

The Dilemma and Way Out of Global Industrial Subsidy Governance: A Study on WTO Rule Reform

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Abstract: Industrial subsidies, as a vital policy instrument for nations to drive industrial development and enhance economic competitiveness, have long transcended national borders in their impact and significance, becoming a core issue and focal point of strategic manoeuvring within the global trading system. The World Trade Organisation (WTO), as the central institution governing global trade rules, shoulders the responsibility of regulating subsidy practices, safeguarding fair competition environments, and resolving trade disputes. However, amid profound shifts in the global economic landscape, accelerated technological evolution within industries, and intensifying industrial strategic competition between major powers, the subsidy rules under the current WTO framework now face unprecedented challenges and dilemmas. This paper provides an in-depth analysis of the complex landscape of industrial subsidies within the international trade environment and the multidimensional issues they engender. It outlines the WTO's core functions in subsidy management, dispute resolution and rule-making, while defining the fundamental concepts, primary forms and dual characteristics of industrial subsidies, namely their inherent economic stimulus potential and latent capacity to distort trade. By examining specific subsidy practices in the United States and China, the study reveals how such policies profoundly influence global industrial chain configurations, market competition dynamics and trade flows, becoming pivotal bargaining chips in geopolitical and economic rivalries between major powers. Following an in-depth analysis of the risks and strategic dynamics embedded in the EU's anti-subsidy investigations against China, the paper clarifies the necessity for explicit definition and restoration of 'non-actionable subsidies' (such as environmental subsidies, regional development subsidies, and disaster relief subsidies). It proposes concrete recommendations for enhancing the regulatory capacity of large-scale industrial subsidies, encompassing optimisation of application review processes, strengthening of specialised audits, establishment of post-project evaluation mechanisms, and implementation of rigorous accountability systems. Through case analysis and profound reflection on the predicaments of international rules, this study offers a more comprehensive perspective for understanding the complex issue of industrial subsidies, thereby advancing the establishment of a fairer, more effective, and contemporary international subsidy rules framework. In today's world of deep economic integration and concurrent competition, balancing national industrial development needs with the constraints of multilateral trade rules, and appropriately addressing the international dilemmas arising from industrial subsidies, constitutes a pivotal question concerning the future trajectory of the global economic governance system.

Keywords: WTO; Industrial subsidies; Trade dispute; Subsidy transparency challenges

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1. Introduction

1.1. The role and functions of the World Trade Organisation (WTO)

The World Trade Organization (WTO) is an international organization founded in 1995 and headquartered in Geneva. Its main functions can be divided into four main categories: management, negotiation, dispute resolution and coordination functions ^[1]. The WTO manages a range of multilateral trade agreements, covering areas from trade in goods to trade in services and intellectual property rights. Accordingly, the WTO has to closely monitor the changing landscape of the global trade pattern in real time, and review and update the provisions under existing agreements constantly, so as to ensure that the trade rules keep pace with the times and adapt to new trade patterns and market demand. WTO members are obliged to periodically report on the state of adjustments to their own trade policies and regulations and they are subject to systematic reviews of each other's trade policies. The objective of this mechanism is to verify the compliance of members with the principles and rules of the WTO Agreements, covering the entire multilateral trading system in a comprehensive manner and therefore monitoring compliance with the rule of law through transparency.

When a trade dispute arises between the parties of an organization's member countries, the dispute settlement mechanism of the WTO is involved. There is a fair and complete process of settlement, from the acceptance of the dispute to the negotiation between the two parties. If the two sides reach a settlement, the WTO also has the power to urge the offending party to correct the non-compliant rules in a timely manner. There may even be enforcement requirements. At the same time, in 1994, the WTO established a new dispute settlement system, the creation of the Dispute Settlement Body (DSB), and a series of key decision-making principles for each stage of dispute settlement ^[2].

Meanwhile, in terms of operational functions, the WTO mainly organizes the formulation and supervision of the implementation of multilateral trade agreements by member countries under the framework. It would also provide a platform for multilateral trade negotiations, where allowing member states to provide a platform for multilateral trade negotiations on issues related to trade rules, such as market access. This would cause a reform and new conditions to be established for trade agreements. The Agreement on Subsidies and Countervailing Measures (SCM Agreement), as a WTO framework agreement, is the primary rule governing industrial subsidies ^[3].

1.2. Definition and characteristics of industrial subsidies

Industrial subsidy is easily defined as a kind of support provided by the government of any country to stimulate the growth of industrial enterprises in that country in multiple forms. The fundamental purpose is to stimulate market activity in the relevant industries in the country, reduce enterprise costs and enhance competitiveness. The main forms of industrial subsidies are many, mostly in the form of government support in the form of cash payments to the enterprises concerned, lower taxes and low-interest or interest-free loans. The most typical example is that after the financial crisis happened in 2008, the United States provided the substantial loan to the steel industries and automobile manufacturing industries, in the aim of stimulating the country's economy and bring the new lease of economy life again ^[4]. As with everything in the world, when a policy is introduced, there are bound to be pros and cons. Industrial subsidies can help revive or incentivize industries in their own countries, and it is an excellent way for companies with foreign exports to make money, which can lead to unfair trade on a global scale. China's subsidized intervention in the base metals sector has lowered world base metal prices in importing countries, leading to much lower exports of goods from several downstream industries, and has had a much more negative impact on the world's metal-intensive industries ^[5].

Industrial subsidies can also have some distinctive features, due to the fact that industrial subsidies are usually provided by the government through specific financial support for development purposes. Subsidy policies vary from country to country and region to region in line with their economic development strategies and priorities. Not every business in the sector will qualify for industrial subsidies, and there are often entry thresholds, which may have different requirements depending on the strategy, as well as industrial subsidies themselves, which can be time-limited. Most importantly, in order to avoid unfair competition among firms and the misuse of resources by approved industrial subsidies, many countries and international organizations require that industrial subsidies have a means of public scrutiny, and that both firms and governments disclose the exact use of subsidies. There will be differences in the types of industrial subsidies received by firms in different industries, high-tech firms are more likely to receive subsidies for R&D and tax incentives; traditional manufacturing is more likely to receive interest-free loans or infrastructure development ^[6].

2. Examples of industrial subsidies

2.1. Examples of industrial subsidies in the United States

After the financial crisis in 2008, the U.S. government for the U.S. steel industry and automobile manufacturing industry to provide a large number of government loans as industrial subsidies. Since 2017, the same U.S. government in the computer and other high-tech industries, agriculture and communications equipment industry to launch policy support. It is the United States to enhance the competitive edge of domestic enterprises in the industry of huge financial subsidies policy, its U.S. market-related industries China's exports will be in the United States when entering the market face more pressure. This has also indirectly led to restrictions on the expansion of Chinese enterprises in the U.S. market, affecting their internationalization process.

The article finds that U.S. industrial subsidies have the most significant negative spillover effects on medium- and high-technology products. This indicates that the competitiveness of medium- and high-technology products declines significantly in the face of local enterprises supported by U.S. subsidies. This adversely affects Chinese high-tech firms, limiting their technological expansion and innovation capacity in the international market. In contrast, resource-based and low-technology products are less affected, probably because they are less competitive in the global market. The subsidy policy of the United States, by lowering the domestic export prices of the affected products, increased the competitiveness of American enterprises in the domestic market, which in turn enabled them to compete with Chinese enterprises in the international market at lower prices, which had a greater negative impact on the entry of Chinese medium- and high-technology products into the United States market and helped American enterprises to expand their international market share.

Although the United States industrial subsidy policy will enhance the competitiveness of domestic enterprises, it will also bring some potential bad and negative impacts to the country. Industrial subsidies can lead to volatility in the market and inhibit fair competition. Subsidized firms squeeze market share not only from foreign firms but also from domestic firms that do not receive industrial subsidies. The increase in industrial subsidies will also lead to increased fiscal pressure on the government, which is not very favourable to the stability and long-term development of the country's economy. Meanwhile, it is pointed out that the two major U.S. industrial subsidies are too specific to a few areas, which increases the risk of deliberate retaliation by other countries. It also raises the risk that the country will be targeted for industrial substitution.

2.2. The political game under industrial subsidies

In recent years, the vigorous development of new energy vehicles and photovoltaic in China, lithium battery has an advantage, so that more and more related products are exported to the European Union, causing the concern of the European Union related industrial enterprises. At present, the most important reason for capable industrial competition in China is the relevant industrial subsidy policy in China. Such a subsidy policy will affect the transformation and development of the relevant industries in the EU, and in turn affect the EU's upstream and downstream enterprises in the industry chain, and generate a chain reaction. Therefore, the EU has launched a countervailing investigation against Chinese exports of electric vehicles.

The article provides specific data to show that the Chinese government provides significant financial support to electric vehicle manufacturers and wind turbines for research and development, production, and marketing ^[7]. The Chinese government has set up special funds to support the development of green technology programs, such as the New Energy Vehicle Promotion Program in the 13th Five-Year Plan ^[8]. As the result of strong government support, Chinese companies have risen rapidly to become major competitors in the electric vehicle and wind turbines market. For its part, the EU considers these subsidies to be distorting market competition. EU enterprises and industry associations have submitted countervailing complaints to the European Commission, listing in detail the adverse effects of China's subsidy policy on them. These complaint documents contain a large amount of data and cases demonstrating the distorting effect of subsidies on market competition.

The author of this paper expresses reservations regarding the data cited in the document, contending that its accuracy remains open to debate. The statistics in the complaint document tend to take the position of the EU and select the accounting range in their favour. For example, when accounting for industrial subsidies for new energy vehicles, the inputs used to improve regional infrastructure are also included in the special subsidies for car companies. Moreover, they often intercept data at static points in time, ignoring the dynamic adjustment of China's subsidy policy. Many of China's industrial subsidy policies are transitional, with early subsidies designed to cultivate markets and support industry start-ups, and later phased out as industries mature. The EU complaint fails to track such dynamic changes, and still uses old data to create the illusion that subsidies have been in place for a long time.

3. The international dilemma of industrial subsidies

3.1. The international dilemma of industrial subsidies

Industrial subsidies continue to play an important role in promoting industrial development. Without going into the benefits, This paper will focus here on the negative effects of industrial subsidies in related industries. Industrial subsidies for firms on the verge of bankruptcy have a positive effect in the short term, but their long-term effects may be influenced by market behaviour and corporate strategy. The presence of subsidies may lead firms to rely excessively on government support while ignoring market demand and competitive pressures. This may weaken firms' motivation and ability to innovate on their own, affecting their long-term development. Enterprises that rely excessively on subsidies may face countervailing investigations and trade disputes in the international market, which is detrimental to the country's overall economic development ^[9].

At this stage, WTO rules and agreements still have limitations in dealing with large industrial subsidies. Some countries consider that the WTO definition of "subsidies" is too narrow to fully cover the various range of government support provided by some countries. There has been a lack of uniformity in determining whether industrial subsidies result in over-subsidization. Depending on the economic environment and different market

conditions in different countries, this is difficult to measure the impact of industrial subsidies on industry, just as it is also hard to quantify the value of government subsidies for infrastructure development. While member countries are mandated to report their subsidies at regular intervals to the WTO, many countries lack adequate reporting on the required elements. This lack of transparency makes it difficult to supervise and monitor them. Key to compliance with international laws and treaties is transparency. Greater clarity would also allow member states to more precisely monitor and evaluate members' policies and promote the reduction of trade frictions ^[10]. The paper also analyzes the current situation in the WTO with regard to information disclosure and transparency, pointing out that many member countries do not adequately report on their subsidy measures, which leads to asymmetry of information and difficulties in monitoring. Specific cases and data are cited to support this view, showing the specific manifestations and impacts of inadequate information disclosure. The paper also analyzes the current situation in the WTO with regard to information disclosure and transparency, pointing out that many member countries do not adequately report on their subsidy measures, which leads to asymmetry of information and difficulties in monitoring. Specific cases and data are cited to support this view, showing the specific manifestations and impacts of inadequate information disclosure.

In his paper, Sykes assesses the WTO rules on subsidies and countervailing measures from a welfare economics perspective ^[11]. The paper analyzes the economic rationality of WTO rules on certain types of subsidies, in particular "non-infringement" subsidies, export subsidies and certain agricultural subsidies. Sykes classifies industrial subsidies with minimal distortive impact on international trade as Non-Actionable Subsidies to realize public policy goals like environmental protection and scientific research and innovation. In addition, the WTO permits some Non-Actionable Subsidies to promote balance between trade and national policy goals. Agricultural subsidies are quite a complex area, involving many aspects, all the way from food safety to support for farmers income security and rural development. There are several types that can be economically justified in the cases where the small farmers can be subsidized to prevent their bankruptcy and thus ensure food supply stability. Agricultural subsidies can be used for environmental protection and land management, to ensure the realization of public benefits.

3.2. The dilemma of implementing massive industrial subsidies

There are multiple contradictions between legal provisions and actual implementation in dealing with huge industrial subsidies. The fuzzy treatment of the definition and scope of subsidies makes it difficult to accurately judge in actual implementation, in addition to the difficulty of identifying exclusively. TSMC receives subsidies in China and Japan, but its placement in different regions varies. Despite the subsidy policy, TSMC may still place its advanced production capacity in other regions, which involves the question of whether the subsidy is exclusive. Political factors can also have an impact on the contradiction between the provisions of the law and its practical implementation. Political factors can also have an impact on the contradiction between the provisions of the law and its practical implementation. In the United States, the Chip and Science Act and the Inflation Reduction Act were designed to promote the return of industry, but their practical implementation has faced many difficulties ^[12,13]. Policies in the U.S. chip war are motivated by political considerations, like export controls, which have harmed global industry interests. It has also affected the U.S. firms and consumers. And Trump's threat to repeal the chip bill and his advocacy of replacing it with high tariffs also reflects the interference of political factors in industrial policy.

4. EU anti-subsidy investigation into Chinese new energy vehicles and associated risks

The EU's investigations into China's new energy vehicles and wind turbines are used as a case study to analyze the political game and conflict of interests between major powers. The European Commission has made clear that it is ready to take strong actions against subsidized Chinese imports. In October 2023, the European Commission launched an official countervailing investigation on battery electric vehicle (BEVs) imports from China. The European Commission concluded that unfair subsidies were used to benefit the value chain for BEV imports coming from China, which could have caused economic harm to BEV manufacturers in the EU. If no agreement with China is reached, countervailing duties will be applied to Chinese BEV imports starting in July 2024. The EU ignores the fact that increasing import restrictions on green technology products in the short term will greatly increase the cost of BEVs when they are sold in the EU.

As a result, the EU automotive industry is slowing down the transition from fuel vehicles to new energy vehicles, and costs are increasing. The EU also ignores the fact that China is the production base for many European companies, and that many of the key products produced in the EU market come from China. This also means that once the EU for China BEV countervailing duties, if the Chinese side is willing, China has a strong ability to retaliate against the EU. Once China restricts exports of products on which the EU industry relies heavily, it may even be so severe that the entire industry's output shrinks. This approach is only one of the simplest countermeasures. Also, they are missing a very crucial point, which is that BEVs imported from China are not just China's own industry, but many European automotive companies also manufacture in China. An increase in tariffs would affect these local companies as well. If the EU increases tariffs, this has no impact on China itself or on markets elsewhere. From a mere perspective, it doesn't have a substantial impact on Chinese manufacturers, other than it will limit consumers in the EU market from purchasing BEV. The article suggests that the EU should use the information it receives from China to negotiate with the Chinese government to get it to remove Chinese support measures that are particularly harmful to the EU.

5. Irrevocable subsidy practice guide: Regulatory innovation in environmental, regional and disaster subsidies

There is a strong case for environmental subsidies among non-actionable subsidies, and regional development subsidies and environmental subsidies in underdeveloped regions should be restored. This has not only economic implications, but also deeper political implications. In a certain sense, it promotes the development of the country. Subsidies provided in response to disasters should also be included as non-actionable subsidies. In order to mitigate the impact of disasters on socio-economic development, it was important that the affected industries should be able to recover as quickly as possible. In his paper, Charnovitz suggests that the existing WTO is too restrictive on subsidies, especially with regard to the policies included in green subsidies^[14]. He argues that such stringent restrictions prevent countries from implementing effective environmental policies. Some countries may forgo subsidies for green sectors, such as renewable energy development, because of the severe restrictions. Clearly, this would not be conducive to the advancement of global environmental protection and sustainable development strategies.

This paper also puts forward several feasible recommendations for enhancing the regulatory capacity concerning large-scale industrial subsidies. The subsidy application and review process has been optimized, a standardized subsidy application process has been designed, the core materials to be submitted have been clarified, and online application channels have been provided. Enhance auditing professionalism, assemble

audit teams composed of industry professionals, financial experts, and legal professionals, and in the auditing phase implement diverse methods, field investigation, expert demonstration, and third-party appraisal, to enhance the authenticity and dependability of auditing. At the end of the subsidized project, a professional third-party organization is commissioned to conduct a comprehensive evaluation of the project. Through a series of indicators for evaluating the objectives, lessons learned will be summarized to provide a basis for the adjustment and optimization of the subsequent subsidy policy. Establish a sound accountability mechanism; in addition to recovering subsidized funds, enterprises may be subject to penalties such as fines, inclusion in a credit blacklist, and restriction of eligibility to apply for subsidies for a certain period of time in the future, so as to ensure the seriousness and authority of the subsidy policy.

6. Conclusion

Industrial subsidies, as a core instrument of national industrial policy, play an irreplaceable role in promoting economic growth, supporting strategic industries, and responding to crises. Current WTO rules, particularly the Agreement on Subsidies and Countervailing Measures, have proven inadequate in addressing the complex realities of industrial subsidies in the 21st century. The limitations are primarily manifested in: ambiguous definitions, lack of transparency, absence of implementation standards, and insufficient adaptability. These shortcomings significantly undermine the rules' effectiveness in restraining massive industrial subsidies and resolving subsidy disputes between major nations, thereby eroding the authority and fairness of the multilateral trading system. The implementation challenges of substantial industrial subsidies further highlight the gap between policy rules and practical realities. The exclusivity of subsidy determinations, geopolitical interference, and the impact of domestic political shifts on policy all render the effectiveness of subsidy measures highly uncertain, thereby jeopardising the stability and efficiency of global industrial chains. Consequently, this research holds significant importance. It is not only essential for upholding a sound global trade order but also constitutes a pivotal issue concerning the future resilience and inclusivity of the global economic governance system.

Disclosure statement

The author declares no conflict of interest.

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