

## Article

# The Automotive Industry of Uzbekistan and the “Flying Geese” Paradigm

Dr. Ubaydulla S. Nadirkhanov

[PhD], Tashkent State Transport University, Transport Economy Department, 100167, Tashkent, Temiryolchilar 1, Uzbekistan, Associate Professor

\* Correspondence: [u.nadirkhanov@mail.ru](mailto:u.nadirkhanov@mail.ru)

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**Abstract:** The author studies the role of the industry in the economic development of the Republic of Uzbekistan. They note that the development of automotive industry has made an important contribution not only to the country's economic development, but also to the exports diversification. They emphasize that the automotive industry also plays an important role in creating jobs, which determined the choice of its location in the most densely populated district of Uzbekistan. The article discusses international and domestic experiences in developing the automotive industry. It reveals the modern trends production expansion of the “UzAutoMotors” JSC, as well as the export policy and its effectiveness in the neighboring countries of Central Asia. Authors analyze foreign direct investment (FDI) theories, which explain the motivation and conditions for movement of the international entrepreneurial capital. A special attention is paid to conditions that encourage transition from exporting goods to create their own production abroad. In this regard, experience of Southeast Asian countries, mechanism of “flying geese” paradigm by K. Akamatsu have been studied, a comparative analysis in opening own automobile production in Central Asia and Azerbaijan were carried out. General patterns, differences and features are revealed, recommendations have been given. The urgent need to improve the management system under new conditions has been stressed with a special focus on using the foreign experience based on FDI theories, in particular the “flying geese” paradigm. Particular attention is paid to investment outflow and joint ventures creation in the neighboring countries, while forming production chains and promoting regional integration. Statistical and informational materials on production activities of the Uzbek automaker, the export of cars in 2016-2022, organization work to open the production of cars in the region have been presented within this research work. Proposals have been given to increase competitiveness and investment attractiveness of the “UzAutoMotors” JSC.

**Key words:** automotive production, export of capital, regional integration, “flying geese” paradigm.

## Introduction

As the practice of the Republic of Uzbekistan shows, a comprehensive analysis of the past stage of the country's development, the changing conjuncture of the world economy in the context of globalization and increasing competition require the development and implementation of radically new ideas and principles for further sustainable and advanced development of the country [3].

In 2022, Uzbekistan's gross domestic product (GDP) at current prices amounted to 888.34 trillion sums (\$80.4 billion). Real growth compared to 2021 has reached 5.7% [22]. From 2017 to 2022, the share of industry in Uzbekistan's GDP increased from 21.1% to 26.7%. Experts note that this increase was influenced by the steady growth in industrial production, which amounted to 141.3% over the past five years.

The main part of the country's industry is processing, accounting for 83.2%. According to national experts, this is a positive result for an industrial development program aimed at expanding the production of products with high added value, increasing the degree of processing of raw materials, and introducing modern technologies [18]. This fully applies to the automotive industry of Uzbekistan, which is actively entering the markets of the Central Asia states, using world experience, certain basics of well-established theories of foreign direct investment (FDI), including the "flying geese" (FG) paradigm by K. Akamatsu.

Experts note that the concept of "flying geese" as the basic Asian model of development served as the theoretical basis for the export-oriented development of Japan, NIS SEA-4, ASIAN countries, and China, proving its effectiveness in developing international trade and deepening international labor division. K. Kojima, on the basis of the FDI outflows from developed countries to developing ones, proved that FDI can have various effects on the division of labor and the development of trade between partners, depending on which companies and industries carry out the export of foreign direct investment [13].

Researcher V. Terentyeva, revealing the relationship between FDI and the "flying geese" paradigm in Vietnam, in the process of studying such a unique phenomenon of regional economic development as the FG paradigm, the investment climate in Vietnam as a whole, substantiated her own hypothesis that Vietnam could take on the role of "leading goose" in one of the "flocks of flying geese" in some other industries [20].

F. Gubaidulina who analyzes the country-specific features of attracting foreign direct investment states that the "Asian tigers" during the reforms were actively fueled by foreign investment, while Japan strictly limited the inflow of foreign capital and fully relied only on national resources [8]. In her opinion, after the war, Korea, like Japan, was in ruins; Hong Kong, Singapore, and Taiwan were agricultural countries that did not have their own industries. And, despite the lack of natural resources, these countries managed to achieve economic prosperity, while they, following Japan, built an export-oriented development strategy that allowed them to achieve high growth rates.

Y. Salikov, M. Isaenko draw attention to the fact that in the K. Akamatsu's view, the FG paradigm author, there are three phases of the industry development:

1. Entry of products into the country through imports.
2. Opening of the national production.
3. Exports of previously imported industrial products [17].

A. Tausch, L. Grinin, A. Korotaev noted that in Akamatsu's theory there are important connections between his "flying geese" (Gankō Keitairon) model and Kondratiev's ideas. This model was first presented as an international publication on Kondratieff theory (1961), although it was originally published in Japan as early as 1937 (shortly before the outbreak of World War II). It links the rise and fall of global peripheries directly to Kondratiev's larger cycle. The essence of the FG and K-cycle models is that these two processes are inextricably linked [19].

According to Shigehisa Kasahara, modern versions of the FG paradigm contain a framework for regional development and integration, adding to the paradigm a dimension of foreign direct investment – more specifically, investment from Japan to neighboring countries (Terry, 1996: 188).

While Vernon's theory implied a theoretical basis for regional integration, Japanese experts succeeded in linking it with the various overseas activities of Japanese transnational corporations (TNCs) - through subcontracts, license agreements, joint ventures, FDI, and so on, with the theme of regional integration in (especially in East) Asia. Kojima (1978) argues that flows of both real and financial assets from Japan, pooled and sent to successor countries as a package, will increase the benefits of cross-economic ties. However, by analyzing FDI, Kojima (2000) argues that it also creates significant side effects [14].

The Republic of Uzbekistan is actively studying the experiences of other countries to improve the efficiency of the national economy, including the competitiveness of the national automotive industry. First, the contours of the development and specific tasks were defined. Particular attention has been paid to increasing production capacity and improving the competitiveness of automotive products.

Automotive production and sales have traditionally been the largest and fastest-growing sectors of the world economy in the 20th and 21st centuries. Today, China, the USA, Japan, and Germany are the main leaders in car production in the world. The importance of the automotive industry in the development of national economies is, obviously, a generally recognized fact that gives positive impulses and incentives for many countries to follow this experience, develop their own automotive industry, and inevitably enter into competition with world leaders.

In developing countries, over the past 10–15 years, the automotive industry has shown unique growth rates, which are due not only to positive changes in the living standards of the population but also to an active government policy to stimulate and attract foreign investment in this segment of the economy. Thus, China's share of car production in 2001 did not reach 5%, but a few years later, in 2016, it reached 30% of the global car industry. Similarly, during the period under review, India's share increased from 1 to 5%.

Exploring the attractiveness of the automotive market to investors, we draw attention to the outstripping growth of the automotive industry in a number of countries in comparison with the growth rates of the global industry as a whole. So, since the beginning of the XXI century, annual car production in China increased by 12 times, while world production increased only by 1.6 times. In addition, India and Brazil are among the few countries where the automotive industry is developing rapidly.

## 2 Materials and methods

The aim and objectives of the study were to diversify the exports of the Republic of Uzbekistan through the growth of industrial products with high added value. Each country begins the export of FDI at a certain stage of investment development. On the example of "UzAutoMotors" JSC, we set the task to identify the patterns of this process, its stages, to study the trends in the operation of foreign direct investment (FDI) theories under conditions of Uzbekistan and the countries of Central Asia. Using the Akamatsu's "flying geese" paradigm as a tool, the task was to conduct a comparative analysis of their action in the conditions of Japan and the countries of Southeast Asia with the practice of Uzbekistan and Central Asia states, to identify common patterns and differences as well as giving an assessment and the necessary suggestions and recommendations.

The theoretical and methodological foundations of the study are based on national statistics (3,4, 18, 22), conclusions and proposals of foreign (6,8,13,14,15, 17, 19,20) and domestic researchers (1, 5) in the automotive industry, foreign direct investment, and investment policy. The methodological basis for accelerated industrial development is the National Strategy of Actions for the Further Development of the Republic of Uzbekistan, concept for the development of the national economy for the period up to 2030, and government decisions on providing and expanding foreign economic relations, materials, and expert reports. During the course of the study, various methods were used: observation and collection of facts, modeling, the method of scientific abstractions, and system analysis, set out in the works of domestic and foreign scientists.

## 3. Results.

### 3.1. Automotive market of Uzbekistan: from DAEWOO (South Korea) to MAN (Germany)

The starting point for the creation of the automobile industry in Uzbekistan was the visit in May 1992 to the Daewoo automobile plant by President Karimov I. during his visit to the Republic of Korea. This automotive company, which produced cars under licenses from GM and Suzuki and had already begun to build its own models on licensed platforms, was already planning to create branches in the countries of the former USSR and Eastern Europe.

Thanks to this, it was the Uzbek Daewoo project, created on a parity basis with the Uzavtosanoat state company, that became the only successful one. And the terms turned out to be the shortest by engineering standards: already in July 1996, the UzDaewoo plant produced the first Nexia, Tico and Lanos cars, licensed and slightly modernized copies of Opel Kadett, Suzuki Alto and Suzuki Every from the mid-80s. Already obsolete by European standards but superior to post-Soviet cars, at least in quality [10].

In our opinion, the leadership of the Republic of Uzbekistan, prioritizing the development of automotive production, sought to solve a multi-criteria task as well as:

- development of the industrial sector of the economy;
- saturation of the domestic market with automotive products and services;
- accelerated and massive creation of jobs, considering the rapidly growing population of the Republic.

In this regard, the birthplace of the Uzbek automobile industry was the city of Asaka, Andijan region, where, as in the whole Fergana Valley, the highest population growth was observed.

As part of President Shavkat Mirziyoyev's state visit to the Republic of Korea in 2017, Uzavtosanoat reached an agreement on the organization of production in Uzbekistan, giving new impetus to the development of the automotive market in Uzbekistan. Thus, at the automobile plant in Asaka, the production of the Tracker model, an upgraded version of Cobalt, started with the launch of mass production in 2019.

In 2021, Bo Anderson from Sweden, who had previously made a high-profile career in Europe and Russia, became the head of "UzAutoMotors" JSC (he headed the GAZ group in 2009-2013, and then led AvtoVAZ for another two years). If the first year he was engaged in "putting things in order" and did not take decisive steps, then recently it became known about changes in the company's policy. In particular, about the removal from production of the two least expensive and marginal models, Spark and R3, in order to "clear" the conveyor for the assembly of more profitable equipment. The Chevrolet brand, as well as the Chinese BYD, including those with a hybrid drive. It was very likely that Anderson agreed to cooperate with the Chinese company to resume export deliveries to Russia (for example, Uzbek-made Chevrolet models) and to expand exports to other countries.

The study of the economic indicators of the Uzbek automaker shows the achievement of optimizing its production structure, where the number of enterprises, including those for industrial purposes, has changed insignificantly over the past five years (Tab.1). Simultaneously, the volume of industrial production has increased from 4,222 billion soums in 2016 to 33,975 billion sums by the end of 2022 (eight times).

**Table 1.** Information on the main indicators of production activities of "UzAutoMotors" JSC, in 2016-2022.

Indicators	Number	2016	2017	2018	2019	2020	2021	2022
The number of enterprises in the composition, including production ones	pieces	76	77	73	75	74	72	72
	pieces	35	35	33	31	33	34	34
Volume of production	billions soums	4222	10792	26821	33534	34052	31185	33974
Rates of growth	percents	50,8	167,1	172,5	122,0	95,8	89,1	156,8
Main products								
Cars	thousands	88,2	140,2	220,7	271,1	280,1	235,8	230,3
	pieces							
Buses	pieces	908	1 057	949	1 534	642	1 002	852

Trucks	pieces	3500	3700	4200	5 300	4 200	4 500	3 100
Power units	thousands pieces	44,1	91,6	158,8	200,6	222,4	160,4	168,0
Common consumption goods	billions soums	2389	6 686	18442	24251	23286	20440	23075
Rates of growth	percents	46,4	156,4	191.1	131,1	96,0	85,9	167,0

Source: [9].

Product line diversification is constantly carried out. Thus, since 2018, KAMAZ trucks have been produced, and since 2021, light commercial vehicles have been produced (see Tab. 2). A strong player such as MAN entered the automotive market of Uzbekistan.

**Table 2.** Information on the main types of products of “UzAutoMotors” JSC, in 2016-2022.

Indicators	Number	2016	2017	2018	2019	2020	2021	2022 (9 months)
Cars	thousands pieces	88,1	140,2	220,7	271,1	280,1	235,8	230,3
ISUZU buses	pieces	908	1 007	904	1 464	629	1 002	811
ISUZU tracks	pieces	2512	2 639	2 466	2 727	2 439	2 936	1 971
D-MAX pickups	pieces	-	-	32	446	314	312	-
MAN- tracks	pieces	-	50	45	70	13	-	40
MAN-Sinotrack tracks	pieces	1005	1150	1170	1203	757	377	265
light commercial vehicles	pieces	-	-	-	-	-	917	423
KAMAZ tracks	thousands pieces	-	-	601	1358	521	835	511
Trailers and semi-trailers	pieces	-	1113	641	1345	670	438	364
Power units	thousands pieces	44,1	91,6	158,8	200,6	222,4	160,4	168,0

Source: [10].

### 3.2. Development of exports by “UzAutoMotors” JSC .

The study of export trends of “UzAutoMotors” JSC shows a dynamic growth in exports, which from 23882.9 thousand US dollars in 2018 grew to 276421.2 thousand US dollars in 2021 (11.5 times), having rolled back at the same time, up to 4656.6 USD at the end of 2022. Among the reasons for this decline, we identified the absence of Kazakhstan among the importers of Uzbek cars in 2022, whose share in 2019-2021 in the export of cars from Uzbekistan was 79-87% (see Tab. 3).

**Table 3.** Export of cars by “UzAutoMotors” JSC, in 2018-22, thousands US dollars.

Indicators	2018	2019	2020	2021	2022
Cars and other motor vehicles, mainly for the transport of people * incl. utility vans and racing cars, including:	23882,9	108807,3	168015,8	276421,2	4656,6
Azerbaijan	101,4	5803,9	6902,5	2354,1	797,5
Afghanistan	-	4485,9	1210,6	1352,0	-
Belarus	371,1	1036,5	827,7	-	-
Brazil	-	-	-	75,7	284,1
Kazakhstan	5710,2	90503,6	147402,9	260699,0	--
Kyrgyzstan	715,1	85,9	185,8	620,8	1166,5
The Republic of Korea	99,6	-	16,1	45,4	321,7
Lebanon	-	-	-	117,0	801,2
Moldova	37,3	-	-	-	-
UAE	1029,2	-	-	-	114,3
Tajikistan	11,7	49,0	64,1	46,3	97,4
Russia	13094,7	2230,0	315,8	3106,2	-
Ukraine	2383,8	4092,7	9900,9	7392,0	-

\*(excluding motor vehicles of heading 8702). Source: [13].



This disproportion required the diversification of export geography. Among the new directions, we see countries such as Brazil, Lebanon, the United Arab Emirates, and the Republic of Korea, which was the founder of the automobile industry in Uzbekistan in the early 1990s. It should be noted that the auto industry in Uzbekistan maintains its export positions in countries such as Azerbaijan, Kyrgyzstan, and Tajikistan. In our opinion, it is necessary to intensify the promotion of exports to Russia and the Republic of Belarus, which are capacious and well-known sales markets.

Our study demonstrates that the export of spare parts and components has become an important source of export earnings for Uzbek automakers. Thus, export volumes in the column "Motor vehicles for the transport of goods" increased from \$11.7 thousands in 2018 to \$103.3 thousands in 2022 (eight times). The export of Uzbekistan in this direction is oriented toward the neighboring countries of the region, such as Afghanistan, Kazakhstan, Kyrgyzstan, and Tajikistan.

Exports in the section "Chassis with installed engines for motor vehicles of headings 8701 – 8705" also actively contribute to the growth of export earnings of the Uzbek automaker, where Azerbaijan and Kazakhstan are the recipients.

The export position of "Bodies (including cabins) for motor vehicles of headings 8701 – 8705" allowed not only to maintain positions in the markets of Azerbaijan and Kazakhstan, but also to diversify them by entering the Brazilian market.

The nomenclature for the export of spare parts is constantly improving. Thus, in the export of "Parts and accessories of motor vehicles of headings 8701 – 8705" we can note that export volumes have risen from \$ 798.4 thousands in 2018 to \$ 37158.6 thousands in 2022. We can see a wide geography of countries, where, along with traditional partners from the CIS countries – Russia and Belarus – there are countries in Central Asia – Kazakhstan, Kyrgyzstan, and Tajikistan. Export deliveries diversified significantly because of countries such as the Republic of Korea, Ukraine, the UAE, Lebanon, Moldova, and China. Among the importers for such a position as "Trailers and semi-trailers; other non-self-propelled vehicles; parts of them", we see countries such as Azerbaijan and Kazakhstan.

As a preliminary conclusion, we can single out that countries such as Azerbaijan, Kazakhstan, Kyrgyzstan and Tajikistan are among the main consumers of the products of "UzAutoMotors" JSC, which, in accordance with a number of theories of "foreign direct investment" (FDI), suggests more deep and extended penetration into the markets of the countries mentioned above.

### 3.3 From the export of goods to the export of investments.

**Republic of Azerbaijan:** the "UzAutoMotors" JSC has launched the assembly of five Chevrolet models: Damas, Labo, Lacetti, Tracker and Malibu. Cars began to be assembled in the Azerbaijani city of Hajigabul at the Azermash SR plant, where Chevrolet Nexia and Cobalt cars have also been produced since September 2021. All the products were manufactured in accordance with the global standards set by General Motors. The next steps in this direction were the replenishment of the Chevrolet model portfolio in Azerbaijan with new promising models as well as a gradual increase in production volume. Thus, by 2022, the company planned to increase production to 5 thousand cars [29]. A contract was signed between "Uzavtosanoat" JSC and the Association of Automobile Manufacturers of the Republic of Azerbaijan to study the deep localization of cars in Azerbaijan. As a result of the successful cooperation of the parties on the implementation of the large-scale cars assembly project by "UzAutoMotors" JSC in Azerbaijan, the volume of production in 2022 increased 12 times. The increase in production volumes naturally led to mutual interest in the further development of car production using the modern high-tech full-cycle method with deep localization [24]. In addition to selling manufactured products on the domestic market, the free trade agreement signed by Azerbaijan with Turkey in 2020 allows "UzAutoMotors" JSC, together with Azerbaijani partners, to start exporting cars to the Turkish market.

**The Republic of Kazakhstan:** GM Uzbekistan, together with AllurGroup, the national vehicle manufacturer of the Republic of Kazakhstan, has begun the serial production of the Ravon Nexia R3 model. The release of Ravon Nexia R3 sedan was carried out in Kostanay [12]. The next stage of cooperation was to expand the range of the cars produced. The UZAVTO ASIA company, the official

distributor of Ravon in the Republic of Kazakhstan, began to sell the cars produced through the already existing dealer network, including AllurAuto auto centers.

In 2020, "UzAutoMotors" JSC launched the production of Chevrolet cars. In the first stage, the production volume was 26 thousand cars. The lineup includes Cobalt, Damas, Labo and Malibu models. Production has been established at the production facilities of SaryarkaAvtoProm LLP, where Ravon cars (Nexia R3) have already been produced since May 2017. All products met the world standards set by General Motors [17]. In the future, General Motors and UzAuto Motors reached an agreement to produce new models, including the Cobalt family sedan (formerly Ravon R4), Damas and Labo commercial vehicles, and the Malibu premium car. At the same time, Ravon Nexia R3 will also be produced under the Chevrolet brand. In the future, the Chevrolet model portfolio in Kazakhstan should be replenished with new models, such as Tracker and Trailblazer. In 2022, an agreement was reached between GM International, Uzavtosanoat, and Allur on the further development of car production in Kazakhstan over the next 10 years. [26].

**The Republic of Tajikistan:** In March 2019, Uzbekistan and Tajikistan launched a joint automotive project - "Plant of special equipment, TALKO-KRANTAS", the first enterprise in Tajikistan, engaged in the production of trucks and special equipment [21].

As part of the first Uzbek-Tajik interregional investment forum, on June 9, 2021, an agreement was signed in Bokhtar between the Tajik Aluminsokhtmon OJSC and Avtosanoat Invest LLC on the establishment of the Auto Motors Tajikistan joint venture to produce "UzAutoMotors" JSC cars. To implement this project, in May 2021, the working group of Uzavtosanoat JSC visited Tajikistan, studied the production capacities of the partner company AluminSokhtmon, and negotiated the establishment of a joint venture. The production capacity of the project worth \$2 million in the initial stage was 10,000 vehicles, with further plans to increase to 35,000 units [27].

**The Republic of Kyrgyzstan:** Uzbekistan and Kyrgyzstan have common interests and goals in the development and expansion of interstate trade relations, including the automotive industry. Currently, Uzavtosanoat JSC exports cars and commercial vehicles to the Kyrgyz Republic. This cooperation aroused interest in strengthening bilateral relationships. Consequently, there was a desire to implement a joint project between Uzbekistan and Kyrgyzstan. At the Uzbek-Kyrgyz business forum in January 2023, it was announced that "UzAutoMotors" JSC together with Kyrgyz partners would launch the production of commercial vehicles and cars. The project is being implemented as part of an agreement between the governments of Uzbekistan and Kyrgyzstan on organizing the production of passenger and commercial vehicles in the Kyrgyz Republic.

Thus, in the village of Ak-Su in the Chui region, a joint venture for the assembly of cars will be built. It is assumed that the plant will assemble 19 types of vehicles, including minibuses, pickups, and sedans. These are Chevrolet and ISUZU commercial vehicles. The initial production capacity of the plant is 3,000 vehicles per year. Gradually, production volumes are expected to increase to 30,000 vehicles per year. The cost of cars will be approximately 13 thousands dollars, and trucks will be from 28 thousand dollars [16].

Taking into account the mutual interest in expanding cooperation in the development of the automotive industry in Kyrgyzstan, as well as the positive experience of "UzAutoMotors" JSC in organizing the production of competitive products in Kazakhstan and Azerbaijan, representatives of Uzavtosanoat JSC and DT Technik LLC in the Chui region of Kyrgyzstan are implementing an investment project "Manufacture of automotive and commercial vehicles using the SKD method". The project is planned to be implemented in stages. In particular, this includes large-scale assembly and small-scale production, as well as the organization of the production of auto components [28].

#### **Foreign direct investment theories and practice**

First, the approaches and theories of FDI are of interest to Uzbekistan, as they can be used to strengthen its position as an FDI recipient country. In particular, the "flying geese" paradigm is, in essence, a "catch-up cycle" model. The "wild flying geese" paradigm was developed in the late 1930s. by the Japanese scientist K. Akamatsu as a generalized theory of economic development, reflecting the dynamics of internal processes and changes in the competitiveness of the Japanese industrial

sector. Japan is at the head of the "flock", and then other "geese" - East Asian countries - fly at a certain time interval. Japanese firms invested in Taiwan, Singapore, Hong Kong, and South Korea (the "Asian tigers"), which, in subsequent years invested in neighboring Southeast Asian countries, such as Malaysia, Indonesia, and the Philippines. (see Fig. 1)

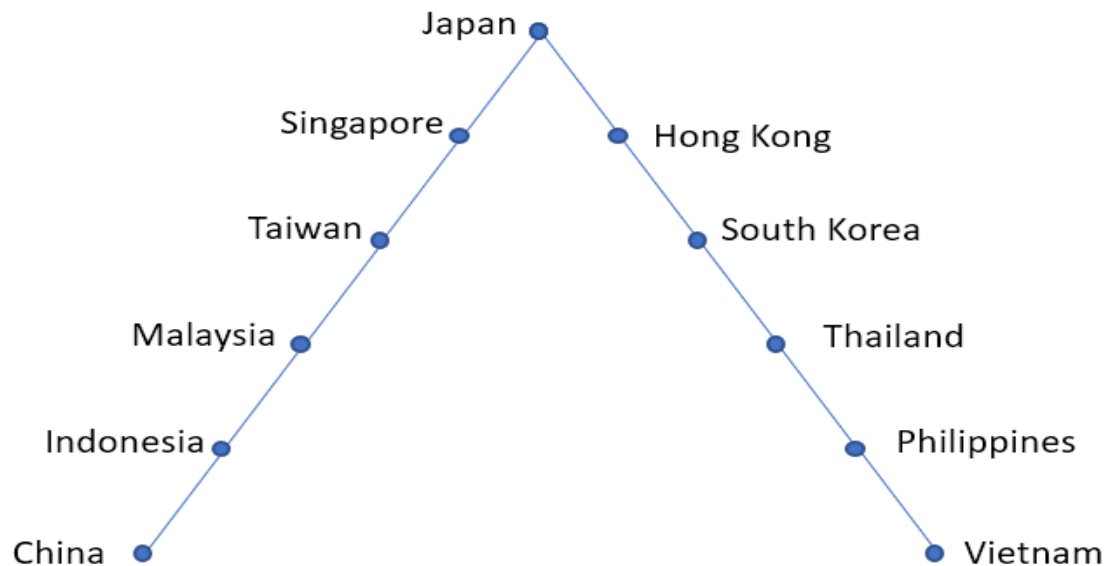


Fig. 1. Paradigm of "flying geese". Source: [23].

At the same time, the theory of "Paths of investment development" of nations by Dunning J. and Narula R. examines the dependence of exports and imports of capital on the level of economic development and shows that the path to the export of capital lies through its initial import, i.e. demonstrates the important role of foreign investment in the development of countries, especially at the stage of transition to market relations [24]. The study of the practices of Uzbekistan shows the interconnectedness of the above processes and the interdependence of investment policies.

Since 2016, the Republic of Uzbekistan has been implementing a new stage of profound transformation in all spheres of society. Among the key areas is the liberalization and development of the economy and social spheres. So, as a result of the implementation of a balanced and constructive foreign policy, the total volume of trade between Uzbekistan and the countries of Central Asia increased from \$ 2.6 billion in 2017 to almost \$7.5 billion in 2022 [6], which brought the Central Asian region to third place among the largest economic partners of Uzbekistan after Russia (\$9.3 billion) and China (\$ 8.9). The development of foreign trade, in turn, favors the investment climate and may facilitate mutual investment in the region's countries.

The Uzbek automaker plans to increase production to 500,000 cars per year by 2026 [15], and approximately a fifth of them are exported (100,000 units against 48,000 in 2022). There is a lot of work to do to introduce and consolidate the Uzbek automaker in foreign markets, the conditions on which will differ radically from domestic ones. It is desirable to build a clear long-term development strategy, that takes into account such factors as: peculiarities of work (production) in the markets of other region's countries with a focus on high unsecured and constantly changing demand; modern trends of "green economy" and "green development"; solving problems in the republic's domestic market related to queues, service quality etc.

In our opinion, at the legislative level, it is advisable to unify (harmonize) the regulatory framework as well as the basic concepts for the movement of foreign capital in the territory of the



participating countries – “foreign direct investment”, “joint ventures”, “wholly owned foreign enterprises”.

We consider it expedient to develop a separate statistical base on the network of such joint ventures, the movement of funds, forms and types of attraction of foreign capital, and measures of state support, protection, and regulation.

Returning to the “flying geese” paradigm, we focus on the following features:

1. A chain (“flock”) of countries connected by ties of cooperation is built (from more developed at the beginning of the “flock” to less developed at the end).
2. Industrialization is gradually advancing in all regional chain-linked countries.
3. Each country starts production to export simple goods.
4. Profits are reinvested and used to improve the fixed capital.
5. Countries began exporting more complex goods.
6. In the course of this process, added value increases, and wages and living standards gradually approach those the level of developed countries [1].
7. Regarding to Uzbekistan, more precisely to the “UzAutoMotors” JSC, we note:

-It planned consistent work in new markets, primarily in Central Asia and the Caucasus (Azerbaijan).

We see a gradual entry into automotive product markets, which is reinforced by the increasing supply of spare parts and components.

-Along with this, the expansion of production volumes and diversification of the model range are conducted.

- “UzAutoMotors” JSC is practically implementing the strategy of transition from the export of goods (products) to the export of capital.

Our comparative analysis showed some commonalities with the classic flying geese model, most notably, the formation of regional integration and regional production chains in Central Asia. However, a number of distinguishing features should also be highlighted:

- in Central Asia, a chain (“flock”) of countries connected by ties of cooperation is being built. At the same time, the definition “from the more developed at the beginning of the “flock” to the less developed at the end” is very conditional, implying only a greater “weight” and experience of the “leading goose” – the Uzbek participant in the automotive industry;

- in Central Asia, which has a significant share of the agro-industrial sector, the process of industrialization is gradually moving forward in all countries connected through the regional chain;

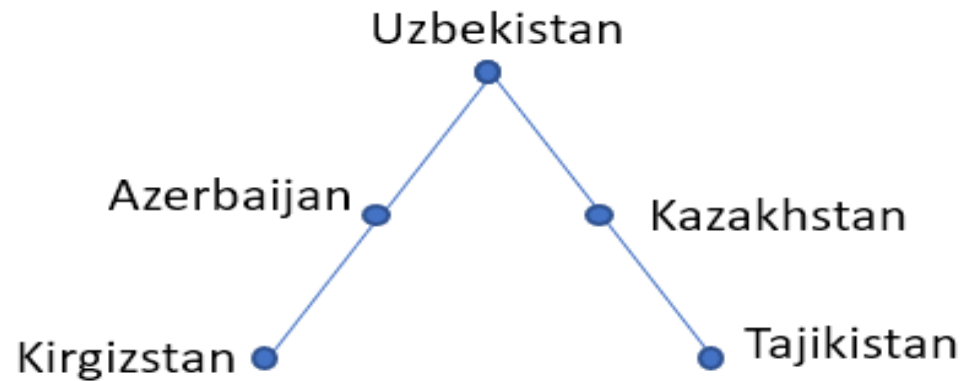
- the industrialization process will also affect Azerbaijan, connected by a common chain, while this country may represent a launching pad for further expansion of Uzbek exports to Turkey and other European countries;

- each participant country will strive to saturate, first of all, its domestic market, and begin at the next stage of production for simple goods export;

- profits are reinvested and used to improve fixed capital;

- consequently, countries can export more complex goods.

- from the “flock of wild geese” by K.Akamatsu [7], South Korea became the founder of the automotive industry in Uzbekistan, bringing in foreign direct investment (modern technologies), having produced the first car in the region in 1996. This circumstance and the above-mentioned analysis of modern trends allow us to combine the classical paradigm and the emerging model in Central Asia and Azerbaijan in the field of automotive production (see Fig. 2).



**Fig. 2.** "Flying geese" paradigm with the participation of the Republic of Uzbekistan. Source: the author's vision.

At the same time, it should be noted that this vision is not devoid of certain conventions, taking into account the short period of regional integration itself and the insufficient volume and lack of information and statistics based on this new phenomenon.

#### 4. Discussions.

In our study, we had opportunity to study many foreign and domestic experts in the field of foreign direct investment and the automotive industry. The practice of the Uzbek automaker demonstrates that for the successful operation of an enterprise in the foreign market, all three basic conditions for the eclectic (OLI Ownership advantage, Locationship advantage, Internalization advantage) paradigm of D. Dunning are necessary [5].

Researcher V. Terentyeva, revealing the relationship between FDI and the "flying geese" paradigm in Vietnam, substantiated her own hypothesis that Vietnam could take on the role of "leading goose" in one of the "flocks of flying geese" in some industries [20]. This provided additional impetus to our study in relation to the role of the Uzbek automaker in Central Asia.

Some experts draw attention to the fact that in the view of the author of the FG paradigm K. Akamatsu there are three phases of the industry development: the entry of products into the country through imports; the opening of national productions; the export of industrial products that were previously imported [17], which received full confirmation on the example of "UzAutoMotors" JSC.

According to L.G. Belova [1], a chain ("flock") of countries connected by ties of cooperation is built (from more developed at the beginning of the "flock" to less developed at the end), which finds scientific confirmation on the example of the Uzbek automaker.

#### 5. Conclusion.

Our study demonstrates an increased share of the automotive industry in the economic development of Uzbekistan and its export diversification. The expanded production of vehicles and spare parts allowed "UzAutoMotors" JSC to successfully operate in the markets of neighboring countries in Central Asia.

We came to the conclusion that direct investments prefer to export or license the use of their monopolistic advantage. Thus, exports can be complicated by tariffs and other barriers such as transportation costs. Another advantage of having a direct presence in the local market is the adaptation of the product to suit local conditions or to stimulate local demand.

We have proven the correctness of these provisions by studying practice in "UzAutoMotors" JSC's export markets. Our export trend analysis of neighboring countries in Central Asia, especially Kazakhstan, showed growing problems in its implementation. In addition, these countries have begun to establish their own automobile production, creating new conditions for competition.

In this regard, we tracked the opening by the Uzbek automaker (instead of export) joint ventures in the markets of neighboring Central Asian countries.

We propose a hypothesis regarding the formation of the Central Asian model of the flying geese paradigm.

Comparing the emerging model with the paradigm in Southeast Asia, we identified a number of features, common patterns, and differences. In our opinion, they may be useful for better understanding and improving the management process itself, as well as the development strategy adapted by "UzAutoMotors" JSC's.

Another important conclusion is that the Uzbek automaker worked for many years under monopoly conditions, causing consumer dissatisfaction on the one hand. However, there is no proper incentive to develop competitiveness. It is clear that the government of Uzbekistan stimulates the establishment of a competitive environment in the domestic automotive market by attracting foreign direct investment, expanding the composition of car manufacturers, and importing cars. This is also very important in light of Uzbekistan's accelerated preparations to join the World Trade Organization (WTO).

Under these conditions, important automotive production can become a new driver of economic growth for all the countries of the region, promoting regional integration, the formation of a regional production chain, and the Central Asian "flying geese" model.

In turn, this will require the formation of separate statistics as the basis for new research, development of recommendations for management, and state support of the emerging new sector for the economy. Therefore, this scientific study may contribute to this goal.

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