How US-China trade rivalry became a trigger for innovation

How U.S. firms upskilled during Trump 1.0 holds strategic lessons for dealing with competition in today's heated geopolitical environment.

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Since retaking office in 2025, U.S. President Donald Trump has shaken up world trade. His imposition of tariffs on all imports into the U.S. from April 2025 sent shockwaves throughout global markets, marking the end of the globalization story of the 1990s and 2000s, a long period of open trade and ever closer interconnectivity, particularly with China. Ever since China joined the World Trade Organization (WTO) in 2001, the volume of goods exported by Chinese firms has grown dramatically. The United States was a top destination, consistently accounting for around 20% of China's total exports worldwide. In 2021, Chinese exports to the United States topped $560 billion, more than 10 times the amount in 2001.

But in Trump's telling, that strong growth has only ever been at the expense of U.S. industry. "For decades, our country has been looted, pillaged, raped and plundered by nations near and far, both friend and foe alike. Foreign leaders have stolen our jobs, foreign cheaters have ransacked our factories and foreign scavengers have torn apart our once-beautiful American Dream," he declared on the day he announced the tariffs. This echoes statements he made under his previous term, when he asserted: "We are now making it clear to China that after years of targeting our industries and stealing our intellectual property, the theft of American jobs and wealth has come to an end."

But must import competition be something necessarily destructive to U.S. firms? To probe this question, we undertook a study focusing specifically on firms operating in electronics and electrical appliances — an industry where Chinese firms have been particularly fierce rivals ever since their WTO accession. What we found is that U.S. firms didn't just roll over in the face of import competition. How they responded to their market rivalry tells a different and rather encouraging story about competitive dynamics that all firms can learn from in today's heated geopolitical environment.

Import competition from China activated higher levels of innovation

For our study, we selected Chinese firms in the electronics and electrical appliances industry that began exporting to the U.S. for the first time between 2001 and 2010. We gathered the information from the U.S. Securities and Exchange Commission (SEC) website as well as from China Customs.

We defined the year when a Chinese firm first entered the U.S. market as an "entry event." We wanted to set a before-and-after marker, knowing from prior research on market competition that exogeneous shocks like import competition can put pressure on incumbent

firms to react in determined ways to fend off the competition. For example, they might modify their product offerings to defend their market position. Or they might cut costs to offset lower profit margins.

We sought to analyze responses at the firm level within a specific industry, rather than considering the industry average, which tends to be the focus of most research. To get at this level of analysis, we concentrated on U.S. firms in the electronics and electrical appliances industry whose products bore a great deal of similarity to imported goods from comparable Chinese firms. For our control group, we used U.S. firms within the same industry whose products were least similar to the imported Chinese goods. We then compared how U.S. firms reacted over a period of five years, before and after the initial entry of Chinese firms into the U.S. market.

What we found diverged somewhat from previous research and existing thinking on the effects of market rivalries. Overall, we found that U.S. firms facing greater import competition from China activated higher levels of innovation relative to firms facing less competition. Moreover, those firms directly challenged by the product entry of an equivalent Chinese competitor increased their innovation output even more than other firms in the same environment.

We measured this innovation productivity by a firm's patent filings in a given year, controlling for firms' capital-labor ratio, size, age and R&D activity prior to the entry of Chinese product rivals.

U.S. firms sought to differentiate themselves from Chinese rivals

A firm can react to product market rivalries in various ways. They may try to cut their own costs. They may also seek differentiation, either horizontally (offering goods at the same price but differentiating them according to some feature or quality) or vertically (using the differentiating feature or quality to command a higher price).

However, our study found U.S. firms sought to differentiate themselves by developing new technological product offerings in unexplored areas and entering entirely new business lines.

This shows a strategically valuable response to Chinese competitive pressure: adapting your offer not only to shield yourself from rivals but, importantly, to position your firm at the

cutting edge of your field. This manifests itself in more product-related patents.

Consider these quotes from two firms included in our sample, both of which were commenting on the incursion of East Asian firms that were conquering U.S. markets through lower labor costs and downward pricing pressure. One specialized electronics firm asserted: “(We) can maintain a competitive position based on quality, robust design and application engineering capabilities.” An automotive components manufacturer insisted its continued success “depends on our ability to maintain advanced technological capabilities, machinery and knowledge necessary to adapt to changing market demands as well as to develop and commercialize innovative products.” In other words, their response to Chinese competitive pressure was basically: “Bring it on! We will up our game and do better.”

The strategic importance of upskilling

One of the takeaways we see from this experience is a lesson for dealing with competition in general: the strategic importance of upskilling. Especially when competitors begin by attacking at the low end of the market, as the early Chinese entrants did, the incumbent firm response we observed is often one of the most effective: investing much more in the high end of the market and going for quality.

At the same time, another effective response is to broaden your scope and expand into new areas. This means investing not just in process improvements but in new technologies, which entails maintaining — not reducing or cutting — R&D expenditures, despite declines in sales owing to import competition. This is precisely what we saw with the U.S. firms we studied.

As mentioned before, the nature of this technological innovation may involve moving into new areas where there is less direct competition and discovering new customer demands to meet. Crunching the numbers, we found U.S. firms feeling the pinch increased the business segments in which they were active by a significant 16% while the number of new technological classes they represented went up nearly 12% in comparison with their pre-entry averages.

The question arises as to whether these results could have some other explanation — perhaps a coincidental technology shock or a demand shock in the U.S. market happening around the same time, as opposed to a supply shock from an influx of Chinese imports. Our research so far indicates neither of those alternative explanations accounts for why these U.S. firms reacted as they did.

Although it stands to reason that firms might choose a differentiation strategy in the face of, say, a sudden shift in consumer demand, you wouldn't expect them to consequently invest in more niche, unexplored technological areas, as the firms in our study did. Additionally, their specific shift to the higher end of the market suggests they were seeking to differentiate themselves from the lower end, which at the time was being dominated by Chinese entrants. Such a move might even put them in competition with other U.S. firms, so it's a market shift they would not necessarily undertake unless it were being provoked by compelling outside forces making the current market space untenable for them to continue in as before.

Why tariffs may backfire

We don't believe there's anything unique about the 2001-2010 period that would diminish our findings in 2025 because the laws of supply and demand and competitive dynamics still hold true. What's different today, however, is that the electronics and electrical appliances industry is more sophisticated and innovative, with many more patented technologies, making that space more competitive than ever. Also, the nature of the products entering from China is no longer primarily at the low end of the market.

Given the evolution of the market over the past decade, it's very hard to predict what Trump's tariffs will ultimately achieve. Competition, as any economist will tell you, is largely a good thing (so long as it raises everyone's game, as in our study, and doesn't degenerate into a race to the bottom). The more competition there is between companies, the more they invest in R&D, the more they innovate and the more the consumer benefits, broadly speaking. At its best, competition acts as an incentive to drive firm performance higher, at least until a certain point.

The challenge with tariffs is that if U.S. firms are protected from foreign competition, one is essentially removing a key driver to upskill, diversify, seek new areas of innovation, patent new technologies and move to the higher end of the market, because firms are artificially insulated from such considerations, forestalling the need to do anything different.

Our research challenges the assumption that competition — particularly when it comes to U.S.-China trade — must always be a zero-sum game. Indeed, some U.S. firms appear happy to relinquish the low end in favor of high-end innovation, carving out new and arguably better positions for themselves vis-à-vis foreign competitors. Crucially, we illuminate strategic paths for firms to escape competitive pressures, enhance their competitive advantage and confidently fight back through innovation.

Striving through strife

How the U.S.-China conflict spurred innovation among Chinese-descent inventors working in the U.S.

In a separate line of research, Suzan Sim, a doctoral researcher in the Entrepreneurship Department at IESE Business School, together with Aarhus University's A-Sung Hong (IESE PhD), explored the impact of U.S.-China rivalry on innovation but from a different angle and time period.

They specifically studied STEM workers of Chinese descent based in the United States following Donald Trump's first election as president in 2016, which marked an intensification in hostile relations with China. They wanted to see how these high-skilled professionals responded to the conflict in their workplace.

Using U.S. patent applications as their metric for workplace efforts, the researchers connected the number of patent applications post-2016 with inventors of Chinese descent, whether immigrants or U.S. natives. For comparison, they used Korean- and Japanese-descent inventors in the U.S. in order to account for factors such as generalized anti-Asian sentiment heightened under the Trump administration which affected all of them equally.

Interestingly, they found the innovation performance of Chinese-descent inventors went up by 16% relative to their Korean and Japanese counterparts, all of whose performance pre-2016 was closely aligned. This positive innovation effect was even stronger among inventors who had immigrated to the U.S. mid-career, who had a noticeably Chinese first name vs. a Westernized name (e.g., Cixin Liu vs. Ken Liu), who lived in counties with higher Trump support and who were corporate inventors as opposed to academics. Why might this be?

Identity-based career concern appears to be the driving force. Whether it was because they relied on employer sponsorship for a visa or they felt singled out because of their obvious Chinese identity, Chinese-descent inventors reacted to the U.S.-China conflict by making strategic adjustments to their work effort allocation. If they were immigrants, they didn't go back to China. They generally worked more hours and collaborated more with non-Chinese colleagues in mixed teams. This resulted in them innovating more than others. As the saying

goes, when the going gets tough, the tough get going. Nowhere was this more true than in parts of the country where Trump received the most votes.

None of this is to say that national conflict is good because it induces immigrant workers to work harder, stresses Sim. “That would be the wrong conclusion to draw. Rather, the observed increase in effort likely comes at a significant personal cost, potentially leading to higher stress, anxiety and burnout.”

What the research does show is how international conflict, like that between the U.S. and China, can provoke existential concerns for those who feel caught in the crossfire. Geopolitical shocks can induce strategic shifts of effort, generating greater innovation and productivity at the firm level (as evidenced by the Xia, Cassiman and Wehrheim study) as well as at the individual level (as evidenced by the Sim and Hong study). In both situations, it incentivizes people to upskill.

Encouragingly, there do not appear to have been organizational hurdles for firms or individuals to collaborate and achieve the positive outcomes they did. And the patenting of new technologies indicates they weren’t just engaging in incremental innovation but were exploring whole new areas.

If there are any positives to be taken from the latest round of trade wars, it’s that those who confront such challenges with resourcefulness and resilience may be rewarded with new partnerships, fruitful collaborations and even higher levels of innovation and performance.

MORE INFO:

“Escaping product market rivalry through innovation” by Dandan Xia, Bruno Cassiman and David Wehrheim is published in *Management Science* (2025). *Bruno Cassiman acknowledges financial support from the Flemish Government (Project G071417N) and David Wehrheim from MICIU/AEI/10.13039/501100011033 and ERDF “A way of making Europe” (Project reference PGC2018-094418-B-I00).*

“National conflict and high-skilled immigrants’ workplace efforts: evidence from the U.S.-China conflict” by Suzan Sim and A-Sung Hong. Forthcoming in *Organization Science*. Winner of the Strategic Management Society’s Annual Conference PhD Best Paper Prize 2024.

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