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Foreign Direct Investment in the Semiconductor Industry: Policy Perspective

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Abstract

Aim: The goal of the article was to identify and quantify policies regarding FDI in the semiconductor industry in the major economies (the USA, the EU, China, Japan, Korea), and to evaluate their impact on attracting new investment projects to selected economies.

Methodology: The method applied was the analysis of policies towards semiconductors. The main source of data was Global Trade Alert containing major policy changes towards international business. The database was then supplemented with detailed studies of policies in selected countries.

Results: The main finding of the study was that economies with strong positions in the semiconductor industry still heavily support companies in expanding their production and technological capabilities. The support frequently entails incentives for foreign companies to localise the production of advanced technologies.

Implications and recommendations: FDI in semiconductors has been closely linked to national policies and plays an important role in fulfilling the competence gap. However, FDI in semiconductors has been subject to many limitations due to the direct linkages between transfer of capital to transfer of knowledge.

Originality/value: The novelty of the applied approach stems from distinguishing between policies towards domestic investment and FDI. Prior evidence treated these two types of investments jointly. The focus on FDI is important as computer chips are produced by multinational enterprises and the semiconductor industry has been among the main recipients of FDI globally.

Keywords: foreign direct investment (FDI), semiconductor industry, geopolitics

1. Introduction

Semiconductors play a critical role in the digital transformation of economies and are also crucial for resilience of global value chains and economic security (OECD, 2019). Therefore, localising production and securing access to the newest technologies in semiconductors became of paramount importance for many governments. They have introduced policies supporting the local production of semiconductors offering incentives in the form of research programmes, training for potential workers, as well as more company-specific policies of financial support (Benson et al., 2023).

An inherent characteristic of the semiconductor industry are its international linkages (Ren et al., 2023), which creates the need for closer cooperation between companies in different countries and also generates opportunities for developing large international semiconductor enterprises, hence the incentive packages offered by governments need to include the international aspect.

All the major economies producing semiconductors, besides the United States, developed their capabilities using a substantial amount of foreign technology (Goldberg et al., 2024). This confirms the need to focus on foreign direct investment (FDI) as a crucial form of development in the semiconductor industry. The US was the birthplace of the semiconductor industry and for many years remained in the forefront of two crucial activities: design and manufacturing. However, recently the offshoring of production to Asian economies has left the USA vulnerable with respect to fabrication. Supporting the transfer of foreign competences attached to FDI was a policy applied in the past by Taiwan (Tung, 2001) and South Korea (Nicolas, 2016), yet their recent approach can be considered as "a bigger capacity and higher-ends in home bases and a smaller capacity and lower-ends abroad" (Wong et al., 2024). The policy of attracting FDI has been also applied by China, however there have been some hurdles in this process due to its rivalry with the United States.

The issue of semiconductors is not only about technology or economics, recently it is becoming more about geopolitical and geoeconomic issues (Ernst, 2021). The role of semiconductors in military applications and as a source of defence advantages has put them in the centre of international policies. The geopolitical rivalry between the US and China led to rivalry in their policies towards semiconductors. Particular attention is being paid to artificial intelligence (AI), which requires vast computing power provided by the most advanced computer chips. To this end China introduced the Next Generation Artificial Intelligence Development Plan in 2017 (Ernst, 2020). The USA responded with export controls on advanced chips and curbing access to technology by China, and the US regulations also concerned FDI in advanced technologies. Broadman (2019) concluded that USA had the strictest inbound FDI policies among advanced economies. This means that FDI is part of broader geoeconomic competition between major economies.

The policies towards semiconductors are aligned with the general industrial policy. The semiconductors, due to their production complexity and ubiquity in industrial applications, are at the centre of the discussion. In general, economists are sceptical about the effectiveness of industrial policies, however when one includes climate change, national security and the rights of workers, the picture becomes more nuanced. In this article the author follows the comprehensive review of the new generation of industrial policies provided by Juhász et al. (2024).

The research goal was to identify and quantify policies regarding FDI in the semiconductor industry in the major economies (the USA, the EU, China, Japan, Korea), and to evaluate their impact on attracting new investment projects to selected economies.

The main research question was whether policy support is a prerequisite condition for attracting FDI to the semiconductor industry. This is linked with another question: who should be the addressees of industrial policies applied in the semiconductor industry? The answers to these questions provide the thorough understanding of the relationship between FDI and industrial policy in the crucial industry, characterised by high capital and knowledge intensity.

The novelty of the approach stems from distinguishing policies towards domestic investment from FDI. Prior evidence treated these two types of investments jointly. The focus on FDI is important as computer chips are produced by multinational enterprises, and the semiconductor industry has been among the main recipients of FDI globally. Another notable novelty is the company-level approach to analysing policy support in the selected industry, related to the characteristics of the semiconductor industry dominated by a few large enterprises at the centre of designing national policies.

The method applied in the article was the systematic analysis of policies towards semiconductors. The main source of data for the study was the Global Trade Alert containing major policy changes towards international business (Evenett, 2009). The policies aimed at supporting semiconductor industries in particular jurisdictions were studied for the purpose of investigating the policy environment. The database was supplemented with detailed studies of policies in the selected countries. The focus on FDI was also motivated by the difficulty in distinguishing policies towards foreign investments from other forms of support (Goldberg et al., 2024), therefore investigating FDI related initiatives requires the careful analyses of particular policies and the inclusion of additional criteria.

The rest of the article is organized as follows: Section 2 outlines the main characteristics of the global semiconductor industry, with a presentation of peculiarities of the semiconductor operations and the need for special policy treatment. Section 3 focuses particularly on FDI in the semiconductor industry, and presents the theoretical background of the research along with previous empirical findings. Section 4 presents the empirical proceedings, while Section 5 contains the discussion, and Section 6 delivers the concluding remarks.

2. Global Semiconductor Industry

The semiconductor industry offers a unique perspective on modern manufacturing and industrial policy. From the microeconomic point of view, the production of chips involves steep economies of scale, requires enormous investment in research and development, is subject to immense international competition and requires the global coordination of activities. From the policy perspective, semiconductors attract the close attention of governments as they aim at maintaining a technological edge over the geopolitical rivals and protect their own economic interests.

The role and the size of the semiconductor industry have been rising in recent decades. In 2001 the value of the global market was around 150 billion dollars (Semiconductor Industry Association, 2024), whilst in 2025 the revenue was estimated to arrive at 697 billion dollars, representing an 11.2% growth over the previous year (World Semiconductor Trade Statistics, 2024).

For several decades the strongest position in the market has been reserved for Asia Pacific, since its market share (mostly Taiwan, China and Korea) together with Japan exceeded 60% (Figure 1). Therefore it was not surprising that the USA introduced ambitious policies towards improving its position in the industry.

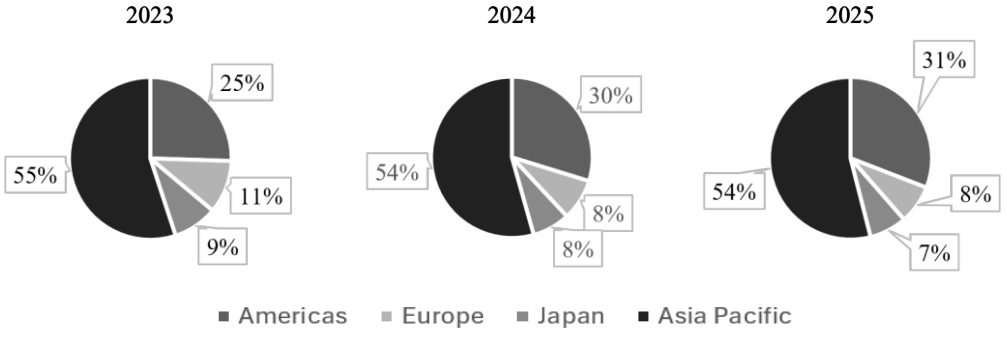

Fig. 1. Share of global sales of semiconductors by regions (in %)

Source: own elaboration based on (World Semiconductor Trade Statistics, 2024).

There are several segments in the value chain of semiconductors (OECD, 2019). The first element is the upstream segment, which consists in research and development. The second segment stretches from chip design to manufacturing to assembly, testing and packaging. The last segment involves using the chips in downstream products.

The main focus of this analysis was the middle segment, which is also the main target of sectoral policies. The three main activities with the middle segment may be either integrated or separated (Table 1). Integrated design manufacturers (IDMs) are companies combining all the three elements of the middle segment within their scope, the examples being Intel, Samsung Electronics and Texas Instruments. The other model separates the three functions and the manufacturing is conducted by pure-play foundries. The model of producing semiconductors is very dynamic, the same as the entire industry. For example, Intel, a major IDM, is considering separating profitable design operations from manufacturing, which brings large losses.

Table 1. Middle segment of the semiconductor value chain – examples

Design (fabless companies)	Fabrication (pure foundries)	Assembly, testing and packaging
AMD (USA)	GlobalFoundries (UAE)	Amkor (USA)
Nvidia (USA)	TSCM (Taiwan)	ASE (Taiwan)
Qualcomm (USA)	SMIC (China)	JCET (China)

Note: GlobalFoundries are located in the USA, however the majority ownership is by a United Arab Emirate fund.

Source: own elaboration.

The analysis of the semiconductor industry as well as the related policies requires taking into account both the general trends in the industry and the role of particular firms. The market is dominated by large multinationals. The structure of the industry is highly oligopolistic and sometimes even monopolistic, which requires presenting the main companies which dominate the industry. This is also strongly related to the concentration of activities on company level. TSMC (the largest foundry in the world) in the third quarter of 2024 reported a 64.9% market share (Taipei Times, 2024).

The presentation of the operations is crucial for understanding the role of FDI and national policies. The particular segments and corporations presented cannot operate in isolation – at the moment no individual country can produce semiconductors on its own. In order to produce advanced chips at the right price and scale, the elements have to be combined in the global value chains. The fixed costs of establishing the value chain are very high due to highly sophisticated technologies and the large scale of investment.

The semiconductors are important inputs into information and communication technology, electronics, as well as vehicles and machinery (Haramboure et al., 2023). Therefore any distortions in semiconductor supply chains can have a significant impact on economies, however the impact of semiconductors is not limited only to downstream industries and/or specialised applications. The positive role of the industry can also support the overall development of economies (Nam & Wang, 2022).

3. Previous Theoretical and Empirical Contributions

FDI is particularly important in the semiconductor industry due to the high requirements towards knowledge, capital and control, therefore the approach of combing FDI and GVC proposed by Davis and Markusen (2021) is suitable to study operations of companies in the semiconductor industry. The authors correctly assigned particular stages of GVC to two major types of FDI: vertical and horizontal, and also focused on the value added in particular stages of production. Both these issues of FDI and semiconductors were included in the context of the modern industrial policy by Juhász et al. (2024), who argued that economists should apply a more nuanced and flexible approach to industrial policy.

Policy considerations regarding FDI in the semiconductor industry are influenced by the expected gains in a host economy. The traditional approach to FDI includes effects in the form of knowledge spillovers, linkages with local firms, technology transfers, access to international markets (Alfaro, 2017). These factors are even more important in the case of semiconductors, however, in the semiconductor industry, companies try to limit the transfer of the most sophisticated solutions to other countries (Wong et al., 2024). Currently TSMC produces the most sophisticated semiconductors just in Taiwan, and only in a few years plans to start production in the USA. An additional caveat arises with regard to FDI in semiconductors is job creation. The investment may be highly valuable, however the number of jobs created may be disproportionately low. Indeed, studies of the economic effects of FDI in semiconductors frequently employ analyses of particular large cases, for instance the creation of Japan Advanced Semiconductor Manufacturing as a joint venture between Taiwanese and Japanese companies was confirmed to have a positive impact on the host economy (Ko, 2025).

The semiconductor industry has been also one of those closely scrutinised by the authorities in their home countries. Investment screening mechanisms applied by many countries focus on the latest technologies. Even the EU, which supported a fairly unrestricted access to its market as well as the possibility of acquiring local companies by foreign entities changed its stance and introduced the framework for FDI screening in 2019 (European Parliament, 2019).

From the perspective of FDI it is also important to distinguish between greenfield investment and cross-border mergers and acquisitions (CBM&A). These two types of FDI are very distinctive in semiconductors. Greenfield investments are a default form of FDI in this industry because of the need to build premises adjusted precisely to the needs of modern processes.

CBM&A also play an important role in the analysed industry. The cost of building competences in the semiconductor industry is so high and the time required so long that the preferred option for expansion is the acquisition of a company possessing the valuable knowledge.

Chinese companies were particularly active in CBM&A in the period 2014-2018, with the particular intensity in 2015-2016 (OECD, 2019), connected with the creation of a special investment fund aimed at boosting Chinese competences in semiconductors. However, the largest number of acquisitions in semiconductors was conducted by US firms (OECD, 2019). European companies operating in the semiconductor industry attracted between 2015 and 2021H1 33 billion EUR of foreign investment (Ciani & Nardo, 2022). The study confirmed that the majority of the transactions were of the portfolio type (91%), but there were also CBM&A.

FDI also involves consolidation. The semiconductor industry is characterised by high fixed costs and steep economies of scale, which creates strong incentives for companies to acquire rivals in different countries in order to build sufficient capacity; this is also very important from the perspective of equipment.

The wave of CBM&A created the situation of an oligopoly. There are three major producers of semiconductors in the world: TSCM, Intel and Samsung Electronics. Importantly, TSMC is a monopoly in manufacturing the most advanced chips, while ASML is the only company in the world producing the most advanced machines for semiconductor production.

This article covers inward-oriented FDI projects and policies aimed at attracting foreign investors to locate their activities in selected economies, however outward-bound FDI is also an important avenue for building competences and international position in semiconductors. Chinese Huawei, which invested heavily in building chips that could compete with those of leading foreign companies between 2010 and 2024 invested more than 17 billion USD in 308 greenfield projects abroad (Paterson, 2024).

The framework for analysing policy implications on semiconductors was developed by the OECD (OECD, 2019). Their main approach was based on company-level information and studies of 21 large companies in the industry. Note that their research pertained to the period 2014-2018, when the intensity of global rivalry for technological supremacy was rather muted when compared to the

realities of 2026. Recently, Goldberg et al. (2024) applied a policy-level approach to examine the implications of changes in the regulatory framework towards semiconductors. However, none of the two analytical approaches focused specifically on FDI in spite of its importance in the industry.

4. Policy Perspective on Foreign Direct Investment in the Semiconductor Industry

4.1. Research Design and Sources of Information

The main part of the empirical proceedings was the analysis of major policy initiatives and their impact on FDI by semiconductor companies, understood as the implementation of official initiatives increasing the attractiveness of particular locations for new investments by foreign enterprises. From the operationalisation perspective, the impact on FDI meant analysing the policies with respect to their scope – explicitly mentioning FDI or not, while the number of policy initiatives towards semiconductors in particular economies was computed. The characteristics of the investigated industry also required measuring the number of company-specific actions, suggesting that an important part of policies are actions directed towards the selected companies. Next, the monetary terms of the specific policies were analysed.

A very important element of the landscape in the semiconductor industry is government support. The official policies encompass both direct and indirect support. The direct support may take the form of subsidies, whereas the more nuanced is the indirect support in the form of research and development activities or government procurement. However, from the economic point of view the support policies, especially as direct and lavish subsidies may lead to market distortions and 'hand-picking' winners. It may also lead to the race for subsidies. The competition in the industry is so intense that market forces are often too slow to respond to geopolitical changes. The costs of not providing subsidies may be extremely high as losing the competitive edge may also compromise national security.

Chinese authorities created the National Integrated Circuit Industry Investment Fund in 2014, which is a multibillion investment vehicle aimed at investing in the design and manufacture of chips as well as mergers and acquisitions (Ciani & Nardo, 2022). It is estimated that the Chinese authorities allocated hundreds of billions of dollars for the support of the local semiconductor industry. According to (OECD, 2025), Chinese support reached around 10% of companies' revenue, while for OECD countries the value did not exceed 5%. China is officially focused on attracting FDI in the high tech industries. In its Five-Year Plan for Utilization of Foreign Capital, China's Ministry of Commerce supported attracting foreign capital to strategic industries and claimed to promote free flows of capital into the semiconductor industry (Ernst, 2021).

The USA introduced the CHIPS Act of 2022 (Congress.gov, 2022). This is the short name of the two acts aimed at boosting manufacturing of semiconductors. The main part is the CHIPS Act, which stands for Creating Helpful Incentives to Produce Semiconductors. The appropriated funds for the financial years 2023 through to 2027 are expected to amount to 52.7 billion dollars (Blevins et al., 2023). The forms of support are direct subsidies, tax credits and research and workforce training. One of the motivations to introduce the American policy was countering China.

The European Union (EU) followed suit and introduced its own version of the semiconductor industry support. The European Chips Act introduced in 2023 aimed at mobilising 43 billion euros of public and private investment to double the production of chips in the EU (European Commission, 2023). Within the scope of the act, support to major foreign companies (e.g. Intel in Germany and Poland, TSMC in Germany) was planned.

The author aimed at extending the case study approach to policies, therefore the systematic analysis of policies was applied. The source of information was the Global Trade Alert developed by (Evenett,

2009). In the study, 212 initiatives in the period 2017-2024 were identified as linked to the semiconductor industry, yet it was not sufficient and each policy had to be manually verified in order to confirm links to the semiconductor industry.

One policy may have multiple initiatives over a longer period of time. The pattern is that a general policy is followed by many activities towards particular companies, institutions or subject areas, thus requiring a particular focus of avoiding duplication when calculating the monetary values for particular countries.

In spite of concentrating on the policies, the analysis also included the activities of the major semiconductor manufacturers, as the policies from the very beginning have to take into account the structure of the industry and technologies in possession of particular companies. Therefore, many of the initiatives analysed in the study are company-specific.

The second round of analysis was focused on the selection of the initiatives linked to foreign investment. Two criteria were taken into consideration: targeting FDI in the policy and providing support to a specific company that has foreign shareholders. As a result of this analysis, 57 initiatives were identified as being focused on attracting foreign investors. It should also be stated that some policies, without mentioning foreign investment, can also create favourable conditions attracting foreign investors. Some policies have been constructed based on requisite competences, e.g. the policy of a given country may aim at the design of semiconductors. However, as the only companies possessing such technologies may be foreign, the policy may be indirectly aimed at attracting foreign companies.

Within the scope of the research it was possible to present all policies in monetary terms, due to the opaque nature of many of them. This was particularly difficult for China, and was earlier confirmed by Goldberg et al. (2024), due to the mixture of both national and provincial policies. Moreover, owing to the nature of the analysed industry and forms of supporting it, it was not possible to directly link company-level support with particular economies, which was also an issue emerging in earlier studies by Goldberg et al. (2024) and the OECD (2019).

4.2. Empirical Findings

In the recent years one could observe a very dynamic growth in the number of support initiatives towards semiconductors (Figure 2). The catalyst was the outbreak of the COVID-19 pandemic in the early 2020. Due to limitations to international transfers of goods and increased demand for goods containing semiconductors, a large global shortage of chips occurred, which had serious implications for many economies, especially those reliant on imports from Asia – the EU and the USA. Another event was the Russian invasion on Ukraine and increased geopolitical tensions between China and the West. The global tensions initiated the adoption of proactive policies in numerous countries. Importantly, there was also a rise in polices towards attracting FDI, when the number of incentives including FDI increased from just a few before 2020 to around 20 in 2024. However, the initiatives supported projects between like-minded countries, e.g. TSMC investment in the USA, and Intel investments Europe. The political interference increased the rift between China and the West, thus boosting the need for self-sufficiency on both sides.

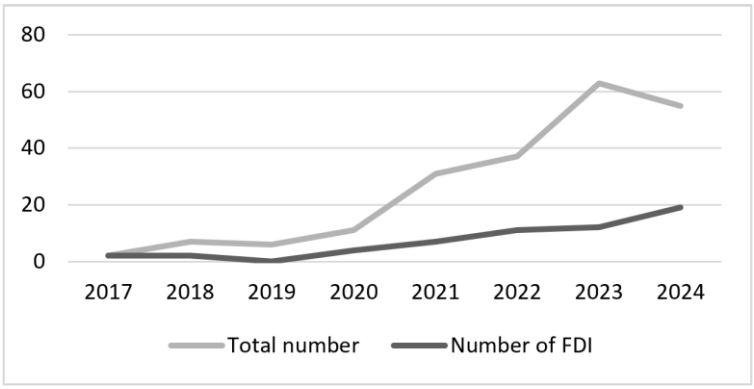

Fig. 2. Annual number of initiatives towards semiconductors

Source: own elaboration based on (Global Trade Alert Data, 2025).

Asian economies dominated in the field of supporting the semiconductor industry (Figure 3) over the analysed period of time. The proposition regarding decoupling or derisking in relations between China and the West was confirmed in the country-level analysis. The main axis of the policy competition is between China and the USA, with European countries less active in the area of support, in spite of being more dependent on foreign suppliers of semiconductors. According to Dorakh (2024), countries most dependent on foreign suppliers were China and European Union. The USA showed middle level of dependence on foreign suppliers, while Taiwan and Korea were main producers with limited exposure to foreign suppliers. Even if the support was provided, the projects were not arriving into EU in sufficient numbers, whilst the large investment project by American Intel was cancelled due to strategic changes in the company. The limited role of foreign semiconductors companies in Korea may be interpreted as possessing frontier technology and limited need for foreign knowledge.

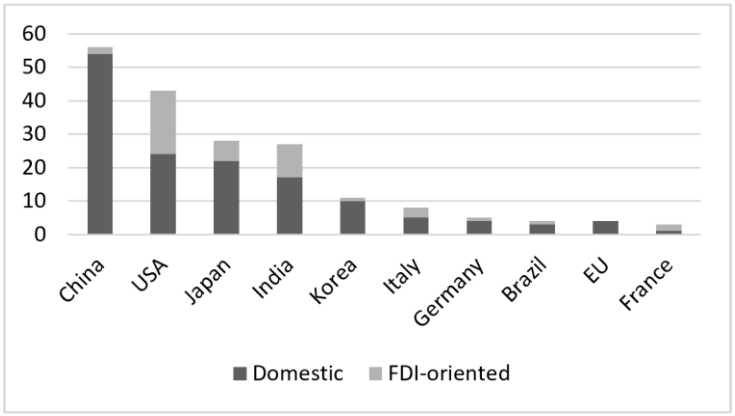

Fig. 3. Top economies implementing policies towards semiconductors (by number of initiatives)

Source: own elaboration based on (Global Trade Alert Data, 2025).

The pattern of support presented in the article may still highlight differences in the technological and manufacturing potential between Asian economies and the United States on the one side and the EU on the other. The USA as the economy in the forefront of research, design and commercialisation of advanced technologies plays a complementary role to the Asian economies.

As stated earlier, both the structure of the industry and the design of the policies call for a detailed company-level analysis of the official support. The detailed approach mitigated the issue of double counting of policy announcements and their implementations, e.g. the CHIPS act was announced in 2022 with a total spend of 39 billion USD, while the actual funding was supposed to last until 2026. The expenditure occurred at company level, which confirms the basic approach used in this article.

When focusing solely on company-level actions, the USA and Japan became top economies in this aspect (see Figure 4). The change in the position of China related to certain gaps in information available on specific actions.

From the perspective of this study, particularly valuable information was provided by the distinction between domestic and foreign projects. The US authorities focused on the activities of attracting foreign investments, which means that the national policy of boosting manufacturing of semiconductors was aligned with the capabilities of foreign-owned companies – this was also the case in Japan and India. Interestingly, no company-specific support was identified in China, which can be interpreted in two ways. First of all, the policies were designed to achieve self-sufficiency with respect to semiconductors, while facing significant limitations, mostly induced by the US policies, in accessing foreign technologies. This has also limited possibilities of foreign companies to operate in China.

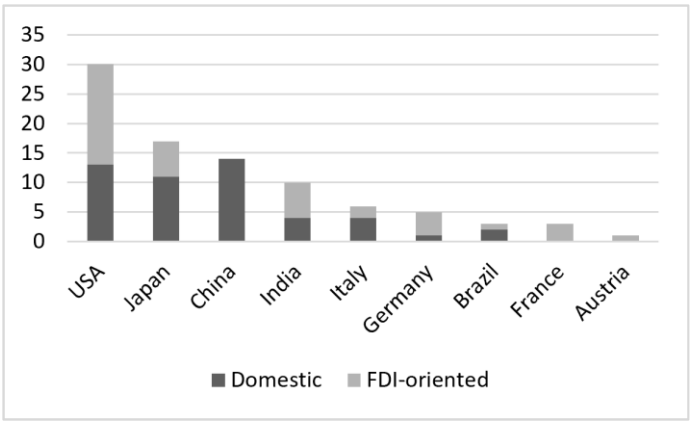

Fig. 4. Top economies implementing policies towards semiconductors (by number of company-specific actions)

Source: own elaboration based on (Global Trade Alert Data, 2025).

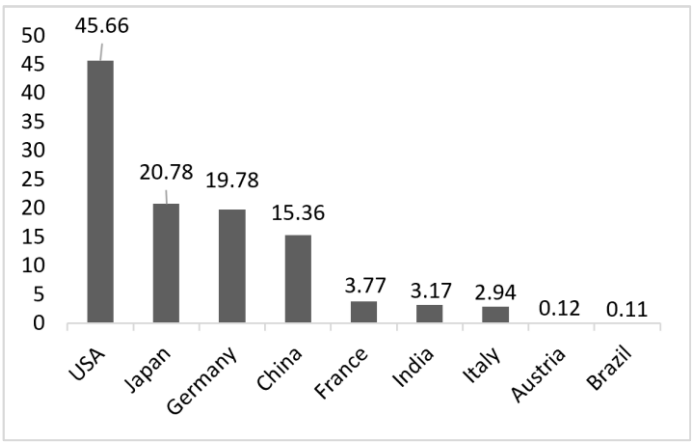

Fig. 5. Monetary value by top economy (company-specific actions)

Source: own elaboration based on (Global Trade Alert Data, 2025).

The most challenging task was to analyse financial data on the official support (Figure 5). Company-specific information on particular projects was particularly helpful in calculating the level of support in particular countries, and the data confirmed the proactive approach of the US authorities mostly within the framework of the CHIPS act. The generous support provided by Japan and Germany was also part of their broader strategies. The most cautious interpretation of data should be applied for China, mainly due to the limited information on investment projects. It is also the case that many projects could not be directly assigned to particular companies, therefore they were absent from the analysis.

4.3. Discussion

Many economies apply policies towards semiconductors, however the efficacy of these policies varies. The US policies are comprehensive and well-funded (Donnelly, 2023). The preliminary report regarding the effectiveness of the CHIPS Act subsidies was rather sceptical regarding the possibility of achieving their goals and the need for vast financial support (Hufbauer & Hogan, 2025). It has also been argued that companies operating in the industry benefit from increased political and geoeconomic focus by demanding subsidies (Ruck, 2026). Moreover, in spite of generous policies supporting the local manufacturing of semiconductors, the data on the geographic split of companies' long-lived physical assets did not indicate the relocation of production to home economies (OECD, 2025). The final results of the policies are still to be known.

The role of the official support in the semiconductor industry is difficult to quantify, especially in monetary terms. Such issues were presented in the studies by Goldberg et al. (2024). Their research results support the major findings of this article, however a different angle was considered and newer data analysed. This study focused on the role of particular companies, with such an approach highly justified by the structure of the industry and its macroeconomic impact. For example, the two largest semiconductor companies in South Korea (Samsung Electronics and SK Hynix) are responsible for approximately half of the stock market capitalisation, they realise the bulk of exports from Korea. A similar situation was also observed in Taiwan, with the dominating position of TSMC.

The author analysed the situation as in 2025 and some events of 2026, providing an important update to the study by Goldberg et al. (2024) as the role of semiconductors has been constantly increasing due to the very high expenditure on the infrastructure for training and utilising AI models. This makes the situation in the semiconductor industry even more critical from the perspective of geoeconomic competition and economic security.

The main focus of this study was on US and EU policies towards FDI, however the economies of Taiwan and South Korea also play a crucial role in the frontier manufacturing of semiconductors. East Asian companies limit the availability of the most advanced technologies in their foreign operations (Wong et al., 2024). The geopolitical challenges force governments to introduce inward-oriented policies, which can be also referred to as techno-nationalism (Hyatt et al., 2025). The policies are very specific and have supported some activities, but at the same time restricted others, for example the CHIPS act could not be used to purchase some equipment, mostly from Chinese companies (e.g. Huawei Technologies Company and ZTE Corporation).

The discussion in the literature concerns the competition between particular economies in accessing the most advanced chips (Yeung, 2026). This article, however, argues that due to the intertwined nature of supply chains and investment, the isolation of particular countries is impossible. This finding is in line with the analysis by Lin (2026), who underlined that security-oriented industrial policies in semiconductors may be counterproductive as the institutional overreach may limit innovation and collaboration in the industry.

This article also provides policy recommendations for the EU. The need for the transnational division of labour and high capital and knowledge intensity require international cooperation within the EU as well as with external actors. However, as argued by Ruck (2026), subsidies may not be enough to meet the expectations of the European Chips Act.

5. Conclusions

The role of the semiconductor industry in the global economy has entered the mainstream discussion during the emergence of political and economic upheavals since 2020. Multiple policies towards the semiconductor industry have been deployed to limit high levels of dependence on foreign suppliers. Even though foreign investment has not been explicitly pronounced in many policies, its role has been crucial.

The answer to the main research question regarding the necessity of implementing policies towards attracting FDI is affirmative, which means that the global environment for the semiconductor industry is so competitive that not only the need for official support is high, but remains in the centre of most decisions regarding FDI in the analysed industry. Thus even the most attractive economies for the semiconductor industries (e.g. the USA and Japan) apply aggressive and extensive measures to attract new facilities, yet this is not sufficient. The case of the abandoned investment by Intel in European fabs confirms that lavish state subsidies may not achieve their goal.

The second research question pertained to the addressees of the policies. The evidence suggests that company-level initiatives were key in attracting FDI to certain locations. An important element of the industrial policy in semiconductors were subsidies to the main companies. The mentioned cases of TSMC in Taiwan, Samsung Electronics and SK Hynix in South Korea indicated that micro considerations were crucial for understanding the macroeconomic implications of the decisions. Such an approach is another notable novelty of this article.

The main finding was that economies with strong positions in the semiconductor industry still heavily support companies in expanding their production and technological capabilities. The support frequently entails incentives for foreign companies to localise the production of advanced technologies. Asian economies and the USA have been very active in bringing the production to their shores. In particular, the USA by implementing the CHIPS Act significantly increased the incentives for foreign companies establishing production of semiconductors on American soil. One can even conclude that there is a strong policy competition between economies, however a very important issue is the effectiveness of the policies.

FDI in semiconductors has been closely linked to national policies, as was the case of Taiwan and South Korea, and recently also China. In particular, CBM&A played an important role in fulfilling the competence gap. However, FDI in semiconductors has been subject to many limitations due to the direct linkages between the transfer of capital and the transfer of knowledge, with companies, and also countries, aiming at keeping control of knowledge dispersion. This is one of the reasons explaining the limited number of FDI-oriented policies by China.

However, the level of subsidies cannot be linearly extrapolated on the position of an economy in global competition. The distinctive case is China with its abundant spending and multiple programmes, however still remaining behind the solutions designed in the US. Gaining expertise in semiconductor processes is a multiyear task and China has already achieved significant progress in designing and manufacturing advanced chips.

The situation in the semiconductor industry is not only about policy, but also politics. During Trump's second presidential, the role of semiconductors is highlighted in the trade war. Semiconductors became an important tool of influence on other economies and FDI in semiconductors became a part of the broader political and economic programmes. Previously the axis of competition was between the USA and China, yet in 2025 because of dramatic changes in US trade policy, a division also occurred between the USA and the EU, which further complicates the concept of European technological independence.

The main limitation of the study was that it focused predominantly on large and financially strong companies, however limited information was available on smaller and less important enterprises who lack the clout and political attention of their larger peers. Moreover, the focus of this paper was on cutting-edge semiconductors, while legacy technologies are also critical, especially for industrial and consumer applications.

Future research should also assess some failed attempts to build semiconductor facilities in particular locations, which could extend the perspective on the industrial policies in a more nuanced and complicated environment. The inclusion of some smaller and emerging economies in the analysis should also broaden the applicability of the research findings.

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Bezpośrednie inwestycje zagraniczne w branży półprzewodników: perspektywa regulacyjna

Streszczenie

Cel: Celem artykułu jest identyfikacja i kwantyfikacja polityk dotyczących bezpośrednich inwestycji zagranicznych (BIZ) w branży półprzewodników w głównych gospodarkach (USA, UE, Chiny, Japonia, Korea). Ponadto celem artykułu jest ocena ich wpływu na przyciąganie nowych projektów inwestycyjnych do wybranych gospodarek.

Metodyka: Metoda zastosowana w artykule to analiza polityk wsparcia półprzewodników. Głównym źródłem danych do badania był Global Trade Alert zawierający główne zmiany polityki wobec międzynarodowego biznesu. Baza ta została uzupełniana o szczegółowe badania polityk w wybranych krajach.

Wyniki: Głównym wnioskiem płynącym z artykułu jest to, że gospodarki o silnej pozycji w branży półprzewodników nadal w dużym stopniu wspierają firmy w rozwijaniu ich zdolności produkcyjnych i technologicznych. Wsparcie to często wiąże się z zachęcaniem firm zagranicznych do lokalizacji produkcji zaawansowanych technologii.

Implikacje i rekomendacje: Bezpośrednie inwestycje zagraniczne w sektorze półprzewodników były ściśle powiązane z polityką krajową i odegrały istotną rolę w wypełnieniu luki kompetencyjnej. Jednak bezpośrednie inwestycje zagraniczne w sektorze półprzewodników napotykały liczne ograniczenia ze względu na bezpośrednie powiązania między transferem kapitału a transferem wiedzy.

Oryginalność/wartość: Nowość podejścia wynika z rozróżnienia polityk wsparcia wobec inwestycji krajowych od BIZ. Wcześniejsze badania traktowały te dwa rodzaje inwestycji łącznie. Skupienie się na BIZ jest ważne, ponieważ chipy komputerowe są produkowane przez przedsiębiorstwa wielonarodowe, a branża półprzewodników jest jednym z głównych odbiorców BIZ na świecie.

Słowa kluczowe: bezpośrednie inwestycje zagraniczne, branża półprzewodników, geopolityka