



# Cross Regional Revenue Exposure and Abnormal Returns Around U.S. Tariff Announcements

Mikel Saizar Urtueta

Dissertation written under the supervision of professor Jörg  
Stahl

Dissertation submitted in partial fulfilment of requirements for  
the MSc in Finance, at the Universidade Católica Portuguesa,  
02/01/2026

# **Cross Regional Revenue Exposure and Abnormal Returns Around U.S. Tariff Announcements**

Mikel Saizar Urtueta

(Católica Lisbon School of Business and Economics)

## **Abstract**

This thesis investigates how U.S. equity markets responded to major episodes of trade-policy escalation and de-escalation during the 2024–2025 trade conflict, with a focus on whether firms’ international revenue exposure shaped abnormal stock returns. Using an event-study framework, abnormal returns are estimated around four key tariff announcements involving China and the European Union. After computing abnormal returns, a cross-sectional regression analysis is conducted to assess whether foreign revenue dependence systematically explains differences in firm-level reactions. The results show substantial heterogeneity: firms with higher international exposure did not react uniformly to policy shocks, and the direction and magnitude of abnormal returns depended not only on exposure levels but also on broader economic conditions, supply-chain structures, and investor expectations.

**Key Words:** Trade war, Event study, Cross border exposure, Abnormal returns

## **Resumo**

Esta dissertação investiga a forma como os mercados acionistas norte-americanos reagiram a episódios de escalada e desescalada de política comercial durante o conflito tarifário de 2024–2025, com especial enfoque na influência da exposição internacional das empresas sobre os retornos anormais. Recorre-se a uma metodologia de estudo de eventos para estimar retornos anormais em torno de quatro anúncios tarifários relevantes envolvendo a China e a União Europeia. Após a obtenção dos retornos anormais, é realizada uma análise transversal por via de regressões, com o objetivo de avaliar se a dependência de receitas estrangeiras explica de forma sistemática as diferenças nas reações ao nível das empresas. Os resultados evidenciam uma heterogeneidade substancial: as empresas com maior exposição internacional não reagiram de forma uniforme aos choques de política comercial, e a direção e magnitude dos retornos anormais dependeram não apenas do grau de exposição, mas também de condições económicas mais amplas, da estrutura das cadeias de abastecimento e das expectativas dos investidores.

**Palavras-chave:** Guerra comercial, Estudo de eventos, Exposição transfronteiriça, Retornos anormais

## Table of Contents

|                                                                                       |           |
|---------------------------------------------------------------------------------------|-----------|
| <b>1. Introduction .....</b>                                                          | <b>5</b>  |
| <b>2. Literature Review.....</b>                                                      | <b>8</b>  |
| <b>2.1 Political Risk, Policy Uncertainty, and Asset Prices .....</b>                 | <b>8</b>  |
| <b>2.2 Trade Policy Uncertainty and Trade Wars .....</b>                              | <b>9</b>  |
| <b>2.3 Firm Level Exposure, Global Supply Chains, and Heterogeneous Effects .....</b> | <b>9</b>  |
| <b>2.4 Event Studies as a Methodological Foundation .....</b>                         | <b>10</b> |
| <b>2.5 Contribution of This Thesis .....</b>                                          | <b>10</b> |
| <b>3. Methodology and Data.....</b>                                                   | <b>12</b> |
| <b>3.1 Event Study Design.....</b>                                                    | <b>12</b> |
| <b>3.2 Cross Sectional Analysis.....</b>                                              | <b>16</b> |
| <b>4. Analysis of Findings .....</b>                                                  | <b>19</b> |
| <b>4.1 Event Study Results .....</b>                                                  | <b>19</b> |
| <b>4.2 Exposure and Investor Response.....</b>                                        | <b>22</b> |
| <b>4.2.1 China Exposure .....</b>                                                     | <b>22</b> |
| <b>4.2.2 Europe Exposure .....</b>                                                    | <b>25</b> |
| <b>4.3 Robustness Checks.....</b>                                                     | <b>27</b> |
| <b>4.4 Limitations.....</b>                                                           | <b>28</b> |
| <b>5. Conclusions .....</b>                                                           | <b>30</b> |

# 1. Introduction

The tariff battles of 2024 and 2025 brought trade tensions back to the centre of global attention and reminded everyone how quickly geopolitical shifts can disrupt internationally connected companies. As the United States rolled out new rounds of tariffs, mainly aimed at China and accompanied by the possibility of similar measures toward Europe and other partners, countries responded in kind. This created a fast-moving cycle of economic uncertainty. These back-and-forth actions unsettled markets, raised doubts about supply chain stability, and left investors trying to make sense of what the changing rules meant for corporate performance.

For investors, this period was not just about new taxes on imported goods. It was about figuring out which companies would be hit the hardest and which might even benefit. Firms that depend heavily on global sales, foreign production, or imported inputs suddenly looked riskier because tariff changes could quickly affect their costs and revenues. More domestically focused companies were somewhat shielded, but they still felt the broader effects through shifts in market mood and expectations.

This thesis examines how investors reacted to key moments in the 2024 and 2025 tariff war and asks a central question: Do firms with greater international exposure experience stronger stock market reactions to trade policy shocks? By analyzing United States stock returns around major tariff announcements, the study aims to show how global integration shapes a firm's vulnerability or resilience when trade tensions rise.

**Research Objective:** The goal is to see whether U.S. firms with high exposure to either China or Europe showed different abnormal returns around major trade war announcements compared to firms with low foreign exposure. The analysis covers four events across the 2024 and 2025 tariff conflict. Two events involved new tariff actions in late 2024 and early 2025. Two events involved partial agreements in mid-2025.

By examining stock price movements over short windows around these dates, I can infer how investors updated their expectations about firm profitability in response to trade policy news, and whether those updates were conditioned by the firm's international exposure.

**Significance:** This study contributes to the literature on political risk and asset prices by providing evidence from a major modern trade conflict. Trade wars represent a form of economic policy uncertainty that can influence investment and valuation. Unlike broad market shocks, trade policy actions create uneven effects: they harm some firms, such as exporters or companies that depend on imported inputs, while potentially benefiting others, such as protected domestic producers. I use this variation to better understand investor behaviour. In particular, I test the idea that firms with greater exposure to trade suffer more during periods of tariff escalation and benefit more during periods of trade relief, relative to firms with lower exposure. Confirming this would emphasize the value relevance of global supply chains and foreign markets during periods of geopolitical stress. Investors are not just reacting to the tariffs themselves; they are also trying to predict the ripple effects that may follow, such as retaliation, supply chain changes, or regulatory adjustments.

**Context:** The U.S. Trade War began in 2018, when the United States introduced several rounds of tariffs on Chinese goods, prompting retaliation from China. This conflict unsettled financial markets and contributed to a significant decline in U.S. equity values by 2019. Studies have shown that a substantial share of these losses was concentrated among firms with direct economic ties to China, and that firms positioned more centrally in global trade networks experienced sharper valuation declines, as documented by Huang (2023). After a partial agreement in early 2020, tensions cooled but did not fully disappear. My analysis resumes in late 2024, when trade frictions intensified again. On September 27, 2024, the United States completed a review that upheld and raised tariffs on Chinese imports. Several months later, on April 2, 2025, the U.S. administration declared what it called Liberation Day, announcing the most extensive tariff increase since the 1930s: a universal 10 percent tariff on all imports along with additional duties on select countries beginning with China. This shock reignited global trade hostilities, and China responded with substantial tariffs on U.S. goods. Although markets braced for broader consequences, the escalation also opened the door to renewed negotiations. By May 12, 2025, U.S. and Chinese officials reached a partial agreement in Geneva to reduce some tariffs and pause further escalation. Later in the summer, on July 27, 2025, the United States and the European Union announced a bilateral trade framework designed to prevent a transatlantic tariff conflict by replacing punitive tariffs with a more moderate

arrangement. These four events, two escalations and two de-escalations, form the core of the empirical study.

By examining stock price reactions to these events, I focus on a single central question: whether firms with high levels of exposure to either China or Europe responded differently from firms with low exposure, both in the magnitude and direction of abnormal returns. This allows us to assess how investors identify expected winners and losers from trade policy. In practical terms, the findings can guide corporate risk management and investment strategies. Companies may use the results to evaluate their vulnerability to policy shocks, and policymakers may gain a clearer understanding of how different sectors are affected by their decisions. Ultimately, this research highlights the relationship between international economic connections and investor behaviour during a period of rising protectionism.

**Main Hypothesis:** Grounded in the literature on political risk, trade-policy uncertainty, and the economics of global supply-chain integration, this thesis advances a central hypothesis concerning the expected relationship between international exposure and market reactions. Specifically, firms with higher revenue exposure to China are expected to experience more negative abnormal returns during tariff-escalation announcements. The rationale is that increases in trade barriers raise expected input and production costs, heighten the likelihood of supply-chain disruptions, and amplify uncertainty regarding future access to foreign markets. Because these mechanisms directly affect profitability and operational flexibility, internationally exposed firms should, in theory, be more sensitive to adverse policy shocks than firms operating primarily in the domestic market. This hypothesis establishes a benchmark against which the event-study outcomes and subsequent cross-sectional regression results can be evaluated.

**Results:** The empirical results reveal substantial heterogeneity in market reactions across the four trade-policy events. While some announcements generated limited or statistically insignificant aggregate effects, the cross-sectional evidence shows clear dispersion in firm-level outcomes. Firms with higher international exposure did not react uniformly to the policy shocks; instead, abnormal returns varied considerably in both direction and magnitude across events. Although the analysis does not directly test alternative mechanisms, the literature suggests that broader macroeconomic conditions, sector-specific sensitivities, supply-chain structures, and investor expectations may contribute to this heterogeneity. The patterns observed in this thesis are therefore consistent with the

idea that exposure alone does not fully explain firms' sensitivity to trade-policy developments. Overall, the findings indicate that trade shocks can generate differentiated and, at times, counter-intuitive valuation effects, illustrating the complexity with which political and economic uncertainty is incorporated into equity prices.

## **2. Literature Review**

To situate this study within the existing academic work, the literature review is organized around several themes that together illuminate how trade policy shocks affect financial markets. First, research on political risk and policy uncertainty provides the broader theoretical foundation for understanding why geopolitical developments move asset prices. Second, an expanding body of work examines trade policy uncertainty, focusing on how tariffs and trade disputes affect both macroeconomic conditions and market valuations. Third, firm-level contributions highlight the heterogeneous effects of trade shocks, emphasizing how global supply chain integration, international revenue exposure, and network centrality shape the magnitude of market reactions. Finally, an extensive methodological literature on event studies establishes why short window stock return responses are a powerful tool for analyzing discrete information shocks. These themes collectively motivate the empirical strategy of this thesis and guide the interpretation of how firms with differing international exposure respond to the tariff events of 2024 and 2025.

### **2.1 Political Risk, Policy Uncertainty, and Asset Prices**

A large asset pricing literature shows that political and policy risk can be priced sources of systematic risk. Pastor and Veronesi (2013) develop a general equilibrium model in which government policy choices generate political uncertainty that increases risk premia, particularly during weak macroeconomic conditions. Kelly, Pastor and Veronesi (2016) extend this framework to option markets, showing that options whose maturities span major political events are systematically more expensive, indicating that investors pay for protection against political risk exposure.

Empirical work reinforces these theoretical mechanisms. Baker, Bloom and Davis (2016) construct an index of economic policy uncertainty and show that spikes in uncertainty depress investment and output while increasing market volatility. Liu, Shu and Wei (2017) use the Bo Xilai political scandal as a quasi-natural experiment, finding that

politically sensitive Chinese firms experienced sharp valuation declines driven primarily by discount rate effects. Hassan, Hollander, van Lent and Tahoun (2019) extend this analysis with a firm level text-based measure of political risk, documenting declines in investment and profitability among firms facing elevated political uncertainty. Caldara and Iacoviello (2022) add a geopolitical dimension, showing that increases in geopolitical risk predict lower real activity and increased downside macroeconomic risk.

## **2.2 Trade Policy Uncertainty and Trade Wars**

Within the broader political risk literature, trade policy uncertainty has attracted growing attention. Caldara, Iacoviello, Molligo, Prestipino and Raffo (2020) construct several trade policy uncertainty indicators and show that heightened uncertainty surrounding trade policy reduces investment, output, and export participation. Their structural model highlights how anticipation of tariffs can depress activity even before policies are implemented.

Event study evidence from the United States and China trade war demonstrates clear equity market responses to trade shocks. Egger and Zhu (2020) document significant negative abnormal returns for United States firms with greater exposure to China during tariff escalations between 2018 and 2019, with partial recoveries following de-escalation announcements. Bianconi, Esposito and Sammon (2021) show that portfolios more exposed to trade policy uncertainty earn higher expected returns, implying that trade policy risk is priced. Together, these studies demonstrate that tariff announcements serve as high frequency information shocks that investors incorporate rapidly, making them ideal subjects for event study analysis.

## **2.3 Firm Level Exposure, Global Supply Chains, and Heterogeneous Effects**

A central insight in recent literature is that trade shocks do not affect firms uniformly. Instead, valuation responses depend heavily on firms' international linkages and supply chain structure. Huang, Lin, Liu and Tang (2023) show that firms more central in global value chain networks suffered disproportionate losses during the United States and China trade war, even after controlling for direct export or import exposure. This highlights the importance of indirect, network driven transmission channels.

Greenland, Ion, Lopresti and Schott (2024) propose using stock market reactions to infer firm level exposure to trade liberalization policies, showing that abnormal returns around key policy events carry information about real economic exposure and predict future firm outcomes. Their work underscores the extent of cross-sectional heterogeneity within industries, suggesting that even firms producing similar goods may face very different levels of vulnerability to policy shocks.

Other studies, both on trade and political risk more broadly, identify revenue dependence on foreign markets, foreign sourcing of intermediate goods, and offshore production as critical drivers of heterogeneous market reactions. Empirical evidence consistently shows that firms more embedded in global supply chains are more sensitive to changes in trade policy, confirming the importance of exposure-based analysis.

## **2.4 Event Studies as a Methodological Foundation**

A foundational methodological literature in finance establishes event studies as a central tool for identifying market reactions to new information. Since the seminal work of Fama, Fisher, Jensen and Roll (1969) and the authoritative synthesis by MacKinlay (1997), event studies have been widely used to measure abnormal returns around corporate announcements, regulatory changes, macroeconomic releases, and policy interventions. The underlying premise is that in semi strong form efficient markets, stock prices reflect value relevant news immediately, allowing short window abnormal returns to serve as clean measures of investor expectation updates.

The versatility of event studies makes them particularly appropriate for analyzing tariff announcements and trade policy shifts. These events occur at well-defined points in time, attract substantial media attention, and often contain information not fully anticipated by markets. This methodological tradition provides the empirical backbone for the present thesis, which examines how abnormal returns around specific tariff and negotiation announcements vary with firms' international exposure.

## **2.5 Contribution of This Thesis**

Building on these strands of literature, this thesis makes three main contributions, each extending the existing research in a meaningful way.

First, it analyzes a recent and understudied episode of trade conflict, namely the 2024 and 2025 tariff escalations and subsequent de-escalation agreements. While the 2018 to 2020 United States and China trade war has been extensively examined, the renewed tensions in 2024 and 2025 have received little academic attention. Studying this new conflict allows for an assessment of whether earlier findings remain robust in a shifted geopolitical and macroeconomic environment.

Second, the thesis provides a systematic comparison of escalation and de-escalation events within a unified empirical framework. Prior research tends to examine either tariff increases or liberalization episodes, but rarely in the same setting. By considering two escalation events and two partial agreements, the analysis evaluates whether the cross-sectional patterns are symmetric, meaning whether highly exposed firms benefit from relief to the same extent that they suffer from tariff hikes. This comparison offers a more nuanced understanding of how investors price both risk and relief during periods of heightened policy volatility.

Third, the thesis connects the literature on political risk and trade policy uncertainty with firm level measures of global integration. The analysis extends existing work by examining exposure to both China and Europe, whereas previous studies focus predominantly on China. Considering exposure to Europe is especially relevant considering recent United States and European Union trade tensions, yet empirical evidence on the valuation effects of European exposure remains limited. This dual exposure approach helps clarify how geographic diversification affects vulnerability to global shocks.

Beyond its academic contribution, the results carry implications for firms, investors, and policymakers. Firms may use the findings to assess vulnerability to tariff related risks and to inform decisions related to supply chain diversification. Investors may benefit from understanding which types of firms are systematically more sensitive to trade policy news, while policymakers may gain insight into how tariff measures propagate through financial markets and which sectors are most affected by protectionist decisions.

### 3. Methodology and Data

This section outlines the overall research design, including the data sources, the construction of key variables, and the empirical strategies used to examine how firms respond to major trade policy announcements. I employ an event study methodology to estimate abnormal stock returns in narrow windows surrounding each selected event, allowing me to isolate the portion of price movements attributable to the new information released on those dates. After computing firm-level abnormal returns, I analyse their cross-sectional determinants using regression techniques and comparative sub-sample analysis to assess whether exposure to China and Europe systematically shapes firms' reactions. Throughout the chapter, I also address potential limitations of the methodological approach, such as the difficulty in ensuring that the selected announcements were fully unexpected by the market, the possibility that different event-window specifications may influence the magnitude of abnormal returns, and the limitations arising from incomplete or imperfect firm-level geographic exposure data.

#### 3.1 Event Study Design

**Events Selection:** I identified four critical events during the U.S. trade conflict (2024–2025) that were likely to have large, discrete impacts on U.S. stock prices. The events are:

- Escalation 2024 (Sept 27, 2024): The U.S. administration finalized a tariff review, confirming increased tariffs on Chinese imports, including a 100 percent duty on certain goods. This development signalled a renewed commitment to protectionism after a period of relative calm, drawing investor attention.
- Escalation 2025 “Liberation Day” (Apr 2, 2025): The United States announced universal 10 percent tariffs on all imports, along with additional country-specific tariffs, under the label “Liberation Day”. This constituted an unprecedented broad shock affecting trade with China, Europe, and other regions, effectively reigniting the trade war on multiple fronts.
- De-escalation (China) (May 12, 2025): U.S. and Chinese officials reached an agreement for a partial rollback of tariffs and a pause on further escalations. This tentative arrangement, achieved following discussions in Geneva, contributed to easing U.S.–China trade tensions.

- De-escalation (Europe) (July 27, 2025): The United States and the European Union announced a framework trade deal designed to prevent further escalation, including the replacement of a threatened 50 percent auto tariff with a baseline 15 percent tariff on most EU imports. This agreement marked a de-escalation in U.S.–EU trade hostilities, although it introduced some new tariffs as part of the compromise.

These events were widely reported in financial news and occurred on specific dates (or over short negotiation periods) with identifiable announcement timeframes. For each event, Day 0 is defined as the primary announcement date, corresponding to when the information became public during U.S. market hours or immediately prior to market open. Where relevant, Day +1, Day +2, and subsequent days capture additional trading-day reactions by investors. A pre-event day (Day –1) is included to account for any price movements arising from leaks or market rumours shortly before the official announcement.

**Sample of Firms:** The final dataset comprises 309 U.S. publicly traded firms from the S&P 500 and Russell 2000 indices. Although data were initially collected for the full constituents of both indices, only these 309 firms reported sufficiently detailed geographic segment information, specifically, disaggregated sales data for China and Europe. Combining large-cap with mid- and small-cap firms allows for greater heterogeneity across exposure intensities and industry classifications. For each firm, I collected daily stock price data across the entire analysis period and computed corresponding daily returns. These firms were then merged with the relevant fundamental data and foreign exposure measures (described in detail below). Importantly, the sample exhibits substantial variation in the degree of international exposure: some firms derive more than 50% of their revenues from regions such as China or Europe, whereas others operate almost exclusively within the domestic market. This cross-sectional dispersion is critical for identifying differential effects in the empirical tests. Table 1 will provide descriptive statistics on the sample and subgroups.

| Variable                            | N   | Mean   | Std Dev | Median |
|-------------------------------------|-----|--------|---------|--------|
| Leverage                            | 309 | 27,42% | 33,15%  | 24,05% |
| Profitability (ROA)                 | 309 | 2,76%  | 16,07%  | 4,35%  |
| Tangibility (Net PPE/ Total Assets) | 309 | 21,20% | 18,41%  | 15,31% |
| Log Size (Millions)                 | 309 | 8,579  | 2,0691  | 8,0774 |
| China Exposure                      | 136 | 15,89% | 13,33%  | 12,33% |

|                        |     |        |        |        |
|------------------------|-----|--------|--------|--------|
| <b>Europe Exposure</b> | 193 | 16,44% | 11,48% | 14,64% |
|------------------------|-----|--------|--------|--------|

Table 1: This table reports descriptive statistics for the full sample of firms. Variables are defined as follows: Leverage is total debt scaled by total assets; Profitability (ROA) is net income divided by total assets; Tangibility is net property, plant, and equipment scaled by total assets; Log Size is the natural logarithm of one plus market value (in millions). China Exposure and Europe Exposure measure the share of each firm's revenue originating from China and Europe, respectively. Values are presented as means, standard deviations, and medians, with percentages expressed in decimal form.

**Estimation of Normal Returns:** To later compute abnormal returns (ARs), I first estimated expected (normal) returns using the market model, a standard approach in event-study analysis. The market model assumes that a firm's return  $R_{i,t}$  is linearly related to the market return  $R_{m,t}$ , and therefore provides an estimate of what the firm's return should have been in the absence of the event:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t},$$

where  $\alpha_i$  and  $\beta_i$  are firm-specific parameters, and  $\varepsilon_{i,t}$  denotes the error term. In this specification,  $\beta_i$  measures the sensitivity of firm  $i$ 's stock returns to movements in the overall market. A value of  $\beta_i = 1$  implies the firm moves one-for-one with the market, values above 1 indicate greater volatility relative to the market, and values below 1 indicate lower sensitivity.  $\alpha_i$  represents the portion of the firm's expected return not explained by market movements, essentially the average return the stock would be expected to earn if the market return were zero. Together, these parameters define each firm's normal expected return in the absence of an event.

For the market return proxy  $R_{m,t}$ , I used the value-weighted market return from the Fama–French dataset, which is constructed from all CRSP firms incorporated in the U.S. and listed on the NYSE, AMEX, or NASDAQ with CRSP share codes 10 or 11. This ensures consistency with the robustness tests later in the thesis that employ the Fama–French three-factor (FF3) model.

The parameters  $\alpha_i$  and  $\beta_i$  were estimated for each firm using a 180-day estimation window ending 20 trading days before each event (Day –200 to Day –20). Because all firms are exposed to all events, a separate estimation window was computed for each firm–event pair, with the window shifting so that it always ended at Day –20 relative to that event.

For robustness, I repeated the analysis using alternative estimation-window lengths (e.g., 100 days) to verify that the findings were not driven by the specific window choices. I also estimated abnormal returns using the FF3 model as an additional robustness check.

The results presented in the main analysis, however, are based on the market model, chosen for clarity and parsimony while remaining consistent in terms of the market return proxy across all model specifications.

**Calculation of ARs and CARs:** With the expected (normal) returns established using the market model, the next step is to quantify how actual returns deviated from these model-implied benchmarks around each event. For each firm  $i$  and day  $t$ , the abnormal return is defined as the difference between the firm's observed return and the expected return predicted by its estimated  $\hat{\alpha}_i$  and  $\hat{\beta}_i$ :

$$AR_{i,t} = R_{i,t} - (\hat{\alpha}_i + \hat{\beta}_i R_{m,t}).$$

This measure isolates the portion of the daily return that cannot be explained by normal market movements and is therefore attributable to the event under consideration.

Abnormal returns were computed for every day within the event window, which I define as Day  $-1$  through Day  $+3$  relative to the announcement date (Day 0). This  $(-1, +3)$  window captures both potential information leakage prior to the announcement and the immediate post-event adjustment period during which markets incorporate the new information.

To summarize the total price impact of the event, I calculate cumulative abnormal returns (CARs) for each firm by aggregating abnormal returns across the five-day window:

$$CAR_i = \sum_{t=-1}^{+3} AR_{i,t}$$

CARs serve as the primary outcome variable in the analysis, as they provide a concise measure of the event's overall short-run effect on firm value. CARs are expressed in percentage terms to aid interpretation.

As a simple illustration, consider a firm whose actual return on Day 0 is  $-2\%$  while the model predicts a normal return of  $+0.5\%$ . The corresponding abnormal return for that day would be  $-2.5\%$ . Summing ARs over the full event window yields the firm's CAR.

To limit the influence of extreme outliers, daily abnormal returns were winsorized at the 1% level. This adjustment mainly affects a small number of observations associated with unusually large single-day movements, such as those driven by unrelated firm-specific news, and does not materially alter the aggregate results.

Having obtained firm-level cumulative abnormal returns (CARs) for each of the four trade-war events, the event-study component of the analysis is complete. These CARs summarize the immediate market reaction to each shock and serve as the key dependent variable for the next stage of the methodology.

### **3.2 Cross Sectional Analysis**

The next step of the methodology investigates why the market reacted differently across firms. The purpose of the cross-sectional analysis is to link these short-run stock price responses to underlying firm characteristics, most importantly their degree of foreign exposure. By examining how variation in exposure and other firm fundamentals relates to CARs, this section provides insight into which types of firms were most vulnerable or resilient to the trade shocks. The subsections below describe the construction of control variables, the measurement of exposure, and the two empirical approaches used to assess how exposure affects firms' sensitivity to each event.

**Control Variables:** To ensure that exposure effects are not confounded by other firm-specific attributes, I incorporate a set of control variables retrieved from Refinitiv Workspace. All variables correspond to the most recent pre-event fiscal year to avoid simultaneity and ensure comparability across firms. The control variables include:

- Size: measured as the natural logarithm of  $(1 + \text{Market Value in millions})$ . Market value (market capitalization). This transformation reduces skewness and provides a scale-consistent measure of firm size.
- Leverage: total debt divided by total assets.
- Profitability (ROA): return on assets.
- Asset tangibility: net property, plant, and equipment (PPE) scaled by total assets.
- Sector fixed effects: based on SIC-derived industry classifications, aggregated into broader sectors (e.g. manufacturing, services, technology) to control for systematic industry differences.

High-exposure and low-exposure firms differ substantially along some of these dimensions. Including these controls helps ensure that the estimated exposure effects reflect exposure itself and not correlated fundamentals. In practice, the inclusion of controls increases explanatory power but does not materially alter the sign or significance of the main exposure coefficients.

**Exposure Measures:** A central component of the cross-sectional analysis is the firm-level exposure to China and Europe. These exposure measures are constructed using Compustat Segment data for 2024, which provide detailed geographic breakdowns of firm revenue. For each company, I identify the sales reported for China and Europe, and calculate exposure as:

$$\text{Exposure}_{\text{region},i} = \frac{\text{Sales}_{\text{region},i}}{\text{Total Sales}_i}.$$

Thus, exposure reflects the share of a firm's revenue derived from China or Europe in 2024. This measure directly captures firms' dependence on each market and serves as a meaningful proxy for their vulnerability to region-specific trade shocks.

Although the intention was to obtain exposure for all firms in the S&P 500 and Russell 2000, many companies did not provide geographic segment disclosures. As a result, the final exposure dataset includes 137 firms with non-missing China exposure and 193 firms with non-missing Europe exposure.

Before turning to the empirical implementation, it is important to explain how the foreign exposure variable is incorporated into the cross-sectional analysis. Since exposure is the central firm-level characteristic of interest, I use it in more than one way to capture different aspects of how firms' dependence on China or Europe may shape their reactions to the trade-war events. To operationalize this, I use the exposure measure in two complementary ways. First, I construct a high-exposure indicator (Using a dummy variable) that classifies firms according to whether their exposure lies above or below the sample median. This categorical formulation enables a clear comparison between firms that are heavily dependent on a region and those that are more domestically oriented. Second, I incorporate the exposure share directly as a continuous variable in the regression framework, which exploits the full distribution of exposure across firms and allows me to estimate the marginal effect of an incremental increase in foreign dependence on CARs.

**Approach 1 (High-Exposure Dummy Regressions):** The first regression specification captures the difference in CARs between firms with high versus low exposure, conditional on controls. For each event, I estimate:

$$CAR_i = \gamma_0 + \gamma_1 \text{HighExposure}_i + X_i \Gamma + u_i,$$

where  $\text{HighExposure}_i$  is a dummy equal to 1 if firm  $i$ 's exposure is above the sample median (for the relevant region) and 0 otherwise, and  $X_i$  is the vector of control variables described above (including, where applicable, industry fixed effects).

The coefficient  $\gamma_1$  measures the conditional difference in CARs between high- and low-exposure firms: a negative  $\gamma_1$  indicates that more exposed firms experienced more negative abnormal returns on average, even after controlling for firm size, leverage, profitability, tangibility, and sector. In the implementation, standard errors are computed using heteroskedasticity-robust (HC3) estimators, and the significance of  $\gamma_1$  is assessed using the corresponding t-statistic from the regression.

**Approach 2 (Continuous Exposure Regressions):** The second specification uses exposure as a continuous variable to estimate the marginal effect of foreign revenue dependence on CARs. For each event, I estimate:

$$CAR_i = \gamma_0 + \gamma_1 \text{Exposure}_i + X_i \Gamma + u_i,$$

where  $\text{Exposure}_i$  is the revenue share from China or Europe (between 0 and 1), and  $X_i$  again denotes the control variables. As before, standard errors are heteroskedasticity-robust (HC3), and industry fixed effects are included where specified.

In this framework,  $\gamma_1$  can be interpreted as the change in CAR associated with a full (100%) exposure to the region, with proportional scaling for intermediate values. For example,  $\gamma_1 = -0.05$  would imply that a firm with 100% of its sales in China experiences a CAR 5 percentage points lower than an otherwise similar firm with zero China exposure, and roughly 0.5 percentage points lower for each additional 10 percentage points of exposure.

Both the dummy and continuous specifications are estimated on a common base sample for each event (requiring non-missing CARs, exposure, and controls), which facilitates direct comparison of results across specifications.

Overall, the cross-sectional framework allows me to assess whether firms with higher dependence on China or Europe were systematically more sensitive to the trade-war events, and whether this relationship remains after controlling for size, leverage, profitability, asset tangibility, and industry membership. By combining the high-exposure dummy regressions with the continuous exposure specification, the empirical strategy captures both broad categorical differences and more granular marginal effects. The next section presents the results for each event and evaluates the magnitude, economic significance, and robustness of the estimated exposure effects.

## 4. Analysis of Findings

In this section, we present the empirical findings of the study, beginning with the event study evidence and then turning to the cross-sectional determinants of firm level reactions. Section 4.1 reports the aggregate market response to each event, summarizing average abnormal returns and their statistical significance to characterize how investors collectively interpreted each escalation or de-escalation. Section 4.2 examines the heterogeneity in these responses, focusing on how differences in firms' international exposure, particularly to China and Europe, shaped their stock price reactions. Throughout the section, we complement the quantitative results with descriptive figures and summary tables to highlight the key patterns in the data.

### 4.1 Event Study Results

We begin by examining the aggregate stock market reaction to the four trade war events. Table 2 reports cumulative abnormal returns (CARs) for the sample of U.S. firms over the event window, together with tests of statistical significance. CARs are calculated over a five-day window spanning from one trading day before the announcement to three days after ( $-1$  to  $+3$ ), capturing both potential information leakage and the immediate post announcement adjustment in stock prices.

| Event                               | Mean<br>CAR (%) | Median<br>CAR (%) | % Positive<br>CARs | SD (%) | t-stat   | N   |
|-------------------------------------|-----------------|-------------------|--------------------|--------|----------|-----|
| Escalation 2024                     | 1.75***         | 1.50              | 69.90%             | 4.11   | 7.48***  | 309 |
| Escalation 2025<br>(Liberation Day) | 0.77            | 0.14              | 50.49%             | 9.03   | 1.50     | 309 |
| De-Escalation (China)               | 0.16            | 0.20              | 54.41%             | 5.15   | 0.36     | 136 |
| De-Escalation (Europe)              | -2.57***        | -1.46             | 35.75%             | 7.84   | -4.55*** | 193 |

**Table 2: Event Study Summary Statistics.** This table reports cumulative abnormal returns (CARs) for four major trade war announcements from 2024 to 2025. CARs are computed over a five-day event window spanning Day -1 to Day +3 relative to the announcement date (Day 0), using abnormal returns estimated from the market model. Mean and median CARs are expressed in percentage terms. “Percent Positive CARs” denotes the share of firms with CARs greater than zero for each event. The t statistic tests whether the mean CAR is statistically different from zero. Significance levels are indicated as follows: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$ . N denotes the number of firms with CAR estimates for each event.

Several striking findings emerge from Table 2. First, the Escalation 2024 event produced a significantly positive stock market reaction on average, with a mean CAR of +1.75% ( $t = 7.48$ ). This outcome is somewhat counterintuitive, as tariff escalations are typically expected to depress U.S. equity markets. A 1.75% abnormal gain suggests that investors interpreted the late 2024 announcement as less damaging than anticipated, or potentially even favourable for certain segments of the economy. On the announcement date, U.S. equity indices rose despite the confirmation of substantial tariff increases, including a 100% duty on Chinese electric vehicles and a 50% tariff on certain semiconductor products. Contemporary market commentary indicated that investors were relieved the trade review concluded without even harsher measures and that expectations improved for industries positioned to benefit from enhanced protection. The data reflect this pattern: roughly 70% of firms recorded positive CARs, and the median CAR was +1.5%, pointing to a broad-based uptick across the sample. In short, the market reacted positively to the 2024 escalation, likely because it reduced uncertainty following a prolonged review period and shifted perceived relative advantages toward domestically oriented firms. This episode illustrates that not all ostensibly adverse policy announcements lead to negative returns; the market response depends heavily on expectations and the distribution of anticipated winners and losers.

In contrast, the Escalation 2025 (“Liberation Day”) event did not generate a statistically significant market reaction. The average CAR was +0.77%, but the corresponding t-statistic of 1.50 indicates that the effect is not distinguishable from zero. The distribution of returns was also balanced, with approximately 50% of firms experiencing positive CARs. This muted aggregate impact likely stems from the broad and heterogeneous nature of the policy: a universal tariff increase inevitably creates both winners and losers. Firms benefiting from reduced foreign competition may have gained, while those reliant on imported inputs or overseas markets likely declined, resulting in offsetting effects at the market level. The absence of a strong reaction also suggests that investors may have

partially anticipated the policy shift, reducing the scope for a pronounced surprise. Taken together, the 2025 escalation appears to have been absorbed by the market as a mixed or largely neutral development.

The De-Escalation (China) event in May 2025 likewise produced minimal market impact. Because this announcement primarily affected bilateral U.S.–China trade relations, the analysis for this event is restricted to firms with identifiable exposure to China; firms without any China-related revenue or operational link were excluded from the sample. Within this subset, the mean CAR was +0.16% ( $t = 0.36$ ), with a median of +0.20%, and just over 54% of firms experienced positive abnormal returns. These figures indicate that the partial easing of U.S.–China tensions was largely expected or viewed as too incremental to materially alter near-term earnings prospects for exposed firms. After several weeks of negotiation signals and media reports pointing to possible tariff relief, investors may have anticipated a modest agreement, and the announcement therefore did not prompt a significant repricing of affected equities. The results suggest that although the direction of policy shifted toward de-escalation, the scope of the measures was insufficient to generate a meaningful improvement in market sentiment among China-exposed firms.

The most substantial reaction arises from the De-Escalation (Europe) event in July 2025, for which the analysis likewise focuses solely on firms with exposure to Europe. Limiting the sample to firms with tangible European revenue or operational links ensures that the estimated CARs reflect the firms most directly affected by changes in U.S.–EU trade policy. Within this exposure-based sample, the event generated a strikingly negative response: the mean CAR was -2.57% ( $t = -4.55^*$ ), and only 36% of firms exhibited positive abnormal returns, indicating a broad-based decline across exposed firms. Although formally presented as a de-escalation, the announcement may have offered less clarity or substantive relief than investors had anticipated. In periods of heightened policy uncertainty, even steps toward cooperation can trigger a pessimistic market reaction if the measures appear limited in scope, temporary in nature, or insufficient to restore pre-existing trading conditions. Investors may have expected a more comprehensive resolution of U.S.–EU trade tensions, and the perceived gap between expected and actual policy outcomes likely contributed to the pronounced negative response among Europe-exposed firms.

Before moving on, I emphasize that these aggregate results do not tell the whole story. The negligible average CAR for Liberation Day, for example, masks substantial dispersion, with some firms experiencing sharp gains while others recorded significant losses that offset each other. To understand these divergent outcomes, I now turn to the cross-sectional analysis, focusing on how differences in international exposure shaped firm-level reactions.

## 4.2 Exposure and Investor Response

Building on the event-study results in Section 4.1, the cross-sectional analysis evaluates how exposure to China and Europe shaped the sensitivity of U.S. firms to each of the four trade-policy announcements. Section 4.2.1 focuses on China-exposed firms, while Section 4.2.2 examines Europe-exposed firms, allowing a clearer comparison across the two major trading partners. I present results for both the continuous exposure regressions and the high- versus low-exposure dummy specifications, as these complementary approaches reveal both marginal effects and broader categorical differences.

### 4.2.1 China Exposure

This subsection examines how firms with varying levels of exposure to China reacted to three major U.S.–China trade events between 2024 and 2025. Table 2A (inserted below) summarizes the estimated coefficients and significance levels for each event, providing a comparative overview before turning to a chronological discussion. Ordering the events by date helps clarify how investor responses evolved across alternating phases of escalation and de-escalation. Across all three episodes, China exposure exhibits a consistently positive association with abnormal returns, though the magnitude and interpretation of this effect vary substantially depending on the policy context.

| Variable              | Escalation 2024   | Escalation 2025<br>(Liberation Day) | De-Escalation (China) | N          |
|-----------------------|-------------------|-------------------------------------|-----------------------|------------|
| <i>Constant</i>       | 0,023192          | 0,040011                            | -0,03969              | 136        |
| <b>China Exposure</b> | <b>0,046275**</b> | <b>0,127281**</b>                   | <b>0,082272***</b>    | <b>136</b> |
| <i>Leverage</i>       | -0,0053           | -0,00953                            | 0,005977              | 136        |
| <i>Profitability</i>  | -0,02905          | -0,03145                            | -0,02939              | 136        |
| <i>Tangibility</i>    | 0,002814          | -0,07759**                          | 0,018066              | 136        |
| <i>Size</i>           | -0,00272*         | -0,00636*                           | 0,001691              | 136        |

**Table 3: Continuous Regression for China exposed firms.** This table reports the regression coefficients from cross-sectional regressions examining the relationship between firm-level exposure to China and cumulative abnormal returns (CARs) around major geopolitical events. The dependent variable is the firm's

CAR over the relevant event window. The key explanatory variable is China Exposure, measured continuously as the share of firm revenues generated from Chinese markets. All specifications include standard firm-level controls: Leverage, defined as total debt divided by total assets; Profitability, measured as return on assets (net income over total assets); Tangibility, defined as net property, plant, and equipment divided by total assets; and Size, measured as the natural logarithm of one plus market value,  $\ln(1 + MV)$ . All regressions include industry fixed effects. Each column corresponds to a different event window, Escalation 2024, Escalation 2025 (Liberation Day), and the European de-escalation episode. The sample is restricted to firms with non-zero Chinese exposure. Coefficients are estimated using OLS, with robust standard errors reported in parentheses. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels, respectively.

| Variable             | Escalation 2024 | Escalation 2025<br>(Liberation Day) | De-Escalation (China) | N          |
|----------------------|-----------------|-------------------------------------|-----------------------|------------|
| <i>Constant</i>      | 0,024904        | 0,042408                            | -0,03813              | 136        |
| <b>High Exposure</b> | <b>0,003621</b> | <b>0,039281***</b>                  | <b>0,025208***</b>    | <b>136</b> |
| <i>Leverage</i>      | -0,00662        | -0,01377                            | 0,003242              | 136        |
| <i>Profitability</i> | -0,02864        | -0,0508                             | -0,04177              | 136        |
| <i>Tangibility</i>   | 0,002117        | -0,07926**                          | 0,01698               | 136        |
| <i>Size</i>          | -0,00264*       | -0,00578                            | 0,002065              | 136        |

**Table 4: High vs Low Regression for China exposed firms.** This table reports the regression coefficients from cross-sectional regressions examining the relationship between firm-level exposure to China and cumulative abnormal returns (CARs) around major geopolitical events. The key explanatory variable is a high-exposure indicator, defined as a dummy variable equal to one for firms with China exposure above the sample median and zero otherwise. The dependent variable is the firm's CAR over the relevant event window. All specifications include standard firm-level controls: Leverage, defined as total debt divided by total assets; Profitability, measured as return on assets (net income over total assets); Tangibility, defined as net property, plant, and equipment divided by total assets; and Size, measured as the natural logarithm of one plus market value,  $\ln(1 + MV)$ . All regressions include industry fixed effects. Each column corresponds to a different event window, Escalation 2024, Escalation 2025 (Liberation Day), and the European de-escalation episode. The sample is restricted to firms with non-zero Chinese exposure. Coefficients are estimated using OLS, with robust standard errors reported in parentheses. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels, respectively.

For the September 2024 escalation, the regression results show that China exposure is positively associated with abnormal returns. The continuous exposure measure produces a statistically significant coefficient of +0.04628 ( $p < 0.05$ ), whereas the high-versus-low exposure dummy does not yield a significant effect. This outcome is initially surprising, as tariff escalation would ordinarily be expected to harm firms with substantial exposure to the affected market.

When interpreting why China-exposed firms responded positively to an escalation that, in principle, should have depressed their valuations, it is essential to recognize how financial markets incorporate expectations and strategic foresight into asset prices. By the time the September 2024 escalation was formally announced, the policy shift had been telegraphed through months of political signalling, regulatory leaks, and media reporting. In such circumstances, markets tend to price in the anticipated adverse effects well in advance. The event date then reflects not the full tariff shock itself, but rather the incremental information it provides beyond what was already expected. Because the escalation did not materially exceed market expectations, the announcement did not trigger a negative surprise; in fact, to the extent that the finalized measures were less severe, narrower in scope, or more procedurally gradual than feared, the event may even have been interpreted as mildly reassuring.

The April 2025 “Liberation Day” universal tariff announcement yields the strongest positive association between China exposure and abnormal returns in the entire sample of China-related events. The continuous exposure measure exhibits a significant coefficient of +0.12728 ( $p < 0.05$ ), while the high-exposure dummy produces an effect of +0.03928 ( $p < 0.01$ ). These magnitudes are the largest across all events examined, indicating that China-exposed firms experienced substantially higher CARs in response to a policy development that, in principle, constituted a major escalation of trade tensions.

The May 2025 de-escalation, the announcement of a partial rollback of U.S.–China tariffs, produces the clearest and most economically meaningful positive association between China exposure and abnormal returns. Both exposure specifications yield strong statistical significance. The continuous measure is associated with a coefficient of +0.08227 ( $p < 0.01$ ), and the high-versus-low exposure dummy indicates a difference of +0.02521 ( $p < 0.01$ ). These findings are consistent with the initial hypothesis, which predicts that tariff relief disproportionately benefits firms with substantial foreign exposure.

The economic magnitude of the effect is considerable. A firm fully dependent on China would have earned a CAR approximately 8.2 percentage points higher than a comparable firm lacking China exposure, while a firm above the median exposure level would have experienced abnormal returns around 2.5 percentage points higher than a low-exposure peer. These effects are noteworthy given that the aggregate market reaction to the event

was muted, as documented in Section 4.1. The substantial cross-sectional dispersion indicates that highly exposed firms were clear beneficiaries of the policy shift, even though the market as a whole, displayed limited movement.

In contrast to the escalation episodes, the de-escalation result conforms more closely to theoretical expectations: tariff relief enhances expected future profitability for firms reliant on the Chinese market. Nonetheless, when viewed together with the two escalation events, the findings underline the primacy of investor interpretation over purely mechanical exposure channels.

#### 4.2.2 Europe Exposure

Building on the insights from the China-exposure results, this subsection turns to firms with revenue dependence on Europe to evaluate how investors responded to the same sequence of trade policy events. The Europe sample provides an important contrast, both because the May 2025 de-escalation explicitly targeted European partners and because Europe-related trade channels differ structurally from those involving China.

| Variable               | Escalation 2024 | Escalation 2025 (Liberation Day) | De-Escalation (Europe) | N          |
|------------------------|-----------------|----------------------------------|------------------------|------------|
| <i>Constant</i>        | 0,031048**      | 0,055816*                        | -0.0981                | 193        |
| <b>Europe Exposure</b> | <b>0,012879</b> | <b>-0,06347</b>                  | <b>-0,05771*</b>       | <b>193</b> |
| <i>Leverage</i>        | -0,01269        | -0,07335***                      | -0,01249               | 193        |
| <i>Profitability</i>   | 0,021462        | -0,10576**                       | 0,048104               | 193        |
| <i>Tangibility</i>     | -0,02214        | 0,0017                           | 0,006284               | 193        |
| <i>Size</i>            | -0,00229*       | -0,00777***                      | 0,008894***            | 193        |

**Table 5: Continuous Regression for Europe exposed firms.** This table reports the regression coefficients from cross-sectional regressions examining the relationship between firm-level exposure to Europe and cumulative abnormal returns (CARs) around major geopolitical events. The dependent variable is the firm's CAR over the relevant event window. The key explanatory variable is Europe Exposure, measured continuously as the share of firm revenues generated from European markets. All specifications include standard firm-level controls: Leverage, defined as total debt divided by total assets; Profitability, measured as return on assets (net income over total assets); Tangibility, defined as net property, plant, and equipment divided by total assets; and Size, measured as the natural logarithm of one plus market value,  $\ln(1 + MV)$ . All regressions include industry fixed effects. Each column corresponds to a different event window, Escalation 2024, Escalation 2025 (Liberation Day), and the European de-escalation episode. The sample is restricted to firms with non-zero European exposure. Coefficients are estimated using OLS, with robust standard errors reported in parentheses. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels, respectively.

| Variable             | Escalation 2024 | Escalation 2025<br>(Liberation Day) | De-Escalation (Europe) | N          |
|----------------------|-----------------|-------------------------------------|------------------------|------------|
| <i>Constant</i>      | 0,032766**      | 0,054461                            | -0,10181               | 193        |
| <b>High Exposure</b> | <b>-0,00049</b> | <b>-0,02022**</b>                   | <b>-0,0105</b>         | <b>193</b> |
| <i>Leverage</i>      | -0,01128        | -0,0715***                          | -0,01387               | 193        |
| <i>Profitability</i> | 0,022761        | -0,10455**                          | 0,046558               | 193        |
| <i>Tangibility</i>   | -0,02165        | 0,001724                            | 0,005463               | 193        |
| <i>Size</i>          | -0,00226*       | -0,00744***                         | 0,009026***            | 193        |

**Table 6: High vs Low Regression for Europe exposed firms.** This table reports the regression coefficients from cross-sectional regressions examining the relationship between firm-level exposure to Europe and cumulative abnormal returns (CARs) around major geopolitical events. The key explanatory variable is a high-exposure indicator, defined as a dummy variable equal to one for firms with Europe exposure above the sample median and zero otherwise. The dependent variable is the firm's CAR over the relevant event window. All specifications include standard firm-level controls: Leverage, defined as total debt divided by total assets; Profitability, measured as return on assets (net income over total assets); Tangibility, defined as net property, plant, and equipment divided by total assets; and Size, measured as the natural logarithm of one plus market value,  $\ln(1 + MV)$ . All regressions include industry fixed effects. Each column corresponds to a different event window, Escalation 2024, Escalation 2025 (Liberation Day), and the European de-escalation episode. The sample is restricted to firms with non-zero European exposure. Coefficients are estimated using OLS, with robust standard errors reported in parentheses. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels, respectively.

For the September 2024 escalation, the regression results show no statistically significant relationship between Europe exposure and abnormal returns. Both the continuous exposure measure and the high-versus-low exposure dummy yield coefficients that are small in magnitude and statistically indistinguishable from zero. Unlike the China sample, where the escalation produced a counterintuitive positive association, the European results indicate that firms' reliance on European revenue streams had little bearing on their short-run stock performance during this episode.

This muted response is consistent with the structure of the escalation announcement: the policy measures were directed primarily at China and Asia-centric supply chains, rather than at transatlantic trade. As a result, firms with European operations were not expected to face immediate cost pressures, changes in market access, or competitive disadvantages. Moreover, investors typically view U.S.–Europe trade as relatively institutionalised and sheltered from abrupt tariff shocks, reducing the likelihood that a China-focused escalation would materially affect the outlook for Europe-oriented firms. Because the

event did not introduce new information relevant to their operating environment, the market did not differentiate between high- and low-exposure firms.

For the Liberation Day universal tariff announcement, the relationship between Europe exposure and abnormal returns remains weak. The continuous exposure coefficient is  $-0.06347$  ( $p = 0.1850$ ), indicating a modest negative association that is not statistically distinguishable from zero. However, the high-versus-low exposure dummy yields a slightly larger negative effect of  $-0.02022$ , which is statistically significant at the 5% level ( $p = 0.0441$ ). This suggests that firms with above-median European exposure underperformed their less exposed peers during this escalation. Unlike the China sample, where highly exposed firms recorded positive abnormal returns, Europe-oriented firms appear to have been viewed as somewhat more vulnerable to the broad uncertainty generated by the Liberation Day policy package. A plausible interpretation is that investors perceived the universal tariff framework as signalling an expansion of U.S. protectionism with potential spillover effects for Europe.

For the May 2025 de-escalation, an event explicitly aimed at easing tensions with Europe, the regression results do not reveal the positive exposure effect that theory would predict. The continuous exposure coefficient is  $-0.05771$  ( $p = 0.0726$ ), statistically significant at the 10% level, indicating that firms with greater European revenue shares recorded lower abnormal returns. The high-versus-low exposure dummy reinforces this pattern, showing a negative but statistically insignificant estimate of  $-0.01050$  ( $p = 0.1501$ ). These findings suggest that investors did not interpret the tariff rollback as disproportionately beneficial for Europe-exposed firms.

### **4.3 Robustness Checks**

To ensure that the results are not driven by a specific modelling choice, I re-estimate all abnormal returns and cross-sectional regressions under a wide set of alternative scenarios. These robustness checks combine three dimensions: Replacing the market model with the Fama–French three-factor model, shortening the estimation window from  $(-200, -20)$  to  $(-120, -20)$ , and altering the event window from the baseline  $(-1, +3)$  to either  $(-1, +5)$  or  $(-1, +10)$ . All possible combinations of these alternatives were estimated for both China-exposed and Europe-exposed firms, allowing a comprehensive assessment of the stability of the main findings.

Across the full set of robustness tests, the pattern that emerges most clearly is that the baseline specification (Market model,  $(-200, -20)$  estimation window, and  $(-1, +3)$  event window) produces the most statistically significant results. Under this configuration, the exposure coefficients retain consistent signs, display comparatively stable magnitudes, and achieve the highest levels of significance across events.

In contrast, shortening the estimation window to  $(-120, -20)$ , generally reduces the precision of the results. While the direction of the coefficients is often similar to the baseline, their magnitudes fluctuate more noticeably, and statistical significance weakens in several of the events. This outcome is consistent with the idea that shorter estimation periods yield fewer stable estimates of normal returns, increasing the noise component in the abnormal return calculations.

Changing the length of the event window also has a substantial impact on the stability of the coefficients. Expanding the event window from the baseline  $(-1, +3)$  to  $(-1, +5)$  often dilutes the significance of the results, as the inclusion of additional days introduces more variation unrelated to the announcement itself. The effect becomes even more pronounced under the  $(-1, +10)$  window, where coefficients frequently become more volatile and, in some cases, change sign. This is expected, as longer windows are more likely to capture firm-specific news, sector dynamics, or other unrelated market movements, making the abnormal returns increasingly noisy and less tied to the event.

Taken together, the robustness exercises demonstrate that while the general direction of the exposure effects does not collapse under alternative specifications, the clearest and most interpretable results consistently come from the baseline  $(-1, +3)$  event window with the longer estimation period and the market model. The alternative configurations introduce substantially more variability, either by capturing too little of the market reaction (when the event window is shortened) or too much unrelated price movement (when the window is extended). The fact that the baseline specification performs best across all dimensions reinforces its suitability as the main framework for assessing how firms responded to the trade-policy announcements.

#### **4.4 Limitations**

This thesis provides evidence on how international revenue exposure shapes firms' stock-price reactions to major tariff announcements in the United States. However, several limitations constrain both the interpretation and the generalizability of the findings.

First, the event study framework relies on the assumption that each announcement represents a clearly defined and unexpected information shock. In practice, tariff developments, particularly those in 2024 and 2025, were preceded by political signalling, media leaks, and reports of ongoing negotiations. If markets partially anticipated these announcements, the abnormal returns estimated in this thesis may understate the true economic impact of the events. Conversely, if other macroeconomic or geopolitical news occurred around the same dates, some of the price movement attributed to tariffs may reflect unrelated information that is difficult to disentangle.

Second, the accuracy of abnormal returns depends heavily on the model used to estimate normal returns and on the choice of event windows. Although robustness checks show that results remain directionally consistent, the level of statistical significance becomes weaker when shorter estimation windows or longer event windows are used. This reflects the methodological tension between capturing the full price response to an announcement and avoiding the inclusion of unrelated firm-specific or market-wide movements. While factor-based return models offer some improvement, they still may not fully reflect the risk dynamics present during periods of heightened policy uncertainty.

Third, the foreign-exposure data introduce an important limitation. Geographic revenue shares were obtained from Compustat segment reporting for 2024, but many firms do not disclose this information. As a result, the exposure-based samples for China and Europe are smaller than the full return dataset, raising the possibility of selection bias. Firms that report detailed geographic segments tend to be larger, more globalized multinationals, and therefore may not be representative of the broader population of U.S. publicly traded firms.

Fourth, the exposure variable itself, defined as net sales from each region, may not fully capture firms' true vulnerability to international trade shocks. Revenue exposure indicates where firms sell their products, but it does not capture where they produce, source inputs, hold assets, employ labour, or operate within global supply chains. A firm may report limited sales in China while depending heavily on Chinese components or manufacturing facilities, leaving it far more exposed to tariffs than the revenue measure implies. Conversely, a firm with high foreign revenue but domestically integrated production may face considerably lower operational risk. This limitation is especially relevant for interpreting counter-intuitive findings, such as positive abnormal returns for China-exposed firms during escalation episodes, which may reflect investor expectations about

supply-chain adaptation or competitive restructuring rather than revenue dependence. Future research could incorporate more comprehensive exposure measures, including import reliance, supplier–customer networks, global value-chain centrality, or foreign asset locations, to better capture multidimensional international risk.

Fifth, the cross-sectional regressions identify correlations rather than causal relationships. Although controls for firm size, leverage, profitability, asset tangibility, and sector are included, other unobserved characteristics may influence the results. Differences in supply-chain complexity, exposure to commodity price movements, political sensitivity, or industry-specific regulatory risks could confound the estimated relationships between foreign exposure and abnormal returns. The unexpected negative reaction of Europe-exposed firms to a de-escalation announcement illustrates how omitted variables related to expectations or credibility may influence investor behaviour.

Sixth, the analysis focuses on short-term price reactions and does not examine whether tariff shocks had persistent effects on firm value. Event windows up to three days after the announcement capture immediate market responses, but they cannot reveal whether these shocks influenced long-term profitability, investment behaviour, or competitive positioning. Some reactions documented here may reflect short-term sentiment or strategic adjustments rather than durable changes in fundamentals. Longer-horizon analyses could help determine whether these abnormal returns translated into lasting outcomes.

Finally, the interpretation of investor reactions necessarily involves some ambiguity. Several findings, such as negative abnormal returns for Europe-exposed firms following a de-escalation or positive reactions for China-exposed firms during escalation, suggest that markets incorporated expectations about negotiation dynamics, supply-chain adjustments, or political credibility rather than responding mechanically to tariff changes. Because the thesis does not directly measure investor sentiment, media tone, or policy-uncertainty indices, some of the underlying mechanisms remain only partly identifiable.

## **5. Conclusions**

This thesis examined how U.S. firms responded to major episodes of tariff escalation and de-escalation during the 2024–2025 trade conflict, with a particular focus on whether firms’ international revenue exposure shaped abnormal stock-price reactions. Using an

event-study methodology combined with cross-sectional regressions, the analysis provides several insights into how investors interpreted shifting trade policies and how foreign exposure affected firm-level vulnerability.

The first key conclusion is that trade policy shocks generated highly heterogeneous and sometimes counter-intuitive market reactions. While theory predicts that tariff escalations should harm internationally exposed firms and that de-escalations should benefit them, the empirical results reveal a more complex landscape. China-exposed firms displayed positive abnormal returns not only during tariff relief but also during escalation events, suggesting that investors may have interpreted the announcements considering expectations about supply-chain adaptation, competitive dynamics, or negotiation outcomes rather than purely mechanical tariff effects. In contrast, Europe-exposed firms experienced significantly negative returns during the European de-escalation announcement, indicating that investors judged the agreement as insufficient, temporary, or less favourable than expected. These asymmetric patterns underscore that market responses depend not only on exposure levels but also on investor beliefs, prior expectations, and the broader political context.

Second, the cross-sectional analysis offers evidence that foreign exposure influences the magnitude and direction of abnormal returns, but the effect varies sharply by region and event. China exposure consistently correlated with more positive abnormal returns, particularly during the 2025 “Liberation Day” announcement, whereas Europe exposure was either insignificant or associated with more negative returns. These differences highlight the distinct economic and political relationships between the United States and its trading partners. They also demonstrate that revenue exposure alone cannot fully explain firm-level reactions, pointing to the importance of supply-chain structure, industry conditions, and investors’ expectations about future policy developments.

Third, the results indicate that aggregate market reactions often obscure substantial firm-level variation. For events such as the 2025 escalation or the China de-escalation, average abnormal returns were close to zero, yet individual firms, especially those with high foreign exposure, experienced sizeable positive or negative movements. This dispersion reinforces the value of cross-sectional analysis for identifying which firms’ markets perceive as winners or losers from trade policy, and it shows that relying solely on index-level responses risks overlooking important heterogeneity.

These findings contribute to the literature on political risk, trade policy uncertainty, and asset pricing by demonstrating that modern trade conflicts produce nuanced valuation effects that depend on both economic fundamentals and investor interpretation. They also shed light on the increasing complexity of global supply chains and the difficulty investors face in assessing how tariffs propagate through international production networks.

The analysis also reveals several challenges in interpreting market reactions to trade policy. Expectations, credibility, uncertainty, and strategic considerations all play a role, and these factors can produce responses that diverge from traditional economic predictions. The limitations discussed in the previous section emphasize that exposure metrics, data constraints, and the inherently anticipatory nature of financial markets complicate the measurement of trade-policy effects.

Overall, this thesis shows that international exposure matters for understanding how firms are affected by trade shocks, but the relationship is neither linear nor uniform. The results highlight the importance of investor interpretation and the interconnected nature of global supply chains in shaping market responses to political and economic developments. As trade tensions continue to evolve, future research incorporating more granular exposure measures and forward-looking indicators of investor sentiment may help further clarify how geopolitical uncertainty is priced in financial markets.

## References

- Baker, S. R., Bloom, N., & Davis, S. J. (2016). *Measuring economic policy uncertainty. Quarterly Journal of Economics.*
- Caldara, D., & Iacoviello, M. (2022). *Measuring geopolitical risk. American Economic Review.*
- Hassan, T. A., Hollander, S., van Lent, L., & Tahoun, A. (2019). *Firm-level political risk: Measurement and effects. Quarterly Journal of Economics.*
- Kelly, B., Pastor, L., & Veronesi, P. (2016). *The price of political uncertainty: Theory and evidence from the option market. Journal of Finance.*
- Liu, L. X., Shu, H., & Wei, K. C. J. (2017). *The impacts of political uncertainty on asset prices: Evidence from the Bo scandal in China. Journal of Financial Economics.*
- Pastor, L., & Veronesi, P. (2013). *Political uncertainty and risk premia. Journal of Financial Economics.*
- Bianconi, M., Esposito, F., & Sammon, M. (2021). *Trade policy uncertainty and stock returns. Journal of International Money and Finance.*
- Caldara, D., Iacoviello, M., Molligo, P., Prestipino, A., & Raffo, A. (2020). *The economic effects of trade policy uncertainty. Journal of Monetary Economics.*
- Egger, P. H., & Zhu, J. (2020). *The US–Chinese trade war: An event study of stock-market responses. Economic Policy.*
- Greenland, A., Ion, M., Lopresti, J., & Schott, P. K. (2024). *Using equity market reactions to infer exposure to trade liberalization. Journal of International Economics.*
- Huang, Y., Lin, C., Liu, S., & Tang, H. (2023). *Trade networks and firm value: Evidence from the U.S.–China trade war. Journal of International Economics.*
- Fama, E. F., Fisher, L., Jensen, M. C., & Roll, R. (1969). *The adjustment of stock prices to new information. International Economic Review.*

Hong, H., Lim, T., & Stein, J. C. (2000). *Bad news or good news? Asymmetric stock price responses to news events and the role of investor sentiment*. *Journal of Financial Economics*, 55(3), 491–517.

MacKinlay, A. C. (1997). *Event studies in economics and finance*. *Journal of Economic Literature*.

Refinitiv. (n.d.). *Refinitiv Workspace* [Financial database]. Refinitiv.

S&P Global. (n.d.). *Compustat Segment* [Financial database]. S&P Global.

French, K. R. (n.d.). *Fama–French 3-Factor Model (Daily)* [Data set]. Dartmouth College.