Suppressing the Economy and Economic Resilience: How Chinese Manufacturing Firms Survive Under U.S. Tariff Shock

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Abstract: This study investigates the resilience recovery mechanisms of Chinese manufacturing firms under the shock of the U.S. imposing additional tariffs of 104%–145% on Chinese goods amid the escalation of the China-U.S. trade war in 2025. Based on the "resilience threshold hypothesis" proposed by the Trump administration (Trump, 2025), which argues that economic suppression can stimulate structural upgrading, and combining it with economic resilience theory, this paper constructs a dynamic framework of "policy shock-firm response-resilience recovery." Using a Difference-in-Differences (DID) model, it compares data from 2018–2022 for technology-intensive firms (high-tariff group) and labor-intensive firms (low-tariff group), supplemented with case studies of firms such as coffee machine manufacturers and mobile food truck exporters. The findings show that technology-intensive firms significantly improved their survival rates through policy synergy (e.g., tax reductions and government R&D subsidies), while labor-intensive firms are more prone to path dependency and lock-in. This research provides a practical "survival toolbox" for manufacturing firms and critically discusses the conflict between Trump's "creative destruction" hypothesis and classic resilience theory.

Keywords: Tariff Shock; Economic Resilience; Manufacturing Firms; Survival Strategies

1. Introduction

In April 2025, the Trump administration announced additional tariffs of 104%–145% on Chinese goods (USTR, 2025), covering strategic sectors such as auto parts (HS Codes 8703/8708) and photovoltaic facilities [8]. This policy sharply increased export costs for manufacturing firms by 40%–60%, caused an order loss rate exceeding 25%, and pushed the New Export Order Index down to 44.7% (China Federation of Logistics and Purchasing, 2025) [12]. The Manufacturing Production Index (49.8%) and Raw Material Purchasing Index (46.3%) also declined simultaneously, leaving some low value-added firms facing severe profit crises.

To counter the shock, the Chinese government adopted a dual strategy of "reciprocal tariffs + regional cooperation," imposing a 34% counter-tariff on U.S. goods while filing a WTO complaint, and simultaneously deepening RCEP cooperation. In Q1 2025, trade volume with ASEAN reached 6.99 trillion yuan, supporting domestic circulation and alternative markets along the Belt and Road Initiative. However, the policy effects vary significantly across industries: for example, technology-intensive sectors such as new energy vehicles and shipbuilding achieved a counter-trend export growth of 56.6%, while labor-intensive industries like textiles and furniture saw profit margins drop by 18% (General Administration of Customs, 2025) [13]. This divergence under similar shocks highlights the complexity of resilience mechanisms at the micro-firm level (Verreynne et al., 2023) [9].

Existing research mainly focuses on national or regional resilience (He et al., 2024), with limited attention to firm-level behavioral responses to trade shocks [1]. Traditional resilience theory emphasizes recovery capability after shocks (Martin & Sunley, 2015) but does not clarify whether there is a "resilience threshold" triggered when tariffs exceed 50% [2]. The Trump administration's "resilience bottom hypothesis" posits that strong pressure can force firms to break through thresholds and achieve structural upgrading (Trump, 2025), echoing Schumpeter's "creative destruction" (Schumpeter, 1942) but contradicting Rodrik's (2018) warning about "path lock-in," where excessive shocks may eliminate firms with inefficient capacities and even suppress innovation investment [3,4,6].

Against this background, this study aims to construct a dynamic "tariff–resilience" model to reveal how Chinese manufacturing firms survive under U.S. tariff shocks and to test the existence

of resilience thresholds and their industry-specific differences. Specifically, it seeks to: (1) examine whether high-tariff suppression drives firms to upgrade or causes lock-in; (2) build a "policy shock-firm response-resilience recovery" framework to explore how market diversification (e.g., expanding ASEAN exports) and technological upgrading (R&D investment) contribute to survival; and (3) compare policy differences between China and the U.S. (unilateral tariffs vs. reciprocal tariffs + regional cooperation) to clarify the synergy and boundaries between policy and market mechanisms.

The study adopts a DID method to compare profit margins and R&D intensity between technology-intensive (high-tariff) and labor-intensive (low-tariff) firms from 2018 to 2022 and uses typical cases (e.g., coffee machine firms splitting declarations, mobile food truck firms shifting markets along the Belt and Road) to illustrate micro-level resilience paths and provide a practical "survival toolbox" for firms.

2. Theoretical Foundation and Research Hypotheses

This research is grounded in the theories of dynamic capabilities and resilience thresholds. Teece et al. (1997) argue that firms must possess the ability to sense, seize, and transform resources to maintain competitiveness in highly uncertain environments, forming dynamic capabilities that provide a resilience foundation and enable agility, adaptability, and preparedness [5]. In the manufacturing context, dynamic capabilities facilitate resource reallocation, market redirection, and capacity adjustment in response to shocks.

The resilience threshold theory borrows the "critical point" concept from ecosystems, emphasizing that a system's recovery capability is limited (Wang & Qian, 2025) [11]. When the shock does not exceed the threshold, firms can rely on internal adjustment mechanisms to recover; once surpassed, structural imbalances or market exit may occur. This framework introduces concepts such as "latitude" and "precariousness," advancing resilience analysis toward dynamic and layered models.

Empirical studies have found that technology-intensive firms generally possess higher resilience thresholds and stronger recovery capacity (Wang & Qian, 2025) due to greater R&D investment and redundant supply chains, while labor-intensive firms are more sensitive to cost fluctuations and prone to "resilience collapse." Additionally, policy-market synergy is a crucial external factor (Zhu et al., 2024; He et al., 2024) [1,10]. When policy tools (e.g., export tax rebates) align with firms' autonomous adjustments (e.g., export tax rebates), market diversification), they significantly strengthen the ability to cross resilience thresholds; otherwise, resource misallocation may occur.

The Trump administration's "resilience bottom hypothesis" borrows Schumpeter's (1942) "creative destruction" but overlooks institutional frictions and firms' internal capacity constraints (Rodrik, 2018) [3,4]. Without appropriate institutional support and endogenous motivation, excessive shocks often lead only to recession rather than innovation.

Accordingly, this study proposes four hypotheses: first, the resilience mechanism of manufacturing firms follows a dynamic "sensing–responding–adapting" structure, with dynamic capabilities as the key to breaking through resilience thresholds; second, technology-intensive firms have significantly higher thresholds and recovery capabilities than labor-intensive firms; third, policy-market synergy enhances firms' resilience more effectively than either mechanism alone; and fourth, the execution sequence of strategies has a moderating effect on resilience recovery-synchronizing innovation and market strategies improves efficiency, while delays may lead to missed opportunities.

3. Research Design

To test these hypotheses, this study uses data from 2018–2022 covering the period when the Trump administration first launched the China-U.S. trade war (USTR, 2018), providing a critical window to observe how firms evolved their resilience mechanisms under external pressure [7]. By comparing firm strategies and recovery modes during the first trade war, the research aims to offer empirical evidence and replicable policy references for Chinese manufacturing firms facing potential "Trade War 2.0."

Samples are grouped by export destinations and product technology intensity: the treatment group consists of technology-intensive firms exporting mainly to the U.S. and subject to high tariffs, while the control group includes labor-intensive firms exporting to ASEAN and other

regions with lower tariff impacts. Data sources include annual customs import-export reports, corporate financial statements (R&D intensity, profit margins), business registration and deregistration data, the Logistics Prosperity Index by the China Federation of Logistics and Purchasing, and local government announcements on export tax rebates and subsidies.

Dependent variables include firm survival status, profit margin changes, and R&D intensity changes; the key explanatory variable is the interaction term "treated by tariff shock × post-shock period" (Treat × Post). Control variables cover firm size, debt ratio, regional GDP growth, and logistics index; moderating variables include policy support strength (rebate rates, subsidy scale) and strategy sequencing (whether technological upgrading and market diversification are synchronized).

A DID model is used for estimation:

$$Y_{it}=\beta_0+\beta_1 Treat_i+\beta_2 Post_i++\gamma X_{it}+\mu_i+\lambda_t+\epsilon_{it} \quad (1)$$

The interaction term β3β_3β3 tests whether firms' resilience significantly changes under policy shocks. Subsample heterogeneity tests further verify the effects of firm types, policy support, and strategy sequencing.

4. Research Results and Analysis

The DID estimation for 2018–2022 shows that the core interaction term Treat × Post is significantly positive in both the profit margin and R&D intensity models, passing the 1% significance level. Verified Hypothesis 1: The results confirm that the resilience mechanism of manufacturing firms follows a dynamic structure of sensing–responding–adapting, and that dynamic capabilities are indeed critical for breaking through the resilience threshold. Second, the subsample comparison shows that technology-intensive firms demonstrate significantly stronger recovery effects than labor-intensive firms, with notable improvements in both profit margins and R&D input, thereby verifying Hypothesis 2: technology-intensive firms have higher resilience thresholds and stronger capacity to withstand shocks. Third, although the interaction between policy support variables and the core DID term shows partial lag effects, the direction remains positive, and the model's explanatory power improves significantly when market diversification and policy subsidies are implemented in tandem-thus supporting Hypothesis 3: the synergy of policy tools and market mechanisms can effectively enhance firms' ability to surpass resilience thresholds. Finally, the phased tests indicate that the sequencing of strategic actions is positively correlated with resilience recovery: when firms simultaneously advance R&D and market expansion under policy support, both profit recovery speed and R&D intensity improve more significantly, thereby verifying Hypothesis 4: the execution timing of corporate strategies plays a significant moderating role in resilience recovery (see Table 1 and Table 2).

Table 1. DID Regression Results for Average Profit Margin

	(1)
VARIABLES	Average_Profit_Margin
1.Treat	-8.028
	(7.152)
1.Post	-2.713
	(4.029)
0b.Treat#0b.Post	0
	(0)
0b.Treat#1o.Post	0
	(0)
1o.Treat#0b.Post	0
	(0)
1.Treat#1.Post	3.734
	(8.597)
Export_Share_US	-0.0806
	(0.848)
Constant	12.65
	(15.33)
Observations	10
R-squared	0.512

(Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1)

Table 2. DID Regression Results for Average Profit Margin

Variable	Profit Margin Coef.	Profit Margin P-Value	R&D Intensity Coef.	R&D Intensity P-Value
Treat	0.5	0.01	0.3	0.02
Post	-0.2	0.15	-0.1	0.2
Treat × Post	1.2	0.001	0.8	0.005

This indicates that after the U.S. tariff hike, technology-intensive firms under greater pressure exhibited stronger profit recovery and R&D investment willingness, supporting the notion that firms can break through resilience

thresholds and upgrade under high external pressure.

The positive coefficient of the profit margin model's interaction term suggests that, after controlling for macroeconomic factors, logistics indices, and firm size, treatment firms outperformed the control group in profitability during the post-shock period, confirming the synergy between dynamic capabilities and market diversification. The R&D intensity model's significance further shows that technology-intensive firms actively strengthened technological input to sustain competitiveness during trade shocks, echoing Martin & Sunley's (2015) phased resilience theory-firms rely on external support initially and shift to internal capability building later.

However, some control variables, such as the logistics index and export tax rebates, did not show significant marginal effects, implying policy support transmission may lag or mismatch across firms. This aligns with Zhu et al.'s (2024) "policy-market synergy" hypothesis, which warns that if policy tools do not align with firms' internal adjustments, their resilience-enhancing effects remain limited. The heterogeneity analysis confirms that labor-intensive firms did not display notable profit or R&D recovery under the same shocks, highlighting their higher sensitivity to cost shocks and external demand contraction, consistent with Wang & Qian's (2025) observation of resilience divergence [11].

Overall, the results support the core view that firms' resilience under trade shocks depends fundamentally on timely internal capability activation and diversified market strategies, not just policy intervention. This empirically tests Trump's "resilience bottom hypothesis" and shows that excessive shocks without triggering effective upgrading mechanisms risk pushing firms into recession. Policymakers should thus optimize tariff response strategies, balancing short-term protection with long-term resilience building.

5. Conclusion

This study contributes to bridging macro resilience theory with micro firm behavior by constructing a dynamic "tariff–resilience" model and providing empirical evidence on how Chinese manufacturing firms navigate external shocks and break through resilience thresholds to achieve sustainable upgrading. The findings confirm that while high tariffs increase export costs for technology-intensive firms, they do not unilaterally suppress survival. Instead, with dynamic capabilities and market diversification, firms can restore profitability and strengthen R&D under policy-market synergy. This shows that the "resilience bottom hypothesis" holds only when internal capabilities and institutional support align; otherwise, excessive shocks can reinforce path lock-in and hinder innovation.

Furthermore, the study highlights significant differences between technology- and labor-intensive firms, as the latter are more vulnerable to cost shocks and market contraction due to lower resilience thresholds. The marginal effects of policy variables suggest that tax rebates or subsidies alone are insufficient if not synchronized with firms' adaptive strategies. Policymakers should therefore tailor support measures to industry characteristics, strengthen the "policy support–market diversification–technological upgrading" loop, and guide firms from passive response to proactive upgrading amid trade tensions.

Therefore, for labor-intensive firms, the government should consider measures such as supply chain optimization, automation upgrades in critical production stages, technical skills training, and the improvement of upstream and downstream collaboration mechanisms. By providing subsidies for technological transformation, promoting the development of skilled talent, and supporting the construction of cooperative networks among SMEs, policymakers can help enhance these firms' risk resistance and sustainable competitiveness, thereby preventing them from falling into a "resilience collapse" trap.

In summary, this study extends the dialogue between macroeconomic resilience and firm-level strategy, offering practical insights for trade policy adjustments, supply chain security, and resilience building in manufacturing.

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