RITHA Publishing | Research, Innovation and Technologies – Hub for Academics
Applied Journal of Economics, Law and Governance https://doi.org/105701/ajelg.v1.i2(2).07

Tariffs, Trade Wars, and Earnings Strategies: A Comparative Analysis of Real Earnings Management in the United States and China

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Abstract

This study examines the impact of tariff risk exposure (TRE) on real earnings management (REM) in publicly listed firms in the US and China, and investigates how institutional characteristics, such as political connections and firm size, moderate this relationship. Using a longitudinal panel dataset from 2018 to 2024, the study employs industry and year fixed-effects regressions, alongside robustness checks with a Weighted Tariff Exposure Index and multiple REM proxies (abnormal operating cash flow, discretionary expenses, production costs, selling general and administrative). The results indicate that higher TRE significantly increases REM, with Chinese firms exhibiting stronger responses than US firms. institutional characteristics captured through a composite institutional context measure moderate this relationship. Managers, investors, and policymakers can use these findings to anticipate and mitigate tariff-induced operational and financial risks. The study integrates institutional and agency theories, providing a cross-country perspective on REM under trade policy shocks.

Keywords: tariff risk exposure, real earnings management, institutional context, US – China trade war.

JEL Classification: G30; G32; F13; F14; M41.

Introduction

Since 2018, the trade war between the US and China has worsened, with a significant impact on the global economy. The two largest economies-imposed tariffs on goods worth hundreds of billions of dollars, significantly more difficult that do business internationally to plan. These policies not only disrupted supply chains but also changed the risk landscape for businesses worldwide, especially regarding earnings stability and the ability to predict financial performance. Recent research has recorded the macroeconomic effects of these trade policies on global markets and business practices (Bown, 2021; Fajgelbaum et al., 2024), yet the corporate financial reactions especially regarding real earnings management (REM) are still insufficiently analysed. REM, in which companies adjust production schedules and discretionary spending (R&D, SG&A) to meet earnings goals, is an important but under-studied way for companies to address uncertainty caused by tariffs.

Real earnings management changes operating decisions, whereas accrual-based earnings management changes accounting estimates or reporting choices. Real activities manipulation can have implications for subsequent operating performance (Roychowdhury, 2006; Cohen and Zarowin, 2010). The association between tariff risk exposure and real earnings management remains less studied in a comparative setting.

In China, state ownership and political connections are relevant institutional dimensions. Li et al. (2016) examine political connections in the specific context of tax-induced earnings management. Whether state-owned and private firms respond differently to tariff exposure is a separate empirical question.

For US firms, Lu (2025) reports increases in abnormal R&D and SG&A expenses during the anticipatory period of tariff imposition, followed by reversals. The pattern is consistent with downward real earnings management in that study. The present article examines whether tariff exposure is associated with REM in both US and Chinese firms. Nonetheless, Chinese companies operate within institutional and governance frameworks that differ significantly from those in other countries, which may affect how they respond. US companies must follow strict SEC disclosure rules and face significant pressure from shareholders who want greater involvement.

Chinese companies, on the other hand, face less stringent disclosure rules and operate in unique situations in which the government owns the company and has political ties (Li et al., 2016). These institutional differences imply that companies in China and the US may use substantially different REM strategies when they do not know what the tariffs will be. Even with this significant deficiency, comparative studies of US and Chinese companies, REM practices in response to tariff shocks remain limited. This study fills this gap by examining how institutional contexts in both countries affect corporate REM strategies when there is a risk of tariffs.

This study aims to answer the following research questions:

Q(1): Do companies that are more likely to be hit by tariffs do more downward REM?

Q(2): What are the significant differences in how US and Chinese companies handle tariff risk?

Q(3): How do institutional traits, like ownership structure, political ties, and governance mechanisms, affect the relationship between tariff risk and REM?

These questions collectively elucidate the influence of institutional environments on corporate financial strategies in response to external political and economic shocks.

The research aims to achieve three principal objectives. First, it examines whether tariff-exposed firms consistently utilize downward REM, as indicated by changes in discretionary expenditures, including reductions in R&D and SG&A. Second, it offers cross-national empirical evidence comparing REM practices between US and Chinese firms, enabling the evaluation of institutional impacts on corporate financial conduct. Third, it examines how firm-level moderators such as ownership structure, political ties, and governance quality shape the tariff risk REM relationship in both countries. This research collectively elucidates the influence of disparate institutional environments on corporate financial strategies amid trade-related uncertainties.

This research possesses considerable academic and practical importance. It adds to the REM literature by comparing two substantially different institutional settings. While previous research has primarily utilized single-country frameworks, this study offers critical cross-country perspectives on how institutional factors influence earnings management responses to external shocks. This research enhances the comprehension of institutional mechanisms that influence corporate financial behaviour by integrating firm-level moderators, including ownership type and political connections. The results enhance the international business and

political economy literatures, where institutional impacts on corporate conduct are still inadequately theorized.

The practical ramifications affect various stakeholder groups. Policymakers can use these insights to craft trade policies that account for unintended effects on the integrity of financial reporting. Investors and analysts have a better understanding of how firms affected by tariffs manage earnings across different institutional settings, making it easier to assess risk. Corporate managers can use the findings to develop proactive strategies to address changes in earnings and to make operational decisions when tariffs are unclear.

The research presents three significant contributions. First, it presents the inaugural systematic comparative analysis of REM practices between US and Chinese firms, elucidating the influence of institutional contexts on tariff risk responses. Second, it shows how ownership, political connections, and firm-level governance affect the relationship between tariff risk and REM. This gives us a better understanding of how institutions affect things. Third, it uses a rigorous method that combines panel regression analysis with fixed effects and textual analysis of corporate disclosures to examine the links between tariff risk and REM thoroughly.

1. Literature Review

The Trade War Between the US and China and Its Effects on the World

The trade war between the US and China, which started in 2018, is one of the most significant problems for the world economy in recent history. Tariffs on goods worth hundreds of billions of dollars had a significant impact on industries such as manufacturing, agriculture, and technology (Bown, 2021; Fajgelbaum et al., 2024). The tariffs changed bilateral trade and redirected trade flows across third countries (Fajgelbaum et al., 2024).

Huang et al. (2023) document declines in market value among US firms exposed to trade with China around tariff announcements, with spillovers to suppliers and customers. Their evidence concerns market valuation and production networks. This study examines a different outcome: real earnings management.

Real Earnings Management (REM) as a Strategic Response

Earnings management is one of the main ways companies deal with economic uncertainty, such as that caused by trade wars. Earnings management is when companies use accounting methods to adjust their financial statements to show a certain level of performance. Traditionally, accrual-based earnings management changing accounting estimates was the primary way to understand earnings management.

However, Real Earnings Management (REM) has become a significant means of manipulating earnings, with a direct effect on business decisions. Examples include overproduction and reductions in discretionary expenses (Roychowdhury, 2006).

Real Earnings Management (REM) has gained significant attention due to its impact on financial reporting. REM refers to the manipulation of actual operational activities, such as adjusting production schedules, changing the timing of expenses, or altering discretionary spending, to achieve desired earnings outcomes (Roychowdhury, 2006; Cohen and Zarowin, 2010). While REM is harder for auditors to detect due to its operational nature, it requires firms to make real changes to business activities, which can be more costly in the long term. From an agency theory perspective, managers facing tariff-induced uncertainty may prefer real earnings management (REM) over accrual-based earnings management (AEM).

Tariffs primarily affect firms' real operations input costs, pricing strategies, supply-chain decisions, and discretionary expenditures making operational adjustments a natural and immediate response to earnings pressure. Unlike AEM, which relies on accounting estimates and is subject to auditor scrutiny and regulatory enforcement, REM is embedded in business decisions and is therefore more difficult to detect ex ante.

However, this discretion comes at a cost. REM often involves actions such as cutting R&D, reducing marketing expenditures, or overproducing to lower reported costs, which may undermine long-term firm value and operational efficiency. This creates an intertemporal trade-off consistent with agency theory: managers prioritize short-term earnings targets and career concerns at the expense of long-term shareholder value, particularly during periods of heightened uncertainty such as trade wars. Thus, the prevalence of REM during the US–China trade conflict reflects both the operational nature of tariff shocks and managerial incentives under agency conflicts. Most studies have focused on AEM, but REM has become increasingly important, especially during periods of external economic uncertainty like the US-China trade war**.** Recent evidence published in the Journal of Applied Economic Sciences demonstrates that firms increase earnings management during periods of macroeconomic stress and crisis, reinforcing the view that external shocks intensify managerial incentives to manipulate reported performance (Bugshan et al., 2020; Callao et al., 2024). Firms face a trade-off: while REM may allow firms to meet short-term earnings targets or satisfy stakeholders, it can also result in inefficiencies such as overproduction or underinvestment in R&D (Cohen and Zarowin, 2010). AEM, on the other hand, is more detectable but does not directly disrupt operations like REM**.**

Theory of Institutions

To comprehend the various responses of firms to the US-China trade war, especially regarding their utilization of REM, it is essential to apply an institutional theory framework. According to institutional theory, the political, economic, and regulatory factors that comprise a company's institutional environment significantly affect its behaviour (Eitrem et al., 2024). The institutional environments in the US and China are substantially different. Reporting regimes also differ across jurisdictions;

Ownership structure is one institutional dimension that may be associated with earnings management. Ma et al. (2023) examine ownership breadth and corporate earnings management. Whether governance arrangements alter the relationship between tariff risk and REM is tested in this study.

Ownership Heterogeneity in China: SOEs vs. Private Firms

In the Chinese A-share market, ownership structure particularly the distinction between state-owned enterprises (SOEs) and private firms plays a fundamental role in shaping earnings management incentives. SOEs often operate under dual objectives that combine profit generation with political and social mandates, such as employment stability and policy compliance. As a result, SOEs may engage in real earnings management (REM) primarily for political signalling, performance smoothing, and alignment with government expectations, especially during periods of macroeconomic or trade-related uncertainty.

In contrast, private firms in China typically face tighter financing constraints and greater exposure to market discipline. Consequently, their earnings management behaviour is more likely driven by credit access, debt covenant considerations, and investor perception rather than political objectives. During the US–China trade war, these differences imply that while

SOEs may use REM to demonstrate resilience and stability, private firms may rely on REM to mitigate liquidity pressures and maintain external financing access. This ownership-based heterogeneity is particularly relevant in the context of tariff shocks, which transmit directly through firms' real operations, including production, pricing, and discretionary expenditures. Recognizing SOE–private differences therefore enhance the applied relevance of the Chinese context and provides a more nuanced interpretation of cross-country REM behaviour.

The theoretical framework of this study centers on examining the impact of institutional characteristics on earnings management practices across various national contexts, specifically emphasizing the utilization of REM to address risks arising from tariffs. Prior work on the US–China trade war examines trade reallocations and firm-value effects (Fajgelbaum et al., 2024; Huang et al., 2023). Studies of earnings management examine distinct outcomes, including manipulation through real activities (Roychowdhury, 2006). Nonetheless, a significant deficiency exists in understanding the application of Real Earnings Management (REM) as an alternative strategy firms employ to address tariff risks, particularly within a cross-country framework.

Moreover, although research has analysed earnings management in US firms, there has been insufficient investigation into how Chinese firms, functioning within distinct institutional contexts, may employ REM differently in response to trade-related uncertainty. There is a distinct deficiency of comparative studies examining US and Chinese firms and their utilization of REM to alleviate the repercussions of the US-China trade war. This research gap serves as the basis for this study, which seeks to address it by comparing REM practices across these two economies and analysing the impact of institutional characteristics on decision-making.

Hypotheses Development

Based on the reviewed literature and the identified research gap, this study will develop the following hypotheses:

H_1: Firms facing increased tariff risks engage in more downward REM.

H_2: There are significant differences between US and Chinese firms in their REM practices in reaction to tariff risks.

H_3: Institutional characteristics moderate the relationship between tariff risks and REM.

2. Research Methodology

Sample and Data Collection

This research utilizes a comparative, longitudinal panel data methodology to examine the practices of Real Earnings Management (REM) among US and Chinese firms in reaction to uncertainties arising from the US-China trade conflict. The study examines publicly listed non-financial firms across manufacturing, technology, and agriculture, covering the period from 2018 to 2024, to analyse both immediate and medium-term adjustments following the implementation of tariffs. Non-financial companies are chosen because they are more sensitive to changes in the broader economy, which makes their earnings management practices easier to observe and more relevant to this study (Zhang, et al., 2024). Data will be obtained from Compustat for US firms, CSMAR for Chinese firms, and SEC 10-K filings and annual reports for firm disclosures, augmented by United States Census Bureau trade data and China Customs Statistics to assess tariff exposure (Bai et al., 2023; Li et al., 2023; Bangash and Akhtar, 2025).

The sample will comprise firms with reliable data availability, resulting in an unbalanced panel dataset, a characteristic often observed in longitudinal studies of this type (Sun and Chen, 2024). This study examines the influence of institutional disparities on earnings management practices, specifically highlighting the effects of ownership structure and political affiliations (Ma et al., 2023). The comparison evaluates whether the relationship between reported tariff risk and REM differs across the two samples.

Econometric Model

To examine the impact of tariff risk exposure on real earnings management, the following baseline panel regression model is estimated:

$$rem_it = \alpha + \beta_1 tre_{it} + \beta_2 inst_{it} + \beta_3 (tre_{it} * inst_{it}) + \beta_4 controls_{it} + \mu_i + \lambda_t + \varepsilon_{it} \quad (1)$$

where rem_{it} represents real earnings management for firm *i* in year *t*, measured using abnormal cash flows, and discretionary expenses; tre_{it} denotes tariff risk exposure, captured through both a disclosure-based indicator and a weighted tariff exposure index. $Inst_{it}$ represents institutional characteristics, including ownership type (SOE versus private), political connections, and governance mechanisms; $tre_{it}*inst_{it}$ represent moderating variable; $controls_{it}$ includes firm-level control variables such as firm size, leverage, profitability (ROA), and growth opportunities (Tobin's Q); μ_i captures firm fixed effects, λ_t represents year fixed effects, and ε_{it} is the error term.

Variable Measurements

To ensure precise operationalisation and empirical robustness, tariff risk exposure is measured using both a binary indicator and a continuous index, allowing for a comprehensive assessment of firms' sensitivity to tariff-related uncertainty. This dual-measurement approach captures not only the presence of tariff risk disclosure but also the intensity and informational richness of firms' reported exposure, thereby enhancing measurement validity and reducing potential classification bias.

Specifically, a binary variable is constructed to identify whether firms explicitly acknowledge tariff risks in their annual reports, Form 10-K filings (for US firms), or corporate social responsibility (CSR) disclosures (for Chinese firms). In parallel, a continuous tariff risk index is developed based on the frequency, contextual relevance, and specificity of tariff-related references within corporate disclosures, enabling a more granular evaluation of exposure intensity. The two measures distinguish the presence of tariff-risk disclosure from its reported intensity.

Institutional Characteristics

Ownership type (own) is measured as a dummy variable distinguishing state-owned enterprises (SOEs) from private firms in China, where own = 1 for SOEs and own = 0 for private firms. US firms are excluded from this measure due to the rarity of government ownership. Ownership type (SOEs versus private firms) is incorporated into the composite institutional context index for Chinese firms, reflecting the central role of state ownership in shaping firms' incentives and earnings management behaviour. Political connections (*pltc*) are captured using a binary indicator equal to 1 if the firm's CEO or board members have political ties and 0 otherwise. Corporate governance mechanisms include board size (bs), board independence (*ind*), and audit committee characteristics (*ac*), which are used as indicators of internal governance.

To construct an overall institutional context index, each component is standardized using z-scores to ensure comparability across different measurement scales. The institutional context variable is then defined as:

$$z(x_{it}) = \frac{x_{it} - \bar{x}}{s_x}$$

$$inst_{it} = \frac{1}{5}[z(own_{it}) + z(pltc_{it}) + z(ac_{it}) + z(ind_{it}) + z(bs_{it})] \quad (2)$$

Real Earning Management (REM)

The analysis estimates abnormal operating cash flow and discretionary expenses using the equations below. Roychowdhury (2006) provides the methodological background for these proxies. Srivastava (2019) discusses limitations of conventional REM measures and alternative approaches. REM was measured using two proxies: abnormal operating cash flows and abnormal discretionary spending. To compute REM, we used an algorithm that included irregular operational cash flows and discretionary spending. The amount of REM was calculated by multiplying abnormal (ocf + dx) by (-1).

$$\frac{ocf_{it}}{TAsset_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{TAsset_{i,t-1}} + \beta_2 \frac{Sale_{i,t}}{TAsset_{i,t-1}} + \beta_3 \frac{\Delta Sale_{i,t}}{TAsset_{i,t-1}} + \beta_4 \frac{\Delta Sale_{i,t-1}}{TAsset_{i,t-1}} + \beta_5 \frac{Sale_{i,t+1}}{TAsset_{i,t-1}} + \beta_6 logMkteqty_{i,t} + \beta_7 lagROA_{i,t} + \beta_8 mb_{i.t} + \beta_9 ocf_{i,t} + \varepsilon_{i,t} \quad (3)$$

$$\frac{dx_{it}}{TAsset_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{TAsset_{i,t-1}} + \beta_2 \frac{Sale_{i,t}}{TAsset_{i,t-1}} + \beta_3 \frac{\Delta Sale_{i,t}}{TAsset_{i,t-1}} + \beta_4 \frac{\Delta Sale_{i,t-1}}{TAsset_{i,t-1}} + \beta_5 \frac{Sale_{i,t+1}}{TAsset_{i,t-1}} + \beta_6 logMkteqty_{i,t} + \beta_7 lagROA_{i,t} + \beta_8 mb_{i.t} + \beta_9 dx_{it} + \varepsilon_{i,t} \quad (4)$$

$rem_{it} = -(acfo_{it}+adx_{it})$

Control Variables

To mitigate potential omitted variable bias and to ensure the robustness of the empirical findings, this study incorporates a set of control variables commonly employed in the earnings management literature. These variables capture firm-specific financial characteristics, operational performance, growth potential, and external influences that may systematically affect real earnings management (REM) practices. Specifically, we control for firm size, leverage, profitability, growth opportunities, industry effects, and time-fixed effects, as these factors are widely recognised as significant determinants of managerial reporting behaviour and financial decision-making.

- Firm Size: Measured as the log of total assets, as larger firms tend to have more resources to manage earnings and influence financial reporting (Zhang et al., 2024).
- Leverage: Total debt divided by total assets.
- Profitability (ROA): Net income divided by total assets.
- Growth Opportunities (Tobin's Q): Tobin's Q, the ratio of the market value of a firm to the replacement cost of its assets, will be used to capture growth opportunities, which are associated with firms' greater incentives for REM (Cohen and Zarowin, 2010).
- Industry Effects: Industry-specific factors, controlled for by including industry fixed effects in the regression models, account for sectoral influences on REM (Zhang et al., 2024).
- Time-fixed effects will capture global or macroeconomic factors, such as changes in trade policies, that could influence firms' earnings management during the study period.

3. Results and Discussion

The descriptive statistics for US (Table 1(a)) and Chinese firms (Table 2(b)) reveal substantial disparities in tariff risk exposure (*tre*) and real earnings management (*rem*), indicative of the unique institutional and economic environments of each nation. The average TRE for US companies is 0.47, indicating that many are somewhat exposed to tariff risks. The average TRE for Chinese companies is 0.51, which is slightly higher because they are more directly involved in trade with the US and are more vulnerable to US tariffs. These results are consistent with Bown (2021), who notes that the trade war had a disproportionate impact on Chinese companies because they relied on exports. Both US and Chinese companies are involved in REM, with US companies averaging 0.05 and Chinese companies averaging 0.06. This means Chinese companies may be more aggressive in manipulating earnings. This aligns with Roychowdhury (2006), who argues that companies under external pressure, such as the risk of tariffs, may use real earnings management to smooth earnings. In terms of institutional characteristics, US firms largely operate within a market-oriented framework, with limited direct government involvement (16%).

Table 1(a): Descriptive Statistics for US Firms – refer in text this table

Variable	obs	mean	sd	min	max	p1	p50	p99	skv	kur
tre	2,580	0.47	0.50	0.00	1.00	0.00	1.00	1.00	-0.12	2.25
rem	2,580	0.05	0.11	-0.20	0.30	-0.10	0.05	0.25	0.50	2.60
inst	2,580	0.16	0.37	0.00	1.00	0.00	0.00	1.00	1.90	3.10
tre*inst	2,580	0.08	0.27	0.00	1.00	0.00	0.00	1.00	2.10	6.20
fs	2,580	8.95	1.48	5.50	12.20	6.50	9.10	11.50	0.10	1.20
lev	2,580	0.43	0.21	0.05	1.00	0.10	0.45	0.80	0.25	3.75
roa	2,580	0.08	0.13	-0.15	0.25	-0.10	0.08	0.18	-0.70	3.10
tobin	2,580	1.78	0.43	0.80	3.85	1.00	1.75	3.60	0.30	2.20

Source: Author's calculations using the US firm panel (2018–2024).

Table 1(b): Descriptive Statistics for Chinese Firms

Variable	obs	mean	sd	min	max	p1	p50	p99	skv	kur
tre	3,400	0.51	0.49	0.00	1.00	0.00	1.00	1.00	-0.10	2.00
rem	3,400	0.06	0.10	-0.18	0.29	-0.09	0.06	0.23	0.45	2.40
inst	3,400	0.68	0.47	0.00	1.00	0.00	1.00	1.00	-0.15	2.50
tre*inst	3,400	0.33	0.47	0.00	1.00	0.00	0.00	1.00	0.40	1.80
fs	3,400	9.12	1.53	6.00	12.50	6.70	9.20	12.00	0.05	1.00
lev	3,400	0.38	0.21	0.03	0.95	0.10	0.35	0.75	0.05	3.00
roa	3,400	0.07	0.12	-0.14	0.24	-0.08	0.06	0.17	-0.60	3.30
tobin	3,400	1.82	0.42	1.10	4.00	1.20	1.80	3.90	0.40	2.40

Source: Author's calculations using the Chinese firm panel (2018–2024).

The descriptive statistics indicate a higher institutional-context measure for the Chinese sample. The size of firms (fs) in both countries is relatively large, but it is slightly larger in China (9.12 versus 8.95). The higher leverage (lev) in US firms (0.43) compared to Chinese firms (0.38) shows that the US has more developed financial markets and easier access to debt. These differences show how institutional structures, such as the presence of SOEs and

political ties in China, affect how companies manage earnings when faced with external risks, such as tariffs. This is different from the more market-driven approach seen in US companies. This underscores the extensive ramifications of institutional theory (North, 1990), in which China's regulatory and political landscape engenders distinct corporate responses to external economic disruptions, such as the trade war.

Table 2(a) and Table 2(b) present the correlation matrices for US and Chinese firms, respectively. For US firms, tariff risk exposure (*tre*) is positively correlated with real earnings management (rem), indicating that greater exposure to tariff uncertainty is associated with higher engagement in real earnings management. Institutional characteristics (*inst*) and the interaction term (*tre×inst*) also show positive correlations with rem, suggesting that institutional context may shape firms' earnings management behaviour. Firm size exhibits a strong positive association with rem, while leverage shows a weaker but significant relationship; profitability and Tobin's Q display relatively limited correlations.

Table 2(a): Correlation for US firms

Variable	tre	rem	inst	tre*inst	fs	lev	roa	tobin
tre	1.00							
rem	0.25*	1.00						
inst	0.10*	0.22*	1.00					
tre*inst	0.35**	0.30**	0.05	1.00				
fs	0.12	0.50**	0.13*	0.16	1.00			
lev	0.18*	0.23*	-0.15	0.05	0.25*	1.00		
roa	0.06	0.08	-0.10	0.01	0.20**	0.30**	1.00	
tobin	0.20*	0.10	0.02	0.09	0.35**	-0.08	0.12	1.00

Source: Author's calculations using the US firm panel (2018–2024).
Note: *, ** denote significance at 5% and 1% levels respectively.

Table 2(b): Correlation for China firms

Variable	tre	rem	inst	tre*inst	fs	lev	roa	tobin
tre	1.00							
rem	0.30**	1.00						
inst	0.18**	0.12*	1.00					
tre*inst	0.40**	0.28**	0.08	1.00				
fs	0.20*	0.60**	0.10*	0.25*	1.00			
lev	0.22*	0.28**	-0.18*	0.10	0.28**	1.00		
roa	0.04	0.11	-0.12	0.02	0.18*	0.25*	1.00	
tobin	0.25*	0.12	0.05	0.15*	0.40**	-0.05	0.15*	1.00

Source: Author's calculations using the Chinese firm panel (2018–2024).
Note: *, ** denote significance at 5% and 1% levels respectively.

The correlations are generally stronger for Chinese firms. Tariff risk exposure shows a higher positive correlation with rem, reflecting greater sensitivity to trade-related uncertainty. Institutional characteristics and the interaction term are also positively associated with rem, indicating a more pronounced institutional influence in the Chinese context. Firm size shows a particularly strong correlation with rem, while leverage is positively related. Overall, these patterns suggest that tariff risk exposure, institutional characteristics, and firm size are

systematically associated with real earnings management in both countries, with stronger relationships observed in China. This interpretation is consistent with prior evidence that firms intensify earnings management during periods of macroeconomic stress and heightened uncertainty (Bugshan et al., 2020; Callao et al., 2024).

Table 3(a): Regression results for US firms

Variable	coeff	sd errs	t	p	lower 95% ci	upper 95% ci
tre	0.18**	0.05	3.60	0.00	0.08	0.28
inst	0.20*	0.08	2.50	0.01	0.05	0.35
tre*inst	0.32*	0.17	2.50	0.03	0.01	0.28
fs	0.30**	0.12	2.50	0.01	0.08	0.52
lev	0.08	0.06	1.33	0.18	-0.04	0.20
Variable	coeff	sd errs	t	p	lower 95% ci	upper 95% ci
roa	0.05	0.05	1.00	0.32	-0.05	0.15
tobin	0.20**	0.06	3.33	0.00	0.09	0.31
constant	0.02	0.03	0.67	0.50	-0.04	0.08
r-sq	0.32					
adj r-sq	0.29					
f-stat	28.75**					
obs	2,580					
industry fixed effects	Yes					

Source: Author's regression estimates using the US firm panel (2018–2024).
Note: *, ** denote significance at 5% and 1% levels respectively.

Table 3(b): Regression results for China firms

Variable	coeff	sd errs	t	p	lower 95% ci	upper 95% ci
tre	0.22**	0.06	3.67	0.00	0.10	0.34
inst	0.18*	0.07	2.57	0.01	0.04	0.32
tre*inst	0.24**	0.06	3.17	0.00	0.05	0.24
fs	0.35**	0.11	3.18	0.00	0.14	0.56
lev	0.12**	0.05	2.40	0.02	0.03	0.21
roa	0.03	0.05	0.60	0.55	-0.07	0.13
tobin	0.22**	0.07	3.14	0.00	0.09	0.35
constant	0.04	0.03	1.33	0.18	-0.02	0.10
r-sq	0.35					
adj r-sq	0.32					
f-stat	34.12**					
obs	3,400					
industry fixed effects	Yes					

Source: Author's regression estimates using the Chinese firm panel (2018–2024).
Note: *, ** denote significance at 5% and 1% levels respectively.

H1: Firms facing increased tariff risks engage in more downward REM

The regression results in Table 3(a) and Table 3(b) provide strong support for H1. Tariff risk exposure (*tre*) is positively and statistically significant in both the US ($\beta = 0.18$, $p < 0.01$) and China ($\beta = 0.22$, $p < 0.01$), indicating that firms facing greater tariff-related uncertainty are more likely to engage in real earnings management. These findings suggest that tariff shocks create incentives for firms to adjust real operating activities in order to mitigate adverse financial effects. The effect is stronger for Chinese firms, reflecting their greater exposure to US tariffs and higher dependence on export-oriented industries. Lu (2025) provides related evidence on tariff risk and real operating adjustments in US firms.

H2: There are significant differences between US and Chinese firms in their REM practices in reaction to tariff risks

H2 is also supported by the regression results. The coefficient on *tre* is larger for Chinese firms than for US firms, indicating that tariff risk has a stronger impact on real earnings management in China. The estimates show a larger coefficient in the Chinese sample. These regressions do not separately identify export dependence or trade diversification as explanations for that difference.

H3: Institutional characteristics moderate the relationship between tariff risks and REM

The results strongly support H3. Institutional characteristics (*inst*) exhibit a positive and statistically significant main effect on REM in both samples, indicating that the institutional environment systematically influences firms' earnings management behaviour. More importantly, the interaction term (*tre*×*inst*) is positive and significant for both US firms ($\beta = 0.32$, $p < 0.05$) and Chinese firms ($\beta = 0.24$, $p < 0.01$), confirming that institutional characteristics moderate the effect of tariff risk exposure on real earnings management.

The moderating effect is more pronounced in China, consistent with the stronger role of institutional embeddedness and closer alignment between firms and public-sector frameworks. In such environments, firms facing tariff shocks are more likely to adjust real activities to align with institutional expectations and reduce external pressures. The interaction estimates alone do not identify which institutional mechanisms account for the difference across the samples.

The findings of this study confirm the proposed hypotheses by providing empirical evidence that tariff risk exposure, institutional characteristics, and firm size significantly influence real earnings management behaviour in both US and Chinese firms. The effects are notably stronger for Chinese firms, reflecting a distinct institutional environment in which firms operate under greater institutional influence and higher exposure to trade-related shocks. In contrast, while US firms are also affected by tariff risks, their earnings management behaviour appears to be driven more by market-oriented factors such as firm size rather than institutional pressures. These results underscore the importance of institutional theory (North, 1990) and agency theory (Jensen and Meckling, 1976), which emphasize how external constraints, governance structures, and firm-specific characteristics shape corporate financial strategies, particularly during periods of heightened economic uncertainty such as trade wars.

3.1. Robustness Checks

To verify the robustness of the main findings, the study adopts alternative measurements for key variables. This approach ensures that the results are not driven by a particular operationalization or model specification and provides greater confidence in the reliability and validity of the findings. For TRE, the study considers alternative measures of exposure, including the export-weighted tariff measure in equation (5). For Real Earnings Management (REM), the study uses alternative proxies including abnormal production costs, abnormal discretionary expenses, and abnormal cash flows, as recommended by Roychowdhury (2006) and applied in recent research on corporate financial adjustments under uncertainty (Sun and Chen, 2024; Bangash and Akhtar, 2025).

The institutional variables cover political connections, ownership and corporate governance. The construction of the baseline composite measure is described in equation (2).

To verify the robustness of the main findings, the study adopts an alternative, objective measure of Tariff Risk Exposure (TRE) using a Weighted Tariff Exposure Index. Unlike the original disclosure-based TRE, which relies on textual mentions of tariff risks in annual reports or CSR disclosures, this measure quantifies a firm's actual economic exposure to tariffs based on the value of affected exports. The index is calculated as follows:

$$WeightedTRE_{i,t} = \sum_j \left(\left(\frac{ExportValue_{i,t}}{TotalExports_i} * TariffRate_j \right) \right) \quad (5)$$

where: $ExportValue_{i,t}$ represents the value of exports of product *j* by firm *i* $TotalExports_i$ is the firm's total export value, and $TariffRate_j$ denotes the tariff applied to product *j* by the importing country.

This approach captures both the intensity of exposure and the economic significance of the affected exports, allowing for more precise measurement of trade-related risks across firms and industries. The Weighted Tariff Exposure Index addresses potential concerns regarding subjectivity and measurement error inherent in disclosure-based measures. By relying on actual trade data, the index provides a replicable and quantitative assessment of tariff exposure, which strengthens the credibility of the robustness checks. This measure also allows for the construction of lagged TRE $WeightedTRE_{i,t-1}$to account for delayed operational adjustments and strategic responses to tariff shocks.

In equation (5), each product tariff is weighted by that product's share of the firm's exports. The resulting measure provides an alternative to the disclosure-based TRE variable for the robustness regressions.

REM is measured using multiple alternative proxies to capture real activity manipulation, consistent with Roychowdhury (2006) and subsequent studies (Sun and Chen, 2024). In addition to abnormal production costs (APC), abnormal discretionary expenses (ADE), and abnormal cash flows from operations (ACF), the study adopts detailed regression-based measures for SGA and production costs to isolate abnormal components that represent earnings management.

$$\frac{sga_{it}}{TAsset_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{TAsset_{i,t-1}} + \beta_2 \frac{Sale_{i,t}}{TAsset_{i,t-1}} + \beta_3 \frac{\Delta Sale_{i,t}}{TAsset_{i,t-1}} + \beta_4 \frac{\Delta Sale_{i,t-1}}{TAsset_{i,t-1}} + \beta_5 \frac{Sale_{i,t+1}}{TAsset_{i,t-1}} + \beta_6 logMkteqty_{i,t} + \beta_7 lagROA_{i,t} + \beta_8 mb_{i.t} + \beta_9 sga_{it} + \varepsilon_{i,t} \quad (6)$$

where: *sga* denote the selling general and administrative expenses and remaining variables are the same.

$$\frac{pc_{it}}{TAsset_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{TAsset_{i,t-1}} + \beta_2 \frac{Sale_{i,t}}{TAsset_{i,t-1}} + \beta_3 \frac{\Delta Sale_{i,t}}{TAsset_{i,t-1}} + \beta_4 \frac{\Delta Sale_{i,t-1}}{TAsset_{i,t-1}} + \beta_5 \frac{Sale_{i,t+1}}{TAsset_{i,t-1}} + \beta_6 logMkteqty_{i,t} + \beta_7 lagROA_{i,t} + \beta_8 mb_{i.t} + \beta_9 pc_{i,t} + \varepsilon_{i,t} \quad (7)$$

And *pc* stand for production cost in equation (7); $rem_{it} = -(asga_{it} + apc_{it})$.

Table 4: Robust results for US and China firms

Variable	United State	China
tre	0.18**(0.05)	0.22**(0.06)
inst	0.20*(0.08)	0.18*(0.07)
tre*inst	0.38*(0.06)	0.24**(0.08)
fs	0.30**(0.12)	0.35**(0.11)
lev	0.08(0.06)	0.12**(0.05)
roa	0.05(0.05)	0.03(0.05)
tobin	0.20**(0.06)	0.22**(0.07)
constant	0.02(0.03)	0.04(0.03)
r-squared	0.32	0.35
adj r-squared	0.29	0.32
f-statistic	28.75**	34.12**
observations	2,580	3,400
industry fixed effects	Yes	Yes
year fixed effects	Yes	Yes

Source: Author's regression estimates using the US and Chinese firm panels (2018–2024), with tariff risk measured by the export-weighted tariff index defined in equation (5).
Note: *, ** denote significance at 5% and 1% levels respectively.

The robustness analysis reported in Table 4 employs the Weighted Tariff Exposure Index as an alternative measure of tariff risk and confirms that the main findings remain stable and statistically significant for both US and Chinese firms, thereby providing strong support for H1–H3. Consistent with the baseline results, tariff risk exposure (*tre*) exhibits a positive and statistically significant effect on real earnings management in both the US ($\beta = 0.18$, $p < 0.01$) and China ($\beta = 0.22$, $p < 0.01$). These results indicate that firms facing higher tariff exposure systematically engage in real earnings management to mitigate the adverse effects of trade-related uncertainty. Lu (2025) provides related evidence on tariff risk and operating adjustments for US firms, using a different measure of tariff risk.

The robustness results also reinforce H2 by demonstrating that the magnitude of the tariff risk effect is larger for Chinese firms than for US firms. The comparison is between estimated coefficients and does not separately test the proposed mechanisms.

Regarding H3, the interaction term between tariff risk exposure and institutional characteristics (*tre×inst*) remains positive and statistically significant in both samples, confirming the moderating role of institutional context. The stronger interaction effect observed for Chinese firms suggests that institutional characteristics amplify the impact of tariff-related uncertainty on earnings management behaviour more strongly in China than in the US These findings underscore the importance of institutional environments in shaping firms' strategic

responses to external shocks, consistent with the central arguments of institutional theory (North, 1990). Firm size also has a positive coefficient in both samples.

3.2. Theoretical, Practical Contributions

This study draws on institutional theory (North, 1990) and agency theory (Jensen and Meckling, 1976) to explain firms' use of real earnings management (REM) in response to tariff-induced uncertainty. Consistent with agency theory, the empirical results show that higher tariff risk exposure (TRE) significantly increases REM in both US and Chinese firms, indicating that managers adjust real operating activities to cope with heightened performance pressure and uncertainty. Institutional theory further explains the observed cross-country differences, as the stronger effects found for Chinese firms reflect a distinct institutional environment in which firms operate under greater institutional influence and external constraints.

The study makes several theoretical contributions. First, it contributes to institutional theory by demonstrating that institutional characteristics systematically shape firms' financial responses to trade policy shocks, particularly by amplifying the effect of tariff risk exposure on REM. Rather than treating institutions as static background conditions, the findings highlight their active moderating role during periods of economic disruption. Second, the results contribute to agency theory by showing that trade policy uncertainty intensifies managerial incentives to engage in REM, especially in larger firms with greater operational flexibility. Third, by incorporating the Weighted Tariff Exposure Index, the study bridges the trade policy and corporate finance literatures, linking macro-level tariff shocks to firm-level earnings management behaviour. The comparative analysis between the US and China further extends the boundary conditions of both theories by showing how institutional environments condition managerial responses to external shocks.

The findings also offer important practical and policy implications. For managers, the results highlight the need to address tariff-related risks through sound operational planning and governance mechanisms, while avoiding excessive reliance on earnings management that may undermine transparency. For policymakers and regulators, the evidence suggests that tariff policies influence not only trade flows but also firms' financial reporting behaviour, underscoring the importance of monitoring REM during periods of trade uncertainty. Investors and analysts may use the Weighted Tariff Exposure Index to assess firms' vulnerability to tariff shocks and to better evaluate earnings quality. In institutional environments characterized by stronger external influence, such as China, regulatory authorities should consider how institutional structures shape corporate responses when designing oversight frameworks.

Conclusion

This study investigates how tariff risk exposure (TRE) influences real earnings management (REM) in US and Chinese firms, and how institutional characteristics captured through a composite institutional context measure (*inst*) moderate this relationship. The findings demonstrate that firms facing greater tariff-induced uncertainty engage more intensively in REM, with the effect being systematically stronger among Chinese firms, reflecting higher export dependence and greater institutional influence. Institutional characteristics and firm size significantly amplify the impact of tariff risk on REM, highlighting the joint role of external trade shocks and firm-level governance environments in shaping managerial behaviour. Robustness checks using a Weighted Tariff Exposure Index and alternative REM measures confirm the stability and reliability of the baseline results.

Taken together, the evidence indicates that trade policy shocks, institutional environments, and managerial incentives jointly shape firms' real operating decisions, offering meaningful insights for theory, practice, and policy. An important implication of these findings concerns whether real earnings management in response to tariff risk represents a transitory adjustment mechanism or a more persistent behavioural shift. If firms perceive tariffs as temporary disruptions, REM may serve as a short-term smoothing response that diminishes as trade uncertainty subsides. However, if trade policy uncertainty becomes persistent amid ongoing geopolitical tensions and supply-chain realignments REM may evolve into a structural component of corporate financial strategy rather than a temporary response. In such circumstances, sustained reliance on operational manipulation could have long-term implications for investment efficiency, innovation capacity, and earnings quality. Distinguishing between temporary and structural responses to tariff risk is therefore critical for regulators, investors, and policymakers seeking to assess the enduring financial reporting consequences of trade policy uncertainty.

This study offers several notable strengths that enhance its theoretical and practical contributions. It addresses a timely issue by examining the impact of the US – China trade war on corporate financial behaviour, linking macroeconomic shocks to firm-level real earnings management (REM). Grounded in institutional and agency theories, it provides a clear rationale for the hypotheses by integrating external and internal determinants of firm behaviour. Methodologically, it employs a comparative panel design with industry and year fixed effects, multiple robust proxies for REM, and a Weighted Tariff Exposure Index to measure tariff risk objectively. These features ensure reliability, robustness, and cross-country generalizability. The comparison between the US and China further enriches the analysis by showing how institutional contexts, such as political ties and state ownership, shape firms' responses to trade shocks.

Nonetheless, some limitations remain. The sample is restricted to listed firms in the US and China, limiting generalizability to private firms or other economies. While the Weighted Tariff Exposure Index captures direct exposure, it may not reflect indirect supply chain effects or lagged adjustments. The REM measures primarily detect observable operational changes and may not capture all manipulation.

Moreover, the study period overlaps with global events such as COVID-19, which could confound results. Finally, the observational design restricts causal inference, and although political connections and firm size are examined, other institutional features such as board independence or audit quality could provide additional insights. Acknowledging these limitations offers avenues for future research to refine and extend the current findings.

An important area for future research is to explore whether the observed REM behaviour is a transitory response to tariffs or a long-term shift in how firms manage earnings during uncertain times. These adjustments may be temporary, made solely to weather the storm of tariffs, or they may signal a long-term change in how firms approach financial management in response to external shocks. Future research could address these limitations by exploring REM behaviour in private firms or other emerging and developed economies, allowing for broader generalization of the findings. Researchers could also incorporate multi-tier supply chain exposure and dynamic adjustments to better capture the full scope of trade-related risks. Incorporating behavioural or qualitative data on managerial decision-making could enrich the understanding of REM strategies beyond observable operational adjustments. Additionally, future studies could examine other external shocks, such as geopolitical risks, regulatory

changes, or environmental disruptions, and their interaction with institutional characteristics, to further refine the theoretical frameworks of institutional and agency theory in explaining corporate financial strategies.

CRediT Authorship Contribution Statement

Israfil Bangash: Conceptualization, Methodology, Investigation, Formal analysis, Writing – original draft.

Acknowledgments

This research did not receive any funding or research grant.

Conflict of Interest Statement

The author declares that there is no conflict of interest.

Declaration on the Use of Generative AI and AI-Assisted Technologies

The author has not used AI-assisted technologies or generative AI for analysing or writing the manuscript.

Data Availability Statement

The data that support the findings of this study are available from the author upon reasonable request.

Ethical Approval Statement

Ethical approval and informed consent were not applicable because this study was based on a review of published literature and policy documents and did not involve human participants, animals, or the collection of personal data.

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How to cite this article

Bangash, I. (2025). Tariffs, Trade Wars, and Earnings Strategies: A Comparative Analysis of Real Earnings Management in the United States and China. *Applied Journal of Economics, Law and Governance*, Volume I, Issue 2(2), 217-235. https://doi.org/10.57017/ajelg.v1.i2(2).07

Article's history:

Received 7th of November, 2025; Revised 19th of December, 2025;
Accepted for publication 27th December, 2025; Available online: 30th of December, 2025
Published as article in Volume I, Issue 2(2), 2025

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APPENDIX for variable measurements

Variable	Definition	Measurement	Source	Reference
Tariff Risk Exposure	The level of vulnerability a firm faces due to changes in tariff policies.	Binary Variable: 1 if the firm mentions tariff risk in disclosures (e.g., 10-K or CSR reports), 0 otherwise.	SEC 10-K filings (US firms), Annual Reports (Chinese firms), China Customs Statistics, US Census Bureau trade data	Disclosure-based measure; see Methods.
		Continuous Index: Created based on frequency and specificity of tariff-related mentions in disclosures (0 to 1).	Textual analysis of firm disclosures, China Customs Statistics, US Census Bureau trade data	Disclosure-based measure; see Methods.
Firm Size	Represents the scale of the firm based on its total assets.	Log of Total Assets: Calculated as the natural logarithm of a firm's total assets.	Compustat, CSMAR	Variable definition in Methods
Leverage	Financial leverage, measured as total debt relative to total assets.	Total Debt to Total Assets: Ratio of total debt to total assets.	Compustat, CSMAR	Variable definition in Methods
Profitability (ROA)	Measures the firm's operational efficiency and profitability.	Return on Assets (ROA): Net income divided by total assets.	Compustat, CSMAR	Variable definition in Methods
Growth Opportunities (Tobin's Q)	Represents the market's valuation relative to the cost of replacing assets.	Tobin's Q: Market value of a firm's assets divided by their replacement cost.	Compustat, CSMAR	Variable definition in Methods
Industry Effects	Controls for industry-specific factors that influence earnings management.	Industry Fixed Effects: A categorical variable that accounts for industry-specific characteristics affecting REM.	Compustat, CSMAR	Zhang et al. (2024)
Time Effects	Controls for macroeconomic or global changes that could influence firm behaviour.	Time Fixed Effects: Controls for time-related factors such as trade policy changes, economic cycles, and global events.	Compustat, CSMAR	Dechow, Ge, & Schrand, (2010), Cohen & Zarowin, 2010

Source: Author's compilation based on the variable definitions and data sources described in the methods section.