



Declining Manufacturing Births Contribute to US Manufacturing Woes

TRELYSA LONG | JUNE 2026

Manufacturing start-ups, particularly in critical national economic power industries, are essential to the nation's economic and security strength. Yet, U.S. manufacturing start-ups have declined over the last three decades.

KEY TAKEAWAYS

- U.S. manufacturing start-ups are declining at a time when all other start-ups are growing. From 1989 to 2023, U.S. manufacturing start-ups declined 58 percent from an index of 100 to 42.5. All other start-ups grew from 100 to 104.6.
- Most of the decline occurred prior to 2009 and appears related to the significant drop in U.S. manufacturing competitiveness.
- Manufacturing start-ups have declined faster than total manufacturing firms. From 1989 to 2023, manufacturing start-ups declined from an index of 100 to 42.5, while total manufacturing firms declined from 100 to 74.8.
- The average manufacturing start-up is now smaller. Manufacturing start-ups' average number of employees fell from 9.2 in 1989 to 7.7 in 2023.
- Dual-use, enabling, and nonstrategic industries had very similar rates of decline, ranging from 57 percent to 60 percent. In contrast, defense industries had a much smaller rate at 45 percent. This is likely due to facing much less overseas competition.
- Manufacturing start-ups have not declined because of growing industry concentration, as 82.3 percent of manufacturing industries saw a decline or slight increase (< 5 percent) in concentration.
- To avoid losing more manufacturing strength to China in economic power industries, the United States should set a national goal of at least doubling the annual number of manufacturing start-ups in its economy.

CONTENTS

Key Takeaways 1

Introduction 2

Manufacturing Start-Up Firms in Decline..... 4

Fewer Young Manufacturing Firms 7

Start-Ups’ Average Employees 10

Manufacturing Start-Ups in Defense, Dual-Use, Enabling, and Nonstrategic Subsectors..... 11

A Likely Cause Is The Growing U.S. Trade Deficit 12

Industry Concentration Was Not the Cause for Manufacturing Start-Up Decline..... 13

Policy Recommendations 15

Conclusion 15

Methodolgy 16

Endnotes 17

INTRODUCTION

Start-ups play a crucial role in the evolution of economies.¹ No matter how healthy incumbent companies are, some will eventually shrink or even die. Moreover, start-ups are critical ways of injecting necessary innovation and enabling creative destruction.

National economic power industries, most of which are in manufacturing, are a cornerstone of national competitiveness and geopolitical independence. Yet, over the past three decades, the United States has seen a steep decline in manufacturing start-ups—a trend that bodes ill for the future of U.S. manufacturing.

At one level, the decline should not be a surprise, given that real valued manufacturing output has declined as a share of gross domestic product (GDP).² But the decline in start-ups was 10 percent more than the decline in manufacturing output. And the average employment size of manufacturing start-ups has also declined.

Despite proclamations from policymakers and industry advocates—including former Energy Secretary Jennifer Granholm, who claimed that U.S. industrial policy “has revived American manufacturing, created jobs, and made our country more secure”—the underlying data tells a different story.³ The decline in start-ups in what the Information Technology and Innovation Foundation (ITIF) defines as dual-use sectors and enabling sectors is particularly troubling as China continues to expand production in these critical industries. (See box 1.)

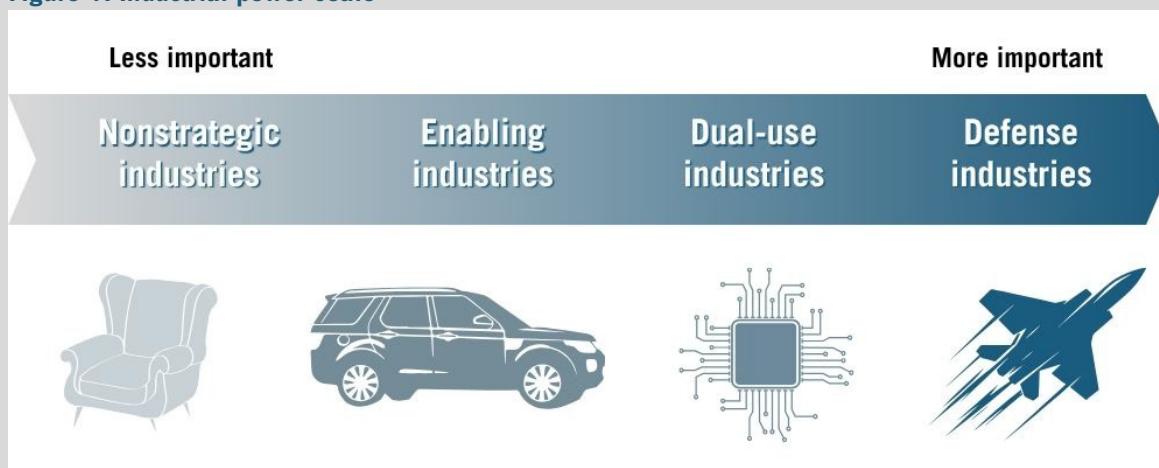
To ensure that the United States slows or, ideally, reverses its relative decline in national economic power industries, policymakers need to promote a more robust manufacturing start-up ecosystem and policy environment.

Box 1: Defining National Economic Power Industries

The conventional view is that defense industries are the only industries that matter to national power. But that is now vastly too limiting. As Corelli Barnett, wrote, “For munitions production for modern war is not primarily a question of specialized armament industries, as some suppose, but of all those varied industrial and scientific resources that in peacetime make for a successful and expanding export trade.”⁴

With that in mind, ITIF has developed a classification of U.S. industries for their relevance to national power. This can be viewed as a continuum between defense industries on one side, nonstrategic industries on the other, and strategic industries and strategic enabling industries in the middle. See figure 1.

Figure 1: Industrial power scale



At one end of the continuum are defense industries. Clearly industries such as ammunition, guided missiles, military aircraft and ships, tanks, drones, defense satellites, and others are strategic. Not having world class innovation and production capabilities in these industries means a weakened military capability. Policymakers across the aisle generally agree that these industries are strategic and that market forces alone will not produce the needed results.

At the other end of the spectrum are industries in which the United States has no real strategic interests. These include furniture, coffee and tea manufacturing, bicycles, carpet and rug mills, window and door production, plastic bottle manufacturing, wind turbine production, lawn and garden equipment, sporting goods, jewelry, caskets, toys, toiletries, running shoes, etc. If worst came to worst and adversaries such as China gained dominance in any of these industries and decided to cut America off, we’d survive.

Next to defense industries, dual-use industries are critical to American strength. Losing aerospace, pharmaceuticals, chemicals, semiconductors, displays, advanced software, fiber optic cable, telecom equipment, machine tools, motors, measuring devices, and other dual-use sectors would give our adversaries incredible leverage over America. Just the threat of cutting these off (assuming that they have also deindustrialized our allies in these sectors) would immediately bring U.S. policymakers to the bargaining table.

Finally, there are enabling industries. If the United States were cut off from these industries, the immediate effects on military readiness would be small, and the U.S. economy could survive for at least a while without production. America could survive for many years without an auto sector,

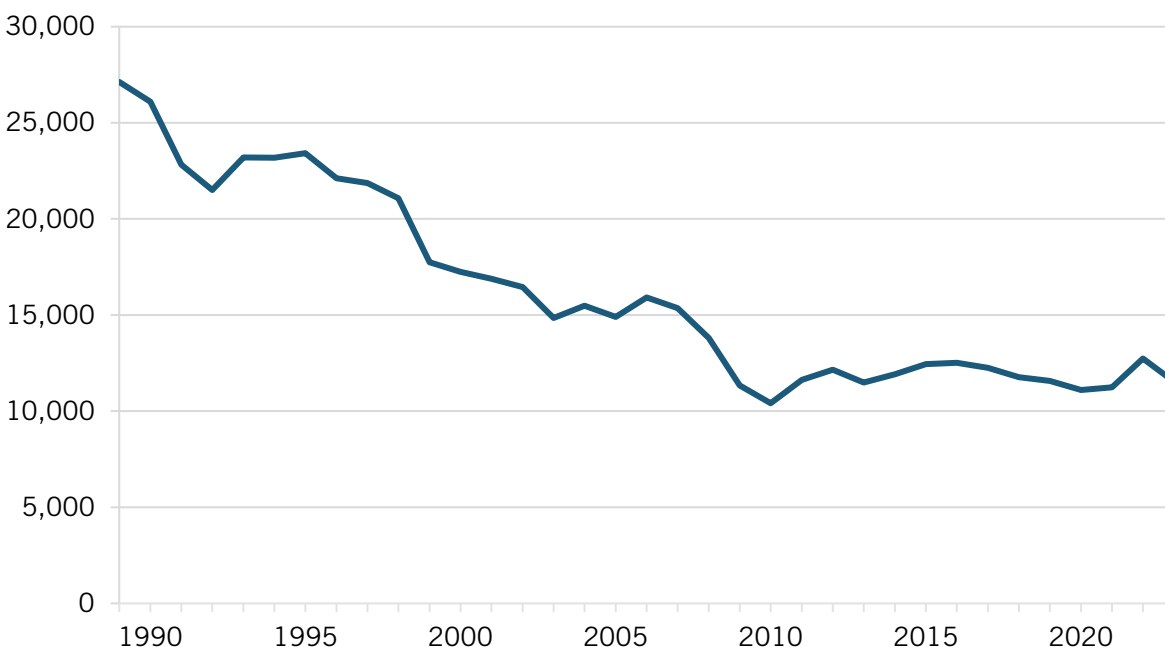
as we would all just drive cars longer. But because of the nature of these industries—including technology development, process innovation, skills, and supporting institutions—their loss would harm both dual-use and defense industries. That is because enabling industries contribute to the industrial commons that support dual-use defense industries.

MANUFACTURING START-UP FIRMS IN DECLINE

Start-ups in any industry are driven by at least two factors: market potential and policy environment. If anything, the U.S. policy environment has gotten better for start-ups in the last 35 years (lower capital gains tax rates, more state and local programs to help start-ups, and more). What has gotten worse is market potential. With fewer export opportunities due to intense foreign competition, and with fewer domestic opportunities due to increased manufacturing imports, the opportunity for a manufacturing entrepreneur to successfully grow a company appears to have shrunk.

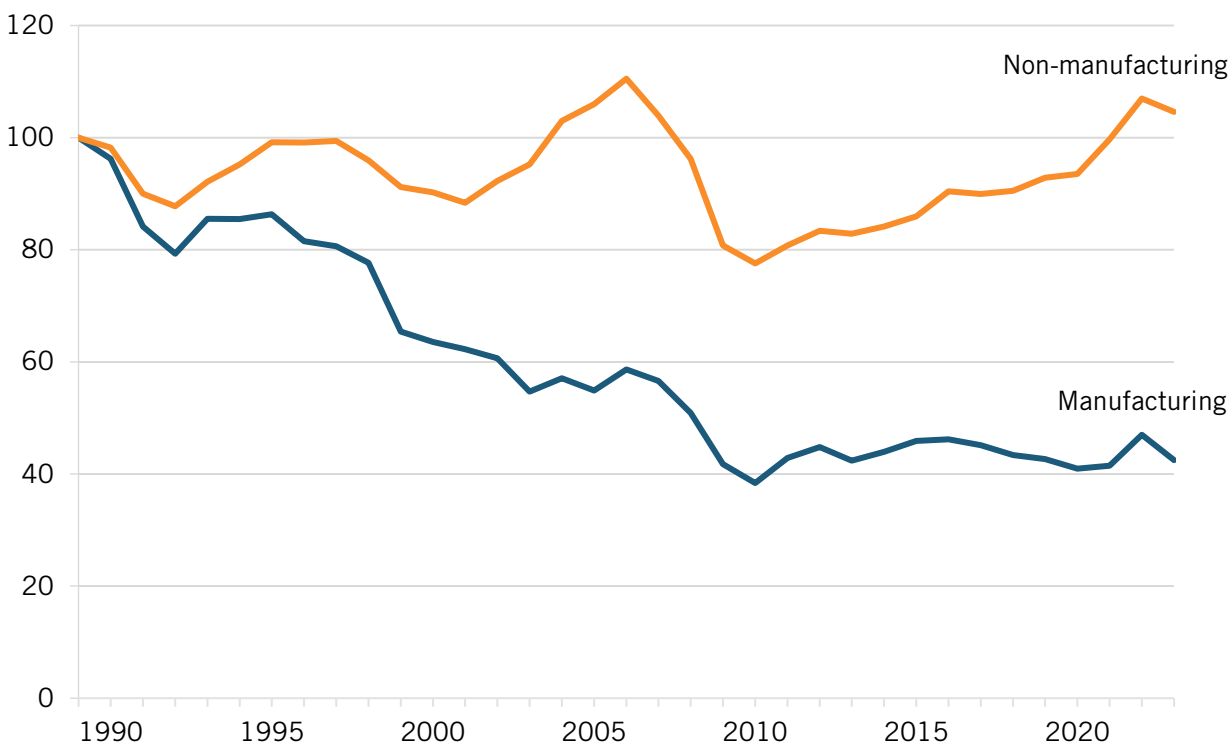
This is likely why manufacturing start-ups have declined 58 percent in the last 35 years, from 27,126 in 1989 to 11,525 in 2023.⁵ Manufacturing start-ups first declined partly due to Japanese products entering the United States in the late 1980s and competing with their U.S. counterparts.⁶ That effect was evident in the first half of the 1990s, as U.S. manufacturing start-ups fell from 26,099 in 1990 to 23,417 in 1995, never rebounding to their original high.⁷ Indeed, a second wave of decline followed, as the number of U.S. manufacturing start-ups slumped to 17,743 by 1999, partly due to the effects of the North American Free Trade Agreement and the appreciation of the dollar's value.⁸ Then, in a final wave of decline, U.S. manufacturing start-ups fell further, from 15,912 in 2006 to 12,444 in 2015, likely due to Chinese competition and offshoring.⁹ Since then, U.S. manufacturing start-ups have generally fluctuated between about 10,000 to 12,000 per year.¹⁰ (See figure 2.)

Figure 2: New manufacturing start-ups (less than 1 year old), 1989–2023¹¹



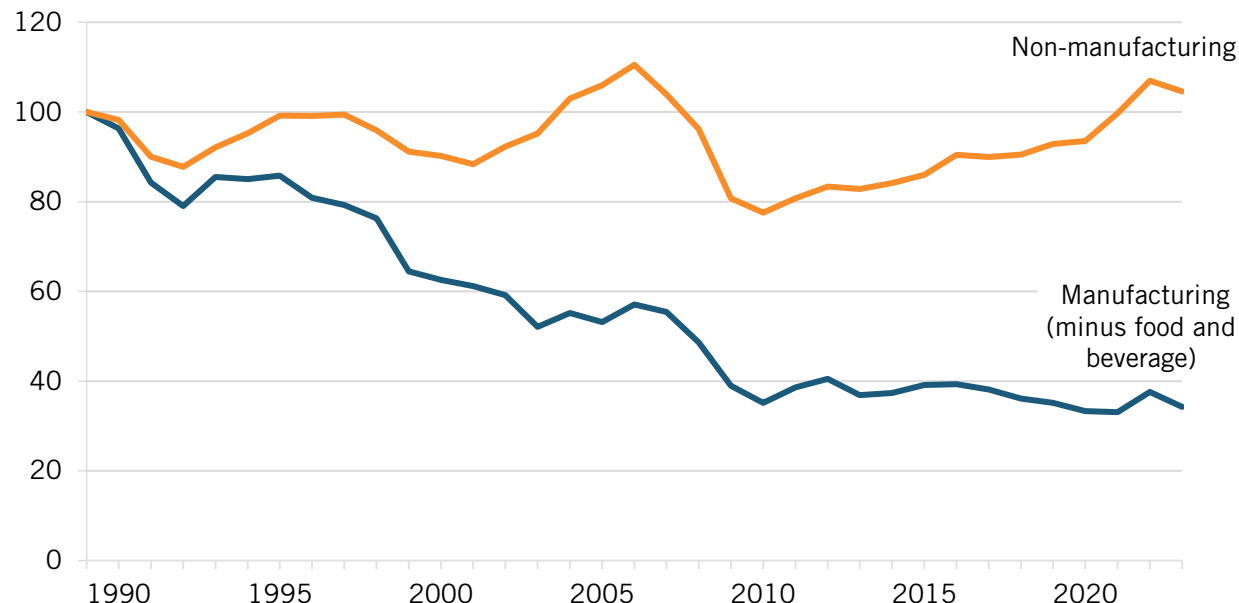
More concerning, U.S. manufacturing start-ups are not declining because the United States is generating fewer start-ups, but rather because there is something particularly problematic about generating manufacturing ones. Indeed, U.S. manufacturing start-ups are declining while all other start-ups are growing.¹² From 1989 to 2023, U.S. manufacturing start-ups declined 58 percent from an index of 100 to 42.5. In contrast, all other start-ups in the U.S. economy grew 4.6 percent from an index of 100 to 104.6.¹³ (See figure 3.)

Figure 3: Start-ups in the U.S. economy, 1989–2023 (indexed)¹⁴



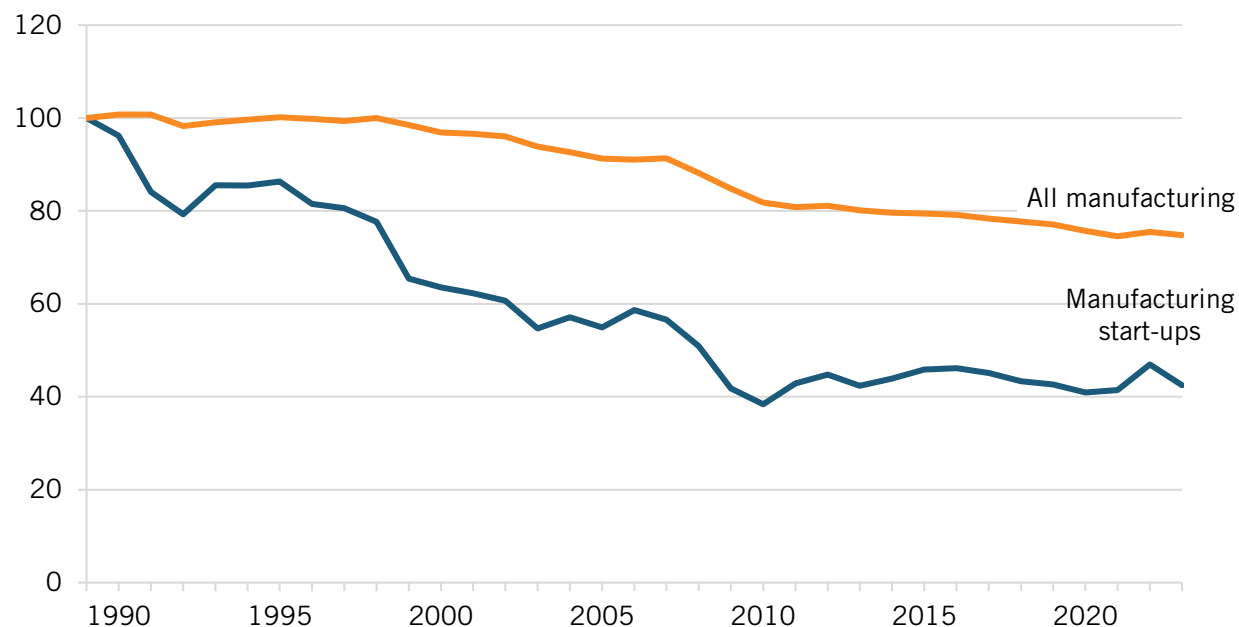
Moreover, manufacturing start-ups have declined even faster when the food and beverage manufacturing subsectors (four-digit North American Industry Classification System [NAICS] level) are excluded. This is because these subsectors tend to have some of the lowest rates of decline compared with overall manufacturing start-ups—these subsectors’ start-ups are generally **not** growing. Indeed, from 1989 to 2023, manufacturing start-ups declined 66 percent (compared with 58 percent including food and beverage manufacturing) from an index of 100 to 34.3.¹⁵ In comparison, nonmanufacturing U.S. start-ups increased 4.6 percent from an index of 100 to 104.6.¹⁶ (See figure 4.) In other words, U.S. manufacturing start-ups not in the nonstrategic food and beverage manufacturing subsectors are declining even faster than nonmanufacturing ones when food and beverage manufacturing is removed.

Figure 4: Manufacturing start-ups (less than 1 year old), not including food and beverage subsectors, versus nonmanufacturing start-ups, 1989–2023 (indexed)¹⁷



This decline could be partly because of less market potential and fewer opportunities for success for new manufacturing firms in the United States. Indeed, manufacturing start-ups have declined faster than total manufacturing firms. From 1989 to 2023, manufacturing start-ups declined from an index of 100 to 42.5 while overall manufacturing firms only declined from 100 to 74.8.¹⁸ (See figure 5.) As such, manufacturing start-ups are declining partly because total manufacturing is declining. But the reality of it is that the United States still has a problem promoting the creation of manufacturing start-ups. This is concerning because as older manufacturing firms exit, new manufacturing start-ups are needed to take their place.

Figure 5: Manufacturing start-ups versus total manufacturing firms, 1989–2023 (indexed)¹⁹

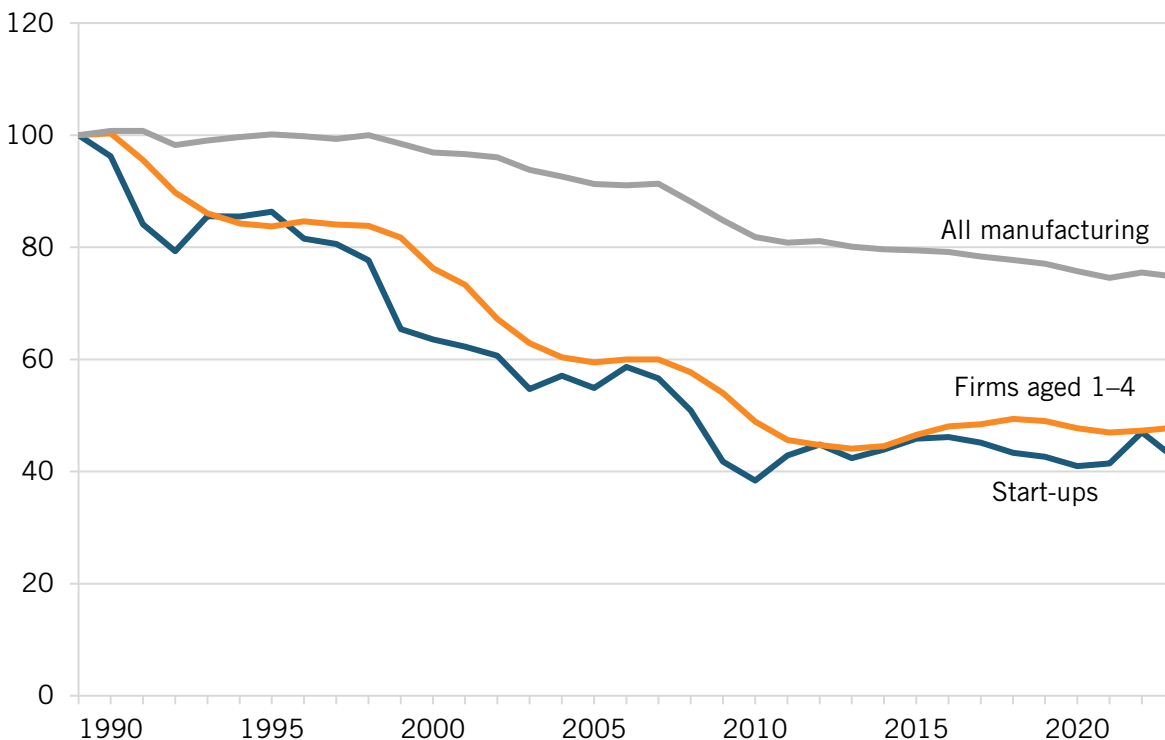


FEWER YOUNG MANUFACTURING FIRMS

It's not just start-ups but also young manufacturing firms that have declined in the last three decades. From 1989 to 2023, manufacturing start-ups declined 58 percent from an index of 100 to 42.5 while young manufacturing firms dropped 52 percent from an index of 100 to 47.8.²⁰ In other words, while the United States is generating fewer manufacturing firms, their five-year survival rate has increased slightly. (See figure 6.)

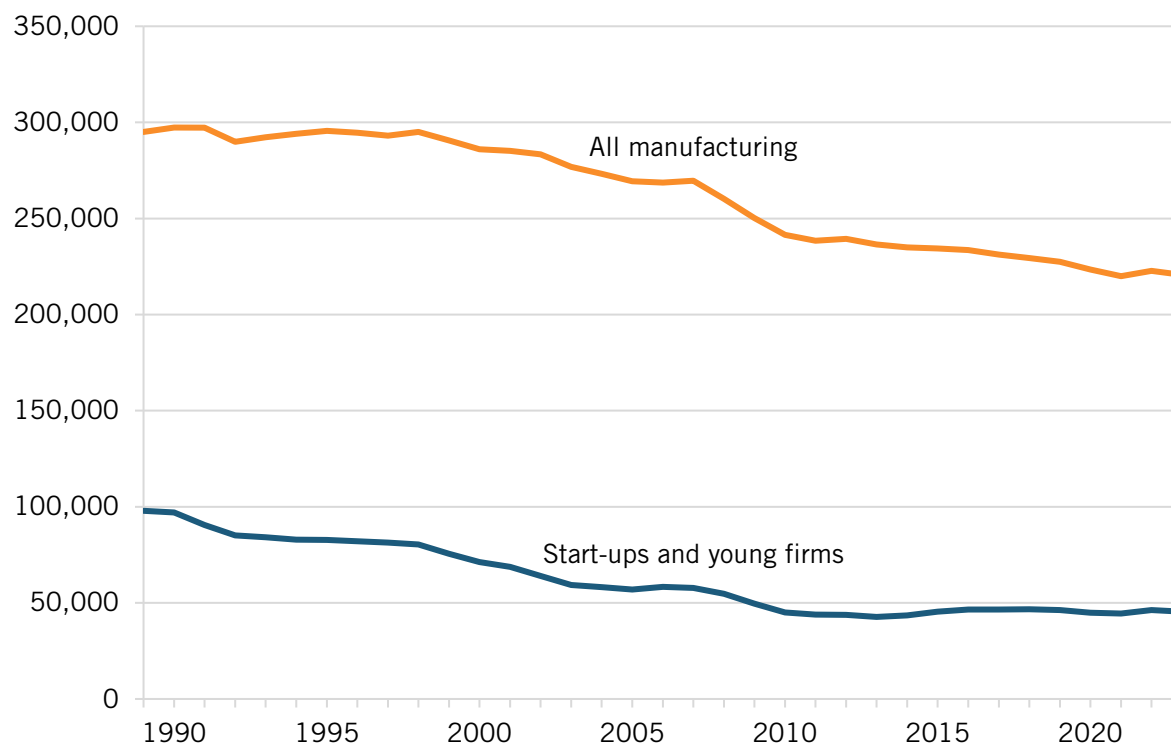
Nevertheless, young manufacturing firms are still declining faster than overall manufacturing firms. Indeed, overall manufacturing firms have only declined 25 percent from an index of 100 to 74.8 during this period.²¹ As such, both manufacturing start-ups and young firms are declining not only because manufacturing firms are declining, but also because they may have fewer opportunities to succeed and eventually replace the older manufacturing firms.

Figure 6: Total manufacturing firms, manufacturing start-ups (less than 1 year old), and young manufacturing firms (1–4 years old), 1989–2023 (indexed)²²



Accordingly, from 1989 to 2023, manufacturing start-ups and young firms declined from 97,899 to 45,363, going from making up 33 percent of manufacturing firms in the United States to only 21 percent.²³ (See figure 7.)

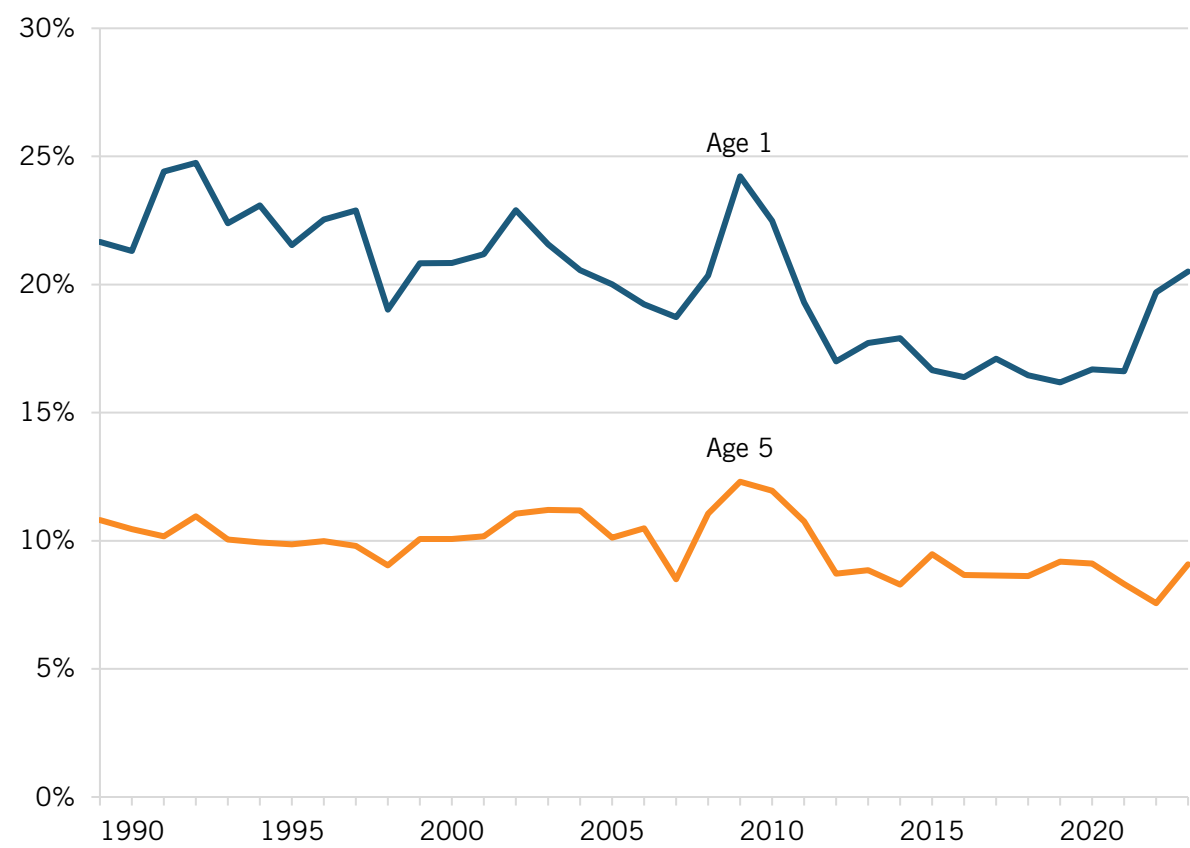
Figure 7: Total number of manufacturing firms versus start-ups and young manufacturing firms (less than 4 years old), 1989–2023²⁴



Moreover, the decline of young manufacturing firms is largely a birth rate problem rather than a death rate issue. From 1989 to 2023, manufacturing start-ups declined by about 58 percent, indicating a substantial and persistent reduction in firm entry into the sector.²⁵ In contrast, firm death rates did not show a corresponding deterioration in survival conditions for young manufacturing firms. Indeed, during this period, the death rate of manufacturing firms one-year old ranged between 16 and 22 percent while the death rate of manufacturing firms five years-old (not including young firms) had even lower fluctuation at between 8 and 12 percent.²⁶ (See figure 8.)

As such, these patterns suggest that the long-run decline in young manufacturing firms is not being driven by increased failure rates among entrants. Instead, the stability of survival outcomes implies that once firms enter manufacturing, their prospects of surviving the early years have not meaningfully worsened. The dominant driver of the observed decline is therefore a sustained contraction in manufacturing start-up entry rather than rising exit rates, pointing to structural constraints on the formation of new manufacturing firms as the main concern.

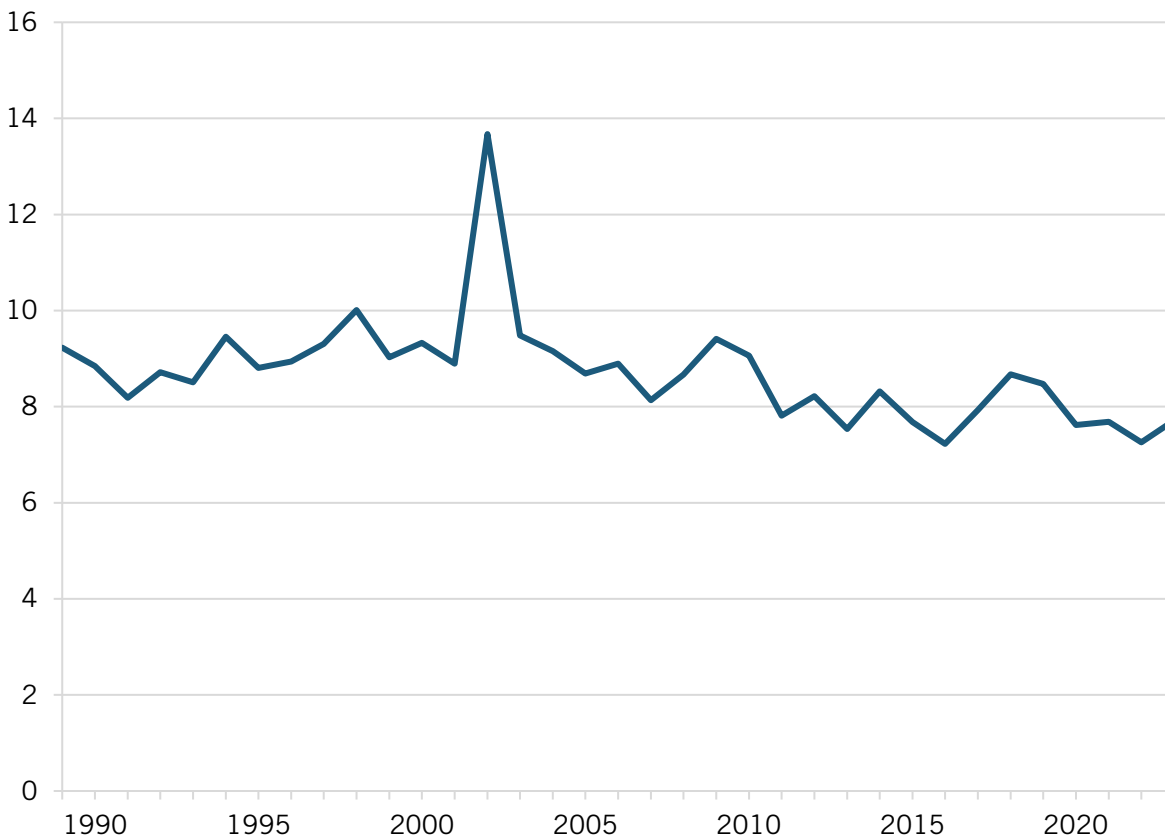
Figure 8: Exit rates of one-year-old and five-year-old manufacturing firms, 1989–2023²⁷



START-UPS' AVERAGE EMPLOYEES

The average number of employees in start-ups is a useful indicator because, in theory, start-ups with more employees should be stronger than those with fewer. It may indicate stronger access to capital, greater market opportunities, more scalable business models, and a higher chance of survival. Yet, the data indicates that U.S. manufacturing start-ups are only getting weaker. Indeed, the average manufacturing start-up size is now slightly smaller than before. From 1989 to 2023, manufacturing start-ups' average number of employees fell from 9.2 persons to 7.7 persons, a 16 percent decline.²⁸ (See figure 9.)

Figure 9: Employees per manufacturing start-up, 1989–2023²⁹



MANUFACTURING START-UPS IN DEFENSE, DUAL-USE, ENABLING, AND NONSTRATEGIC SUBSECTORS

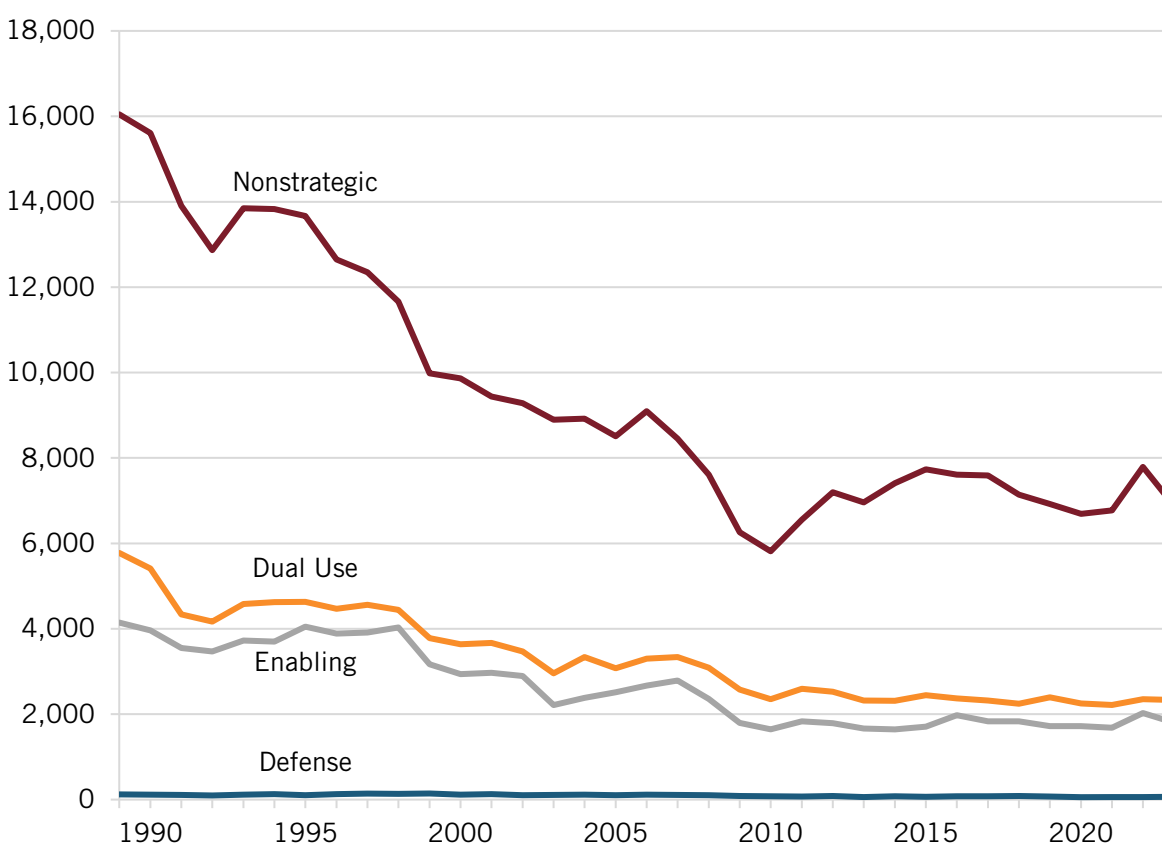
Start-up activity in manufacturing has not declined in a uniform way. Instead, the pattern of change differs significantly depending on the type of industry.

This section disaggregates manufacturing start-ups into the four ITIF national economic power industry classifications: defense industries, dual-use industries, enabling industries, and nonstrategic industries.³⁰

Of the four categories, dual-use, enabling and nonstrategic industries had very similar rates of decline from 1989 to 2023. At the highest, dual-use manufacturing start-ups declined 60 percent from 5,776 to 2,334.³¹ Following up, nonstrategic manufacturing start-ups declined 57 percent from 16,046 to 6,877.³² Lastly, enabling manufacturing start-ups declined 56 percent from 4,145 to 1,804.³³ As such, this means that these three categories declined at a very similar rate to the overall manufacturing start-ups' rate of 58 percent.³⁴ This is quite concerning, as it indicates that key dual-use and enabling industries the United States relies on for defense and economic competitiveness are declining as fast as nonstrategic ones.

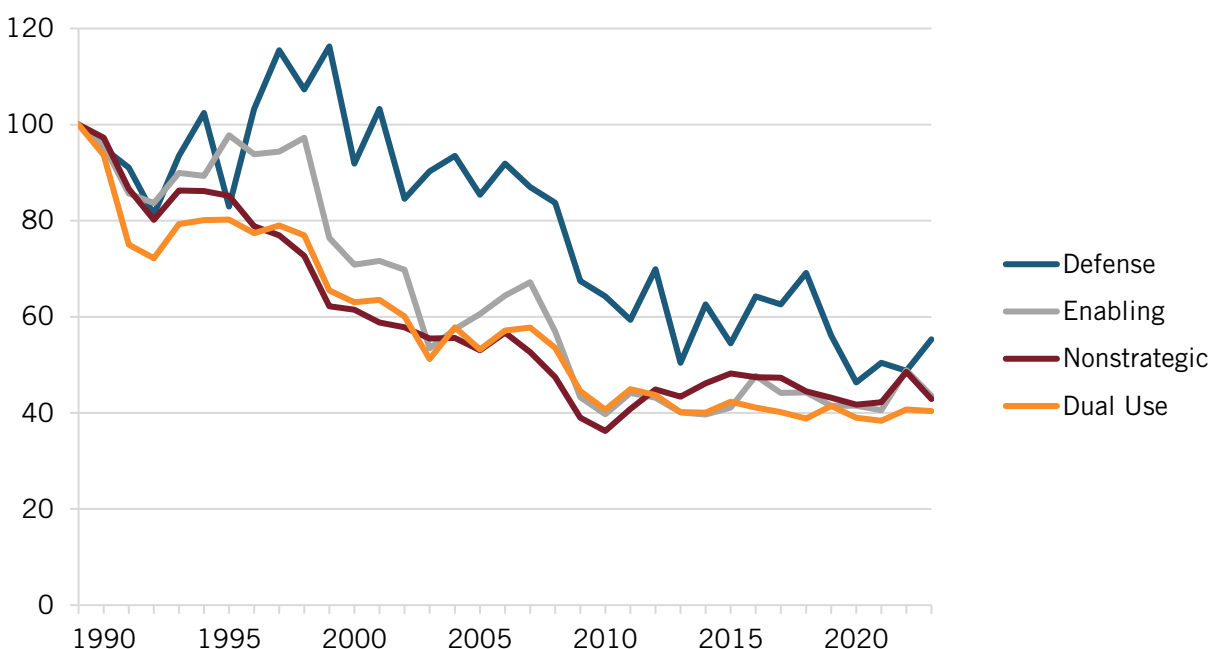
Fortunately, in contrast, defense industries had a much smaller rate of decline than did the other three categories. Indeed, defense manufacturing start-ups declined only 45 percent from 123 to 68 during this period.³⁵ (See figure 10 and figure 11.)

Figure 10: Number of manufacturing start-ups in defense, dual-use, enabling, and nonstrategic subsectors, 1989–2023³⁶



The slower decline is likely to due to facing less overseas competition than the other three categories did. For instance, while the basic chemical manufacturing start-ups have to compete for customers with lower-priced Chinese firms exporting to the United States, the ship and boat building industry faces less competition from China and other foreign nations. This is because the United States government is one of the largest customers of defense industries, and it will always prefer to buy from and rely on U.S. defense companies than foreign companies. In other words, defense manufacturing start-ups have a stable buyer that protects them from foreign competition.

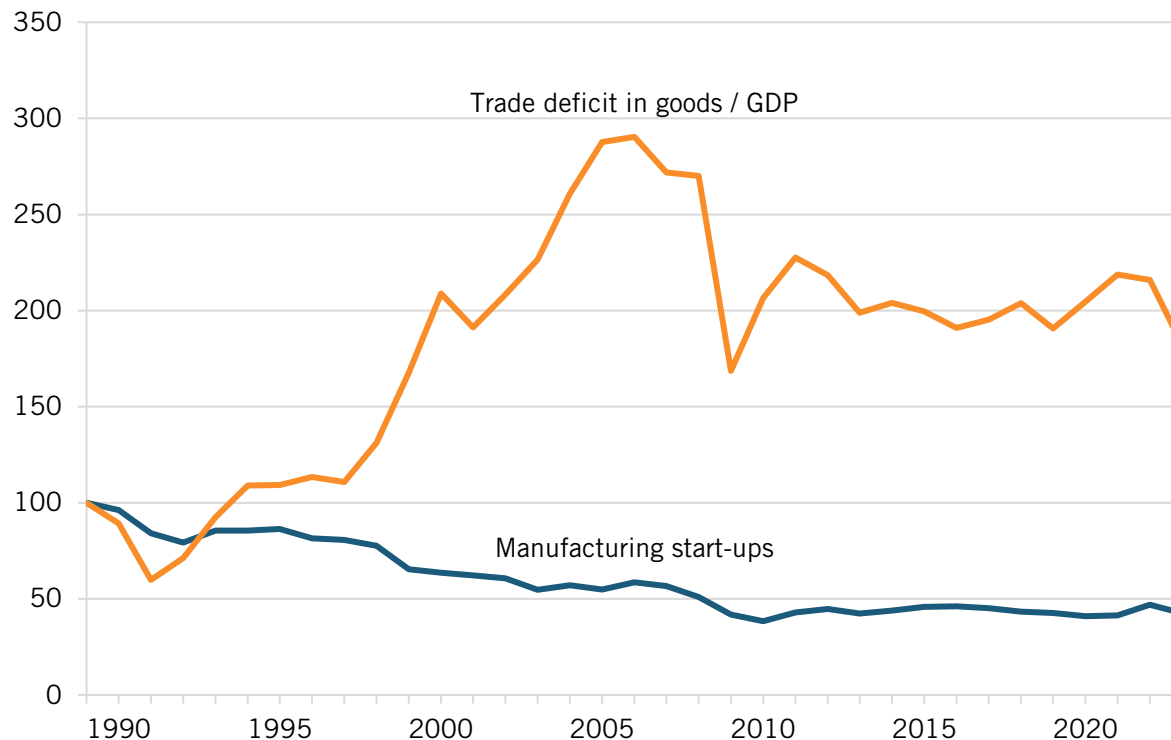
Figure 11: Manufacturing start-ups in defense, dual-use, enabling, and nonstrategic subsectors, 1989–2023 (indexed)³⁷



A LIKELY CAUSE IS THE GROWING U.S. TRADE DEFICIT

Most of the decline in manufacturing start-ups occurred prior to 2009 and appears closely tied to the long-running erosion of U.S. manufacturing competitiveness during that period. Indeed, data from the U.S. Bureau of Economic Analysis shows a clear structural shift. From 1989 to 2009, while U.S. manufacturing start-ups declined 58 percent from an index of 100 to 41.8, the U.S. **trade deficit** in goods as a share of GDP **increased** by 69 percent from 100 to 182.2, showing the concurrent movement in the decline of manufacturing start-ups with the increase in competition from imports.³⁸ From 2009 to 2023, the U.S. trade deficit as a share of GDP became more stabilized, at an index ranging from 182 to 227, while U.S. start-ups also remained more stable at an index range of 38 to 47. (See figure 12.) This trend reflects a broader loss of competitiveness, as domestic production has increasingly been displaced by imports from lower-cost foreign producers. For manufacturing start-ups, this creates a particularly challenging environment as new firms must compete with not only established domestic companies but also overseas producers that can often sell similar goods at lower prices. As imports take up more of the market, it becomes harder for new U.S. manufacturing start-ups to gain customers and grow.

Figure 12: Manufacturing start-ups versus the U.S. trade deficit in goods as a share of GDP, 1989–2023 (indexed)³⁹

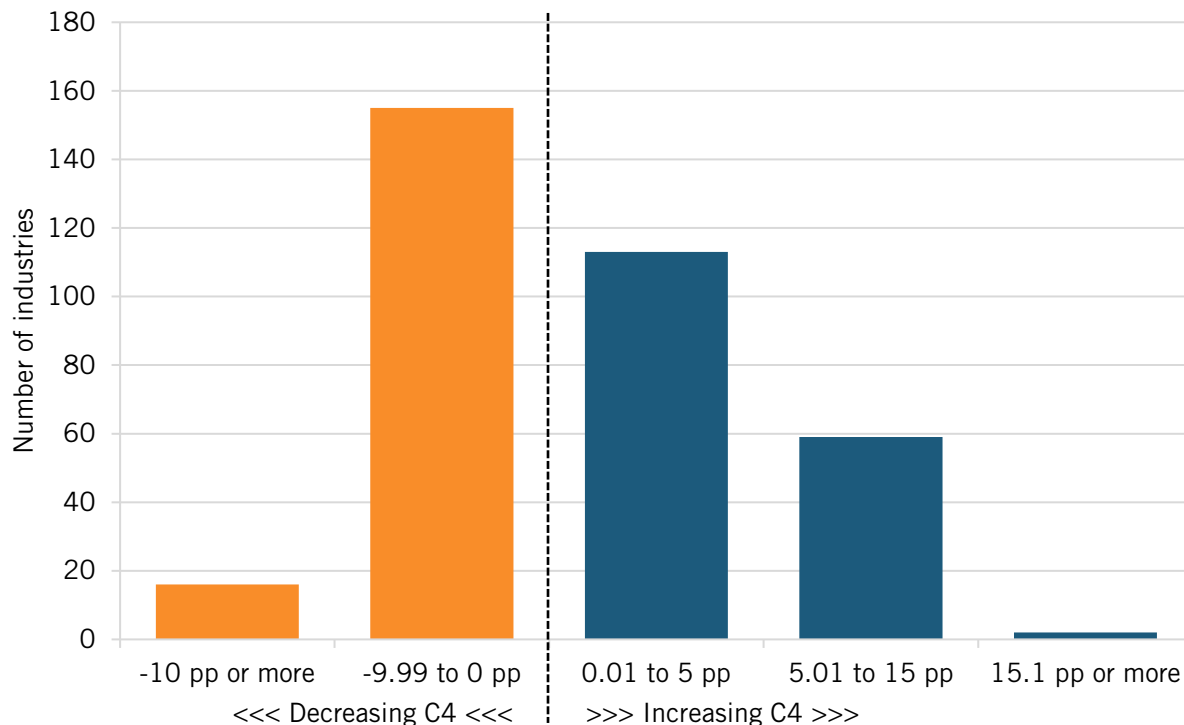


INDUSTRY CONCENTRATION WAS NOT THE CAUSE FOR MANUFACTURING START-UP DECLINE

Some “neo-Brandeisian” antitrust advocates see monopoly in every closet and argue that start-ups have declined because of industry concentration. Big—fill in blank—dominates the sector and not only leaves no room for start-ups, but also actively crushes them. This is not what has happened in manufacturing.

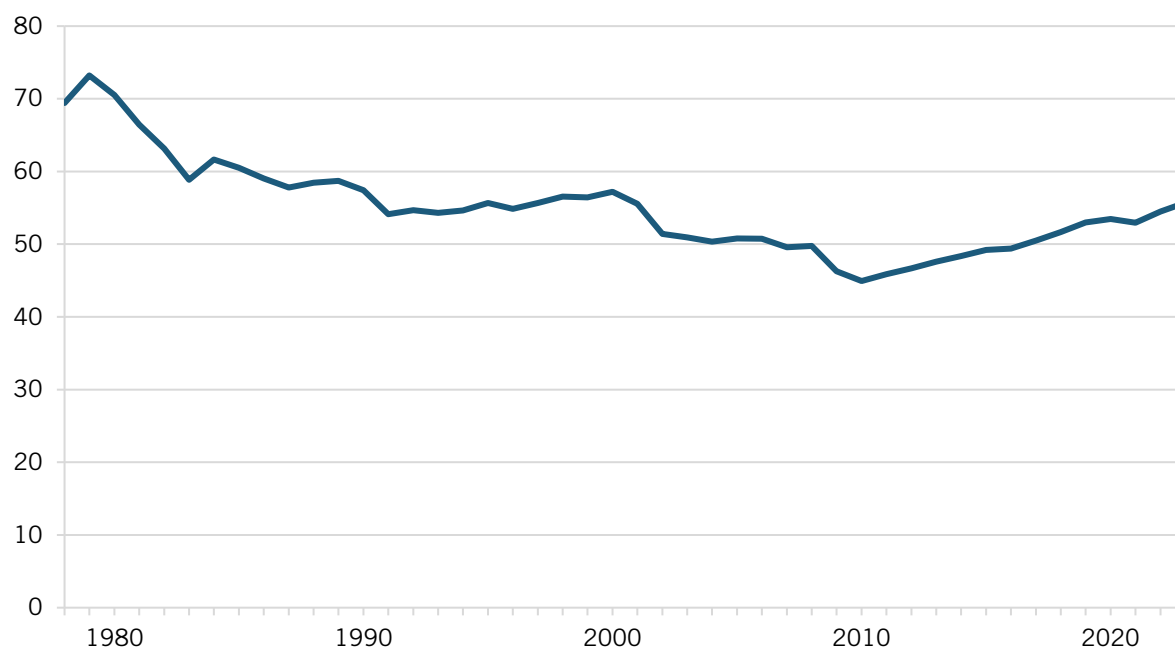
Indeed, the majority of manufacturing industries saw a decline in concentration or only a slight increase of no more than 5 percentage points from 2017 to 2022. Of the 345 six-digit NAICS manufacturing industries (with available data), 16 manufacturing industries’ concentration of the top 4 largest firms (C4 ratio) declined by 10 percentage points or more while 155 manufacturing industries’ C4 ratio declined between 0 and 10 percentage points.⁴⁰ Together, the total manufacturing industries with declining C4 ratios was 49.6 percent of all manufacturing industries with available data.⁴¹ Of the remaining manufacturing industries, another 113 industries’ C4 ratios only increased by 0.01 to 5 percentage points, equating to 33 percent of total manufacturing industries.⁴² (See figure 13.) As such, 82.3 percent of manufacturing industries (with available data) saw a decline or a slight increase in concentration, meaning an increase in monopoly power is not the cause for a decline in manufacturing start-ups.

Figure 13: Numbers of manufacturing industries grouped by percentage-point change in C4 concentration levels, 2017–2022⁴³



Further corroborating this, manufacturing firms have become smaller over the past decades. From 1978 to 2023, the average size of a U.S. manufacturing firms declined from 69.4 workers to 55.7 workers.⁴⁴ (See figure 14.)

Figure 14: Average number of employees in U.S. manufacturing firms, 1978–2023⁴⁵



In contrast to neo-Brandeisians' unsubstantiated claims, a potential cause of manufacturing start-up decline, besides poor market potential, could be that the United States has not built a sufficiently strong ecosystem to support manufacturing start-ups at scale. To be sure, initiatives such as the Manufacturing USA network, which comprises more than a dozen manufacturing innovation institutes, aim to promote advanced manufacturing and accelerate commercialization.⁴⁶ Yet these efforts remain insufficient relative to the scale of the challenge. As ITIF has argued, hardware innovations developed in the United States are often not scaled domestically because the financial system is poorly suited to capital-intensive firms.⁴⁷ Venture capital in the United States tends to favor "capital-light" sectors such as software and media, wherein firms can scale rapidly with minimal marginal cost, versus manufacturing ventures that require significant upfront investment in physical production.⁴⁸ As a result, many promising hardware technologies are effectively orphaned in the United States and ultimately scaled abroad, weakening the country's position in advanced manufacturing, particularly as competitors such as China continue to expand their capabilities in strategic industries.

POLICY RECOMMENDATIONS

U.S. manufacturing start-ups will grow if two things happen. First, overall U.S. manufacturing real value-added output needs to grow faster. That would help generate a healthier manufacturing ecosystem with room for start-ups to emerge. Second, the policy environment for manufacturing start-ups will need to improve. Overall, policymakers should set a goal of achieving at least 23,000 manufacturing start-ups a year by 2030, double from the current 11,500.

Policymakers need to start with a more coherent and strategic national economic power industry strategy, as well as detailed, sector-specific strategies. In addition, they should develop programs that will create more capital for manufacturing start-ups, such as through the Small Business Association or a national industrial development bank, or offer tax incentives for "deep tech" venture investments. Congress should also improve the research and development (R&D) credit to make it easier to use for start-ups. Specific manufacturing technology programs, such as ManTech with the Department of Defense, Manufacturing USA centers, and manufacturing R&D centers at universities, need to expand and place more emphasis on tech transfer and commercialization. Congress should also provide increased funding for manufacturing engineering education programs from high school to college. Finally, Congress should expand funding for the National Institute of Standards and Technology's (NIST's) Manufacturing Extension Partnership program, including for a new manufacturing start-up initiative.

Behind all this, the United States should adopt a fundamentally new framework: a national power industry strategy that focuses on reversing the decline of manufacturing start-ups in strategic, defense, and dual-use sectors. More detailed policy recommendations are provided in ITIF's ongoing Mobilizing for Technology Economic War series of reports.⁴⁹

CONCLUSION

The evidence shows that the United States has been experiencing a decline in manufacturing start-ups. More importantly, start-ups in dual-use and enabling manufacturing industries that the United States relies on for defense and economic competitiveness have declined just as quickly as nonstrategic manufacturing industries. Fortunately, start-ups in defense industries have

declined slower. Nevertheless, this trend weakens the country's industrial base and limits its ability to compete globally. The shrinking share of manufacturing in the overall economy and the decline of strategic manufacturing start-ups highlight gaps in current policy and the urgency of addressing them.

Global competitors, particularly China, continue to expand production in strategic industries, outpacing the United States in areas such as chemicals. As such, policymakers need to focus directly on rebuilding the pipeline of start-ups in sectors critical to economic and national security. They need to provide targeted support for strategic manufacturing start-ups in order to restore industrial capacity, create high-value jobs, and maintain long-term competitiveness against rising international rivals.

METHODOLOGY

This report uses data from the U.S. Census Bureau's Business Dynamic Survey to estimate the number of overall and manufacturing start-ups in the United States. Start-ups are firms that are age 0 in the dataset. The dataset also provides the total number of manufacturing firms in all ages. Finally, the Business Dynamic Survey provides data going back to 1978. However, this report predominantly uses data beginning in 1989, as the period between 1978 to 1989 had a relatively stable number manufacturing.

The Business Dynamics Survey does not provide data at the six-digit NAICS level, but rather at the four-digit NAICS subsector level. As such, to classify these subsectors into ITIF's power, dual-use, enabling, and nonstrategic categories, ITIF classified a subsector based on if over 50 percent of the six -digit NAICS under the subsector fell into the power, dual-use, enabling, or nonstrategic category. Once categorized, these subsectors were added together to analyze the changes in start-ups for these categories. It should be noted that some manufacturing subsectors could not be classified into one of these categories, as share of six -digit NAICS under the subsector were not over 50 percent. The sections examining overall manufacturing start-ups do however include these uncategorized manufacturing subsectors.

Acknowledgments

The author would like to thank Robert Atkinson for his guidance and feedback on this report. Any errors or omissions are the author's responsibility alone.

This report is part of a series that has been made possible in part by generous support from the Smith Richardson Foundation. (For more, see: itif.org/power-industries.)

About the Author

Trelysa Long is a policy analyst at ITIF. She was previously an economic policy intern with the U.S. Chamber of Commerce. She earned her bachelor's degree in economics and political science from the University of California, Irvine.

About ITIF

The Information Technology and Innovation Foundation (ITIF) is an independent 501(c)(3) nonprofit, nonpartisan research and educational institute that has been recognized repeatedly as the world's leading think tank for science and technology policy. Its mission is to formulate, evaluate, and promote policy solutions that accelerate innovation and boost productivity to spur growth, opportunity, and progress. For more information, visit itif.org/about.

ENDNOTES

1. Robert Atkinson, "Understanding and Maximizing America's Evolutionary Economy" (ITIF, October 2014), <https://www2.itif.org/2014-maximizing-evolutionary-economy.pdf>.
2. Trelysa Long, "No, American Manufacturing Hasn't Been Revived" (ITIF, June 6, 2025), <https://itif.org/publications/2025/06/06/no-american-manufacturing-hasnt-been-revived/>.
3. Secretary Jennifer Granholm, "Make no mistake...", Twitter post, January 7, 2025, <https://x.com/SecGranholm/status/1876785076190457952>.
4. Corelli Barnett, *The Collapse of British Power* (London: Faber, 1972), 85.
5. U.S. Census Bureau, Business Dynamic Statistics (firms age 0 from 1978 to 2023), accessed April 2026, <https://data.census.gov/table/BDSTIMESERIES.BDSFAGE?q=BDSTIMESERIES.BDSFAGE&codeset=aics~00&nkd=FAGE~010>.
6. John Mueller, "Remember when Japan was going to take over the world," Responsible Statecraft, December 30, 2023, <https://responsiblestatecraft.org/us-china-relations-2666818984/>.
7. U.S. Census Bureau, Business Dynamic Statistics (manufacturing firms age 0 from 1978 to 2023), accessed April 2026.
8. M. Angeles Villarreal, "The North American Free Trade Agreement," Congress.gov, May 24, 2017, <https://www.congress.gov/crs-product/R42965>.
9. Ibid.
10. Ibid.
11. Ibid.
12. Ibid.; U.S. Census Bureau, Business Dynamic Statistics (firms age 0 from 1978 to 2023), accessed April 2026.

13. Ibid.
14. Ibid.
15. Ibid.
16. Ibid.
17. Ibid.
18. Ibid.
19. Ibid.; U.S. Census Bureau, Business Dynamic Statistics (manufacturing firms from 1978 to 2023), accessed April 2026, <https://data.census.gov/table/BDSTIMESERIES.BDSFAGE?q=BDSTIMESERIES.BDSFAGE&codeset=aics~31-33&nkd=FAGE~001>.
20. U.S. Census Bureau, Business Dynamic Statistics (manufacturing firms age 0-4 from 1978 to 2023), accessed April 2026, <https://data.census.gov/table/BDSTIMESERIES.BDSFAGE?q=BDSTIMESERIES.BDSFAGE&codeset=aics~31-33&nkd=FAGE~010:020:030:040:050>.
21. U.S. Census Bureau, Business Dynamic Statistics (manufacturing firms from 1978 to 2023), accessed April 2026.
22. U.S. Census Bureau, Business Dynamic Statistics (manufacturing firms age 0-4 from 1978 to 2023), accessed April 2026; Ibid.
23. Ibid.
24. Ibid.
25. Ibid.
26. U.S. Census Bureau, Business Dynamic Statistics (manufacturing firms age 0-4 from 1978 to 2023, accessed April 2026).
27. Ibid.
28. U.S. Census Bureau, Business Dynamic Statistics (manufacturing firms and employees for firms age 0 from 1978 to 2023, accessed April 2026).
29. Ibid.
30. Robert Atkinson, “Marshaling National Power Industries to Preserve America’s Strength and Thwart China’s Bid for Global Dominance” (ITIF, November 2025), <https://itif.org/publications/2025/11/17/marshaling-national-power-industries-to-preserve-us-strength-and-thwart-china/>.
31. U.S. Census Bureau, Business Dynamic Statistics (manufacturing firms age 0 from 1978 to 2023, accessed April 2026).
32. Ibid.
33. Ibid.
34. Ibid.
35. Ibid.
36. Ibid.
37. Ibid.
38. Bureau of Economic Analysis, Table 1.1 U.S. international Transactions (goods imports and exports from 1960 to 2023), accessed April 2026, [https://apps.bea.gov/international/bp_web/tb_download_type_modern.cfm?list=1&RowID=1.](https://apps.bea.gov/international/bp_web/tb_download_type_modern.cfm?list=1&RowID=1.;); U.S. Bureau of Economic Analysis, Table 1.1.5 Gross Domestic Product (gdp from 1960 to 2023),

- accessed April 2026,
https://apps.bea.gov/iTable/?reqid=19&step=2&isuri=1&categories=survey&_gl=1*cawodz*_ga*NzQ1ODk3Njk1LjE3NjMwNDU5NzE.*_ga_J4698JNNFT*cze3NzczMTEwMjckbzE2JGcxJHqxNzc3MzExNTl3JGo1NiRsMCRoMA..#eyJhcHBpZCI6MTkslnNOZXBzljpbMSwyLDMsM10slmRhdGEiOltblmNhdGVnb3JpZXMiLCJTdXJ2ZXkiXSxbk5JUEFfVGFiVGfTGldzClsljUiXSxbkZpcnNOX1l1YXliLCIxOTYwIl0sWyJMYXNOX1l1YXliLClyMDIzIl0sWyJTY2FsZSIsIl02Il0sWyJTZXJpZXMiLCJBII1dfQ==.
39. Ibid.
 40. U.S. Census Bureau, Economic Census (concentration ratio for 2022), accessed June 2025, <https://data.census.gov/table/ECNSIZE2022.EC2200SIZECONCEN?q=EC2200SIZECONCEN&n=N0600.00>; U.S. Census Bureau, Economic Census (concentration ratio for 2017), accessed June 2025, <https://data.census.gov/table/ECNSIZE2017.EC1700SIZECONCEN?q=Concentration+Ratio&codeset=naics~N0600.00>.
 41. Ibid.
 42. Ibid.
 43. Ibid.
 44. U.S. Census Bureau, Business Dynamic Statistics (manufacturing firms from 1978 to 2023), accessed April 2026.
 45. Ibid.
 46. How We Work, Manufacturing USA website, <https://www.manufacturingusa.com/pages/how-we-work>
 47. “To Do: Establish an Advanced Manufacturing Scale-Up Capital Program” (ITIF, February 7, 2025), <https://itif.org/publications/2024/06/10/to-do-establish-an-advanced-manufacturing-scale-up-capital-program/>.
 48. Ibid.
 49. Robert Atkinson, “Mobilizing for Techno-Economic War, Part 1: The Case for Policy Transformation” (ITIF, February 2026), <https://itif.org/publications/2026/02/02/mobilizing-for-techno-economic-war-part-1-the-case-for-policy-transformation/>.