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ECONOMIC GROWTH THROUGH EXPORT DIVERSIFICATION: DATA FROM THE FOUR ASIAN TIGERS AND CENTRAL & EASTERN EUROPEAN COUNTRIES

The article considers two approaches to achieving rapid economic growth through diversification of national production and commodity exports: export-oriented industrialization and integration into global value chains. The first approach is analyzed on the basis of the development experience of South Korea and Taiwan in the 1970s-1990s. The second approach is examined on the example of the European integration of Poland and the Czech Republic in the 1990s and the first half of the 2000s. Key differences between the two approaches in terms of economic policies, critical growth drivers, and outcomes are identified. The role of the state in ensuring economic diversification and exports is considered. The effectiveness of export-oriented industrialization and integration into global value chains is compared in the context of ensuring structural transformation and prosperity.
Key words: export-oriented industrialization, global value chains, diversification, government support, export discipline, special economic zones, FDI, R&D.

Introduction. Export diversification has provided a radical transformation and rapid economic development in a number of countries. Benefits from export-oriented growth (the scale effect, overcoming domestic market constraints, full exploitation of capacities, obtaining foreign currency for import of capital goods and intermediates, increasing profits for reinvestment in the manufacturing) determine the attractiveness of this development strategy to this day and arouse the interest in policies and practices that have enabled countries to achieve outstanding results in restructuring their national economies in a relatively short time. The variety of international experience of intensifying growth through diversification of foreign trade shows that there are at least two fundamentally different approaches to apply such strategy. The first one is export oriented industrialization. It was successfully used in East Asian countries, particularly South Korea and Taiwan during the 1970–1990s. By 1970s these countries had already developed specialization in labor-intensive sectors (especially in textile and apparel) and faced the challenge of developing new capital-intensive and knowledge-intensive industries based on advanced technologies. This issue was solved with significant government support. The second is integration into global value chains vastly adopted by post-soviet Central and Eastern Europe countries, including Poland and Czech Republic, in 1990s – the first half of 2000s. The main problem of these countries was predominance of primary manufacturing sectors (energy sector, metallurgy) that used obsolete production technologies. Their economic transformation was carried out under European integration and mostly on the basis of liberalization.

Recent literature review. International experience of prominent export-oriented growth has been in the spotlight of scholars for quite a time. It is worth highlighting the publications of J.S. Mah [1], W. Lim [2], S. Chung [3], H. Smith [4], I. Hashi and E. Balcerowicz [5], R. Mikhel [6], T. Rachwal [7] and others. Their works contain a thorough analysis of economic policies and regulations that led to outpacing growth through economic and export diversification in mentioned countries. However, these authors tend to focus on one specific country or group of similar countries rather than on broad international comparisons and peculiarities of different experiences. Some domestic economists advocate the application in Ukraine of certain mechanisms and policy measures that contributed to export-oriented development abroad. In particular, I. Holubii [8], V. Halasiuk [9], I. Huzhva [10] summarize international experience to promote certain mechanisms of government support, such as industrial parks, export-credit agency, etc. Yet their works don't bring to light how the same mechanisms work in different policy frameworks that is crucial for defining a whole set of instruments and tools to enhance export diversification and economic growth. This necessitates further research on this issue.

The purpose of the article is to define key features of different approaches to export diversification policy that proved to be effective in enhancing economic growth.

The main results of the research. State policy to ensure industrial development by stimulating export-oriented manufacturing has gained momentum in South Korea since 1973 with adoption of the Heavy-Chemical Industry Drive (HCI). The decision to resort to selective protectionism in these industries was facilitated, on the one hand, by endogenous factors, as active development of labor-intensive sectors in the 1960s absorbed labor surplus and increased its value, and on the other hand, by exogenous factors, as Korean traditional textile exports faced severer competition on international markets [11, p. 241]. Chemical and heavy industry enterprises received significant financial incentives in the form of direct tax benefits and soft loans, while the domestic market was protected by high

import duties. In order to concentrate capital in new priority industries, the National Investment Fund (NIF) was established in the same year. NIF lending rate was 9%, while the market rate was 15% in 1974. Given that during 1974–1981 inflation in Korea reached 10.1–28.7%, the real interest rate on NIF loans was mostly negative [12].

The system of preferential lending was expanded in 1976 with the opening of the Export-Import Bank that provided preferential financing for exporters. Development of newly emerging chemical and heavy industries depended not so much on benefits as on guaranteed access to export financing. In particular, they gained automatic access to bank loans to generate working capital for export activities. Medium- and long-term loans for investment in export production were provided only to those enterprises that complied with the government's export plans. During 1970–1978, the share of soft loans in the structure of bank loans in South Korea increased from 40 to 70%, and the average government expenditure on this measure increased from 3% of GDP in 1962–1971 to 10% of GDP in 1972–1979 [13, p. 119]. The difference in interest rates for ordinary and soft loans granted by NIF was abolished in June 1982 [14, p. 175], while mechanism of preferential export crediting still functions.

Chemical and heavy industry enterprises were also exempted from income tax for the first three years after their establishment and paid half of that tax for the next three years. In 1975, these incentives were expanded by providing priority industries with an investment tax credit and accelerated depreciation of imported capital goods. These industries also enjoyed reduced marginal income tax rate of 20% instead of 50% [15, p. 276]. Manufacturers of chemicals, steel, non-ferrous metals, ships and electrical appliances enjoyed additional preferences, including exemption from import duties on raw materials and intermediates, as well as generous wastage allowances on imported inputs for export production. Companies with low profit margins that complied with government's export plans could receive temporary permits to import certain restricted (luxury or import-substituting) goods for re-export. Exporters also paid reduced prices for overhead inputs, including electricity and rail transport [16, p. 215–216].

Institutionally, the system of state support for "infant industries" in South Korea took the form of industrial parks and special economic zones, which proved to be a convenient mechanism both to administer government interference and to develop foreign economic activity infrastructure. In the context of foreign trade diversification, a special role was played by the Masan free trade zone – one of the first successful Korean SEZ that combined the functions of a classic industrial park and Porto Franco. It was established in 1970 to attract FDI in high-tech engineering. The enterprises of the Masan zone were completely exempted from customs duties, VAT and partially from paying income tax, and used simplified import procedures. Masan's location nearby seaport, railways, highways, as well as aircraft, ship and automotive industrial complexes largely contributed to the development of intersectoral linkages [1].

The state support was closely linked to the export activity in Korea. In order to receive preferences, enterprises were obliged to enter international markets to demonstrate their ability to compete with foreign producers and to prove that the benefits they received don't deprive them of incentives to further development. Export discipline stimulated companies to optimize production costs by achieving economies of scale and accelerating the introduction of new technologies. Lasting export earnings were essential to provide the country with foreign currency in order to acquire know-how and innovations. For enterprises that demonstrated proper export discipline, government licensed the receipt of foreign technologies. Authorities and businesses coordinated export directions, standards of quality control, changes in production capacities, etc. Companies that lost dynamism and the ability to implement government plans were deprived of significant amounts of support. (For comparison: subsidies provided to manufacturers to finance soft loans and tax preferences in export activities averaged 15.9% of production costs, while the corresponding subsidies for domestic sales averaged only 3.5% of production costs [14, p. 178]). Eventually, they left the market through mergers or acquisitions by more successful domestic competitors. Under strict discipline, several large conglomerates were finally formed in prioritized industries. They reached a high level of international competitiveness and developed world-renowned brands.

It is also important to mention the state's efforts to train specialized personnel in the chemical and heavy industries that proves comprehensive approach to the Heavy-Chemical Industry Drive implementation. To achieve HCI goals, Korea significantly expanded technical and vocational training, improved education in engineering and science, established government laboratories to conduct R&D. To provide enterprises of "infant industries" with highly qualified personnel, government opened a number of technical schools and provided employment guarantees to their graduates. Curricula prioritized practical training and encouraged students to obtain technical certificates early. In order to provide companies with engineers, Korea reformed higher education by specializing the universities. Universities had to choose one specialization related to the nearby industrial complex, if possible, and actively develop the training in that field to provide students with advanced engineering knowledge and skills. R&D laboratories were established on a sectoral basis in the form of five research institutes specialized in shipbuilding, metallurgy, chemical products, electrical appliances and mechanical equipment [2, p. 203, 205].

Based on close cooperation between authorities and business, implementation of HCI contributed to creation of leading industries (machinery and equipment, chemical, metallurgical, shipbuilding), as well as creation of a network of intersectoral links that further contributed to engineering development (particularly, in automotive industry). It also laid groundwork for transition to an innovative economy through expansion of technical and engineering education and establishing core research centers (Figure 1).

Since 1983, South Korea's export-oriented policy transformed from selective to horizontal and based on state support for R&D and manufacturing of high-tech products, regardless of industry. The further development of the Korean economy required to master more sophisticated technologies that were much more difficult to obtain from abroad than simpler technical solutions used to develop the chemical and heavy industries in previous decade. Attempts to intensify innovation growth by liberalizing access to FDI have not yielded tangible results, so the government

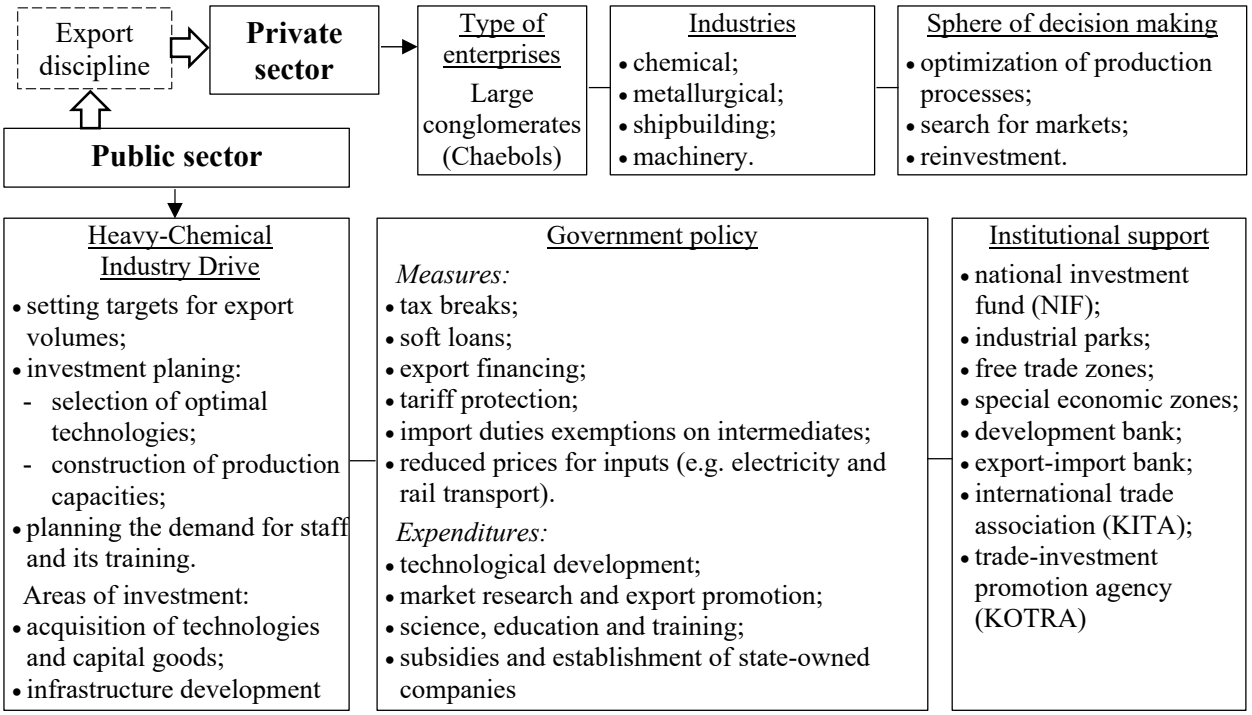

Figure 1. Cooperation of public and private sectors in the implementation of the Heavy-Chemical Industry Drive (1973–1983) in South Korea

Source: elaborated by the author

abandoned strategy of copying foreign technologies and focused on stimulating development of national innovations. Therefore, a set of incentives have been introduced. First, companies that invested in R&D and human capital were exempt from real estate tax, and received income tax benefits. Government reduced import duties on products needed for R&D. Second, a system of institutional support for innovation was established, in particular: Korea Technology Development Corporation (1981) – specialized state bank for financial support of commercialization of innovations; Korea Technology Finance Corporation (1989) – non-profit organization that provided guarantees for SME loans for creation and commercialization of innovative solutions in industry. Third, the government used public procurement to stimulate demand for technologies created by SMEs, as well as many other programs of support, providing legal advice, informing about innovations, assisting in technology transfer, etc. [3, p. 338].

As a result of this paradigm shift, government spending on R&D in South Korea increased significantly, but its share in total R&D expenditures declined. During 1980–1992, total R&D expenditures increased from 0.46 billion to 6.22 billion USD but the share of budget expenditures in financing R&D decreased from 64.0 to 17.6%. The ratio of R&D expenditures to Korea's GDP in this period increased from 0.77 to 2.17%, approaching the level of the United States (2.6%) and Japan (2.8%) [17, p. 105]. Thus, despite the expansion of public R&D expenditures, key contribution to rapid growth of investment in science and technology was made by incentives that encouraged private companies to intensify research activities.

In the second half of the 1980s, most government support measures implemented as part of the HCI were abolished. South Korea gradually liberalized its foreign trade and investment regimes participating in creation of a new global trade system that was institutionalized in the form of WTO in 1995. Export promotion policy was brought in line with multinational agreements, and government support took the forms of duty drawback, export insurance, trade missions, financing of exhibitions and fairs. Korean duty drawback system covers duties levied on imports of intermediates used to produce finished goods for export. The measure was introduced in 1975, but then its importance in government economic policy remained insignificant: the ratio of duty drawback to export was only 0.3%. By 1990, this ratio increased to 2.6%; government refunded 24.0% of duty revenues. These refunds reached 38.4% of duty revenues in 2001 [18, p. 52].

Similarly, the role of export insurance in state support mechanism changed over time. The Export Insurance Fund was established in 1969 but its contribution to export development remained insignificant until 1992 when government created Korea Export Insurance Corporation (KEIC) to finance the deficit of this fund. As a result, during the 1990s and 2000s, annual insurance payments in the country exceeded total insurance premiums by 1.2–3.3 times, and the share of insured exports increased from 0.8% in 1974–1976 to 35.3% in 2010 [18, p. 54–55].

The system of export promotion was expanded in 1995 with the establishment of the Korea Trade-Investment Promotion Agency (KOTRA), responsible for building a network of trade representatives (as of July 2020, there were 127 offices of Korean trade representatives in 84 countries), organizing and financing official trade missions, assisting in participation of Korean companies in international exhibitions and fairs [19].

Special emphasis should be placed on transformation of the role of industrial parks and SEZs in South Korea's economic policy in

the late 1990s. Since then, these mechanisms were redesigned for attracting mainly FDI. Most preferences (exemptions from certain taxes and fees for different periods and in different amounts depending on specific SEZ and investment volume) were reserved for foreign investors exclusively, and the main criteria for companies to enter industrial parks and SEZs and receive benefits were related to technology and innovation. Residents of parks and SEZs were no longer required to export to retain their preferences. Although direct link between tax incentives and export promotion has disappeared, industrial parks remain the key points of the Korean economy's export-oriented growth due to their prevalence and high competitiveness. During 2000–2012, the share of goods produced in industrial parks in South Korea increased from 51 to 69%, and the share of exported goods – from 59 to 81% [20, p. 134–135].

Comprehensive export-oriented industrialization effectively adapted to the new challenges led to radical restructuring of the Korean economy because of systematic increase of export potential in capital-intensive and high-tech industries (table 1).

In 1968–1998, Korean merchandize exports increased from 0.5 billion to 132.3 billion USD, and its ratio to GDP – from 10.1 to 39.5%. There have been radical shifts in exports structure. The share of high-tech engineering products (machinery, electrical equipment, vehicles) increased from 5.4 to 53.3%, while the share of crude materials and agricultural products decreased from 25.7 to 6.6%. The share of articles of apparel and footwear decreased from 27.1 to 4.1%, and the share of various goods of low and medium technologies (wood products, textile, etc.) decreased from 28.8 to 12.6%. The qualitative nature of structural changes was reflected in the outstripping dynamics of GDP growth per capita, the real level of which increased 8.6 times – from 1.5 thousand to 12.9 thousand constant USD, while the world average real GDP per capita increased only 1.6 times – from 4.9 to 7.8 thousand.

Taiwan's policy of export-oriented industrialization was essentially identical to the Korean one, as it combined tariff protection of "infant industries", export subsidies and fierce competition on the domestic market. The Taiwanese government provided soft loans to priority industries and encouraged export activities by subsidizing import and processing of raw materials to supply finished products to foreign markets. The domestic market was protected by high import duties but business enjoyed duty drawback or duty exemptions if it allocated capacities in the customs warehouses or in export processing zones, that is SEZs similar to Korean foreign trade zones. Newly established and "newly expanded" enterprises could take advantage of tax exemption for 4 or 5 years respectively, or accelerated depreciation on equipment, transport facilities, buildings and communications. State support has been selective since 1961, and transferred into a mixed selective-horizontal mode with introduction of the Statute on the Upgrading of Industry in 1990. During this period, Taiwan's state-run industrial development programs evolved and became more comprehensive. If at the beginning government made only exports requirements for support recipients, later it began to make demands also on R&D financing, energy saving and environmental protection [22, p. 61–62].

However, despite the similarity of regulatory tools and approaches to economy restructuring, Taiwan's experience has a number of notable features, primarily due to much smaller state support than in Korea. The share of government spending on soft loans and tax incentives to exporters reached 15.9% of total merchandize exports in South Korea in 1978. Overall expenditures on subsidizing Korean export reached up to 31% of this export in the 1970s. In Taiwan, budget spending on preferential export credits during the 1970s did not exceed 0.25% of exports volume. The overall level of export subsidies in Taiwan in this period is estimated at 10.7–12.0% of exports [1; 23, p. 235].

This contrast in the scale of government support can be explained by different ideas of Korean and Taiwanese elites on the importance of macroeconomic stability for the development of production and export potential. Monetary policy in South Korea was completely subordinated to the goal of industrial development, as the dependent central bank provided financing for the most promising projects, despite the current stage of the economic cycle and inflation. As a result, during 1965–1981 the country had one of the lowest levels of private savings in the region (average 7.6% of GDP) with an average inflation rate of 15%. Industrialization was financed by two-thirds through foreign loans (debt of industrial enterprises in 1972–1980 increased 1.5 times; this

Table 1

Dynamics of volumes and structure of the South Korean exports in 1968–1998, %

SITC product groups	1968	1973	1978	1983	1988	1993	1998
Food; live animals; beverages and tobacco	11,7	8,3	8,3	5,0	4,1	2,6	2,0
Crude materials; mineral fuels	14,0	7,2	2,9	3,4	2,1	3,7	4,6
Chemical and related products	0,7	1,5	2,7	3,1	3,1	6,0	7,7
Iron and steel; non-ferrous metals	2,7	8,0	9,0	13,8	9,2	10,0	9,0
Textile; wood manufactures	28,8	26,2	20,7	14,6	11,6	15,1	12,6
Machinery	0,9	1,8	1,7	2,9			4,8
Electrical apparatus and appliances	4,2	9,7	9,8	12,1	38,6	44,9	28,7
Road vehicles and transport equipment	0,3	0,7	8,8	17,1			15,7
Articles of apparel; footwear	27,1	26,5	25,6	20,2	20,6	10,3	4,1
Miscellaneous manufactured articles	9,6	9,8	10,1	7,6	10,5	7,0	5,3
Unclassified products	0,0	0,3	0,4	0,2	0,2	0,4	5,5
For reference:							
Merchandize exports, billion USD	0,5	3,2	12,7	24,4	60,7	82,2	132,3
Exports to GDP ratio, %	10,1	23,9	25,0	27,9	32,5	23,7	39,5
GDP per capita, constant 2010 thousand USD	1,5	2,3	3,5	4,6	7,4	10,4	12,9

Source: calculated and compiled by the author according to [21]

debt was almost 4.9 times the value of their assets; Korea's external public debt reached 28.8% of GDP in 1980). In contrast, Taiwan's attitude toward macroeconomic stability after the hyperinflation of the 1940s was more prudent, resulting in moderate inflation (average 8%), higher domestic savings (17.6% of GDP), and lower debt burden. The debt-to-assets ratio of Taiwanese industrial enterprises in 1980 was twice lower than that of Korean ones and did not change significantly, and Taiwan's external public debt was 12.1% of GDP [23, p. 243, 249, 261].

With limited financial resources, the Taiwanese government has abandoned the idea of creating national champions (large conglomerates). The focus was on small and medium-sized businesses and specific activities – manufacturing of semiconductors and computer equipment. The average Taiwanese enter-prise in 1976 was only half as big as the Korean, with 27 employees as against 69 in Korea. In 1981, the gross receipts of the largest Korean conglomerate "Hyundai" were three times as big as the gross receipts of the top ten private Taiwanese corporations combined [23, p. 224]. While Korea's tightly regulated financial market provided chaebols with sufficient resources to use the scale effect and produce their own innovations, the Taiwanese government opened national economy to FDI and encouraged local businesses to master leading technologies through subcontracting with multinational corporations. Unlike Korea, where fear of foreign capital prevailed in the early stages of industrialization, Taiwan actively attracted investment of global corporations on terms of building infrastructure and providing access to technology. Multinationals were not subject to any conditions regarding establishment of joint ventures or sharing their ownership with local firms in any other way. Instead, the government's efforts focused on building the ability of local firms to use and develop acquired technologies. Thus, the Electronics Research Service Organization (ERSO) was founded in 1974, and the Hsinchu Science-based Industrial Park (HSIP) was founded in 1980. They functioned as a business incubator and a platform for the commercialization of promising innovations [24].

Public R&D spending in Taiwan in the second half of the 1980s and early 1990s exceeded the corresponding expenditures in Korea, particularly by almost 1.5 times in 1992. As a result, a national semiconductor and computer industry emerged in Taiwan during the 1970s–1990s. Back in the 1970s, key stages of computer manufacturing were carried out exclusively at foreign corporations, while local companies specialized in the final assembly and testing. But as of 1984, the share of foreign corporations in the computer manufacturing decreased to 57%, in 1990 – to 30%, in 1995 – to 15% [25]. The dynamics was caused both by development of national production and by relocation of MNCs' capacities to other countries (primarily to China) in order to optimize costs.

Such industrialization policy led to radical restructuring of Taiwan's economy and diversification of its manufacturing and exports. The share of electronic equipment and semiconductors in exports increased from 2.7% in 1965 to 13.7% in 1981 and to 33.6% in 2011, and the share of heavy industry goods in exports increased from 32.3 to 82.9% in 1981–2011 [26, p. 311; 27]. However, in the early stages, pace of industrialization and export expansion in Taiwan was slower than in Korea. Average annual growth rate of Taiwanese manufacturing output in 1965–1981 was 15.5%, exports annual growth was 18.9%, compared to Korea's 20.6% of annual output growth and 26.0% of exports growth. However, Taiwan's policy based on macroeconomic stability yielded better socio-economic results for a while. In 1965–1981, Taiwan showed higher average growth rates of employment (3.7 vs. 3.4%), labor productivity (5.4 vs. 5.2%), and GDP per capita (6.9 vs. 6.7%) than in Korea, as well as higher life expectancy (72 vs. 65 years) and households provision with running water, televisions and automobiles [23, p. 216–217]. Having begun industrialization at the same time and at about the same level of development as Korea, Taiwan held the lead in terms of GDP per capita until 2004. Nonetheless, since the second half of the 2000s, Korea has advanced rapidly and by the end of 2018 its GDP per capita was 33.4% higher than in Taiwan [28]. In the long run, Korea's risky economic policy of creating national champions, which neglected macroeconomic stability during the period of active industrialization, laid the foundation for achieving a higher level of development than Taiwan's moderate strategy to support SMEs under strict fiscal discipline. Obviously, for such a long time the dynamics of development in both countries was influenced by other factors as well.

In the early 1990s, Poland's economy was characterized by an underdeveloped service sector and an excessive share of labor-intensive industries in GDP. The manufacturers of consumer goods predominantly used outdated technologies and could not compete in the international market. At the first stage of transition to the market economy Poland undergone radical liberalization (shock therapy) through reduction of import duties and rejection of "infant industries" concept, that provided a transition period of 5 years to adapt to highly competitive EU economic environment. This was accompanied by a refusal to protect the national producer and to develop any industrial strategy at all. Moreover, in order to accelerate privatization, restrictive fiscal measures were applied to state-owned enterprises, which included the introduction of a payroll tax and stricter depreciation rules. This policy stabilized the domestic market and reduced inflation, but damaged the industrial complex significantly, as 28% of Polish enterprises created in the time of administrative-command economy were closed eventually [6, p. 53–54].

To stop the collapse, the Industrial Development Agency was established in 1991 to increase efficiency of manufacturing and facilitate its restructuring. In addition, a number of anti-crisis programs were launched to support troubled enterprises that were not subject to privatization because of their strategic importance (mining, shipbuilding, defense industry). Thanks to the Agency's activities in 1991–1996, government managed to maintain and ensure the efficient functioning of the largest agricultural machinery producer and the national railway. Anti-crisis programs have contributed to partial success in reforming the country's coal industry and metallurgical complex. However, government support didn't have clear long-term goals at that time. It was unsystematic, focused on solving current issues and provided mainly as direct subsidies to enterprises that were on verge of shutdown [5, p. 35].

The systemic policy of industrial and export potential development in Poland began in 1994 with the adoption of the Special Economic Zones Act,

which proved to be an important tool in government's struggle for the successful transition to the market economy. Incentives for investing in Polish SEZs included complete exemption from income tax for the first 10 years and a 50% exemption from the income tax payment for the remaining years of SEZs' functioning. To enjoy these incentives, investors had to meet the following criteria: create and maintain for a specified period of time a certain number of new jobs linked to the investor's activity in a zone; reinvest into manufacturing in a zone permanently; to achieve and maintain, for a certain period of time, a certain level of income from goods and services produced in a zone; to achieve and maintain certain minimum level of income from export of goods and services produced in a zone. If investors didn't qualify for these criteria, they were allowed to enjoy alternative preferences: possibility to include a part of the expenses not related to purchase of capital goods in investment costs; and possibility to increase the depreciation rate of fixed assets. These preferences allowed investors to reduce tax base and, thus, pay lower income taxes. The corporate income tax rate in Poland was 40% until 1996. In 1997–2003, it was gradually reduced to 27% and eventually set at 19% with the country's accession to the EU in 2004. Given high level of income tax, SEZs exemptions served as a significant incentive for potential investors. SEZ residents also received benefits from local budgets, including full exemption from real estate tax [29, p. 188–189].

Since 2001, the Polish government, having previously harmonized state support mechanism with the EU acquis, changed the system of preferences for SEZs. First, each SEZ introduced its own criteria for investors to receive benefits; criteria were related to the use of innovations, cluster development, priority industries (engineering, chemicals, R&D, technical analysis, etc.). The scope of requirements for investors was tied to the level of industrial development and unemployment rate in the region where the SEZ is located. Investors could expect simpler requirements to receive benefits in SEZs located in regions with low industrial output per capita and high unemployment rate compared to the national average. Second, the full income tax exemption has been abolished, and the remaining benefits are provided in amounts not exceeding 50% of investments for large enterprises and 65% for SMEs. As a result of harmonization of state support system with EU acquis, the ratio of government expenditures on benefits for investors to GDP in Poland reduced from 2.6 to 1.3% during 1996–2002 [30]. At the same time, the role of SEZ management in providing favorable conditions for investment and production development increased significantly. SEZ administrations in partnership with local governments and universities launched educational programs, projects to develop labor market and overcome unemployment in rural areas. Competing for investors, SEZ administrations cooperate with universities in training highly qualified human resources for employment in zones, develop and conduct their own training courses, make labor force forecasts, etc. [31].

SEZs played an important role in the development and diversification of Poland's foreign trade during the period of market transformations. In 2004, enterprises in SEZs accounted for 0.6% of employees, 5.7% of private sector investment and 8.2% of exports. By 2015, they accounted for the same share of investment, 2.6% of employees, and 22.3% of exports. Investments came mainly in automotive industry, manufacturing of rubber and plastic products [32, p. 18–19], which, of course, influenced exports structural change (table 2).

At the initial stages of the transition to a market economy, negative changes were observed in Polish exports structure: in 1989–1992, the share of engineering products decreased sharply (from 30.1 to 18.9%), whereas there was an increase in the shares of crude materials, agricultural products, metals, footwear and articles of apparel. However, negative trends were soon overcome, thanks in part to a systemic investment promotion policy. In 2004, the share of engineering products in exports reached 38.9% (including machinery – 5.4%, electrical apparatus – 16.3%, road vehicles and transport equipment – 17.2%). The shares of plastics, rubber and miscellaneous manufactured articles also increased significantly, primarily due to increased exports of furniture and various professional equipment. During 1995–2004, number of exported products in Poland boosted from 2975 to 4647 items out of 5300 HS6 tariff lines. During 1989–2004, the value of merchandise exports increased more than sixfold – from 12.2 billion to 73.8 billion USD, the

Table 2

Dynamics of volumes and structure of the Polish exports in 1989–2004, %

SITC product groups	1989	1992	1995	1998	2001	2004
Food; live animals; beverages and tobacco	11,1	13,3	10,0	10,5	7,8	8,3
Crude materials; mineral fuels	16,9	18,6	12,7	8,3	8,3	8,0
Chemical and related products	7,9	8,5	7,7	6,7	6,3	6,4
Iron and steel; non-ferrous metals	14,9	18,2	16,5	13,3	11,4	11,8
Textile; wood manufactures; rubber; plastics	5,2	8,7	11,0	11,9	12,3	11,5
Machinery	6,6	4,0	4,5	5,4	4,9	5,4
Electrical apparatus and appliances	12,8	6,5	6,9	11,0	16,0	16,3
Road vehicles and transport equipment	10,7	8,4	9,6	12,0	15,5	17,2
Articles of apparel; footwear	3,3	5,9	11,2	9,4	6,2	3,4
Miscellaneous manufactured articles	4,1	5,7	9,7	11,3	11,3	11,7
Unclassified products	6,5	2,2	0,2	0,2	0,0	0,0
For reference:						
Merchandize exports, billion USD	12,2	13,2	22,9	28,2	35,4	73,8
Exports to GDP ratio, %	–	–	23,0	26,0	27,2	34,3
GDP per capita, constant 2010 thousand USD	5,9	5,6	6,5	7,7	8,6	9,6

Source: calculated and compiled by the author according to [33]

exports-to-GDP ratio reached 34,3%, and real GDP per capita increased 1.6 times.

The Czech Republic failed to pursue a systematic and consistent industrial policy due to the fierce confrontation between right-wing and left political forces. Targeted and comprehensive government support to promote investments was provided only in 1998–2006 [34, p. 86]. Companies willing to invest more than 10 million euros (5 million in regions with unemployment rate 25% higher than national average) enjoyed 10-years exemption from income tax and import duties, a 90-day VAT deferral on import of equipment, subsidies subject to the number of jobs created and the priority geographic areas, subsidies for retraining and educating employees, preferential land prices. At the end of the income tax exemption period, enterprises could receive partial tax rebates in case of reinvestment in the manufacturing development. The government also implemented Industrial Zone Development Support Program to prepare sites for immediate entry of investors by financing local infrastructure construction and land acquisition. The government also promoted cooperation between foreign investors and local suppliers by assisting the latter in achieving the necessary quality standards and establishing linkages with MNCs that launched business in Czech Republic [35].

Despite a short period of active state support, the Czech Investment Promotion Agency (a key government institution implementing industrial policy) during 1998-2006 organized effective operation of 102 industrial zones with 398 residents who invested about 6.5 billion USD and created 63.8 thousand jobs. Public investment in the development of industrial zones amounted to only 290 million USD. The share of engineering products in Czech exports increased from 29.3 to 52.6% during 1995–2006, and the exports-to-GDP ratio increased from 40.4 to 65.2% [36]. The rapid development of infrastructure and successful cases of investment projects realization combined with the Czech Republic's accession to the EU and the OECD ensured the continuity of the investment inflows and strengthened the structural changes of the economy.

Thus, structural shifts in the manufacturing and exports of Poland and the Czech Republic occurred with a relatively smaller (though important) role of the government than in South Korea and Taiwan, and under competition of economic paradigms that judged the appropriateness of active industrial policy differently. State support for structural transformations in Poland and the Czech Republic in the 1990s and 2000s was volatile and episodic. But despite the smaller role of government, it still has borne fruit, as the basic growth factor it relied on was FDI (FDI-led growth). Whereas in Korea and Taiwan, growth was achieved through the formation of a national industrial complex that developed under temporary protectionism and boosted competitiveness thanks to consistent export expansion (export-led growth). These two approaches led to quite different outcomes that can be traced from volumes and vectors of FDI flows in analyzed countries (table 3).

During 1990–2019, the ratio of inward FDI to Korea's GDP increased from 1.8 to 14.3%, and in Taiwan – from 5.8 to 16.4%, while in Poland this indicator reached 40.3%, and in Czech Republic – 69.6%. So, inward FDI, despite all attempts to attract it, was not the biggest driver of economic development for South Korea and Taiwan. While Korea's industrial potential development was built on external loans, Taiwan's – on domestic savings and temporary collaboration of local businesses with MNCs, the development of Poland and the Czech Republic was built thanks to outsourcing some production processes to them by global corporations [38, p. 35]. Poland and the Czech Republic took advantage of MNCs that build global value chains (GVCs), territorially dispersing different stages of production processes in order to benefit from competitive advantages of other countries. Thus, the industrial complexes of Poland and the Czech Republic, formed mainly by foreign investment, became elements of large international value chains, the effective functioning of which required the intensification of foreign trade (this explains needlessness of "infant industries" concept and fast elimination of tariff protection). On the other hand, Taiwan and later South Korea became global investors. Korea and Taiwan's outward FDI in 2019 exceeded their inward FDI stock by 1.8 and 3.6 times, respectively.

Such a fundamental difference in economic diversification strategies caused dissimilar outcomes of structural changes in foreign trade. Poland's manufacturing export is dominated by medium-tech (43.2%) and labor-intensive (19.9%) goods, whereas

Table 3

FDI stock, inward and outward, in 1990–2019

Countries and indicators		1990	1995	2000	2005	2010	2015	2019
Poland	FDI inward, billion USD	0,1	7,8	33,5	86,3	187,6	186,0	236,5
	FDI inward, % of GDP	0,2	5,5	19,5	28,2	39,1	39,0	40,3
	FDI outward, billion USD	0,1	0,5	0,3	1,8	16,4	27,5	24,8
	FDI outward, % of GDP	0,1	0,4	0,2	0,6	3,4	5,8	4,2
Czechia	FDI inward, billion USD	1,4	7,4	21,6	60,7	128,5	116,6	170,7
	FDI inward, % of GDP	3,5	12,3	35,1	44,5	61,9	62,4	69,6
	FDI outward, billion USD	0,0	0,3	0,7	3,6	14,9	18,6	45,4
	FDI outward, % of GDP	0,0	0,6	1,2	2,7	7,2	9,9	18,5
Korea	FDI inward, billion USD	5,2	18,2	43,7	104,9	135,5	179,5	238,6
	FDI inward, % of GDP	1,8	3,2	7,6	11,2	11,8	12,3	14,3
	FDI outward, billion USD	2,3	13,3	21,5	38,7	144,0	285,9	440,1
	FDI outward, % of GDP	0,8	2,3	3,7	4,1	12,6	19,5	26,5
Taiwan	FDI inward, billion USD	9,7	15,7	18,9	42,6	61,5	65,3	100,6
	FDI inward, % of GDP	5,8	5,6	5,7	11,4	13,8	12,2	16,4
	FDI outward, billion USD	30,4	42,6	66,7	103,3	190,8	302,6	362,5
	FDI outward, % of GDP	18,2	15,3	20,2	27,6	42,9	56,1	59,2

Source: calculated and compiled by the author according to [37]

Korea's one – by high-tech manufactures (53.3%). Since joining the EU, Poland has been lagging behind in terms of the share of high-tech goods in exports, which ranged from 12.3 to 18.8% [7, p. 7]. The Czech Republic has one of the highest share of over-skilled workers (16%) among the EU countries [39, p. 79]. Obviously, concentrating a number of production stages abroad, MNCs don't hurry to transfer their advanced technologies internationally. So they use their foreign subsidiaries mainly to perform traditional labor-intensive tasks. Hence, Poland and Czech Republic have low ratio of R&D expenditures to GDP (1,21 and 1,93%, respectively) compare to South Korea (4,81%) or even world average (2,27%) in 2018 [40].

The export-oriented industrialization of Asian Tigers during 1970–1990s led to better economic performance and laid a stronger foundation for long-term growth than the integration into GVCs of the post-socialist countries of Central and Eastern Europe in the 1990s – the first half of the 2000s, though both approaches led to positive structural changes in production and foreign trade of the respective countries. Despite the application of similar tools and mechanisms of industrial policy to create favorable conditions for attracting investment in priority industries, the key difference between the two diversification approaches consists in the sources of growth. The first approach focuses on cultivation and export expansion of national businesses that develop and control world-famous brands, the second one – on integration into existing international value chains and abandoning ambitions to raise own MNCs. In the first case, territories with preferential investment and business conditions (SEZs, industrial parks, industrial and foreign trade zones, etc.) function mainly as "incubators" for the "infant industries" that are subject to both tariff protection and export discipline. In the second case, these territories function as centers for attracting FDI and organizing effective cooperation along the value chain through the liberalization of investment and foreign trade regimes.

Conclusions. The experience of a number of countries that have successfully restructured their economies on the basis of manufacturing and export diversification, proves the exceptional role of government in implementation of such development strategy. Numerous fiscal incentives to attract investment in promising sectors of the economy, facilitating access to advanced foreign technologies and innovations, active involvement in development of R&D and education sectors, implementation of large-scale infrastructure projects combined with comprehensive and effective institutional system of state support (industrial and science parks, foreign trade zones and other SEZs, export insurance and credit agencies, trade missions) were crucial for the fast transition of Asian tigers to higher stages of development, and significantly contributed to market transformations in post-soviet Central & Eastern European countries.

However, their approaches to apply state support instruments have fundamental differences. In Korea and Taiwan "infant industries" were cultivated under temporary tariff protection from foreign competition, while competing in the domestic market under strict export discipline. Industrial parks and SEZs functioned as "incubators" for the establishment, development, export and investment expansion of national brands of capital-intensive and high-tech products. Poland and the Czech Republic have chosen to integrate into existing global value chains by taking over certain production processes from leading MNCs. For this purpose, industrial sites with preferential investment conditions were used primarily as centers for attracting FDI and organizing cooperation along value chains through the liberalization of investment and foreign trade regimes. This approach to diversification led to abandonment of tariff protectionism and ambitions for the global expansion of national brands. Although both approaches have provided radical structural shifts in manufacturing and foreign trade, export-oriented industrialization of Asian tigers has proved to be more effective than integration into the global value chains of Central and Eastern European countries in terms of technological progress and economic growth. On the other hand, implementation of Asian tigers' approach required large-scale and continuous state intervention in the economy, while the Central European one succeed without a consistent industrial policy.

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ЕКОНОМІЧНЕ ЗРОСТАННЯ ЧЕРЕЗ ДИВЕРСИФІКАЦІЮ ЕКСПОРТУ: ДОСВІД АЗІЙСЬКИХ ТИГРІВ ТА КРАЇН ЦЕНТРАЛЬНО-СХІДНОЇ ЄВРОПИ

Резюме
У статті розглянуто два підходи до досягнення стрімкого економічного зростання шляхом диверсифікації виробництва та експорту товарів: експортно-орієнтована індустріалізація і інтеграція у глобальні ланцюги створення вартості. Перший підхід проаналізовано на основі досвіду розвитку Південної Кореї та Тайваню в 1970–1990-х рр. Проаналізовано економічну політику цих держав у вказаний період, визна-

чено особливості її втілення і вплив на загальну структуру виробництва та експорту. Розкрито сутність експортної дисципліни і її значення для ефективної реалізації механізмів державного стимулювання промисловості азійських тигрів. Охарактеризовано деякі прикметні особливості, які відрізняють досвід економічної політики Тайваню і Кореї та визначаються різним ставленням цих країн до макроекономічної стабільності при реалізації стратегії експортно-орієнтованої індустріалізації. Стратегію інтеграції у глобальні ланцюги доданої вартості досліджено на прикладі європейської інтеграції Польщі та Чеської Республіки протягом 1990-х – першої половини 2000-х років. Виявлено причини та наслідки відмови цих держав від використання концепту «галузі-початківці» й специфіку використання ними спеціальних економічних зон як механізму забезпечення випереджаючого зростання. Визначено ключові відмінності між двома розглянутими підходами у сферах економічної політики уряду, ключових драйверів зростання і результатів реформ. Розглянуто роль уряду в забезпеченні диверсифікації економіки й експорту. Окреслено передумови і причини успішної трансформації економіки Польщі та Чехії за менш послідовного й масштабного втручання держави в господарські процеси, ніж у Кореї та Тайвані. Дано оцінку впливу прямих іноземних інвестицій на реструктуризацію економічної системи держави за двома визначеними підходами. Проведено компаративний аналіз ефективності експортно-орієнтованої індустріалізації та інтеграції у глобальні ланцюги доданої вартості в контексті здійснення якісних структурних зрушень у національній економічній системі і загального зростання добробуту громадян.
Ключові слова: експортно-орієнтована індустріалізація, глобальні ланцюги доданої вартості, диверсифікація, державна підтримка, експортна дисципліна, спеціальні економічні зони, ПІІ, НДДКР.

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ЭКОНОМИЧЕСКИЙ РОСТ ЧЕРЕЗ ДИВЕРСИФИКАЦИЮ ЭКСПОРТА: ОПЫТ АЗИАТСКИХ ТИГРОВ И СТРАН ЦЕНТРАЛЬНО-ВОСТОЧНОЙ ЕВРОПЫ

Резюме
В статье рассмотрено два подхода к достижению стремительного экономического роста за счет диверсификации производства и товарного экспорта: экспортно-ориентированная индустриализация и интеграция в глобальные цепочки добавленной стоимости. Первый подход проанализирован на основе опыта развития Южной Кореи и Тайваня в 1970–1990-е годы. Второй рассмотрен на примере европейской интеграции Польши и Чехии в 1990-х – первой половине 2000-х годов. Выявлены ключевые различия между этими двумя подходами в сферах экономической политики, важнейших драйверов роста и результатов реформ. Рассмотрена роль государства в обеспечении диверсификации экономики и экспорта. Проведен компаративный анализ эффективности экспортно-ориентированной индустриализации и интеграции в глобальные цепочки добавленной стоимости в контексте обеспечения структурной трансформации и общего роста благосостояния граждан.
Ключевые слова: экспортно-ориентированная индустриализация, глобальные цепочки добавленной стоимости, диверсификация, государственная поддержка, экспортная дисциплина, специальные экономические зоны, ПИИ, НИОКР.