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STATE STRATEGIES IN PROMOTING AUTOMOTIVE MANUFACTURING INVESTMENTS - THE CASE OF HUNGARY AND TÜRKIYE

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State strategies in promoting automotive manufacturing investments - the case of Hungary and Türkiye[1]

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Abstract

The automotive industry is a key driver of the economic and technological catch-up process. Its development is therefore a priority in state development policy. This does not only mean direct financial support, but also tax policy or labour market regulation. Unilateral changes to the rules of employment, or policies leading to the dominance of labour-intensive activities, can in the long term undermine a country's competitiveness, preventing it from adding value and moving up the global value chain.
In many respects, Hungary and Türkiye share similar characteristics. The automotive sector is of high strategic importance in both countries. The politico-economic set-up of the two countries also has many similarities in terms of authoritarian centralized decision-making and neoliberal policy elements (tax system, labour laws, social policy, etc). The same pattern of economic policies results in the development of a unilateral support policy in both countries. At the same time, due to the domestic capabilities of the automotive industry, many differences can be discovered in terms of results.
During the research, the authors point out the parallels between state strategies and evaluate the successes and the negative consequences of economic policy choices.

JEL: L62, F23, O25, P11

Keywords: automotive, industrial policy, multinational corporations, Hungary, Türkiye

1. Introduction

The automotive industry has a leading role in exports for both Hungary and Türkiye (OSD, 2022a; MAGE, 2022). The two countries also play a significant role in European road vehicle production, Türkiye is the second largest manufacturer of commercial

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vehicles in Europe (OSD, 2022a), while Hungary is one of the production centres of German automotive companies (Stefanovics & Nagy, 2021; Török, 2022) and the main target of investments in electromobility in the recent period. In the development and modernization of middle-income economies integrated through global value chains, the automotive industry plays a prominent role (Brid, 1996). Therefore, in the case of governments in their investment promotion programs, automotive investments are given special emphasis in the case of Central European countries (Szent-Iványi, 2017) and Türkiye (Loewendahl & Ertugal-Loewendahl, 2001).

Hungary and Türkiye have developed their economic institutions in quite different ways in the twentieth century. While Hungary had to re-create the capitalist system with private owners as the core economic actors, in the case of Türkiye, despite active involvement of the state in the economy, private companies were always part of the institutional setting. Still, in the 1990's and the early 2000s, a similar process of privatisation went on in the two countries, with most of the remaining state assets becoming privately owned.

In the CEE region, and especially in Hungary, the foreign private capital had an eminent role in the privatisation process, and due to the inflow of FDI, foreign capital had an increasing role in the economies, creating a dependent type of capitalism in many countries of the region. In the case of Türkiye, despite the presence of foreign capital, the domestic capital groups had a much stronger position in the economic sphere. What makes the comparison of the two countries more exciting, are the similar political and economic processes occurring: populist and illiberal type regimes with strong domestic political support, authoritarian centralized decision-making and neoliberal policy elements (tax system, labour laws, social policy, etc.) started to reshape the economic institutional framework to help their political and economic ambitions.

Our research set up three areas of investigation, where we would like to compare the two countries and find some common elements in their development and opportunities:

RQ1: What are the current trends and development opportunities for the automotive industry in the two countries?

Though the size of the domestic markets for automobiles is different, their position in the global value chain (GVC) of car manufacturing is similar. Are they on a similar development path? Do they have the same opportunities in production and in upgrading?

RQ2: How do governments try to promote automotive investments? Can these investments help in the upgrading of the sectors?

By taking a closer look on the investment promoting systems in the two countries, we compare the basic principles and aims of these support mechanisms, and also the place of the car manufacturing in this system, with a special regard on the electric car segment.

RQ3: What are the similarities in the political economic background of subsidies? How much do these subsidies fit into a wider framework of economic policy?

During the research, we point out the similarities between the state strategies and evaluate the successes and the negative consequences of economic policy choices, with a special regard on the development-enhancing aspects of state support, and on the institutional framework of development policy.

2. The Turkish and Hungarian automotive industries in a nutshell

The development of the Turkish and Hungarian automotive industry followed different paths in the 1960s and 1970s after the Second World War. While Hungary specialized in the production of buses and trucks, in Türkiye, after the production of tractors and heavy and light commercial vehicles, the industrial policy aimed to start the production of passenger cars. While the nineties brought radical changes in Hungary with the collapse of the previous production structure and the loss of markets (Havas, 1995), in Türkiye they were able to adapt the previous development model to the new circumstances. At the same time, thanks to foreign capital investments from the nineties, both countries were integrated into the global automotive value chains (Aydoğan, 2017). This created a fundamentally different situation/heritage in the possibilities of vehicle production in the two countries.

Hungary, from bus manufacturing to EV battery superpower

Car production in Hungary was discontinued after the Second World War due to the new industrial policy. The resumption of road vehicle production was based on the Soviet-Hungarian specialization agreement signed in 1964 (Havas, 1995), which designated bus production for Hungary within the socialist bloc (COMECOM).[3] By merging the existing production capacities in the 1960s, the largest bus factory of the former socialist bloc was created under the leadership of the Ikarus Body and Vehicle Factory. Among the suppliers we find Hungarian companies such as Csepel Autógyár or Rába. These two also played a significant role in independent truck production. The integration and technological cooperation (know-how and license) in the international (primarily Western, capitalist) automobile industry was partial, covering only parts that could not be produced in Hungary (Kozma et al., 1982).

The history of the Hungarian commercial-vehicle manufacturers has developed differently. Ikarus buses were sold mainly in socialist countries but exported also to many developing countries to the Middle East and other Third World countries in Africa. After 1990, sales in the former socialist markets fell sharply. During the earlier successful years, product developments were neglected. Under the conditions of competition and market economy, the undercapitalised company became indebted, the multiple privatizations were not beneficial, and the successor company has not maintained the serial production (Bódy, 2015).

Hungary's position in commercial vehicle production is marginal compared to the pre-1990 period. The change of regime also adversely affected Rába (Germuska & Honvári, 2014), partly due to the loss of its own markets and partly due to the indebtedness of its partners (Ikarus, Csepel). Following a successful reorganization, the company is now the world's biggest independent axle supplier. Major manufacturers are all foreign companies such as Schwarzmüller (towed commercial vehicles) or Chinese BYD which manufactures electric buses and bus chassis. The Chinese manufacturer established its assembly plant in Komárom in 2016. Only domestic manufacturer

[3] The Council for Mutual Economic Assistance (COMECOM) was created by the Soviet Union in 1949. Its ultimate purpose was political, not economic, consolidation of the socialist countries.

Kravtex-Kühne (Credobus) depends on the domestic market, where government purchases account for a large share of revenue (Magyarbusz, 2021).

Hungarian car assembly began after the 1990s. First, Suzuki built an assembly plant in the early nineties, the first car was completed in the Esztergom unit in 1992. At the same time the Opel factory in Szentgotthárd was established, where at first cars were assembled, and later only engines were produced. At Audi in Győr, the development was the other way around, initially they made engines (see Table 1.), but only after 1998 did they start assembling cars. The newest car assembly plant is the German Mercedes plant in Kecskemét, which opened in 2012. The fifth car factory in Hungary is being built by the German BMW, but the investment was hindered by the market uncertainties due to the Covid-19 pandemic, so the start of production will be postponed to 2025.

In the past three decades, the Central-Eastern European region has become a systematic relocation destination for foreign multinational machine and vehicle manufacturers, and thus has become part of the supplier pyramid (Klauber et al., 2011). A whole chain of suppliers appeared; the large OEMs were followed (ie. follow sourcing) by the global Tier 1 suppliers, and a significant number of Tier 2 suppliers as well (Humphrey & Memedovic, 2003). Global suppliers are present (among others: Bosch, Continental, Denso, Knorr-Bremse, Lear, Johnson Controls, Valeo, ZF) in Hungary. Production partly serves domestic car factories, but mostly supplies external markets. Among the domestically owned companies, there are few direct (Tier-1) suppliers (Gerőcs & Pinkasz, 2019a). However, some indigenous companies have successfully integrated into the global value chains. Some former automotive suppliers such as Rába Mór Kft. or Videoton Holding, have adapted to the new situation after 1990 and are still operating. Others, such as Ajkai Elektronikai Kft., Fémalk Zrt., HAJDU Autotechnika Zrt. or Pemü Zrt., are new entrants in the automotive industry.

Table 1, OEM's production in Hungary
Number, in 2021

Company	Product	Production
Audi	car	171,015
	ICE	*1,620,767*
	EV motor	*100,000*
Mercedes-Benz	car	138,000
Opel	ICE	n.a.
Suzuki	car	107,974
BYD	bus	n.a.
Total		**394,302**

Source: Authors' compilation based on companies' financial statements

After 2016, a noticeable change took place in the case of automotive investments, with significant foreign capital flowing into electromobility, and into the development and production of new automotive solutions. In addition to the production (Audi) and assembly of the main units of electric vehicles, significant investments were directed into vehicle battery production (see Table 2.). Since 2016, according to government data, Hungary has received more than 5.29 billion euros of foreign direct investment in battery production, and nearly 14,000 jobs have been created (ITM, 2021). Many of the large investments, like SK Innovation's Gigafactory in Iváncsa, which will produce batteries for about half a million EVs per year, are among the largest greenfield project (HIPA, 2021) and the largest receiver of state aid in Hungary to date (K-Monitor, 2020). Thanks to significant investments, by 2025, Hungary could be the second largest battery producer in the EU after Germany (Bockey & Heimes, 2022).

While car assembly companies came mainly from Europe, the main investors in the production of battery cells and modules for electric vehicles in Hungary are the leading Asian (South Korean, Japanese and Chinese) companies, who supply the European market from here (i.e. export-platform type of FDI). The largest investors are South Korean companies (see Table 2.). Samsung SDI started assembling batteries in the former monitor manufacturing plant in Göd, near Budapest, in 2017, and then

continuously expanded production in the following years. SK Innovations will build its next battery plant in Iváncsa (34 kilometres from Budapest) having already one in Komárom (74 kilometres from Budapest), which was established in 2018. In addition, the Japanese GS Yuasa and South Korean Inzi Controls have established plants in Hungary. The Chinese battery manufacturer Contemporary Amperex Technology (CATL) announced in 2022 that it will establish its second European plant in Debrecen in eastern Hungary. According to official data, the amount of the investment is EUR 7.34 billion (HIPA, 2022), which is Hungary's largest single-sum greenfield investment to date. The factory with an annual capacity of 100 GWh will be a strategic supplier of BMW, Stellantis and Volkswagen (Bloomberg, 2022).

Together with the start of battery production, Tier 2 and Tier 3 suppliers also appeared. These are mainly South Korean companies (Dongwha, Doosan, Lotte Aluminium, Sangsin EDP, SungEel Hitech), but there are also Japanese (Mektec, Toray) and Chinese (Semcorp, Shenzhen Kedali Industry, W-Scope Corporation) affiliates. As mentioned, the Hungarian government has also provided significant financial support to the newly established battery manufacturers and to the extension of the existing ones. Therefore, if all state contributions (support for jobs creation, infrastructure support etc.) are calculated, the estimated state aid can in some cases be up to ten times the official support. (gh7.hu, 2019). For some investments related to automotive industry, the amount of state aid is much higher (see Table 7).

Table 2, EV battery manufacturers and related suppliers in Hungary

Company	Ownership	Products	Location	Year of investment/announcement
SK Innovation	South Korea	battery cell	Komárom	2018
			Iváncsa	2021
Samsung SDI	South Korea	battery cell	Göd	2017
GS Yuasa	Japan	battery cell	Miskolc	2019
Inzi Controls	South Korea	battery part	Komárom	2020
CATL	China	battery cell	Debrecen	2022
BMW	Germany	battery cell	Debrecen	2022
Suppliers				
Toray/Zoltek	Japan	battery separator foil	Nyergesújfalu	1995
SungEel Hitech	South Korea	Battery recycling	Szigetszentmiklós	2017
Bumchun Precision	South Korea	Aluminium battery terminals for electric vehicles	Salgótarján	2018
Sangsin EDP	South Korea	battery frames	Jászberény	2018
Lotte Aluminium	South Korea	Aluminum anode foils	Tatabánya	2019
Shinheung Sec	South Korea	battery frames	Monor	2019
Mektec/enmech	Japan	battery parts	Pécel	2020
Solus Advances Materials/Doosan	South Korea	copper foil factory	Tatabánya/Környe	2020
Dongwha	South Korea	electrolyte and recycling	Sóskút	2021
EcoPro BM	South Korea	electrolyte	Debrecen	2021
Iljin Materials	South Korea	copper foil factory	Gödöllő	2021
KDL Shenzhen Kedali Industry	China	battery parts	Gödöllő	2021
Semcorp	China	battery separator foil	Debrecen	2021
Soulbrain	South Korea	electrolyte	Tatabánya	2021
W-Scope Corporation	China	battery parts	Nyíregyháza	2022

Source: Authors' compilation

Türkiye – organic development with domestic companies

In contrast to the Hungarian automobile industry, from the 1950s we can observe an organic development in the field of road vehicle production, which, in addition to the strengthening of domestic companies, meant the import of significant foreign capital and technology. The beginning of the Turkish car industry dates back to the 1950s. Motorization has necessitated the production of heavy and light commercial vehicles and tractors mainly in industry and agriculture (Taymaz & Yılmaz, 2017). The first tractor factory, Türk Tractör, was established in 1954 with the assistance of the US Marshall Plan. The First Five-Year Development Plan (FYDP) between 1963 and 1967 gave impetus to Turkish car production, as a special role was assigned to car production in the industrial development plan (Yücel, 2015). Between 1963 and 1967, factories were founded one after the other. In 1963 the Otokar (bus and military vehicle manufacturer), in 1966 the joint venture between the Turkish Anadolu Group and the Japanese Isuzu Motors was established Anadolu Isuzu Otomotiv Sanayi ve Ticaret AS, BMC (trucks, buses, military vehicles), followed by the Karsan (light commercial vehicles and buses) and the MAN (light commercial trucks and later buses) factories. A year later, in 1967, the local Mercedes Benz (buses) plant was founded. Turkish passenger car production began in 1966 at the Otosan factory in Istanbul. The Turkish company signed a license agreement with Ford in 1977, and the company's name was changed to Ford Otosan. The import substitution policy of the 1960s and 1970s prioritized the development of domestic industry. The duties imposed on imports and subsidies for increasing domestic supply/added value have proven to be successful. The growth started, the number of products produced/assembled in Türkiye increased, the growing consumption was able to be met from domestic sources to a greater extent than before.

The second FYDP (1968-1972) is associated with the establishment of two major car manufacturers. In 1968, the automobile factory TOFAŞ (Türk Otomobil Fabrikası Anonim Şirketi) was established as a joint venture between Koç Holding and FIAT. In 1969, the Turkish OYAK and the French Renault jointly founded a car factory. The importance of the two factories lies not only in the strengthening of Turkish passenger car production but compared to the commercial vehicle factories founded in the 1960s, the two car factories handled a much larger production volume. While less than 4,000

cars were produced in 1970, by 1975 production had increased to 72,000 (Taymaz & Yılmaz, 2017). Thanks to import substitution policies and the increase in automotive output, the domestic supplier network in the Marmara region of western Türkiye has also strengthened. From 1980, a new period began in the Turkish economy, the previous import substitution policy was replaced by the export promotion policy at the suggestion of the IMF and the World Bank. Liberalization also took place in terms of financial regulation, in 1987 the Foreign Investment Law was changed, which made investments in Türkiye easier and more attractive (Aydoğan, 2017). In 1989, as part of trade liberalization efforts and in preparation for a customs union agreement with the European Economic Community (EEC), the Turkish government began to gradually reduce tariffs on car imports. Its increasing imports encouraged companies to make new investments, which also increased vehicle production output. The turning point was the tightening of relations with the EEC and the customs union agreement, which gave new impetus to investments. In the 1990s, three new Asian car factories were established. Toyota established its plant in 1990, and in 1992 the Turkish Anadolu Group and Honda founded their joint car factory. In 1994, the Korean Hyundai Motor jointly founded a factory with the Turkish Kibar Holding. The creation of joint factories with local companies was already an investment technique used in the past. In the nineties, due to the significant bureaucracy, foreign companies preferred to choose influential Turkish companies for their investments, minimizing bureaucratic obstacles.

Until the 2000s, the automotive companies' investments in Türkiye primarily targeted production for the domestic market. After the 1996 customs union agreement with the European Union, export-oriented investments serving the European market accelerated (TCTB, 2022). After the agreement the composition of Turkish exports has changed, the textile and agricultural products that previously dominated exports have been replaced by automotive and machinery products (Eralp et al., 2021). The Turkish automotive industry was integrated into the network of European businesses (Yalcin & Felbermayr, 2021). In the 2000s, foreign companies increased their production by establishing new plants (Ford in 2001) or expanding existing ones (Toyota and Hyundai Assan). The Turkish automotive industry has appeared on the global automotive market with its high-quality products, a significant increase in production has been observed

since the 2000s thanks to domestic and foreign investors (OSD, 2011). From the production of 400-500 thousand pieces before the 2000s, the assembly increased to 1.2 million by 2008 (OSD, 2022b).

The establishment of Türkiye's newest car factory was announced in 2017 by Turkish President Recep Tayyip Erdoğan. The announcement did not come from the president by chance, as the creation of the car factory was a political decision, the aim of which was to create an independent and globally competitive Turkish car brand. Large Turkish companies participated in the joint venture (Anadolu Group, BMC, Kök Group, Turkcell, Zorlu Holding and TOBB). The plant located in Gemlik (Bursa province) started production at the end of 2022. The plant is planned for an output of 175,000 units (Deutsche Welle, 2022).

Table 3, OEM's production in Türkiye

Number, in 2021

Company	Ownership	Products	Production
Anadolu Isuzu Otomotiv Sanayi (A.I.O.S.)	Türkiye, Japan	pickup, midibus	4,066
Ford Otosan	Türkiye, U.S.	pickup, minibus	348,029
Hattat Traktör	Türkiye	tractor	6,943
Honda Türkiye (ceased production at the end of 2021)	Japan	car	21,733
Hyundai Assan	Türkiye, Japan	car	162,095
Karsan	Türkiye	pickup	3,437
Mercedes Benz Türk	Türkiye, Germany	heavy truck	24,092
MAN Türkiye	Türkiye, Germany	bus	1,624
Otokar	Türkiye	bus, midibus	2,237
Oyak Renault	Türkiye, France	car	248,000
Temsa	Türkiye	midibus, light truck	1,862
Tofaş	Türkiye	car, pickup	228,544
Toyota	Japan	car	230,421
Türk Traktör	Türkiye	tractor	48,560
Total			**1,331,643**

Source: OSD (2022b): Automotive Industry Manufacturing Bulletin 12 / 2021

The automotive parts and components industry also successfully attracted foreign investors. 30 of the world's 50 largest suppliers are present in Türkiye (Investment Office of the Presidency of the Republic of Türkiye, 2022). Tier 1 suppliers (like Bosch, Cummins, Delphi, Denso, Faurecia, Magna, Toyota Boshokumi, Valeo, Yazaki, ZF) have established their presence in the country by foreign direct investments or joint ventures with a Turkish entrepreneur (Ulusoy et al., 2011). At the same time, the proportion of local content is low (Yülek et al., 2020). However, almost all of the Tier 2 and 3 companies (locally owned small enterprises) of the supplier network are Turkish companies (Simsek, 2019).

The supplier industry in Türkiye managed to survive in the export-oriented market policy regime by merging with foreign firms and/or performing R&D and innovation led by foreign firms and joint-ventures. This helped Turkish firms to survive amidst fierce global competition at the expense of independence on strategic decision-making (Akmocak & Bürken, 2019)

Türkiye does not yet have factories producing batteries for EVs. In 2020, Aspilsan Enerji owned by the Turkish Armed Forces, started the construction of Türkiye's first li-ion battery factory with an annual capacity of 220 MWh. The first battery factory created for the production of electric cars is a joint investment of the Automobile Initiative Group (TOGG) and the Chinese-US Farasis in 2021. The plant with an annual output of 20 GWh will be in Gemlik located in north-western Bursa province. However, the biggest one will be the joint factory of SK On (formerly SK Innovation) and Ford. In March 2022, South Korea's SK On signed a preliminary agreement with US Ford and Türkiye's Koc Holding to establish an EV battery factory in Türkiye. The plant, realized with an investment of 3.2 billion dollars, would start operation in 2025 and they intend to supply the European markets with an annual production of 45 GWh. However, according to reports from January 2023, in view of the uncertain global and European (Russian-Ukrainian war) situation, the Korean side is considering withdrawing from the cooperation (Just Auto 2023). The company has significant capacities in Europe (in Hungary) and, due to the uncertainty of EV sales, can also serve OEMs with these plants.

Position of the two countries in the global automotive industry

Thanks to political and economic changes and significant foreign investments, both countries have become an integral part of the automotive global value chains and international trade through significant exports over the past three decades (Aydoğan, 2017; Antalóczy & Sass, 2003). At the same time, the nature of the automotive industry in the two countries is different due to its size and development trajectory. On the one hand, in Hungary, in addition to car assembly, significant investments were made in the production of main components (engines and engine parts) and parts, while in Türkiye, vehicle assembly dominates. In 2021, Hungary ranks 12th in European road vehicle production (including Russia and the United Kingdom) (OICA, 2022). The Turkish vehicle industry is the 13th largest globally, while the 5th largest in Europe. Türkiye's production of commercial vehicles is outstanding (trucks, buses), it ranks first in Europe (OICA, 2022).

Table 4, The ten largest export partners in 2021

Automotive products* thousand US Dollar and percent of total

Hungary		
Partner	**Exported value**	**Percent**
Germany	8,142,354	37.2
Slovakia	1,119,677	5.1
France	1,080,648	4.9
Türkiye	1,005,091	4.6
Italy	979,371	4.5
U.K.	933,816	4.3
Spain	703,334	3.2
Czechia	654,139	3.0
Austria	597,341	2.7
Belgium	590,649	2.7

Türkiye		
Partner	**Exported value**	**Percent**
France	3,216,997	12.9
Germany	2,922,571	11.7
U.K.	2,858,063	11.4
Italy	2,243,730	9.0
Spain	1,406,246	5.6
U.S.A.	1,124,168	4.5
Slovenia	1,056,120	4.2
Belgium	996,775	4.0
Poland	991,970	4.0
Israel	506,092	2.0

*H.S. Code '87' Vehicles other than railway or tramway rolling stock, and parts and accessories thereof

Source: International Trade Centre, 2022

In Hungary, automotive growth has been export-led (Túry, 2014; Rechnitzer et al., 2017; Stefanovics & Nagy, 2021) from the nineties, and on average 90 percent of production is exported (Autonavigator, 2022). In Türkiye, the internal market also plays a significant role in output, the sector's average export rate in 2021 is 73 percent (Investment Office of the Presidency of the Republic of Türkiye, 2022). In Hungary, the automotive industry is the largest exporter with a 20 percent share (MAGE 2023), while it ranks second in Turkish exports with a 13.3 percent share (Andalu Agency, 2022). In terms of economic and trade relations, the European Union is the most important partner for both countries. In 2021, 61.9 percent of Hungarian automotive exports and 75.6 percent of Turkish exports were directed to EU (27) countries (see table 4.).

3. State investment promotion policies in Hungary

The most important policy to attract foreign capital in both countries in the nineties were investment liberalization (Antalóczy & Sass, 2000, Aydoğan, 2017), thereby making their economies attractive to investors.

In the case of Hungary, it was also confirmed that liberalization decisions related to investments alone are not enough, many (financial) measures to improve the labour market environment and the return on investments are also needed (Sass, 2003). Another form of investment incentive is targeted investment incentives, which improve the return on investments and reduce their risk. One form of these is the provision of tax benefits, and the other is financial incentives and subsidies (Antalóczy & Sass, 2000; Antalóczy & Éltető, 2017). Hungary, as a member state, can give subsidies to the given companies in accordance with the EU's competition law regulations. This can be a tax discount, financial support, a loan with a reduced interest rate and a free or discounted real estate benefit (Antalóczy & Éltető, 2017). The amount of the support depends on the location of the investment, a smaller amount can be given in developed regions and a larger amount in undeveloped regions. In Hungary, the grants of the government attracted a significant number and amount of investment in recent years. Large investments were made in the automotive industry, which were more concentrated and larger in volume than before (HIPA, 2021).

Horizontal and targeted (sectoral) measures are distinguished in industrial policy, but the literature speaks of directive and competition-oriented (market-oriented), export-promoting and import-substituting, offensive and about defensive, active and passive, explicit and implicit industrial policies (Botos, 2010, p. 48–49).

After the turn of the millennium, until 2014, five such large Hungarian plans were drawn up. Their common feature is fragmentation and the juxtaposition of various priorities, The basic goals themselves remained similar throughout (different with wordings about stimulating growth, employment, improving competitiveness, and catching up), and they were in line with the European Union for your current endeavours. Although - especially in the New Széchenyi Plan - the elements of the "patriotic economic policy"also appeared: solving the dual structure of the economy, a balancing the privileges and monopoly position of large companies in order to develop Hungarian small and medium-sized companies; one of the means of this is the state giving priority to domestic companies by public procurements (Voszka, 2019, p. 103).

The Hungarian government announced its reindustrialization program in the early 2010s and summarized it in 2016 in the Irinyi plan (Voszka, 2019). The Irinyi plan aimed to increase the contribution of industrial production to GDP significantly from the value of 24%. The Government primarily wishes to provide financial assistance for those investments that focus on production" (Ministry of the National Economy, 2016, p. 22). The plan with reference to the European re-industrialization strategy and now also to the renaissance of the sectoral approach, named mainly manufacturing sectors to be developed: the vehicle industry, specialized machine and vehicle manufacturing, the "health economy", including tourism, and the food industry, the "green economy", info-communication technology and the defence industry.

The general goals of the Hungarian support policy

The mentioned wide sense-incentive instruments (legal, political, and economic environment, production factors) and the narrow sense-incentives (financial subsidies, tax incentives, subsidized infrastructure, technical assistance, training, etc.) play a decisive role in the location of investments (Financial Times, 2022).

Hungarian investment promotion policy (narrow sense incentives) can be differentiated based on the characteristics of the instruments used (system of instruments) after the regime change (Szanyi, 2017). The period after 2010 represents a new era in many respects, not only in terms of the amount of financial resources used, but also in terms of goals and tools. Perhaps the most important is that, compared to previous governments, the state's attitude towards the activities of foreign companies in Hungary has fundamentally changed (Mihályi, 2015, 2018; Szanyi, 2017; Sass, 2021). Economic policy rhetoric mainly divided foreign companies operating in Hungary into good, "productive" and bad, "speculative" companies (Transparency International Hungary, 2014). The state applied various supportive or punitive measures against them. “Bad” operations were made more difficult by restructuring the tax system (Voszka, 2013) or by changing the legal environment (Mihályi, 2018). In many cases, this practically forced them out of the market, giving other public or private companies the opportunity to take their place. Since 2010, foreign companies left five industries, the media industry, financial services, retail and telecommunications (for more details see Mihályi, 2018). The state was much more permissive to the “good” ones, whether it was operational regulation (Éltető, 2022) or the regulation of the labour market (including the labour law) (Gerőcs & Pinkasz, 2019b). In this regard, it can be observed that, from 2010, the state, regarding education, taxation and labour market reforms, favorizes German industrial interests in the legislation. The automotive industry and the related supplier industries (battery production, rubber industry) are priorities, and their investments and development have been facilitated also financially in addition to legislation. A new institutional setting has also been established by the government to support its new economic paradigm. The Ministry of Foreign Affairs that mainly performed diplomatic tasks was gradually transformed from 2014, and foreign trade, economic development and economic relations became focus areas (Index.hu, 2014). Concerning foreign investments and economic development, it is now the top economic ministry. ITD Hungary, the agency promoting foreign capital investments, belonged to the Ministry of Economy and Transport before 2010, and after 2010 was transferred to the Prime Minister's Office. Its functions were gradually taken over by the National Foreign Trade Office established in 2011 (National Investment Agency from 2014). The

new office was managed by the Prime Minister's Office, and from 2015 by the Ministry of Foreign Affairs and Trade.

Three of the government programs designate vehicle production as a target area. Table 5. lists only the goals, not the allocation of resources. However, the dominance of the automotive industry in the stock of capital investment is clear, by the end of 2021, 21.9 percent of foreign investments in the manufacturing industry were in vehicle production (NACE 29, 30) (MNB 2022).

Table 5, Target areas related to the development of certain industries and services in government programs

Sectors	National Cooperation Program 2010-2020	New Széchenyi Plan 2011-2021	Széll Kálmán Plan 2.0 2012-	Foreign Trade Strategy (discussion paper) 2012-2020	Regional Development Concept 2014-2030
creative industries	✓	✓	✓		✓
health industry	✓	✓	✓	✓	✓
high-tech industry	✓				
green economy, environmental protection	✓		✓	✓	✓
agriculture/food industry			✓	✓	
vehicle industry, transport		✓	✓	✓	
services				✓	
electronics industry			✓	✓	
IT sector		✓			✓
logistics		✓	✓		

Source: ÁSZ 2019, p. 13.

The development plans formulate 6 different goals. Table 6. shows four plans that also cover the automotive industry. Based on the 2012 Széll Kálmán Plan 2.0, FDI arriving in Hungary must be doubled by 2022. In addition to attracting capital, further investment in the growth of companies established here must also be promoted (so-called after care services).

Job creation is a priority goal in all development plans. The 1 million jobs determined in 2010 are partly due to new jobs created during the development of domestic enterprises, and partly due to the job-creating effect of foreign investments. In the case of the latter, the Foreign Trade Strategy emphasizes that the government must take job creation and job maintenance into account when assessing support requests and determining the intensity of support (Ministry of National Economy, 2011).

Research and development activity is the next priority goal, in line with the Lisbon strategy and the Europe 2020 document setting out the goals. According to the objective of the National Research Development and Innovation Strategy, the domestic R&D expenditure relative to GDP should be increased to 1.8% by 2020 and to 3% by 2030. Based on the strategy, R&D investments must be financially stimulated, both at the level of large companies and SMEs, including through Individual Government Decisions (EKD). The strategy also names the vehicle industry as a priority area.

SMEs play a key role in the economy, employing more than two-thirds of the workforce and producing more than half of the GDP. The government's economic development programs, related to investment promotion, envision the development of SMEs within the supply chain, and emphasize improving their position as suppliers. European Union subsidies play a prominent role in this.

Regional convergence appears not only at the EU level, but also in domestic development programs. An aspect formulated in the Széll Kálmán Plan 2.0 is that regional aspects should be given a greater role than before when granting subsidies. In the Foreign Trade Strategy, the same is highlighted for foreign investments, encouraging companies to invest in regions with backwardness or high unemployment.

When it comes to supporting priority sectors, three programs highlight the vehicle industry by name: the New Széchenyi Plan and the Foreign Economy Strategy and the Széll Kálmán Plan.

Table 6, Investment promotion goals related to the vehicle industry and transport

Goals	New Széchenyi Plan 2011-2021	Széll Kálmán Plan 2.0 2012-	Foreign Trade Strategy (discussion paper) 2012-2020	National R&D&I Strategy 2013-2020
Increasing of FDI inflow		✓	✓	
Increasing employment	✓	✓	✓	
Support for investments related to R&D	✓	✓		✓
Improving the supplier situation of SMEs	✓	✓	✓	
Development of regions, reduction of regional differences		✓	✓	
Development of priority sectors	✓	✓	✓	

Source: authors, based on ÁSZ 2019

The government also used the 'strategic partnership agreements' concluded with multinationals to encourage investments. According to the objectives set out in the 2012 Kálmán Széll Plan, one of the important pillars of investment promotion is the follow-up of companies established here. In 2012, the unfavourable economic environment forced companies established in Hungary to postpone their previously planned developments and even to close certain activities. Seeing this danger, the government concluded strategic partnership agreements with several companies with a key role in the Hungarian economy. On the one hand, the selected group was those that have been in operation for at least five years, as well as companies with significant output, employment, and exports. On the other hand, the government concluded agreements with companies that were “good”, but there were also some cases when a contract was created at the initiative of a “bad company” (Transparency International Hungary 2014). Almost one third of the cooperation agreements were with automotive companies

(Ministry of Foreign Affairs and Trade, 2022). Based on the review of the content of the strategic partnership agreements, we cannot establish a logical strategy, the discounts are ad hoc and are rather based on individual decisions (Szanyi, 2017).

The most significant (mega) investments of the past 5-8 years were granted based on EKDs. In the case of EKD, companies submit their support application directly to the Hungarian Government. The program started in 2001, and in each case, the Hungarian Government decides individually and directly. In all cases, the participating authority is HIPA – National Investment Agency, and the Minister of Foreign Affairs and Trade acts on behalf of the Hungarian Government. In exchange for the support, the initial condition was the creation of a certain number of new jobs. The support program defined two target areas for job creation: start-up investment and start-up investment aimed at carrying out new economic activities. From 2017, the range of subsidies was extended to support research and development investments. The range of applicants is limited by the fact that only large companies with more than 250 employees can apply.

Electric battery production plays a leading role in FDI. As a result of the technological transition, the majority of investments in the automotive industry have already been realized in electromobility-related production. Within this, the proportion of electric battery production is a very high 43 percent, but the production of alternative (electric or hybrid) powered cars also accounted for 30 percent (Government of Hungary 2022a). If we look at the EKD subsidies between 2014 and 2022 in this context, we see a similar pattern (see Table 7.).

Some companies have received support several times, such as Audi Hungaria, with a total HUF 36.1 billion. The automotive industry dominates the list, receiving 53 percent (!) of all subsidies, HUF 502 billion. Among the big projects of the last 2-3 years, all the battery manufacturers can be found, but the large international OEMs and the two major tire manufacturers are also present. In addition to such subsidies, the state offers a number of other benefits to the investors, which are part of the negotiations, but not included in the actual subsidy amount, and may even exceed that amount (Mészáros, 2022). These can be additional investments with specific material implications (construction of public utilities and roads, preparation of the construction site), but they also play a major role in creating a "sufficiently flexible" regulatory/legislative

environment. We can find many examples of the latter related to the investments of Hungarian battery factories (Éltető, 2022).

Table 7, Individual Government Decision grants over HUF 10 billion

Company	Ownership	Industry	Direct state aid	
			bn HUF	% of the investment
SK On Hungary	South Korea	automotive parts (battery)	76.36	12.9
Samsung SDI Magyarország	South Korea	automotive parts (battery)	33.68	9.2
SK Battery Manufacturing	South Korea	automotive parts (battery)	28.49	14.3
Mercedes-Benz Manufacturing Hungary	Germany	automotive assembly	22.15	12.1
Rubin NewCo 2021	U.K.	automotive parts	16.28	31.4
Apollo Tyres Hungary	India	automotive parts	16.08	11.0
Hankook Tire Magyarország	South Korea	automotive parts	15.88	12.1
AUDI Hungaria Motor	Germany	automotive assembly	13.00	5.2
Mercedes-Benz Manufacturing Hungary	Germany	automotive assembly	12.88	19.3
Sisecam Glasspackaging Hungary	Türkiye	glass manufacturing	12.55	17.8
BMW Manufakturing Hungary	Germany	automotive assembly	12.32	36.1
MOL Petrolkémia	Hungary	chemical industry (petrochemistry)	11.68	4.2
thyssenkrupp Components Technology Hungary	Germany	automotive parts	11.16	35.0
KOMETA 99	Italy	food industry	10.88	35.3
Continental Powertrain Hungary	Germany	automotive parts	10.62	34.5
ThyssenKrupp Presta Hungary	Germany	automotive parts	10.60	31.8

Source: Government of Hungary 2022b

The distribution of subsidies does not reduces the centre-periphery relationship, the supplier role of the region, which characterizes the current Hungarian and Central European automotive industry (Czakó & Vakhal, 2020). On the contrary, it not only preserves, but also increases dependency. On the one hand, there is a technological dependence in the direction of battery production, which is an energy and labour-intensive sector, and on the other hand, it is a commitment to Asian investors. Within the EKD between 2004 and 2022, the state supported 377 projects (Government of Hungary, 2022b), most of which were German (120), Hungarian (65) and US (41)

companies. More than one third of the projects are directly related to the automotive industry (133).

The EU has officially adopted a new regulation on foreign subsidies that distort the internal market, which is expected to be applicable from the second quarter of 2023, but individual companies establishing themselves in the EU can be investigated retroactively for 3 years (European Council, 2022). The regulation essentially extends the EU's ban on state aid, focusing on third-country state aid, large-scale public procurement procedures and mergers and acquisitions (M&A) deals.

This Regulation therefore expands the scope of the EU's existing State aid prohibition to "subsidies" provided by non-EU countries. The Regulation can apply to EU as well as non-EU businesses that receive such foreign subsidies. The term "subsidies" is defined broadly and captures a wide range of subsidies, such as contributions, loans, grants, guarantees, and tax benefits. Similar to the existing EU State aid regime, the Regulation gives a key role to the Commission in monitoring and enforcing the new rules (EY, 2022).

Hungary could be a big loser of the new regulation, however. The EU regulations may force the government to reshape its investment incentive approach focusing primarily on the attraction of Asian investors, since in their case, state subsidies from the sending state which help them to become market leaders in the world are quite common.

4. Turkish state investment policy

The AKP, the party governing Türkiye since 2002, followed a program making economic growth and restructuring top political priorities. This also entailed the improvement of the investment environment. New Turkish politics were, therefore, highly oriented to promoting competitiveness. Ünay (2012) examines the 2002–2012 period of Turkish development based on the theory of the "competition state" (Czerny, 2010). Its elements are: 1. neoliberal monetarism instead of expansionism with inflation; 2. micro- instead of macro-economic governance; 3. setting strategic goals instead of resorting to extensive intervention; 4. innovation and profitability instead of well-being

maximization; and 5. economic diplomacy and market share instead of geo-strategy and national security.

After the early 2000s, the "post-Washington" competitiveness factors gained strength in Turkey. The reforms of the 1980s were unsuccessful because of hasty financial liberalization and the lack of fiscal discipline. Özal's reforms were frequently based on direct governmental interventions that circumvented the legislature, and this had negative repercussions on fiscal discipline. For the sake of growth, he also found monetary easing acceptable, but the high rate of inflation greatly impaired growth potential in the long term. Starting in the second half of the 1990s, the dual external pressure (EU, IMF) forced the adoption of several institutional reforms in Turkey that resulted in the independence of the central bank and the strengthening of bank and competition supervision (Szigetvári, 2019).

Micro-economic interventions are the most impressive in the fields of regulation, industrial policy, and employment policy. Especially in these early days, the specific vision for industrial policy was also missing, and besides external pressure (from the EU, IMF, and WTO) and because of it, economic subventions were typically applied in a sector-neutral way based on horizontal politics. According to Ünay (2012), setting a target for industrial development strategy is still quite nascent even today, although recently there have been some shifts in this regard.

According to the long-term vision of the Document on Turkish Industrial Strategy in 2010, Türkiye must become the centre of Eurasia in terms of the production of main high-tech products. Additionally, the general goal of the strategy is the following: "Increasing the competitiveness and efficiency of the Turkish industry, restructuring the industry in a direction that facilitates for Türkiye that its share be increased within world export where Turkish export mainly consists of high-tech products and products with high added value, to have well-trained workforce, while it is sensitive to environmental and social challenges" (Ministry of Industry and Trade, 2010, p. 49). Among the strategic goals are increasing the weight of enterprises and high-tech industries and introducing products with high added value in low-tech fields.

The strategy named eight fields of industry: amelioration of the investment and business environment, international trade and human resources, expansion of financial opportunities of small and medium enterprises, technological development of enterprises, infrastructural sectors: telecommunications, energy or transportation, environment protection and regional development. Priority sectors are car industry, machinery manufacturing, household products, electronics, textile industry and clothing, food industry, and iron and steel industry.

According to Yilmaz (2011) only the selective industrial policy that supports specific sectors can be successful. This is not only the basis of the economic success of Japan, South Korea, and Brazil, but also the developed countries applied this previously, and it is becoming popular and accepted again. The non-selective (neutral) policies that are promoted by the neoliberal economic policy are ineffective according to Yilmaz. The economic foundations (macro stability, markets operating properly) do not necessarily lead to the transformation of the economic structure; for industry development, appropriate and supportive industrial policy is also a must. This is affirmed also by Rodrik (2007, p. 23) – although he puts his emphasis not specifically on the traditional, selective industrial policy based on direct state subsidies but rather on the participation of the state that actively fosters the process of industrialisation.

As Akan (2018) points on it, the AKP government started to transform the country's dependent institutional and industrial structures by launching the entrepreneurial state paradigm and by focusing on industrial transformation programs. It partly failed, however, in a large extent due to imperfection in the systemic functioning of Turkish developmental regime (ibid. 164).

Turkey has implemented a new investment incentive regime in April 2012 with retroactive effect as of 1 January 2012. The main incentives were value added tax (VAT) rebates, VAT exemptions of investment expenditures up to 60 percent, custom duty exemptions, and social security premium support up to 12 years. Additionally, depending on the region where the investment is made, the Government also provided free land, tax deductions up to 8 percent from the current effective rate of 20 percent, and loan rate support of 3 to 7 percent (UNCTAD, 2012).

Figure 1, Investment Incentive Programme in Türkiye

Source: Ministry of Industry and Technology 2021

By looking at the results, 66.503 incentive certificates were issued between 2012 and 2015, of which only 48 were strategic investment incentives. On the other hand, 13% (138.8 billion TL) of the total capital incentive of 1 trillion TL were strategic investment incentives (Haciköylü & Karal Önder, 2019).

Strategic investment incentives are targeted mostly as a policy to reduce the current account deficit, by reducing the import of treated raw materials for industry and to promote high value-added investments in these areas in Türkiye. Strategic investments were made in the sectors of mining and chemical products, while investor in the iron and steel, automotive and machinery, textile and agriculture sectors didn't receive or demand incentives. Although the expectations for strategic investment incentive policy were very high, this expectation has not been met (Haciköylü & Karal Önder, 2019).

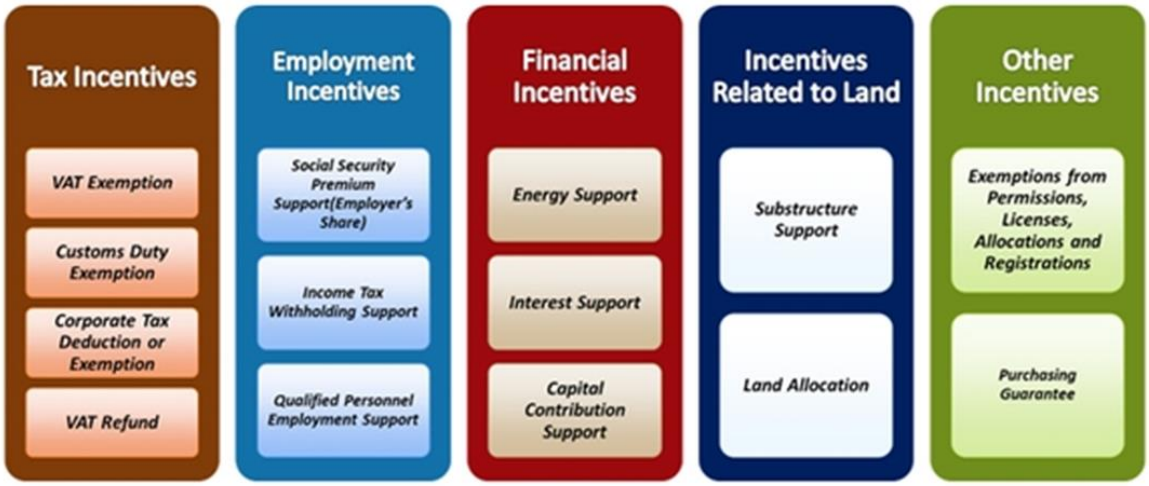
Table 8, Investment Incentive Programme in Türkiye

	General Investments	Regional & Priority Investment	Large Scale Investment	Strategic Investment
VAT Exemption	✓	✓	✓	✓
Customs Duty Exemption	✓	✓	✓	✓
Tax Deduction		✓	✓	✓
Social Security Premium Support		✓	✓	✓
Interest Rate Support		✓		✓
Land Allocation		✓	✓	✓
VAT Refund				✓
Only for Region 6 (The Least Developed Region				
Income Tax Withholding	✓	✓	✓	✓
Support Social Security Premium Support		✓	✓	✓

Source: Ministry of Industry and Technology 2021

As an extra boost to existing investment incentive schemes, the Turkish government launched a Project-based Incentive Program in November 2016. The new investment promotion scheme supported. with a minimum of US$100 million investment value, that are able to boost technological capacity, research and development (R&D) efforts, competitiveness and added value in production. Unlike the broad-based and conventional Investment Incentive Programme which offers a fixed incentive package and focuses on what the investors plan to produce in the country, the project-based incentive scheme is much more selective and focuses not only on what investors are going to produce, but also the production process (Chan, 2018). Under the new scheme, certain companies may be “invited” to invest in certain areas or a general invitation for investments may be issued calling for investors to submit their applications to benefit from the scheme.

Figure 2, A Flexible Pool of Support Measures



Source: Ministry of Industry and Technology 2021

In the first years of the new scheme 23 major projects with a total value of TRY135 billion (US$22 billion) have been supported. The projects have created around 170,000 direct and indirect jobs and they have reduced Türkiye's annual current account deficit by US$19 billion (Chan, 2018). Among the projects supported here were e.g., a new generation engine production project by Oyak Renault, a transportation and defence industry investment project by BMC, and an electric battery production investment project by Vestel.

Türkiye's Automobile Joint Venture Group (TOGG)

The creation of the indigenous automaker was already a priority goal of the industrial development policy after the war. However, the attempts carried out in the sixties were not successful (Mordue & Sener, 2020), due to technological problems it was necessary to involve a global partner. Neither during the period of the import substitution economic policy nor in the liberalization period that followed, it was possible to establish "independent" domestic car production. However, the reason for its realization was not the technological development of the domestic industry, but the Turkish political and economic turn in the period following the 2008-2009 global recession.

From 2011, with the new development policy, the state gained significant money and influence in the economy, abandoning the previous liberal, market-oriented policy (Kutlay, 2019). In the state capitalist development policy (Güven, 2016), the automotive industry was treated as a priority.

The new company is based on a cooperation of four major local companies participating in the project: Anadolu Grubu (23 percent ownership) is active in 7 sectors (beer, soft drink, retail, agriculture, automotive, stationery and energy), is in production partnership with Isuzu, Kia, and Honda in Türkiye. BMC (23 percent) is one of the largest automobile manufacturers in Türkiye. Its products include commercial trucks, buses, military trucks and armoured vehicles Turkcell (23 percent) is the leading mobile phone operator of Türkiye, while Zorlu Holding (23 percent) is a Turkish multinational holding specialized in textiles, white goods, electronics manufacturing, energy, and financial services. Zorlu Group signed a $4.5 billion deal with the Chinese GSR Capital to invest in battery production through its subsidiary Vestel and with a plan to build a 25,000 mega-watt battery production factory.

The project is expected to cost 22 billion lira ($3.7 billion) over 13 years. The state provides different types of support for TOGG: an exemption from customs and VAT, other tax reductions, 10-year support for workers' social security, and a 30,000-unit yearly purchase of TOBB-produced electric cars for the public sector.

The creation of TOGG, its own car manufacturing company, embodies the political will that heightens nationalist sentiments (Mordue & Sener, 2020). The participating companies are used to be considered as close supporters and allies of the current AKP government. The latter is also a limitation for him, as the depletion of state funds due to a possible political turn poses a risk for the company's operation.

The TOGG car factory only partially possesses the competencies necessary for the implementation and success of the project. Mordue and Sener (2020) summarized the most important factors for the project. It speaks in favour of the investment that during the production of a new car/model, the BEV, due to its structural simplicity compared to the ICE (Christensen, 2011), benefits from its design and assembly. Furthermore, it is favourable for new entrants that the price of batteries, which are considered the biggest

cost, is expected to continue to decrease. Finally, it is favourable that the company has the right amount and quality of labour available for its operation, which is an important factor especially in the case of engineers and skilled labour. In addition to these, there are many features that threaten or make the success of the project difficult. The most important is, that the technology required for production cannot be found in Türkiye, so the companies involved in production are forced to buy it on the global market. As an alternative, the licence of the technology may arise, but there is no rationality for this. Another problem is that, in general, the Turkish automotive industry has a low localization rate (i.e., the use of indigenous technologies), and the most important supplier positions are large global companies. In addition to the development and production of vehicles, the company must solve problems such as the market positioning of the products and the range, which is one of the most important factors in terms of the success of a product. In this context, the availability of charging, i.e., the charging network, is a key factor. The latter significantly limits the company's sales growth potential. The planned production quantity (175,000) also represents many limitations for the company. According to Mordue and Sweeney (2020), this number of units is too small, which prevents the company from creating wider benefits, affecting the automotive industry like other global companies.

5. State subsidies and their development impact

The core aim of state subsidies in the countries of the semi-periphery is to provide help for the restructuring and upgrading of the economy, and for the catching up process. A basic developmental strategy is to help sectors survive in free markets and achieve a high(er) position in GVCs. How subsidies can help in this upgrading process in Hungary and in Türkiye?

Implementing development strategies needs new kinds of state institutions. In lesser-developed countries the lack of proper institutions could prevent actors to adjust to the challenges of growing market competition, but domestic political factors may hinder them from developing these institutions.

An important external factor shaping the institutional and political conditions in a country may come from global (e.g. IMF) and regional (e.g. EU) actors (Bruszt & Langbein, 2020). Under the influence of strong nationalist-populist leaders backed by powerful majorities, however, both Hungary and Türkiye have been moving recently in an increasingly illiberal direction, away from well-established EU norms (Önis & Kutlay, 2019).

It is not easy to change developmental paths on the peripheries, however. It requires large-scale institutional investment, extraordinary collective action, and coalition building (Doner & Schneider, 2016). And here, the state has a crucial role: it may help or prevent the forming of inclusive coalitions (developmental alliances).

Based on Bruszt and Karas (2020) four factors play important role in shaping developmental alliances and making them more inclusive.

- the institutional characteristics in which the sector level decision-making is embedded
- extended vertical accountability of incumbents provided by strong effective competition among political parties
- skilled and autonomous bureaucrats are also needed to build inclusive developmental alliances
- presence of autonomous organizations of non-state actors in the sector with the capacity to provide unified representation and to create alliances among different categories of producers

EU interventions in domestic institutional settings may be a key factor in inducing developmental divergence. In case of Hungary, in the pre-accession period, the EU interventions included measures to upgrade core state institutions by increasing the autonomy and the capacity of bureaucracy and judiciary. It was also the case in Türkiye, between 2002 and 2004, where political and institutional reforms were the set as conditions for starting accession negotiation in the country. The EU engaged in a deep mode of integration towards Türkiye during the short period when the country's membership prospect was deemed credible (Langbein & Markiewicz, 2020). The

political environment and the normative power of the EU to enforce such institutional reforms have been faded, however, in case of both countries (Önis & Kutlay, 2019).

In the automotive industry, the space of domestic policy is limited because of the dominating role of leading firms in GVCs. More autonomous and capable states can change MNC profit strategies by way of improving the capabilities of workers entering the labour market, or by increasing the capacities of domestic firms to join in more complex forms of collaboration (Bruszt & Karas, 2020). Another option is the diversification of the supplier base of part producers to decrease the dependence on a single MNC.

Identifying and exploiting developmental opportunities, mobilizing resources, and creating developmental coalitions to change a developmental path all require states able and ready to do so.

As we have seen above, both in Hungary and in Türkiye, the state continues to support automotive producers and provides them with funds via different state aid schemes. But nowadays, automotive producers can go for safe rents coming from state aid, due to the weakening monitoring of EU institutions (Langbein & Markiewitz, 2020, 1120). In Hungary, German and East Asian (Chines, South Korean) MNCs continue to create exclusionary alliances with the state. In Türkiye's, former big holdings and MNCs has been weakened, while the new alliance between the ruling AKP party and conservative, religious Turkish businessmen and pro-AKP corporations are on the rise. With the creation of TOGG, an ambitious exclusionary developmental alliance has been created, but it is still unknown, if it can really fulfil the conditions of upgrading, or the Turkish automotive sector will remain trapped in a low equilibrium.

6. Conclusions

The analysis of the export patterns shows that both Hungary's and Türkiye's position in the international division of labour has been largely determined by the multinational firms whose subsidiaries are important players in the local automotive industry. The pattern of exports and imports (in terms of destination/source countries, and the type of

products traded) is determined by multinational companies' global production decisions (Taymaz & Yılmaz 2017).

If we look on the impact of the automotive sector on the two economies, we can put quite similar statements (pretty much true for many other countries on the semi-periphery). In the GVCs, it is rather the position than the participation that determines productivity gains, and here, upgrading of the local participants would be a basic requirement. What makes it harder, however, is that the manufacturing capabilities gained over the years have not been translated into innovation capabilities, while indigenous technological and innovation capabilities are difficult to form. Joint product developments in which domestic firms are involved in initial stages, may be important not just for capability building, but also for getting bargaining power over strategic decisions.

It is difficult to escape the middle-technology trap without active government involvement (Akcomak & Bürken, 2019). A weak national innovation system coupled with state-automotive industry agreement favouring short-term economic gains at the expense of forming long-term indigenous technological capabilities, however, is not the best setting here.

In Hungary, there are significant subsidies for large companies with foreign capital. The size of such subsidies in the sector is insignificant. Current changes in the EU regulatory system of state aid received directly or indirectly (from non-EU member counties) may reshape the existing practice of state support. Türkiye, on the other hand, promotes the upgrading process with the support of a deep-rooting national ambition, the creation of an own (electric) vehicle brand. The result of the project is still unknown, though there are a lot of factors questioning the future success of the initiative.

While the EU regulatory framework tries to create an institutional framework that helps the creation of developmental alliances, and by that, the technological upgrading of economies, the Hungarian and Turkish state-support-mechanisms seems to opt for different alternatives. In case of both countries, we can witness a support for exclusive development coalitions that allows more a rent-seeking attitude, not only in economic but also in political terms.

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