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The Return of Industrial Policy in Data

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ABSTRACT This paper introduces the New Industrial Policy Observatory (NIPO) dataset and documents emergent patterns of policy intervention during 2023 associated with the return of industrial policy. The data show that the recent wave of new industrial policy activity is primarily driven by advanced economies, and that subsidies are the most employed instrument. Trade restrictions on imports and exports are more frequently used by emerging market and developing economies. Strategic competitiveness is the dominant motive governments give for these measures, but other objectives such as climate change, resilience and national security are on the rise. In exploratory regressions, we find that implemented measures are correlated with the past use of measures by other governments in the same sector, pointing to the tit-for-tat nature of industrial policy. Furthermore, domestic political economy factors and macroeconomic conditions correlate with the use of industrial policy measures. We intend for the NIPO to be a publicly available resource to help monitor the evolution and effects of industrial policies.

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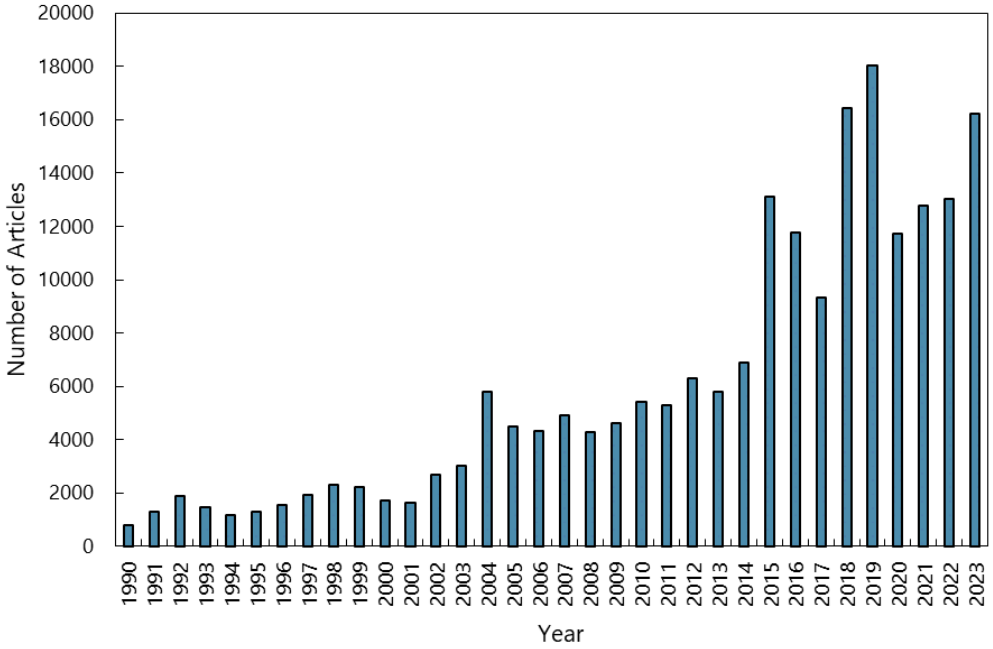
Introduction

Industrial policy (IP) has gained increased prominence in public discourse over the last several years, as shown in Figure 1. This renewed interest comes as governments have sought effective tools and strategies to remedy the fallout from multiple, compounding crises—sluggish post-financial crisis growth, the COVID-19 pandemic and associated supply disruptions—coupled with intensifying geopolitical tensions and conflicts, including over territory, resources, and leadership in new technologies, that have raised the specter of geoeconomic fragmentation (Aiyar et al., 2023; Aiyar, Presbitero and Ruta, 2023). To add to the bargain, governments are also faced with unmet public demands for climate mitigation and adaptation strategies. The pursuit of IP by some countries has also raised alarm in others over loss of economic and national security and a vortex of tit-for-tat retaliation, a challenge the multilateral rules-based trading system seems ill equipped to deal with. Recent data for China, the European Union, and the United States, shows that on average there is a 73.8 percent probability a subsidy for a given product by one major economy is met with a subsidy for the same product by another within one year (Table 1).[1]

Figure 1. Mentions of Industrial Policy in the Major Business Press



Source: Factiva and authors' calculations.

These developments raise several questions: to what extent can the reported resurgence in industrial policy be corroborated with evidence? Which measures are being used and why? What sectors have been targeted and what types of spillovers might have been generated?

A key challenge in addressing these questions is the lack of high quality and systematic information on what governments around the world are doing. Industrial policy is unlike monetary and fiscal policy, where there are

[1] The average is calculated over all six possible combinations of implementing and responding jurisdiction, for subsidy interventions and responses at 12 months, using data in Table 1 prior to rounding.

publicly available measures of policy stance. To date, there is no separate inventory of IP measures collected by international organizations or by independent researchers. Some taxonomies have been developed for some industrial policy interventions, but no sustained effort has been made to move from taxonomy to evidence collection on selected policy changes.[2] As a result, to the extent that industrial policy has been assessed empirically, it has been in the context of sectoral or national studies. An alternative approach to overcome the data limitation is to extract the information on industrial policy measures from existing databases covering wider policy interventions. Specifically, if industrial policy is taken to relate to policy interventions affecting selected firms, sectors, and vertically-linked value chains, then it is possible to extract in-scope policy interventions from the Global Trade Alert (GTA) database of commercial policy interventions implemented unilaterally by public bodies (see Juhász, Lane, and Rodrik, 2023). The GTA database tracks changes in over 60 types of policy intervention undertaken by governments, including corporate subsidies, many of which have been associated with industrial policies over the years, and contains information on over 61,000 distinct interventions (see Annex 1 for details and methodology).

Table 1. Tit-For-Tat Dynamics

		Responding jurisdiction								
		China			EU-27			USA		
Initial Implementing Jurisdiction	Form of subsequent policy intervention	Within 6 months	Within 12 months	Within 24 months	Within 6 months	Within 12 months	Within 24 months	Within 6 months	Within 12 months	Within 24 months
China	Introduce new subsidy	-	-	-	0.84	0.93	0.98	0.71	0.82	0.93
China	Introduce import curb	-	-	-	0.42	0.68	0.88	0.57	0.73	0.89
EU-27	Introduce new subsidy	0.48	0.66	0.74	-	-	-	0.65	0.72	0.79
EU-27	Introduce import curb	0.12	0.17	0.29	-	-	-	0.35	0.46	0.57
USA	Introduce new subsidy	0.37	0.55	0.60	0.70	0.74	0.79	-	-	-
USA	Introduce import curb	0.21	0.25	0.32	0.44	0.61	0.79	-	-	-

Note: Data covers measures implemented between January 2021 and December 2023.

In this paper, we introduce a new monitoring exercise called the New Industrial Policy Observatory (NIPO) with the aim of capturing industrial policy developments. In line with IMF (2024), we consider as industrial policies any targeted government intervention aimed at developing or supporting specific domestic firms, industries, or economic activities to achieve national economic or noneconomic (e.g., security, social, or environmental) objectives. We term these "new" industrial policies (NIPs) to stress the fact that they encompass measures with an emerging and expanding set of objectives and targets, as described in detail below, in addition to more traditional targets (e.g., steel and aluminum or automotive sectors) or objectives (e.g., enhanced competitiveness).[3] The purpose of this exercise is to improve transparency over the use of industrial policy, and to contribute to the empirical assessment of economic effects of such measures—on the imposing jurisdictions and on others impacted through cross-border spillovers—and ultimately, to inform governments' decisions on whether and how to pursue IP. Although the data collected thus far only cover 2023, we use this available information to answer some important questions and provide an early assessment of the return of industrial policy. Clearly, this is just a first step in an evolving research agenda and the ongoing data collection will help facilitate more research in the future.

[2] For taxonomies of selected corporate subsidies, see Evenett and Fritz (2020), and Evenett and Martín (2023), and IMF-OECD-WBG-WTO (2022).

[3] Another reason the database is on "new" industrial policies is because its coverage begins in 2023, and therefore does not consider older "legacy" measures (unless they are materially revised in 2023). The GTA database is a good source for earlier trade-related measures, starting from November 2008.

The NIPO records measures announced or implemented since the beginning of 2023 and goes beyond the GTA database (and those derived from it—further discussed below) in four important respects: (i) a distinction is made between (strategic) plans a state may have, the policies or regulations that that state enacts (perhaps to execute a strategic plan) and the firm-specific interventions (such as FDI authorization decisions or subsidy awards) that follow from the implementation of a policy or regulation; (ii) the stated motive of a government is recorded and tagged based on official sources; (iii) interventions are associated with pre-specified groups of products in strategic sectors: medical, semiconductors, critical minerals, military/civilian dual-use, low carbon technology, and other advanced technology;[4] and (iv) the range of policy interventions tracked is expanded to include several technology-related interventions.

Twelve months into the first year of data collection, we have recorded a total of over 2,500 NIPs worldwide, out of which 71 percent are trade distorting. Collectively, these measures are likely to have significant effects on economic outcomes. For example, the subset of restrictive measures affecting imports for which trade coverage can be precisely identified (a total of 882 measures) impact at least 22 percent of global trade. In addition, several patterns have already emerged. First, IP activity has been concentrated among key economies, with China, European Union, and United States accounting for 48 percent of the measures. Advanced economies (AEs) have been more active than emerging markets and developing economies (EMDEs) in the use of industrial policy in 2023 and corporate subsidies have been the most common type of trade distorting instrument.[5] Second, we observe important differences between the choice of specific subsidy instruments between AEs and EMDEs: AEs tend to rely on direct financial grants, state loans, and state aid, while EMDEs opt for state loans, tax relief, and capital and equity injections. Trade restrictions on imports and exports are also more frequently used by EMDEs relative to AEs. Third, regarding the motivations behind IP interventions, we observe that addressing strategic competitiveness concerns has been the stated objective of governments for over a third of measures where information on motives is available. Motivations related to climate change and supply chain resilience account for 28 percent and 15 percent respectively. National security and geopolitical tensions combined have been the motivation behind around one in five measures. Finally, we look at the sectoral coverage of IP. The medical goods sector was the most targeted in the beginning of 2023, but it was soon overtaken by military/civilian dual use products and advanced technology products, including low-carbon technology, semiconductors, and their upstream inputs such as critical minerals.

An assessment of the effects of industrial policy measures using the NIPO data would be premature given the short and recent time series at our disposal. But the data can usefully be employed to develop a preliminary assessment of the determinants of NIPs. Specifically, we employ regression analysis to investigate how the use of industrial policy measures correlates with several potential explanatory variables taken from the literature. Focusing on sectoral characteristics, we find a positive correlation between new industrial policies and revealed comparative advantage, as well as with past IP measures imposed by other countries in the same sectors. The first result is in line with Juhász, et al. (2023): established sectors appear to be more frequent targets of governments' IP interventions. This finding seems consistent with the view that political economy forces such as the lobbying power of established constituencies are important determinants of the new wave of industrial policy. The second result corroborates the view that IP measures can have negative spillover effects on trading partners and can lead to retaliation and a tit-for-tat dynamic.

[4] Critically, no attempt is made to link particular groups of goods to particular tagged motives, thereby allowing for motive-good permutations that may be unexpected.

[5] It is possible that the gap between AEs and EMDEs in resort to subsidy interventions will narrow over time as reports from the latter tend to be published with a lag.

We next investigate the country characteristics that are associated with a greater use of IP measures in 2023. We focus on political economy, structural, and cyclical macroeconomic factors. The analysis shows that in countries with an upcoming election, governments are more likely to use IP measures, confirming that political economy motivations are strong determinants of IP. Countries with high export concentration also tend to intervene more often. Interestingly, poorer sovereign debt ratings do not seem to deter policy activism, but rather are positively correlated with IP measures. Finally, cyclical conditions such as a loss of external competitiveness as captured by a real exchange rate appreciation also seems to matter. While this evidence is purely suggestive and more work is needed to assess the effectiveness of industrial policy, it is noteworthy that IP measures are associated with a number of factors (e.g., retaliation, political economy) that are not clearly related to market failures—the oft-stated efficiency rationale for industrial policy.

Our work relates to a long running and extensive economic literature on IP. The intellectual debate around the effects of industrial policy is far from settled. As Pack and Saggi (2006) point out, those who believe in the efficient functioning of markets will tend to view any industrial policy intervention with skepticism and driven by rent-seeking motives, whereas those who believe in pervasive market failure see industrial policy as a necessary condition for development. The frequently cited economic arguments for industrial policy are the infant industry argument, knowledge spillovers, dynamic scale economies, coordination failures, and informational externalities. Beyond economics, governments often cite competitiveness, seen by Krugman (1994) as a misplaced concept which is hard to measure, and strategic or geopolitical competition, for example to establish a first mover advantage in emerging technologies. The risks of industrial policy from a domestic perspective are increased inefficiencies from resource misallocation and rent seeking (Krueger and Tuncer, 1982; Rodrik, 2008). From an international perspective, industrial policy can lead to spillover effects, trade tensions, and retaliatory dynamics (Rotunno and Ruta, 2023).

Most economists would agree that import-substitution policies that took off in the 1950s and lasted into the 1980s were not successful at generating sustained improvements in development (Irwin, 2020). Meanwhile the experience in East Asia has given hope that under certain circumstances industrial policy may be successfully pursued (Irwin, 2023). Some attribute the East Asian success to export-oriented and trade facilitating components of their industrial policies (Juhász, Lane, and Rodrik, 2023), or highlight elements enforcing competition and accountability (Cherif and Hasanov, 2019), while others emphasize the importance of broad-impact horizontal reforms to exchange rate regimes rather than the targeting of specific sectors (Irwin, 2021).

An example of strategic considerations driving industrial policy in a macroeconomically significant sector is the case of the technology-intensive and national security-relevant wide-body aircraft industry.[6] European efforts starting in 1970 were successful in creating a viable competitor (Airbus) to the dominant U.S. producers (Boeing, McDonell-Douglas), at the cost of massive government subsidies on both sides, protracted negotiations, a short-lived bilateral agreement, and legal proceedings at the GATT/WTO to reign them in.[7] Despite potential positive spillovers for technology and security, the impact on consumer welfare is debated (Baldwin and Krugman, 1988; Neven and Seabright, 1995). Unfortunately, the ability of the rules-based trading system to discourage future outbreaks of subsidy competition of a similar magnitude has since been

[6] United States government estimates civil aviation contributed around 5 percent to GDP pre-pandemic (FAA, 2022).

[7] The Airbus case resulted in a record $7.5 billion in authorized annual countermeasures and the Boeing case in annual countermeasures of $4.0 billion (WTO 2019; WTO 2020), and eventually led to an understanding to scale back subsidies and withdraw countermeasures.

substantially weakened, just as a new wave of increasingly complex industrial policies is arriving (Bown, 2023a).

Governments increasingly cite reasons beyond competitiveness as a rationale for industrial policy. Specifically, new objectives for IP increasingly include addressing pressing global challenges, such as climate change, pandemics, and national security considerations. Spence (2023) argues that with these new objectives, the criteria for designing and evaluating IP therefore needs to extend beyond traditional economic considerations. Nevertheless, the non-economic objectives do not detract from the potential for international economic and policy spillovers. Bown (2023b) points out that in designing such policies governments should be mindful that risking retaliation or the weakening the trading system can ultimately undermine their well-intentioned objectives. Hoekman, Mavroidis, and Nelson (2023) stress the importance of deliberation and dialogue on IP within the WTO with a view to identifying shared rules of conduct to mitigate negative cross-border spillovers.

As indicated above, there is no database providing detailed information on a broad set of industrial policy measures (our main contribution to the literature).[8] A key exception is the work by Juhász, et al. (2023) who employ an automated classification algorithm on policies in the GTA database for the years 2009-2020. They find that around 25 percent of the GTA policies can be classified as IP and that the use of IP has increased since 2010. In this dataset, subsidies and export promotion measures, often targeted at specific industries or individual firms, are the most common instruments of IP. IP is also correlated with an industry's revealed comparative advantage, a finding that could reflect that government support tends to go to already well-established exporting industries. They also find that AEs tend to be more frequent users of industrial policy measures over this time period. The drawback of an automated classification approach is that it introduces some noise in the classification, which may be small at the level of aggregate statistics but may be important for specific measures. This can be precluded through manual vetting procedures or a combination of the two techniques.

The rest of the paper is organized as follows. Section 2 describes the methodology used in gathering the data. Section 3 takes a first look at the data and presents some stylized facts on IP measures in 2023, while Section 4 analyzes some determinants of these trends. Section 5 concludes and provides some suggestions for future research in this area.

Methodology of the NIPO database

NIPO records state measures that have been implemented or announced on or after January 1, 2023 and is updated monthly.[9] Each entry in the NIPO database refers to a distinct state intervention. Below, we first describe the criteria for inclusion in the NIPO and provide additional information on the type of policies covered.

The monitoring covers 75 jurisdictions which make up 94 percent of global GDP (see Annex 2) and were selected because they have been consistently tracked through the longstanding GTA commercial policy monitoring

[8] There are databases that cover selective industrial policies. One example is the coverage of measures that impact essential goods (i.e., medical and food products) that was developed during the COVID-19 pandemic (Evenett et al., 2022). Another example is the ongoing work to identify trade-related climate policies (Aisbett et al., 2023).

[9] The data presented in this paper represent a snapshot in time of the first NIPO launched in January 2024 and may be subject to revision. The NIPO is a live database that will be updated monthly. Importantly, recording lags may exist as information becomes available at different speeds across various jurisdictions.

initiative, which has at its core the G-20 economies.[10] Out of these, 45.3 percent are Advanced Economies (AEs) and 54.7 percent are Emerging and Developing Economies (EMDEs).[11] Each region is represented: 13 jurisdictions are in the Asia Pacific (17.3%), 31 in Europe and Central Asia (41.3%), 9 in Latin American and the Caribbean (12%), 9 in the Middle East and North Africa (12%), 2 in North America (2.7%), 4 in South Asia (5.3%), and 7 in Sub-Saharan Africa (9.3%).

Inclusion in the NIPO database

The NIPO database relies on information collected by the Global Trade Alert team and aims to identify new industrial policy measures implemented by governments around the world.[12] In order to be part of the NIPO database, the GTA measures need to meet at least 1 out of the 3 inclusion criteria, which are, in no particular order: 1) the measure is associated with a predefined set of motives; 2) the measure covers at least one of a predefined set of products or service categories; or 3) the measure is a industrial strategy or plan. These inclusion criteria are explained in detail below.

Stated Motive

The first inclusion criterion we consider is the motive for policy intervention as reported by the government. The NIPO database includes GTA measures whose stated motive is national security, geopolitical concerns, security of supply (for non-food products), strategic competitiveness, or climate change mitigation concerns. An entry in the NIPO database can be associated with more than one stated motive, and thus an overlap between stated motives is possible. To identify what motivates interventions, statements from official sources or direct quotes from senior officials are collected and reviewed. These stated motives by governments are categorized as follows:

National security: An official stated motive of the action refers explicitly to the current or future military security of the implementing country or specifically quotes “national security”.

Geopolitical concerns: An official stated motive refers to countering the risk from a country or a class of countries (e.g. autocracies), even in the absence of a specific reference to national security.[13] Sanctions against Russia related to the war in Ukraine are considered based on a geopolitical concern.

Resilience/security of supply (non-food): An official stated motive of the action refers to improving the stability or security of local supplies of non-food products now or in the future.

Domestic competitiveness in strategic sectors: An official stated motive of the action refers to the promotion of domestic competitiveness or innovation in a strategic product or sector.

[10] EU-wide measures are recorded only once, but measures by individual EU member states are counted separately. The same logic applies to other supranational jurisdictions.

[11] The AEs are: Australia, Canada, Hong Kong SAR, Iceland, Israel, Japan, New Zealand, Norway, Singapore, Korea, Switzerland, Taiwan Province of China, United States of America, United Kingdom, and the European Union and 19 EU individual members (Austria, Belgium, Croatia, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain and Sweden); The rest are classified as EMDEs (Annex 2).

[12] Information on the GTA data collection process can be found in Annex 1.

[13] Classes of countries can be defined by political system (e.g. autocracies), alliance (e.g. NATO, “axis of evil”), ideology (e.g. liberal) or geography.

Climate change mitigation and other environmental objectives: An official stated motive of the action refers to the climate change mitigation or the transition to a low-carbon economy.

Measures that fulfill the criteria for inclusion in the NIPO database but which also mention food security concerns, public health concerns, or an other non-specified motive are tagged under the following columns: "Mentions food security", "Mentions public health concerns", and "Mentions other".[14]

Product or Service Categories

A second inclusion criterion relates to the types of products that are targeted by policy interventions. The NIPO database specifically includes policy interventions from the GTA database that relate to the following salient groups of goods and services that are often critical to achieving the motives described above. This allows us to capture new industrial policy interventions that governments may not explicitly describe as such. The groups are defined by a list of six-digit Harmonized System (HS) subheadings (for products) and CPC codes (for services) and are as follows:[15,16]

Low-Carbon Technology: Low carbon technologies include technologies and machines such as wind turbines, solar panels, biomass systems, and carbon capture equipment. Low carbon technology products produce less pollution than their traditional energy counterparts and can play a role in the transition to a low carbon economy.

Dual-use products: dual-use items are goods, software, and technology that can be used for both civilian and military purposes. Although this category covers HS codes of hydrogen and steel, iron and aluminum, we have created separated product categories to account for measures targeting these particular products given their prevalence in the data.

Critical minerals: minerals necessary for producing a broad range of goods used in everyday life and modern technologies.

Advanced technology products: products relating to medical and industrial applications of advanced scientific discoveries, medical science, opto-electronics; products that are able to process increased volumes of information; electronics, robotics; materials that allow for further development and application of other advanced technologies (optical fiber cable and video discs); aerospace products; and nuclear technology.

[14] "Mentions food security", "Mentions public health concerns", and "Mentions other" are not a valid inclusion criteria in the NIPO database. However, if a qualifying NIPO measure also has any of these stated motives, they are flagged as "mentioned" motivations. For example, a GTA measure whose stated motives are "Motive: National security" and "Mentions food security" enters in the NIPO database since "Motive: National security" is an inclusion criteria, but will also flag "Mentions food security" as a mentioned motive. However, a GTA entry where the only stated motive is "Mentions food security" is not included in the NIPO database based on the stated motives inclusion criteria.

[15] The 2012 edition of the HS nomenclature is used. The sectoral scope of the NIPO database is unrestricted and can include measures covering any goods and/or services if one of the other inclusion criteria are met.

[16] Note that there are no readily available lists for technological collaboration, technological sectors, or technological products. Based on existing initiatives and media reports, the GTA team has extended its coverage to computing-related technologies including microelectronics, quantum information systems as well as artificial intelligence. Their monitoring was also expanded to include clean energy technologies such as batteries and electric vehicles. The notion of technological goods relevant for this project may evolve in response to policy developments. Note that the below definitions only serve to help identify innovative forms of technology-related trade or foreign investment restrictions which may have been missed by tracking the existing set of GTA policy instruments. Close monitoring of government intervention in technology sectors ensures that this project is not confined to the existing set of GTA policy instruments.

Semiconductors: besides semiconductors, materials and products that allow for further development and application of semiconductor-related technologies.
Medical products: medical consumables or non-durable products, including medicines and vaccines as defined in the GTA's Essential Goods Initiative; medical equipment.
IT or digital services: technological research, digital or IT services.[17]

Although included measures need to cover at least one of the HS or CPC codes under one of the above categories, GTA measures without an associated HS code but with a CPC code are also classified under the above categories with the help of a conversion table. In addition, a text-based keyword search in the title of each measure is performed to categorize additional measures under the following categories: Hydrogen; Steel, Iron & Aluminum; Medical products; and Critical Minerals.

Level of Intervention

The third category for inclusion is whether the measure is an industrial strategy or plan. These are officially adopted strategic policy guidance issued by a government body to accomplish a NIP objective. Such industrial plans and strategies tend to span multiple years and can relate to multiple subsequent policies and interventions. An example of this type of intervention is the European Commission's announcement of its European Economic Security Strategy with proposals related to outbound investment and export controls.

Policy Interventions Covered in NIPO

The NIPO includes measures at different levels of intervention, spanning the range from broad plans and strategies (discussed above) to policies and regulations and to firm-specific interventions (see Table 2).

Table 2. Levels of Policy Interventions

Levels of policy intervention	Number of records in NIPO database	Percentage of total records	Percent Currently implemented
Plans & strategies	98	3.80%	n/a
Policies & regulations	1451	56.24%	95.8%
Firm-specific interventions	1031	39.96%	99.2%
Total	2580	100%	93.6%

High-level industrial plans and strategies are announced infrequently and serve to set the course of future policymaking rather than to specify exact measures to be implemented. Most interventions covered in NIPO are policies and regulations, which are normally implemented soon after announcement. The data include the policy measures of the GTA database and an additional set of technology-related trade or foreign investment restrictions that may capture certain policy changes motivated by new industrial policy. A list of technology-related trade or foreign investment restrictions guide evidence collection. This list includes the following types of policy intervention: direct restrictions on transfers or sales of technology, restrictions on commercial

[17] These are identified by the CPC codes 623, 831, 834, 839, 841, 842, and 843 (according to the UN Central Product Classification (CPC) version 2.1).

technological collaboration, other technology-related restrictions targeting specific countries or entities, restrictions on joint ventures in technology sectors, restrictions on flows and employment of scientific personnel, and restrictions on public procurement in technology sectors.

NIPO also identifies firm-specific actions, that is, subsidy awards or actions that affect particular firms, including those that could result from broad-based programs such as export incentives. Such actions are almost always implemented upon announcement. An example of this type of intervention is Korea's financing to support CS Wind's offshore wind tower factory in Vietnam. Government decisions to allow or disallow specific foreign direct investments are another example.

Broad Categories of Policy Instruments

The broad categories of industrial policy measures covered by NIPO include the following interventions:

- **Export barriers** including export bans, tariffs and quotas, export licensing and other export-related trade barriers. An example is the export control measures targeting 30 drone-related products implemented by China on 9 January 2023.
- **Import barriers** including import bans, tariffs and quotas, import licensing and other import-related trade barriers, for example, the import licensing requirements on laptops, computers, and servers by India implemented on 11 January 2023.
- **Domestic subsidies** including tax rebates, grants, state loans and loan guarantees, price stabilization measures, production subsidies and other incentives to domestic production, for example, the financial grant of EUR 6.5 billion to compensate energy-intensive companies at risk of carbon leakage from higher fuel prices in Germany.
- **Export incentives** including tax-based export incentives, unit-based export subsidies, trade financing and other financial export promotion. For example, in September 2023, the Brazilian Development Bank (BNDES) provided two loans to aircraft manufacturer Embraer to support its export operations.
- **Foreign Direct Investment** measures including entry and ownership requirements as well as FDI screening decisions, for example, the measure adopted by Russia on 17 January 2023 grants authorization for certain companies to exclude the votes of shareholders from "unfriendly" countries.
- **Procurement policies** covering changes to public procurement law or practice that may favor local suppliers such as the steps taken by the United States in March 2023, motivated by national security considerations, to favor domestic firms in government contracts for circuit boards.
- **Localization incentives or requirements** as well as public procurement localization measures, include, for example, the local content requirements in the US Inflation Reduction Act.

Within these broad categories, the NIPO pays additional attention to capture technology related trade and investment measures such as direct restrictions on transfers or sales of technology, restrictions on commercial technological collaborations, joint ventures and public procurement in technology sectors, and restrictions on the movement and employment of scientific personnel. Specific examples include bans on the use of TikTok imposed by public bodies, such as in Australia, Belgium, Canada, Denmark, EU, France, Nepal, New Zealand, United Kingdom, and the United States.

Table 3. Taxonomy of Specific Policy Instruments

Export barriers 1. Export ban 2. Export licensing requirement 3. Export quota 4. Export tariff quota 5. Export tax 6. Local supply requirement for exports 7. Export-related non-tariff measure, nes[18]	**Import barriers** 1. Anti-dumping 2. Anti-subsidy 3. Import ban 4. Import licensing requirement 5. Import monitoring 6. Import quota 7. Import tariff 8. Import tariff quota 9. Internal taxation of imports 10. Import-related non-tariff measure, nes
Domestic subsidies 1. Capital injection and equity stakes (including bailouts) 2. Financial grant 3. In-kind grant 4. Tax or social insurance relief 5. Production subsidy 6. Interest payment subsidy 7. Loan guarantee 8. Import incentive 9. Price stabilization 10. State loan 11. State aid, nes 12. State aid, unspecified	**Export incentives** 1. Trade finance 2. Export subsidy 3. Tax-based export incentive 4. Financial assistance in foreign market 5. Other export incentive
Foreign Direct Investment measures 1. FDI: Entry and ownership rule 2. FDI: Financial incentive 3. FDI: Treatment and operations, nes	**Public procurement measures** 1. Public procurement access 2. Public procurement, nes
Localization content measures 1. Local content incentive 2. Local content requirement 3. Local operations incentive 4. Local operations requirement 5. Local value added incentive 6. Public procurement localization 7. Localization, nes	**Others** 1. Anti-circumvention 2. Control on personal transactions 3. Controls on commercial transactions and investment instruments 4. Controls on credit operations 5. Foreign customer limit 6. Intellectual property protection 7. Labor market access 8. Post-migration treatment 9. Repatriation & surrender requirements 10. Special safeguard 11. Trade payment measure 12. Instrument unclear

[18] "nes" refers to "not elsewhere specified." In this context, the "elsewhere" refers to the policy interventions specifically named as those tracked in the GTA database.

Other Variables in the NIPO Database

The database contains the following variables on other relevant aspects of the NIPs:

Entry ID and **Title**: the unique ID given to each entry in the GTA database and the title used in the GTA database.

Jurisdiction: jurisdiction implementing the policy intervention or proposal.

Initial assessment (change relative to 1 Jan 2023): Assessment of NIPO entries are based on information from GTA. For each entry, the direction of policy change is assessed as either distortive or liberalizing. Distortive measures generally discriminate against foreign commercial interests by restricting market access or by altering the conditions in favor of local firms. Liberalizing measures tend to enhance market access on a non-discriminatory (i.e., most favored nation) basis or improve the transparency of a relevant policy. Recall the emphasis of the GTA policy tracking initiative is on unilateral state intervention, not measures taken in reciprocal trade accords.

Announcement, implementation, and removal date: the issuance date of the policy intervention or proposal, the date the policy intervention entered into force according to the announcement text and the date the policy intervention is either withdrawn or fully replaced by another action respectively. The NIPO only includes measures either announced or implemented from 1 January 2023.

Level of government implementation: the NIPO database differentiates between measures or announcements of three different government levels or agencies: supra-national (announcement by supra-national bodies with binding consequences for its member states, including relevant International Financial Institutions), national (announcements made by central government, including relevant National Financial Institutions), and sub-national (announcements made by lower levels of government such as regional, state, provincial, and municipal governments).

Targeted economic activity: the database includes information on the affected HS codes at the 6-digit level (UN Harmonized System version 2012) and CPC sector codes at the 3-digit level (UN CPC codes, version 2.1) where available. For interventions that include product-level information, the associated sectors are selected based on the United Nations' correspondence table for CPC 2.1 and HS 2012. In all other cases, the sector code is chosen based on information from GTA according to the wording of the official source.

Source: the sources (almost always official) documenting the policy intervention or proposal.

Additional variables:

- **For sectoral coverage**: measures exclusively targeting the agricultural, manufacturing, or service sectors as well as measures targeting more than one sector and horizontal measures.
- **Sanctions**: the measure refers to trade-related sanctions included in the database given their use for industrial policies motivated by national security and geopolitical objectives.

Trade covered: the NIPO database also includes the amount of goods trade covered (in USD millions) for each entry, where relevant. Its interpretation depends on the policy type. For subsidies, the trade covered corresponds to the value of imports covered by subsidies to import-competing firms. For export policies, the trade covered corresponds to the imports in the affected country potentially affected due to the adoption of outward measures by the implementing jurisdiction. For outward/export incentives, the trade affected corresponds to the value of the exports from third-parties competing with a subsidized rival in a shared export destination.

Size of subsidy: subsidy value of the NIPO entry (in USD millions) (only for import competing and export incentives).

A snapshot of the NIPO database in 2023

In this section we take a first look at the NIPO data for 2023 and describe a set of findings from the database 12 months into 2023. Totals of new industrial policy interventions have risen in both EMDEs and AEs in 2023, with over 2500 such measures implemented throughout the year, out of which around 1800 or 71 percent were trade distorting. In what follows we focus on the set of trade distorting measures, which are problematic both from the standpoint of international economic spillovers and the trading system.

Figure 2: New Industrial Policy in AEs and EMDEs

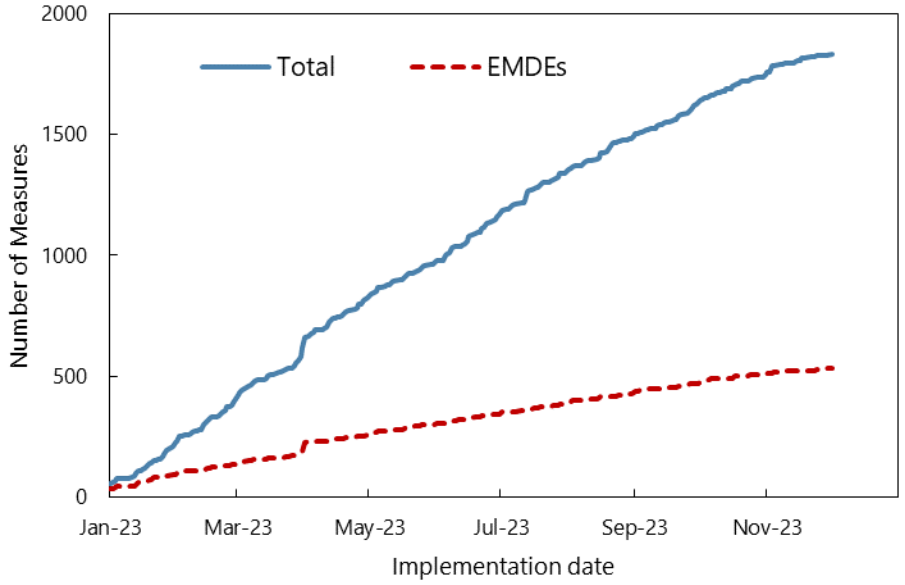


Figure 2 illustrates that the use of trade distorting new industrial policies has been uneven, with AEs by far the most frequent users of such policies in 2023, continuing the trend observed over 2009-2020 (Juhász, et al., 2023). AEs accounted for 70.9 percent and EMDEs for 29.1 percent of trade distorting NIPs to date.[19] The measures are also concentrated among certain key players. China, the European Union, and the United States account for 47.7 percent of trade distorting measures in our database.

Table 4. New Industrial Policies by Income Group

Breakdown of active distortive industrial policies by policy instrument

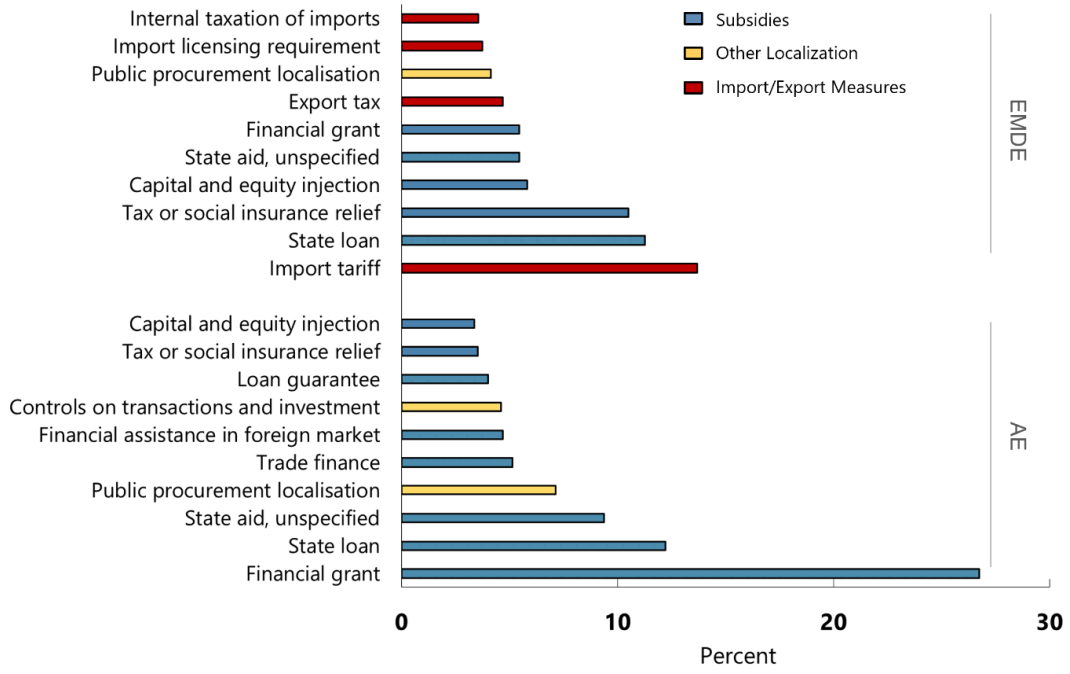
	Domestic subsidy	Export barrier	Export subsidy	FDI	Import barrier	Localization	Procurement
EMDEs	242	35	25	16	146	53	7
AEs	788	69	148	9	111	124	33

0 1-25 26-50 51-100 >100

[19] The possibility of recording lags is unlikely to affect this qualitative difference given the 2009-2020 track record.

Table 4 shows the use of broader categories of policy instruments across AEs and EMDEs. For both groups, the most frequently used policy instruments are subsidies to domestic producers. However, the second most frequent types of policies in AEs are export incentives, followed by other localization policies such as public procurement and investment controls, whereas in EMDEs, import barriers are the second most frequent group, followed by localization policies. The use of these policies varies by jurisdiction. For example, for export incentives, Canada, Germany, Japan, and Korea are the most active jurisdictions based on the number of interventions, while the United States and India are the jurisdictions that rely the most on localization measures. For export curbs, China, India and Russia are the most frequent users, while low-income developing countries tend to rely heavily on import barriers for their trade and industrial policy.

Figure 3: Trade Distortive Industrial Policy Tools in 2023 by Income Group



The gap between AE and EMDE activity may possibly reflect more limited fiscal space and/or administrative capacity in EMDEs, mirroring similar differences in fiscal responses to the COVID-19 pandemic. To shed light on the possible fiscal drivers, Figure 3 reveals the mix of instruments used at a more granular level. While AEs tend to rely on direct financial grants, state loans, and other state aid, EMDEs opt for import tariffs, state loans and tax relief, and in general more trade restrictions on imports and exports—policies which do not depend on direct expenditures from the government budget. These observations of the policy mix provide some tentative support for the hypothesized role of fiscal space, which we will further explore using regression analysis in Section 4.

There are also key regional differences in the choice of policy instruments used for industrial policy documented to date, as shown in Table 5. Governments in Europe and Central Asia, and North America use comparatively more domestic subsidies than do other regions. Asia Pacific, Latin America and the Caribbean and South Asia rely more on import barriers. Although localization measures are not a very common policy instrument overall, South Asian and North American economies use them comparatively more than others.

Regarding export curbs, Asia Pacific and Europe and Central Asia are the most active users. North American countries deploy more public procurement measures than other regions. Finally, there are no significant regional differences in the use of measures related to FDI, which are relatively infrequent.

Table 5. New Industrial Policies by Region

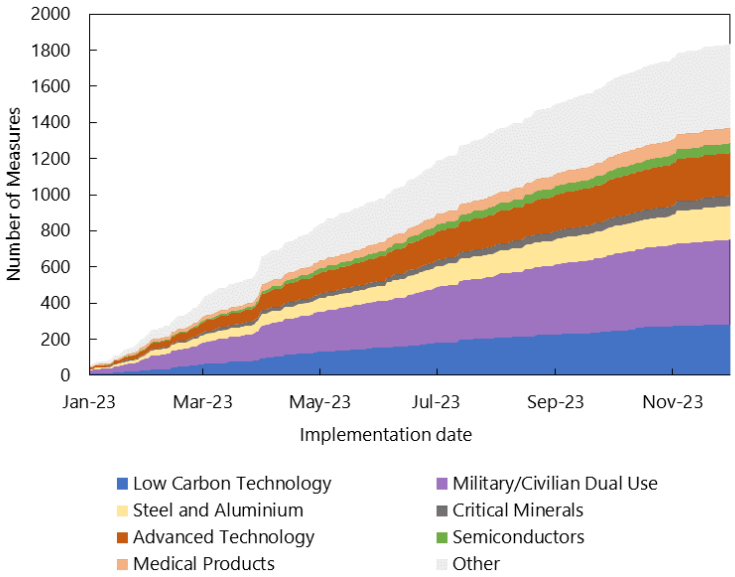
Breakdown of active distortive industrial policies by policy instrument

	Domestic subsidy	Export barrier	Export subsidy	FDI	Import barrier	Localization	Procurement
Sub-Saharan Africa	6	2	1	0	3	1	0
South Asia	37	26	6	1	73	29	1
North America	209	20	26	4	21	55	22
Middle East and North Africa	7	0	1	0	3	0	0
Latin America and the Caribbean	84	7	11	3	104	13	0
Europe and Central Asia	427	47	53	14	68	5	13
Asia Pacific	148	40	55	6	278	15	2

0 1-25 26-50 51-100 >100

The sectoral breakdown of measures is shown in Figure 4. Since the beginning of 2023, the sector/product focus of IP has shifted. Medical goods were important during the early phase of the COVID-19 pandemic, but the focus in 2023 has shifted towards military/civilian dual use products (25.7%), low carbon technology products (15.3%), and other advanced technologies such as medical products and semiconductors (20.6%) and their upstream inputs, such as critical minerals (3.0%). Steel and aluminum, a traditional target of industrial policy, has maintained a notable presence (10.1%) among the newly implemented measures.

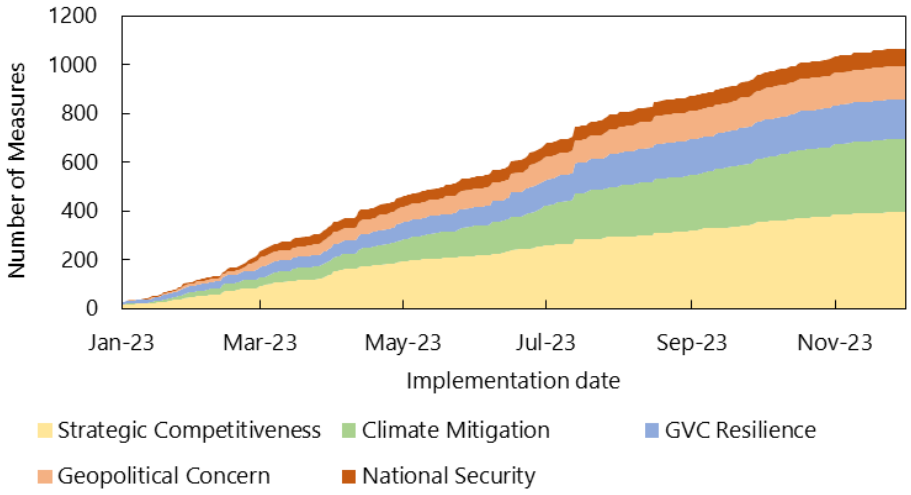
Figure 4: Trade Distortive Industrial Policies by Sector



Note: Cumulative stock of measures. For measures covering multiple sectors, each sector is given equal weight.

Finally, Figure 5 explores the motivations governments have given for new industrial policies in 2023, focusing on the subset of measures where such data is available. It reveals that the predominant stated NIP motive in 2023 has been strategic competitiveness (37.0%), followed by climate-related concerns (28.1%), supply chain resilience (15.2%), and geopolitical concerns and national security (19.7%). Since we record only officially provided motives in the dataset, there is no direct evidence of protectionist intent. However, it is interesting to note that beyond traditional concerns over competitiveness of domestic sectors, there has been a proliferation of other motivations. This raises several questions, such as whether the design of the announced measures can efficiently address their stated objectives, what alternative policies may exist, and how the world trading system should accommodate measures that on one hand address pressing national or global challenges, but on the other hand can have adverse impacts on others through spillover effects.

Figure 5: Trade Distortive Industrial Policies with Stated Motivation



Note: Cumulative stock of measures. For measures with multiple motives, each motive is given equal weight.

Table 6 shows that at least 21.6 percent of global imports are affected by new measures which can impact imports, such as import barriers, domestic subsidies, or procurement policies (i.e., inward measures). This figure is a lower bound estimate as it only includes data for measures where it is possible to identify the HS codes of the products affected and the associated import values (see Section 2), which amounts to 882 out of 1,576 import-related measures. Out of the 474 measures which have a stated industrial policy motive, we observe that industrial policies targeting strategic competitiveness cover the largest value of global imports, at 8.6 percent, followed by climate change at 5.8 percent and supply chain resilience at 4.6 percent. National security and geopolitical concerns together cover the smallest amount of imports out of any category at 3.2 percent.

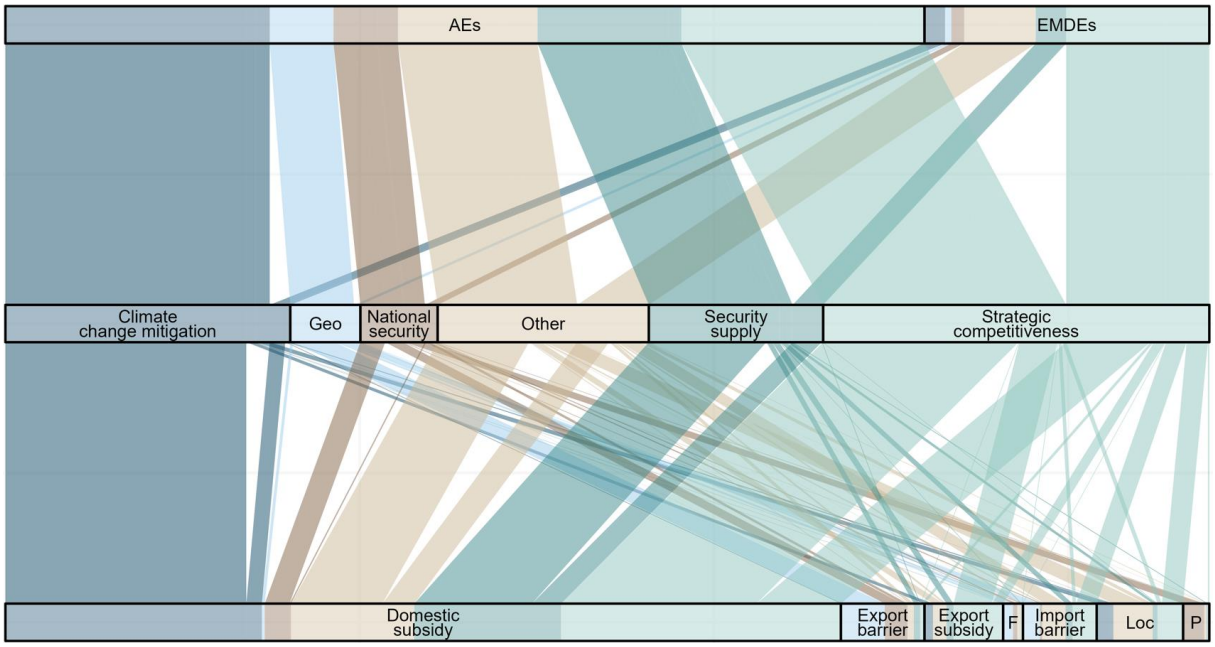
Table 6. Imports Covered by Distortive Measures and Stated Motive

Stated motive	Number of entries	Entries with trade value (percent)	Imports covered (billions, USD)	Imports covered (percent)
Total Inward Measures in NIPO	882	93.1%	3789.8	21.6%
Without Stated Motive	408	93.6%	2143.4	12.2%
With Stated Motive	474	92.6%	2269.5	12.9%
Strategic Competitiveness	240	95.4%	1507.9	8.6%
Climate Change	201	98.5%	1010.6	5.8%
Supply Chain Resilience	161	98.1%	812.9	4.6%
National Security	46	76.1%	659.7	3.8%
Geopolitical Concerns	27	55.6%	75.7	0.4%

Note: Import coverage of distortive measures is based on matching products covered by a measure (where HS codes have been identified) with HS six-digit UN Comtrade data for 2019. Only inward measures are included i.e., import policies, domestic subsidies, procurement, and localization measures (no export-related measures). Total imports covered account for 56% of inward distortive measures in NIPO (882 measures out of 1,576). Note that entries may have multiple motives.

Finally, Figure 6 reveals that the motivation of climate, geopolitics, and national security are predominantly given by AEs and are little used by EMDEs, whose main area of concern is strategic competitiveness and other motives. The instrument of choice for climate concerns are domestic subsidies, whereas the tools for national security are more varied and include trade measures and public procurement. Strategic competitiveness is addressed with domestic and export subsidies in AEs but in around half the cases EMDEs use other instruments.

Figure 6: Correspondence Between Income Class, Motivation, and Policy Instrument



Note: F = FDI; Loc = Localization; P = Procurement.

A First Look at the Determinants of Industrial Policy Use

At this stage, information in the NIPO database is limited to 2023, a time frame too short for assessing the impact of these interventions—i.e. whether they achieve their intended goal. The data, however, can still reveal information about the determinants of industrial policy use. In this section, we explore the link between new industrial policy usage and five main classes of hypothesized determinants: (i) global market position, (ii) retaliation dynamics, (iii) political economy factors, (iv) structural factors, and (v) cyclical factors. In this exploratory analysis our aim is to present correlations that shed light on potential interesting linkages in the data with explanatory variables selected from the literature.[20] As discussed above, the efficiency rationale for IP interventions is the presence of a market failure in a certain sector. Such failures, however, are difficult to identify and even more difficult to measure in practice. Thus the approach here is to focus on determinants that speak more to well-known limits of industrial policy, such as their political economy or retaliatory motivations, simply because these are easier to measure. If IP interventions were only motivated by efficiency, we would expect to find little correlation between IP usage and these other determinants.

With this aim, we start by exploring the relationship of NIPs measures with revealed comparative advantage (RCA) and a retaliatory or tit-for-tar dynamic captured by the number of measures others have taken affecting the same product in the previous year.[21] Both relationships have been established using data from an earlier time period and different methodologies, the former by Juhász, et al. (2023) and the latter in Table 1. We run a panel regression based on the following specification:

$$Measures_{cs} = \beta_0 + \beta_1 RCA_{cs} + \beta_2 \#Measures\ by\ Others_{2022cs} + \delta_{cs} + \varepsilon_{cs} \quad (1)$$

Here the outcome variable $Measures_{cs}$ can be either at the intensive margin ($NIPs$), that is a count of the number of new industrial policy measures implemented by jurisdiction c affecting product s in 2023, or at the extensive margin, that is, a dummy for when this quantity is greater than zero ($Dummy\ \#NIPs > 0$). We include a progressively more stringent set of fixed effects (δ_{cs}) to control for country and broad sector characteristics.[22] All specifications are estimated empirically using the Poisson pseudo-maximum likelihood (PPML) estimator which accounts for the large share of zeros (around 84 percent) in the dependent variable that can bias OLS and Tobit estimators downwards (Santos Silva and Tenreyro, 2011).

[20] An alternative approach could be to use machine learning techniques to provide a data driven model selection method (see e.g., Duval, Furceri, and Miethe, 2021).

[21] Note that these data only exist for individual economies and the EU, but not for the other country groupings (EAC, EEU, GCC, Mercosur, SACU).

[22] Data is pooled at the country-sector level, we do not exploit the monthly time variation, but instead include explanatory variables based on previous years, given 2023 data are not available at the time of writing.

Table 7. PPML Regressions with RCA and Tit-For-Tat Dynamics

	(1) Dummy #NIPs>0	(2) NIPs	(3) Dummy #NIPs>0	(4) NIPs	(5) Dummy #NIPs>0	(6) NIPs
Log $RCA_{cs-6dig}$	0.10380*	0.17597**	0.06823**	0.09253	0.03126***	0.08352***
	(0.04362)	(0.06378)	(0.02628)	(0.08233)	(0.00751)	(0.01661)
Measures by $Others_{2022cs-6dig}$	0.00219***	0.00341*	0.00276***	0.00540***	0.00365**	0.00790***
	(0.00063)	(0.00133)	(0.00077)	(0.00146)	(0.00127)	(0.00225)
Constant	-1.74147***	-0.90781***	-0.92287***	0.33968*	-0.45074***	1.02458***
	(0.05461)	(0.16964)	(0.05103)	(0.16218)	(0.03706)	(0.07588)
Observations	235,455	235,455	223,960	223,960	104,867	104,867
Pseudo R-squared	0.003	0.007	0.299	0.424	0.271	0.573
Country FE	NO	NO	YES	YES	NO	NO
Country-Sector HS2-digit FE	NO	NO	NO	NO	YES	YES

Notes: Robust standard errors are in parenthesis, clustered at three levels: exporter, importer, and year.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 7 reports coefficient estimates from Equation (1) which point to a positive correlation between new industrial policies and RCA as well as prior activity by other countries, which is in line with our earlier intuition that states tend to target sectors in which their RCA is already high, that is, where they are already established in global markets. Explanations for this can range from risk aversion in picking winners to the lobbying power of established corporate interests. This relationship holds even within broader (HS 2-digit) industry categories. Moreover, while controlling for differences in global market presence, states tend to impose measures in sectors that others have targeted in the past, confirming a potential tit-for-tat dynamic, which implies a suboptimal use of resources at the global level if costly policy actions are taken simply to neutralize measures by others and regain lost advantage on account of similar actions by trade partners.[23]

The next set of regressions focus on country-level explanatory variables in the realms of political economy, structural (e.g. fiscal space and financial depth), and cyclical macroeconomic factors. Our main specification is as follows:

$$Measures_{cs} = \beta_0 + \beta_1 Political\ Econ_c + \beta_2 Structural_c + \beta_3 Cyclical_c + \delta_s + \varepsilon_{cs} \quad (2)$$

Here the outcome variable $Measures_{cs}$ is the number of new industrial policy measures implemented by jurisdiction c affecting product s in 2023. All specifications are estimated using the most stringent product-level (HS 6-digit) fixed effects (δ_s).[24]

Table 8 column (1) controls for all explanatory variables from Equation (2) in the same specification and columns (2) to (4) include each group of variables separately. Introducing these groups separately reveals that it is the structural variables which increase the goodness of fit (R-squared) of the regression more markedly, while political economy or cyclical variables do so only to a lesser extent.

[23] Note that the total number of measures used by others is the same for many countries which do not use measures themselves affecting a particular product, and so varies mostly across different products rather than across countries, and hence this specification is not amenable to more stringent product level fixed effects.

[24] Note that these data only exist for individual economies and not country groupings (EAC, EEU, EU, GCC, Mercosur, SACU), with the exception of cyclical variable from the WEO, which are available for the EU (Column 4).

Table 8. PPML Regressions with Country-Specific Variables

	(1) All	(2) Political Econ.	(3) Structural	(4) Cyclical
Election_{2023}	1.04502***	-0.16371		
	(0.11028)	(0.14633)		
Election_{2024}	0.61149***	0.39419		
	(0.17042)	(0.35816)		
$\text{Left Index}_{2010-20}$	-0.70224***	0.07016		
	(0.09187)	(0.13085)		
$\text{Govt. Effectivness}_{2022}$	0.09496***	0.02316**		
	(0.00813)	(0.00790)		
$\text{Export Concentration (HHI)}_c$	3.60588***		1.12620*	
	(0.81611)		(0.45946)	
Debt %GDP	-0.00032		0.00758***	
	(0.00226)		(0.00086)	
Private Sec. Credit	-0.00624*		-0.00458*	
	(0.00255)		(0.00224)	
Sovreign Debt Rating	-0.24432***		0.08374**	
	(0.04287)		(0.03106)	
Log GDP_{2022}	1.19256***		0.71414***	
	(0.14385)		(0.09961)	
GDP growth_{2022}	2.23231			-1.72123***
	(1.67769)			(0.34834)
$\text{REER growth}_{2022}$	4.01149*			4.27785***
	(1.94436)			(0.59315)
Constant	-11.48571***	-2.23521*	-7.08666***	-0.38546***
	(1.24930)	(0.92314)	(1.08603)	(0.02074)
Observations	192,513	286,208	224,414	319,232
Pseudo R-squared	0.559	0.209	0.430	0.158
Sector HS6-digit FE	YES	YES	YES	YES

Notes: Robust standard errors are in parenthesis, clustered at three levels: exporter, importer, and year.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Column (1) is our benchmark specification because it includes the largest set of controls. Political economy variables other than government effectiveness are not able to explain much of the variation in the resort to industrial policy measures on their own (Column 2), but when other sources of variation are controlled for, they become statistically significant. This indicates that the number of NIPs measures is positively correlated with elections in the year of implementation or the following year. Moreover, governments leaning further to the right of the political spectrum tend to use more NIPs.[25] Finally, governments which rank higher in terms of effectiveness (World Bank Worldwide Governance Indicators), a proxy for administrative capacity, are also more likely to undertake industrial policies.

Turning to structural variables, a high export concentration, as measured by a Herfindahl–Hirschman Index of exports, is positively correlated with the number of IP measures taken. This is consistent with a common motive

[25] The Left Index is constructed from the IDB Database of Political Institutions. This indicator counts the average number of politically left leaning governments and executives over the past decade.

for industrial policy, which is to diversify the economy. On the other hand, fiscal space variables from the database by Kose, et al. (2022) do not seem to be preventing countries from engaging in the use of IP, in fact, we find the contrary. In column (3) where controls for political economy and cyclical variables are omitted, the correlation with sovereign debt rating appears positive, likely because it is capturing the effects of correlated omitted variables, such as political stability or the business cycle. Column (1), where these factors are controlled for, reveals that economies with poorer sovereign debt ratings tend to use more of such measures.[26] Finally, credit to the private sector captures the financial depth of the economy and appears to be negatively related to the use of industrial policy measures, both with and without the other controls (Column 3), and points to potential substitutability between access to market financing and government intervention. Finally, higher GDP correlates with more measures, which is not surprising given AEs are the most active users.

The last two variables capture cyclical macroeconomic factors. The change in GDP from the previous year seems to be associated with fewer measures when only the cyclical variables are included (Column 4), implying a countercyclical motivation in the use of measures in order to support firms and workers. However, once political economy and structural variables are controlled for this correlation loses significance. Real effective exchange rate (REER) increases imply a loss of external competitiveness. REER appreciation appears to be positively and significantly correlated with industrial policy measures, both with and without additional controls, which is consistent with the use of NIPs to achieve short-term goals rather than long-term structural transformation of the economy.[27]

[26] This is concerning because it implies industrial subsidies introduced with the intention to reduce exposure to external fiscal risks (e.g., to commodity price volatility by promoting diversification) risk having the opposite effect of contributing to the further buildup of fiscal risks (see Boukezia, et al. (2023) on managing fiscal risks in the context of commodity exporters).

[27] The results from Tables 7 and 8 are generally robust to using an OLS estimator, albeit this estimator may be biased due to the large shares of zeros in the data (Santos Silva and Tenreyro, 2011).

Conclusions

This paper introduces the New Industrial Policy Observatory (NIPO) dataset and documents emergent patterns in the return of industrial policy during 2023. These data are generated through the granular monitoring of the industrial policy landscape, and are intended to be a public resource that enhances transparency and raise awareness among policy makers. In addition, its aim is to promote further research into the implications of the proliferation of new industrial policies. The granularity of the data may facilitate careful assessment of the impact of NIPs on targeted economic and non-economic outcomes. Although individual measures may often be targeted and will not usually cause movements of macroeconomic indicators, this dataset will also enable the study of the cumulative impacts of industrial policy measures and the dynamics of policy reprisals.

The data for 2023 reveal some interesting new facts on the return of industrial policy. Significant differences emerge between AEs and EMDEs in the frequency of measures and choices of instrument used. AEs have been more active in implementing new industrial policies and have done so primarily through the use of domestic and export subsidies. Trade restrictions on imports and exports have been more frequently used by EMDEs. Strategic competitiveness is the dominant motive governments give for taking action, followed by climate change and supply chain resilience, with geopolitical and national security concerns accounting for a smaller share—that said, the combined trade coverage of the latter three sets of measures is equal to that of the most popular motive.

In exploratory regressions, we find that the introduction of NIPs in a given sector is correlated with revealed comparative advantage, an indication of how established a certain sector is, and the use of measures by others in the same sector, underscoring the potential tit-for-tat nature of industrial policy. We also find that domestic political economy factors (e.g., current or upcoming elections), structural factors (e.g., past fiscal profligacy), and cyclical conditions (e.g., loss of external competitiveness through exchange rate appreciation) correlate with the use of industrial policy. While more work is clearly needed, the relevance of all these factors suggests that governments should exert caution in using industrial policy.

There are several avenues for future research on IP, which this monitoring exercise will hopefully contribute to. Further work is needed to assess the success or failure of the covered industrial policies at meeting their stated objectives, both economic and non-economic, and to assess their domestic macroeconomic implications. The NIPO dataset could also serve as a basis for measuring distortions to trade patterns, changes in the allocation of resources across sectors, and domestic fiscal implications. The impact on trading partners are of no lesser interest, both those of direct distortions to competition and global general equilibrium welfare effects. Finally, from a systemic point of view, the proliferation of this new style of industrial policy raises questions around whether current trade rules and multilateral surveillance and enforcement mechanisms are up to the challenge of curtailing negative spillovers and allowing sufficient flexibility when needed, and how best to update these rules and mechanisms in areas where they are lacking.

Annex I. Methodology for Global Trade Alert Data Collection

The GTA initiative documents credible announcements of meaningful and unilateral changes by governments that affect the relative treatment of foreign versus domestic commercial interests. The dataset begins in November 2008, the month of the first G20 Summit where government leaders stated their intention to eschew certain types of protectionism. The emphasis on unilateral policy changes is to be distinguished such measures from measures taken while implementing regional, plurilateral, and multilateral trade agreements.

The foreign commercial interests considered by the GTA are trade in goods and services, investment as well as labor force migration. Over 60 different types of commercial policy intervention—including subsidies—affecting these cross-border commercial flows are documented. So as to avoid concerns that regulatory policy changes swamp the database, the GTA initiative does not track changes in Technical Barriers to Trade and Sanitary and Phytosanitary Measures (the latter two are covered, in principle, by the WTO's ePing database.)

Each GTA database entry provides information on the implementing jurisdiction, about the direction of the change (distortive or liberalizing), the announced policy instrument, its announcement date and, where available, implementation date as well as the sectors and products covered by the relevant government statement. Finally, for measures affecting cross-border trade in goods, the database entry includes the potentially affected trading partners which are identified based on official United Nations trade flow data.

Each database entry is based on the official statement by the responsible institution wherever possible. All database entries undergo a two-stage review process before publication. Each announcement documented by the GTA team includes at least one new and credible public declaration for change in market conditions at home or abroad. An announcement may involve several unilateral changes in policy interventions. As of this writing, over 60,000 policy interventions have been documented since the GTA initiative began.

For an intervention to warrant a new entry in the GTA database, the following seven conditions have to be satisfied:

1) Unilateral Action: the intervention shall be a deliberate action that tilts the playing field to benefit or harm foreign commercial interests. Interventions that are bi-, pluri- or multilaterally agreed are beyond the scope of this dataset.
2) Relative Treatment Test: the intervention must alter the relative treatment of domestic commercial interests vis-à-vis foreign competitors. Therefore, a measure is deemed distortive if it discriminates against foreign commercial entities in favor of at least one rival with operations in the implementing jurisdiction.
3) Meaningful Change: the intervention is likely to meaningfully change international commercial flows.
4) Credible Action: the intervention must be implemented already or its future implementation date is enacted and known.
5) Absence of uncontested higher motive: multilateral measures with a codified set of goals that are superior to the preservation of seamless international commerce are not included. Such codification can happen through international treaties, agreements or resolutions in the public domain.
6) One announcement, one entry: interventions with the same announcement are to be reported in the same GTA database entry.
7) GTA monitoring period: the meaningful change has to be announced on or after 1 November 2008.

Annex II. List of Jurisdictions in the NIPO Database

The following 75 jurisdictions are actively tracked, although not all of them currently have measures recorded in the NIPO database:

Algeria	Argentina	Australia	Austria	Bangladesh
Belgium	Bolivia	Bosnia & Herzegovina	Brazil	Canada
Chile	China	Colombia	Croatia	Czechia
Denmark	East African Community	Ecuador	Egypt	Eurasian Economic Union
European Union	Finland	France	Germany	Ghana
Greece	Gulf Cooperation Council (GCC)	Hong Kong SAR	Hungary	Iceland
India	Indonesia	Ireland	Israel	Italy
Japan	Kenya	Malaysia	Mexico	Mercosur
Morocco	Mozambique	Nepal	Netherlands	New Zealand
Nigeria	North Macedonia	Norway	Pakistan	Peru
Philippines	Poland	Portugal	Qatar	Russia
SACU	Saudi Arabia	Serbia	Singapore	Slovakia
Slovenia	South Africa	Korea	Spain	Sweden
Switzerland	Taiwan Province of China	Thailand	Tunisia	Türkiye
Ukraine	United Arab Emirates	United Kingdom	United States	Viet Nam

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