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Global Resurgence of Industrial Policy: Evidence from 2023 GTA-NIPO Data[1]

Abstract. In recent years, the resurgence of global industrial policies has drawn significant scholarly attention. To examine the main trends and characteristics of this revival, this study analyses 2,580 industrial policy measures implemented in 2023. The analysis uses data from the GTA-NIPO database, which was jointly developed by the Global Trade Alert (GTA) and the International Monetary Fund (IMF) to systematically collect and document industrial policy measures worldwide. It is shown that advanced economies are the primary drivers of the resurgence, with the United States playing a leading role. Fiscal allocation emerges as the dominant policy tool in advanced economies, whereas import tariffs are the main instrument in non-developed economies. Climate change mitigation is the principal policy motivation for advanced economies, while strategic competitiveness motivates most policies in non-developed economies. Selective, enterprise-focused industrial policies are widely used, with advanced economies employing them more extensively. These findings provide both theoretical insights and practical guidance for rethinking industrial policy and underscore the need for a responsible global governance framework to manage the resurgence of industrial policies in an increasingly interconnected world.

Keywords: industrial policy, data observation, economic globalization, regional economy, expectation

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ИССЛЕДОВАТЕЛЬСКАЯ СТАТЬЯ

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Глобальное возрождение промышленной политики: анализ данных GTA-NIPO за 2023 год

Аннотация. В последние годы возрождение промышленной политики в мире является объектом пристального научного внимания. В настоящем исследовании рассматриваются основные тенденции и характеристики этого процесса, для чего проводится всесторонний анализ 2580 мер промышленной политики, принятых в 2023 г. В исследовании используются данные базы GTA-NIPO, которая была разработана совместно проектом Global Trade Alert (GTA) и Международным валютным фондом (МВФ) для систематического сбора текстов документов о промышленной политике по всему миру. Анализ показывает, что основными драйверами возрождения выступают развитые экономики, при этом США играет ведущую роль в этом процессе. Бюджетные ассигнования являются наиболее востребованным инструментом политики в развитых странах, в то время как в неразвитых экономиках предпочтение отдается импортным пошлинам. В развитых странах основным драйвером промышленной политики является смягчение последствий изменения климата, тогда как в развивающихся экономиках главным стимулом служит обеспечение стратегической конкурентоспособности. Широко используются селективные меры промышленной политики, ориентированные на конкретные предприятия, причем в развитых странах они применяются активнее. Полученные результаты не только могут служить теоретической и практической основой для переосмысления промышленной политики, но и подчеркивают необходимость создания глобальной системы ответственного регулирования возрождения промышленной политики в условиях растущей взаимозависимости мировых экономик.

Ключевые слова: промышленная политика, анализ данных, экономическая глобализация, региональная экономика, прогнозы

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Introduction

Since the Industrial Revolution, the evolution of industrial policy has closely followed the broader trajectory of globalization. In recent decades, however, global economic and political developments have revived interest in this policy tool. Challenges such as sluggish global economic recovery, accelerating climate change, the restructuring of global industrial and supply chains, and increasing geopolitical competition have prompted governments to reconsider industrial policy as a strategic instrument. After a period in which many scholars predicted its decline or disappearance, industrial policy has returned to the centre of policy debate. As noted by Aiginger and Rodrik (2020), industrial policy appears to be experiencing a "rebirth."

This renewed attention raises several important questions. Who are the primary driving forces behind the current revival of global industrial policy? What empirical evidence supports the claim that industrial policy is resurging? What are the key trends characterizing this new wave of industrial policy? And how should countries respond to the expectation that this resurgence may persist in the long term? It is essential to address these questions in order to understand the changing role of the state in economic development and to evaluate the implications of industrial policy for global economic governance.

This study aims to explore these issues by examining recent developments in global industrial policy. Using newly available cross-country policy data, the paper analyses the main features of the current resurgence and reflects on the evolving scope and objectives of industrial policy. Thus, the study seeks to contribute to ongoing debates about the role of industrial policy in achieving sustainable development and managing global economic competition.

The remainder of this paper is organized as follows. Section 2 reviews the relevant literature and describes the research background, while Section 3 introduces the data and methodology used in the analysis. Section 4 examines the major trends associated with the resurgence of global industrial policy, and Section 5 discusses the broader implications and theoretical reflections. Finally, Section 6 presents the concluding remarks.

Related Literature and Research Background

Industrial policy has long been one of the most debated topics in economics. Few economic policy areas have generated as much controversy among scholars and policymakers. A central source of disagreement concerns the definition, identification, evaluation, and comparison of industrial policies. The lack of consistent measurement standards and comprehensive data has made it difficult to conduct systematic empirical analysis. These challenges

have limited the depth and rigor of research in this field and have hindered the development of a broad scholarly consensus.

The difficulty of identifying the objectives of policy measures, combined with the scarcity of reliable data on industrial policy interventions, has fuelled ongoing debates about their effectiveness. These debates are closely related to broader discussions regarding the relationship between trade policy and economic development (Rodrik, 2012). To address these limitations, a growing body of research has attempted to estimate the impact of industrial policies by examining global policy practices and systematically measuring government activities (Criscuolo et al., 2022; Hanson & Rodrik, 2023).

A key task in this literature is distinguishing government expenditures that serve industrial policy purposes and aggregating them for analysis. Following this approach, Criscuolo et al. (2022) and other scholars examined OECD countries and developed cross-country analytical methods based on government expenditure data. Their work provides a quantitative framework for assessing the scale and distribution of industrial policy across countries. Similarly, Hanson and Rodrik (2023) provided comparable evidence across different regions of the United States by looking at the institutional structures supporting local industrial policies. Their analysis tracked both sector-specific initiatives, such as workforce development agencies, and broader coordinating institutions, such as regional economic development agencies. These studies suggest that industrial policy remains an important component of policymaking in many advanced economies.

A significant methodological innovation in the quantitative study of industrial policy was introduced by Juhász et al. (2022). The authors defined industrial policy as a strategic national action aimed at altering a country's economic structure. Their definition included two key criteria: first, the presence of explicit policy goals intended to shape the composition of economic activity; and second, implementation at the national level. Based on this framework, the authors argued that the textual content of policy documents often contains valuable information about policymakers' objectives, which can help researchers identify whether a given policy measure qualifies as industrial policy.

Using natural language processing techniques, Juhász et al. (2022) analysed the policy descriptions contained in the Global Trade Alert (GTA) database. Through supervised machine learning algorithms, they classified policy measures and constructed a comprehensive industrial policy database covering the period from 2009 to 2020 at a high level of resolution (country-industry-year). This text-based approach helped overcome many of the measurement challenges that had previously limited empirical research on industrial policy.

Nevertheless, the authors also acknowledged an important limitation of this method. In the GTA database, policy measures are counted individually regardless of their scope or scale. As a result, a subsidy to a single firm and a comprehensive policy affecting an entire industry may both be recorded as one policy intervention. To address this limitation and improve policy classification accuracy, the Global Trade Alert initiative and the International Monetary Fund jointly developed the GTA-NIPO database.

Building on the GTA-NIPO dataset, this paper conducts a comparative analysis of the main empirical characteristics of contemporary global industrial policies. The study makes three main contributions. First, in terms of data, it employs the GTA-NIPO database, which provides broader coverage and greater reliability than many previously used datasets. Second, in terms of conceptual perspective, the paper argues that the scope and meaning of industrial policy have expanded over time and can be understood across three analytical dimensions: micro-level collaboration between government and private actors, meso-level industrial competitiveness in domestic and international markets, and macro-level achievement of national development objectives under conditions of manageable policy costs and limited distortions. Third, from a policy perspective, the paper emphasizes the need for a global governance framework for industrial policy based on the principles of responsible globalization. Strengthening coordination, inclusiveness, and sustainability in industrial policy could help prevent escalating policy competition and mitigate the risks of fragmentation in global trade and economic integration, thereby supporting long-term sustainable development.

Data and Methods

The data used in this article are derived from the GTA-NIPO database[1], which records industrial policy measures announced or implemented by major economies from January to December 2023. The database is based on information collected by the Global Trade Alert (GTA) initiative and aims to identify industrial policy interventions undertaken by governments worldwide. A policy measure is included in the NIPO database if it satisfies at least one of three criteria: (1) it is associated with predefined policy motivations; (2) it applies to predefined product or service categories; or (3) it constitutes a national industrial strategy or policy plan.

[1] Evenett, S., Jakubik, A., Martín, F., & Ruta, M. (2024). The return of industrial policy in data (IMF Working Paper WP/24/1). International Monetary Fund. Retrieved April 24, 2024, https://doi.org/10.5089/9798400260964.001

The GTA-NIPO database improves upon the original GTA database in several important respects. First, it distinguishes between national strategies, policy frameworks, or regulatory plans and firm-specific interventions implemented under these policies, such as subsidies or foreign direct investment authorizations. Second, it records the stated motivations for policy measures based on official government sources. Third, interventions are linked to predefined strategic product groups, including medical products, semiconductors, critical minerals, military or dual-use technologies, low-carbon technologies, and other advanced technologies. Fourth, the database expands the scope of policy tracking to include a broader set of technical and regulatory interventions.

The database covers 75 jurisdictions that together account for more than 90 % of global GDP and are continuously monitored by the GTA's long-term trade policy tracking system. Among them, 45.3 % are advanced economies and 54.7 % are emerging and developing economies. All major regions are represented, including Asia–Pacific (13 jurisdictions), Europe and Central Asia (31), Latin America and the Caribbean (9), the Middle East and North Africa (9), North America (2), South Asia (4), and Sub-Saharan Africa (7).

According to the data from the GTA-NIPO database, throughout 2023, countries around the world issued or implemented 2,580 industrial policies[1]. Among them, 2,049 were considered to have trade distortions, accounting for 79.42 %. This proportion was as high as 84 % in developed economies[2] and only 70.18 % in non-developed economies. Although the dataset currently covers only one year, it provides valuable evidence for identifying key empirical patterns and motivating further theoretical discussion on the resurgence of industrial policy.

The empirical analysis proceeds in several steps. First, descriptive statistical and classification methods are used to examine the number of industrial policy measures adopted by different economies. Second, economies are grouped into developed, developing, and transition economies based on the United Nations' World Economic Situation and Prospects 2024, enabling cross-group comparisons. Third, policy tools are categorized and their frequency of use is calculated to analyse the distribution of policy instruments across countries and economic groups. Fourth, industrial policies are classified by sector, including agriculture, manufacturing, and services, in order to examine their sectoral distribution. Fifth, policy interventions are analysed according to targeted product categories, such as low-carbon technologies, critical minerals, and semiconductors, to identify the main areas of policy focus. Finally, the stated motivations behind policy measures, including national security concerns and supply chain resilience, are examined to compare the underlying drivers of industrial policy across economies.

Through these analytical steps, the study identifies several key patterns in the recent resurgence of global industrial policy and provides a basis for further discussion of its broader economic implications.

Results

Based on the analysis of 2,580 industrial policies collected in the GTA-NIPO database, several important observations about the current resurgence of global industrial policies can be derived.

The predominance of advanced economies in the use of industrial policy

In earlier debates, economists often argued that market failures were especially prevalent in developing countries and that strong government intervention was necessary for these economies to escape poverty and underdevelopment (Rodrik, 2004). Consequently, many studies suggested that late-developing countries were the main users of industrial policy, employing such measures to protect infant industries and strengthen domestic technological capabilities. From this perspective, one might expect that the current revival of industrial policy would again be led primarily by latecomer economies seeking to accelerate economic catch-up.

However, recent evidence suggests a different pattern. Data from the GTA-NIPO database indicate that the current resurgence of global industrial policy is largely driven by advanced economies. In 2023, of the 2,580 industrial policy measures introduced by 68 economies worldwide, 1,623 were issued by advanced economies (see Fig. 1), accounting for 62.91 % of the global total. If the 86 measures introduced by the European Union are included, this share would be even higher.

Among advanced economies, the United States stands out as the most active user of industrial policy. In 2023, the United States introduced or implemented 369 industrial policy measures (see Fig. 2), representing 14.30 % of the global total and 22.74 % of the measures adopted by advanced economies. On average, this corresponds to at least one industrial policy measure being introduced or implemented each day.

[1] https://www.globaltradealert.org/reports/112 (Date of access: 24.04.2024)

[2] The classification of developed economies, developing economies and transitional economies is derived from the "World Economic Situation and Prospects 2024" released by the United Nations. Furthermore, for the convenience of comparative analysis, in this article, developing economies and transitional economies are collectively referred to as underdeveloped economies.

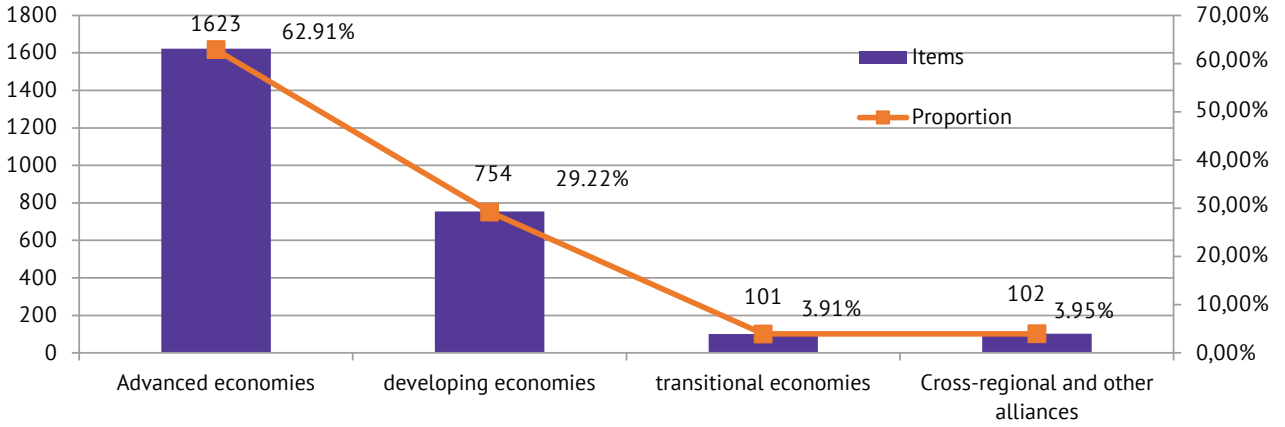

Fig. 1. The Number and Share of Industrial Policies Issued or Implemented by Different Economies from January to December 2023. Source: Authors' calculations based on the GTA-NIPO database. https://www.globaltradealert.org/reports/112 (Date of access: 24.04.2024)

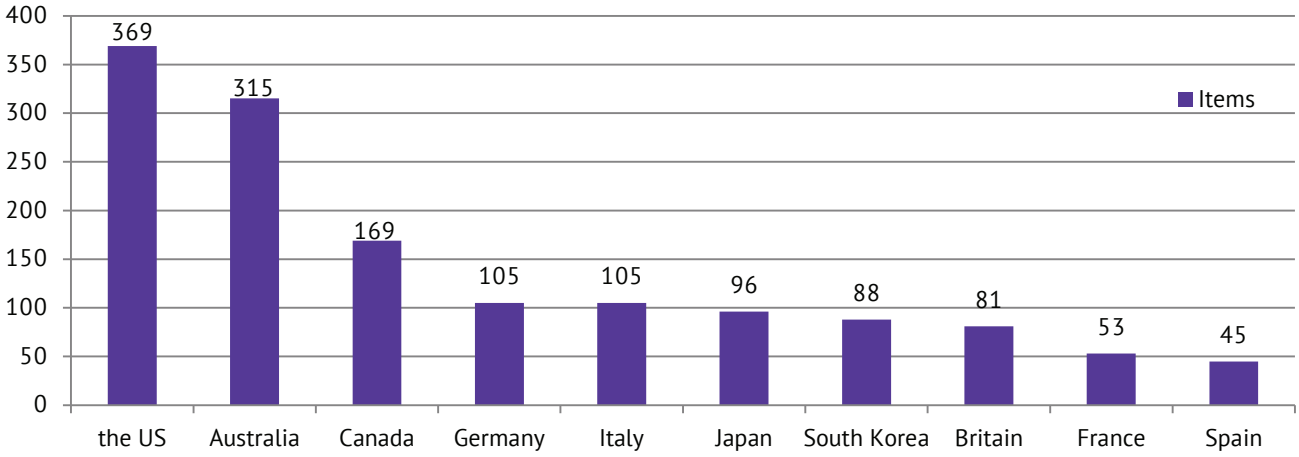

Fig. 2. The Top Ten Developed Economies in Terms of the Number of Industrial Policies Issued or Implemented from January to December 2023. Source: Authors' calculations based on the GTA-NIPO database, https://www.globaltradealert.org/reports/112 (Date of access: 24.04.2024)

In contrast, developing and transition economies introduced or implemented 754 and 101 industrial policy measures respectively, totalling 855 measures (see Fig. 3). This accounts for 33.13 % of the global total, only slightly more than half the number recorded for advanced economies. In addition, supranational organizations and regional alliances introduced 102 industrial policy measures (3.95 % of the global total), including the Eurasian Economic Union (7), the European Union (86), the Gulf Cooperation Council (2), Mercosur (6), and the Southern African Customs Union (1).

Overall, the shift from developing economies as the primary users of industrial policy in the past to advanced economies today reflects the growing challenges facing the global economic system, including intensifying international competition, technological rivalry, and increased concerns about economic security.

Fiscal allotment as the primary policy tool

The second key observation is that fiscal allocation is the dominant industrial policy instrument in advanced economies, while import tariffs are more prevalent in non-developed economies. Industrial policy reflects a country's strategic allocation of resources at the micro level and shapes the broader economic structure by influencing relative prices of economic activities at the macro level. Its design and implementation often reveal a country's strategic intentions. In the context of global markets, the choice of industrial policy tools reflects not only economic strength but also governance capacity and implementation capability. Financially supported measures, such as subsidies, tend to be straightforward, intuitive, and effective over the short term.

According to Table 1, the 2,580 industrial policy measures implemented globally in 2023 span 52 types of interventions, including domestic subsidies, import and export policies, localization measures, FDI incentives, public procurement, and others. Among these, subsidies are the most frequently used instrument, accounting for 1,151 measures or 44.6 % of the total. Within subsidy policies, financial allocations, state aid, and state loans are the most

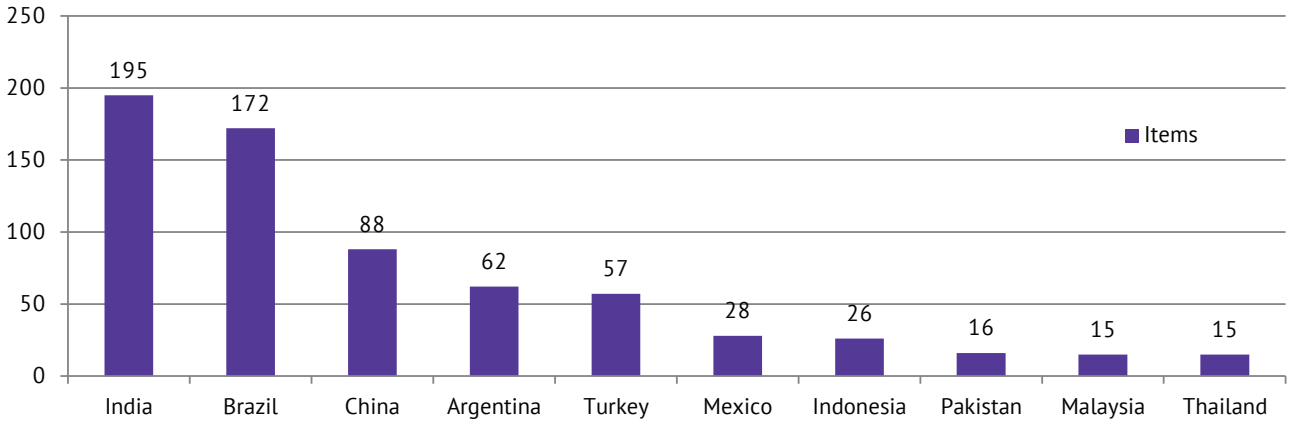

Fig. 3. The Top Ten Developing Economies in Terms of the Number of Industrial Policies Issued or Implemented from January to December 2023. Source: Authors' calculations based on the GTA-NIPO database, https://www.globaltradealert.org/reports/112 (Date of access: 24.04.2024)

Table 1

The Specific Industrial Policy Tools Released or Implemented and the Number of Industrial Policies Involved from January to December 2023

Exports (13 policy instruments involving 413 industrial policies)	**Imports (7 policy instruments involving 636 industrial policies)**
Anti-dumping (42); Anti-subsidy (14); Export tax (53); Trade financing (81); Export subsidy (3); Export ban (61); Export quota (13); Export licensing requirement (44); Local supply requirement for export (1); Tax-based export incentive (8); Financial assistance in foreign market (63); Export-related non-tariff measure (4); Other export incentive (26).	Import quota (14); Import tariff (466); Import ban (32); Import tariff quota (52); Internal taxation of imports (35); Import licensing requirement (34); Import-related non-tariff measure (3).
Foreign direct investment (3 policy instillments involving 49 industrial policies)	**Public procurement (2 policy instruments involving 40 industrial policies)**
FDI: Financial incentive (8); FDI: Processing and operation (22); FDI: Entry and ownership rule (19).	Public procurement (36); Public procurement access (4).
Localization (7 policy instruments involving 183 industrial policies)	**Domestic subsidies (11 policy instruments involving 1151 industrial policies)**
Localization, nes (9); Local labour incentive (1); Local operations requirement (1); Local content requirement (3); Local value-added incentive (20); Local content incentive (31); Public procurement localization (119).	Financial grant (382); State aid (225); State loan (222); Loan guarantee (58); Production subsidy (22); Interest payment subsidy (9); Import incentive (1); In-kind grant (7); Price stabilization (19); Tax or social insurance relief (127); Capital injection and equity stakes (including bailouts) (79).
Other policies (9 policy instruments involving 108 industrial policies)	
Anti-circumvention (2); Safeguard measure (1); Post-immigration disposal (1); Foreign customers limit (1); Trade payment measure (5); Regulation of credit operations (1); Labour market access (10); File not clear (18); The regulation on commercial trading and investment tools (69).	

Source: Compiled by using GTA-NIPO database, https://www.globaltradealert.org/reports/112 (Date of access: 24.04.2024)

common, covering 382, 225, and 222 measures, respectively.

Advanced economies are the primary users of domestic subsidies. Of the 1,151 subsidy measures worldwide, 853 (74.1 %) were implemented by advanced economies. Among the 1,623 industrial policies issued by advanced economies in 2023, more than half (52.56 %) were domestic subsidies. The United States led in subsidy-based interventions, introducing 175 measures, followed by Canada with 101. By comparison, China implemented 53 domestic subsidy measures, representing roughly 30 % of the number issued by the United States.

These patterns indicate that fiscal allocation is a central tool for advanced economies, reflecting both their capacity to deploy financial resources strategically and the short-term effectiveness of subsidies in shaping economic outcomes. In contrast, non-developed economies tend to rely more on tariffs and trade-related measures as a means of influencing industrial development.

If we look at the specific instruments employed, we will see that advanced economies primarily rely

on fiscal allocation, import tariffs, state aid, state loans, and localization of government procurement (see Fig. 4). Non-developed economies, by contrast, mainly use import tariffs, state aid, and export taxes (see Fig. 5). While state aid and import tariffs are widely used across both groups, advanced economies

Fig. 4. Main Industrial Policy Tools Issued or Implemented by Developed Economies from January to December 2023. Source: Authors' calculations based on the GTA-NIPO database, https://www.globaltradealert.org/reports/112 (Date of access: 24.04.2024)

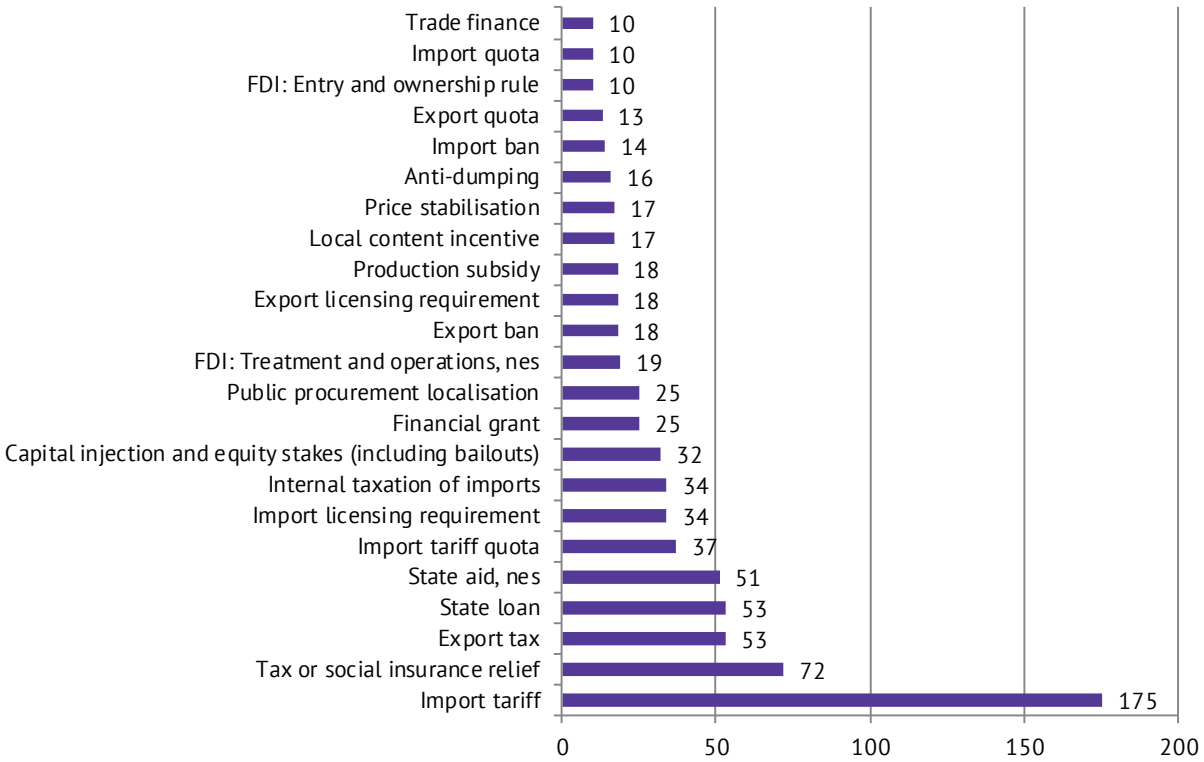

Fig. 5 Main Industrial Policy Tools Issued or Implemented by Non-Developed Economies from January to December 2023. Source: Authors' calculations based on the GTA-NIPO database, https://www.globaltradealert.org/reports/112 (Date of access: 24.04.2024)

Note: For the purposes of this study, non-developed economies comprise developing and transition economies and do not include cross-regional alliances.

leverage their economic strength to prioritize fiscal allocation, with 353 policies employing this tool compared to only 25 in non-developed economies.

The current resurgence of global industrial policy thus reflects not only a large quantitative gap between advanced and non-developed economies but also a qualitative difference in the "value content" of policies. For example, in 2023, African countries implemented only 22 industrial policies, representing just 1.36 % of the total issued by advanced economies. Advanced economies frequently deploy policies backed by substantial financial resources, making modern industrial policy measures "expensive" and effective. This creates additional challenges for the economic and social development of less-developed countries, particularly in Africa, and increases the cost of pursuing industrial policy for late-developing countries. As a result, the resurgence of industrial policy risks widening the development gap between the Global North and South.

Policy motivations: Climate change vs. strategic competitiveness

The third key observation is that industrial policy motivations differ between advanced and non-developed economies. Economic development stage, institutional conditions, and national objectives shape the orientation of industrial policies, which are typically motivated by factors such as national security, supply chain resilience, strategic competitiveness, climate change mitigation, and geopolitical concerns.

Globally, the three most common motivations for industrial policy in 2023 were strategic competitiveness (686 policies, 26.59 %), climate change mitigation (439 policies, 17.02 %), and supply chain resilience and security (344 policies, 13.33 %). Advanced and non-developed economies show similar emphasis on supply chain resilience, which accounts for 13.49 % and 12.51 % of policies in their respective groups. This suggests that industrial and supply chain security is a shared priority across economies.

Significant differences are found in other areas. Advanced economies place greater emphasis on climate change mitigation, geopolitical concerns, and national security, with the number of policies motivated by these factors exceeding those of non-developed economies by 6.04, 5.18, and 2.58 times, respectively. This reflects the frequent use of industrial policy by the United States and other Western advanced economies to address national security and geopolitical considerations.

By contrast, strategic competitiveness is the primary motivation for non-developed economies, accounting for 33.80 % of their industrial policies. This reflects the strong desire of these economies to accelerate industrial development, enhance domestic technological capabilities, and strengthen their overall industrial competitiveness as a foundation for achieving broader national development goals.

Industrial focus: Secondary and tertiary industries dominate

The fourth key observation is that industrial policy measures in 2023 are concentrated in the secondary and tertiary industries, with the primary industry receiving relatively little attention. Industrial policy does not target manufacturing alone but spans all three sectors. The allocation of policy resources reflects government priorities and the strategic focus of different economies. Economies at different stages of development naturally prioritize different sectors: late-developing economies focus on manufacturing to accelerate industrialization, whereas advanced economies rely increasingly on services as the main engine of economic growth.

Among policies targeting a specific sector, 66.94 % were directed at manufacturing, 9.57 % at services, and 2.36 % at agriculture. Both advanced and non-developed economies exhibit the general pattern of secondary–tertiary–primary industry prioritization. However, advanced economies allocate a larger share of their industrial policies to services (11.95 %) compared with non-developed economies (4.91 %), while non-developed economies focus slightly more on manufacturing (69.47 %) than advanced economies (65.80 %).

In absolute terms, advanced economies issued 1,068 manufacturing-targeted policies, nearly twice the 594 measures implemented by non-developed economies. This indicates a strong push toward "re-industrialization" in advanced economies, reflecting continued investment in manufacturing as a foundation for economic strength. At the same time, the increasing emphasis on services suggests that advanced economies are gradually shifting toward a more balanced industrial structure.

These patterns highlight that manufacturing remains central to the development strategies of non-developed economies, while advanced economies are simultaneously promoting manufacturing renewal and expanding the role of modern service sectors. Ensuring a robust manufacturing base, supported by advanced services, remains crucial for sustainable economic and social development, particularly in large economies, and cautions against the risks of premature deindustrialization.

Product focus: Dual-use, advanced technology, and low-carbon products

The fifth key observation is that dual-use products (for both military and civilian purposes), advanced-technology products, and low-carbon technology products are the primary targets of

industrial policies globally. Governments prioritize specific products and sectors to achieve strategic economic objectives, given the limited availability of policy resources and the desire to influence relative prices across the industrial composition.

Globally, industrial policies targeting dual-use products, advanced-technology products, and low-carbon technologies account for 61.90 %, 38.26 %, and 37.98 % of all measures, respectively. Both developed and non-developed economies emphasize these categories. However, non-developed economies place even greater emphasis on dual-use and advanced-technology products, with 69.59 % and 41.99 % of their policies targeting these areas—12.04 and 5.95 percentage points higher than developed economies, respectively. This reflects non-developed economies' efforts to achieve high-quality industrial development by upgrading technological capabilities, often through military-civilian integration strategies similar to those historically used by the United States.

Regional alliances also show distinctive patterns. For example, among the 86 industrial policies issued by the European Union in 2023, 30.23 % focused on cutting-edge technologies such as semiconductors and hydrogen, far above the global average of 10.19 %. Hydrogen-related policies accounted for 20.93 %, roughly four times the global average, while policies targeting key minerals reached 29.07 %, significantly above global, developed, and non-developed economy averages. This concentration demonstrates the EU's intensive focus on core technologies and strategic commodities. While such selective policies can generate long-term spillover effects in the region, they may also restrict technological exchange, limit application scenarios, and hinder the improvement of global scientific and technological capacity.

Selective industrial policy: Focus on specific enterprises

The sixth key observation is that selective industrial policies, that is, those targeting specific industries or enterprises, are common across all economies, but advanced economies employ them more extensively. Selective policies are traditionally considered effective during the catch-up phase for late-developing countries, after which economies are expected to transition toward horizontal or broadly competitive industrial policies. In the current resurgence of industrial policy led by advanced economies, these patterns are evident in practice.

In 2023, the vast majority of industrial policies globally (97.21 %) were non-horizontal, indicating a strong preference for targeted interventions across both developed and non-developed economies. Policies aimed at specific enterprises accounted for 39.96 % of the total. However, in developed economies, more than half of industrial policies (52.31 %) focused on specific enterprises, compared with only 18.36 % in non-developed economies. Among the 1,576 non-horizontal industrial policies in developed economies, 53.81 % targeted specific enterprises, and within the 353 financial allocation instruments, 197 (55.81 %) were enterprise-specific.

Thus, we can conclude that advanced economies are using selective, enterprise-focused industrial policies to a degree that contrasts with long-standing principles of free trade and market competition. This raises important questions about the potential economic and geopolitical impacts of the current global industrial policy resurgence.

Discussion

Few economic policies are as widely debated among economists as industrial policy, yet governments continue to use it extensively (Juhász et al., 2023). In recent years, the resurgence of industrial policy, particularly in advanced economies, has prompted renewed reflection on its definition, role, and effectiveness.

Defining industrial policy and its effectiveness

The intellectual origins of industrial policy can be traced at least to the Report on Manufactures submitted by Alexander Hamilton to the U.S. Congress in 1791 (Huang Qunhui, 2017), which systematically proposed the infant industry argument. The idea was further developed by the German historical economist Friedrich List in The National System of Political Economy (1841). List argued that Britain was the first country to successfully promote infant industries and that such protection played an important role in the prosperity of many nations. The United States later became one of the most enthusiastic adopters of this strategy. Economic historian Paul Bairoch famously described the United States as the "birthplace and bastion of modern trade protectionism" (Bairoch, 1993). More broadly, many of today's advanced economies relied on interventionist industrial, trade, and technology policies to support infant industries during their catch-up phases (Zhang, 2007).

Different theoretical perspectives, including neoclassical economics (Bardhan, 1971; Succar, 1987; Stiglitz, 1989), developmental state theory (Gerschenkron, 1962; Amsden, 1992), and neoconservative views, generally agree that governments adopt industrial policies to influence the composition of economic activities and move the economy toward a desired industrial structure. Since national development objectives evolve over time, industrial policy is inherently stage-dependent and selective. Governments must allocate limited resources among competing priorities at different stages of development, which inevitably requires policy choices (Juhász et al., 2023).

At the same time, national development goals are complex and multidimensional. This complexity requires a diversified mix of industrial policy instruments rather than reliance on a single policy type. The recent return of selective industrial policies in advanced economies, despite long-standing scepticism from many scholars, calls for renewed reflection on their functions and potential impacts in a changing economic context. It also highlights the need to revisit the conceptual foundations of industrial policy.

From this perspective, industrial policy can be understood as a dynamic process of collaboration between government and the private sector aimed at achieving national development objectives. Its purpose is to enhance the comprehensive competitiveness of targeted industries while serving specific public goals at a given stage of development. Three key dimensions characterize industrial policy: phased objectives, industrial competitiveness, and dynamic coordination.

First, phased objectives operate at the macro level. As part of the government's broader economic policy framework, industrial policy is designed to support specific national development goals that vary across stages of development.

Second, industrial competitiveness represents the meso level. Industrial policy targets specific sectors across the economy, including but not limited to manufacturing, and influences the allocation of policy resources and relative prices to strengthen overall industrial competitiveness.

Third, dynamic coordination occurs at the micro level. Effective industrial policy involves continuous interaction between government agencies and private actors. A prominent example is the ARPA model in the United States, which relies on iterative cooperation between the public and private sectors. Through processes of information discovery, identification, and consensus building, policymakers can identify key obstacles to structural transformation and determine appropriate policy interventions (Rodrik, 2004). In this dynamic process, industrial policies are continuously refined. The key challenge is not only whether governments can identify potential "winners," but also whether they have the capacity to allow unsuccessful initiatives to exit.

Accordingly, the effectiveness of industrial policy should be evaluated across three levels. At the micro level, it depends on the quality of cooperation between government and the private sector. At the meso level, it is reflected in improvements in the domestic and international competitiveness of targeted industries. At the macro level, it is measured by the extent to which industrial policy contributes to achieving national development goals while keeping policy costs and distortions under control (Sheng & Zhu, 2025).

Overall, industrial policy should be understood from a system-evolution perspective (see Fig. 6). Viewing it through the integrated framework of macro, meso, and micro dimensions provides a more comprehensive understanding of its role and effectiveness.

Constructing industrial policy under technological uncertainty

Mainstream research on industrial policy suggests that government intervention by latecomer economies is relatively effective in traditional industries, but tends to be less successful in emerging technology sectors where the technological frontier is still evolving. One reason is that latecomer countries cannot rely on established development models as first movers did. In addition, emerging technology industries involve high levels of technological and market uncertainty. Government intervention may constrain large-scale market experimentation and rapid technological iteration, making it less compatible with the development and catch-up of emerging technology sectors (Jiang et al., 2021).

The above raises an important question for advanced economies: how should industrial policies be designed for future industries and emerging technologies that are inherently uncertain? In practice, many developed economies are promoting sectors such as hydrogen, semiconductors, and other

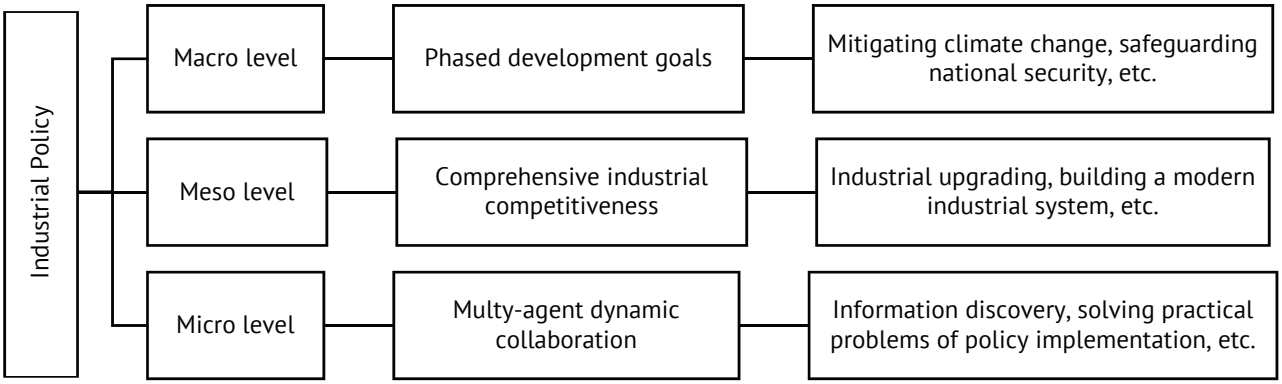

Fig. 6. "A Three-Level Framework for Understanding Industrial Policy. Source: Compiled by the authors.

advanced technologies through relatively closed alliances. However, such closed policy approaches have clear limitations. They may hinder the iterative upgrading of frontier technologies and may also constrain the overall development of global industrial technology.

To address these challenges, future industries can be conceptualized at three levels: field, industry, and sub-industry. The field and industry levels primarily focus on technological functions and market demand, and they generally do not involve specific technological routes. As a result, policymakers can make relatively reliable judgments at these levels. By contrast, sub-industries typically involve more specific technological pathways. Government support for future industries should therefore concentrate on the field and industry levels while avoiding premature selective support for particular sub-industries (Li, 2022).

Although the general development direction of future industries and technologies is often relatively clear, specific technological trajectories and market demand remain uncertain. Industrial policy design should therefore account for this combination of directional certainty and technological uncertainty. At different stages of technological development, governments should adopt a combination of horizontal and selective industrial policies.

In the early stage of technological development, governments should emphasize inclusive innovation policies that encourage the formation of innovation networks and strengthen intellectual property protection. In this phase, the government's role is primarily to address market failures and provide a stable and patient environment that supports experimentation and the collective emergence of technological innovation. At the same time, governments should make use of coordination-oriented policy instruments to address institutional and implementation challenges during the development of emerging technologies.

In the intermediate stage, horizontal industrial policies can support pilot testing, incubation, and the scaling of multiple potential innovators. As exploration of independent innovation deepens, uncertainty gradually declines. Through iterative technological development, certain technological pathways and product forms become more viable and better aligned with market demand. This creates the conditions for the gradual introduction of selective industrial policies.

Selective industrial policies at this stage should still operate within a process of multi-actor discovery and dynamic collaboration. The objective is not only to identify potential "winners" but also to allow unsuccessful initiatives to exit, thereby fostering a competitive environment for technological development. Both the selection of winners and the elimination of losers require clear evaluation criteria established in advance. Without transparent standards for assessing success and mechanisms for observable supervision, industrial policy interventions may become ineffective.

Because a substantial increase in total factor productivity is widely regarded as a core indicator of new quality productivity, the success of future industrial technologies should ultimately be evaluated in terms of productivity performance, including both the rate of productivity growth and the absolute level of productivity.

Global industrial policy governance for responsible globalization

From a domestic perspective, industrial policy carries the risk of inefficiency caused by resource misallocation and rent-seeking (Krueger & Tuncer, 1982). From an international perspective, it may produce spillover effects, trade tensions, and retaliatory dynamics (Lorenzo & Ruta, 2024). In recent years, advanced economies have frequently implemented industrial policies that distort global trade liberalization and economic globalization, negatively affecting the security and stability of global industrial and supply chains. These spillover effects have triggered industrial policy confrontations between countries, fuelling the recent revival of global industrial policy—a trend that shows no signs of reversing in the near term. In the context of a weak global economic recovery, developed economies have often failed to contribute positively to responsible globalization and have at times acted as drivers of anti-globalization, raising questions about the need for a modern global industrial policy governance system.

Global industrial policy governance is closely linked to the broader development of economic globalization. To prevent stagnation or even regression of trade liberalization due to excessive competition, antagonism, or retaliatory industrial policies, it is urgent to establish a global governance framework grounded in responsible globalization. Such a framework should prioritize coordination, inclusiveness, and sustainability.

Aiginger and Rodrik (2020) argue that industrial policies differ across countries and stages of development, but they also generate a wide range of positive and negative spillovers that can provide valuable lessons across fields such as trade and investment rules, property rights protection, social standards, energy efficiency, and new energy development. One practical measure could be the establishment of an annual Global Industrial Policy Forum to coordinate national strategies, phase out subsidies for fossil fuels and large-scale

agriculture, and shift from the current "turbo-globalization" toward responsible globalization.

It is also critical to expand the policy space for developing countries within the multilateral trading system. International rules should not impose identical restrictions on countries at different stages of development. Instead, they should account for developmental differences, coordinate interactions to minimize negative externalities, and improve the inclusiveness and sustainability of global industrial policies (Rodrik, 2004).

To support these goals, the World Trade Organization and global trade rule systems can be optimized, while tools such as the Global Trade Early Warning system can provide monitoring and advisory support. A global forum on Industrial Policy and Economic Globalization could serve as a platform for discussion, innovation, regional practice exchange, and coordination. By fostering consensus on industrial policy concepts, such a forum would create a more open, inclusive, and low-cost environment for designing and implementing industrial policies, thereby laying the foundation for responsible globalization.

Conclusion

This study uses the 2023 global industrial policy data from the GTA-NIPO database to analyse the current resurgence of industrial policy. The empirical evidence and subsequent analysis lead us to several critical conclusions.

First, industrial policy is widespread, and there is clear evidence of a global resurgence. Advanced economies, particularly the United States, are the main drivers of this revival, challenging the traditional view that industrial policy is primarily associated with late-developing countries. Moreover, the emphasis on selective, enterprise-focused industrial policies by advanced economies also contrasts with conventional wisdom, which holds that such policies are effective mainly during the catch-up phase. The proactive use of industrial policy by economies long associated with market liberalism raises important questions about global economic fragmentation and invites a reevaluation of both traditional industrial policy theory and market economy practices.

Second, the gap between advanced and non-developed economies is reflected not only in the quantity of industrial policies but also in their "gold content." Advanced economies leverage substantial financial resources to implement resource-intensive instruments such as fiscal allocation, which are largely inaccessible to non-developed economies. This creates a high threshold for participation and development. Non-developed economies, particularly the least developed regions, face challenges in competing within the space shaped by advanced economies' "domestic-priority" industrial policies. Trade flows, production cooperation, and market access may be disrupted, further widening the development gap between the Global North and South.

Finally, the resurgence of industrial policies led by advanced economies raises questions about the effectiveness of existing trade rules, multilateral oversight, and enforcement mechanisms in mitigating negative spillovers. To minimize potential adverse effects and promote responsible globalization, there is an urgent need to establish a fair, inclusive, and sustainable global industrial policy governance framework. Platforms such as a Global Industrial Policy and Economic Globalization Development Forum could help build consensus on the principles and use of industrial policies, fostering positive interactions between industrial policy, economic globalization, and sustainable global development.

References

Aiginger, K., & Rodrik, D. (2020). Rebirth of Industrial Policy and an Agenda for the TwentyFirst Century. *Journal of Industry, Competition and Trade, 20* (2), 189–207. https://doi.org/10.1007/s10842-019-00322-3

Bairoch, P. (1993). *Economics and World History Myths and Paradoxes.* Chicago: The University of Chicago Press, p.30.

Bardhan, P. K. (1971). On Optimum Subsidy to a Learning Industry: An Aspect of the Theory of Infant-Industry Protection. *International Economic Review, 12* (1), 54–70. https://doi.org/10.2307/2525496

Criscuolo, C., Gonne, N., Kitazawa, K., & Lalanne, G. (2022). An Industrial Policy Framework for OECD Countries: Old Debates, New Perspectives. *OECD Science, Technology and Industry Policy Papers,* (127). OECD Publishing. https://ideas.repec.org/p/oec/stiaac/127-en.html (Date of access: 23.03.2024).

Evenett, S., Jakubik, A., Martín, F., & Ruta, M. (2024). *The Return of Industrial Policy in Data.* (IMF Working Paper WP/24/1). https://www.imf.org/-/media/files/publications/wp/2024/english/wpiea2024001-print-pdf.pdf (Date of access: 11.04.2024).

Huang, Q. (2017). Chanye Zhengce De Duowei Guancha [MultiDimensional Observation of Industrial Policy]. *Xuexi Yu Tansuo [Learning and Exploration],* (01), 88. (In Chinese) https://kns.cnki.net/kcms2/article/abstract?v=JITlTmCwHjKbzlX24uMQg2MnqmPAD7HzLWu9uWB7Tb0hpEz7rQ9MfJ0CMApS-ZHFc7KoAuI5NFyR6lrigLY2H1_VVm6HD8DyDlO-gHB0rMT_6Ay3pyvr49jRMmSfUPMtV6uPF7hqo5qVRqxxObhsMaE9FW_JIR8kUJS84S04Coyx5JDlb68gHw==&uniplatform=NZKPT&language=CHS (Date of access: 07.09.2023). (In Chinese)

Jiang, F. et al. (2021). Lijie zhongguo chanye zhengce [Understanding China's Industrial Policy]. *Beijing:zhongxin chubanshe [Beijing: Citic Press],* 338–341 (In Chinese) https://ss.zhizhen.com/detail_38502727e7500f-26b588171276a03699298718fed858a8031921b0a3ea25510134114c969f2eae5cbb25cade6f1e6c20079d684025923bc94fad-07468be90afaa313c54cfeafcf3aea6f7e2151882d7d?&apistrclassfy=0_6_2 (Date of access: 25.09.2023). (In Chinese)

Juhász, R., Lane, N., Oehlsen, E., & Pérez, V. C. (2022). Measuring Industrial Policy: A Text-Based Approach. *OSF Preprints,* 106. https://osf.io/preprints/socarxiv/uyxh9 (Date of access: 09.04.2024).

Juhász, R., Lane, N., & Rodrik, D. (2024). The New Economics of Industrial Policy. *Annual Review of Economics, 16* (1): 213–242. https://doi.org/10.1146/annurev-economics-081023-024638

Krueger, A. O., & Baran, T. (1982). An Empirical Test of the Infant Industry Argument. *American Economic Review, 72* (5), 1142–1152.

Li, X. (2022). Jishu Tuidong Xuqiu Ladong Yu Weilai Chanye De Xuanze [TechnologyDriven, DemandDriven and the Choice of Future Industries]. *Jingji Zongheng [Economic Review],* (11), 45–54. https://kns.cnki.net/kcms2/article/abstract?v=JITlT-mCwHjKanzZUHNQX_cL4Y1uwDdlVBwP7mI0WAUmf6pK-drSUAaiNAGJh3-mbvzeosb__J4m9CuaVrmdGOE2jD8ohIQ_j5USlfUe1zu2nV_BIKZXDvAaRUE9Xa7DFccPfLfh6c67ud-A60VNFSru2WpQ9ZWC8Nozu7lHYwE-JYIpvyt1Y9w==&uniplatform=NZKPT&language=CHS (Date of access: 27.11.2023). (In Chinese)

Lorenzo, R., & Ruta, M. (2024). *Trade Spillovers of Domestic Subsidies* (IMF Working Paper No. 2024/041). International Monetary Fund. https://www.imf.org/-/media/files/publications/wp/2024/english/wpiea2024041-print-pdf.pdf (Date of access: 15.07.2024).

Rodrik, D. (2004). *Industrial Policy for the TwentyFirst Century (Prepared for UNIDO).* John F. Kennedy School of Government, Harvard University, 42. https://drodrik.scholars.harvard.edu/publications/industrial-policy-twenty-first-century (Date of access: 18. 09. 2023).

Rodrik, D. (2012). Why We Learn Nothing from Regressing Economic Growth on Policies. *Seoul Journal of Economics, 25* (2), 137–151.

Sheng, F. & Zhu, S. (2025). Weilai Chanye De Chanye Zhengce: Gongneng Kuosan Yu Chuangxin [Industrial Policies for Future Industries: Function, Diffusion and Innovation]. *Jiangxi Shehui Kexue [Jiangxi Social Sciences], 45* (08), 55–64. https://kns.cnki.net/kcms2/article/abstract?v=JITlTmCwHjLiKLc7inNbMNd984wRhLq-WbASRo40km89DtKW_HzaP9ktQUvlgqScvwC7N81HNk3F1p_JB6CqgNLWb6JK4k4_mD2EhZ71nngISxUWgsB1zqgmWlizp9LPR1HNi9VpgPBCmL-8ha3iTJZop6o2Lyiq8RCACMcYw-NtKkQDl4wHxsQ==&uniplatform=NZKPT&language=CHS (Date of access: 11.09.2025). (In Chinese)

Stiglitz, J. E. (1989). Markets, Market Failures, and Development. *The American Economic Review, 79* (2), 197–203.

Succar, P. (1987). The Need for Industrial Policy in LDC's — A Restatement of the Infant Industry Argument. *International Economic Review, 28* (2), 521–534.

Zhang, X. (2007). Fuguo Xianjing–Fada Guojia Weihe Tikai Tizi? [The Rich Country Trap: Why Do Developed Countries Kick Away the Ladder?]. Beijing: *Shehui Kexue Wenxian Chubanshe [Beijing: Social Sciences Academic Press],* 25. https://ss.zhizhen.com/detail_38502727e7500f26e0172a3af47a29e8dceb0fc5f3fb07fd1921b0a3ea25510134114c969f2eae5c8c5a-927f28e5737abef0ca1915145046518d510bc8dac35736b5bbd5a87de3c80bae610bb719ad57? (Date of access: 20.05.2025). (In Chinese)

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