear to contradict Section 2.1's literature. Whether that negative correlation reflects a real relationship or a between-country artifact is precisely what the fixed-effects specification below is designed to test.

4.2 Primary Specification: Country Fixed-Effects Panel

Table 2. Country Fixed-Effects Panel Estimates (Dependent Variable: LEAD)

Variable	Coefficient	HAC Std. Err.	p-value
TERT	0.002	0.168	0.989
FLFP	0.209	0.548	0.704
ln(GDP per capita)	2.815	4.293	0.512
Country: Thailand (rel. Philippines)	–12.56	6.75	0.063
Country: Vietnam (rel. Philippines)	–28.16	12.54	0.025

Note. R^2 = 0.772 (within-country R^2 = 0.019); N = 41; joint F-test of structural enablers p = 0.877. Standard errors are HAC (Newey–West, 2 lags).

None of the three structural enablers — tertiary enrollment, female labor force participation, or GDP per capita — shows a statistically significant association with female leadership share once country fixed effects are included. The within-country R^2 of 0.019 indicates that, after removing fixed cross-country level differences, these three variables explain almost none of the year-to-year movement in female leadership share within a given country over 2007–2023. The high overall R^2 (0.772) is attributable almost entirely to the country dummies themselves — Vietnam's leadership share sits significantly below the Philippines' ($p = .025$), and Thailand's does as well at borderline significance ($p = .063$) — reflecting persistent, time-invariant national differences rather than anything the three structural enablers explain.

4.3 The Pooling-Bias Check

To test whether this null finding was an artifact of controlling for country, the same model was re-estimated without country fixed effects:

Table 3. Pooled OLS Estimates Without Country Fixed Effects (Dependent Variable: LEAD)

Variable	Coefficient	HAC Std. Err.	p-value
TERT	0.251	0.163	0.124
FLFP	–0.866	0.159	< 0.001
ln(GDP per capita)	–0.992	3.803	0.794

Note. R^2 = 0.742; N = 41. Standard errors are HAC (Newey–West, 2 lags).

Here the picture changes sharply: FLFP shows a strong, highly significant negative association with female leadership share ($p < .001$), and the model explains 74 percent of variance. Read in isolation, this would suggest that higher female labor force participation is associated with lower leadership representation — a counterintuitive and literature-contradicting result. But comparing this pooled estimate against the fixed-effects estimate (Section 4.2), where the FLFP coefficient is small, positive, and statistically indistinguishable from zero, makes clear that the pooled negative association is driven by between-country level differences — specifically, that Vietnam simultaneously has the highest FLFP and the lowest LEAD of the three countries — rather than by any within-country dynamic. This is a direct empirical demonstration of the pooling risk the literature review (Section 2.4) identified: a regional or pooled coefficient can show a strong, statistically significant relationship that vanishes, or even reverses, once country-specific heterogeneity is properly controlled. The correct reading is that FLFP and LEAD are not causally or structurally linked within these economies over this period; the pooled correlation instead reflects the fact that Vietnam, Thailand, and the Philippines simply differ from one another in both variables for reasons the model does not capture.

4.4 Robustness Check: Multicollinearity

TERT and ln(GDPpc) are highly correlated ($r = 0.88$; VIF ≈ 4.6–4.7 for both, below the conventional VIF < 10 threshold but high enough to warrant a check). Re-estimating the fixed-effects model with ln(GDPpc) dropped leaves the substantive conclusion unchanged: TERT (coef = 0.085, $p = .505$) and FLFP (coef = 0.048, $p = .935$) both remain statistically insignificant, confirming the null result is not an artifact of collinearity between the education and income controls.

4.5 Country-Specific Trends Over Time

Table 4. Country-Specific Linear Trend in Female Leadership Share (LEAD), 2007–2023

Country	LEAD trend (points/year)	p-value
Philippines	–0.51	0.217 (n.s.)
Thailand	+0.77	< 0.001
Vietnam	+0.50	0.025

Despite the null result for the three structural enablers, female leadership share itself is not static: Thailand shows a statistically significant upward trend of roughly 0.77 percentage points per year, and Vietnam a smaller but still significant upward trend of about 0.50 points per year. The Philippines shows a mild, statistically insignificant downward drift. This means female leadership representation is genuinely changing over time in two of the three economies — just not in a way that tracks tertiary enrollment, labor force participation, or income growth as measured here. Some other set of drivers — plausibly the institutional, regulatory, and cultural factors flagged throughout Section 2.4 (enforcement intensity, board-diversity provisions, sector composition shifts) — appears to be doing the work that the three macro-structural enablers tested here do not.

4.6 Diagnostics

Residual diagnostics on the primary specification show non-normal residuals (Jarque–Bera $p = .013$, left-skewed), homoscedastic errors (Breusch-Pagan $p = .150$, not rejected), and a low Durbin-Watson statistic (0.71) indicating substantial positive serial correlation in the residuals — precisely the condition the HAC/Newey–West correction (2 lags) is designed to address, and why uncorrected standard errors would have been unreliable here. The non-normal residuals are a caution appropriate to a 41-observation sample and are noted rather than corrected through any data transformation not specified in the pre-registered methodology.

4.7 Summary of Findings

Contrary to the paper's initial framing hypothesis, none of the three hypothesized structural enablers — female tertiary enrollment, female labor force participation, or GDP per capita — shows a statistically significant within-country association with female business leadership share across the Philippines, Thailand, and Vietnam, 2007–2023. This is not a data-quality failure; it is itself informative, and it is reinforced by a clear demonstration that a naïve pooled model (omitting country fixed effects) would have produced a spurious, statistically significant negative FLFP coefficient — an artifact of cross-country level differences rather than a real relationship. What the data do show is that female leadership representation is moving upward over time in Thailand and Vietnam, and holding roughly flat in the Philippines, through channels this model's three structural enablers do not capture.

5. Discussion of Findings

The central empirical finding of this study — that tertiary enrollment, labor force participation, and income growth show no statistically significant within-country association with women's leadership representation across the Philippines, Thailand, and Vietnam — sits in direct dialogue with the literature reviewed in Section 2. Far from being a disappointing null result, it offers substantive confirmation of the paper's foundational conceptual claim (Section 2.1): that female labor force participation and female leadership attainment are empirically distinct constructs, filtered through separate institutional mechanisms rather than mechanically linked. Where prior literature described this separation qualitatively — noting that participation studies and leadership studies emphasize different determinants (Marjanović et al., 2023; Mucheru et al., 2024) — this paper offers direct panel evidence: even holding country context fixed, movement in the participation variable simply does not track movement in the leadership variable over the study period.

The pooling-bias demonstration in Section 4.3 carries a methodological implication beyond this specific dataset. A regional analyst working only with pooled ASEAN data, without disaggregating by country, would have concluded that rising female labor force participation is associated with a decline in female leadership share — a conclusion that is statistically significant, intuitively plausible as an "overload" or "crowding" narrative, and entirely an artifact of the fact that Vietnam happens to combine high participation with low leadership representation for reasons unrelated to any causal mechanism linking the two. This is precisely the risk the comparative ASEAN literature warned against (Section 2.4): institutional quality, regulatory enforcement, and cultural context vary enough across Vietnam, Thailand, and the Philippines that a single pooled coefficient describes no single country accurately. The corrective is not a larger regional sample but a smaller, disaggregated one — exactly the trade-off this paper's data-completeness-driven three-country design made deliberately.

The divergent country-level trends documented in Section 4.5 — a statistically significant upward trajectory in Thailand and Vietnam, a flat-to-declining trajectory in the Philippines — reinforce this point further and suggest where explanatory power likely resides instead: not in the macro-structural enablers tested here, but in the country-specific institutional and organizational factors identified throughout the literature review as the actual bottlenecks on leadership advancement — promotion systems, board-diversity enforcement intensity, sectoral composition of employment growth, and organizational culture (Section 2.1; Section 2.4). The measurement-construct literature reviewed in Section 2.5 anticipated this outcome as well: firm-level and organizational-level leadership dynamics have repeatedly been shown to operate on logics that macro-level indicators do not capture, and this paper's finding — that macro enablers explain almost none of the within-country variation in a precisely measured leadership outcome — is consistent with, rather than contradictory to, that body of evidence.

For theory, the implication is a caution against treating "women's economic empowerment" as a single latent construct that macro-structural investment automatically advances in a uniform direction. Expanding tertiary education access or growing GDP per capita — worthwhile policy goals in their own right — cannot be assumed, on this evidence, to mechanically translate into greater female representation in business leadership within a comparable time horizon. The relationship, if it exists at all, appears to operate through channels this paper's variables do not observe, or with lags, thresholds, or interaction effects beyond a linear panel specification's reach.

For practitioners and policymakers in the region, the practical implication is correspondingly specific rather than general. A corporate diversity strategy or national gender-policy framework calibrated to Vietnam's institutional context — where leadership share is rising fastest despite the lowest starting point and highest female labor force participation — offers no assurance of similar traction if transplanted to the Philippines, where the trend is flat despite the highest baseline leadership share among the three countries. Policymakers seeking to raise female leadership representation are better served by country-specific diagnostic work — examining promotion pipelines, board-composition rules, and sector-level hiring patterns directly — than by monitoring aggregate participation or education statistics as a proxy for progress on leadership specifically.

Finally, and consistent with the observational, associational design stated at the outset (Section 3), this paper can establish what it has established — that three commonly assumed macro-structural enablers do not track female leadership representation within these three economies over this period, and that country-level heterogeneity is empirically material rather than a statistical nuisance — and no more. It cannot identify which alternative factors are driving Thailand's and Vietnam's rising trends, nor can it rule out that longer lags, nonlinear thresholds, or interaction effects between enablers might reveal relationships a linear specification misses. Those questions are appropriately left to the future-research agenda in Section 6, rather than answered here through post hoc respecification.

6. Conclusions and Recommendations

This study set out to test whether three commonly cited structural enablers of women's economic empowerment — tertiary education, labor force participation, and income growth — are associated with women's advancement into business leadership across the Philippines, Thailand, and Vietnam between 2007 and 2023. The evidence does not support a general, cross-country structural relationship. Once country fixed effects are applied, none of the three enablers shows a statistically significant association with female leadership share, and a pooled specification that omits country controls produces a strong but spurious negative coefficient on labor force participation — an artifact of between-country level differences rather than a genuine within-country dynamic. What the data do show is that female leadership representation is rising significantly in Thailand and Vietnam and holding roughly flat in the Philippines, through channels this analysis was not designed to identify.

The strongest and most transferable insight is methodological rather than substantive: pooling ASEAN economies into a single regional estimate, however data-convenient, risks manufacturing statistically significant relationships that reflect country-level heterogeneity rather than any real structural link — and disaggregation is not merely a robustness preference but a precondition for valid inference in this domain. The secondary insight is substantive: macro-level investment in women's education, employment, and income — while valuable in its own right — cannot be assumed to translate mechanically or promptly into greater representation of women in business leadership specifically. The two goals, though often discussed together in empowerment discourse, appear to move on largely independent tracks within this sample.

Recommendations for practice and policy. Organizations and policymakers aiming specifically to raise female leadership representation should treat this as a distinct target requiring its own diagnostic and intervention tools — promotion-pipeline audits, board-composition requirements, mentorship and sponsorship structures — rather than assuming that broader gender-equity investment in education or employment will address it as a byproduct. Given the country-specific trends observed, policy transfer across ASEAN economies should be approached cautiously: an intervention or regulatory framework associated with Thailand's or Vietnam's rising leadership share offers no guarantee of similar effect in the Philippines' different institutional and labor-market context, and vice versa.

Recommendations for institutional design. Given this paper's finding that firm-level and organizational dynamics appear more consequential than macro-structural conditions, national statistical agencies and regional bodies would be well served by expanding and standardizing the collection of annual, firm-level leadership indicators — the sparse, irregular coverage of enterprise-survey data on female top managers and ownership that this study encountered was itself a binding constraint on what could be tested here, and its scarcity is symptomatic of a broader regional measurement gap.

Recommendations for future research. Three directions follow directly from this paper's limitations. First, future work should test whether the structural enablers examined here operate with longer lags or through interaction effects — for instance, whether education matters only above a threshold level of institutional enforcement — rather than assuming a contemporaneous linear relationship. Second, extending the panel to Indonesia, Malaysia, and Singapore as their enterprise-survey and management-employment data mature would allow the three-country pattern identified here to be tested against a larger regional sample without sacrificing data integrity. Third, given that this paper's null result for macro enablers sits alongside significant country-specific time trends, future research should prioritize identifying the institutional and organizational variables — board-diversity mandates, sectoral employment shifts, promotion-system reforms — that plausibly explain Thailand's and Vietnam's rising leadership shares directly, rather than inferring their existence indirectly as this paper has done.

In sum, this paper does not identify a general structural pathway to women's business leadership advancement in Southeast Asia, but it does identify a clear country-level divergence worth explaining, and a methodological caution — against pooled-regional inference in gender-and-leadership research — that extends beyond this specific dataset to the broader field of comparative ASEAN gender scholarship.

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