

# THE IMPACT OF DEBT FINANCING ON FIRMS: EVIDENCE FROM ASEAN COUNTRIES

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## ABSTRACT

This study examines how changes in debt financing affect operating performance, abnormal returns, operating volatility, and stock price crash risk across ASEAN-5 listed firms from 2005 to 2024, and whether analyst coverage moderates these relationships. Results reveal that debt financing primarily imposes financial burden rather than enhancing managerial discipline. Changes in debt are negatively associated with operating performance across all five countries, reduce abnormal returns in Thailand, produce mixed effects on operating volatility across countries and measures, and reduce crash risk only in Malaysia, suggesting that debt monitoring mechanisms operate selectively across the region. Disaggregating debt by maturity reveals that both short-term and long-term debt produce broadly negative performance effects, with short-term debt additionally reflecting increased liquidity risk and long-term debt unexpectedly stabilizing operations in several markets despite lower performance. Analyst coverage does not amplify debt discipline as predicted but instead compounds financial burden in most markets, further deteriorating performance and amplifying crash risk in several countries. Overall, results vary substantially across ASEAN-5 markets, reflecting the considerable institutional diversity of the region, and suggest that debt discipline mechanisms documented in developed markets do not generalize uniformly to Southeast Asian institutional contexts.

**Keywords:** Debt Financing, Short-Term Debt, Long-Term Debt, Operating Performance, Operating Volatility, Stock Price Crash Risk, Analyst Coverage

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## INTRODUCTION

Debt financing represents a fundamental determinant of corporate performance and financial stability. Beyond providing capital, debt creates disciplinary mechanisms that constrain managerial discretion through regular payment obligations and creditor oversight. These mechanisms affect firms across multiple dimensions simultaneously such as operating performance, abnormal return, operational stability, and stock price crash risk.

Despite growing research on debt financing effects, three significant gaps remain. First, existing evidence on debt discipline mechanisms derives predominantly from developed markets, leaving their applicability to Southeast Asian institutional contexts largely untested. ASEAN-5 markets such as Thailand, Singapore, Malaysia, Indonesia, and the Philippines, which exhibit substantial variation in financial market development and corporate governance frameworks, making them an ideal setting to examine whether debt discipline operates consistently across diverse institutional environments.

Second, prior research treats debt as an aggregate construct. Papadaki and Pavlopoulou-Lelaki (2021) demonstrate that external financing improves future operating performance, yet their analysis combines debt and equity and does not distinguish between debt maturities. Short-term and long-term debt operate through fundamentally different monitoring mechanisms: short-term debt imposes frequent creditor assessments through refinancing requirements, while long-term debt reduces monitoring intensity and may enable moral hazard. Disaggregating debt by maturity thus provides more precise understanding of which debt structures drive favorable outcomes.

Third, the boundary conditions under which debt discipline operates remain underexplored. Analyst coverage enhances monitoring intensity and promotes information transparency (He et al., 2019; Chen et al., 2015), potentially amplifying or compensating for creditor oversight depending on debt maturity structure, yet no study has examined this moderating role across ASEAN-5 markets.

## LITERATURE REVIEWS

### Debt Financing and Firm Outcomes

Debt financing affects firm outcomes through disciplinary and monitoring mechanisms. Jensen's (1986) free cash flow theory argues that debt reduces agency costs by requiring regular interest, forcing managers to undertake only value-enhancing projects. Papadaki and Pavlopoulou-Lelaki (2021) provide direct empirical evidence that increases in external financing lead to significant improvements in both operating profit and operating cash flow in the subsequent year, establishing the foundation for debt-specific effects examined here.

Beyond operating performance, debt discipline should generate positive market reactions reflected in abnormal returns, as investors recognize the value implications of enhanced managerial discipline. The consistent pressure imposed by debt obligations should also stabilize operations by constraining managerial discretion, thereby reducing operating volatility. Regarding crash risk, Jin and Myers (2006) develop the theoretical link between information opacity and crash risk through a bad news hoarding mechanism, whereby managers withhold negative information until accumulated bad news is suddenly released, generating extreme negative returns. Wang et al. (2020) provide evidence that debt financing reduces crash risk by constraining this hoarding behavior through creditor monitoring.

Based on this reasoning, the following hypotheses are proposed:

H1a: Changes in debt financing are positively associated with future operating performance.

H1b: Changes in debt financing are positively associated with future abnormal returns.

H1c: Changes in debt financing are negatively associated with future operating volatility.

H1d: Changes in debt financing are negatively associated with future stock price crash risk.

However, an alternative view suggests that increasing debt may negatively affect firm performance through repayment pressure and default risk. As firms take on more debt, they face mounting pressure to service their obligations, and firms with higher leverage face an elevated likelihood of defaulting, which may ultimately impair firm performance and in severe cases lead to bankruptcy.

(Arhinful & Radmeh, 2023). ASEAN-5 markets may provide an ideal setting for this investigation due to their substantial institutional and economic diversity, as these five countries exhibit considerable variation in financial market development, corporate governance frameworks, and ownership concentration (Claessens et al., 2000; Klapper & Love, 2004). These competing perspectives provide the theoretical motivation for examining debt financing effects in the ASEAN-5 context.

### **Debt Maturity Structure**

The intensity of debt discipline varies substantially with maturity structure. Short-term debt imposes frequent monitoring through refinancing requirements, constraining managerial discretion and reducing information asymmetry (Myers, 1977; Diamond, 1991). Nakatani (2023) finds that firms with greater short-term debt exhibit higher productivity growth, attributing this to frequent creditor assessments that discipline managers toward operational efficiency. If investors recognize these performance-enhancing monitoring benefits, this should also be reflected in positive abnormal returns. The intensive oversight imposed by short-term refinancing should further reduce operating volatility by forcing managers to maintain consistent performance, while frequent creditor assessments make sustained concealment of bad news difficult. Dang et al. (2018) provide direct evidence that short-term debt is negatively associated with subsequent stock price crash risk, consistent with frequent creditor monitoring preventing sustained information hoarding. However, short-term debt may also impose costs alongside its monitoring benefits. The frequent refinancing requirements associated with short-term debt create liquidity risk and additional interest costs as firms must repeatedly access credit markets to roll over their obligations (Nguyen, 2024). These costs may offset or even outweigh the monitoring benefits, particularly in markets where credit conditions are less favorable or institutional frameworks are weaker, potentially leading to negative rather than positive performance effects.

In contrast, long-term debt creates infrequent oversight, potentially enabling moral hazard as managers pursue inefficient activities during extended periods between monitoring events. Nakatani (2023) finds that long-term debt negatively affects productivity relative to short-term debt. The weaker performance effects may also weaken market reactions, generating negative abnormal returns as investors perceive long-term debt as enabling managerial slack. Additionally, inconsistent oversight may increase operating volatility as managers gain greater discretion to pursue variable strategies without immediate consequences. Hasan et al. (2021) document that long-term debt maturity is positively associated with crash risk, as infrequent monitoring allows managers to accumulate hidden bad news over extended periods between creditor oversight events. Based on this reasoning, the following hypotheses are proposed:

H2a: Changes in short-term debt are positively associated with future operating performance.

H2b: Changes in long-term debt are negatively associated with future operating performance.

H2c: Changes in short-term debt are positively associated with future abnormal returns.

H2d: Changes in long-term debt are negatively associated with future abnormal returns.

H2e: Changes in short-term debt are negatively associated with future operating volatility.

H2f: Changes in long-term debt are positively associated with future operating volatility.

H2g: Changes in short-term debt are negatively associated with future stock price crash risk.

H2h: Changes in long-term debt are positively associated with future stock price crash risk.

### **Analyst Coverage as External Monitor**

Analyst coverage enhances monitoring intensity and promotes information transparency (He et al., 2019; Chen et al., 2015), creating monitoring pressure that operates alongside creditor oversight. Derrien and Kecskés (2013) find that analyst coverage helps increase firm financing and investment, while Chen et al. (2015) provide evidence that analysts serve as external monitors constraining managerial discretion. When both debt obligations and analyst coverage are present, these monitoring mechanisms work together, amplifying disciplinary pressure on managers to operate efficiently and disclose transparently. If investors recognize that analyst monitoring amplifies debt discipline benefits, this should strengthen market reactions to debt financing, enhancing abnormal returns. Additionally, the dual monitoring from both creditors and analysts

should further stabilize operations as managers face continuous oversight that discourages operational fluctuations, reducing operating volatility. He et al. (2019) demonstrate that analyst coverage reduces future stock price crash risk, consistent with analysts constraining information hoarding.

The moderating effect of analyst coverage varies with debt maturity. For short-term debt, which already creates intensive creditor monitoring, analyst coverage adds independent external scrutiny that amplifies disciplinary effects across all outcome dimensions. For long-term debt, where creditor oversight is infrequent, analyst coverage partially compensates by providing ongoing external monitoring during periods between covenant checks, mitigating the negative consequences of weak creditor oversight on performance, returns, volatility, and crash risk. This suggests analyst coverage acts as a complementary monitoring force that strengthens favorable short-term debt effects while mitigating unfavorable long-term debt effects. However, an alternative perspective suggests that analyst coverage may not always amplify debt discipline benefits. Analysts exert pressure on managers to meet short-term performance targets (He & Tian, 2013), and when combined with existing debt obligations, this dual pressure may compound financial burden rather than complement creditor monitoring, potentially exacerbating rather than mitigating the negative consequences of debt financing.

Based on this reasoning, the following hypotheses are proposed:

H3a–H3d: Analyst coverage strengthens the positive effect of aggregate debt on future operating performance (H3a), abnormal returns (H3b), and strengthens the negative effect on operating volatility (H3c) and stock price crash risk (H3d).

H3e–H3h: Analyst coverage strengthens the positive effect of short-term debt on future operating performance (H3e), abnormal returns (H3f), and strengthens the negative effect on operating volatility (H3g) and stock price crash risk (H3h).

H3i–H3l: Analyst coverage weakens the negative effect of long-term debt on future operating performance (H3i), abnormal returns (H3j), and weakens the positive effect on operating volatility (H3k) and stock price crash risk (H3l).

## RESEARCH METHODOLOGY

### Sample and Data Sources

This study examines listed firms across five ASEAN markets such as Thailand, Singapore, Malaysia, Indonesia, and the Philippines over the period 2005 to 2024, excluding financial institutions, insurance firms, and REITs. Data are obtained from the Wharton Research Data Services (WRDS) Compustat Global database and Refinitiv Workspace. All continuous variables are winsorized at the 1st and 99th percentiles to mitigate the influence of extreme observations.

### Variable Construction

Operating performance is measured using two proxies: operating profit and operating cash flow, both scaled by lagged total assets. Abnormal returns are derived from the Capital Asset Pricing Model (CAPM), where the intercept (alpha) from firm-level daily return regressions represents average daily abnormal return, subsequently annualized. Operating volatility is measured as the standard deviation of quarterly operating profit and operating cash flow within each fiscal year, constructing two measures corresponding to the two operating performance proxies: operating profit volatility and operating cash flow volatility. Stock price crash risk is measured using two complementary proxies following Chen et al. (2001) and Kim et al. (2011): negative conditional skewness (NCSKEW), which the formula is  $-\frac{[n(n-1)^{3/2}\sum w_{i,\tau}^3]}{[(n-1)(n-2)(\sum w_{i,\tau}^2)^{3/2}]}$  and down-to-up volatility (DUVOL), which the formula is  $\log\left[\frac{(n_u-1)\sum w_{i,\tau}^2(\text{down})}{(n_d-1)\sum w_{i,\tau}^2(\text{up})}\right]$ , where  $w_{i,\tau}$  is the firm-specific weekly return for firm  $i$  during week  $\tau$ ,  $n$  is the number of weekly returns in fiscal year  $t$ ,  $n_u$  is the number of up weeks, and  $n_d$  is the number of down weeks. both constructed from firm-specific weekly returns estimated via an expanded market model (Hutton et al., 2009). The key independent variables are changes in total debt, short-term debt, and long-term debt from year  $t-1$  to year  $t$ , each scaled by total assets.

Analyst coverage is measured as the logarithmic transformation of one plus the number of analysts following the firm.

Control variables include firm size, market-to-book ratio, asset growth, leverage, sales growth, change in net operating assets, financial distress, price-to-earnings ratio, return on assets, average firm-specific weekly return, return standard deviation, change in turnover, capital expenditure, fixed asset ratio, and current ratio, all lagged by one period to mitigate endogeneity concerns.

**Table 1: Descriptive statistics**

|                                                       | Thailand |        | Singapore |        | Malaysia |        | Philippines |        | Indonesia |        |
|-------------------------------------------------------|----------|--------|-----------|--------|----------|--------|-------------|--------|-----------|--------|
|                                                       | MEAN     | SD     | MEAN      | SD     | MEAN     | SD     | MEAN        | SD     | MEAN      | SD     |
| <i>Operating profit<sub>t+1,i</sub></i>               | 0.0543   | 0.1012 | 0.0239    | 0.1199 | 0.0417   | 0.1119 | 0.0613      | 0.1012 | 0.0722    | 0.1181 |
| <i>Operating cash flow<sub>t+1,i</sub></i>            | 0.0775   | 0.1121 | 0.0475    | 0.1259 | 0.0519   | 0.1052 | 0.0761      | 0.1111 | 0.0718    | 0.1202 |
| <i>Abnormal return<sub>t+1,i</sub></i>                | 0.0049   | 0.3791 | -0.0910   | 0.4471 | -0.0307  | 0.4019 | -0.0153     | 0.4036 | -0.0572   | 0.5028 |
| <i>Operating profit volatility<sub>t+1,i</sub></i>    | 0.0127   | 0.0143 | 0.0138    | 0.0228 | 0.0172   | 0.0260 | 0.0118      | 0.0144 | 0.0139    | 0.0166 |
| <i>Operating cash flow volatility<sub>t+1,i</sub></i> | 0.0436   | 0.0308 | 0.0423    | 0.0362 | 0.0412   | 0.0322 | 0.0400      | 0.0325 | 0.0434    | 0.0355 |
| <i>DUVOL<sub>t+1,i</sub></i>                          | 0.0063   | 0.5852 | 0.2749    | 0.7721 | 0.0507   | 0.6020 | 0.0118      | 0.6264 | 0.0513    | 0.8272 |
| <i>NCSKEW<sub>t+1,i</sub></i>                         | 0.0240   | 0.9545 | 0.3348    | 1.1563 | 0.0653   | 0.9472 | -0.0012     | 1.0299 | 0.0537    | 1.2758 |
| <i>ΔDEBT<sub>t,i</sub></i>                            | 0.0073   | 0.0967 | 0.0025    | 0.1257 | 0.0050   | 0.0813 | 0.0174      | 0.0993 | -0.0155   | 0.2569 |
| <i>ΔShort – term debt<sub>t,i</sub></i>               | 0.0038   | 0.0826 | -0.0016   | 0.1031 | 0.0023   | 0.0640 | 0.0049      | 0.0742 | -0.0179   | 0.2384 |
| <i>ΔLong – term debt<sub>t,i</sub></i>                | 0.0037   | 0.0655 | 0.0034    | 0.0808 | 0.0029   | 0.0560 | 0.0122      | 0.0755 | -0.0082   | 0.1581 |
| <i>Analyst<sub>t,t</sub></i>                          | 0.4323   | 0.8361 | 0.2195    | 0.6117 | 0.3796   | 0.7695 | 0.4409      | 0.8055 | 0.3869    | 0.8265 |

## Empirical Models

This study examines the effects of changes in debt financing on future firm outcomes using ordinary least squares (OLS) regression estimated separately for each ASEAN-5 country, allowing coefficients to vary freely across markets and reflecting the distinct institutional environments of Thailand, Singapore, Malaysia, Indonesia, and the Philippines. All models include year and industry fixed effects to control for time-varying macroeconomic conditions and industry-specific characteristics.

## RESEARCH RESULTS

### Debt Financing and Firm Outcomes (H1)

**Table 2: Effects of Changes in Aggregate Debt on Firm Outcomes**

| Dependent Variable           | Thailand   | Singapore  | Malaysia   | Philippines | Indonesia  |
|------------------------------|------------|------------|------------|-------------|------------|
| ΔDebt → Operating Profit     | -0.1376*** | -0.0669*** | -0.1564*** | -0.1456***  | -0.0436*** |
| ΔDebt → Operating Cash Flow  | -0.0657*** | -0.0500*** | -0.0795*** | -0.0806***  | -0.0085    |
| ΔDebt → Abnormal Returns     | -0.2540*** | 0.0373     | -0.0149    | -0.1221     | 0.0157     |
| ΔDebt → Profit Volatility    | 0.0003     | -0.0092*** | -0.0127*** | -0.0018     | 0.0022***  |
| ΔDebt → Cash Flow Volatility | 0.0167***  | 0.0002     | -0.0204*** | -0.0219***  | 0.0002     |
| ΔDebt → DUVOL                | 0.1148     | 0.0536     | -0.1168    | -0.1017     | 0.0058     |
| ΔDebt → NCSKEW               | 0.0901     | 0.1621     | -0.2362**  | -0.2317     | -0.0186    |

Note: \*p<0.10, \*\*p<0.05, \*\*\*p<0.01

Changes in aggregate debt are negatively associated with operating performance across all five ASEAN-5 markets (Table 1), contrary to H1a. As firms increase debt, mounting repayment obligations may ultimately impair performance as resources are diverted toward debt servicing, and in severe cases may lead to financial risk or bankruptcy (Arhinful & Radmeh, 2023), suggesting that debt primarily imposes financial burden rather than enhancing managerial discipline. This pattern holds for both operating profit and operating cash flow across most countries, except for Indonesia where operating cash flow shows no significant effect. Abnormal returns show a significant negative effect only in Thailand, where investors interpret debt increases as signals of elevated financial risk rather than governance improvement, while other markets show no significant effects, contrary to H1b. For operating volatility, results are mixed across both countries and measures. For operating profit volatility, debt reduces volatility in Singapore and Malaysia where repayment pressure may impose some discipline that stabilizes earnings, but

increases volatility in Indonesia. For operating cash flow volatility, debt increases volatility in Thailand where financial pressure destabilizes cash operations, while Malaysia and the Philippines show reduced volatility (Table 1), contrary to H1c. For crash risk, debt reduces NCSKEW only in Malaysia, likely reflecting stronger creditor rights that enable effective monitoring and timely disclosure, while DUVOL shows no significant effects anywhere, providing only partial support for H1d. Overall, the cross-country variation likely reflects differences in creditor rights, corporate governance frameworks, and financial market development across markets, suggesting that debt discipline mechanisms operate more effectively in markets with stronger institutional infrastructure.

### Differential Effects of Debt Maturity (H2)

**Table 3: Effects of Changes in Disaggregated Debt on Firm Outcomes**

| Dependent Variable                              | Thailand   | Singapore  | Malaysia   | Philippines | Indonesia  |
|-------------------------------------------------|------------|------------|------------|-------------|------------|
| $\Delta$ STD $\rightarrow$ Operating Profit     | -0.1181*** | -0.0513*** | -0.1674*** | -0.1770***  | -0.0293*** |
| $\Delta$ LTD $\rightarrow$ Operating Profit     | -0.1536*** | -0.0652*** | -0.1550*** | -0.1476***  | -0.0524*** |
| $\Delta$ STD $\rightarrow$ Operating Cash Flow  | -0.0076    | -0.0164    | -0.0443**  | -0.0808**   | -0.0037    |
| $\Delta$ LTD $\rightarrow$ Operating Cash Flow  | -0.1396*** | -0.0570**  | -0.1463*** | -0.1203***  | -0.0055    |
| $\Delta$ STD $\rightarrow$ Abnormal Returns     | -0.2691*** | 0.0309     | 0.0151     | -0.1343     | 0.0688     |
| $\Delta$ LTD $\rightarrow$ Abnormal Returns     | -0.1417    | 0.0027     | -0.0690    | -0.0630     | -0.0392    |
| $\Delta$ STD $\rightarrow$ Profit Volatility    | 0.0024     | -0.0117*** | -0.0043    | 0.0006      | 0.0057***  |
| $\Delta$ LTD $\rightarrow$ Profit Volatility    | -0.0039    | -0.0031    | -0.0187*** | -0.0015     | -0.0059*** |
| $\Delta$ STD $\rightarrow$ Cash Flow Volatility | 0.0259***  | 0.0027     | -0.0093    | -0.0113     | 0.0072***  |
| $\Delta$ LTD $\rightarrow$ Cash Flow Volatility | 0.0036     | 0.0003     | -0.0402*** | -0.0316***  | -0.0131*** |
| $\Delta$ STD $\rightarrow$ DUVOL                | 0.1684*    | 0.1686     | -0.1066    | -0.3811*    | -0.0614    |
| $\Delta$ LTD $\rightarrow$ DUVOL                | 0.0020     | -0.0729    | -0.1376    | 0.0469      | 0.1004     |
| $\Delta$ STD $\rightarrow$ NCSKEW               | 0.1590     | 0.3373*    | -0.2551*   | -0.6158**   | -0.1755**  |
| $\Delta$ LTD $\rightarrow$ NCSKEW               | -0.0737    | -0.0492    | -0.2265    | -0.1239     | 0.2332*    |

Note: \*p<0.10, \*\*p<0.05, \*\*\*p<0.01

Disaggregating debt by maturity reveals that both short-term and long-term debt produce broadly negative performance effects across most markets (Table 2), contrary to the differential monitoring mechanisms hypothesized in H2a and H2b. For operating profit, both short-term and long-term debt are negatively significant across all five countries. For operating cash flow, short-term debt shows significant negative effects only in Malaysia and the Philippines, while long-term debt shows significant negative effects in Thailand, Singapore, Malaysia, and the Philippines. Rather than creating disciplinary benefits, short-term debt's negative effects likely reflect increased liquidity risk and interest costs from frequent refinancing requirements (Nguyen, 2024), while long-term debt's negative effects reflect reduced managerial efficiency from infrequent oversight. For abnormal returns, only Thailand shows a significant negative effect of short-term debt, suggesting investors perceive short-term debt increases as liquidity risk signals, while long-term debt shows no significant effects anywhere as it does not create the same immediate financial pressure, contrary to H2c and H2d. For operating volatility, short-term debt and long-term debt produce opposing effects across markets. Short-term debt reduces operating profit volatility only in Singapore consistent with H2e in this market, but increases operating profit volatility in Indonesia and operating cash flow volatility in Thailand and Indonesia, suggesting frequent refinancing pressure destabilizes operations in these markets. Long-term debt unexpectedly reduces rather than increases operating volatility in several markets significantly negative for profit volatility in Malaysia and Indonesia, and for cash flow volatility in Malaysia, the Philippines, and Indonesia are contrary to H2f, as longer financing horizons allow firms to plan operations without

frequent refinancing pressure, producing a stable but inefficient outcome. The opposing directions of short-term debt and long-term debt on volatility help explain the mixed aggregate results in H1c. For crash risk, short-term debt reduces NCSKEW in Malaysia, the Philippines, and Indonesia through frequent creditor monitoring that constrains information hoarding consistent with H2g, but increases DUVOL in Thailand and NCSKEW in Singapore where refinancing pressure incentivizes managers to conceal information to secure debt renewal. Long-term debt shows limited crash risk effects across most markets, consistent with infrequent monitoring that does not consistently alter disclosure behavior, except for Indonesia where NCSKEW shows a weakly positive effect. Overall, the cross-country variation in maturity effects likely reflects differences in creditor rights, corporate governance frameworks, and financial market development across ASEAN-5, suggesting that the effectiveness of debt maturity mechanisms depends on the strength of institutional infrastructure in each market.

### Moderating Role of Analyst Coverage (H3)

**Table 4: Moderating Role of Analyst Coverage**

| Dependent Variable                                                                | Thailand   | Singapore  | Malaysia   | Philippines | Indonesia  |
|-----------------------------------------------------------------------------------|------------|------------|------------|-------------|------------|
| $\Delta\text{Debt} \times \text{Analyst} \rightarrow \text{Operating Profit}$     | -0.0385*** | -0.0640*** | -0.0318**  | -0.0208     | -0.0188*** |
| $\Delta\text{Debt} \times \text{Analyst} \rightarrow \text{Operating Cash Flow}$  | -0.0799*** | -0.0683*** | -0.0452*** | -0.0335     | -0.0117    |
| $\Delta\text{Debt} \times \text{Analyst} \rightarrow \text{Abnormal Returns}$     | 0.0748     | -0.1074    | -0.0861    | -0.1553     | -0.0255    |
| $\Delta\text{Debt} \times \text{Analyst} \rightarrow \text{Profit Volatility}$    | -0.0031*   | 0.0060     | 0.0013     | 0.0014      | -0.0008    |
| $\Delta\text{Debt} \times \text{Analyst} \rightarrow \text{Cash Flow Volatility}$ | -0.0135*** | 0.0012     | -0.0030    | -0.0040     | 0.0012     |
| $\Delta\text{Debt} \times \text{Analyst} \rightarrow \text{DUVOL}$                | -0.0625    | -0.1511    | 0.0819     | 0.3761**    | -0.0642    |
| $\Delta\text{Debt} \times \text{Analyst} \rightarrow \text{NCSKEW}$               | -0.1380    | -0.1511    | 0.2164     | 0.5240*     | -0.0749    |
| $\Delta\text{STD} \times \text{Analyst} \rightarrow \text{Operating Profit}$      | -0.0199    | -0.0651**  | -0.0143    | -0.0275     | 0.0003     |
| $\Delta\text{LTD} \times \text{Analyst} \rightarrow \text{Operating Profit}$      | -0.0444*** | -0.0632**  | -0.0450*** | -0.0134     | -0.0288*   |
| $\Delta\text{STD} \times \text{Analyst} \rightarrow \text{Operating Cash Flow}$   | -0.0858*** | -0.0643**  | -0.0367*   | -0.0515     | 0.0010     |
| $\Delta\text{LTD} \times \text{Analyst} \rightarrow \text{Operating Cash Flow}$   | -0.0450**  | -0.0702**  | -0.0325*   | -0.0030     | -0.0179    |
| $\Delta\text{STD} \times \text{Analyst} \rightarrow \text{Abnormal Returns}$      | 0.1710**   | -0.2276**  | -0.1303    | -0.3501*    | -0.0013    |
| $\Delta\text{LTD} \times \text{Analyst} \rightarrow \text{Abnormal Returns}$      | -0.0141    | 0.0225     | -0.0507    | -0.0791     | -0.0570    |
| $\Delta\text{STD} \times \text{Analyst} \rightarrow \text{Profit Volatility}$     | -0.0047**  | 0.0066     | -0.0060    | 0.0012      | -0.0008    |
| $\Delta\text{LTD} \times \text{Analyst} \rightarrow \text{Profit Volatility}$     | -0.0004    | 0.0035     | 0.0058     | 0.0012      | 0.0002     |
| $\Delta\text{STD} \times \text{Analyst} \rightarrow \text{Cash Flow Volatility}$  | -0.0099*   | -0.0049    | -0.0030    | 0.0008      | -0.0009    |
| $\Delta\text{LTD} \times \text{Analyst} \rightarrow \text{Cash Flow Volatility}$  | -0.0128*** | 0.0051     | 0.0026     | -0.0021     | 0.0055     |
| $\Delta\text{STD} \times \text{Analyst} \rightarrow \text{DUVOL}$                 | -0.1055    | -0.0690    | 0.2003*    | 0.8286***   | 0.0835     |
| $\Delta\text{LTD} \times \text{Analyst} \rightarrow \text{DUVOL}$                 | -0.0457    | -0.2068    | 0.0423     | 0.1439      | -0.2486**  |
| $\Delta\text{STD} \times \text{Analyst} \rightarrow \text{NCSKEW}$                | -0.1604    | 0.0631     | 0.4179**   | 1.2552**    | 0.0873     |
| $\Delta\text{LTD} \times \text{Analyst} \rightarrow \text{NCSKEW}$                | -0.1536    | -0.2196    | 0.1528     | 0.2517      | -0.2681    |

Note: \*p<0.10, \*\*p<0.05, \*\*\*p<0.01

Analyst coverage does not amplify debt discipline as predicted but instead compounds financial burden in most markets (Table 3). For operating performance, the interaction between aggregate debt and analyst coverage is negative and significant across Thailand, Singapore, Malaysia, and Indonesia for operating profit, and across Thailand, Singapore, and Malaysia for operating cash flow, contrary to H3a. At the disaggregated level, short-term debt shows significant negative interaction for operating cash flow in Thailand and for both measures in Singapore, while long-term debt shows significant negative interaction for both measures in Thailand and Singapore, and for operating profit in Malaysia and Indonesia, contrary to H3e and H3i. Rather than strengthening debt discipline, analysts exert pressure on managers to meet short-term targets (He & Tian, 2013), and

when combined with existing debt obligations, this dual pressure further deteriorates performance rather than complementing creditor monitoring.

For abnormal returns, aggregate interaction terms are insignificant across all markets, providing no support for H3b. At the disaggregated level, short-term debt produces opposing effects, which positive in Thailand where combined creditor and analyst monitoring helps investors recognize performance improvements consistent with H3f, but negative in Singapore and the Philippines where analyst coverage amplifies investor awareness of financial burden and liquidity risk, contrary to the hypothesis. Long-term debt shows no significant moderating effects in any country, consistent with the finding that long-term debt does not generate significant market reactions and analyst coverage does not change this.

For operating volatility, the aggregate interaction is negative and significant only in Thailand for both profit volatility and cash flow volatility, consistent with H3c in this market. At the disaggregated level, short-term debt shows negative and significant interaction in Thailand for both profit volatility and cash flow volatility, while long-term debt shows significant negative interaction only for cash flow volatility in Thailand, with profit volatility showing no significant effect, likely reflecting the weaker pressure of long-term debt. Both effects produce a stable but inefficient outcome, and the absence of significant effects elsewhere reflects substantial variation in analyst coverage development across ASEAN-5.

For crash risk, the aggregate interaction is positive and significant only in the Philippines for both DUVOL and NCSKEW, contrary to H3d. At the disaggregated level, short-term debt shows positive and significant interaction in Malaysia and the Philippines for both crash risk measures, contrary to H3h, consistent with the pressure amplification argument whereby combined refinancing pressure and analyst scrutiny incentivizes managers to conceal information. Long-term debt shows negative and significant interaction only in Indonesia for DUVOL, providing partial support for H3l, where analyst monitoring partially compensates for weak creditor oversight by reducing the accumulation of hidden bad news, though the absence of a corresponding NCSKEW effect warrants caution. Overall, the selective nature of these moderating effects likely reflects differences in analyst coverage development, creditor rights, corporate governance frameworks, and financial market development across ASEAN-5, suggesting that the moderating role of analyst coverage on debt discipline is highly context-dependent and does not operate uniformly across the region.

## DISCUSSION & CONCLUSION

This study examines how changes in debt financing affect operating performance, abnormal returns, operating volatility, and stock price crash risk across ASEAN-5 listed firms from 2005 to 2024, and whether analyst coverage moderates these relationships. Three key findings emerge.

First, contrary to Jensen's (1986) free cash flow hypothesis, changes in debt financing are consistently associated with lower operating performance across most ASEAN-5 markets, suggesting that debt primarily imposes financial burden rather than enhancing managerial discipline. This contrasts with Papadaki and Pavlopoulou-Lelaki (2021), who document positive effects in developed markets, indicating that debt discipline mechanisms do not generalize uniformly to Southeast Asian institutional contexts. The limited effects on abnormal returns and crash risk further suggest that the monitoring benefits of debt operate selectively, likely in markets with stronger creditor rights and enforcement mechanisms.

Second, disaggregating debt by maturity reveals that both short-term and long-term debt impose financial burden rather than operating through distinct disciplinary mechanisms. Short-term debt's negative effects likely reflect liquidity risk from frequent refinancing rather than monitoring benefits, while long-term debt's negative effects reflect reduced managerial efficiency from infrequent oversight. Notably, long-term debt unexpectedly stabilizes operations in several markets despite lower performance, producing a stable but inefficient outcome, which consistent with the view that performance and volatility capture fundamentally different dimensions of firm outcomes.

Third, analyst coverage does not amplify debt discipline as predicted but instead compounds financial burden in most markets. Analysts exert pressure on managers to meet short-term targets (He & Tian, 2013), and when combined with debt obligations, this further deteriorates performance and amplifies crash risk in several markets rather than complementing creditor monitoring. Complementary monitoring conditions between debt and analyst coverage appear to exist only in specific institutional contexts, as evidenced by the stabilizing effects on volatility in Thailand and the crash risk reduction in Indonesia.

Overall, this study demonstrates that changes in debt financing produce varying effects across outcome dimensions and institutional contexts in ASEAN-5, with financial burden effects dominating over disciplinary mechanisms in most markets. The findings highlight that debt's consequences are highly context-dependent, varying by country, debt maturity, outcome dimension, and information environment, and cannot be assumed to operate uniformly across diverse institutional settings.

These findings have important implications for ASEAN-5. For corporate managers, debt increases should be approached cautiously given the predominantly negative performance effects observed in this study, with short-term debt creating additional liquidity risk through frequent refinancing requirements and long-term debt being associated with lower performance. For investors, debt increases may signal elevated financial risk rather than governance improvement in markets where investors are more responsive to debt-related signals, while appearing to carry more limited informational value in other markets. For regulators, strengthening creditor rights and enforcement mechanisms is critical to enable debt discipline mechanisms to operate effectively across the region. In addition, policies aimed at reducing the combined pressure arising from debt obligations and analyst monitoring may help mitigate the pressure amplification effects documented in this study. This study has limitations. The OLS approach may not fully address endogeneity concerns, and future research should consider employing 2SLS with instrumental variables to establish more robust causal inferences.

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**Data Availability Statement:** The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

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