

Automotive Industry Incentive System in the Historical Development Process: Examples of Thailand and Turkey

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ABSTRACT: When we look at the historical development of the automotive industry of Thailand and Turkey, we find many common features and similarities. With import substitution economic model, just as in the economic development of Turkey in Thailand to provide pathway is preferred since the 1960s. Import substitution policies were combined with development policies by protecting the country's industries from foreign competition, and these policy options were implemented in both of our sample countries, especially in the automotive industry until the 1990s. Within the framework of the import substitution industrialization model, it was aimed to increase the local contribution rates in the automotive industry in every country, but although certain successes were achieved in these policies until the 1990s, free market economy (liberal economy) since the 1990s. the protection of the country's industries from foreign competition has been terminated.

In this context, the automotive industries that failed to produce completely local products have tried to enable foreign automotive industry manufacturers to establish production facilities in their countries and to shift all their production to their own countries. Thailand was more successful in attracting foreign companies to the country by applying these policies. Having developed sectoral incentive policies for the automotive industry since the 1970s, Thailand continued to implement these economic policy instruments after the period of liberalization. Turkey In the 1990s, the özendirme to establish production facilities in the country of foreign companies, since the second half of the 2000s, has refused to give industry incentives to their own desires going to produce domestic car my saying, refused to give industry incentives they want to build a new production facility for foreigners to establish a production facility. It showed Thus, the success of the referred to as the economic policy of a stable line following Thailand is Asia's Detroit for the automotive industry, but have managed to pass on what domestic automobile production with the new political orientation of Turkey, what has also become a production base in the strict sense of the Far East Asian companies.

Therefore, it can be said that countries should draw a stable line in developing economic policies to encourage foreign entry into sectors.

Keywords: *Interventionsystem, automotive industry, technology transfer, automotive industry production, economic development*

Jel Codes: L52, L62, N75, N95, O12

I. Introduction

In the past, developing countries have implemented industrial policies in the economic development process without being subject to any restrictions. (Natsuda and Thoburn, 2011: 1) Thus, a bundle of economic policies based on state aid and support and oriented towards economic development has emerged. Thailand and Turkey have implemented one or more of these policy bundles to a certain extent in the past (Dolanay, 2017; Natsuda & Thoburn, 2011). The most important of these economic policy bundles is the one related to the local contribution rate (Natsuda and Thoburn, 2011: 1). Because the most important goal of the import substitution industrialization strategy is to ensure that the same products produced abroad are produced in local conditions.

As part of the import substitution industrialization strategy implemented in Thailand between 1960 and 1970, the customs duty on motor vehicles such as trucks imported from abroad was increased by 50%, while the taxes on passenger cars were increased at a higher rate. On the other hand, the customs tax rates for the completed parts of motor vehicles brought from abroad have been increased to a great extent. (Natsuda and Thoburn, 2011: 11)

According to the import substitution industrialization model, which was in effect with the assembly industry instruction adopted in the 1960s in Turkey, the industrialization approach was based on its theoretical foundations. (Dolanay, 2017) While limiting the import of motor vehicle parts, it is aimed to produce all parts locally. (Dolanay, 2017) We can say that the first fruit of this practice was achieved with the realization of the production of the Revolution car prototype in Turkey with completely domestic means. However, the successful project was shown as unsuccessful and mass production could not be started. (Dolanay, 2017) This development, which has not been encountered in any developing country in these years, has become a world brand in a short time by imitating this development, ten years later by the South Korean company Hyundai. (Dolanay, 2017)

In the period between 1970-1980 in Thailand, although it was considered important before, the necessary local contribution rates were determined in 1975 and slowly increased over the years, and the practice in pick-up trucks continued until 1990. The importation of passenger cars was banned between 1978 and 1991. With the foreign trade liberalization in the 1990s, customs tariffs were greatly reduced, and in the 2000s, the required local contribution rate requirement was abolished. (Thoburn, 2011)

While foreign trade was liberalized in Turkey in the 1980s, an export-led growth model was preferred as an economic policy. While the import of parts was prohibited in the period between 1960 and 1980, this practice was abolished after 1980, customs duty was abolished in the import of motor vehicles, but the automotive industry was tried to be protected from foreign competition with the fund application. With the Customs Union application with the European Union (EU) in the 1990s, taxes and funds were completely zeroed. With the decisions of the World Trade Organization regarding free trade, which Turkey has also accepted, the Turkish automotive industry has become completely open to foreign competition. (Dolanay, 2017)

Just like in Thailand, domestic automobile production could not be realized in Turkey either. However, after 1990, Thailand began to be known as the “Detroit of Asia” by focusing on foreign automobile companies to establish production facilities in their country rather than producing domestic cars, achieving greater success in the realization of this policy, and Turkey was swept away from one option to another in its policy choice implementation. It has not been successful enough in realizing a certain policy implementation.

II. Historical Development in the Thai Automotive Industry

Since the 1960s, Thailand has started to create the automotive industry by producing import substitution industrialization model and domestic copies of foreign products. At first, all motor vehicles entered the country only through importation.

II.1 The Period Between 1960-1970

Thailand tried to achieve economic development by applying the import substitution industrialization (ISI) model in the period between 1960 and 1970. In the 1960s, the automotive industry was only able to maintain and repair motor vehicles. All motor vehicles have entered the country through imports. Regarding the country’s first

industrial policy, the general “Industrial Investments Incentive Law” prepared by the Investment Board (BOI) in 1960 also covered the automotive industry. This plan, which was revised in 1962, included temporary corporate tax exemptions, tariff reductions and exemptions in input and machinery imports, reorganization of land ownership and the introduction of foreign technical experts. (Natsuda and Thoburn, 2011: 11-12) İthal ikameci kalkınma stratejisi çerçevesinde sanayileşmeyi sağlamak için 1960 yılında Yatırımları Teşvik Yasası çıkarılmıştır. Yasa ile yabancı yatırım projelerinin onayı ve yatırım teşvik önlemlerinin kararlaştırılması için Yatırım Kurulu (BOI) kurulmuştur. 1960’ların başında korumacı ticaret politikası kapsamında, yolcu otomobilleri, kamyon ve kamyonet CBU’larında gümrük tarifeleri sırasıyla, %60, %40 ve %20 olarak belirlenmiştir. Aynı araçların ithal CKD’lerinde tarife oranları CBU’ların yarısı kadar olmuştur. Tayland’da yatırım teşvik politikaları yabancı ve yerel yatırımcılar için aynen uygulanmıştır. (www.intracen.org)

Within the framework of the import substitution industrialization model, Thai Motor Industry, the first automobile company of Thailand, was established in 1961 with the partnership of Ford, United Kingdom and Anglo Thai Motor. The company has started the assembly of imported completed auto parts (CKD). At this time, the tariff for completed automotive parts was 30% for passenger vehicles and 20% for commercial vehicles, while for imports of completed motor vehicles it was 60% and 40%, respectively. By 1969, there were six companies in partnership established with Thai capital. In the period between 1960 and 1970, automotive industry production increased from 525 vehicles in 1961 to over 10,000 vehicles in 1965. However, as of 1969, only 18.5% of the total sales consisted of domestic sales. (Natsuda and Thoburn, 2011: 12)

Therefore, despite the implementation of the import substitution industrialization model, it is understood that the Thai automotive industry was established for export..

II.2 The Period Between 1970-1990

The government established the Automotive Development Committee in 1969. It was decided that the Committee would have members in the Ministry of Industry, Ministry of Finance, Ministry of Commerce and Central Bank of Thailand. (www.intracen.org) Ministry of Industry (MOI) in 1969; He established the Automobile Development Committee to provide tax incentives for the local production of automotive parts such as tires, batteries, radiators and leaf springs. A long-term long-term industry development strategy could not be established because the Federation of Thai Industries opposes tax policy and incentives. Thus, the dependency on the assembly industry based on the import of finished parts has increased. This situation led to serious balance of payments deficits at the end of the 1960s. As a result of the economic problems arising from the automotive industry, the Thai government announced its industrial policy specific to the automotive industry for the first time in 1971. This regulation included three measures. These are, first, to limit the number of models to be assembled in order to achieve economies of scale, secondly, to target 25% of the local contribution rate by 1973, and thirdly, to limit new entries to the market with an initial investment of 200 Baht excluding land and a daily production requirement of at least 30 vehicles. . (Natsuda and Thoburn, 2011: 13)

However, due to political change and pressure from new assembly companies, the regulation has been revised and the automotive model limitation, production capacity limitation and barrier to new entries have been removed. The regulation on the local contribution rate was only implemented in 1975. As a result of the policy change, eight new assembly companies entered the sector between the years 1973-1977. Among them are General Motors (Bangchan General Assembly (GM)), which began operations in 1972, and Ford Motor Thailand, which began operations in 1974. Moreover, Japanese multinational parts manufacturers have partnered with Thai firms to produce parts for assembly firms to achieve the desired local additive ratio. (Natsuda and Thoburn, 2011: 13-14)

In 1977, new regulations were made in the Investment Incentive Law. With the new regulations, the foreign investment policy regime remained fairly liberal, and foreign firms were able to open their own units in Thailand without the need for BOI's approval. In order to increase the local contribution rate in production, the customs tariffs remained at 80%, 60% and 40%, respectively, for CBU passenger cars, trucks and pickup trucks, while for

CKD passenger cars, trucks and vans, they were 50%, 40% and 30%, respectively. In order to encourage the local contribution rate to increase further, an import ban was introduced in CBU passenger vehicles in 1978. Customs tariff rates in KACBU and CKD were increased to 80% and 60%, respectively. In 1983, within the framework of the Minister of Industry's project to increase the local contribution rate, it was planned to increase the local contribution rate to 70% and then to 100% in a ten-year period for cars that were assembled locally. While local part manufacturers welcomed the plan, automotive industry manufacturers showed a great reaction. In the details of the plan, the first is the local contribution rate target, the second is to allow three selected companies (Siamese-Toyota Production, Isuzu Engine Production and Thailand Automotive Industry (Nissan Unit)) to produce diesel engines for one-ton pickup trucks and apply special local additive rates to these products. There is an expectation of export performance from products. It has been. (www.intracen.org)

Although the local contribution rate approached 25% in the 1960s, automobile prices remained high and overall quality low. Moreover, political instability in the council of ministers prevented the government from implementing an effective automobile development policy. In any case, between 1971 and 1977, local vehicle production more than quadrupled, reaching 65% of total vehicle sales in 1977. However, the foreign trade deficit in the automotive industry worsened. (Natsuda and Thoburn, 2011: 14)

The Thai government announced a series of industrial policy measures in 1978 in order to close the foreign trade deficit and increase the local contribution rate. First, the Ministry of Commerce banned the import of CBU in passenger cars in January 1978, while the Ministry of Finance raised tariff rates on imports of CBU and CKD parts. The Thai Automotive Part Manufacturers Association (TAPMA) was established in 1972 and began to influence the government's industrial policy making. Secondly, under the influence of TAPMA, the Ministry of Industry increased the required local contribution rate for passenger cars to 35% for the first two years, and decided to increase this rate by 5% each year to reach 50% in 1983. the rate was increased from 20% to 45%. Third, it was decided to force assembly companies to use local inputs in the production of parts. Thus, assembly companies have made investments for the production of parts. While large automotive companies such as Toyota and Nissan were able to achieve their local contribution rate targets, smaller companies such as Hillman, Simca and Dodge could not achieve them and disappeared from the market at the end of the 1970s. Thus, the number of models in the market decreased, and the American automobile manufacturer Ford and GM (General Motors), which produced optimal production in the market where protectionism existed in the import substitution automotive industry, left the Thai market. (Natsuda and Thoburn, 2011: 14-16)

In 1984, the local contribution rate for passenger vehicles increased to 50% and for commercial vehicles to 45%, and in 1987 the rates were 54% and 51%, respectively. Moreover, the Ministry of Industry tried to limit the series and models of locally produced automotive products, and passenger vehicles were limited to 42 aeri and two models in 1984. While the government targeted local contribution to the manufacturers in the production of pickup trucks in 1989, it was aimed to reach 60% in the Industry Board (BOI) projects and 80% in the Ministry of Industry projects for 1995. (Natsuda and Thoburn, 2011: 16)

Since the 1970s, but especially with the 4th (1977-1981) and 5th (1982-1986) National Economic and Social Development Board Plans, the government has given importance to increasing the export capacity of the automotive industry. The first vehicle import from Thailand was made by MMC Sitipol with 488 passenger vehicles and 40 buses to Canada. This export success was followed by the export of various parts. Thailand's automobile exports reached 12,950 units in 1988. When exports began in the late 1980s, protectionist policies continued to be implemented in the Thai automotive industry. For example, the import of 2300cc continued to be prohibited and 300% customs tariff continued to be applied to the import of passenger vehicles over 2300cc engine volume. However, in the late 1980s, the tariff rate for the import of CKD parts for passenger vehicles was only 112%. While the Thai economy grew by an average of 10% annually between 1987 and 1990, the demand for automobiles continued to increase rapidly. Moreover, for the first time in 1988, local vehicle production surpassed local sales. (Natsuda and Thoburn, 2011: 16-17)

Towards the end of the 1980s, the Thai automotive industry, which continued its development, started to set an example for the East Asian style industrialization model with its policy of expanding through exports while protecting the local market. (Natsuda and Thoburn, 2011: 17)

The period between 1960 and 1986 can be divided into months. The first can be called the assembly phase, the second the first decentralization phase, and the third, the second decentralization phase. In the first year of the Thai automotive industry, local companies had no experience. Therefore, the regulations for automotive parts and motor vehicles that have been assembled for passenger cars, commercial vehicles and trucks have been made to protect them from foreign competition. Tax exemptions are provided to support local automotive parts manufacturers. In the mid-1970s, the implementation of the local contribution rate requirement was started, and this practice was established even more strictly in the following years. During the first three phases, the number of automotive product and parts manufacturers increased rapidly. (Samarnbutr, 2012: 4)

II.3. The Period Between 1990-2000

In 1990, the government imposed limits on the number of vehicles produced for domestic sale. In the following year, the import ban of new cars was lifted in the following year. The import of only certain diesel engines, motorcycle engines and used cars was subject to permission, and the condition of being a partner at a maximum rate of 49% was abolished. As a member of ASEAN in 1995, Thailand signed the Brand Complementary Brand by Brand (BBC) program among member countries. This program aims to support the trade of parts and sub-industry products between automotive companies in ASEAN member countries. This program envisaged a 50% reduction in the intermediate customs tariffs of the members and increased the local contribution rate of 40% of the imported parts within the scope of the program. It was decided that the agreements made with Australia and New Zealand would enter into force in 2005, and those with Japan in 2007. (www.intracen.org)

Within the scope of liberalization policies, it was aimed to reduce automobile prices and increase competition in the local market in the first half of the 1990s. In these years, in line with the government's expectation, non-Japanese automobile manufacturers' investments increased, and foreign manufacturers, with the exception of Sweden's Volvo, cooperated with Japanese capital to benefit from the oligopolistic structure in the Thai market. Within the framework of the developments, the Minister of Industry criticized the regulation regarding the local contribution rate requirement and stated that it did not lead to the growth of the automobile industry but to higher automobile prices. Thai units of Japanese companies also complained that they were paying high rents due to protectionism, but in 1994 the requirement for the local contribution rate was increased to 60% for gasoline pickup trucks and 72% for diesel powered pickup trucks. As a result, the government announced in 1996 that it would abolish the local contribution requirement from July 1998. The date was later extended to 2000. (Natsuda and Thoburn, 2011: 18)

As a result of the liberalization policy, the three big US auto manufacturers Asia, consisting of Ford, Chrysler and GM, decided to establish their own Thailand production facilities to benefit from the Asian region hub. In addition, Japanese companies such as Toyota and Honda have decided to increase their production capacity in Thailand. In addition, US component manufacturers such as Dana, Visteon and Delphi have also decided to establish a production facility in Thailand. (Natsuda and Thoburn, 2011: 18-19)

Although Thailand has made great progress with the liberalization policy of the automotive industry since 1991, it has been exposed to the deep negative impact of the Asian currency crisis in 1997. Vehicle sales in Thailand fell sharply, 600 local companies either went bankrupt or were acquired by foreign companies. With the crisis and the decline in sales, automobile companies turned to export instead of the local market. In addition, they increased their capital shares in the partnership and started to provide assistance to the parts manufacturer companies with various financial supports. The Thai government also reorganized investment incentives in 1997. In order to encourage foreign investments, large shareholdings of foreigners are allowed in partnerships. At the same time, the government implemented the new tax policy, VAT was increased, and 5% SCT (Special

Consumption Tax) was started to be collected from vehicles. The Thai government also increased the customs tariffs on imported CBU vehicles, which had a reducing effect on imports. The Automobile Institute of Thailand (TAI) was established in 1998 to expand institutional policy and structure and increase research capacity in the automobile industry. (Natsuda and Thoburn, 2011: 19-20)

With the crisis, the government announced in 1997 that it had postponed its obligation to realize the local contribution rate until January 2000. Regarding the local contribution policy, the government set 72% for diesel powered pickup trucks and 54% for passenger cars in 1994, which was the highest rate ever. Indeed, these gaps have been approached in some vehicle types. For example, Toyota achieved a local contribution rate of 70% in 1999 in its passenger car Soluna and its other pickup truck Hilux. (Natsuda and Thoburn, 2011: 20)

II.4. Post 2000 Process

In 2000, the Thai government abolished the requirement to provide the local contribution rate within the framework of the WTO (World Trade Organization) rules, and created financial policies for the rapid development of the industry. First, the customs duty on the import of semi-finished (finished) products (CKD) was increased from 20% to 33%, thus increasing the protection rate for the part manufacturers and decreasing the protection rate for the assembly companies. Secondly, the SCT in double cabin pickup trucks was reduced from 35-48% to 12%, in other pickup trucks it was reduced to 3-5%, and in passenger cars with engine power below 2400cc, it was reduced from 37.5% to 10%. With this new tax policy, the market demand for pick-up trucks has increased, and corporate tax exemptions have been applied for a period of 3-8 years for foreign capital investments over 10 million Baht. At the same time, tax reductions in machinery and material imports have started to come into question. (Natsuda and Thoburn, 2011: 20-21)

Additionally, the Thai government has implemented selective industrial policies linked to fiscal policies to reveal their product champions. The "New Automotive Industry Policy", which aims to make Thailand the regional center of Southeast Asia in the automotive industry, has been announced. This arrangement aimed to make pickup trucks and related sub-industry products the primary product champion. The regulation brought customs exemption to the import of machinery and introduced a three-year corporate tax exemption for manufacturers of related sub-industry products (parts). In addition, many tax incentives have begun to be provided to companies that have opened an R&D center in Thailand and to companies that have moved their regional management center to Thailand. (Natsuda and Thoburn, 2011: 21)

As a result of government policies, for example, Toyota moved the production facility of pick-up trucks, which it will export to the whole world, from Japan to Thailand. Toyota aimed to use Thailand as Thailand's global production base for Hilux-level small multi-purpose vehicles, after capturing the large Thai market with the IMV (Innovative International Multi-purpose Vehicles project) announced in 2002. In parallel, Toyota aims to use Thailand as a global production base for small multi-purpose vehicles. has chosen it not only as a production base but also as a product development center within the scope of the IMV project. Thus, Toyota opened its first R&D center outside the USA and Europe in Thailand in 2005. Moreover, Toyota transferred all its administrative activities in 2007 to Toyota Motor Asia Pacific Engineering and Manufacturing (TMAP-EM) unit and moved it from Singapore to Thailand (Natsuda and Thoburn, 2011: 21-22)

Similarly, Isuzu moved its pickup truck (D-MAX) manufacturing facility from Japan to Thailand in 2002. In 2010, Isuzu established its R&D activities for pickup trucks in Thailand. As automobile manufacturers increased their production capacities in Thailand, over 70 Japanese auto parts manufacturers invested in Thailand in 2005, four of which established R&D centers. The government announced its plan to become the Detroit of Asia in early 2004, then the name of the plan was changed to the Manufacturing Center of Asia. With the plan, it is aimed for Thailand to become a regional hub in automobile exports with 2.5 million CBU vehicle production in Southeast Asia, and thus to be among the top ten countries in the world in automobile production by 2016. The Thai government predicted that thanks to its guiding economic policies, the middle class in the country would become stronger and the country would grow in the long run, and the demand for automobiles would shift from

the pickup truck to the passenger vehicle market. Moreover, the government announced that its goal of being an Asian Production Center would not be enough to be a production champion in the production of pickup trucks. Within the framework of this project, with the excise tax and corporate tax policies, the government wanted to encourage the growth of local industry capacity for local engine production by realizing the localization of the auto parts industry. In this context, the Thai government has determined which technology will be localized and its production will be supported by providing many tax incentives in related fields. (Natsuda and Thoburn, 2011: 22-23)

Although Nissan, Honda, Suzuki, Mitsubishi, Toyota, Volkswagen and Tata Motor have received government approval for the Eco Car project announced in early 2007, only Japanese manufacturers have decided to take part in the project. The total production capacity of these manufacturers has reached 620,000 units. For example, Nissan has redeployed its workforce in Thailand and Japan in order to direct its workers to manufacture relatively small and cheaper vehicles in accordance with the Eco Car production scheme. Nissan stopped the Japanese production of Mart (Micra) and moved its production capacity to Thailand. Its aim was to export Thailand-made i Micras to the Japanese market. Nissan started the production of Eco Cars in March 2010, and its production reached 59,441 units in the same year, and its exports reached 42,328 units, mostly to Japan. (Natsuda and Thoburn, 2011: 23-24)

In 2006, the Thai government started a human resources development program for auto part manufacturers, with the support of the Japanese government, in public-private cooperation, called the Automotive Human Resources Development Project (AHRDP). With this project, it is aimed to enable second and third line part manufacturers to develop their local technological capacities. In this framework, in the first phase of 2006-2007, training of more than 300 employees from the second and third rank part manufacturers was carried out by four Japanese companies consisting of Toyota, Nissan, Honda and Denso. In the second phase, which covers the period between 2008 and 2010, these companies trained 4000 employees in their companies. As a result of the Thai government's policies towards the automobile industry, many parts manufacturers have invested in Thailand. As of 2010, 60% of these investments originated in Japan. The development of the automobile sub-industry has brought with it new opportunities. For example, Ford has relocated Focus's production facility from the Philippines to Thailand due to the developed automobile cluster in the country. While there are 2,300 parts manufacturers in Thailand, this number is 700 for Malaysia and 500 for Indonesia. (Natsuda and Thoburn, 2011)

For example, Toyota Motor Thailand has met 95% of the parts it needs from companies located in Thailand within the framework of OEM contracts, while it has come to expect to meet 100% of the parts manufacturers located in Thailand in the post-2010 period. (Natsuda and Thoburn, 2011: 25)

It can be said that the process after 1987 consisted of three phases. These can be called the first, the liberalization phase, the second, the financial crisis phase, and the third, the Detroit of Asia phase. Thailand has signed many trade agreements in order to open up more to international markets. In order to fulfill the requirements of these agreements, the assembled motor vehicle (CBU) and assembled automotive parts (CKD) regulations were relaxed and the regulation on the local contribution rate requirement was postponed to 2000. As a result, many automobile manufacturers have decided to establish new production facilities for export in Thailand. The Thai government has turned to export-oriented policies. The automotive industry was affected by the economic crisis experienced in Thailand in 1997, but soon after the investment decision of the Multinational Companies, the Thai automotive industry entered the path of growth again. Thus, Thailand's policy of being the Detroit of Asia has become realizable. (Samarnbutr, 2012: 4)

We can explain the rapid export-oriented growth in the Thai automotive industry in two ways. The first is that the successful restructuring of the Thai automotive industry and pragmatic government policies make the country attractive for global production, and the second is that local market size allows automotive manufacturers to benefit from economies of scale in the initial global market opening process. (www.intracen.org)

Production figures have increased in the Thai automotive industry in recent years, with the emphasis on automobile production without giving up the leading role in pickup truck production. In a sense, the production figures that can only be achieved with the production of pickup trucks have been achieved, we can say that automobile production has been directed to increase the production figure even more.

Table 1: Thailand Automotive Industry Production (20108 - 2021)

Yillar	Automotive Industry Total Production
2008	1,393,742
2009	999,378
2010	1,644.513
2011	1,457.798
2012	2,429.142
2013	2,457.057
2014	1,880.587
2015	1,915.420
2016	1,944.417
2017	1,988.823
2018	2,167.694
2019	2,013.710
2020	1,427.074
2021	1,685.705

Source: www.oica.net

As can be seen from Table 1, the production, which had fallen a lot in 2009, started to recover in 2010, the automotive industry production figure decreased in 2011 compared to the previous year, but we can say that the production increase in 2012 was realized with the increase in automobile production in 2012.

It is seen that the production figures after 2013 do not follow an ergodic increase line. We can say that this appearance in automotive industry production explains the existence of a path-dependent development line.

III. Historical Development in Turkish Automotive Industry

Compared to Thailand, although the Turkish automotive industry was formed and started to develop from a much earlier date, today the Thai automotive industry is more developed than Turkey's. We can say that it is an indication that Turkey has not been able to create good enough industrial incentive policies to encourage industry.

III.1. The Process Between 1929-1960

Within the framework of the principle of rapid industrialization taken at the 1st Izmir Economics Congress, an automobile assembly facility was established by Ford Motor Company in Istanbul with great incentives provided by the state in 1929, and the facility had both production and export targets for the domestic market. However, with this initiative, the Istanbul facility continued production for a short time, then stopped production and ceased operations. (Dolanay, 2017; Dolanay and Oğuztürk, 2018: 227-251)

After this first facility, production facilities were established in different automotive product areas through a license agreement. (Dolanay, 2017; Dolanay and Oğuztürk, 2018: 227-251)

III.2. The Process Between 1960-1980

In the 1960s, while the production of different motor vehicles in the automotive industry could be carried out by assembly, the automobile production facility had not been established yet. However, in 1961, Turkey's first domestic automobile prototype could be manufactured in a short period of 4 months. Although the project was successful, mass production could not be started. (Şimşek, 2006; Dolanay, 2017; Dolanay and Oğuztürk, 2018: 251-275)

With the Assembly Industry Instruction published in 1963, in a sense, import substitution industrialization strategy and industry incentive policies of the development model were established. With this arrangement, the aim was to produce similar parts of imported automotive products under local conditions. We can say that with the non-selective incentive system, the way to produce poor quality copies of foreign products has been opened. (Azcanlı, 1995; Dolanay, 2017; Dolanay and Oğuztürk 2018: 251-275)

In 1967, the production of the Anadol automobile, which can be considered Turkey's second domestic automobile, was started. Anadol's body, which can be said to have been produced through multiple technology transfer, consisted of an unusual fiber glass material. The production of Anadol continued until the 1980s. (Demirer and Aydoğan, 2008; Dolanay, 2017; Dolanay and Oğuztürk, 2018: 251-275)

Since the export of Anadol was not considered and production could not be started with sheet metal bodywork instead of fiberglass, production in the project could come to an end. We can say that the competition of Renault and TOFAŞ cars, which were established with a license agreement in 1971, was added to the mistakes we mentioned above, and this was one of the factors that prepared the end of Anadol.

In 1971, Renault automobiles production facility in France was established by OYAK with a license agreement, and Fiat brand automobiles production facility in Italy was established by TOFAŞ. (Azcanlı, 1995; Dolanay, 2017; Dolanay and Oğuztürk, 2018: 276-283)

With the newly established factories, the production volume of the automotive industry has increased. The increase in the production volume was largely due to the newly established automobile production facility, but "automobile production is a luxury for Turkey, it is necessary to focus on truck production", given by the DPT (State Planning Organization) in order to prevent the mass production of the Devrim automobile prototype, which was successfully manufactured in 1961. It can be said that the report containing the result as follows was not done. (Şimşek, 2006)

As the automotive industry production started to decline in the second half of the 1970s, we can say that the import substitution industrialization strategy prepared the formation of a major economic crisis at the end of the 1970s due to the foreign exchange bottleneck. (Dolanay, 2017; Dolanay and Oğuztürk, 2018: 276-283)

With the economic stabilization program announced on January 24, 1980, we can say that the first foundations of a great economic transformation were laid, while the value of the Turkish Lira was reduced against foreign currencies with the large-scale devaluation made to ensure stability in the economy. Because, while emphasizing the necessity of exporting for the first time, it was also understood that a transition to an export-based growth model could be made. (Azcanlı, 1995; Dolanay, 2017; Dolanay and Oğuztürk, 2018: 284-301)

III.3. Period Between 1980-2000

As an industrial policy preference, export-based growth model started to be implemented after 1983, and accordingly, a change was made in the incentive system and export incentives came to the fore. (Dolanay and Oğuztürk, 2018: 284-301)

The Manufacturing Industry Regulation, which was adopted in 1984, highlighted the quality development, unlike the Assembly Industry Instruction. (Azcanlı, 1995)

In a sense, it was determined that the automotive industry, which had developed with the technology imported from abroad until that time, should provide technological development, and in addition, the necessity of technological development was emphasized at the national level with the first Science and Technology Report published in 1983. (Dolanay and Oğuztürk, 2018: 284-301)

With the liberalization practice in the economy that started in 1983, foreign trade started to be liberalized, the protective customs tariffs that protect the automotive industry from foreign competition were also abolished, but since the automotive industry was not yet ready to open up to foreign competition, a fund application was introduced. (Dolanay and Oğuztürk, 2018: 284-301)

Turkey became a member of the World Trade Organization (WTO) in 1994 and a Customs Union (CU) agreement was signed between the European Union (EU) and Turkey in 1996. Thus, in line with the agreements, direct monetary incentives were abolished and state aids for exports came into effect in a way that would not contradict international commitments. (www.iibfdergisi.ksu.edu.tr: 2-3)

The 1990s were the years when reports and books on science and technology increased, and institutions for technology development were established. The second Science and Technology Report was published in 1993 and after the establishment of TÜBİTAK (Turkish Scientific and Technical Research Council) in 1963, institutions such as TUBA (Turkish Academy of Sciences) and TTGV (Turkish Technology Development Foundation) were established in the 1990s. However, despite these efforts to create a national innovation system, the approach of ensuring development in the automotive industry by acquiring technology from abroad continued. (Dolanay and Oğuztürk, 2018; Göker, 2013)

III.4. Post 2000 Process

In the 2000s, the trend of the 1990s continued and the national innovation system gained a more developed institutional structure, and the laws forming the legal framework of the national innovation system were published. (Dolanay and Oğuztürk, 2018: 310-333, 368-385)

Despite the vitality and development brought by the three automobile production facilities opened in the 1990s in the Automotive Industry, a new automobile production facility was not established in the 2000s, and Hyundai's request to establish a second factory in Turkey in 2006 was rejected when the desired incentives could not be given. (Dolanay and Oğuztürk, 2018: 310-333, 368-385; www.hurriyet.com.tr)

After this investment opportunity was missed in 2006, it was announced that domestic automobile production was focused on in the 2010s, and a domestic automobile prototype was manufactured in 2015. However, after the reactions from the public, the domestic automobile production business was tendered. Turkey's Automobile Enterprise Group, which received the tender, announced that the first prototype will be manufactured in 2020 and mass production can be started in 2022. (<https://www.togg.com.tr>; <https://www.haberturk.com>)

However, the fact that the year 2022 was determined for the transition to mass production after the first domestic automobile prototype emerged in 2015 has shown how difficult it is to break the dependency to the path in this area. Moreover, this situation led the government to make an agreement with Volkswagen to establish an automobile factory in Turkey, and we can say that the government was caught between producing domestic automobiles by developing its own technology or providing the necessary incentives for foreign automobile brands to establish factories in Turkey.

This dilemma of the government, on the other hand, reminded the dilemma of stopping the transfer of knowledge and technology in the Ottoman period and turning to introversion and starting the transfer of knowledge and technology again and trying to develop its own technology. Because the Ottoman Empire, firstly, by executing a scientist such as Molla Lütüfi, who tried to contribute to the production of local knowledge by benefiting from foreign scientific developments, and then, when scientists with the same talents did not grow, they brought scientists from advanced countries and tried to establish the institutions of advanced countries in their countries. (Dolanay, 2022a; Uludođan, 2015: 3-5; <http://blog.milliyet.com.tr>; Ültanır, 2017; İhsanođlu, 1992; Müller-Wiener, 1992; Murphy, 1992)

Moreover, Thailand has provided the development of the automotive industry without making any effort to change the path it has followed, only by using the incentive system very well and by continuously export-oriented production, and as a result, it has been ahead of Turkey in the world ranking in the automotive industry production with 2018 figures. The Thai automotive industry is not as developed as the South Korean automotive industry, but it has drawn a steady growth line and ranked 12th in the world in terms of production volume in 2016. (www.oica.net; Dolanay and Ođuztürk, 2018; <https://www.boj.go.th>)

When we look at the production figures of the Turkish automotive industry for the last fifteen years, we can see that there has been an increase, but that it has not reached the desired level.

Table 2: Turkish Automotive Industry Total Production (2008-2021)

Years	Automotive Industry Total Production
2008	1,147.110
2009	869.605
2010	1,094.557
2011	1,189.131
2012	1,072.978
2013	1,125,534
2014	1,170.445
2015	1,358.796
2016	1,485.927
2017	1,695.731
2018	1,550.150
2019	1,461.244
2020	1,297.878
2021	1,276.140

Source: www.oica.net

Turkish Automotive Industry Total Production was affected by the 2008 world economic crisis and decreased by 24% in 2009 compared to 2008. As of the following year, with the effect of the improvement in the environment of the economic crisis, it recovered and entered an increasing trend. However, the upward trend continued until 2018, and it started to decline again with the effect of the foreign exchange crisis, which started with a sudden increase in the foreign exchange rates experienced in the country in 2018. We can say that this structural feature of the automotive industry, which has been greatly affected by the crises, implies path dependency.

IV. Conclusion

Thailand started to establish the automotive industry in the 1960s and despite the unprotected foreign trade policy, the industry started to develop with the production of automotive industry outputs for export. Although it has developed by adopting the past industrialization policies of the countries, it has been able to have an automotive industry that has gone further than Turkey.

Turkey, on the other hand, has tried to establish a unique automotive industry since the 1960s, but it has not been able to create a unique path and has not even reached a production level that could be reached if it had consented to a path-dependent development. It lagged behind Thailand in automotive industry production. However, with the right decision taken in 2015, work was started for domestic automobile production and efforts were made to adapt the incentive system in order to attract foreign capital to the country to a greater extent.

Although Thailand seems to be ahead of the automotive industry with its economic policies based on a well-formed sectoral incentive system, big manufacturers in the automotive industry have been successful by developing their own technologies. Although they still transfer technology, we can say that they can increase their production with domestic vehicle production as they have the ability to develop technology. Thus, it can be easily said that they have become the world's largest producers

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