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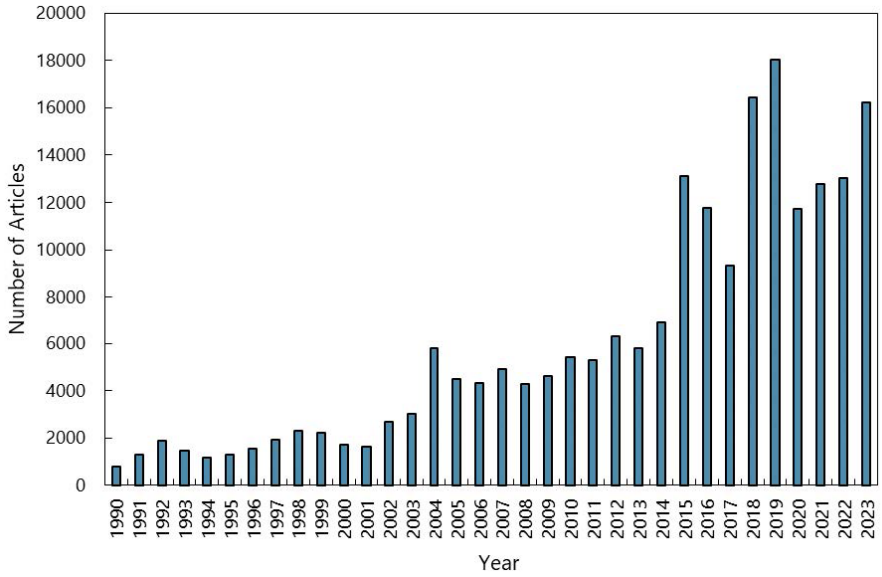
Industrial policy has caught much attention in recent years, which can be seen in the number of newspaper articles mentioning them, as the figure below suggests.

Industrial policies are distinguished from other policies by their focus on encouraging the development and growth of **specific** sectors or industries within the economy. Governments target specific industries that are considered "**strategic**" along one or more dimensions: they are likely to disproportionately foster job creation, and/or cause technological progress. Recently, strategic industries have been also characterized by their contribution to the "green transition", securing global supply chains, and national security, as well as geopolitical concerns. Industrial policy can include a variety of measures such as subsidies, tax incentives, regulatory adjustments, direct government investment or public investment in specific infrastructure, and support for research and development.

Mentions of Industrial Policy in the Major Business Press



Source: Factiva and authors' calculations.

The workshop organized by the Globalization Chair on May 24th assembled world-class researchers to discuss the state of the art in research on Industrial Policy in the Global Economy. The workshop highlighted how the inter-connectedness of the global economy shapes the impacts of industrial policies in ways that are sometimes unexpected.

Appropriately, the workshop started with a presentation by Simon Evenett (University of St. Gallen), based on his New Industrial Policy Observatory (NIPO) dataset, which is, to date, the most comprehensive collection of worldwide information on industrial policy (Evenett *et al.*, 2024). The presentation provided answers to the "who?", "when?", "how?" and "why?" of industrial policy. Analysis of the database reveals several important dimensions of industrial policy and how they have changed.

First, while it is on the rise and has even accelerated over the last decade or so, **industrial policy it is not a new phenomenon**. However, what has changed is that some OECD members which had eschewed industrial policy in the past – now embrace it; this accounts for much of the recent increase in the incidence of industrial policy. In other words, the share of the OECD members in global industrial policy activity has increased markedly.

Second, despite the increase in its scope and breadth, **the motives for industrial policy have changed little**. While there is a rise in spending on industrial policies that are motivated by climate change mitigation ("green transition") and national security, this is not where most of OECD spending takes place. Most of the spending, and its rise, is for more "traditional" motives for industrial policy: promoting competitiveness of strategic sectors. In line with this, **subsidies to local firms** remain the predominant form of industrial policy, accounting for 82 percent of all industrial policies for OECD member countries and 62 percent for non-OECD countries. Industrial policies that directly target trade (export promotion or import restrictions) are more prevalent in non-OECD countries. This probably reflects differences in states' capacities to implement different policy tools. At the same time, subsidies that are not directly trade-motivated *per se* may have effects on trade nonetheless, especially if they target large, productive firms.

Third, **tariffs are now often used in combination with subsidies**, rather than one or the other. Instead of choosing whether to use protective tariffs to support an industry or to subsidize an industry's activity – i.e., making a tradeoff between instruments – tariffs are now often used in order to prevent other countries from undercutting the advantages conferred by subsidies that were previously implemented.

Fourth, **a high share of world trade is impacted by industrial policies**, but the exposure varies by the country implementing and the country being affected. For example, Chinese industrial policy potentially affects 71 percent of its exports to the European Union and 82 percent of its exports to Latin America; at the same time, European Union industrial policies affect its exports much less, and much more evenly across destinations.

Overall, the analysis highlights the **high potential of industrial policy to distort world trade**, even when the stated goals are not related to trade *per se*. Two other papers in the workshop delved into the potential international spillovers of industrial policy.

Next, Harald Fadinger (University of Mannheim) reported on research in which he and colleagues study the surprising effects of Chinese policy that reduced the global supply of rare earth elements (REE). REEs are essential inputs in many industrial products, including those that are required for the green transition (e.g. electric motors,

batteries for electric vehicles, wind turbines, etc.). REEs are ubiquitous, but extraction from their deposits and refining them is costly. Due to its cost-advantage, China became a quasi-global monopolist in their supply.

In 2011, China implemented export restrictions (export taxes and export quotas) on REEs, which caused a spike in their world prices. The policy was motivated by supporting the growth of China's downstream industries that use REEs intensively, especially battery production for electric vehicles. However, the policy seems to have had surprising effects in other countries.

The cost increase and supply restriction were expected to have negative effects outside of China: downstream industries that use REEs intensively as inputs should have experienced increases in costs and reductions in output. Surprisingly, Harald and his coauthors find the opposite: exports of the very industries outside of China that were supposed to be hurt – increased. This suggests an increase in competitiveness, either due to reductions in input costs or technological improvements.

The analysis suggests that directed technical change accounted for most of the increase in competitiveness. The authors find evidence for positive productivity gains and more innovation (measured by patenting) in the industries outside of China that were supposed to be most negatively affected by the Chinese policy. They conclude that the Chinese policy inadvertently catalyzed growth in downstream industries outside of China. Their paper highlights the unexpected international spillover effects of industrial policy.

Finally, Michele Ruta (IMF) presented work on the impact of domestic subsidies (a type of industrial policy) on trade flows, including their spillovers on other sectors. This type of industrial policy lowers marginal costs for targeted firms and industries. But the overall direction and size of the effect of domestic subsides on trade flows are not obvious because they affect relative prices. Subsidies should lead to greater output in the targeted firms and industries, thus lowering imports and increasing exports in the industries concerned.

However, the effects of subsidies on trade depend on the productivity and behavior of the targeted firms (e.g. by picking winners versus losers). And the effects of subsidies to one industry may spill-over to non-targeted industries as well, e.g. by affecting resource allocation, altering comparative advantages and by changes in the terms-of-trade. One potential channel through which spillovers may manifest is input-output linkages. Another channel may demand for resources and labor, where a treated industry absorbs resources from other industries.

This complexity calls for careful analysis that disentangles export and import effects across products and country groups. In addition, the analysis should assess "protectionist" impacts, i.e., the difference between international trade flows and domestic sales.

Ruta and his coauthor (Lorenzo Rotunno, also at the IMF) leverage detailed data from 2009 and on for a large sample of countries, based on the NIPO dataset (presented by Simon Evenett). They show that use of domestic subsidies is not only on the rise in numbers, but also as a share of all industrial policies. The rise in the intensity (share in total) of use of subsidies is characteristic of large, G20 club **emerging markets** (e.g. Brazil, China, India, Indonesia) – while much less so in advanced economies (e.g. the United States and France). Across the board, subsidies increasingly target manufacturing, making it more like to have an impact in the trade sector.

The analysis reveals several important findings. First, subsidies do increase exports, as expected, but only for large emerging economies. On average, exports increase by 8 percent after subsidies are introduced in a given industry compared to other industries. One reason for this particularity is that subsidies to industry in advanced economies only add to shareholders profits. Indeed, the paper reports evidence that suggests that in advanced economies subsidies are "anticipated" by industry, and thus do not have an effect after they are implemented.

Second, somewhat surprisingly, the analysis does not detect any effect of these subsidies on imports of the products that the industry produces. This could arise for at least two reasons. First, targeted firms are monopolists on the domestic market, and they do not pass over cost reductions to consumers. A second reason is that there is sufficient heterogeneity within product categories, such that targeted firms do not export the same varieties as those that are imported, so we do not expect to see an impact. These results are borne out in additional analysis that compares directly the differential effect of domestic subsidies on exports versus domestic sales: subsidies increase exports relative to domestic sales.

The fact that subsidies affect only export from large emerging economies may be related to the size of such subsidies. The fact that some of the anticipated effects of domestic subsidies are not detected in the data calls for paying attention to the context in which industrial policies are implemented, which is a topic for further investigation.

References

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