

5 Can we avoid a global conflict?

Will industrial policy

lead to a global conflict?

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Laura T. D. J. Z. a

1 The core of the matter

Industrial policy is back on the political agenda in the United States. The CHIPS and Science Act (Chips Act), the Inflation Reduction Act (IRA) and the Bipartisan Infrastructure Bill pursue significant national policy goals, in particular national security and climate goals, by nurturing particular sectors. The tools used – subsidies and tax credits to promote business activity, investment and demand – are standard industrial policy tools, designed to foster research, production and employment by the private sector in the United States in the targeted sectors. In this chapter, we examine the implications for the global economy and for the international political economic order of the move to overt industrial policy by the US.

We argue that the return of American industrial policy – which we classify into the two categories of ‘chips’ and ‘green’ – raises several potential tensions with US allies and trading partners. The Chips Act is at once both a geoeconomic and a geostrategic initiative. It is a response to substantive state actions abroad that have made the US reliant on semiconductor fabrication by a few major suppliers headquartered in Asia. It focuses on China’s industrial policies and on the inherent national security risks for the US. But industrial policies in Taiwan have also played

need to create advantages and benefits for their local communities. This raises another issue. Overt national favouritism forces the issue of how to reconcile in international commerce and rule-making the diverse, competing, national objectives and varied national policy strategies to promote national firms or local production.

International economic negotiations always involve balancing benefits, but those negotiations are likely to be more difficult, and more public, when favouritism of national players or locations is direct, as in industrial policy²⁴. The initial disagreement between the US and France over the Chips Act and Inflation Reduction Act is a clear signal of the frictions likely to arise among allies and trading partners²⁵. The old international political economic order anchored by the United States was 'rule bound'. Although the rules themselves were built from debates about who would capture advantage, the new fragmentation and disorder are centred on national competitive advantage and self-sufficiency through onshoring, nearshoring and friend shoring. And the new economic nationalism is reflected in growing impediments to trade and global capital flows.

Negotiations about the several national industrial policies are likely to be even more difficult because enduring commercial and national advantage will be created in both green industries and in semiconductors. These considerations are not far from policymakers' minds.

That comparative advantage can be created is evident in the Taiwanese success with TSMC and advanced foundries, and in China's success in solar panels. Another more mundane example is how Danish policies supporting early deployment of digital hearing aids helped Danish firms

24 Certainly differences in national policies, even policies without direct trade or development intent, can spill over into international trade conflicts. The case of the European steel cartel is a perfect example; see European Commission press release of 4 April 2011, 'Antitrust: Commission fines prestressing steel producers € 269 million for two-decades long price-fixing and market-sharing cartel', https://ec.europa.eu/commission/presscorner/detail/en/IP_11_403.

25 Dave Lawler, 'Biden's "Made in America" push alienates allies', *Axios*, 1 December 2022, <https://www.axios.com/2022/12/02/biden-inflation-reduction-electric-cars-macron>.

in global markets. Familiar mantras like ‘we’re all in this together’ justify compromises to achieve the needed alliances, yet national interests in national champions and local production are real and will cause ten-

and must be in some sense an ally in pursuing global climate objectives. Before delving more deeply into the two cases, let us consider industrial policy itself.

2 Situating industrial policy

Industrial policy justifications are traditionally associated with national competitiveness, jobs and technological advancement. These goals are to be achieved by nurturing a particular sector/industry in a place, country, region or sphere. Importantly, it is not just about nurturing a sector/industry and, often, specific firms, but about nurturing them in a specific place, a particular nation²⁶. State action is intended to alter the market results of firms and sectors, to achieve outcomes that are unlikely otherwise in the market. The objective is changing, or maintaining the economy's production profile, for example, by moving from agriculture to industry, or in the case of China moving from labour-intensive sectors to technology-driven sectors. Sometimes industrial policy is a story of broad transformations and sometimes it is a story that focuses on particular problems or sectors²⁷. Industrial policy instruments are as diverse as the actual policy goals. Many policy instruments are available to achieve these goals: subsidies, tax incentives, R&D support, trade and foreign direct investment restrictions that discriminate in favour of local production, whether by domestic or foreign firms, and against foreign competitors. The goals and purposes, not the tools in particular, define industrial policy.

We should situate industrial policy in an historical context. Industrial

26 Of course, nurturing particular firms makes the policy open to corruption, that is for those with access to government, and the capability to influence its decisions, to

policy has long been associated with a drive toward national power, whether in seventeenth century France with Colbert, nineteenth century Germany with List, or indeed – less well known – sixteenth century Britain when the need for wood for ships began a policy push to shift from wood to coal (Gerschenkron, 1962). More recently, French strategies after the Second World War to move from a predominantly agricultural to a modern industrial economy were about structuring market incentives to favour the modernisation of firms and activities (Zysman, 1983). The Japanese modernisation in the nineteenth century and its restructuring after the Second World War similarly were rooted in the objective of establishing, and re-establishing in Japan's case, a global economic position. After the Second World War, the United States was the dominant economy, and the dominant Western political force. It led the construction of a neo-liberal system of global trade/ finance rules, which it is now regularly violating, and it reconciled both its geopolitical, strategic objectives and its domestic economic and political goals with these rules. Consistent with these rules, the US responded to import pressures in a wide variety of sectors from shoes to televisions, and from a wide variety of trading partners, through trade protections, often in the form of anti-dumping measures and voluntary export restraint agreements. These measures allowed the US to espouse free trade while restricting market access in sharply impacted sectors²⁸. But, importantly, direct market intervention to support domestic firms was limited and even trade-adjustment assistance, announced firmly, was limited and used ineffectively. Companies, workers and communities were left to bear the costs of lost production and lost markets from low-cost imports and export competition. The local costs were concentrated and devastating, gradually undermining political support for free trade and stirring the rise of populist 'nationalist' movements on both the left and the right (Autor et al., 2016).

28 Arguably hypocritical, these restraints were triggered at a much high level of imports than would have been tolerated in other polities.

States, whether by US or foreign firms. US policy is also driven by making certain that China does not dominate green technologies and products. But US green industrial policies to make the US the competitive location for green technologies and products can conflict with the objectives and goals of US allies, whose own energy transformations are essential, and who likewise want to pursue national advantage in green sectors and technologies.

A purely national or autarkic success, even if possible in industrial terms, will not address the global climate challenge: success requires all nations to participate. There will however be rivalries over who wins and loses in the process of building the new energy systems. Consequently, a significant challenge for green industrial policies will be building coalitions both at home and abroad to share the economic adjustment costs and benefits of the transition. Global coalitions will require the engagement of China, India and Russia, posing very different coalitions that reconcile ambitions amongst like-minded allies.

A core challenge will be building domestic coalitions for the energy transformation that also permit, if not facilitate, global alliances³¹. Certainly policy must support and reward the emerging green technologies. But there are losers as well as winners. Who will pay the costs of transition? Will the losers be compensated? The fossil-fuel sector will continue to fight to maintain its position, arguing in some settings that the climate challenge is exaggerated or unreal. The French

³¹ move py p

constituencies. Indeed, building domestic coalitions for the green transition seems likely to generate conflicts among nations about industries and competitiveness, conflicts that make building global coalitions on a shared public good more difficult. The challenge of harmonising national competitiveness and economic goals in green sectors with global climate goals should not be underestimated.

At stake in the transition is who will control the industries of the future. In theory, the development of green technologies and products in one country can benefit all countries, speeding and scaling the global energy transition. In practice, however, the rise of one nation's green industries can undermine the same industries in another nation. Consider China and solar panels. Chinese producers, supported by generous state industrial policies, drove down costs, making solar energy

is joint pre-competitive research and funding by the US and its allies on green breakthrough technologies, such as nuclear fusion and carbon sequestration.

4 Chips with everything

The chips story poses very different problems to the green story. The Chips Act is focused both on maintaining US and allied leadership and on impeding China's advances in one sector – micro-electronic components. Semiconductors are essential dual-use technologies, inputs throughout much of the economy and critical to security concerns. Advanced countries have national economic and security interests in nurturing a resilient, secure supply of both mature and cutting-edge chips to meet growing non-defence and defence demand. Remaining at the frontier of technological change in chips requires semiconductor production: technological change and production go hand in hand. A nation needs a strong production base to remain at the technological frontier of chips: “*Technological change and production go hand in hand. A nation needs a strong production base to remain at the technological frontier of chips.*” (Cohen and Zysman, 1987).

But, technological and market autarky will not be possible in this sector. In the words of Morris Chang, founder of TSMC: “*Technological change and production go hand in hand. A nation needs a strong production base to remain at the technological frontier of chips.*”³⁴. Consequently, market and policy alliances will be needed. In foundries, where leading-edge chips are produced, Taiwan's TSMC is dominant with Korea's Samsung and perhaps the US's Intel as enduring scale players. Production equipment, apart from the materials that go into production, is widely dispersed across Europe, the US and Asia with the Dutch company ASML dominating the essential domain of advanced lithography. ASML has announced that it will limit exports of its most advanced equipment to China, consistent with the goals of US policy to slow the growth of China's semiconductor industry.

34 Cheng Ting-Fang and Lauly Li, 'The resilience myth: fatal flaws in the push to secure chip supply chains', *Financial Times*, 4 August 2022, <https://www.ft.com/content/f76534bf-b501-4cbf-9a46-80be9feb670c>.

Japan has also announced that it will limit exports of such equipment to China. In design, the US has very strong positions with companies like Qualcomm. Europe's ARM, still owned by Japanese holding company SoftBank, is a major player.

We have previously defined the economic and geostrategic goals of US industrial policy in the semiconductor industry in the following way:

The primary goal of US industrial policy in the semiconductor industry is to ensure national security and economic resilience. This involves maintaining a robust domestic supply chain for critical components, particularly in the areas of design, manufacturing, and packaging. The US must also foster innovation and leadership in emerging technologies, such as artificial intelligence, quantum computing, and advanced materials, which are heavily dependent on semiconductor technology.

A secondary goal is to strengthen the US position in the global market by supporting domestic manufacturers and encouraging investment in research and development. This includes providing financial incentives, such as tax breaks and grants, to attract private capital and create high-paying jobs. Additionally, the US should work to establish international trade agreements and standards that favor its interests and ensure fair competition.

Finally, the US must address the growing concern of intellectual property theft and technology transfer to rival nations, particularly China. This requires a multi-pronged approach, including strengthening legal frameworks, improving border security, and enhancing the ability of law enforcement agencies to track and prosecute illicit activities. The US should also engage in diplomatic efforts to build international coalitions that share common concerns about technology security.

(Tyson and Zysman, 2021).

China, in which the underlying purposes of the allies are not all the same. China's ambition to establish leadership, indeed dominance, in crucial digital technologies is both a security and an economic challenge. For the United States, the security challenge is primary. The choices are not straightforward for other countries, which are trying to ensure in the name of 'sovereignty' their capacities for sustained autonomous technology development, to keep pace with US technology firms, while maintaining access to the Chinese market for their exports. An overarching question is whether the US-driven policy of containing China in the semiconductor industry will undermine China's willingness to participate in global solutions and trading rules in green technologies and products. If China is identified as an enemy in the semiconductor industry, will it be an ally in green industries?

Second, a more general problem is how to manage the conflicts generated by competing national industrial policies, and more specifically by the policies adopted by the United States. The existing trade and foreign direct investment rules do not provide comfort. The dispute settlement mechanism of the World Trade Organisation is moribund, killed off by the United States. The American ability to use access to its domestic market as leverage in international negotiations has dwindled in its effectiveness. The US sometimes applies its trade restrictions on an extraterritorial basis, applying them to both US and foreign firms doing business with China in violation of global trading rules. Does the US move to overt industrial policy require new trading rules and the revitalisation of the WTO dispute settlement mechanism to enforce these rules³⁵? Without these changes, the open trading order is likely to be undermined by wasteful beggar-thy-neighbour industrial policies that encourage onshoring, nearshoring and friend shoring and that further fragment the global

35 A cynic might remark that in the era of the Washington Consensus and a neo-liberal order, we were in fact both protectionist and promoting our own interests when speaking of global trade. Our cynic would accuse us of saying 'do as we say, not as we do.' The response of others was often that we hid strategies pursuing our particular advantage in deals covered with the ideology of free trade.

