



Industrial Policy, Productivity, and Supply Chain Security in the Post-Globalization Era

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Abstract

This article looks at the return of manufacturing to the United States from the point of view of business risk, industrial capacity, and long-term competitiveness. For many years, moving production overseas seemed financially reasonable. Lower labor costs, established supplier networks in Asia, and global logistics made it possible for companies to reduce expenses and protect margins. That decision, however, also created a level of dependence that became difficult to justify after the pandemic, the semiconductor shortage, freight disruptions, and the growing tension between the United States and China.

The discussion focuses on three policy tools that are shaping this change: the CHIPS and Science Act, the Inflation Reduction Act, and Section 301 tariffs. These measures are not examined only as government programs, but as factors that influence corporate decisions about where to invest, where to source materials, how to protect technology, and how to reduce exposure to supply chain interruptions.

The main point of this article is that American manufacturing is not returning as a copy of the old industrial model. The new version depends on advanced technology, automation, skilled labor, energy reliability, domestic and regional suppliers, and better control over strategic inputs such as semiconductors, batteries, clean energy components, and critical minerals. The opportunity is significant, but it is not automatic. High construction costs, labor shortages, permitting delays, dependence on foreign minerals, and possible trade retaliation may limit the results if companies and policymakers focus only on investment announcements instead of execution and productivity.

Keywords: American manufacturing, reshoring, CHIPS Act, Inflation Reduction Act, semiconductors, clean energy manufacturing, productivity, supply chain risk, China, industrial policy.

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1. Introduction

For a long time, the decision to manufacture outside the United States was treated as a practical business calculation. If a product could be made in Asia at a lower cost, many companies saw little reason to keep that production at home. The numbers often supported that decision. Labor was cheaper, suppliers were close to one another, and large-scale manufacturing clusters made production faster and less expensive. From a financial perspective, offshore manufacturing helped companies protect margins, reduce fixed costs, and compete in price-sensitive markets.

That logic was not necessarily wrong. In stable conditions, it worked. The problem was that many companies became too comfortable with a system that depended on distant suppliers, long transportation routes, foreign ports, and political relationships they could not control. The weakness of that model became visible when several disruptions happened close together. COVID-19 interrupted factory operations and transportation. Ports became congested. Freight rates increased. The semiconductor shortage forced automakers and other manufacturers to slow or stop production. At the same time, trade and technology tensions between the United States and China made companies question whether cost efficiency alone was enough to guide supply chain decisions.

From a management and finance perspective, the lesson is direct: a low-cost supply chain is not truly low cost if it cannot deliver when the business needs it. A company may save money for years by sourcing from a cheaper location, but one serious interruption can damage sales, delay orders, reduce customer confidence, and affect cash flow. This is especially important in industries that depend on critical components, such as automobiles, electronics, medical devices, telecommunications equipment, energy systems, and defense technology. In these sectors, a missing chip, battery cell, mineral input, or specialized component can stop an entire production line.

The return of American manufacturing has to be understood within this reality. It is not simply a nostalgic effort to bring back the factories of previous decades. The current shift is more selective and more strategic. The focus is on industries that support the future economy and national security: semiconductors, clean energy equipment, batteries, advanced electronics, critical minerals, artificial intelligence infrastructure, and defense-related manufacturing. These are not ordinary goods. They are inputs that affect transportation, communication, health care, energy reliability, military readiness, and technological leadership.

The U.S. government has responded with a more active industrial policy. The CHIPS and Science Act supports domestic semiconductor production and research because chips are now essential to almost every advanced industry. The Inflation Reduction Act uses tax incentives to encourage clean energy production, domestic content, and U.S.-based manufacturing. Section 301 tariffs continue to affect the cost calculation for companies that rely heavily on Chinese imports. Together, these policies change the business environment for manufacturers, investors, suppliers, and financial managers.

For a company evaluating a new manufacturing project, the analysis is no longer limited to wages and shipping costs. The decision now includes tax credits, tariffs, energy costs, construction expenses, labor availability, permitting timelines, supplier reliability, intellectual property protection, and geopolitical exposure. A project that seems expensive at first may become more attractive when supply chain risk, production continuity, and strategic control are included in the financial model. In the same way, a cheaper offshore option may become less attractive if it exposes the company to delays, export restrictions, or political pressure.

Productivity is another central part of the discussion. The United States cannot compete with low-wage countries by trying to imitate their labor-cost structure. Its advantage has to come from producing more value per worker. That requires automation, robotics, artificial intelligence, better logistics, stronger technical training, and modern management systems. A factory located in the United States will not be competitive simply because it is domestic. It has to operate efficiently, control waste, use technology well, and connect with reliable suppliers.

The clean energy transition makes the manufacturing question even more urgent. Electric vehicles, solar panels, battery

storage, transmission equipment, and grid modernization all require physical production capacity. If the United States increases demand for clean energy but depends heavily on foreign suppliers for batteries, minerals, solar components, and electrical equipment, it may replace one dependency with another. That would weaken the purpose of the transition. Domestic and regional manufacturing capacity is therefore not only an economic issue, but also an energy-security issue.

There are also practical limits. Building factories takes time, capital, permits, infrastructure, trained workers, and supplier coordination. Announcing a project is easier than making it profitable. A semiconductor plant, battery facility, or clean energy manufacturing site can face delays if it lacks skilled technicians, stable utilities, local suppliers, or cost control. This is why reindustrialization should be judged by actual production, productivity, and resilience, not only by the number of projects announced.

This article examines the return of American manufacturing as a business and economic response to supply chain vulnerability, geopolitical pressure, and the need for stronger domestic industrial capacity. It evaluates how public policy, technology, productivity, clean energy investment, and workforce constraints are shaping this transition. The central question is whether the United States can rebuild manufacturing in a way that is not only domestic, but also efficient, resilient, and financially competitive.

2. Research Question

The central research question is:

To what extent can the reindustrialization of the United States improve productivity, strengthen supply chain resilience, and reduce strategic dependence on China while maintaining financial competitiveness?

This question is relevant because modern manufacturing is no longer limited to factory employment. It includes semiconductors, clean energy, battery components, advanced robotics, logistics, data systems, intellectual property, and energy infrastructure. Therefore, manufacturing competitiveness must be analyzed as an ecosystem rather than as a single industrial sector.

3. Methodology

1. Technology is one of the most decisive factors in the return of American manufacturing. Unlike traditional industrial models based mainly on labor intensity and large-scale manual production, the new manufacturing strategy of the United States depends on advanced technologies capable of increasing productivity, reducing operational risk, and strengthening global competitiveness. In this context, technology is not only a production tool; it is a strategic asset that determines the capacity of a country to innovate, protect intellectual property, secure critical supply chains, and maintain economic leadership.
2. The current phase of reindustrialization is strongly connected to the development of advanced manufacturing systems. These systems include automation, robotics, artificial intelligence, industrial software, data analytics, digital twins, additive manufacturing, and smart logistics platforms. Together, these technologies allow firms to produce with greater precision, lower defect rates, faster response times, and better control over costs. For the United States, this is essential because its competitive advantage cannot depend on low wages. Instead, American manufacturing must compete through higher output per worker, better process efficiency, stronger quality control, and faster innovation cycles.
3. Automation and robotics are especially important because they reduce the gap between domestic and offshore production costs. In the past, many companies moved production overseas because labor was significantly cheaper in countries such as China, Vietnam, or other Asian manufacturing hubs. However, as robotics and automated production lines become more efficient, the labor-cost advantage of offshore production becomes less decisive. A highly automated factory in the United States can produce complex goods with fewer workers,

greater consistency, and shorter delivery times. This improves productivity while also reducing exposure to long-distance logistics disruptions, foreign policy risks, and supply chain delays.

4. Artificial intelligence also plays a growing role in the transformation of manufacturing. AI can be used to forecast demand, detect defects, optimize inventory, monitor machinery, improve energy consumption, and predict equipment failures before they interrupt production. Through predictive maintenance and real-time data analysis, companies can reduce downtime and improve operational continuity. This is particularly relevant for industries such as semiconductors, automotive components, aerospace, pharmaceuticals, battery production, and clean energy equipment, where small disruptions can generate major financial losses.
5. Semiconductor technology is at the center of this industrial transformation. Semiconductors are not only components used in electronic devices; they are the foundation of modern economic infrastructure. They support vehicles, telecommunications, defense systems, medical equipment, artificial intelligence platforms, cloud computing, industrial machinery, and energy systems. For this reason, dependence on foreign semiconductor production creates a strategic vulnerability. The expansion of domestic semiconductor manufacturing under the CHIPS and Science Act is therefore not only an economic initiative, but also a national security priority.
6. Another important technological factor is the protection of intellectual property. When production is located in jurisdictions where technology transfer risks are high, companies may expose their designs, processes, software, and industrial know-how to competitors or foreign governments. Producing in the United States, or within trusted allied economies, gives firms greater legal protection and better control over sensitive technologies. This is particularly important in industries related to defense, aerospace, advanced materials, artificial intelligence, biotechnology, and energy storage.
7. Technology also allows companies to create more flexible and resilient production systems. Traditional offshore manufacturing often depends on long production cycles, large inventories, and extended transportation routes. In contrast, digitally integrated manufacturing can respond more quickly to market changes. Smart factories can adjust production schedules, modify product specifications, and coordinate suppliers with greater speed. This flexibility is valuable in a global economy marked by volatility, trade tensions, changing consumer demand, and unexpected supply chain disruptions.
8. However, technological modernization also creates challenges. Advanced manufacturing requires a highly skilled workforce capable of operating, programming, maintaining, and improving complex systems. The United States must therefore invest not only in factories and equipment, but also in technical education, workforce training, engineering programs, and partnerships between industry, government, and educational institutions. Without qualified workers, technological investment may fail to reach its full productive potential.

4. Literature and Policy Background

4.1 Productivity as the Core of Economic Prosperity

Productivity is one of the most important indicators of long-term economic prosperity because it measures the capacity to produce more output with the same or fewer inputs. The base document correctly emphasizes that economic growth ultimately depends on the ability to produce more efficiently with available labor and capital.

Productivity 1-year percent change, 2024

Click on bars to drill down

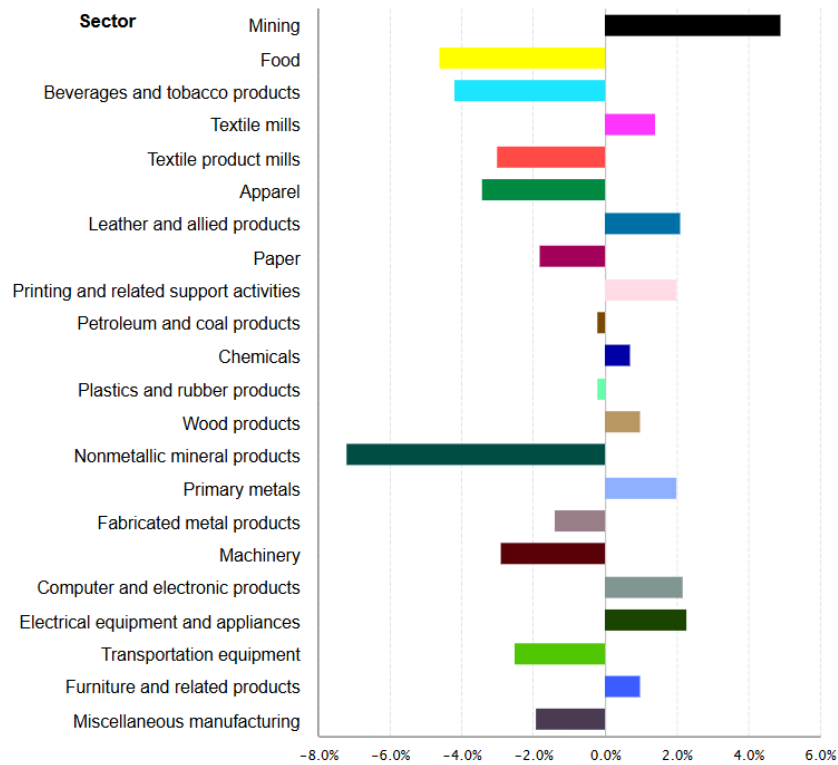


Figure 1. One-Year Percent Change in Labor Productivity by Manufacturing and Mining Sector, 2024

Source: U.S. Bureau of Labor Statistics, *Productivity and Costs by Industry: Manufacturing and Mining Industries, 2024*.

Figure 1 illustrates the one-year percent change in labor productivity across selected manufacturing and mining sectors in 2024. The data show that productivity performance was uneven across industries, with some sectors reporting positive productivity growth while others experienced declines. This supports the argument that the American manufacturing revival cannot be evaluated only through investment announcements or public subsidies, but must also be measured by actual output per labor hour and sector-specific productivity performance.

For the United States, the competitive challenge is not to match China's low labor costs. Instead, the strategic objective is to increase output per worker through automation, robotics, artificial intelligence, advanced logistics, energy efficiency, and skilled technical labor. In this sense, the future of American manufacturing depends less on low wages and more on capital productivity, technological intensity, and managerial execution.

4.2 Semiconductor Vulnerability and Supply Chain Risk

The semiconductor shortage demonstrated the financial danger of excessive dependence on concentrated foreign production. AlixPartners estimated in 2021 that the semiconductor shortage would cost the global automotive industry approximately \$210 billion in lost revenue. This figure illustrates that supply chain risk is not an abstract geopolitical issue; it directly affects revenue, cash flow, production schedules, inventory planning, and corporate profitability.

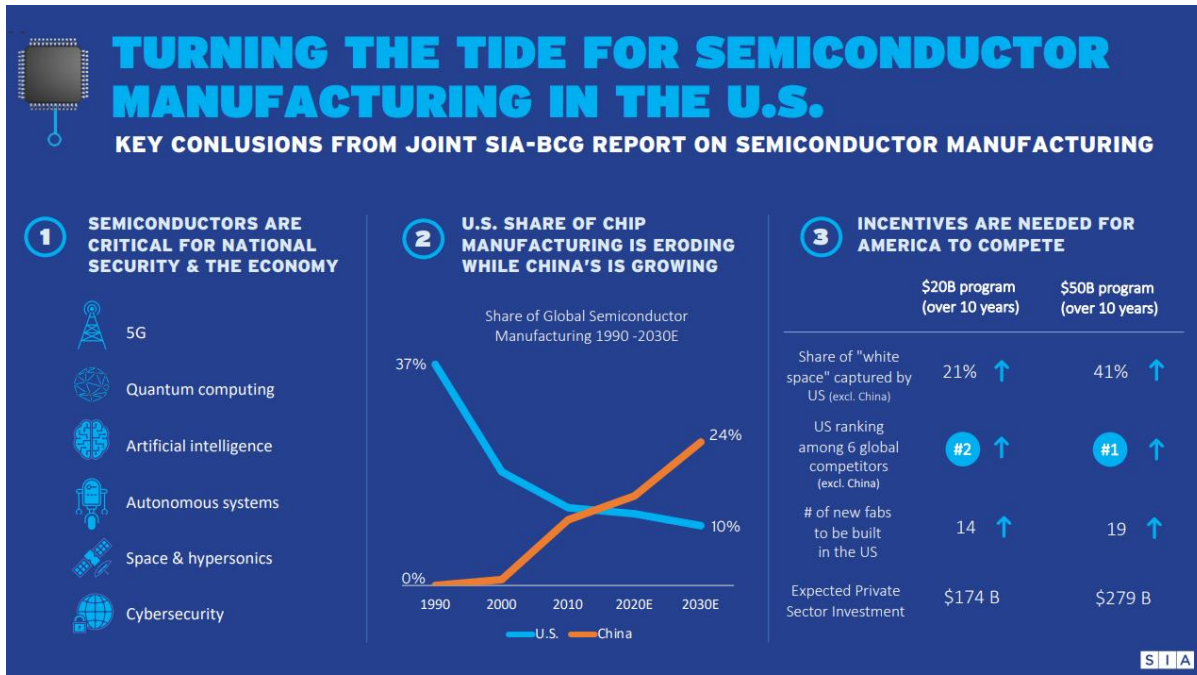


Figure 2. Decline of U.S. Share in Global Semiconductor Manufacturing, 1990–2020

Source: Semiconductor Industry Association and Boston Consulting Group, *Turning the Tide for Semiconductor Manufacturing in the U.S.*

Figure 2 shows the long-term decline of the U.S. share of global semiconductor manufacturing capacity, from 37% in 1990 to approximately 12% in 2020. This trend supports the argument that semiconductor dependence became a strategic vulnerability for the United States, particularly because chips are essential inputs for defense, automobiles, telecommunications, medical devices, artificial intelligence infrastructure, and consumer electronics.

The CHIPS and Science Act was designed to reverse this decline by stimulating domestic semiconductor fabrication, research, and workforce development. NIST explains that the CHIPS Act provided the Department of Commerce with approximately \$50 billion for programs intended to strengthen U.S. semiconductor research, development, manufacturing, and workforce capacity.

From a financial management perspective, this intervention changes the investment equation. Semiconductor plants require massive capital expenditure, long construction timelines, specialized labor, and complex supplier networks. Public incentives reduce investment risk and improve expected returns, making domestic production more viable in a high-cost economy.

5. Analysis

5.1 The Exhaustion of the Low-Cost Globalization Model

The traditional globalization model prioritized low-cost production, inventory efficiency, and global labor arbitrage. While this model improved margins for many firms, it also reduced domestic industrial capacity and increased exposure to foreign political and logistical risks.

The base document identifies this model as exhausted because dependence on single geographic nodes for critical inputs—such as semiconductors, battery minerals, pharmaceutical ingredients, and rare earth elements—created systemic vulnerabilities. The pandemic and the semiconductor crisis confirmed that cost savings can be outweighed by the financial damage of production paralysis.

In modern corporate strategy, resilience has become a measurable business value. A supply chain that is slightly more expensive but reliable may be financially superior to a low-cost supply chain that can collapse under geopolitical pressure, pandemic disruption, port congestion, or export restrictions.

5.2 China's Industrial Dominance and Strategic Leverage

China's role in global manufacturing is not limited to low-cost assembly. It also controls significant portions of key industrial supply chains, including battery materials and critical minerals. The International Energy Agency reported in its 2025 Global Critical Minerals Outlook that concentration in refining remained high, with China serving as a dominant supplier in several critical mineral categories such as cobalt, graphite, and rare earths.

This concentration matters because critical minerals are essential for electric vehicles, batteries, renewable energy infrastructure, defense technologies, and advanced electronics. When one country controls refining or processing capacity, it can influence prices, availability, and the speed of the energy transition.

The strategic concern is not only commercial competition but also economic coercion. If a geopolitical conflict or trade dispute restricts access to critical inputs, U.S. manufacturers could face production delays, cost increases, and reduced competitiveness. Therefore, reshoring and friendshoring are not simply nationalist policies; they are risk-management strategies.

5.3 Tariffs as a Rebalancing Mechanism

Tariffs are often criticized because they may increase prices, distort markets, or provoke retaliation. However, in the context of U.S.-China industrial competition, tariffs have also been used as a mechanism to offset state subsidies, forced technology-transfer concerns, and unfair trade practices.

In May 2024, the U.S. Trade Representative released a statutory four-year review of Section 301 tariffs related to China's acts, policies, and practices concerning technology transfer, intellectual property, and innovation. In September 2024, USTR finalized tariff modifications following that review.

From a financial perspective, tariffs can function as a price floor that helps domestic producers compete against subsidized imports. If a U.S. company is considering a manufacturing plant in Ohio, Arizona, Tennessee, or Texas, its capital budgeting model must account for foreign price competition. Tariffs can improve the expected return on domestic capital expenditure by reducing the probability that low-priced imports will destroy margins before the plant reaches scale.

However, tariffs alone cannot create competitiveness. They must be paired with productivity improvements, skilled labor, domestic supplier networks, and technological innovation. Otherwise, tariffs may protect inefficient production rather than stimulate globally competitive capacity.

5.4 The CHIPS Act as Strategic Industrial Policy

The CHIPS Act represents a major shift in U.S. economic policy. Rather than relying exclusively on private markets, the federal government is actively supporting domestic semiconductor capacity. This approach reflects the recognition that semiconductors are both commercial products and strategic assets.

The goal is not simply to produce more chips domestically. The broader objective is to create an ecosystem that includes suppliers, engineers, technicians, research institutions, packaging facilities, logistics providers, and downstream industries. The uploaded source also emphasizes that new chip plants can generate second- and third-tier supplier networks that become embedded in local industrial economies.

This ecosystem effect is important. A semiconductor plant does not operate in isolation. It requires chemicals, water systems, precision tools, cleanroom maintenance, cybersecurity, transportation, and specialized workforce pipelines. Therefore, the CHIPS Act can be understood as an ecosystem-building policy rather than a simple subsidy program.

5.5 The Inflation Reduction Act and Clean Energy Manufacturing

The Inflation Reduction Act has become one of the most important policy instruments behind the revival of American

manufacturing because it links clean energy incentives with domestic industrial capacity. Rather than treating the energy transition only as an environmental objective, the IRA transforms it into a manufacturing strategy by encouraging companies to produce, source, and assemble critical clean energy components within the United States or trusted supply-chain networks.

One of the central mechanisms of the IRA is the domestic content bonus. This incentive encourages the use of U.S.-produced iron, steel, and manufactured products in qualifying clean energy projects such as solar facilities, wind projects, energy storage systems, and other renewable energy infrastructure. In 2025, the U.S. Department of the Treasury explained that the domestic content bonus was designed to strengthen American manufacturing by increasing demand for domestically produced industrial inputs used in clean energy development. The Treasury also reported that, under the IRA, companies had announced more than **\$196 billion in clean power investments** and **\$92 billion in clean energy manufacturing investments**.

This policy is significant because the clean energy transition depends on physical production capacity, not only on climate targets or consumer demand. Batteries, solar panels, wind components, electrical equipment, transmission infrastructure, mineral processing facilities, and energy storage systems all require a strong manufacturing base. If the United States expands clean energy consumption without building domestic manufacturing capacity, it could replace dependence on imported fossil fuels with dependence on foreign-controlled minerals, batteries, solar components, and electrical equipment.

FIGURE 1
Actual manufacturing investment by year of announcement
 Billion 2023 USD

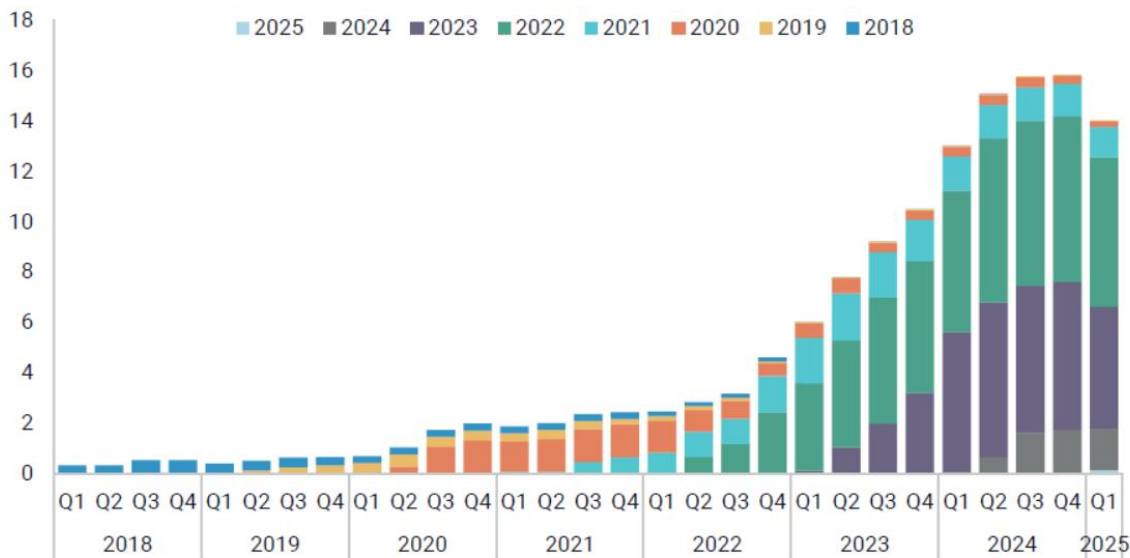


Figure 3. Actual Manufacturing Investment by Year of Announcement, 2018–2025
 Source: Clean Investment Monitor, *The State of U.S. Clean Energy Supply Chains in 2025*.

The investment response following the passage of the IRA suggests that tax incentives can influence corporate capital allocation in strategic manufacturing sectors. As shown in Figure 3, actual manufacturing investment accelerated significantly after 2022, with especially strong growth during 2023 and 2024. This trend indicates that clean energy tax incentives, domestic content requirements, and supply chain localization policies have helped make U.S.-based manufacturing projects more financially attractive. In this sense, the IRA operates not only as an environmental policy, but also as a mechanism for redirecting private investment toward domestic industrial capacity.

However, the effectiveness of the IRA depends on execution. Tax credits can stimulate investment, but they do not automatically guarantee productivity, cost competitiveness, or supply chain independence. The United States must also expand skilled labor training, accelerate permitting, improve grid infrastructure, secure critical minerals, and ensure that new clean energy factories can operate at scale. Therefore, the IRA should be understood not merely as a climate law, but as a strategic industrial policy designed to rebuild American manufacturing capacity in sectors that will define the future of energy and economic security.

6. Discussion

6.1 Productivity, Not Cheap Labor, Will Determine Success

The United States cannot win a manufacturing competition based on low wages. Instead, it must compete through higher productivity, stronger automation, advanced engineering, energy reliability, intellectual property protection, and managerial efficiency.

This is where the author's professional profile becomes relevant. A bilingual executive with experience in financial, administrative, and strategic leadership can analyze reindustrialization not only as a public-policy trend but as a business transformation process. Manufacturing revival requires capital allocation, risk assessment, cost control, workforce planning, supplier negotiation, and long-term financial modeling.

In practical terms, a company deciding whether to reshore production must evaluate:

- Capital expenditure requirements.
- Labor availability and wage structure.
- Tax incentives and eligibility.
- Energy costs.
- Tariff exposure.
- Supplier reliability.
- Logistics and inventory risks.
- Expected return on investment.
- Strategic value of intellectual property protection.

Therefore, the American manufacturing revival is not only an economic event. It is also a managerial challenge.

6.2 The Role of Energy Advantage

Energy costs are a major input in industrial competitiveness. The base document argues that relatively lower U.S. electricity costs compared with Europe and Japan support energy-intensive industries and help sustain production capacity.

This advantage is especially relevant for chemicals, metals, data centers, advanced manufacturing, and clean energy supply chains. If energy is reliable and comparatively affordable, manufacturers can operate machinery, robotics, cooling systems, and industrial processes more efficiently. However, energy advantage must be paired with grid modernization, permitting reform, and infrastructure investment.

6.3 Regionalization: Reshoring, Nearshoring, and Friendshoring

The manufacturing revival does not mean that every product will be made entirely in the United States. A more realistic model is regionalization. This includes reshoring strategic production to the United States, nearshoring labor-intensive processes to Mexico, and friendshoring critical supply chains among allied countries.

This model reflects a shift from “just-in-time” efficiency to “just-in-case” resilience. Firms are increasingly willing to

accept some cost increases in exchange for shorter supply chains, better visibility, lower geopolitical exposure, and improved continuity.

North America is especially important because the United States, Mexico, and Canada can form an integrated industrial platform. The United States can focus on advanced manufacturing, technology, capital-intensive production, and final-market demand; Mexico can support labor-intensive and assembly operations; and Canada can contribute energy, minerals, and advanced industrial inputs.

7. Risks and Limitations

Although the return of American manufacturing represents a major strategic opportunity, the process also contains important risks that could limit its long-term effectiveness. Reindustrialization requires more than government incentives, factory announcements, and tariff protection. It depends on the ability of firms, workers, educational institutions, and public agencies to convert investment into productive capacity. If these elements are not properly coordinated, the United States may experience higher costs without achieving the full benefits of industrial resilience.

One of the most significant limitations is the shortage of skilled labor. Advanced manufacturing requires technicians, engineers, electricians, machinists, automation specialists, welders, logistics professionals, and workers trained in robotics, semiconductor fabrication, battery production, and digital manufacturing systems. According to The Manufacturing Institute and Deloitte, the U.S. manufacturing sector could need as many as **3.8 million workers between 2024 and 2033**, and approximately **1.9 million of those jobs could remain unfilled** if current workforce challenges are not addressed. This labor gap represents a serious operational risk because new factories cannot reach full productivity without a qualified workforce.

Projected U.S. Manufacturing Workforce Gap, 2024–2033
(Millions)

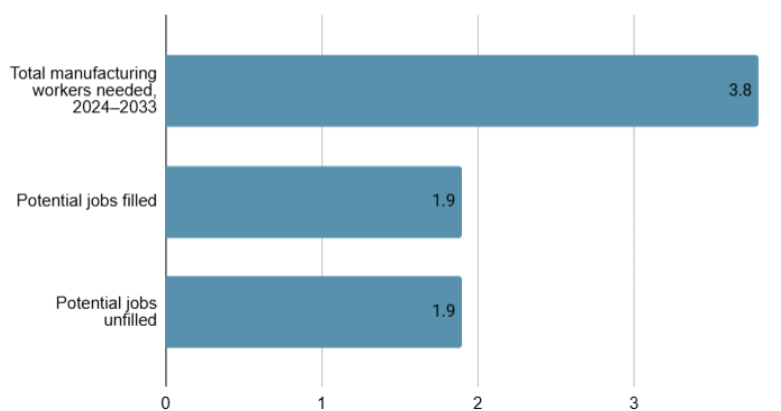


Figure
Source: Deloitte

Figure 4 illustrates the projected U.S. manufacturing workforce gap from 2024 to 2033. The chart shows that the total manufacturing workers needed are 3.8 million, while only 1.9 million potential jobs can be filled, leaving a gap of 1.9 million unfilled jobs. This workforce gap represents a significant challenge for the manufacturing sector during its revival, as the shortage of qualified workers may prevent the sector from reaching its full productive capacity. Even if investment in factories, equipment, and industrial infrastructure continues to increase, the sector may not reach its full productive capacity unless the United States develops a stronger pipeline of skilled manufacturing labor. The projected gap of approximately 1.9 million unfilled jobs shows that workforce development is not a secondary issue, but a central condition for the success of reindustrialization.

The workforce challenge also affects the financial viability of reshoring projects. Higher wages, competition for specialized labor, training costs, and delays in hiring can increase operating expenses and reduce expected returns on capital investment. For companies evaluating domestic manufacturing projects, the availability of skilled labor may become as important as tax incentives, tariffs, or energy costs. In this sense, the success of American reindustrialization depends not only on building facilities, but also on creating a national workforce pipeline capable of supporting advanced industrial production.

A second risk is short-term cost inflation. Moving production from lower-cost countries to the United States can increase expenses related to labor, construction, compliance, equipment, and supplier development. While automation can reduce some of these costs over time, new plants often require several years to reach full scale and efficiency. During the transition period, companies may face higher unit costs, and consumers may experience higher prices for certain manufactured goods. This creates a tension between national resilience and short-term affordability.

A third limitation is execution risk. Manufacturing investment has expanded significantly, but large industrial projects are complex and capital-intensive. Semiconductor fabs, battery plants, clean energy facilities, and advanced manufacturing sites require long construction timelines, specialized equipment, environmental permits, utility connections, supplier coordination, and reliable infrastructure. The Federal Reserve Bank of St. Louis provides data on manufacturing construction spending, which can be used to show the scale of industrial investment in recent years. However, high construction spending does not automatically guarantee productive output. Projects must be completed on time, staffed properly, and integrated into functioning supply chains.

Figure 5. U.S. Manufacturing Construction Spending, 2002–2025

Source: Federal Reserve Bank of St. Louis, FRED; U.S. Census Bureau, Total Construction Spending: Manufacturing in the United States.

A fourth risk involves dependence on critical minerals and foreign-controlled inputs. Even if the United States increases domestic production of semiconductors, batteries, solar components, and electric vehicles, many of these industries still depend on minerals and processed materials whose supply chains remain highly concentrated abroad. China continues to hold a dominant role in the processing and refining of several critical minerals used in clean energy and advanced technologies. This means that reshoring final manufacturing does not automatically eliminate strategic dependence if upstream inputs remain externally controlled.

A fifth limitation is the possibility of trade retaliation. Tariffs and industrial subsidies may protect domestic industries, but they can also provoke countermeasures from trading partners. China has already used export controls and licensing requirements on strategic materials as part of its trade and technology competition with the United States. These actions show that industrial policy can generate geopolitical responses that affect manufacturers, suppliers, and investors. Therefore, American reindustrialization must be accompanied by diversification of suppliers, stronger alliances, and domestic development of critical mineral processing capacity.

Finally, there is a risk that public incentives may produce inefficient investment if they are not connected to measurable productivity outcomes. Subsidies can encourage companies to announce projects, but long-term competitiveness depends on whether those projects generate high output per worker, technological innovation, cost efficiency, and durable supplier ecosystems. Without accountability, industrial policy could support projects that are politically attractive but economically weak. For this reason, the success of the manufacturing revival should be evaluated through productivity, workforce development, supply chain resilience, and return on invested capital, not only through the number of factories announced.

Overall, the risks do not eliminate the strategic value of American reindustrialization, but they show that the process must be managed carefully. The United States has the opportunity to rebuild industrial capacity in semiconductors, clean energy, batteries, defense-related technologies, and advanced manufacturing. However, this opportunity will depend on solving labor shortages, controlling costs, accelerating project execution, securing critical inputs, and ensuring that public incentives lead to real productivity gains.

8. Findings

This investigation reaches five principal findings:

First, the return of American manufacturing is structural, not merely cyclical. It is driven by national security, supply chain resilience, technology competition, and the need to reduce dependence on concentrated foreign production.

Second, industrial policy has become a central economic tool. The CHIPS Act and IRA show that the United States is using public incentives to influence private investment decisions in semiconductors, clean energy, and advanced manufacturing.

Third, tariffs are being used as strategic instruments, not only as protectionist barriers. Section 301 tariffs seek to counter China's industrial practices and create conditions in which domestic investment can compete.

Fourth, productivity will determine long-term success. The United States cannot compete through low wages; it must compete through automation, skilled labor, energy advantage, innovation, and output per hour.

Fifth, reindustrialization creates opportunities but also operational risks. Skilled labor shortages, inflationary pressure, permitting delays, and geopolitical retaliation could slow or weaken the transformation.

9. Conclusion

Looking at the return of American manufacturing, one thing becomes clear: the old way of thinking about production no longer works as well as it once did. For years, many companies treated manufacturing mainly as a cost decision. If producing overseas reduced expenses, then it seemed like the right financial move. That logic helped businesses grow and stay competitive, but it also created weaknesses that were easier to ignore when global trade was stable.

The problem became more visible when supply chains started failing. The pandemic, the shortage of semiconductors, shipping delays, higher transportation costs, and the tension between the United States and China showed that a low-cost supply chain can become very expensive when it breaks. A company can save money for years by producing abroad, but if it cannot get a key component at the right time, production stops, customers wait, and the financial loss can be much larger than the original savings.

This is why the return of manufacturing should not be seen only as a political message. It is also a practical business response to risk. The United States is trying to recover capacity in areas that are too important to depend completely on foreign suppliers. Semiconductors, batteries, clean energy components, defense-related technologies, and advanced manufacturing are not ordinary products. They support almost every part of the modern economy, from cars and hospitals to communications, energy systems, and national defense.

The CHIPS and Science Act and the Inflation Reduction Act are part of this new direction. These laws try to make domestic production more attractive and push companies to think beyond the cheapest supplier. They also show that the government sees manufacturing as something connected to national security and long-term economic stability. Still, laws and incentives are only the starting point. They can help bring investment, but they cannot guarantee that a factory will be productive, profitable, or competitive.

That is where execution matters. A new plant needs trained workers, reliable suppliers, good infrastructure, reasonable energy costs, and strong management. Without those elements, investment can remain only an announcement. From a financial and managerial point of view, the real value of reindustrialization will be measured by what these projects actually produce, how efficiently they operate, and whether they can compete over time.

Technology will probably decide much of the outcome. The United States is not going to win this competition by trying to pay the lowest wages. Its advantage has to come from producing better, faster, and with more precision. Automation, robotics, artificial intelligence, data systems, and advanced logistics can help close the cost gap with offshore production. But these tools only work when companies have people who know how to use them. For that reason, workforce training is not a secondary issue. It is one of the main conditions for success.

Clean energy also depends on this same industrial base. It is not enough to increase demand for electric vehicles, solar power, batteries, and modern energy infrastructure. Someone has to manufacture the parts, process the materials, build the equipment, and maintain the systems. If the United States does not develop that capacity, it

may reduce one type of dependence and create another one. That would weaken the purpose of the energy transition and leave the country exposed to new supply risks.

There are also limits that should not be ignored. Skilled labor shortages, higher construction costs, permitting delays, dependence on critical minerals, and possible trade retaliation can all slow the process. These are not small details. They can affect timelines, margins, investment returns, and the ability of companies to operate at scale. Rebuilding manufacturing is not just about bringing factories back; it is about making sure they can function in the real economy.

For that reason, the return of American manufacturing should be understood as an opportunity, but not as a guaranteed success. The United States has important advantages: capital, technology, energy resources, research institutions, and a large consumer market. But those advantages have to be organized well. If public policy, private investment, workforce development, and supply chain planning move in the same direction, the country can build a stronger and more resilient industrial base.

The main lesson is that manufacturing is not only about where something is made. It is about control, reliability, productivity, and long-term value. The goal should not be to recreate the manufacturing economy of the past. The goal should be to build a modern industrial system that can handle global uncertainty and still remain competitive. Whether this revival becomes a lasting strength will depend on how well the United States turns investment into real production, and real production into sustainable economic value.

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