



November 21, 2023

Introduction

In response to a series of global economic and geopolitical shocks, many governments have enacted, or are considering enacting, policies to promote the development and growth of industries deemed strategically important. These actions have raised questions about the role of government in markets and revived debates over industrial policy. Industrial policies can attract foreign investment and encourage the development of new technologies. At the same time, however, these policies can also create tensions with trading partners and decrease economic cooperation. Subsidy wars among countries can be very expensive. And industrial policies can be captured by firms and turned into inefficient rents. In light of these varied outcomes, what explains the recent rise in industrial policies? Why do some governments use industrial policies more often than others? What consequences do industrial policies have for politics and economics - both at home and abroad? How does geopolitical competition and conflict affect the use and choice of industrial policies? Can industrial policy help address climate change?

These questions and more were addressed at a workshop hosted by Princeton University in Washington D.C. on October 25-26, 2023. The workshop included 4 sessions, 12 papers and a Roundtable. This summary record has been prepared by the workshop co-organizers, Stephanie Rickard and Helen Milner. It is not a formal record and does not bind participants in any way.

Main outcomes of the discussion

- Politics matter for industrial policy. Industrial policies often diverge from the optimal policies in practice due to political pressures. Past research has and future research should identify how politics systematically influences industrial policy design.
- Industrial policy's effects vary. The desired outcomes are achieved in some cases but not others. As Hanka concludes, "There are no specific policy actions that we can be sure will work every time." Future research may usefully investigate the conditions under which industrial policies are most likely to "work" – that is, achieve the intended goal.
- Industrial policy has been debated for decades by economists and political scientists. Much of that debate remains useful and important. But two new elements make the politics even more complicated. First, the emerging bipolar contest between the US and its allies and China and its friends interacts with the complex supply chains of modern capitalism to make industrial policy part of national security concerns. Second, climate change and the pressure for an energy transition away from traditional carbon sources powering today's world economy further complicates the goals of industrial policy.

Session 1: Industrial Policy in the United States

This session focused on US policy, and specifically endeavours to target economic benefits to select recipients at home and prevent the diffusion of technology to rivals abroad.

The Katitas and Pandya paper demonstrates how US state governments used money from the 2009 stimulus package to increase spending on real-time incentives. These funds were not intended to transform the structure of the economy in pursuit of some public goal. Instead, they were provided to states by the federal government for Medicaid. Given this, they may not be described as industrial policy as customarily defined.

The Gulotty and Strezhnev paper demonstrates how the US government supplied additional funds to the agriculture sector in response to the US-China trade war. This program was not clearly intended to transform the structure of the economy in pursuit of some public goal.

The Li paper explains the rise in national security-related investment restrictions in the US and argues that they are a new industrial policy tool. While such restrictions may not be intended to transform the structure of the US economy, they certainly have a well-defined goal namely, to prevent the diffusion of technology to geopolitical rivals.

- This session raised a key question: what is industrial policy? The papers in this session investigated three different policies. Each intentionally provided economic benefits to select domestic recipients. Yet, industrial policy is often defined as a policy or policies designed to transform the structure of the national economy in pursuit of some public goal. In the absence of the policy intervention, the outcome may not constitute an equilibrium in a market economy. As Chalmers Johnson said, “the very existence of industrial policy implies a strategic, or goal-oriented, approach to the economy” (Johnson, 1982, p. 19). Although the three policies investigated in this session provided targeted economic benefits to select domestic recipients, they were not obviously designed to transform the structure of the national economy in pursuit of some public goal.
- Insights about industrial policy may be gleaned from studies of policies that target economic benefits to select beneficiaries. For example, Katitas and Pandya, find that foreign-owned manufacturing plants were more likely to locate in counties with narrow vote margins in the prior gubernatorial election. This is presumably because incumbent governors directed investment incentives to these counties in an attempt to win votes. This finding illuminates the electoral incentives that may influence industrial policies. Similarly, Gulotty and Strezhnev show that each additional \$10 million to a county from the US Department of Agriculture’s Market Facilitation Program (MFP) increased that county’s 2020 Trump vote share by about 0.5 percentage points on average. This result highlights the potential electoral consequences of industrial policies that target economic benefits selectively.
- Classifying government programs as industrial policy (or not) may be difficult, and given the above discussion, unnecessary. The stated objectives put forward by the government may or may not be the actual objectives of a program.

Session 2: Motivation and Emulation – China

The session focused on Chinese industrial policy, and the US's responses to China's policies.

The Branstetter et al. paper examines corporate subsidies in China. The authors find that Chinese subsidies are allocated to less productive firms, contrary to economic logic. This finding suggests that politics, rather than economics, may influence the distribution of subsidies in China. The authors further find that the relative productivity of firms' receiving these subsidies appears to decline further after disbursement. They also report a positive correlation between subsidies and employment.

The Minnich paper examines China's efforts to accelerate its economic rise using technology extraction policies, which condition foreign market access on technology transfers to Chinese firms.

The Kaplan and Ravi manuscript examines countries' responses to China's state-backed credit. They argue that in response to China other countries have deployed development finance to help firms capture market share internationally. They conclude that industrial policy is becoming increasingly outward oriented.

- There was general agreement that China's policies were distinctive and likely to operate differently in different institutional contexts. As a result, there may be little to be gained from trying to emulate Chinese industrial policy. Such efforts may not be politically feasible and are unlikely to have the same economic impacts outside of China.
- China's policy-making is not unconstrained, contrary to some perceptions. Domestic politics limit leaders' policy options. As Branstetter et al. show, subsidies are allocated to less productive firms. This finding suggests that even in China, political and social considerations may outweigh economic efficiency considerations. Second, China's position in global value chains and its weak enforcement capacity limits its bargaining power with foreign firms, as Minnich shows.
- Many policy instruments can be used for industrial policy purposes. The frequency with which any particular instrument is used for industrial policy goals may change over time. New instruments of industrial policy may emerge over time, as Kaplan and Ravi argue, and others may become more (or less) frequent.

Session 3: Learning from the Past

Industrial policy is not new, and many countries have a long track-record with industrial policy. This session examined historical cases of industrial policy.

The Choi and Levchenko paper studies one of the best-known instances of industrial policy conducted on a national scale: the Heavy and Chemical Industry (HCI) Drive in South Korea between 1973 and 1979. They find large and persistent effects of this industrial policy drive. Subsidized firms grew faster than those never subsidized for 30 years after subsidies ended.

The Finnegan et al. paper examines countries' varied responses to the 1973 oil crisis. In response to this common shock, governments' in different countries adopted different policies with varied consequences for both citizens and businesses. This variation is explained, they argue, by political institutions.

The Hankla manuscript examines policies designed to encourage domestic producers to move up the value-chain in postwar France and post-independence India. These cases illustrate different policy-making styles, which are not fixed characteristics of countries but can vary across time and sectors of the economy. These policy-making styles reflect the changing power dynamics and organizational resources of state and private actors. They help to explain the varied success of a sub-set of industrial policy.

- Industrial policy engenders varied outcomes in different contexts. Some industrial policies, like the Heavy and Chemical Industry (HCI) Drive in South Korea, have persistent and significant effects on firms and the structure of the domestic economy. Yet, others, like the US efforts to transition away from oil in 1973, were less successful. As Hanka concludes, "There are no specific policy actions that we can be sure will work every time; the mechanisms needed to move up the value chain are simply too complex and context specific to permit a single rule."
- Industrial policy's varied results may be due, at least in part, to design features. What factors explain industrial policy's design features? Hankla emphasizes the importance of institutional mechanisms for the design and effectiveness of industrial policy. To date, good progress has been made in identifying the relationship between political institutions and policy outcomes. For example, Rickard (2021) demonstrates that governments spend a larger portion of their subsidies on environmentally friendly programs in countries with proportional electoral rules or party-centred elections. Finnegan et al. find that proportional electoral systems tend to produce policies that impose costs primarily on consumers (demand-side policies), while countries with autonomous bureaucracies often facilitate supply-side policies. Future work may build on these insights to understand the ways in which politics and political institutions systematically influence the design of industrial policies.
- This session on historical instances of industrial policy raised a key question: What can we learn about modern-day industrial policy from historic case studies? Given that many countries have engaged in industrial policy for decades - even during the era of peak globalisation – what's different now and why? One clear difference is the scope of government spending on industrial policy today. Another is the use of industrial policy to achieve environmental goals.
- Discussants referenced the historic US response to Japan's industrial policies. It is unclear if the US overreacted or react appropriately in Japan's efforts. Is the US making the same or different mistakes in response to China? Japan generally implemented policies to try to take people out of declining industries, which is fundamentally different from China's industrial policy goals.

Session 4: Industrial Policy Around the World

This session focused on industrial policy in other countries around the world, specifically in Japan, Malaysia and Europe.

The Catalinac manuscript examines targeted economic benefits in Japan. In Japan, some municipalities received more money from the national government than others. But in spite of the larger resource allocations, these districts exhibit systematically *lower* levels of support for incumbent politicians.

The Ratan paper examines the effects of China's relocation of solar production to Malaysia in response to US tariffs. Ratan finds that Chinese relocation had no effect on local solar installation. Chinese panels produced in Malaysia are typically not consumed in the local market. This finding calls into question existing industrial policy scholarship that emphasizes the localization of production for downstream market growth.

The Hoekman and Nelson paper offers an alternative, more permissive definition of industrial policy. They define industrial policy as any intervention, or set of interventions, intended to affect conditions in an industry or closely related set of industries. Drawing on evidence from Europe, they demonstrate that many different policies can be used as industrial policy, including subsidies, trade, competition, and environmental instruments. A increasingly common feature of these interventions is that they are motivated by noneconomic objectives.

- Targeted economic benefits may not engender electoral benefits, as Catalinac demonstrates. This finding raises questions about the motivations behind targeted economic benefits, and economic policy more generally. Why do governments engage in industrial policy, particularly if they don't anticipate meaningful electoral benefits?
- Industrial policy may have unintended consequences, as Ratan demonstrates. Under what conditions is industrial policy more likely to "work" – that is achieve the intended goals?
- This session returned to an earlier question: what are the boundaries of industrial policy, and how important are these boundaries for developing an understanding of modern industrial policy? A large literature exists on policy targeting (e.g. Catalinac, Katitas and Pandya, Rickard). It may be useful to mine this literature for potential insights about industrial policy, which typically involves policy targeting but also entails public goals.
- Many different types of policies can be used for industrial policy. Given this, how can we best study industrial policy? Can a single policy tool be studied in isolation? Rickard (2018) examines industrial subsidies and explains the variation in subsidy spending across countries and over time. This study, while focused exclusively on subsidies, may provide valuable insights for understanding industrial policy.

- What, in anything, might be missed by focusing exclusively on a single policy tool, such as subsidies? Different government policies may work at cross-purposes. For example, subsidies provided for the development and adoption of EVs may be offset, or counter-acted, by low tax rates on fossil fuels. Focusing only on the subsidy side of the story may overestimate the government's efforts to transition their economy away from fossil fuel. It may also underestimate the effectiveness of the subsidies.
- Looking only a one policy tool may overestimate (or underestimate) a country's efforts to transform their economy relative to others. For example, the US is relying largely on subsidies to engender a green transition while, in contrast, the EU has, in addition to subsidies, implemented a Carbon Border Adjustment Mechanism (CBAM) to tax carbon intensive products. Looking only at subsidies would underestimate the EU's policy efforts to engender a green transition.
- There may be value in single-policy studies. Industrial policy is difficult to measure and multi-faceted. Given this, single-policy studies may be a necessary and valuable first step. Indeed, participants agreed that it is hard to do over-time, cross-national studies of industrial policy. But such studies have been done convincingly on other topics, like discrete economic policies such as tariffs and subsidies.

Roundtable

The Roundtable discussion was held under Chatham House rules to facilitate a free-flowing exchange. The following summary is not a formal record and does not bind participants in any way.

- The Roundtable stressed that politics matters for the design of industrial policy. For example, the discriminatory nature of the US Inflation Reduction Act's EV subsidies can be explained, in part, by domestic politics.
- In addition to domestic politics, international politics also matter. It is important not to undersell the immediate and important international effects of industrial policy.
- While there was widespread agreement that "politics matter" for industrial policy, the next step is to identify precisely *how* they matter. To date, good progress has been made in identifying the relationship between political institutions and policy outcomes (e.g. Finnegan et al., Hankla, Rickard). Future research may usefully build on this institutional work.
- In addition, many noted the critical importance of industrial policy to address the energy transition needed for combatting climate change. This need interacts with the concerns over national security that now infuse much of industrial policy debates. Both of these newer goals make creating optimal industrial policy even more difficult.
- In sum, participants stressed the value of continuing a dialogue such as the one at this workshop. These exchanges enable academics from different disciplines, as well as

researchers at think-tanks and those close to policy-makers, to exchange views and share information and research about industrial policy.

References

- Branstetter, Lee G., Guangwei Li and Mengjia Ren. 2022. Picking Winners? Government Subsidies and Firm Productivity in China. NBER Working Paper 30699. <http://www.nber.org/papers/w30699>
- Catalinac, Amy. 2023. *Dominance Through Division: Group-Based Clientelism in Japan*. Book Manuscript. New York University.
- Choi, Jaedo and Andrei A. Levchenko. 2021. The Long-Term Effects of Industrial Policy. NBER Working Paper 29263. <https://www.nber.org/papers/w29263>
- Finnegan, Jared J., Phillip Y. Lipsky, Jonas Meckling and Florence Metz. 2023. The Institutional Sources of Economic Transformation: Insulation and Compensation in the Politics of Energy Transitions. Working Paper. University of California, Berkeley.
- Gulotty, Robert and Anton Strezhnev. 2023. The Political Benefits of the Monoculture: Estimating Political Manipulation in the Market Facilitation Program. Working Paper. University of Chicago.
- Hankla, Charles R. 2023. *In Pursuit of Prosperity: Industrial Policy and the Politics of Economic Upgrading*. Book Manuscript. University of Michigan Press
- Hoekman, Bernard and Douglas Nelson. 2023. Political Economy Problems with Industrial Policy. Working Paper. European University Institute.
- Kaplan, Stephen B. and Aparna Ravi. 2023. *Banking on the State: The Competitive Advantage of State-Led Financing*. Book Manuscript. George Washington University.
- Johnson, Chalmers. 1982. *MITI and the Japanese Miracle: The Growth of Industrial Policy: 1925-1975*. Stanford University Press.
- Katitas, Aycan and Sonal Pandya. 2023. "Do Politicians Prioritize Investment Incentives? Evidence from the Great Recession". Working Paper. University of Virginia.
- Li, Sichen. 2023. Technological Interdependence and National Security-Based Investment Restrictions: CFIUS Reviews as a New Industrial Policy Tool. Working Paper. University of California, San Diego.
- Minnich, John David. 2023. Scaling the Commanding Heights: The Logic of Technology Transfer Policy in Rising China. Working Paper. MIT.

Ratan, Ishana. 2023. Scale up and Spillover, or Stall? Forward linkages and downstream growth in the Malaysian solar industry. Working Paper. University of California, Berkeley.

Rickard, Stephanie. 2018. *Spending to Win: Political Institutions, Economic Geography and Government Subsidies*. Cambridge University Press.

Rickard, Stephanie. 2022. "Interests, Institutions, and the Environment", *International Studies Quarterly* 66 (2).