

Can they get out of the middle-income technology trap? State strategies in Hungary and Türkiye in promoting automotive investments

Tamás Szigetvári¹ – Gábor Túry²

ORCID iD: 0000-0002-5729-3153 ¹, ORCID: 0000-0002-9339-1586 ²

szigetvari.tamas@krtk.hu, tury.gabor@krtk.hu

¹ Centre for Economic and Regional Studies, Institute of World Economics, and Pázmány Péter Catholic University, Institute of International Studies and Political Sciences, Budapest, Hungary

² Centre for Economic and Regional Studies, Institute of World Economics, Budapest, Hungary

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Abstract: Hungary and Türkiye show similar characteristics in many respects. At the same time, many differences can be discovered due to the domestic characteristics of the automotive industry, which explain the different alternatives of the state support mechanism. They have in common that the same pattern of economic policy results in the development of a unilateral support policy in both countries.

The aim of this paper is to review state incentive systems for automotive investments using government and independent sources as well as related literatures. It also examines, based on literature review, the extent to which public incentives promote upgrading in the sector. Finally, it analyses the similarities in the political economic background of the subsidies.

In the case of both countries, we can witness the support of exclusive development coalitions, which points in the opposite direction to the catch-up process. It enables a rent-seeking attitude, not only in an economic but also in a political sense.

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

JEL Classification codes: L62, O25, P11

INTRODUCTION

The automotive sector is an important driver of growth in the economy for both Hungary and Türkiye (OSD, 2022; MAGE, 2022). The two countries also play a significant role in European road vehicle production, Türkiye is the second largest manufacturer of commercial vehicles in Europe (OSD, 2022), 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 both 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. 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.

1. LITERATURE REVIEW

In the period following World War II many countries managed to advance to the category of middle-income countries relatively quickly, but in the end only very few of them became a high-income economy. Typically, the initial phase of quick growth was followed by the sudden deceleration of growth and production – this phenomenon is referred to in literature as “middle income trap”. According to the estimates of the World Bank, out of 101 middle-income countries (data from 1960) only 13 became a high-income country by 2008 (Agénor et al., 2012). So the middle-income trap refers to a situation whereby a middle-income country fail in its transition process to a high-income country due to a lack of technological upgrading (Griffith, 2011, p. 39). The escape from the trap requires high level of investment in new technologies and innovation conducive technologies (World Bank, 2010). Both in case of Hungary (e.g. Myant, 2018; Györffy, 2022) and Türkiye (e.g. Yilmaz & Saracoglu, 2016; Yülek, 2018) there is an increasing literature discussing the both the evidences on the existence and on the possibilities to avoid the middle income-trap.

In our paper, we take a closer look on the investment policies of both countries. 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. Hungary, as an EU member state, could 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). 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).

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 (Voszka, 2019). 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. 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 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) (Gerócs & Pinkasz, 2019). In this regard, it can be observed that, from 2010, the state, regarding education, taxation and labour market reforms, favors German industrial interests in the legislation.

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.

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 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).

2. METHODOLOGY

The findings of our study are based on the analysis of newspaper articles and government documents published on the subject, in addition to summarizing the results of the related literature. Regarding statistical sources, we relied on official government sources.

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.

3. RESULTS AND DISCUSSION

3.1. A brief history of the automobile industry in Hungary and Türkiye

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.

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, but only after 1998 did they start assembling cars. The latest 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.

Hungary's position in commercial vehicle production is marginal compared to the pre-1990 period. 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 Kravtex-Kühne (Credobus) depends on the domestic market, where government purchases account for a large share of revenue (Magyarbusz, 2021).

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. 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. Samsung SDI started assembling batteries in the former monitor manufacturing plant in Göd, in 2017, and then continuously expanded production in the following years. SK

Innovations will build its next battery plant in Iváncsa having already one in Komárom, which was established in 2018. So far the South Korean company is the largest receiver of state aid in Hungary to date (K-Monitor, 2020). 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). Thanks to significant investments, by 2025, Hungary could be the second largest battery producer in the EU after Germany (Bockey & Heimes, 2022).

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 Traktör, was established in 1954. 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 added value have proven to be successful.

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 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). The turning point was the tightening of relations with the European Economic Community and the customs union agreement, which gave new impetus to investments (Aydoğan, 2017). 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.

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 exports have been dominated 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 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 started production at the end of 2022. The plant is planned for an output of 175,000 units (Deutsche Welle, 2022).

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). In Hungary, automotive growth has been exported (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.

3.2 State investment promotion policies in Hungary

In Hungary, three of the government programs designate vehicle production (road and rail) as a target area. The New Széchenyi Plan (2011-2021), the Széll Kálmán Plan 2.0 (2012-), and the Foreign Trade Strategy (2012-2020). There are: 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, and development of priority sectors.

In addition 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.

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.

Tab. 1 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 2022

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 (see Table 1). 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 (Éltető, 2023). We can find many examples of the latter related to the investments of Hungarian battery factories (Éltető, 2022).

The distribution of subsidies does not reduce 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.

3.3. State investment policy in Türkiye

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).

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).

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.

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 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 new company is based on a cooperation of four major local companies participating in the project: Anadolu Grubu (23 percent ownership), BMC (23 percent), Turkcell (23 percent), Zorlu Holding (23 percent). 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 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.

4. 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 can subsidies 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 (Chinese, 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.

5. 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).

In the case of current trends and development opportunities, the two countries face similar challenges. 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 (Bod, 2015; Akcomak & Bürken, 2019). This was also confirmed by the government strategies that formed the framework of the development policy. At the same time, the internal resources of the economies, especially with regard to the capabilities of indigenous-owned businesses, created a significant barrier to the perspective of development. 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.

Partly due to the different industry characteristics, the beneficiaries of the subsidy policy are different in the two countries. 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 countries) 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. Despite the differences, we can also see similarities in the support policy pattern. 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. This economic policy direction reflects the general political objectives of governments.

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