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Dual Crises Resilience: Financial Dynamics of ASEAN Tourism Firms

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Abstract

This study examines the financial resilience of ASEAN tourism firms during the dual crises of the COVID-19 pandemic and Middle East geopolitical conflicts from 2019 to 2023, focusing on liquidity (Current Ratio) and solvency (Debt-to-Asset Ratio). Employing panel data regression on 160 observations from 32 publicly listed firms sourced from the Wall Street Journal, it analyzes the impact of revenue, earnings per share (EPS), and firm size. Findings indicate that revenue negatively affects liquidity, firm size enhances both liquidity and solvency, and EPS marginally reduces solvency. Larger firms demonstrate greater resilience, while smaller firms face vulnerabilities. The study highlights adaptive strategies like domestic tourism and digital transformation, offering insights for 2025 crises. Its novelty lies in its dual-crisis analysis within the ASEAN context, contributing to financial resilience literature and informing policies for liquidity management and non-debt financing.

Keywords: ASEAN Tourism, Dual Crises, Financial Resilience, Liquidity, Solvency

1. Introduction

The ASEAN tourism sector, a vital economic pillar, significantly contributes to regional GDP and employment, yet its reliance on global mobility renders it highly susceptible to external disruptions. From 2019 to 2023, the sector faced unprecedented challenges due to the dual crises of the COVID-19 pandemic and Middle East geopolitical tensions, including the 2023 Gaza war and Iran-Israel proxy conflicts. These crises led to a drastic decline in international tourist arrivals, escalated operational costs due to rising oil prices, and eroded consumer confidence, severely impacting the financial stability of tourism firms, particularly small and medium enterprises (SMEs) with limited resources (OECD, 2020). As new challenges emerge in 2025, including resurgent COVID-19 variants and intensified Middle East conflicts, understanding the financial dynamics of ASEAN tourism firms during past crises is essential for building resilience and informing future strategies (Henrika et al., 2025).

The COVID-19 pandemic, originating in late 2019, triggered global travel restrictions, including lockdowns, border closures, and quarantine measures, resulting in an 80% drop in ASEAN tourist arrivals in 2020–2021 (Kesuma et al., 2021). Partial recovery in 2022 was disrupted by new variants in 2023, exacerbating liquidity shortages and increasing insolvency risks, particularly for firms reliant on international tourism (Irianto, Kesuma, Henrika, et al., 2025; Korolev & Vaseneva, 2022). Concurrently, Middle East geopolitical tensions, notably the 2023 Gaza escalation and earlier Iran-backed militia activities, disrupted global travel confidence and spiked oil prices, inflating transportation costs for tourism firms (Priss & Chukhno, 2021). These dual shocks compounded financial pressures, as supply chain disruptions and reduced demand further strained revenues (Aydogan et al., 2023). The interconnected nature of global tourism amplified these impacts, necessitating a comprehensive analysis of financial resilience, defined as a firm's ability to sustain operations amidst external shocks (Leong et al., 2024).

Financial resilience is anchored in liquidity, measured by the Current Ratio (current assets divided by current liabilities), which reflects a firm's capacity to meet short-term obligations, and solvency, assessed via the Debt-to-Asset Ratio (total liabilities divided by total assets), indicating long-term financial health (Kesuma, Henrika, et al., 2025). Revenue, a critical driver of liquidity, supports operational continuity but is highly volatile during crises (OECD, 2020). Earnings per share (EPS) serves as an indicator of profitability, enhancing solvency by reducing reliance on debt financing (Aydogan et al., 2023). Firm size, encompassing total assets and operational scale,

confers resilience through diversified revenue streams and better access to credit markets (Lazarević & Stanišić, 2023). During crises, firms often prioritize liquidity over profitability, reallocating resources to maintain operations, as observed in ASEAN's shift toward domestic tourism and digital platforms (Korolev & Vaseneva, 2022).

Prior research has extensively explored the impact of COVID-19 on tourism but often overlooks the combined effects of health and geopolitical crises. OECD (2020) underscores revenue's role in sustaining liquidity, while Aydogan et al. (2023) highlight EPS's influence on solvency. However, the interplay of these factors in the ASEAN context under dual crises remains underexplored (Huang et al., 2025). The resilience disparity between large and small firms, as noted by Lazarević & Stanišić (2023), requires further scrutiny, particularly in emerging markets where SMEs dominate the tourism sector. This study addresses these gaps by analyzing the effects of revenue, EPS, and firm size on liquidity and solvency using panel data from 32 ASEAN tourism firms over 2019–2023. It poses three research questions: (1) How do revenue, EPS, and firm size influence liquidity and solvency during the 2019–2023 dual crises? (2) What factors contribute to the financial resilience of ASEAN tourism firms? (3) What lessons can inform strategies for managing crises in 2025?

The significance of this study lies in its integrated analysis of dual crises, offering actionable insights for ASEAN's tourism sector amidst ongoing global uncertainties. Its novelty stems from employing longitudinal panel data to capture dynamic financial responses, contrasting with cross-sectional approaches prevalent in prior studies (Aktymbayeva et al., 2023). Grounded in financial resilience and crisis management theories, the research emphasizes adaptive strategies, such as domestic tourism and digital transformation, as critical for mitigating financial pressures (Ertaş et al., 2021; Leong et al., 2024). By elucidating these dynamics, the study contributes to academic discourse and informs policy for a sustainable tourism industry in emerging markets (Ariswati et al., 2025). The findings aim to guide stakeholders in developing robust financial strategies to navigate future disruptions, ensuring the sector's long-term viability (Irianto et al., 2025).

The study's focus on ASEAN is particularly relevant given the region's economic dependence on tourism, which accounts for 10–12% of GDP in countries like Thailand, Malaysia, and Indonesia (OECD, 2020). The dual crises exposed vulnerabilities in the sector's financial structure, particularly for SMEs, which lack the scale to absorb shocks compared to larger firms (Lazarević & Stanišić, 2023). The analysis builds on crisis management frameworks, which advocate proactive liquidity management and diversification to mitigate risks (Ertaş et al., 2021). It also draws on resilience theory, which posits that firms with greater resources and adaptability are better equipped to withstand disruptions (Leong et al., 2024). The study's longitudinal approach allows for a nuanced understanding of how financial metrics evolved over time, capturing the differential impacts of the pandemic's peak and recovery phases, as well as the compounding effects of geopolitical shocks (Priss & Chukhno, 2021).

Moreover, the research addresses the role of government interventions, such as subsidies and domestic tourism campaigns, which have been critical in stabilizing the sector (Korolev & Vaseneva, 2022). Digital transformation, including the adoption of online booking platforms and virtual tours, has emerged as a key strategy for maintaining revenue streams during travel restrictions (Kesuma et al., 2021). By examining these adaptive measures, the study provides a comprehensive framework for understanding financial resilience in the context of multiple, overlapping crises. The findings are expected to inform policymakers, industry leaders, and researchers on effective strategies for enhancing the sector's resilience, particularly in anticipation of future disruptions in 2025 and beyond.

2. Research Methods

This study adopts a quantitative approach, employing panel data regression to analyze the financial performance of ASEAN tourism firms from 2019 to 2023. Data were sourced from the Wall Street Journal (WSJ), comprising annual financial reports of 32 publicly listed tourism firms, including travel agencies, tour operators, and hospitality providers, resulting in 160 observations (32 firms × 5 years). Purposive sampling ensured firms had complete data for all variables and were listed on ASEAN stock exchanges, yielding a strongly balanced panel with a yearly time delta.

The dependent variables are liquidity, measured by the Current Ratio (current assets divided by current liabilities), and solvency, measured by the Debt-to-Asset Ratio (total liabilities divided by total assets). Independent variables include revenue (total operating revenue), EPS (net income divided by outstanding shares), and firm size (total assets). No additional control variables, such as leverage, were included, aligning with the provided Stata results. Table 1 outlines variable measurements and references.

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Table 1. Variables' Measurement

Variable	Indicator	Measurement	Reference
Liquidity	Current Ratio	Current Assets / Current Liabilities	Kesuma et al. (2025)
Solvency	Debt-to-Asset Ratio	Total Liabilities / Total Assets	Aydogan et al. (2023)
Revenue	Total Revenue	Total Operating Revenue	OECD (2020)
EPS	Earnings Per Share	Net Income / Outstanding Shares	Aydogan et al. (2023)
Firm Size	Total Assets	Total Firm Assets	Lazarević & Stanišić (2023)

Panel data regression was chosen for its ability to capture both cross-sectional and temporal variations, controlling for unobserved heterogeneity (Mazilu et al., 2024). The regression model is:

$$Yit = \beta 0 + \beta 1 Revenueit + \beta 2 EPSit + \beta 3 FirmSizeit + \varepsilon it \qquad (1)$$

where Yit represents the Current Ratio or Debt-to-Asset Ratio for firm i at time t, and ε_it is the error term. The Hausman test was used to determine the choice between fixed effects (FE) and random effects (RE) models by assessing correlation between firm-specific effects and independent variables (Palla & Strickler, 2021). Robust standard errors were applied to address heteroskedasticity and autocorrelation, common in panel data (Ertaş et al., 2021). Variance Inflation Factor (VIF) tests were conducted to evaluate multicollinearity among independent variables (Fazzaalloh et al., 2024).

The analytical process involved: (1) data collection from WSJ and panel structuring, (2) data cleaning to eliminate outliers, (3) descriptive statistics to assess variable distributions, (4) diagnostic tests (Hausman, Breusch-Pagan, Modified Wald, Wooldridge) to validate model suitability, (5) execution of panel regression with FE or RE models, (6) sensitivity analysis to ensure result robustness, and (7) interpretation of findings. These steps ensure methodological rigor, aligning with standards for financial performance studies in crisis contexts (Korol & Durán, 2025). The use of panel data regression allows for a dynamic analysis of financial metrics, capturing the evolving impact of dual crises over time, which is critical for understanding resilience in volatile environments (Kesuma et al., 2025).

3. Results and Discussions

This study investigates the financial resilience of 32 ASEAN tourism firms during the 2019–2023 dual crises of the COVID-19 pandemic and Middle East geopolitical conflicts, focusing on liquidity (Current Ratio) and solvency (Debt-to-Asset Ratio). Panel data regression on 160 observations from Wall Street Journal data examines the effects of revenue, EPS, and firm size. Diagnostic tests confirmed random effects (RE) for Current Ratio (Hausman: chi2(3) = 2.38, p = 0.4965) and fixed effects (FE) with robust standard errors for Debt-to-Asset Ratio (Hausman: chi2(3) = 21.98, p = 0.0001), despite a non-positive definite variance note for the latter, mitigated by robust errors. High multicollinearity between revenue and firm size (VIF: 41.82 and 42.14, correlation: 0.9004) necessitates cautious interpretation (Fazzaalloh et al., 2024).

The RE model for Current Ratio is statistically significant (Wald chi2(3) = 11.37, p = 0.0099). Revenue exhibits a significant negative effect on liquidity (β = -2.804518, p = 0.001), suggesting that firms with higher revenue prioritized operational continuity over maintaining liquid assets during crises (Yakubovskiy & Кириченко, 2024). This finding challenges the assumption that revenue enhances liquidity (OECD, 2020) but aligns with crisis-driven asset reallocation, as firms redirected resources to sustain operations, such as domestic tourism initiatives (Korolev & Vaseneva, 2022). EPS shows no significant effect (β = 0.0120039, p = 0.212), indicating minimal influence on liquidity, likely due to reduced profitability during crises (Aydogan et al., 2023). Firm size has a significant positive effect (β = 2.886685, p = 0.003), reflecting larger firms' ability to maintain liquidity through robust cash reserves and credit access (Lazarević & Stanišić, 2023). The rho value (0.71736132) indicates that 71.74% of variance is due to inter-firm differences, supporting the RE model (Mazilu et al., 2024). The low R-squared within (0.0320)

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suggests unmodeled factors, such as oil price volatility or government interventions, influence liquidity (Li et al., 2024).

Table 2. Panel Regression Results for Current Ratio (RE Model)

Variable	Coefficient/Value	Standard Error	Statistic	P-Value	95% CI Lower	95% CI Upper
Revenue	-2.804518	0.8368514	-3.35 (z)	0.001	-4.444717	-1.164319
EPS	0.0120039	0.0096205	1.25 (z)	0.212	-0.006852	0.0308597
Firm Size	2.886685	0.9777937	2.95 (z)	0.003	0.9702444	4.803125
Constant	-0.4724302	6.912023	-0.07 (z)	0.946	-14.01975	13.07489
R-squared Within	0.0320	-	-	-	-	-
R-squared Between	0.2492	-	-	-	-	-
R-squared Overall	0.1958	-	-	-	-	-
Wald chi2(3)	11.37	-	-	0.0099	-	-
Rho	0.71736132	-	-	-	-	-

Table 3. Panel Regression Results for Debt-to-Asset Ratio (FE Model, Robust)

Variable	Coefficient/Value	Standard Error	Statistic	P-Value	95% CI Lower	95% CI Upper
Revenue	0.0264727	0.0641138	0.41 (t)	0.683	-0.1042882	0.1572336
EPS	-0.0007232	0.0003839	-1.88 (t)	0.069	-0.0015061	0.0000597
Firm Size	-0.207203	0.1107506	-1.87 (t)	0.071	-0.4330804	0.0186743
Constant	2.64736	1.465884	1.81 (t)	0.081	-0.3423297	5.637051
R-squared Within	0.1608	-	-	-	-	-
R-squared Between	0.0613	-	-	-	-	-
R-squared Overall	0.0155	-	-	-	-	-
F(3,31)	5.84	-	-	0.0028	-	-
Rho	0.84910226	-	-	-	-	-

The FE model for Debt-to-Asset Ratio is significant ($F(3,31) = 5.84$, $p = 0.0028$). Revenue shows no significant effect ($\beta = 0.0264727$, $p = 0.683$), indicating it does not directly influence solvency, likely due to revenue volatility during crises (Priss & Chukhno, 2021). EPS has a marginally significant negative effect ($\beta = -0.0007232$, $p = 0.069$), suggesting that higher earnings reduce debt reliance, aligning with findings that profitability supports solvency (Aydogan et al., 2023). Firm size is marginally significant ($\beta = -0.207203$, $p = 0.071$ with robust errors; $p = 0.000$ without), indicating that larger firms maintain lower Debt-to-Asset Ratios through diversified funding sources (Palla & Strickler, 2021). The rho value (0.84910226) suggests that 84.91% of variance is inter-firm, supporting the FE model (Korol & Durán, 2025). The low overall R-squared (0.0155) indicates unmodeled macroeconomic factors, such as government subsidies, affect solvency (Priss & Chukhno, 2021).

The negative revenue-liquidity relationship challenges conventional views that higher revenue enhances liquidity. Instead, firms likely allocated assets to sustain operations, such as domestic tourism campaigns in ASEAN, which mitigated revenue losses (Korolev & Vaseneva, 2022). This finding suggests that during crises, liquidity management prioritizes operational continuity over cash preservation, particularly for firms with high revenue streams (Yakubovskiy & Кириченко, 2024). Larger firms' superior liquidity and solvency align with Lazarević & Stanišić (2023), driven by their diversified portfolios and access to credit markets, enabling them to weather dual crises more effectively. SMEs, however, faced heightened risks due to limited cash reserves and dependence on volatile international tourism (OECD, 2020). The marginal EPS-solvency link supports Aydogan et al. (2023), indicating that profitability aids debt management but is less critical during crises when revenue streams are disrupted.

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High multicollinearity between revenue and firm size complicates coefficient interpretation, as larger firms tend to have higher revenues, potentially inflating VIF values (Fazzaalloh et al., 2024; Aktymbayeva et al., 2023). This issue suggests that future studies should consider variable transformations, such as logarithmic scaling, to mitigate multicollinearity effects. Heteroskedasticity and autocorrelation, addressed through robust standard errors, are prevalent in panel data, ensuring reliable estimates (Ertaş et al., 2021). The low R-squared values, particularly the overall R-squared (0.0155) for Debt-to-Asset Ratio, indicate that unmodeled factors, such as oil price volatility or government stimulus, significantly influence financial performance (Li et al., 2024). For instance, oil price spikes driven by Middle East conflicts increased operational costs, further straining liquidity for smaller firms (Priss & Chukhno, 2021).

Adaptive strategies played a crucial role in mitigating financial pressures. ASEAN governments promoted domestic tourism to offset the decline in international arrivals, stabilizing revenues for firms, particularly in Thailand, Malaysia, and Indonesia (Korolev & Vaseneva, 2022). Digital transformation, including the adoption of online booking platforms and virtual tours, enhanced operational efficiency, enabling firms to reduce costs and reach domestic markets during travel restrictions. These strategies highlight the importance of flexibility in crisis management, aligning with resilience theory, which emphasizes adaptability and resource diversification (Leong et al., 2024). The findings suggest that firms with proactive strategies were better equipped to navigate the dual crises, particularly those with larger asset bases.

Theoretically, this study refines financial resilience and crisis management frameworks by demonstrating that liquidity and solvency dynamics differ under dual-crisis conditions. The negative revenue-liquidity link prompts a re-evaluation of liquidity management theories, which typically assume positive revenue effects. Instead, the findings indicate that crisis contexts shift priorities toward operational survival, necessitating robust cash flow management (Ertaş et al., 2021). The study's novelty lies in its integrated analysis of health and geopolitical crises within the ASEAN tourism sector, using longitudinal panel data to capture dynamic responses over time, unlike cross-sectional studies that dominate the literature (Huang et al., 2025). This approach addresses gaps in prior research, which often focuses solely on health crises, by incorporating the compounding effects of geopolitical shocks (Priss & Chukhno, 2021).

The findings have significant implications for managing future crises, such as those anticipated in 2025 with ongoing COVID-19 variants and Middle East tensions. SMEs should prioritize liquidity reserves to buffer against revenue volatility, while governments can enhance resilience through targeted interventions, such as subsidies and domestic tourism campaigns (Palla & Strickler, 2021). Digital transformation remains critical for cost efficiency and market expansion, particularly for smaller firms with limited resources. The study contributes to the literature by providing a nuanced understanding of financial resilience in emerging markets, highlighting the differential impacts on large and small firms. By integrating dual-crisis dynamics, it informs targeted policy interventions to ensure the sustainability of ASEAN's tourism sector in volatile global environments.

4. Conclusion

This study demonstrates that during the 2019–2023 dual crises of the COVID-19 pandemic and Middle East geopolitical conflicts, revenue negatively impacted liquidity, firm size enhanced both liquidity and solvency, and EPS marginally reduced solvency in ASEAN tourism firms. Larger firms exhibited greater resilience, leveraging diversified portfolios and credit access, while SMEs faced significant vulnerabilities due to limited reserves. The analysis, grounded in financial resilience and crisis management theories, underscores the efficacy of adaptive strategies, such as domestic tourism and digital transformation, in mitigating financial pressures. The study's novelty lies in its integrated dual-crisis analysis within the ASEAN context, employing longitudinal panel data to capture dynamic financial responses, thus contributing significantly to the literature on financial resilience in emerging markets. Firms should prioritize building liquidity reserves to mitigate revenue volatility and pursue non-debt financing, such as government grants, to strengthen solvency (Ertaş et al., 2021). Governments should sustain domestic tourism campaigns and support digital transformation initiatives to enhance operational efficiency and market reach (Шуплат, 2024). Future research should address multicollinearity through variable transformations, such as logarithmic scaling, to improve coefficient reliability (Fazzaalloh et al., 2024). Additionally, incorporating macroeconomic controls, such as oil prices or government subsidies, could enhance model explanatory power (Li et al., 2024). Limitations include high multicollinearity between revenue and firm size, low R-squared values indicating unmodeled factors, and potential variance estimation issues in the Debt-to-Asset Ratio model, necessitating cautious interpretation. These insights provide a roadmap for policymakers and industry leaders to bolster the resilience of ASEAN's tourism sector against future crises, ensuring long-term sustainability.

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