

SPRING 2023

# PRO INDUSTRY

The Debate  
Over Industrial  
Policy

# PRO MKT

**SPRING 2023**

**Brooke Fox**

Managing Editor

**Andy Shi**

Deputy Managing Editor

**Walter Frick**

Contributing Editor

**Will Macheel**

Student Editor

Industrial policy was once so out of fashion that it was jokingly called “the policy that shall not be named.” Now it’s back in a big way. On issues ranging from clean energy to semiconductors to COVID-19, governments are trying to improve the performance of key business sectors. Can they manage to do so without subverting competition and subsidizing special interests?

The articles herein represent the opinions of their writers, not necessarily those of the University of Chicago, Chicago Booth or its faculty.

Citation: “Industrial Policy,” *ProMarket* (Chicago: The Stigler Center at the University of Chicago Booth School of Business, 2023).



THE UNIVERSITY OF CHICAGO BOOTH SCHOOL OF BUSINESS

**Stigler Center**  
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## **Table of Contents**

2. Letter from the Editor  
*Brooke Fox*
4. Industrial Policy From Engels to Eisenhower  
*Brad DeLong*
10. Economics Must Catch Up on Industrial Policy  
*Nathaniel Lane and Réka Juhász*
16. Industrial Policy Is a Seductive Mirage  
*Michael C. Munger*
22. Biden Embraces Buy America, Doubles Down on Trade Protection  
*Gary Clyde Hufbauer and Megan Hogan*
28. A New Framework for Better Industrial Policies  
*Chiara Criscuolo and Guy Lalanne*
36. How To Ensure Industrial Policy Promotes Public Over Private Gain  
*Lenore Palladino*
42. The Case for Green Industrial Policy  
*John Van Reenen*
48. Industrial Policy Can't Ignore Geography  
*Mark Muro*
54. India's Evolving Industrial Policy Is Critical for Realizing Its Development Vision  
*Nagesh Kumar*
60. Biden's Second-Best Economic Agenda  
*Walter Frick*

May 2023

Dear readers:

This is the first-ever print edition of *ProMarket*. Frankly, I'm surprised it took this long. Our publication launched in 2016, yet it has evolved tremendously since that time. *ProMarket* started as a blog focused on exposing the role of special interests in competitive markets, and today it is an academic forum that fosters discussions and debates on a variety of topics at the intersection of business and government. The subject of this initial volume is emblematic of *ProMarket*'s evolution: in recent months we have brought together a diversity of experts to discuss from a variety of perspectives the merits of industrial policy. Industrial policy has recently become a major focus among policymakers and political economists due to a series of bills passed in Congress to onshore jobs and boost manufacturing in select industries. Informed debate, involving both academics and practitioners, is vital for ensuring the production and execution of good policy.

I have to give special thanks to Walter Frick, our contributing editor who conceived of this series and shepherded its production. He also moderated our webinar to conclude the series, "What's Old Is New Again: Industrial Policy's Revival," which you can find on the Stigler Center's YouTube page. Thanks also to Andy Shi, *ProMarket*'s deputy managing editor, and Will Macheel, *ProMarket*'s first-ever student editor, for ideating, commissioning, editing, and producing the pieces you are about to read. Thanks to Naomi Koo for her original artwork that accompanied the series online, and Utsav Gandhi for his efforts to promote the important conversations we foster. I must also thank Sebastian Burca, Rachel Pointek, and Brianna Tomlinson for their support and coordination of an insightful webinar on the topic. Lastly, thanks to Chris Wheat for his leadership and Luigi Zingales for endless inspiration.

I hope you enjoy this special printed *ProMarket* volume on industrial policy.

Kind regards,



Brooke Fox  
Managing Editor  
*ProMarket*

## **ProMarket | Spring 2023**

### **Industrial Policy**

ProMarket is the publication of the George J. Stigler Center for the Study of the Economy and the State at the University of Chicago Booth School of Business. Founded in 2016, ProMarket began as a platform for exploring the subversion of competition by special interests. While issues of antitrust, special interest market capture, and money in politics remain at our core, our remit has grown to exploring broader questions about market formation and social welfare optimization, how these should be defined, and the barriers to their realization. What we encourage is no less than a debate about the future of capitalism.

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Founded in 1977, the Stigler Center is dedicated to understanding issues at the intersection of politics and the economy. Through research support, analysis of data and economic trends, and a wide range of courses, events, initiatives, and resources, the Stigler Center has become an intellectual destination for research on regulatory capture, crony capitalism, and the various forms of subversion of competition by special interest groups.

# Industrial Policy From Engels to Eisenhower



**Brad DeLong** is a professor of economics at the University of California at Berkeley. He was a deputy assistant secretary for economic policy at the U.S. Treasury during the Clinton Administration. He is the instant bestselling author of *Slouching Towards Utopia: An Economic History of the Twentieth Century*. He has been too online since 1995, now in the form of a Substack at [braddelong.substack.com](https://braddelong.substack.com).

**B**ack in the 1840s, the writings of economists that crossed his desk really annoyed German philosopher Friedrich Engels. They wrote about land, labor, and capital. But there was something more important:

**A factor which the economist does not think about.... What has the economist to do with inventiveness? Have not all inventions fallen into his lap without any effort on his part? Has one of them cost him anything? Why then should he bother about them in the calculation of production costs? Land, capital and labour are for him the conditions of wealth, and he requires nothing else. Science is no concern of his. What does it matter to him that he has received its gifts through Berthollet, Davy, Liebig, Watt, Cartwright, etc.—gifts which have benefited him and his production immeasurably?... A single achievement of science like James Watt's steam-engine has brought in more for the world in the first fifty years of its existence than the world has spent on the promotion of science since the beginning of time...<sup>1</sup>**

Engels recognized that the market economic order of private property, exchange, and the pursuit of profit that the members of the business class had ring-mastered, the increasing scale of the internal within-corporation divisions of labor that they ran, and their direction of profits to the industrial research labs in which, increasingly, the science and engineering were being done were all essential. At the end of the 1840s he, along with his BFF Karl Marx, would marvel at how the business class “played a most revolutionary part... created more massive and more colossal productive forces than have all preceding generations together... what earlier century had even a presentiment that such productive forces slumbered in the lap of social labour?”<sup>2</sup>

But all the potential prosperity the market could generate rested on science and engineering. And thus the economist got it wrong: “He does not know how to calculate such things; the advances of science go beyond his figures.”<sup>3</sup> In Engels’s view, we needed to replace the market economy and the analyses of

its tame propagandist economists with “a rational order... [going] beyond the division of interests as it is found with the economist, [where] the mental element certainly belongs among the elements of production and will find its place in economics...”<sup>4</sup>

Those who took Engels too seriously and tried to replace the market economy with an all-thumbs command economy created what were the greatest economic disasters of the twentieth century with their systems of really-existing socialism. But Engels’s point—that the market is going to get it wrong because it cannot price, it does not see, the value of the non-rival ideas of science and of the communication networks of communities of engineering practice—is 100% right. And scotch-taping together some system of restricted appropriability via intellectual property “rights” and public funding of basic research is highly, highly unlikely to be a sufficient fix for the problem.

And so we have largely successfully had here in America, since Alexander Hamilton, industrial policy to try to fill in the gap, to properly value and hence promote the spillovers and positive externalities from the research, the development, and the knowledge-exchange of the communities of engineering practice in a way that the invisible hand of the market, to which such things are themselves invisible, cannot. As Steve Cohen and I wrote in our book *Concrete Economics: The Hamilton Approach to Economic Growth and Policy*:

**In successful economies, economic policy has been pragmatic, not ideological. It has been concrete, not abstract... policies to shift its economy onto a new growth direction... collective choices... not... the emergent outcomes of innumerable individual choices aimed at achieving other goals... not been the unguided results of mindless evolution... [rather] intelligent designs...<sup>5</sup>**

And this has not been a process disconnected from the market:

**Yes, there was an “invisible hand,” and enormous entrepreneurial innovation and energy. But the invisible hand was repeatedly lifted at the elbow by government, and re-placed in a new position... Government signaled the direction, cleared the way, set up the path, and—when needed—provided the means. And then the entrepreneurs rushed in, innovated, took risks, profited, and expanded that new direction in ways that had not and could not have been foreseen... Underneath the rhetoric... [was] a critical though often unspoken interdependence of entrepreneurship and government... The choice of new direction was based on a general perception of where America’s economy ought to be going and what would be needed to move the economy in that direction. There was, always, an unsightly tangle of interests and compromises. But eyes stayed on concrete reality...<sup>6</sup>**

Or so it was until the Neoliberal Turn of the 1980s.



On the right, the 1980s saw Ronald Reagan's declaration that government could not be the solution but was the problem—that the solution was large tax cuts for the rich, so that the successful, the entrepreneurial, and the innovative could focus on creating good jobs rather than spending their time focused on their tax-avoidance strategies. On the center, we had Charles Schultze and many others drawing a substantive and moral equivalence between Reaganite overpromises on supply-side tax cuts and worries that America's economic structure was shifting away from sectors with large positive research, development, and engineering-community externalities and into sectors with many fewer such, and even into sectors of negative-sum dissipation. For *The Brookings Review*, Schultze wrote back in 1983:

**America is not de-industrializing. Japan does not owe its industrial success to**

**its industrial policy. Government is not able to devise a “winning” industrial structure. Finally, it is not possible in the American political system to pick and choose among individual firms and regions in the substantive, efficiency-driven way envisaged by advocates of industrial policy...<sup>7</sup>**

That an excessively large chunk of income in America flows to dissipative activities—healthcare administration, financial churning—is not something I have heard anyone deny in recent years. That, according to Schultze, the Japanese experience gives us “no reason to believe... [the government’s] influence, on balance, improved the choices in any major way.... [It was] a huge saving rate, aggressive business leaders, and a backlog of modern technology waiting to be exploited...” rings very hollow today, given the inability of emerging markets in general to converge to Dover-Circle-Plus levels of productivity, and the success of not just Japan but its emulators Korea, Hong Kong, Taiwan, Singapore, Malaysia, Thailand, coastal mainland China, Indonesia, and now Vietnam.<sup>8</sup> But perhaps the most ahistorical claim by Schultze was “we actually know precious little about identifying, before the fact, a ‘winning’ industrial structure.”<sup>9</sup>

Alexander Hamilton set out to redesign the agrarian economy that Britain’s mercantilist policies had imposed on the North American colonies, and for which America’s unlimited land and limited population density so well suited

it: he knew that the winning industrial structure had manufacturing and banking in prominent places, rather than having the United States be a gigantic New Zealand. After Hamilton, Jefferson, Madison, and their successors quickly decided that their small-government, agriculture-first principles had been an out-of-power luxury, and the “American system” was industry-promotion, protective manufacturing tariffs, and infrastructure—especially canal and railroad building. Pre-Civil War America, safe from foreign military threat, channeled Department of War money to fund the development of promising high-tech industries at the Springfield Arsenal and elsewhere. And Robert E. Lee’s first major post-West Point army job was not commanding soldiers on some border but rather making the Mississippi River behave in the area around St. Louis. Railroad expansion, state land-grant colleges, homesteads to prevent the growth of latifundia and latifundistas—the post-Civil War government’s infrastructure constructions and land allocations were big government incarnate. Regulation of natural (and unnatural) monopolies. Amending the constitution and shifting from a tariff- to an income tax-based government. And we are not even up to World War I.

And if you had tried to argue to either FDR or to Eisenhower of the Interstate Highway System and the post-Sputnik moment that we did not know what a “winning” industrial structure” was, they would have laughed.



No. The only truly live argument in Schultze’s “Industrial Policy: A Dissent” is the last: “it is not possible in the American political system to pick and choose among individual firms and regions in the substantive, efficiency-driven way envisaged by advocates of industrial policy.”<sup>10</sup> This is the point of Mancur Olson’s *The Rise and Decline of Nations* that the very success of the United States in the years up to the 1980s had created a large degree of institutional sclerosis and a great vulnerability to rent-seeking by those willing to invest in political influence.<sup>11</sup> The U.S. government, as a result, lacked what Peter Evans calls “embedded autonomy,” and the larger its scope for action the more the government will distort economic activity toward things preferred by the politically powerful, even if policies fly the false flag of promoting high positive externality activities.<sup>12</sup>

Perhaps. Perhaps the gas tank powering the engine of American Exceptionalism—of exceptional technology-led economic growth and development—was filled at filling station FDR and then topped-off at filling station DDE, but there are no more filling stations. Perhaps now the Silicon Valley infotech hub; the Boston, San Francisco, San Diego, and Research Triangle BioTech hubs; plus the widely distributed CleanTech efforts are simply running on fumes. Perhaps the CHIPS and Science Act and IRA and follow-on efforts will be unsuccessful. As Laura Tyson and Lenny Mendonca very politely put it: “Getting an industrial policy right is never easy, and getting a place-based one right will prove even more challenging.”<sup>13</sup> If so, then the 21st century will definitely not be an American century in any sense.

But perhaps not. It is in our hands. ■

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# Economics Must Catch Up on Industrial Policy



## Dr. Nathan Lane

is associate professor at University of Oxford and a fellow at the Roosevelt Institute. Prior to Oxford, Dr. Lane was an economics professor at Monash University where he was cofounder of SodaLabs.io. Previously, he was a postdoctoral researcher at the Massachusetts Institute of Technology.



## Dr. Réka Juhász

is assistant professor of economics at University of British Columbia. Prior to UBC, Dr. Juhász was an economics professor at Columbia University. Previously, she was a postdoctoral researcher at Princeton University. She holds affiliations with the NBER and CEPR.

**A**s countries openly embrace industrial policies, social science—and economics in particular—is faced with a knowledge deficit. Put simply, scholarship around industrial policy has left us bereft of a systematic understanding of these policies. We are missing an empirical roadmap for how to perform industrial policy.

For starters, systematic evidence on best practices is incomplete. Where industrial policies are multidimensional and complex, our understanding is inadequate across nearly every dimension. The abandonment of industrial policy as a serious object of study has left us with an oddly piecemeal understanding of practice. Given the renewed international interest and national experimentation with industrial policy, we need an empirically grounded conversation now more than ever.

We need evidence, data, and concreteness, and we needed it yesterday. After a decades-long intellectual hiatus, industrial policy must be taken seriously as an object of study by the economics discipline. In doing so, scholars need

to interrogate how industrial policy is practiced in practice. Our recent work is a small step in this direction, and an attempt to measure industrial policy in the real world. By building descriptive facts surrounding contemporary practice, we join emerging work on industrial policy and contribute to our basic understanding of these levers.

### **Going Underground, Impossibility Theorems, and the Rise of Empirics**

For a subject wrought with controversy, one fact is not controversial: since the 1980s, industrial policy has receded as a serious object of inquiry in economics. The height of globalization and, with it, the triumphalism of the Washington Consensus, signaled the nadir of industrial policy as a serious subject of study within mainstream economics. Academic economics saw industrial policy as old hat, part of the structural developmentalism of the previous generation of economics.

Yet while industrial policy was declared dead, practice hummed along anyways. Academic economics may have turned away from policymaking, but the

exigencies of the real world meant that industrial policy never truly went away; it merely faded from the view of mainstream academia, and public oversight. In the early 1980s, Robert Reich observed that governments always end up doing industrial strategy, only without a coherent strategy, pursuing promotion with “no rhyme or reason” the policies most vulnerable to special interest pressure.<sup>1</sup>

The rise of international agreements constrained industrial policy in its most conspicuous forms, yet these interventions never went away. Between the 1980s and 1990s, a steady march of multilateral agreements reduced old tools of protectionism, such as tariffs, but industrial policy merely mutated and took new forms.<sup>2</sup> As if summoned by the economist’s scepter of unintended consequences, industrial policy merely went underground. I call these the ‘wilderness years’ for industrial policy research.

In these wilderness years, where academic economics did engage with industrial policy, it was relegated to whimsical thought experiments. Industrial policy was simply a curiosity. Gary Becker perhaps best exemplified the spirit of the debate in 1985: “The best industrial policy is none at all.”<sup>3</sup> Here, much intellectual engaging in industrial policy largely focused on high-level debates surrounding the impossibility of industrial policy. As if the question of industrial policy was a hypothetical



binary variable, untangled from the complexities of practice on the ground.

To this day, much work in economics has been dedicated to demonstrating that industrial policy does not work, even empirically. This “impossibility theorem” view of industrial policy permeates the conversation surrounding industrial policy to this day. Inspired by debates about central planning, some of the most vocal critics have followed a Hayekian and Austrian route, claiming that “industrial policy is literally impossible.” Confronting the details of actual practice is largely second order.

Nevertheless, it is a tall order to claim that industrial policy is, literally, impossible. Whilst important for intellectual debates, it is often lateral to the realities of practice. These claims are also open to being falsified by empirical work. Historically, for example, they require social scientists to confront

episodes where industrial policy featured conspicuously in post-war development, including the experiences of Taiwan, Singapore, Japan, South Korea, and, more recently, China. Today, these claims implore us to erroneously reject emerging work on the efficacy of place-based policies,<sup>4</sup> or innovation policy and R&D,<sup>5</sup> two literatures where empirical evidence has rapidly expanded.

In the wilderness years of industrial policy, the scattered empirical work that did exist, thus, centered on rejecting the potential that industrial policy played a role in the postwar miracle episodes.<sup>6</sup> To the extent that the mainstream economics permitted the role of industrial policy, such as the World Bank's post-mortem of the East Asian growth miracle, it nevertheless located success with largely getting market fundamentals right.<sup>7</sup> It was largely left to political scientists, comparative sociologists, and heterodox economists in seminal qualitative work to unpack the practice and role of industrial policy in the East Asian growth miracle.<sup>8</sup>

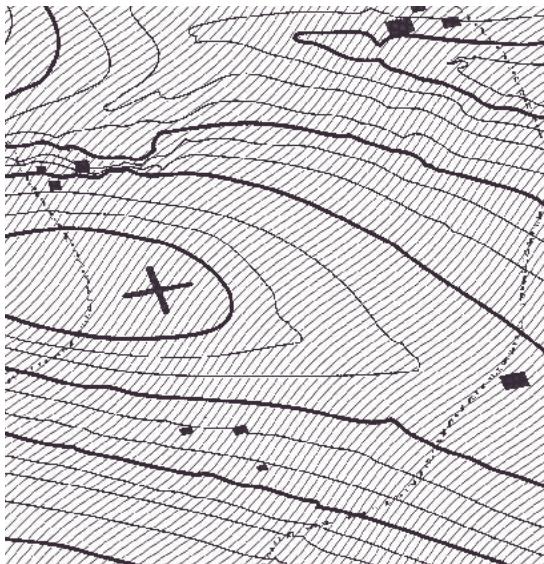
However, the empirical turn in development economics has slowly challenged the impossibility theorem-style arguments against industrial policy. As industrial policy re-emerged over the past decade, empirical work has begun evaluating the tenants of these policies. A trickle of well-identified, econometric studies have started to pick apart and unpack the experience of specific case studies.<sup>9</sup>

For example, Juhász's (2018) paper on the Napoleonic blockade applied the tools of causal inference and natural experiments—in this case, a blockade that mimicked protection of French textile manufacturers—to examine the mechanisms of the infant industry hypothesis.<sup>10</sup> When subject to serious empirical study, it turns out that the theory of industrial policy is very much relevant. For the East Asian miracle, the work of Lane (2022) targeted the Heavy Chemical and Industry Drive of South Korea.<sup>11</sup> Largely, empirical work on the South Korean episode has made room for a formative role of industrial policy, at least in one canonical episode.

### **Back To Basics: Measurement in an Imperfect World**

Yet, although the empirical turn in economics has finally reached the industrial policy debate, practitioners of industrial policy still lack fundamentals. Not only is the econometric work on industrial policy still in its infancy, the policy world lacks something more fundamental: empirical basics. Specifically, we do not yet understand the descriptive facts, nor do we have measures of contemporary policy practice.

Our recent work, joint with Emily Oehslen and Veronica Perez, is a new attempt to establish empirical fundamentals of industrial policy.<sup>12</sup> In doing so, we join researchers who have started doing the hard work of providing basic insights surrounding industrial policy, from considering the conceptual foundations



of industrial policy<sup>13</sup> to accounting for industrial policy practice in primary source documents.<sup>14</sup>

Our proof of concept uses machine learning techniques that automatically classify industrial policies using textual policy descriptions. Instead of using quantitative policy measures, which may be used for many purposes, our methodology focuses on the language of policy descriptions to identify those that include goal-oriented actions aimed at changing the composition of economic activity—the definition of industrial policy. We apply our classification algorithm to a large international database of commercial policy text, the Global Trade Alert (GTA) project, and obtain counts of new flows of industrial policy use at the country-sector-year level. Creating measures of industrial policy allows us, for the first time, to describe the rough contours of industrial policy practice, globally.

Even this prototype dataset yielded results that surprised us. We see that the industrial policies used today are a far cry from caricatures of overt post-war protectionism. Policies tend to take the form of financial lending and export support, and much less so tariffs. These industrial policy levers also tend to be granular, often targeted toward specific clusters of industries. Although, like the past, manufacturing is an omnipresent feature of targeting: economies across the income distribution target capital goods, as well as heavy industry.

Given the seemingly technocratic nature of industrial policy that emerges, we find a strong relationship between the flow of new industrial policy and a country's income. According to our data, high-income countries implement about five times as many industrial policies, on average, as low- to middle-income economies. Among these latter countries, it is mostly industrialized, middle-income economies using industrial policies (UNIDO).<sup>15</sup> Furthermore, wealthy nations tend to target commodities for which they have high comparative advantage in world export markets. Whatever the source of these patterns, they beg the question: developing countries will face hurdles if they leverage industrial policies to move into competitive manufacturing markets.

Simply put, advanced, high-income countries have the state capacity to deploy technocratic industrial policies, and doing so may be challenging for lower-income countries. Thus, the

patterns in our data suggest the need to invest in state capacity, as well as the need to understand the institutional demands of advanced industrial policies. Currently, we lack systematic quantitative evidence on the political economy of successful industrial policies.

Our research is a first stab into establishing basic cross-country facts about industrial policy. For practitioners and researchers, establishing an empirical picture of industrial policy

is necessary to have constructive conversations about how to perform industrial policy. After all, industrial policy never went away—it's been alive and well in the developed world, even while academic economists read its eulogy. As the world starts to take industrial policy seriously, economics should take these policies seriously, too, as an object of study. Economists must perform the hard work of establishing the basic facts surrounding these controversial policies. We're already late. ■

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# Industrial Policy Is a Seductive Mirage



**Michael C. Munger** is a professor of political science at Duke University. He also directs the Philosophy, Politics, and Economics program. His most recent book is *The Sharing Economy: Promises and Pitfalls*, published by the Institute of Economic Affairs.

**A**n “industrial policy” is government action that encourages or directly subsidizes the expansion of some economic sectors over others. Dani Rodrik famously suggested that the core question about industrial policy is not “why?” but “how?”<sup>1</sup>

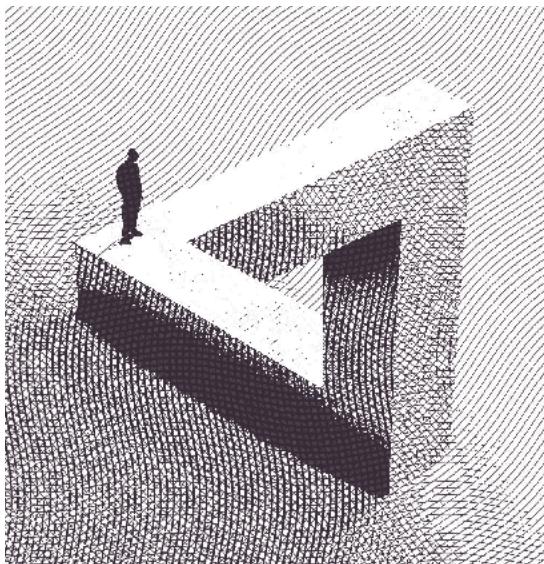
Few mainstream economists believe either that all pricing and resource allocation decisions should be made by the state, or that markets will flourish in a setting with no state contract enforcement, police protection, or dispute adjudication at all. That means, as Rodrik suggests, that some substantial commercial activity will generally be encouraged, with some degree of state direction or steering operating in the background.

Industrial policy is different from regulations that seek to limit or correct “market failures” such as externalities or information asymmetries. In the case of regulation, state action is focused on restoring Pareto optimality to commercial settings, by imposing taxes and subsidies or licensing requirements. Industrial policy, by contrast, is an evaluation of the

direction and speed of the overall growth path of different sectors of the economy.

Capitalism automatically has a self-executing industrial policy, described by Joseph Schumpeter as “creative destruction.” Profits are a sign that additional resources devoted to a sector produce greater social welfare; losses are a sign that the opportunity cost of resources being expended in that sector would be better reallocated elsewhere. Industrial policy operates on the margins of these investment decisions, offering subsidies and tax breaks for “good” industries—green energy in the U.S. right now, for example—and increased taxes on industries (such as tobacco products) that the government seeks to limit.

But industrial policy can also be more muscular, and intrusive, when it focuses on manipulating and improving industry structure, and encouraging workers to leave some sectors in favor of another. In the 1980s much of progressive Washington swooned at the genius of the Japanese industrial policy that focused on a few large export industries. In the 2000s the same kind of



admiration was heaped on the Chinese government's "investments" in enormous manufacturing facilities for textiles, plastics, and electronics.

Skeptics about industrial policy often take an Austrian perspective, which doubts the bureaucrats, or anyone else for that matter, would have the information necessary to direct an economy better than the signals of profit and loss, or a Public Choice perspective, which doubts that elected officials and the bureaucrats who report to them have any incentive to direct an "optimal" industrial policy even if they possessed perfect information about the future.

These two objections, bad information and wrong incentives, are not mutually exclusive and in fact reinforce each other. The tendency of politicians to use taxes and subsidies to threaten enemies and reward supporters actually distorts the profit signals in industry, meaning that

the information sent out to investors is misleading and biased toward cronyism rather than producing what consumers actually want. Unsurprisingly, the two iconic examples of "good" industrial policy mentioned above have not held up very well: Japan's spending on industry created a zombie economy that has never recovered.<sup>2</sup> More recently, China's huge government spending on industry has at best had no positive effect if the analysis accounts for the opportunity cost of the investments.<sup>3</sup>

Of course, there really are market failures, and so it seems tempting to conclude that while politically-chosen industrial policies aren't perfect, we have to try to improve on the problems that afflict markets, especially in settings where insufficient investment in research and short time horizons would make market outcomes seem weakest and least desirable.

The problem is that—as I argued recently at greater length— "good" industrial policy is literally impossible, either to pass in the first place or to sustain if by lucky accident it were implemented.<sup>4</sup> The reasons are actually spelled out clearly in the literature advocating for the insulation of bureaucrats from political incentives, beginning with A.C. Pigou in 1920. First, elected officials are far from passive, and have shown themselves perfectly capable of rewriting rules and "reforming" bureaucracy for their own benefit, even if this is harmful to the "public good." Second, if a legislature

would prefer a policy other than the socially best policy for electoral reasons, then that same legislature's members can anticipate the consequences of an institutional arrangement that would result in that less-preferred policy, and would veto the institutional change.

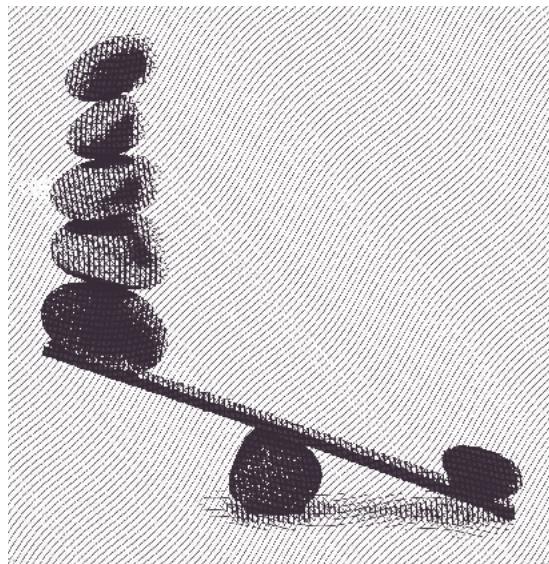
Pigou should be given credit for recognizing that there is a conflict between democracy and industrial policy. In 1920, he wrote in "Wealth and Welfare:"

**The case... cannot become more than a prima facie one, until we have considered the qualifications, which governmental agencies may be expected to possess for intervening advantageously in this class of matter...**

**It is not sufficient to contrast the imperfect adjustments of unfettered private enterprise with the best adjustments that economists in their studies can imagine. For we cannot expect that any State authority will attain, or even whole-heartedly seek, that ideal. Such authorities are liable alike to ignorance, to sectional pressure, and to personal corruption by private interest. A loud-voiced part of their constituents, if organized for votes, may easily outweigh the whole [emphasis added].<sup>5</sup>**

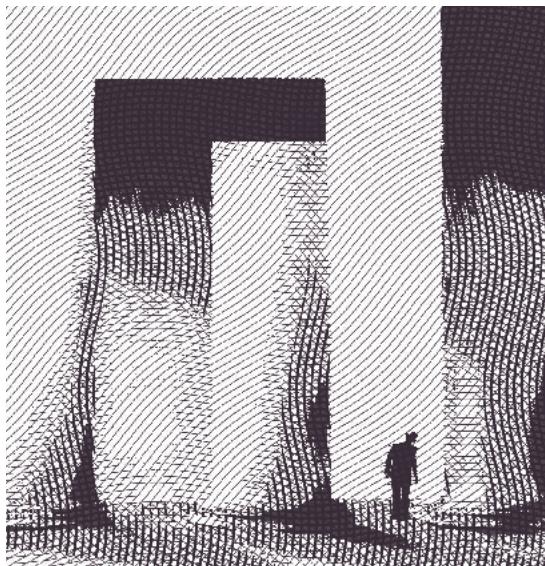
Later, in "State Action and Laissez-Faire," Pigou again sounded a note of caution:

**In order to decide whether or not State action is practically desirable, it is not**



**enough to know that a form and degree of it can be conceived, which, if carried through effectively, would benefit the community. We have further to inquire how far, in the particular country in which we are interested and the particular time that concerns us, the government is qualified to select the right form and degree of State action and to carry it through effectively.<sup>6</sup>**

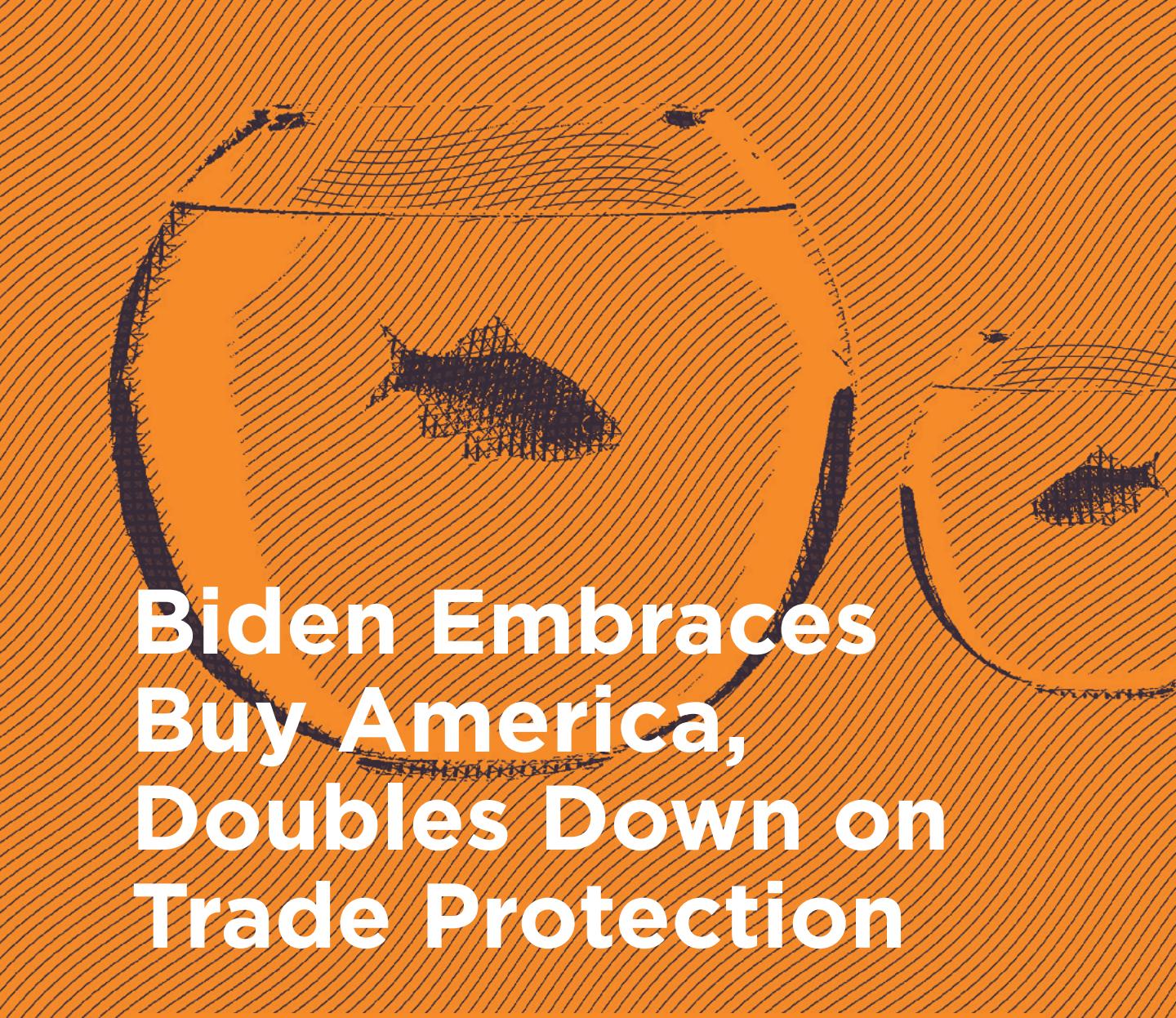
Proponents of industrial policy are fully aware that politics, at least democratic politics with elections in which organized groups can be pivotal, is a problem. In fact, for many supporters, politics may be the most important problem. As Robert Reich put it, "It is the claim of industrial policy... that the only alternative to formulating an explicit program for improving the nation's competitive performance is to cede effective responsibility for policy to groups with back-door political influence."<sup>7</sup>



So advocates of industrial policy do not see their program accommodating democratic politics; their claim is that the “correct” policy should be implemented instead of the outcomes that would be chosen by politics. If experts are allowed a free hand to choose the right taxes, subsidies, and regulations, the results will be a good industrial plan, better than what would be produced by market

processes alone. But the surprising thing, at least to outsiders, is learning that the “right” industrial policy is fully understood by proponents to require the suspension of democratic accountability. The seductive mirage of industrial policy thus connects two dangerous illusions, in a way that seems irresistible yet doomed. First, the idea that we (meaning elite experts, which is not “we” at all) could use central planning and direction to do better than the set of investments implied by the profit/loss test is hard to resist. Second, given that we could do better, any suspension of democracy and accountability to the public seems justified, because experts will only use this power responsibly, and for our own good. But the information problem means that experts can rarely do better, and the incentive problem shows that even if they could the contest to control just who would get to appoint the unaccountable benevolent despots would consume all the resources of the society in conflict. ■

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# Biden Embraces Buy America, Doubles Down on Trade Protection



**Gary Clyde Hufbauer** is a nonresident senior fellow at the Peterson Institute for International Economics. He was the Institute's Reginald Jones Senior Fellow from 1992 to January 2018. He was previously the Maurice Greenberg Chair and director of studies at the Council on Foreign Relations (1996–98), the Marcus Wallenberg Professor of International Finance Diplomacy at Georgetown University (1985–92), senior fellow at the Institute (1981–85), deputy director of the International Law Institute at Georgetown University (1979–81); deputy assistant secretary for international trade and investment policy of the U.S. Treasury (1977–79); and director of the international tax staff at the Treasury (1974–76).



**Megan Hogan** is a research analyst at the Peterson Institute for International Economics. She is a 2022–23 Eranda Rothschild Foundation Junior Fellow. She is the founder and codirector of DisinfoLab, a student-led research lab based at the College of William & Mary's Global Research Institute. The lab was founded to track bot network disinformation on Twitter and educate U.S. citizens of the threat of foreign disinformation campaigns on social media platforms.

The authors are associated with the Peterson Institute for International Economics in Washington, D.C. Views expressed are their own.

**P**resident Donald Trump, not Joseph Biden, is to blame for reversing 90 years of presidential leadership to instill market forces in the world economy. On his second day in the Oval Office, Trump withdrew the United States from the Trans-Pacific Partnership (TPP) and followed with four years of bombast. Trump derided the World Trade Organization (WTO) as an institution “created to suck money and jobs out of the United States,” increased tariffs on solar panels, washing machines, steel and aluminum, and launched a trade war with China.<sup>1</sup>

Compared to Trump, Biden exudes sweet reason, but his trade policies are equally harsh. Biden has reversed Trump in many arenas, but on trade protection Biden has doubled down. Like Trump, Biden seeks to boost U.S. manufacturing through more stringent “Buy American” requirements and subsidies to select firms. Trump’s fake “national security” tariffs still enlarge steel profits with only small concessions to allies, and the China trade war, with technology embellishments, now enters its fifth year. Biden made no attempt

to rejoin the TPP, and the new “trade” pacts he proposes—the Indo-Pacific Economic Framework (IPEF) and the Americas Partnership for Economic Prosperity (APEP)—don’t offer signatories preferential access to the U.S. market. Indeed, in most respects, Biden is either continuing or enlarging the protectionism of the Trump era.<sup>2</sup>

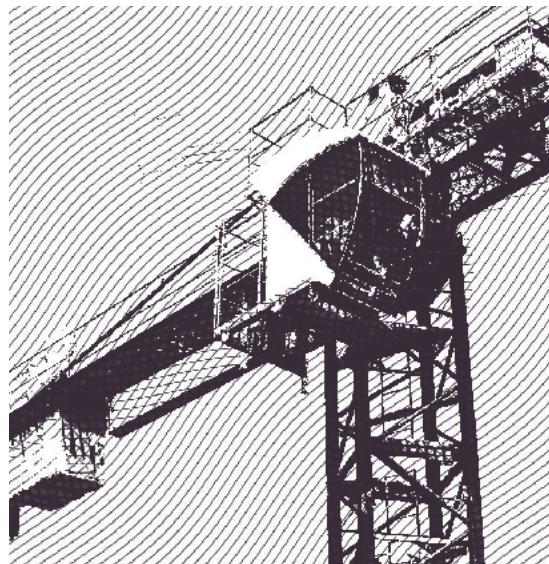
This protectionism has real costs. Tax dollars are wasted on a huge scale; the United States no longer charts the path of the world economy; and foreign markets are foreclosed to U.S. exports. Other countries recognize those costs and will continue to pursue an open world economy, with or without U.S. support.

### **“Buy American” and the Inflation Reduction Act of 2022**

In his State of the Union address on February 7, 2023, Biden announced a more extensive “Buy American” policy, requiring “all construction materials used in federal infrastructure projects to be made in America” with “American-made lumber, glass, drywall, fiber optic cables.”<sup>3</sup> The new provisions are meant to close an imagined decades-long loophole in the

Buy American Act of 1933 that restricts domestic procurement to iron and steel in funded infrastructure projects.<sup>4</sup> Once finalized, the new provisions will extend coverage beyond iron and steel to include all construction materials and will apply to “virtually all infrastructure spending supported by Federal financial assistance,” including not just roads and bridges, but also buildings, water infrastructure, and high-speed internet.<sup>5</sup>

Biden has been a staunch supporter of Buy American since assuming office and frequently incorporates Buy American provisions or incentives to boost U.S. manufacturing via domestic sourcing into major legislation. For example, the Inflation Reduction Act (IRA) of 2022—a landmark \$369 billion health, climate, and tax law—offers a tax credit of up to \$7,500 for buyers of new electric vehicles (EVs) if materials for EV batteries are sourced in either the U.S. or one of its free trade agreement partners and if the EV is assembled in North America. Topping off those statutory requirements, Biden declared that all materials for the full range of IRA projects—everything from wind turbines to solar panels for charging stations—must be made in America. Unsurprisingly, the IRA excludes the EV output of many U.S. trade partners, including France, Germany, and South Korea, either because they don’t have free trade agreements with the United States, or because electric vehicles must be assembled in North American plants. Buy American provisions in



the IRA echo those already imposed, through Biden’s order, on roads, bridges, and transmission lines built under the \$550 billion Bipartisan Infrastructure Investment and Jobs Act of 2021.<sup>6</sup>

### **The Costs of Buy American**

Buy American translates into prohibitive tariffs. Even for the huge U.S. economy, consequences are severe, owing to the nature of affected merchandise. If Buy American applied to consumer goods such as automobiles and furniture, made by at least a dozen domestic firms, the price markups from excluding imports might reach 15%—painful but not exorbitant. Competition between domestic firms would limit the cost to consumers. Owing to a decent number of domestic firms, forbidden imports could be replaced within six months or sooner.

But the market characteristics of merchandise subject to Buy American are utterly different than the market

characteristics of most consumer goods. Big ticket military hardware, like fighter jets and ships, are one extreme. These are made by only two or three U.S. firms, and contracts are typically renegotiated to compensate for cost overruns. The final price and time to completion customarily exceed launch plans by a factor of two or more. Such costs and delays are accepted as the price of national security.

The market characteristics of infrastructure more closely resemble military hardware than consumer goods. Often only a few firms have the connections, technical skills, and capacity to construct highways, bridges, tunnels, wind farms, solar farms, and broadband networks. This is the outcome of burdensome permitting requirements and geographic specificity of infrastructure projects. In turn, each successful contractor requires dozens of unique components to complete the task. By excluding foreign contractors—even technically qualified firms based in allied countries such as Canada and Korea—competition is quashed at the outset. Then, by denying U.S. contractors from acquiring scarce components from foreign sources, delay is guaranteed. President Biden invokes Buy American not in the name of national security, but in the name of jobs, jobs, jobs—notably at a time when unemployment has reached a 50-year low of 3.4%, and almost two job vacancies exist for every American looking for work.<sup>7</sup>

Responding to the Great Financial Crisis of 2008-09, President Obama signed the American Recovery and Reinvestment Act (ARRA) of 2009. Among other features, the ARRA contained a strict Buy American requirement for structural steel in transportation and water projects. Careful analysis showed that the requirement increased steel costs by about 40%.<sup>8</sup> As Obama himself later acknowledged, many ARRA projects were not “shovel ready,” for which Buy American delays were one cause. President Biden’s latest Buy American mandate reaches far beyond steel to cover all materials and components for the vast range of projects launched by the IRA.

One estimate suggested that, in 2020, the cost imposed by Buy America on U.S. public procurement, then \$1.7 trillion, amounted to \$94 billion annually. The implied tariff equivalent creating this cost was 26%. (Notably, the European Union is far worse in the domain of local content requirements (LCRs). The EU incurs \$471 billion extra costs from its own LCRs on \$2.7 trillion of domestic procurement, with a tariff equivalent of 117%.)

### **Friction with Allies**

Two aspects of Biden’s 2022 legislative successes have triggered considerable friction with Europe, Japan, and Korea. The CHIPS and Science Act of 2022 commits \$76 billion to U.S. semiconductor R&D and production, whether by U.S. or foreign firms. EU officials, fearing that the U.S. lure will



foreclose European semiconductor production, are enacting their own array of subsidies. Japan and Korea harbor similar concerns but are less vocal. Meanwhile, Samsung and TSMC are building major semiconductor plants in Texas and Arizona, respectively.

Protectionist provisions within the IRA preclude many U.S. allies from exporting needed materials. Their reactions are no surprise: first, they rebuff any U.S. call to lower their own trade barriers or temper their industrial subsidies, and second, they reach out to countries elsewhere in the world that still see the payoff from freer trade and investment. As long as Biden and his successors insist on maximum Buy American requirements, the U.S. has no chance of opening potential foreign export markets covered by even stricter LCRs.

### **The Twilight of U.S. Economic Leadership**

In the geopolitical arena, Biden is not shy about proclaiming American leadership. The economic arena is a different story. By imposing fake “national security” tariffs on steel and aluminum, by launching a trade war with China, and by threatening to walk away from NAFTA and the WTO, Trump revived protectionist policies last seen at the onset of the Great Depression. With less noise, Biden not only continued Trump’s policies, but doubled down. U.S. economic leadership has depreciated into “All Hat, No Cattle”—the Trade and Technology Council (TTC) with Europe, the Indo Pacific Economic Framework (IPEF) with Asian friends, and the Americas Partnership for Economic Prosperity (APEP) with Latin America.

Confronted by aging infrastructure, climate change, and China, U.S. leaders have embraced industrial policy on a massive scale: the Bipartisan Infrastructure Act, the CHIPS and Science Act, and the Inflation Reduction Act. The history of U.S. industrial policy episodes since 1970 indicates that R&D intensive projects, and projects open to foreign competition, have a better track record.<sup>9</sup> Yet this latest embrace is accompanied by strict Buy American requirements and only a modest boost to R&D.

From President Franklin Roosevelt to President Barack Obama, the United States promoted an open world economy based on market principles. Many countries, even including China, followed the American lead. “Globalization” may have become an American pejorative, but it delivered spectacular world growth from 1950 until 2010. Even as the United States strays from the tenets of an open world economy, other capitals still see the wisdom of continuing the course—but without Washington at the helm. ■

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# A New Framework for Better Industrial Policies



**Chiara Criscuolo**

is head of the Productivity  
Innovation and  
Entrepreneurship Division of  
the OECD.



**Guy Lalanne**

is a senior economist and  
policy analyst at the OECD.

Industrial policy is back after having been considered taboo since the 1970s. Until recently, government failures and industry capture were seen as worse enemies than market failures. But ever since the global financial crisis, governments have relied on industrial policy to stimulate growth and productivity, promote resilience, and address societal challenges. Now industrial policy is taking center stage as countries seek to ensure a green, digital, and inclusive recovery after the COVID-19 pandemic, and to reduce dependencies on critical inputs following recent shortages and Russia's invasion of Ukraine.

Virtually every government uses industrial policies, but do they really work? This question will not be answered satisfactorily anytime soon, but we aim to pave the way for better industrial policies by providing tools to address three issues. First, there is no agreement on which interventions are considered "industrial policy." Second, and related to the above, we do not really know how (and

how much) governments are really spending on industrial policies. Third, the evidence on the effectiveness of single industrial policy tools, let alone entire industrial strategies, is mixed and not always convincing. Targeted policies that focus more narrowly on firms with certain features (e.g., size, age, location) or in specific industries continue to raise concerns related to anticompetitive effects, capture by vested interests, and the opportunity cost of public funds. And no consensus exists on the efficiency of more general industrial policies (known as horizontal or untargeted), and even less on their sufficiency to address global challenges like, for example, climate change.

To help governments make sound decisions in the face of this uncertainty, we at the OECD are working to offer three things:

1. A sound and simple framework that helps design industrial strategies, described below.
2. A measure of industrial policies benchmarked across countries.
3. A wider and more solid evidence base on what works and what doesn't.

## A Conceptual Framework for Industrial Policy

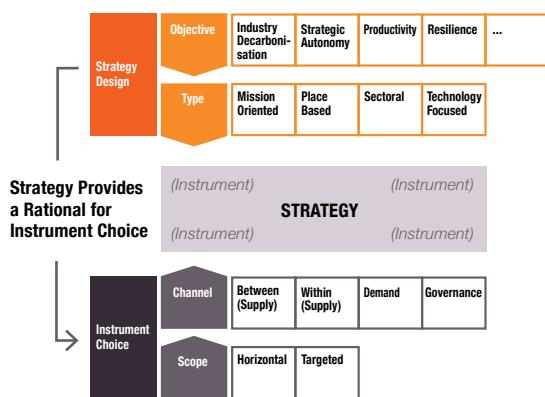
First, we provide a conceptual framework based on a purposefully broad definition of industrial policy, which enables us to consider simultaneously a vast set of policy instruments.<sup>1</sup> We define industrial policy as the set of “interventions intended to improve structurally the performance of the domestic business sector” and thus cover instruments ranging from the design of intellectual property protection to public procurement, R&D incentives, or public support to improve workers’ skills. It also encompasses much-studied realms such as science, technology, and innovation and entrepreneurship policies.

Our conceptual framework highlights two main dimensions of the formulation of industrial strategies, which are linked by the rationale underpinning policy intervention: designing an industrial strategy and selecting policy instruments to execute that strategy.

**The design of industrial strategies:** A strategy is a consistent and articulated group of measures aimed at achieving a given policy objective, which can go beyond productivity growth and innovation to include things like sustainability, resilience, and strategic autonomy. Beyond traditional sectoral or place-based orientations, “new” industrial strategies increasingly focus on specific technologies or “missions.” For instance, mission-oriented industrial strategies

are primarily motivated by the societal benefits they can provide and the need to coordinate multiple stakeholders around complex challenges, such as the green transition.

## The Formulation of Industrial Policy

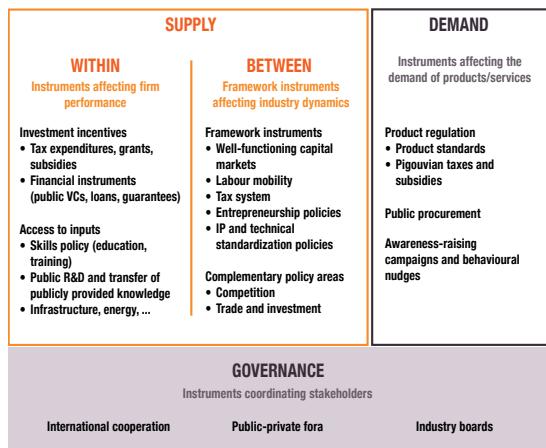


Source: Authors.

### The choice of industrial policy instruments

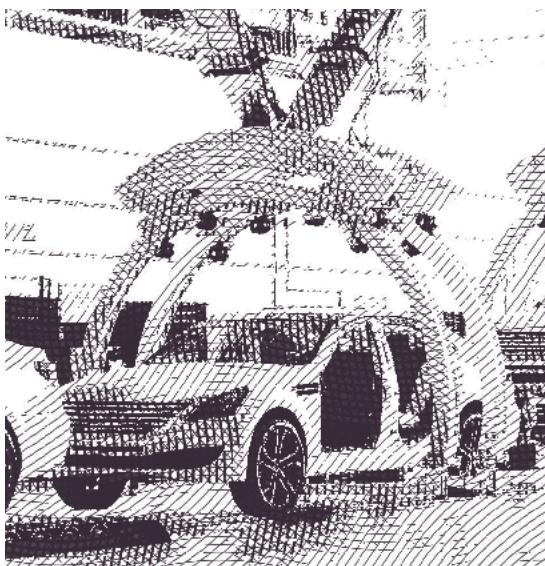
**instruments:** Our taxonomy identifies the channels through which policy instruments operate and potential complementarities. In addition to keeping with the traditional distinction between horizontal and targeted policies, the taxonomy distinguishes between demand-side instruments and two types of supply-side instruments: those that primarily improve firm performance (such as tax credits, grants, loans or loan guarantees, and public support for training within firms) and those that affect industry dynamics (“framework” instruments such as the tax system, capital and labor market policies, competition or trade policies).

## Taxonomy of Policy Instruments



Note: Examples based on the main channel through which policy instruments work. Source: Authors.

This framework can shed light on the design of industrial strategies for the green transition, for example, by helping understand the complementarities between innovation and technology adoption support on the one hand and demand-side instruments on the other hand.<sup>2</sup> The latter can contribute to transformative industrial change



by affecting the demand for products through either their price, availability, or public demand, and have become more and more common, in particular in transformative mission-oriented strategies. The underlying rationale is the creation of demand to support scaling-up and in turn lowering costs through learning by doing. In the context of targeted industrial strategies, demand side policies are particularly interesting as they may be less distortive than targeted supply-side policies.

This framework is already being put to use. By shedding light on the complementarities between these different policy instruments, it offers practical policy advice to help design effective industrial strategies. For instance, it has been used by the French administration in the development of the new industrial strategy “France 2030,”<sup>3</sup> and by the OECD in recent reports on the net-zero transition of the Dutch manufacturing sector and the analysis of green hydrogen strategies.<sup>4</sup>

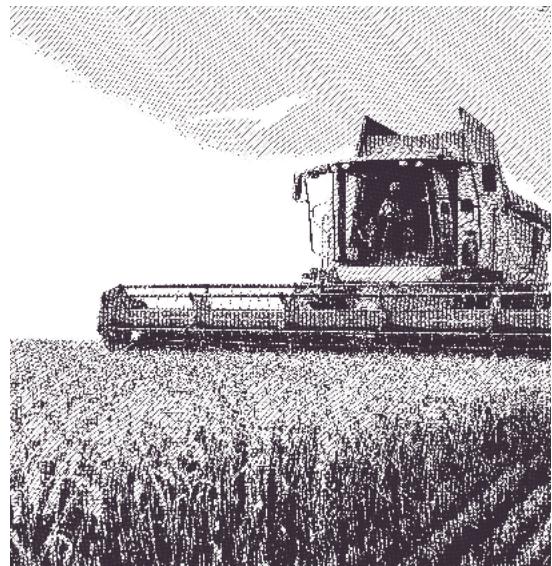
## Measuring and Benchmarking Industrial Policies Across Countries

Sound policymaking requires having a helicopter view of industrial policy—policymakers need to know what their government is doing domestically as well as understand partner countries’ policies. Measuring industrial policy expenditures is a first step towards ensuring transparency and accountability and enabling policy evaluation. It also supports cross-country comparability of

industrial policies, facilitating international coordination on global challenges.

However, amidst an increasing number of industrial strategies, and despite the availability of information across countries, there is no proper measurement or cross-country comparison of industrial strategies. For this reason, the OECD gathers harmonized data that allow benchmarking industrial strategies across countries in terms of industrial policy expenditures, policy priorities, policy instruments, and recipients through the new project “Quantifying Industrial Strategies” (QuIS). It measures industrial policy expenditures across 10 OECD members, initially for the period 2019–21. As it focuses on ‘expenditures’, several industrial policy areas are not directly covered.

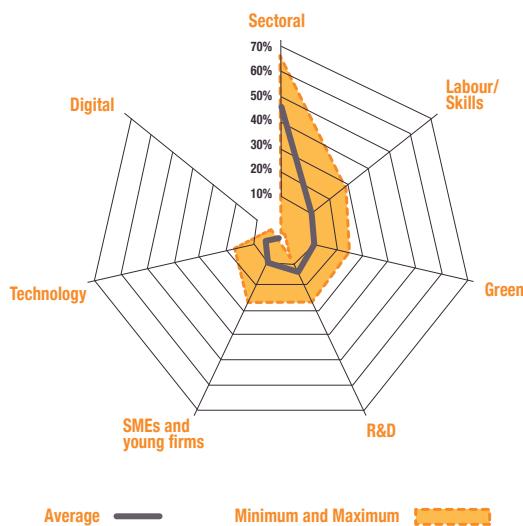
The first milestone for the project has been the development of a new methodology to gather comparable information on expenditures from publicly available information.<sup>5</sup> With the support of an advisory group of academics and industrial policy practitioners the methodology provides guidance on which spendings to include and which not. For example, not all skill policies can be considered industrial policies but at least those programs that provide financial support to firms to finance training should be considered industrial policy.



The second milestone will be the forthcoming release of this benchmarking exercise’s first results. Preliminary estimates shown below indicate that, although green industrial policies are not negligible, comprising on average 13% of industrial policy expenditures, countries’ priorities are still dominated by a sectoral approach. Policy instruments for specific industries still represent half of the expenditures on average, often in sectors such as agriculture, manufacturing, energy, or transportation. Country profiles are nevertheless diverse, with, for instance, green expenditures as high as 25% in some countries and non-existent for some others (the categories are not mutually exclusive).

## Industrial Policy Priorities across Six Selected OECD Countries

*Industrial policy expenditures by eligibility criteria in 2021, percent of total industrial policy subsidies and tax expenditures*



Note: Structural policies (i.e., excluding COVID-19). Categories are not mutually exclusive, as policies can be tagged in several categories. Additionally, some policies do not fulfill any of these eligibility criteria. Hence, the numbers in this figure do not add up to 100%.

Source: OECD calculations based on QuIS database.

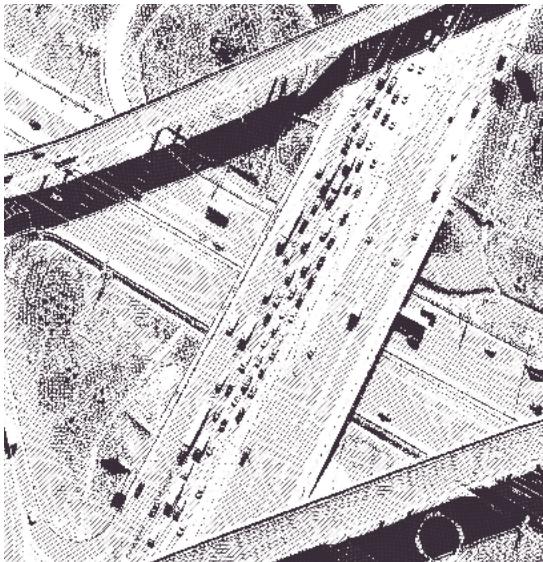
## Taking Stock of Existing Evidence on Industrial Policy

Beyond a conceptual framework to help design and measure industrial strategies, sound policymaking requires a clear view on what works and what does not. Leveraging our framework, we also provide a synopsis of the available empirical evidence on industrial policy instruments and their complementarities and trade-offs.<sup>6</sup> Despite a growing body of evidence, a strong push on policy evaluation is urgently required.

The review of existing empirical evidence clearly supports the premise that well-designed economic incentives for firms and good framework conditions are effective. First, among the different types of economic incentives, the most studied by far are R&D tax credits and subsidies. While it has long been recognized that they stimulate R&D expenditures, recent studies also show that they tend to increase innovation. Second, policies leveling the playing field and ensuring an efficient allocation of resources, such as sound competition and trade policies, lowering barriers to entry, and cutting red tape, are key complements to industrial policy in enabling the most productive firms to grow and an important channel for structural change.

At the same time, there is still limited and inconclusive evidence for many other questions, including the effectiveness of the targeted and demand-side instruments, the complementarities between policy instruments, which are often bundled together in industrial strategies, and the effects of industrial policy on resilience, inclusiveness, and the environmental and social performance of firms.

For instance, available evidence shows that demand-side instruments can effectively complement or accelerate the effects of supply-side instruments to foster innovation. For instance, carbon pricing and environmental regulation are effective in encouraging the green transition of

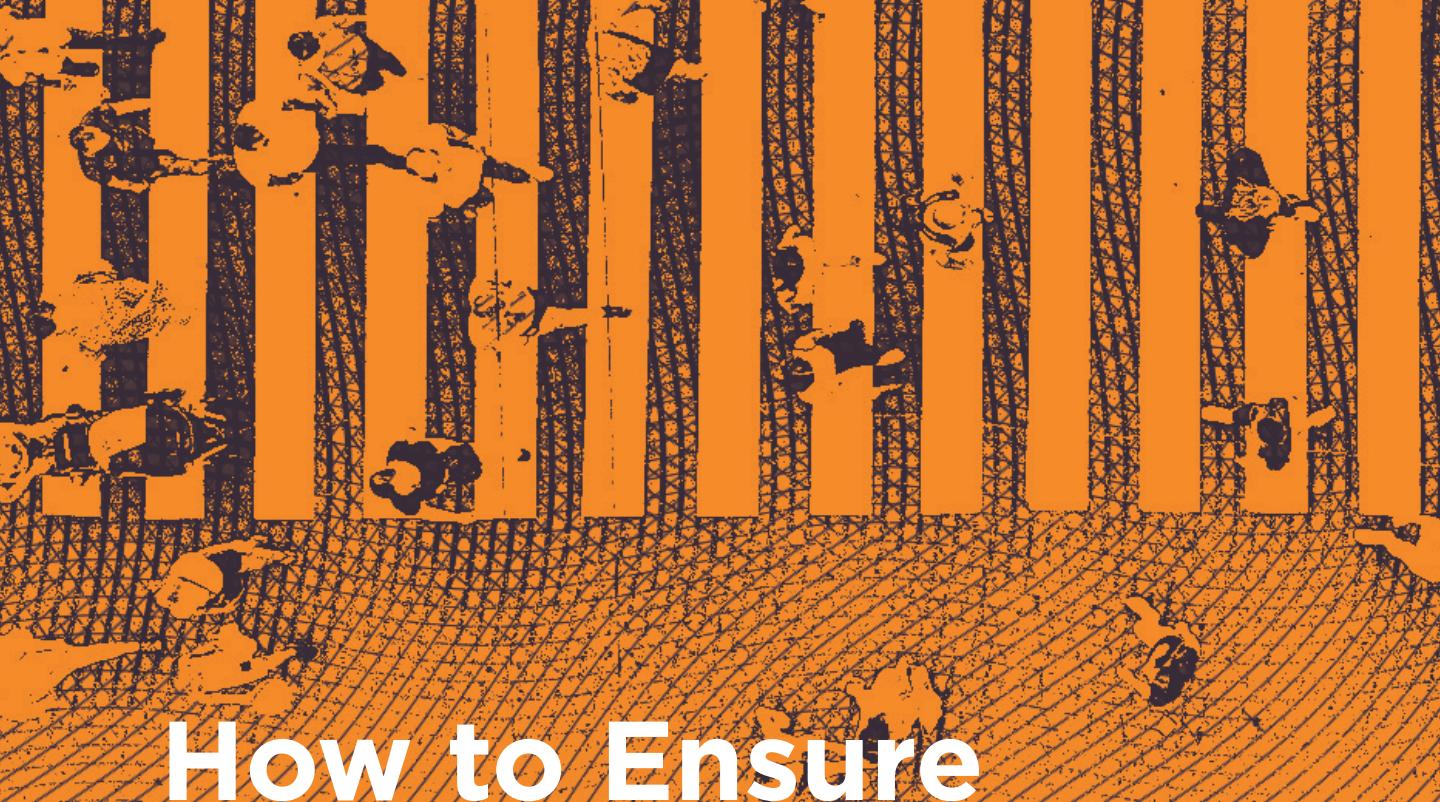


firms, with only limited negative impacts on competitiveness. Nevertheless, open questions remain, such as the optimal combination of supply- and demand-side instruments or the effectiveness of public procurement policies in accelerating the green transition.

As a result, governments need to put a strong emphasis on evaluation and the regular reassessment of industrial policies. While the evidence is limited so far, and sometimes inconclusive, recent advances in data collection, storage, and analytics (notably machine learning) have the potential to make evaluation richer, cheaper, and timelier.

Several countries already benefited from the use of our framework to define and design their industrial strategy. They stand to benefit further from the data we have gathered to benchmark their strategies and assess their effectiveness. We hope this will lead to a more deliberate approach to evidence-based industrial policy making and encourage other countries to follow suit. ■

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# How to Ensure Industrial Policy Promotes Public Over Private Gain



**Lenore Palladino** is an economist, lawyer, and assistant professor of economics and public policy at UMass Amherst. She is a research associate at the Political Economy Research Institute and a fellow at the Roosevelt Institute. Find her work at [lenorepalladino.com](http://lenorepalladino.com).

Industrial policy is marketcraft.<sup>1</sup> Contra economic theories of perfect competition, markets never stand outside the public realm: governments are always shaping markets and the complex web of interactions between households and businesses. This shaping can be for the benefit of shareholder primacy-oriented corporations—granting tax breaks and turning a blind eye to “externalities” that are only external when viewed from a very narrow aperture—or public policies can be crafted with a national security or public interest goal in mind.

The question at stake in 2023 is whether the market-shaping activities contained in the rollout of the Biden administration’s signature industrial policy initiatives—the Bipartisan Infrastructure Law, the CHIPS and Science Act, and most importantly, the (poorly named) Inflation Reduction Act—will seize the opportunity at hand to proactively move U.S. corporations away from a single-minded focus on share price appreciation at the expense of real innovation and productivity gains.<sup>2</sup>

Democratic policymakers have become vocal about the harms of extractive shareholder primacy over the last few years, and the Business Roundtable’s 2019 Statement on the Purpose of the Corporation was framed—by the Roundtable itself—as a move away from shareholder primacy and towards a commitment to all stakeholders.<sup>3</sup> However, immense pressures from financial institutions keep the corporate governance of shareholder primacy in place, such that, for example, companies across sectors with equity traded on open markets spent \$6.3 trillion on stock buybacks in the 2010s.<sup>4</sup>

The Biden administration has been clear that the last forty years of shareholder primacy did not work for the American middle class or for U.S. competitiveness. They have also recognized that stated corporate commitments to “stakeholderism” are not sufficient to ensure that the immense flows of public money going to these firms create widely-shared economic prosperity. Their industrial policymaking has put

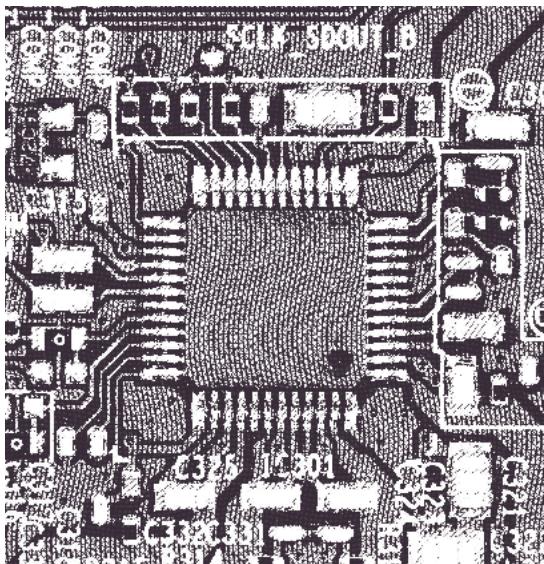
some guardrails in place such that the public investments create real-world productivity gains, as in the CHIPS Act's limitations on extractive shareholder payments. It will be in the rollout of the IRA where the real marketcraft will occur over the next year, and where the administration has a chance to make a real shift in how corporations exercise their productive purpose.

The Commerce Department has been clear from the passage of the CHIPS and Science Act that "CHIPS funds should not create windfalls for the companies that receive them."<sup>5</sup> The semiconductor industry is a primary example of a sector that focused on shareholder payments to the exclusion of investing in innovation. The largest semiconductor companies—Intel, IBM, Qualcomm, Texas Instruments, and Broadcom—spent 71% of their net income on stock buybacks alone from 2011–20, totaling \$249 billion—nearly \$200 billion more than the federal subsidies proposed in the CHIPS Act. Intel, once the leader in semiconductor production, spent 100% of its net income on shareholder payments from 2011–15, which, as Bill Lazonick and Matt Hopkins put it, resulted in "Intel's failure in organizational learning (that) lies in the financialized character of strategic control within the company."<sup>6</sup> Intel CEO Bob Swan, who led the company from 2016–21, raised buybacks 186% as compared to his predecessor. However, in a sign of a reorientation towards productive investment inside the

business community, Intel's current CEO Pat Gelsinger declared upon taking over that "we will not be anywhere near as focused on buybacks going forward as we have in the past."<sup>7</sup>

The \$52 billion of CHIPS Act funds themselves cannot be used for stock buybacks, but money is fungible. That means the details of the conditions put in place are important: The CHIPS Program Office is currently in the weeds of the rulemaking process, in which the law's intention to "preference companies which commit not to engage in stock buybacks with non-CHIPS funds" must be translated into specific and actionable rules.<sup>8</sup>

The Office's October 2022 Request for Information asked for feedback on what should be the specific terms of commitments by CHIPS grantees to not engage in stock buybacks. In my Comment Letter, I recommended preferences for companies that restrict buybacks for a ten-year period, as innovation is a long-term and risky process with no certainty of outcomes (I also recommend restrictions on special dividends for the same reasons). The letter of the law included ten-year restrictions on investments in China in order to meet reshoring goals of establishing a strong semiconductor industry in the United States. A ten-year limit on stock buybacks is equally necessary to resist the immense pressure coming from the financial sector for shareholder payments.



Further restrictions are necessary to make sure that the personal incentives of leading corporate decision-makers are aligned with innovation and productivity rather than personal gain. In a recent article, “Do Corporate Insiders Use Stock Buybacks for Personal Gain?”, I showed that corporate insiders are able to legally take advantage of the near-total lack of regulations on open-market share repurchases and sell their own personal shareholdings to benefit from stock buyback-induced share price appreciation before such activity is disclosed to shareholders.<sup>9</sup>

Industrial policymaking guidelines should put in place the kinds of common-sense restrictions on insider transactions that use stock buybacks for personal executive gain, which the Securities and Exchange Commission recognized were a problem back in the 1970s.<sup>10</sup> Overall, though, the CHIPS Act implementation so far has

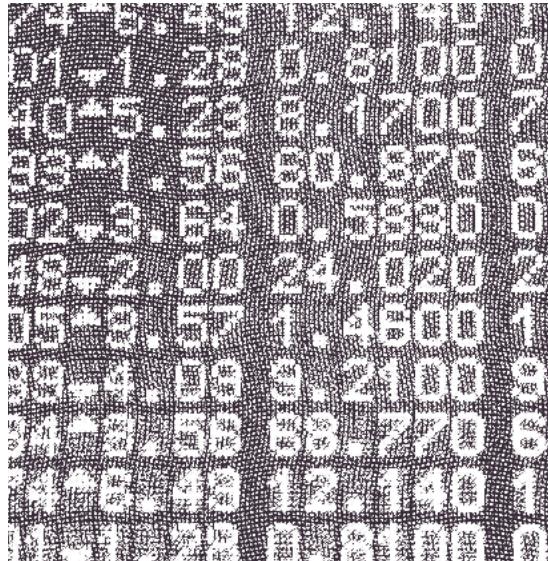
demonstrated a tangible commitment to ensuring that public funds are used by corporations in service of real productive gains.

The Inflation Reduction Act has a much wider scope than the CHIPS Act both financially and in terms of the industries that it will affect. Interestingly, it ended up including a limit of stock buybacks through an entirely different mechanism: the last-minute inclusion of an excise tax on stock buybacks. However, as Reed Shaw, Will Dobbs-Allsopp, and I discuss in a recently published Governing for Impact Proposed Action Memorandum, “the federal agencies that will administer IRA-funded grant and loan programs possess the legal authority to establish guardrails.”<sup>11</sup> In the Memo we detail opportunities for agencies like the Departments of Energy and Transportation to put necessary guardrails in place.

Ultimately, policymakers should recognize the flaws inherent in shareholder primacy as a theory of how corporations produce. Corporations are innovative because of the collective and cumulative learning that happens over time and because of the public and collective investments made in their capabilities. Shareholders mainly trade amongst themselves for companies with publicly traded equity, which means that the money we spend purchasing shares does not go to the company itself, but to the share-seller who sells

them to us. The “myth that shareholders are investors” is pervasive and is used to justify corporate governance dominated exclusively by large financial institutions.<sup>12</sup> Down the road, policymakers might recognize the need to put structural reforms in place (like Senator Elizabeth Warren’s Accountable Capitalism Act).<sup>13</sup>

The opportunity at hand in 2023 is to expose the fallacy of shareholder primacy. Because without guardrails, trillions of dollars spent in the name of industrial policy will miss the mark. ■



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# The Case for Green Industrial Policy



**John Van Reenen** is the Ronald Coase School Professor at the London School of Economics and a digital fellow in MIT's Initiative for the Digital Economy.

**L**ove him or loathe him, you can say one thing for President Biden: he's gone large on industrial policy. The Inflation Reduction Act (IRA) is America's biggest ever piece of legislation to combat climate change. It contains \$400 billion in subsidies for solar, wind, electric vehicles, and other green activities.

The IRA is a major achievement in politics as well as policy—it seemed dead in the water even days before it passed. Every Republican senator opposed it, and Democrat Joe Manchin only made a volte face at the last moment. After years of debate and near-misses—including cap-and-trade proposals like the Waxman-Markey bill of 2009—the U.S. is finally getting serious about climate policy.

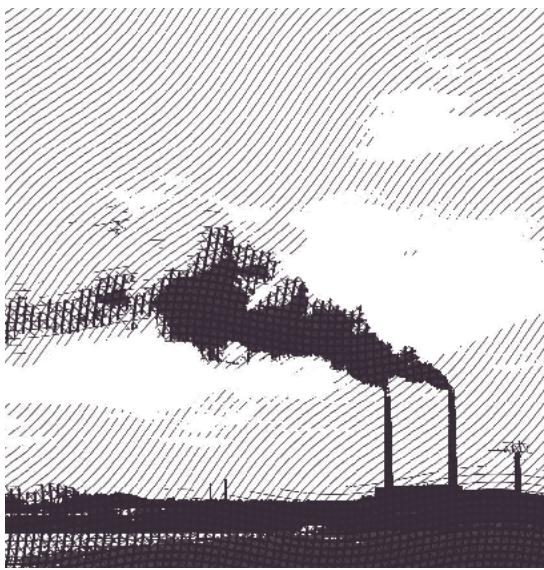
But it's doing so using industrial policy, not carbon pricing, which economists believe to be the single best way to limit greenhouse gas emissions. With a carbon price, polluters pay the true social cost of carbon, and people—rather than the government—choose how to adapt. Unfortunately, there is massive political opposition to the high levels of

taxation this would entail, not just in gas guzzling America, but also in Europe, as the French Yellow Vest movement amply demonstrated.

It's tempting then to see the choice of subsidies over market mechanisms as a purely political move, without any economic backing. But that's a mistake. The transition to net-zero emissions is about more than taxes and regulation: it is fundamentally a growth story where we seize opportunities to speed up the adoption of clean technologies and boost green innovation. And, over and above the need to build political coalitions, there are good theoretical reasons why technological subsidies should be part of the policy mix. Green industrial policy makes sense on the merits.

### **The Many Market Failures of Climate Change**

The reason why climate change policy is so hard is that global warming is the mother of all market failures. The cost of greenhouse gas emissions isn't captured in prices, and so markets can't address them. That's the massive failing that



carbon prices are designed to solve. But there are other market failures in play as well.

In the international arena, there's a free rider problem: Every country has a strong incentive to free-ride off the efforts of other countries, and even "binding" international agreements such as the Paris Agreement are devilishly hard to enforce. Countries see the need to lower emissions, but each one wants the other to act first. As St. Augustine said, "Please God, make me virtuous, but not just yet."

Finally, the transition to clean energy is a technology problem and there are significant market failures involved there, too. The natural course of events is that new ideas build upon old ideas. Since humanity has a big stock of fossil fuel knowledge this makes dirty innovation easier than clean innovation.

Shifting the technological trajectory is like changing the direction of a supertanker. Carbon prices help redirect the ship, but only slowly as consumption patterns change. Green R&D incentives can complement carbon taxes to make the change much more quickly.<sup>1</sup>

### The Rationale for Industrial Policy

Although industrial policy used to be disparaged by economists, well-designed interventions can help an economy grow. When there are market failures due to learning by doing, technology spillovers, and financial constraints, government subsidies can help—think of China's solar industry or South Korea's phenomenal growth. Similarly, having more resilience in the face of supply chain disruptions from pandemics and autocratic regimes is also desirable.

And if investing in green industries helps a nation build up the new industries of the future, this can help overcome this global free rider problem.

Ironically, the "race to win the technology war" narrative generates an unlikely political bond between conservative national security hawks and liberal tree-huggers. There are strong benefits of a single country's taxpayers subsidizing green innovation both for global growth and for tackling climate change: knowledge flows across international boundaries, just like pollution. But the conflict narrative helps stimulate local people to cough up their tax dollars.

## **Don't Ignore the Risks**

The potential downsides from industrial policy should not be ignored. Managerial attention can shift from competing for customers to competing for state handouts. Furthermore, it stimulates protectionism. The “Buy American” provisions of the IRA mean, for example, that the full value of electric vehicle tax credits can only be claimed when a car is built in North America. The aim is to stimulate more demand for U.S. based production and jobs. Understandably, this is to help cement a political coalition. However, the increased demand from subsidies would lift American output even without tough domestic content requirements. And such requirements have two big drawbacks. First, if consumers were allowed to source their products from wherever they could be produced more efficiently, prices and taxpayer costs would be lower. Second, the IRA creates disputes by reshuffling investments from one country to another.<sup>2</sup> Subsidies always have both a scale and substitution effect. The real benefits of the IRA come from increasing the overall scale of clean technologies, it is not accomplishing so much if it simply substitutes activity from Europe to America.

Sure enough, the IRA’s domestic content requirements have not gone down well in other countries. For example, on February 1, 2023, the EU responded with its own plan to support green industry, trying to redirect \$272 billion.

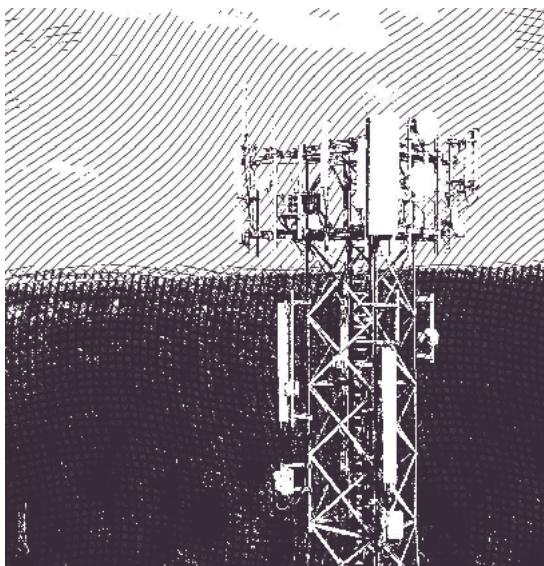
The Commission has much less fiscal firepower than the U.S. federal government. So instead it may make it easier for big countries like France and Germany to go large on green subsidies.

A subsidy war between the U.S. and other countries can lead to more distortions. Beggar-thy-neighbor policies can mean production being diverted to who pays the biggest subsidies, rather to where it is most efficient. The *raison d'être* of the rules-based international trade system (e.g., the much-maligned World Trade Organization) is to reduce government-imposed barriers and distortions to trade and investment.

There is a better way. The IRA already expands the definition of domestic content to include Canada and Mexico in many of its provisions. Moving to “friendshoring” instead of “onshoring” is a good middle way of maintaining a political coalition and enacting green subsidies. Europe and other liberal democracies could also be embraced in this, even if countries like China are left out.

## **The Broader Picture**

The Biden administration is not just applying this strategy to climate policy—it hopes to use industrial policy to accelerate science and raise productivity across the U.S. economy. In addition to the IRA, the



Infrastructure Act invests \$1.2 trillion and the CHIPS Act a further \$280 billion. This new spending broadly aligns with my Hamilton and Aspen proposals on innovation policy.<sup>3</sup>

This is welcome for three reasons. First, there is an emphasis on the importance of technology as the critical way of reviving productivity growth. Whether it's broadband infrastructure in the Infrastructure Act, green tax incentives in the IRA, or semiconductors in the CHIPS Act, these are all ways to raise productivity.

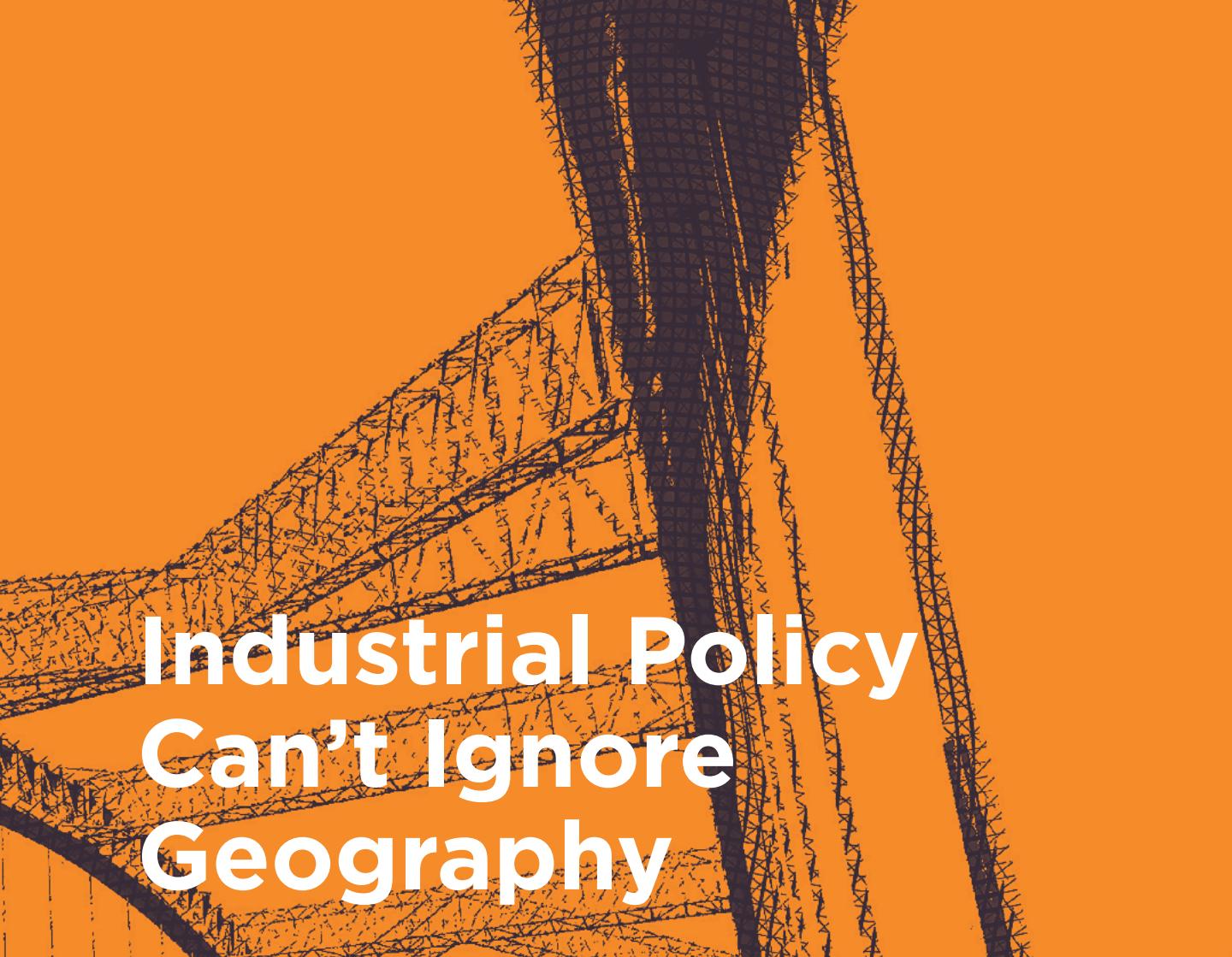
Second, the “science” part of CHIPS has authorized \$174 billion for non-semiconductor tech—NASA, climate research, NSF, ARPE-E, etc. This wide-ranging, basic research potentially creates larger spillovers.

Third, there are provisions to share benefits with strong labor standards and efforts to include under-represented groups and left-behind areas. For example, to get more people from all backgrounds participating in invention (countering the “Lost Einstein” effect), CHIPS authorizes expanded investments in STEM education and training.<sup>4</sup>

One problem with these support packages is the risk of the government getting it very wrong in which technologies and firms to support. The more “horizontal” approaches such as general public R&D funding and a more generous R&D tax credit have less of this industrial policy risk. But these provisions are smaller (e.g., more generous startup R&D tax credits). There needs to be much more funding for these horizontal innovation policies.

The IRA is a historic achievement in a polarized country and the climate change benefits could be immense. This fact should not be lost in the brouhaha over cross-country subsidy races. But by making some smart adjustments it could be a lot better in helping tackle the twin global problems of low productivity growth and climate change. ■

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# Industrial Policy Can't Ignore Geography



**Mark Muro** is a senior fellow at Brookings Metro. He focuses on the interplay of technology, people, and place as they are altered by disruptions. Muro has a bachelor's degree from Harvard College and a master's degree in American studies from the University of California, Berkeley.



**B**y now, it's clear that "Bidenomics" centers heavily on what the White House calls a "modern American industrial strategy." What's less recognized, however, is another feature of the new economic push: Its strong geographic orientation.

Most broadly, the big spending bills of the last Congress—the American Rescue Plan Act (ARP), the Infrastructure Investment and Jobs Act (IIJA), the CHIPS and Science Act, and the Inflation Reduction Act (IRA)—embody a national pivot.

The U.S. has recommitted to a broad public investment agenda, after decades of vacillation between "laissez-faire" economics at some times, and redistributive efforts at others. The goal: Raise the productive capacity of the U.S. economy and at the same time promote greater inclusion, a higher standard of living, and reduced carbon emissions.

And yet, there is more to the new line of action. Specifically, key elements of the new approach are strongly place-based.

That is, these elements propose to achieve broader national goals through deliberate and direct investments into specific U.S. places and regions. In this vein, the Brookings Institution counts some 19 explicitly place-based industrial policy programs, adding up to some \$80 billion of authorized spending, distributed across three of the four pieces of legislation (ARP, IIJA, and CHIPS and Science).<sup>1</sup> Billions more in cleantech subsidies and awards from the IRA for green growth—while not explicitly place-targeted—will also benefit the nation as a whole by benefiting particular places such as the emerging "battery belt."

Which is why the new "place-based industrial strategy" merits serious consideration as a compelling approach to economic development—especially for a nation with deep regional divides and large pools of underutilized talent and capacity. Broad national programs, or universal stances like laissez-faire, have their value, but they often lack the focus to confront entrenched local market failures. Place-based strategies, however,

may be able to engage more directly and efficiently with the roots of problems and the needs of individuals and firms in local communities. In that fashion, the new policies seek to boost the national economy by investing to help local economies, whether by supporting regional innovation clusters or financing creative workforce partnerships. In sum, “place-based” industrial strategies very much merit the attention they are beginning to receive.

Both historical precedents and newer concerns underscore the new experiment with place-based industrial policy, whether through competitions to site regional tech hubs or by subsidizing semiconductor plants in new places.

Alexander Hamilton, for one, engaged locally as well as nationally when he persuaded the state of New Jersey to provide public support to develop a “national manufactory.”<sup>2</sup> Ultimately, Hamilton’s broad vision of industrial policy was advanced in part through the local creation of a planned city called Paterson, which leveraged the water power of the nearby Great Falls to support the emergence of a network of factories nearby.

More recent examples of place-based industrial policy include the expansive geographic transformations driven by national “big pushes” such as publicly financed, locally targeted manufacturing plants during World War II or high-

tech spending in localities during the “space race.” Again, national goals were achieved by local investments that delivered national benefits as well as regional ones.

For example, Andrew Garin and Jonathan Rothbaum recently demonstrated that World War II government-funded factory openings in local communities catalyzed persistent expansion of high-wage manufacturing work in such places, which supported permanent increases in regional employment and long-term economic mobility, with the largest effects felt by the children of parents with lower earnings.<sup>3</sup> Garin notes that the Willow Run bomber plant in Ypsilanti, Michigan is a classic case of a large new war plant massively transforming a city for decades to come. For their part, Shawn Kantor and Alexander Whalley quantify substantial effects of public space-race R&D on long-term economic growth for both local economies and the national one.<sup>4</sup>

In the last two decades, meanwhile, a series of interconnected trends has motivated a new search for more robust and geographically focused responses to challenging problems.

For example, decades of stagnant productivity growth, U.S. slippage in the China competition, rising economic inequality, and carbon crises have undercut confidence in business-as-usual economic management and prompted interest in more direct interventions.



At the same time, the nation's widening regional divides—sharpened by the “winner-take-most” dynamics of the digital economy—have thrown even more attention on the potential of place-based policymaking.<sup>5</sup>

In this regard, the results of the 2016 election underscored the nation’s geographic crisis and prompted a surge of place-oriented policy work, including from hitherto skeptical economists. This welcome burst of attention, paired with advances in both theory and practice, has led to a broad reassessment of place-based economic development. And now that reassessment is reflected in the major economic policies of the Biden administration: the industrial policy bills of the last Congress represent the most significant American test of place-based ideas since the Great Society—or maybe even the New Deal.

That test is well worth embarking on, for three reasons. First, place-based strategies can target the specific location and detail of a market problem, such as a workforce training gap or the emergence of particular “places left behind.” In that sense, place-based strategies allow for a tighter focus on where and what the problems are.

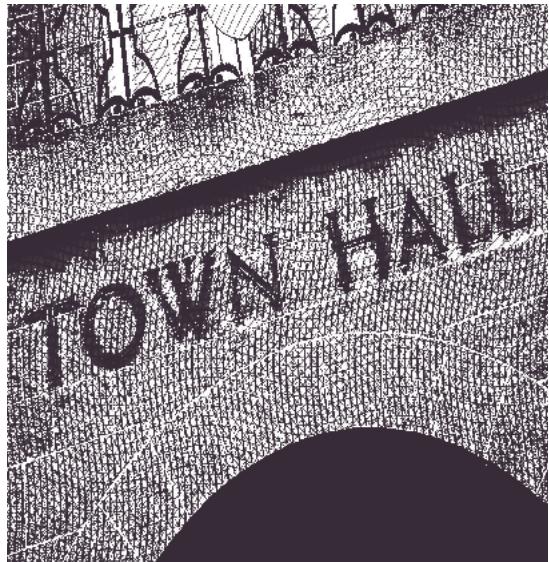
Second, place-focused strategies (by supporting grounded problem-solving) can get at the local and “micro” underpinnings of “macro” performance issues more readily than broader “universal” policies. Many of the new programs intervene in what Gary Pisano and Willy Shih call the nation’s “industrial commons:” the place-based concentrations of research institutions, skilled workers, and suppliers that anchor America’s most competitive industries. In this way, place-based industrial policy invests locally to address gaps in local clusters or entrepreneur-support systems by intervening with the most immediately relevant actors, networks, and institutions.

And third, “place-oriented” policies are more likely to get the civics right, especially when they enlist and catalyze local “bottom-up” problem-solving. As my colleague Joseph Parilla observes, transforming a regional economy requires mobilizing a wide variety of local actors, networks, and knowledge flows.<sup>6</sup> And it requires

maintaining political support, ideally bipartisan. Place-based programs that engage with the issues and needs of local talent, clusters, institutions, and ecosystems will be more likely to succeed at this than more disembodied programs. They will also be more likely to create useful civic and political coalitions that move to address challenges in new ways.

Now, to be sure, there are risks to be weighed. One knock on place-based industrial policy is that the geographic biases of politics will make it inefficient. Won't the political geography of elections, or of Congress, inevitably skew decision-making about the siting of investments in projects like a regional clean hydrogen hub? Maybe, but likely not significantly. The recent history of numerous grant programs, such as those of the National Science Foundation, counsel a degree of confidence that carefully designed, well-insulated programs utilizing expert peer review processes can make awards effectively.

Others worry, meanwhile, about the potential of many American places to increase their productivity—they doubt, sometimes privately, that some communities can ever truly be revitalized. To this, it bears acknowledging that much work needs



to be done to enhance the readiness of local regions, including to transform fragmented systems and encouraging new and locally appropriate development work. Yet with that said, it's also true that the government's demanding criteria for proposals and the competitive nature of virtually all of new place-based programs is already mobilizing hundreds of regions and consortia around the country, lifting aspirations, and disciplining against "business-as-usual." The government's call for ambitious but grounded ideas—and strict selection criteria—is likely going to nudge many communities onto a new growth path.

Which raises a final note: Now that these programs have been authorized and mostly funded, what is needed is for Congress and the Biden administration

to build out the experiment. Congress should fill in several appropriation gaps. For their part, federal agencies should continue to effectively implement the new programs and move to rigorously evaluate them to assess how well they work. In that sense, the nation's new array of place-based industrial programs represents an excellent opportunity to test a region-first approach to economic development. ■

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# India's Evolving Industrial Policy Is Critical for Realizing Its Development Vision



**Nagesh Kumar** is director and chief executive of the Institute for Studies in Industrial Development (ISID), a publicly funded policy think tank based in New Delhi. Prior to taking up this role in May 2021, he served as director at the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), holding several senior management roles from 2009-21. These included chief economist of UNESCAP, director of the Macroeconomic Policy and Development Division (MPDD), director of the Social Development Division (SDD), and head of the South and South-West Asia (SSWA) Office of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) based in New Delhi, which he had the privilege to establish. Kumar is also a non-resident senior fellow at the Boston University Global Development Policy Center.

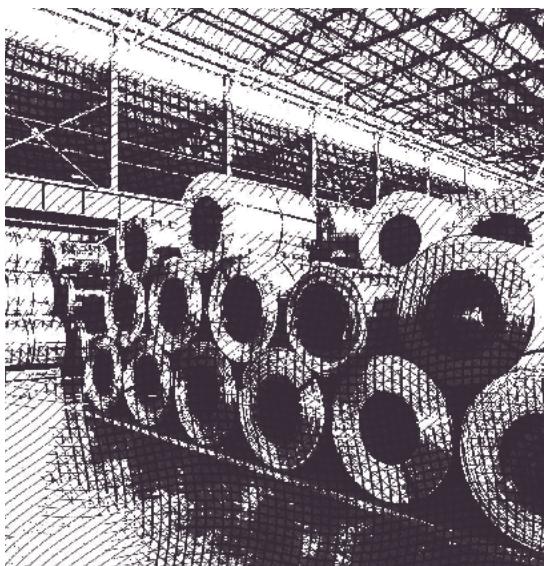
**A**fter pursuing an economic strategy of liberalization and global economic integration that has given primacy to market forces since 1991, India has changed tracks once again. Confronted by the need to create decent jobs for the nearly 12 million people who join the workforce every year, India turned to the potential of manufacturing when Prime Minister Narendra Modi launched the Make-in-India (MII) campaign soon after forming his government in 2014. However, unlike the mixed results of India's first attempt at industrial policy in its early post-independence period, India's evolving industrial policy this time around is more likely to succeed in fostering its industrial transformation and help realize its Vision 2047 of becoming a developed nation.

#### **Import-Substituting Industrialization: mid-1960s to 1991**

India pursued import-substituting industrialization (ISI) from the mid-1960s until the reforms of 1991. The policy included high tariffs (up to 350%), import licensing, industrial licensing (or approvals), a rather strict foreign direct

investment (FDI) regime, and a softer intellectual property protection regime that did not recognize product patents in pharmaceuticals. The industrial policy helped build a diversified industrial base by the end of the 1980s, one that produced virtually all items of consumption in India. During this time, manufacturing's share of GDP nearly doubled from around 9% to 17.5%. India's overall dependence on imports dropped dramatically even for heavy machinery and capital goods. However, industrial licensing and high tariffs and quantitative restrictions on imports led to the creation of virtual monopolies resulting in high prices, poor quality, and limited variety for Indian consumers. Poor attention paid to innovation led to technological obsolescence, and international competitiveness suffered.

Given their poor competitiveness, many of Indian companies could not stay in business when exposed to foreign competition after 1991. Many of them entered joint ventures with multinational enterprises (MNEs) to update their technology or were acquired by them.



This underscored a crucial difference between India's experience with industrial policy and those of the East Asian countries such as South Korea. Indian policy targeted import-substituting industrialization in a closed economy context and did not particularly seek international competitiveness. The East Asian countries, on the other hand, focused on building internationally competitive industries. They constantly leveraged rivalries between domestic champions and pushed them into international markets through export incentives and performance requirements.

This is not to say, however, that import-substituting industrialization strategy failed completely in India. India's success in generic pharmaceuticals, information and communication technology (ICT) software, and building a vertically integrated automobile industry with global leadership in two-wheelers and compact cars can be attributed to the

strategic interventions of the time. Some of today's leading Indian enterprises with significant global footprints, including Hindalco Industries, Tata Motors, Tata Global Beverages, Mahindra & Mahindra, Bajaj Auto, Ashok Leyland, TVS Motors, and Hero Motors, also have their origins in the import-substituting industrialization era.

### **Reforms of 1991: Liberalization and Global Economic Integration**

Economic reforms adopted since 1991 have removed the industrial licensing system and liberalized the entry of portfolio foreign investment and FDI policy with automatic approvals for proposals fulfilling certain conditions of the latter. One-hundred percent foreign ownership is now permitted. Tariff rates have been gradually reduced to align broadly with those in the Southeast Asian countries, the rupee's exchange rate is floated on the market, and quantitative restrictions on imports have been phased out. India also phased out performance requirements on MNEs under the World Trade Organization's Agreement on Trade Related Investment Measures and adopted a new patent law consistent with the WTO's Agreement on Trade Related Intellectual Property Rights.

The reforms and liberalization have led to a lot of restructuring of Indian industry. Besides opening the economy to the imports of foreign-made goods, local producers began to outsource production to cheaper sources in other countries, especially China, in a trend

sometimes referred to as the “hollowing out” of Indian manufacturing, which lead to premature deindustrialization. Consequently, the share of imports in final consumption rose sharply in many sectors, such as electronics, electrical equipment, and telecommunication equipment, but also labor-intensive, household electric goods, such as toasters, wall clocks, electric irons, refrigerators, and televisions, among others. The current account balance was kept in check by the rising export of services, while rising inflows of FDI and portfolio investments helped to close the remaining deficit. Manufacturing’s share of GDP came down from a peak of 17.8% in 1997 and has stagnated at around 14–16%, compared to around 30% in the East Asian countries.

As the manufacturing sector struggled, India’s economic growth was sustained by the services sector, which now accounts for 56% of the GDP. While the service sector has delivered robust growth rates, it has failed to absorb workers proportionately, leaving agriculture to sustain as much as 46% of India’s workforce with barely a 15% share of GDP. This imbalance translates into low productivity, pervasive informality, and persisting poverty.

### **Revival of Industrial Policy**

The imperative of job creation has pushed the Modi government to implement MII to harness the potential of manufacturing. As part of MII, the government has focused on improving

the ease of doing business (EODB) in India through the abolition of obsolete regulations and processes that hindered industrial investments. The government has also increased FDI ownership limits in a number of sectors—such as railways, defense manufacturing, insurance, medical devices—and created an investment promotion and facilitation agency, Invest India. Import tariffs were raised in select sectors to give some infant industry protection, and the government also identified six industrial corridors across the country for development.

As a result of these steps, India’s place in the World Bank’s EODB rankings moved up sharply from 142 in 2014 to 63 in 2019 (the World Bank abandoned the rankings in 2021). India has started to attract greater magnitudes of FDI inflows, which crossed a record figure of \$81 billion in 2021-22.

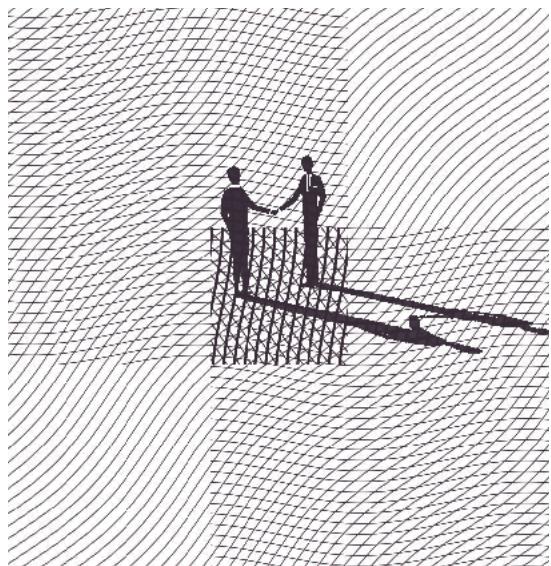
MII was reinforced in a big manner by the production-linked incentives (PLI) scheme introduced in 2020 as a part of the Aatmanirbhar Bharat package announced to revive the economy in the aftermath of the Covid-19 pandemic. The PLI scheme provides a 3–5% incentive to boost local production (or substitute imports) and exports for 14 select sectors. These include sunrise and green manufacturing products, such as solar photovoltaic cells and modules, advanced chemistry batteries, active pharmaceutical ingredients, large-scale electronics, medical devices, specialty steels, and telecom and networking equipment. In

an effort to create a full ecosystem of electronics, the government launched in 2022 a \$10 billion Semiconductor Mission to foster the manufacture of semiconductor chips and displays. Also in 2022, the government announced a \$2.3 billion Green Hydrogen Mission with the objective to make India a leading manufacturer and exporter of green hydrogen. The government has also focused on improving the logistics infrastructure in the country through the \$1.2 trillion National Master Plan for Multi-modal Connectivity launched in 2021.

One could argue that India's recent manufacturing push through various industrial policy instruments is a part of the global trend of governments incentivizing domestic manufacturing to create jobs and re-shore value chains. In the U.S., once the greatest champion of free markets and globalization, the Biden Administration has defined its industrial policy with the CHIPS and Science Act, the Inflation Reduction Act, and the Infrastructure Investment and Jobs Act, seeking to revive domestic manufacturing through billions of dollars in subsidies and incentives.

### The Chances of Success

There are key differences between India's industrial policy of early post-independence period and now that will ensure greater success. Today's policy is more strategically focused on tapping opportunities of import-substitution or exports in specific sectors, especially



sunrise and green industrial sectors. It is being implemented in an open economy context with a clear focus on competitiveness, including through scale economies, unlike the last time.

This time around, India will be helped by its position as a "geopolitical sweet spot," having friendly relations with key industrial countries in the West and East. This will allow India to benefit from global companies friend-shoring supply chains to diversify them away from China. India is also enjoying a "demographic sweet spot" with a relatively young population, while populations are aging in most industrialized and newly industrialized countries. India is also attracting a lot of investment from global companies seeking to build global capability centers or offshore R&D centers. These centers aim to tap into India's abundant pool of skills, ICT software and chip design expertise, and national innovation system famed for its frugal engineering capabilities.

The early results have been encouraging. India has turned into a net exporter of mobile handsets after being a net importer. Monthly exports of India-assembled mobile handsets crossed \$1 billion in September 2022. There are indications that Apple could be sourcing 25% of its handsets from India by 2025, up from under 5% at present. Leading Indian energy companies have also committed large investments in the manufacture of green hydrogen. There are also some credible proposals for the manufacture of semiconductor chips and display devices, including by Foxconn.

Projections from the Institute for Studies in Industrial Development (ISID) suggest that translating the opportunities for strategic import-substitution and exports, new electronics, and green industries have the potential of doubling India's manufacturing value added (MVA) to \$1 trillion by 2026–27, thus advancing the economy toward the government's \$5 trillion target (India's GDP is currently \$3.2 trillion). India's evolving industrial policy, and its ultimate boost to manufacturing activity and job creation, will be critical to fostering the inclusive and sustainable transformation of the Indian economy in tune with its Vision 2047, the year when India will celebrate the centenary of its independence. ■



# Biden's Second-Best Economic Agenda



**Walter Frick** is a contributing editor at *ProMarket*. He is also a contributing editor at *Harvard Business Review*, where he was previously a senior editor and deputy editor of HBR.org. He's also the founder of Nonrival, a newsletter that provides crowdsourced economic forecasts, and a pro forecaster at INFER. He has been an executive editor at Quartz, a Knight Visiting Nieman Fellow at Harvard University, and an assembly fellow at Harvard's Berkman Klein Center for Internet & Society. He has written for *The Atlantic*, *MIT Technology Review*, *The Boston Globe*, and the *BBC*, among other publications. His interests include economics, public policy, forecasting and decision-making, digital business, and entrepreneurship.

**W**hen Barack Obama was asked about carbon pricing in December 2015, at the Paris Climate Accords, he gave an answer that would please economists:

**I have long believed that the most elegant way to drive innovation and to reduce carbon emissions is to put a price on it. This is a classic market failure. If you open up an Econ101 textbook, it will say the market is very good about determining prices and allocating capital towards its most productive use—except there are certain externalities, there are certain things that the market just doesn't count, it doesn't price, at least not on its own... If you put a price on it, then the entire market would respond. And the best investments and the smartest technologies would begin scrubbing effectively our entire economy.<sup>1</sup>**

Though a cap-and-trade bill passed the U.S. House of Representatives during Obama's first year in office, it never became law—and carbon pricing eluded him throughout two terms in office. It would fall to his vice president and

successor, Joe Biden, to pass major climate legislation. And Biden got it done by ignoring economists' preferred approach. Instead, his administration turned to industrial policy.

For the past two months, *ProMarket* has been publishing a series of articles about industrial policy, motivated in part by the Biden administration's approach. We've asked, among other things: Why now? Why has industrial policy made such a comeback among policymakers and economists in recent years?

There are several answers to that question, but one has stuck with me—especially as a way of explaining the shift in economic policymaking from Obama to Biden. The resurgence of industrial policy around the world is driven in part by “a recognition that we are living in a second-best world of imperfection and imperfect markets,” said Chiara Criscuolo, a researcher at the OECD, during a recent Stigler Center event.<sup>2</sup> “When we live in a second-best world, having an imperfect government intervention might still be welfare-enhancing.”<sup>3</sup>

That comment is the key to understanding the resurgence of industrial policy, at least in the U.S., and it captures something critical about contemporary debates in economic policy. The Obama years were full of arguments about which policy instruments were optimal—from a public option in healthcare, to carbon pricing for the climate, to the best way to bail out a bank. Now, in the wake of the Trump presidency and the pandemic, the Biden administration is keenly aware that policies that seem optimal when considered on their own might in practice not be optimal at all. Concerns about efficiency have taken a backseat while concerns over political economy have grown.

**The Theory of the Second-Best**  
The “second-best theorem” that Criscuolo alluded to was formulated in 1956 by Richard Lipsey and Kevin Lancaster.<sup>4</sup> The first fundamental theorem of welfare economics proves that under certain assumptions, competitive markets with perfect information can maximize the size of the economic pie.<sup>5</sup> Lipsey and Lancaster showed that things can get complicated when the world deviates from this theoretical ideal in multiple ways at once.

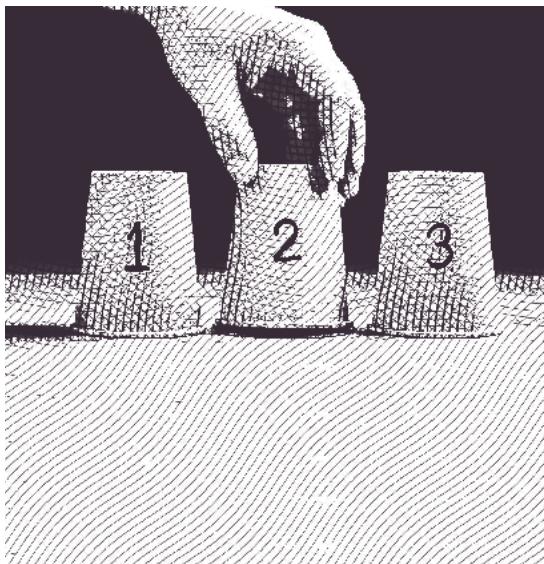
The second-best theory, as explained in a paper by economists Lori Bennear and Robert Stavins, posits that:

**If there are multiple constraints that prevent the attainment of multiple Pareto optimal conditions, the elimination of only one of the constraints does not necessarily lead to a welfare improvement. Second-best theory suggests that the elimination of one market failure, in a world with many market failures, may not be welfare enhancing.<sup>6</sup>**

In his piece on green industrial policy for ProMarket, John Van Reenen of LSE laid out the many market failures involved in climate policy, from the carbon externality to innovation externalities to free-riding between countries.<sup>7</sup> The implication of second-best theory is that solving just one of these market failures is not necessarily an improvement if you can’t solve the others. And that provides a theoretical case—or maybe more accurately a theoretical reprieve—for the more interventionist, less market-oriented approach that Biden has taken.

**The Revenge of Political Economy**  
Of course, the Obama team was well aware of all these market failures; they knew they were operating in a second-best world. What’s changed is the level of appreciation the Biden policy team has for concerns around political economy. As Bennear and Stavins note, second-best theory applies to constraints imposed by politics, too.<sup>8</sup>

Jared Bernstein, a longtime Biden economic advisor and the president’s current nominee to chair the Council of



Economic Advisors, explained this clearly at an event at Brookings in February. The discussion was about the state of the U.S. economy and a theme among the panelists was the need for humility:

**There's another level of humility that I'd like to suggest and that's political-economy humility. There are a lot of things that... mainstream economists... see in politics these days—or politics forever—that they don't like... This stimulus was too large, this 'Buy America' thing is against what we've learned, and all that. I'm trained in these economics and I understand where that is coming from—I really do. And in many cases I share the critique, and I understand the rent-seek[ing] and all that. But there's a level of humility that I'd encourage us all to think about which says: We're trying to do what we believe... is really great, important policy on behalf of strengthening workers.**

**And sometimes that's not necessarily all kosher economics; sometimes it's political economics. Sometimes you have to do things that may not be as aesthetically appealing in a neoclassical model to get to the policies that do a lot more good than harm. So I think that's another level of humility that I would ask us all to embrace.<sup>9</sup>**

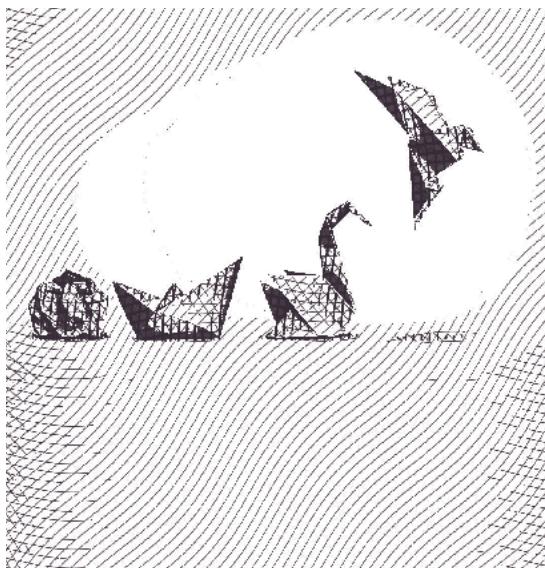
Van Reenen gives a version of this argument in his case for green industrial policy, noting the importance of maintaining political coalitions.<sup>10</sup>

Again, the Obama administration were no strangers to political constraint. But the shadows of Trump and populism loom over the U.S. debate around industrial policy. The rising political stakes have lent credence to the view that optimal economic strategy is not synonymous with picking the most efficient individual policy instruments.

#### **Good Policy in a Second-Best World**

The theory of the second-best says that in a world of ubiquitous market failures and political constraints, taking one step toward the competitive ideal may not be an improvement. I've argued that this sort of thinking opens the door to industrial policy by raising the possibility that policies which might seem distortionary under ideal conditions can make things better in the real world.

But all the second-best theorem says is that it's possible that eliminating



one market failure may not be welfare-enhancing in the presence of others. It doesn't say that any particular policy actually does more good than harm. And when it comes to industrial policy, there are still plenty of critics. In his piece for *ProMarket*, Duke's Michael Munger argues that the existence of market failures isn't a sufficient justification for industrial policy because there's little reason to think turning decision-making over to bureaucrats will be an improvement.<sup>11</sup> The key to resolving this debate is to rely less on theory and more on data. Yet it's striking how little we know about which policies do and don't work.<sup>12</sup> Some pieces of Biden's industrial strategy seem justified by both theory and evidence, like investments in scientific research and subsidies for electric vehicle purchases. Others, like the provision that those EVs be made in America, seem dubious.<sup>13</sup>

If the case for some of these policies is not efficiency or innovation but political

economy, it's reasonable to ask for a more-detailed justification on those grounds. If we're going to rely less on economic theory, let's at least have more political science in its place.

For instance, is "Buy American" actually critical to maintaining political support for climate policy? The truth is we just don't know. And much of the public discussion of these political-economy concerns falls prey to what the political scientists Christopher Achens and Larry Bartels call the "folk theory of democracy," in which an idealized view of politics misconstrues how it actually works.<sup>14</sup> Take the debate among U.S. political strategists and pundits over the idea of "populism"—meaning roughly that it's good to propose policies people like.<sup>15</sup> Fair enough, but as Achens and Bartels argue in their book "Democracy for Realists," elections are usually less about voters rewarding policy proposals that fit their preferences and more about social identity and conflict between groups.<sup>16</sup>

Without a better theory of political economy concerns, the theory of the second-best can become a shield for defending almost any policy. Sure, it runs counter to economic theory, one can say, but you have to consider the ~political economy~.

Still, the fact remains that the Biden administration was able to accomplish through industrial policy what the Obama administration couldn't get done with a carbon price.

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- 6 Lori Snyder Benner and Robert N. Stavins, "Second-Best Theory and the Use of Multiple Policy Instruments," *Environmental and Resource Economics* 37 (May 16, 2007): 111-129.
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- 9 Jared Bernstein, "Jared Bernstein on the US economy: Where it's been and where it's going," Brookings Institution, YouTube video, [youtube.com/watch?v=BwE82PiIOVE&t=449s](https://www.youtube.com/watch?v=BwE82PiIOVE&t=449s).
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- 16 Achen and Bartels, "Democracy for Realists: Why Elections Do Not Produce Responsive Government."
- 17 Obama, "Press Conference by President Obama."
- 18 Ibid.

At the end of his remarks on carbon pricing in 2015, Obama added that "[Climate change is] just about the hardest thing for any political system to absorb."<sup>17</sup> By then he had had seven years to reflect on the political barriers to enacting good policies. "We have to see what works," he concluded. "When something doesn't work, we have to change our approach."<sup>18</sup>

Last year, the U.S. finally passed a climate bill on the scale of the climate challenge. The second-best approach sure looks better than doing nothing. ■

# PRO MKT

The publication is open to submissions from academics, professionals, and regulators about the topics covered by the publication: antitrust and competition, regulatory capture, rent seeking, corporate governance, money in politics, media capture and related subjects.



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SPRING 2023



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