

EVOLUTION OF INDUSTRIAL ASSEMBLY PRACTICES IS PRECONDITION FOR FURTHER MODERNIZATION AND DEVELOPMENT OF AUTOMOBILE INDUSTRY IN RUSSIA

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The article includes a few sound arguments, allowing asserting that foreign-made cars' assembly practice, working in Russia, can lead to modernization and development of automobilia. Moreover functioning of these regimes allows building a strategy of automobile industry development in the country.

Key words: *foreign investments, auto industry, modernization, strategy, import of technologies localization, industrial assembly practice.*

Introduction

It is an open secret, that today domestic auto industry, producing cars, is not competitive, so more and more foreign producers enter the Russian market. Due to this a question appears: how will the further expansion of foreign-made cars' assembly influence on domestic automobilia?¹

We would especially like to pay the readers' attention to the fact that we don't identify domestic automobile industry with domestic industry, first of all with "AVTOVAZ". Domestic automobile industry includes domestic producers. It will produce cars of other technological level on foreign-made cars plants both in Russia and abroad - the production rated for the consumer with average and higher than average incomes. The flow of foreign direct investments (FDI) in domestic automobile industry can become an effective tool of modernization and development of automobilia and not a tool of its destruction.

Many economists and scientists pay much attention to the problem of technological borrowing with the help of FDI. V.M. Polterovich (Polterovich, 2009) writes about practicability of borrowing foreign technologies. According to his opinion exactly the principle of borrowing should become the base of overtaking development strategy. Moreover due to this underdevelopment the county can borrow ready-made technologies and management methods not spending finances on their

¹ The article includes nothing but the analyses of auto industry.

development (Polterovich, 2007). Russia should bank on strategy of technological borrowing and first of all widen domestic market.

It was also said about the necessity of borrowing foreign technologies and experience in the work of the team of Institute of economic forecasting (Russian Academy of Sciences) (Ivanter V.V., Uzyakov M.N. et. al., 2005). The strategy of automobile industry development in Russia was prepared in 2005. One of the ways described in it supposed increasing the native marketability (issue of new models, improving quality and etc.) and also training the staff with the help of foreign technologies and management standards in administration and marketing.

The modernization of domestic automobile industry in “The strategy of automobile industry in Russian Federation till the 2020 year” is based on technology borrowing. The “Strategy” considers such causes of low marketability of automobile industry as for example old-fashioned industrial capacities, small investments in the industry, absence of modern car components and also poor human resources and low production rate.

Trained staff plays an important role in the modernization of the industry. For example Bin Xu marked in his research the following: he associated the profit that the host country can receive from the import of technologies, with the level of development of human capital in that country (Xu, 2002). Due to the culture of the final product assembly being at a very low level, the connection of the technology import, quality level of human capital and production rate is of a great interest.

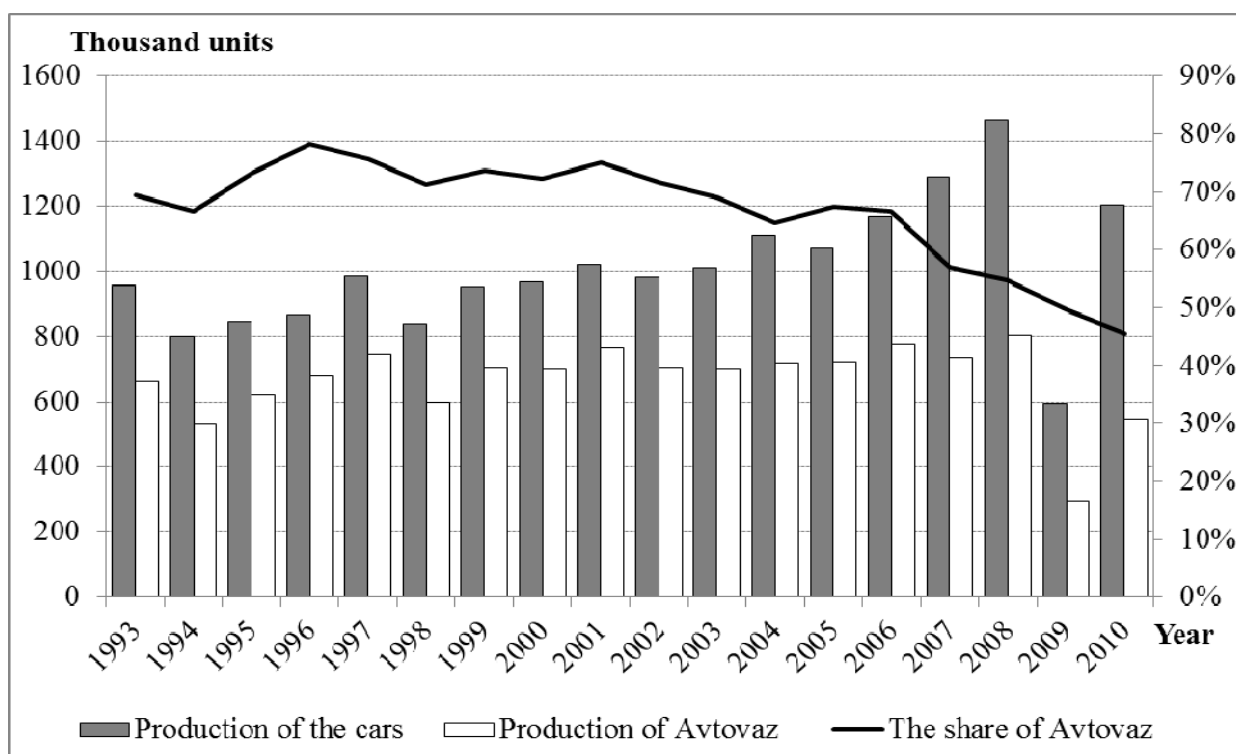
In the “Strategy” the way of reducing technological gap and increasing marketability of automobile industry is mentioned as active attracting of foreign partners, founding multiply joint ventures. In our work the arguments, confirming that the development of foreign auto brands assembly can positively influence on native automobile industry and this process has already become the part of scheduled events, are resulted. The regimes themselves will act as the base of the “Strategy”, which will under meeting of some preconditions lead to the increase of marketability of native automobile industry and decrease of the share of direct import of the cars.²

The dynamics of development of the automobilia

Let's mark that there was no reason to speak about noncompetitiveness of native automobile industry straight after breakup of the Soviet Union³. For sure, the production volume of native cars decreased and next it stayed approximately at one level (fig. 1).

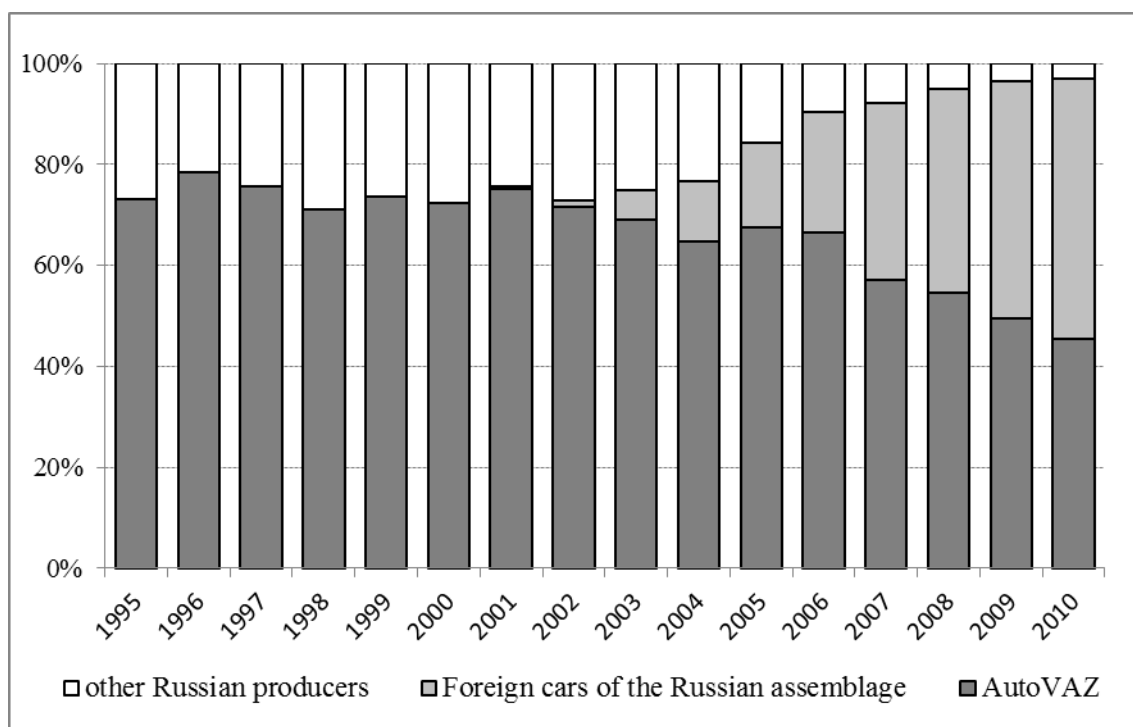
² For the segment of the cars the Ministry of Industry and Trade chose a script of development titled “Partnership” which supposed provision of 80% of the consumer's demand by means of domestic production, at that the domestic production itself would be divided between Russian and foreign localized producers in equal shares.

³ All soviet auto industry was targeted only at domestic production.



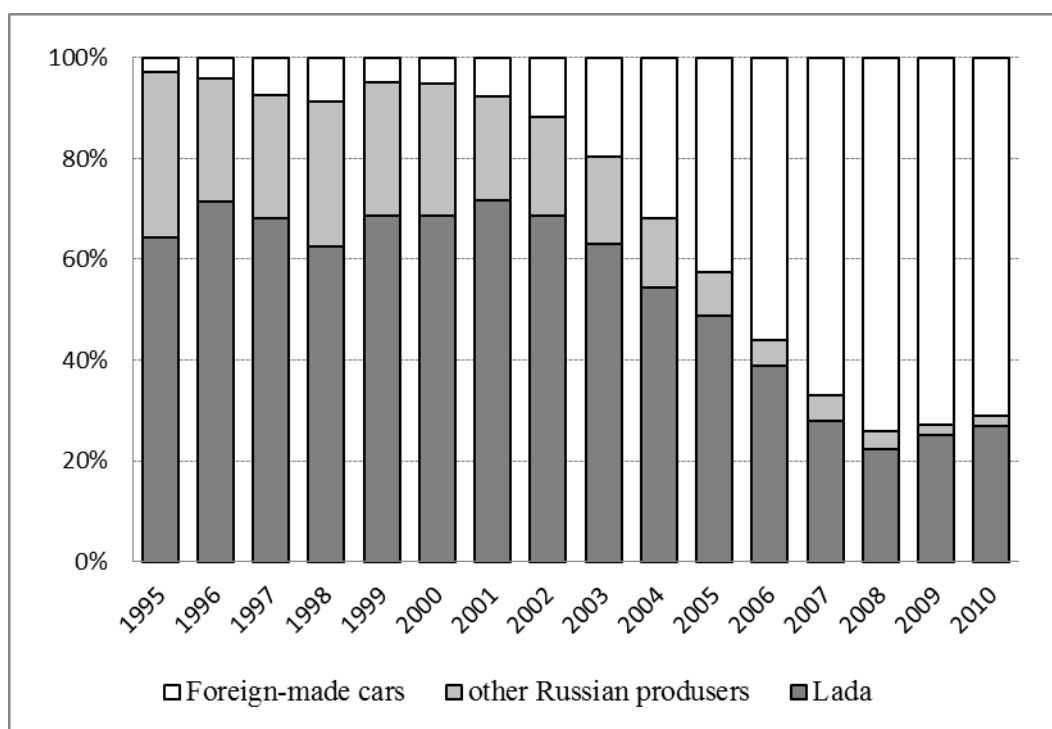
Source: AEB

Fig. 1. Production of cars in Russia



Source: AEB, PWC

Fig. 2. Production pattern of the cars in Russia



Source: AEB

Fig. 3. Sales pattern of cars in Russia

Till 1996 Russian car industry was occupied only by native producers – GAZ, AvtoVAZ, AZLK and Izh-Avto. In 1996 the first automobile assembly plant appeared in Russia and in 2002 an industrial assembly practice started.

After 2000 year the share of foreign-made cars in the production pattern began beasting of and created a domestic active demand (see fig. 2). High demand on foreign-made cars assembled in Russia is also confirmed by the sales pattern of the cars (fig. 3), where the share of domestic foreign-made cars appeared to be less than 30%, at that the share of the biggest producer “AvtoVAZ” came down below the rate of 25% (AEB, 2011).

Evaluation of absolute measures of sales also doesn't calm.

Following the results of 2009 year, sales of AvtoVAZ for the first time appeared to be lower than the sales of foreign-made cars assembled in Russia. This tendency continued also in 2010 year. Эта тенденция продолжилась и в 2010 г. Last year (2010) 555 thousand cars of native brands and 605 thousand cars of foreign brands assembled in Russia were sold. (Rut, 2011)

Already now the technological gap between domestic and foreign producers is sufficiently big. Russian auto plants go behind the frequently changing generations of technologies. Besides the lack in technology, there is practically no technological base of car components, poor staff potential and lack of stimulating of R&D. All this reduces marketability of the industry. Low marketability is not

now the main problem of Russian auto industry, which doesn't allow not only becoming full exporter but also filling the domestic market. However the economical class car sector can exist by means of domestic producer (first of all by means of "AvtoVAZ") due to the relatively low price, already including traditional safety and comfort options (airbags, electric power steering and etc.) which were not tested yet.

However already in mid precondition competitiveness will grow multiply, although automobile industry by its own efforts will manage to overcome the great technological inferiority from European (not only Germany and France but also Italy and Spain), American and Japanese producers. Rivals move towards and there is no time for native developments; in order to reduce the gap automobile industry should be developed, bypassing a few stages of technological development.

In order to realize such script of uneven development by heightened rates both new and already kicked around technologies which can be received by the help of direct foreign investments without high costs on tests, modifying and implementation.

The form of direct foreign investments in the Russian automobile industry

Gaining foreign experience started in 1996 when the "Avtotor" – the plant with which the precondition "Complete Knock Down" - was constructed. Signing license agreements with foreign automakers started since 1998 and since 1998, the regime of "industrial assembly practice" started in 2002 year and in 2007 the first strategic alliance was concluded. In such a way receiving foreign experience can be divided in 4 stages:

Semi Knock-Down; car assembly by the license; industrial assembly, strategic alliances.

Semi Knock-Down. The first plant assembling foreign-made cars was "Avtotor" (the Kaliningrad Region) were 27 models of various foreign-made cars, primary General Motors, are being assembled (not produced). Principle of operation of such regime consists in the following: big units and aggregates are carried inwards the assembling country (it explains the name of the regime - Semi Knock-Down, SKD) and cars are assembled from them as an erector set. On the basis of the main principle of Semi Knock-Down a few basic peculiarities of such regime can be marked:

- Absence of assembly industry's localization automatically blocks the access to the foreign technologies and excludes realization of multiplier effect, under which neighboring productions are being developed together with development of auto industry;
- Certainly creation of new working positions is a positive effect but their quantity is not big due to the small amount of work directly at the assembling plant;
- Positive impact on the growth of the production and on GDP is insufficient and by the way it can be compensated by the budget losses due to the reduced custom duties. Exactly due to the

last factor the Government got worried about the SKD-assembly growth and widened the list of assembly operations. Earlier the car should be just assembled at a Russian plant from the big imported units in order to declare that the car is produced in Russia. That's why foreign cars' producers were not interested in tailoring a real production in Russia. Under this condition SKD-assembly could really lead to the stop-off in domestic industry. But as far as "Avtotor" became the sole plant of such type in Russia, today there is no such threat.

Licence assembly. "TAGAZ" was the next plant constructed after "Avtotor" in Taganrog. It signed a licence agreement with South Korean producer Hyundai in 1998. The models Hyundai Accent, Sonata, Santa Fe, Elantra XD⁴, Porter and TAGAZ Vega are assembled at the Taganrog plant. Unlike «Avtotor» since 2003 in Taganrog another assembly practice called CKD⁵ is carried out. Another big producer – company Sollers acts according the same pattern, working together with Italian concern FIAT Group.

Up until recently in Tatarstan (SEZ "Elabuga"), on an equal basis with cars FIAT Albea, commercial cars Doblo and Ducato were produced. The last model has already confirmed its marketability by winning public tenders, announced by Ministry of Health and Social Development and Mosgortrans on delivery of ambulance cars and minibus taxi. Now on the production site of FIAT Ford cars will be produced, however it will be another production regime.

The main difference between licence assembly and Semi Knock-Down is an approach of assembly of totally disassembled vehicle set. This approach supposes forming, implementation and development of the most important mechanism – localization of production process.

Localization is the way of process management of manufacturing (exactly production and not assembly) of details and components of various processing complexity on the enterprises of assembling country. In such a way, in fact localization is the direct input in producing of GDP and the higher the degree of localization is, the bigger the input is. Import of technologies is not of less importance. In other words, producers of assembling country master production of these or that components according to the "authors" technology and standards after which use received experience during development and production their own analogue product.

Industrial assembly practice (IAR). The main hopes for the development of domestic industry are connected exactly with development of this regime. In fact localization of production process is prescribed as a condition needed for the work within Russian territory exactly under IAR regime. This

⁴ IV generation model

⁵ CKD, completely knocked down – assembling of entirely disassembled vehicle sets. In fact this is a complex technology is full production with welding and coloring bodies, which now exists at «AvtoVAZ», «GAZ», «UAZ» and at Ford, Toyota and «Avtoframos».

condition is an important difference between IAR regime and the regime of licence assembly. Thus, earlier under a contract signing a foreign producer was undertaking to organize a complete production cycle of not less than 25 thousand cars per year and also to localize expenses on imported car components up to 50% of total import volume in 2015.

According to new preconditions under signing the agreement on assembling foreign-made cars in Russia production volume should reach 300 thousand cars per year and localization should be 60% (Nepomniashiy, 2010).

This means up to a half of added value of each assembled car in Russia can be produced at the Russian plants.

“Izh-Auto”, producing models of concern KIA, was one of the first plants which implemented an industrial assembly practice. Now eight carmakers are working in industrial assembly practice. (tabl. 1).

Table 1. Plants working in industrial assembly practice ⁶

Company	Capacity, thousands pcs.	Models*	Investments, mln rub.**
Ford	125	Focus, Mondeo	10 000
Autoframos	160	Renault Logan, Sandero	4800***
Toyota	20	Camry	5000
Nissan	50	Teana, X-Trail	5500
GM	70	Opel Antara, Astra, Chevrolet Cruze, Captiva	9000
VW	150	VW Passat, Jetta, Tiguan; Skoda Fabia, Oktavia	28 000
P&C	70****	C3, C4, Peugeot 307	7500
Hyundai	100	Solaris, Elantra, NF	11 700

* Model range change in accordance with market tendencies.

** In prices 2009 year.

*** Investments in capacity doubling from 80 to 160 thousands pcs/year.

**** Production volume from 60 to 80 thousands pcs/year.

Since 2002 till present day more than 82 billion RUR were invested by foreign companies in Russian automobile industry just in industrial assembly practice. About 20 new models made by leading auto producers, owing technologies, standards, experience and knowledge, needed in Russian industry, are being produced in Russia.

In spite of localization being an obligatory condition in industrial assembly practice unlike licence assembling, exactly development of industrial assembly practice made it possible to observe some

⁶ According to official data of producers.

problems which should be solved. Firstly according to the “Strategy” now only 5% of suppliers of car components in Russia can supply production meeting world quality standards. If an average defective factor under ISO16949 at average doesn’t exceed 70 units per million of mass production parts, the same factor of Russian producers exceeds 1000 units (all-Union State Standard R 51814.1-2009). In this regard foreign producers in an effort to save high quality and reliability of their cars are not going to increase actively the localization. Secondly even if localization increases, now this advantage exists by means of setting up production of technologically simple details and components in Russia (plastic of upholstery, bumpers, glasses, carpets, motor tires, wheel disks and etc.) If this dynamics will continue and domestic industry doesn’t start assimilation of such technologically complex units and aggregates as transmission, engine installation (engine), electrical facilities, all efforts focused on domestic automobile industry development on the base of foreign technologies can have an effect unlike it was expected.

Strategic alliances

«AVTOVAZ» – RENAULT. In 2007 “AvtoVAZ” and French auto producer Renault signed an agreement on strategic partnership. This agreement provides the exchange of 25% of Volgskiy plant’s stocks and the access to the capacities of “AutoVAZ” to technologies and standards of Renault which agrees to name the cars produced on the basis of its technologies Lada. Particularly in autumn of 2008 in Paris an agreement on buying from Renault know-how and different rights was signed (for example, perpetual licenses on production and assembly of engine installations and production, assembly and distribution of cars on the base of Renault Logan MCV and Sandero).

Moreover, the companies plan to found joint car components producing venture which can greatly fasten the process of import of technologies. According to plants of “AutoVAZ” localization of the components’ production process in case of a joint venture foundation should grow from today’s 40% to 75%. It stands to remind that Renault has already got a big experience in Russia: company “Avtoframos” which produces models Logan and Sandero carried the level of localization to 40%.

SOLLERS – FORD. Company Sollers founded a joined venture with FIAT. The Russian company Sollers and the Italian concern FIAT signed the foundation documents of this company in February 2010. The partners planned to reach the level of localization of 80%. But the companies terminated the agreement and in February 2011 Sollers signed with company Ford a memorandum of intent to create a joined venture.

The companies signed the agreement with new preconditions of industrial assembly⁷. The joined venture supposes to produce cars and light commercial vehicles (LCV) Ford, engines, organization of stamping operations (the plant is being constructed in Tataria), conducting of RND. This company will be responsible for the import and sales of all Ford products (Sollers, 2011). Production sites in Vsevolzhsk (Leneigradskaya obl.), Naberezhnye Chelny and on the territory of Special Economic Zone “Alabuga” (the Republic of Tatarstan) will go into the joint venture.

Car components. After car assembling plants foreign car components’ production plants arrive. This happens because any industrial enterprises, including companies of auto industry, create a constant range of suppliers of components which allows keeping a constant quality level and reduces transaction costs. Widening of production of foreign components in Russia will influence the domestic automobile industry the same positive way as the industrial assembly practice. However it is necessary assembling of complex units and aggregates should be carried. This provides development of a modern base of suppliers of car components.

Results of foreign-made cars assembly practices’ development

Judging by the data of results of foreign-made cars’ assembling, concerns about the danger that production of foreign-made cars in Russia will destroy domestic automobile industry came to nothing. Moreover some data gives evidence of forming the base for intensification diffusion into industry of foreign technologies and standards.

1. **Localization.** Meanwhile the productions working in Russia for a long time or having a high index of localization is target aspect, demonstrate high indexes of localization (fig. 4). Low localization indexes of other producers correct the average index towards reducing. Let’s remind that annual average level of localization of the production is calculated under the following formula:

$L = (1 - V / P) \times 100\%$, where L is average level of localization of the production; V is custom cost of all car components imported for motor vehicles’ production; P is total cost of all motor vehicles’ produced by this auto producer in real prime costs excluding VAT and excise duties⁸.

⁷ New terms of industrial assembly suppose auto producer owing the right of duty free importation of car components during 8 years and is obliged to construct new (or modernize existing ones) facilities, to localize in Russia production of engines and transmissions, die stamping of body parts, engineering center and to produce in the country not less than 300 thousand cars, minimum 30% of them should be completed with engines made in Russia. Localization for new productions is provided at the level of 55% and for existing ones – 55%. производства.

⁸ According to the changes included in the order, defined by the concept «industry assembly» of motor vehicles and fixing application of the concept under import to the Russian Federation of the car components for the production motor vehicles of commodity items 8701–8705 Harmonized System Codes, their units and aggregates, established by the order of MEDT of Russia, Russia’s industry and energy ministry and The Russian Department of treasury from April 15, 2005 № 73/81/58N.

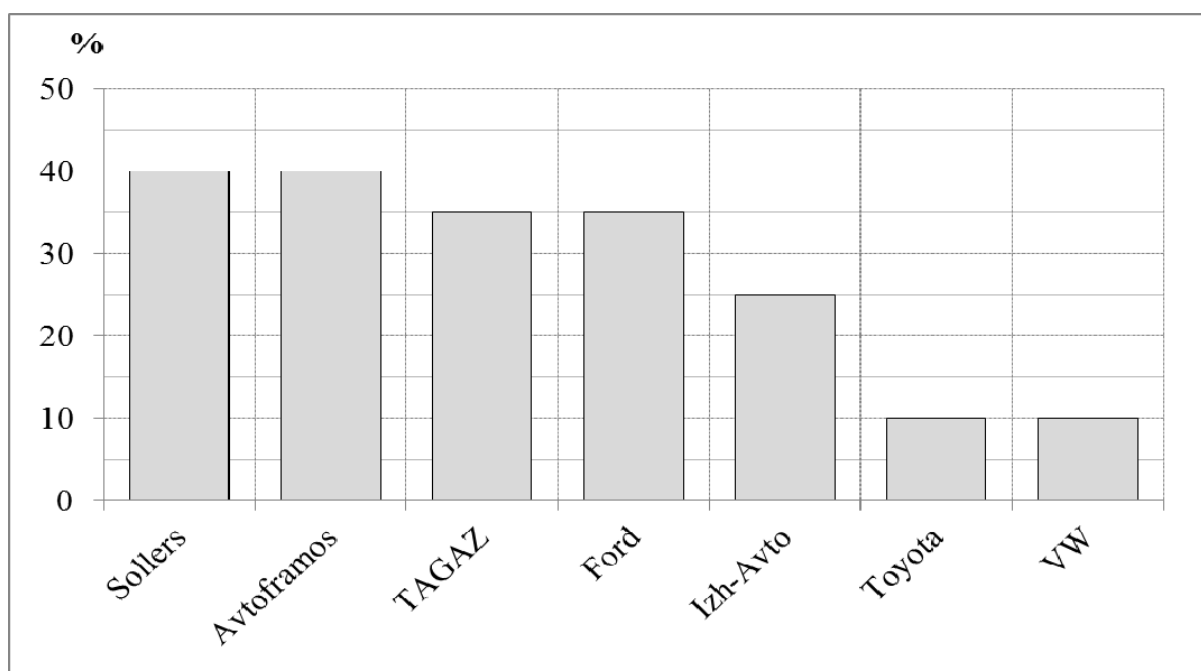


Fig. 4. Localization of production

Now the average index of production localization doesn't reach even 30%, while according to the precondition of The Ministry of Economic Development and Trade the companies working on the base of old preconditions of assembly the same index should be not less than 50% by 2015 year. On the one hand, the difference is not very big (it can be eliminated during 5 years) and on the other hand, we must take the account of the fact that the higher is the level of localization the more difficulties we face increasing it, especially if the producer wouldn't transfer the technologies of complex units and aggregates.

In this regard the readiness of producers to localize in Russia the production of the special meaning power devices and transmissions already in midterm is of special importance. (IA RBC, 2009).

2. Production of car components. Due to the noncompetitive production of car components in Russia foreign producers contribute to construction in Russia plants of foreign producers of car components, at that those with whom they have always been working. The plants of Gestamp, Manga, Johnson Controls, Tenneco Automotive, Lear Corporation, Faurecia Interior Systems, Gestamp Automocion, Toyota Boshku have already been constructed. Construction of the plants of TI Automotive and Knorr-Bremse are in plan. Usually plants are the suppliers for a few auto producers.

This situation puts the domestic producer in difficult conditions of competitiveness already at the level of components' production. However under certain control and administration of setting up localization of assembling process penetration of foreign technologies and standards will happen more

quickly because in this case production process will be organized from the very beginning of processor chain. Moreover a modern base of car components so needed by automobile industry will be formed.

3. Forming of clusters. The results of the industry's development during the last years allow considering the Leningrad Region as a further cluster of automobile industry. Now there are a few suppositions for that:

Firstly, a few auto plants of the biggest producers were constructed on the territory of the region - Ford in Vsevolozhsk, Hyundai in St. Petersburg, Toyota, Nissan, GM in Sushari. Total declared project capacity of the plants by the beginning of 2011 year is about 270 thousands of cars;

secondly, it is planned to construct in Leningrad region car components production plants, at that many of already working plants work with a few producers (for example Tenneco Automotive cooperated with Toyota and GM, Magna provides Toyota, GM Ford with car components and the company Gestamp works with all producers in Leningrad region);

thirdly, it is planned to construct a unique customs station in Leningrad region, where all the components imported to Russia will be declared. This idea is supported by profitable geographical position of the region;

fourthly, plans of creation in Russia educational and engineering centers on the base of which the projects of staff re-skilling can be carried out and in perspective a part of R&D can be carried out, are seriously being considered.

Besides Leningrad region the Kaluga Region deserves a special attention, where plants of syndicate P&C and company Volvo operate. The first educational and engineering center in Russia will be constructed there and the share of VW in the industrial production of Kaluga region already exceeds 17,5%.

4. Competition between auto producers. It is our opinion that the beginning of the syndicate's Nissan work marked the new to phase of development of not only assembling productions but also of the whole domestic auto industry. The model of business class Teana which is produced by the plant of Nissan in Russia is the direct rival of Toyota Camry (table 2). Moreover the American syndicate Ford launched the production of its new model of business-class Mondeo. It is important that all these three models are produced in Leningrad region and this means that the producer own the same geographical and administrative advantages and restrictions. After the Teana production started Camry got a direct rival in the same price bracket. As far as there is a demand for the cars of this class in Russia competitiveness appeared and will be developed between the producers. It will hold the costs in order to reduce risks of growth of prime costs. In this case the situation changes and the

producers are strongly motivated to increase the level of localization, in fact setting up the production in Russia will reduce transport and labor costs.

Table 2. The main characteristics of the cars

Properties	Toyota Camry	Nissan Teana	Ford Mondeo
Body type	sedan	sedan	sedan
Class	E	E	E
Model year	2005	2008	2011
Engine capacity, h. p.	2,4	2,5	2,3
Maximum capacity, h. p.	167	182	160
Fuel rate: composite cycle, l / 100 km of haul	9,9	9,5	9,3
Maximum speed, km / h	205	200	207
Price, thousands, RUR	951	890	961

6. Working places. To a greater or lesser extent all the assembly practices solve a social problem and as any production create new working places. By our assessments just enumerated auto plants has created now 14 thousands new working places, particularly for highly trained professional who for a variety of reasons had to retire from other positions.

Fixed cases of transition of the staff from one plant to another due to the more attractive conditions of work allow hoping that forming competition will fasten development labor market in this industry.

7. Period of probation and engineering centers. Principal difference between technologies, approaches and standards demands retraining of the staff. With this purpose auto producers organize training at their “base” plants in Japan and Europe. Moreover the concerns already create engineering centers within the Russian territory (particularly the concern VW).

Significantly higher speed of information exchange between workers of different levels will contribute to the retraining growth rate. The faster training will be carried out, the quicker the problems, connected with low speed of assembling due to which now domestic cars just straight after buying need additional technical service, will be overcome. For example often threaded joint needs broaching, the gaps between details of the body and interior should be repaired, and also diagnostics of the car’s systems and checking of the sufficient level of blows (engine oil, cooling fluid and etc.) is needed.

The widening of the retraining process and increasing of number of the staff having undertaken an internship will allow fastening the process of diffusion of imported technologies and standards into domestic industry. Setting up production of car components in Russia will also contribute to that.

8. New Russian models. Taking into account importance of described results, the appearance of the new Russian model class “C”- TAGAZ Vega which was presented in summer, 2009, has a special meaning. As the producer declared the car was developed by the order of Taganrog auto plant in the design engineering bureau Tagaz Korea – the partner of TAGAZ in the development of own model range.

Technical peculiarities and cost of the model are at a competitive level (table 3). In total about 1040 cars Vega were sold in incomplete 2009 year.

Table 3. The main technical characteristics of TAGAZ Vega and its rivals

Characteristics	TAGAZ Vega	Hyundai Accent	VW Polo	Cherry Fora
Body type	sedan	sedan	sedan	sedan
Model year	2009	2004	2010	2006
Engine capacity, h. p.	1,6	1,5	1,6	1,6
Maximum capacity, h. p.	124	102	105	119
Fuel rate: composite cycle, l / 100 km of haul	8	7,5	6,5	6,6
Maximum speed, km / h	180	181	190	185
Price, thousands, RUR	349,9	377,7	399	393

Launching of the model Vega became for Russia an unprecedented result of cooperation of the Russian and foreign company and the obtained experience was unique both for the “TAGAZ” itself and for the other producers⁹. Now a strong reason to believe that domestic producers can master technologies far beyond the Russian, appeared.

Having examined the results of functioning of the assembling regimes of foreign-made cars in Russia, we come to a point that all of them have a positive character. At that, from our point of view, the summery beneficial effect of industrial assembly practice eliminates all such disadvantages of this regime as capital exports, import of components from former suppliers, threat of dismantling of R&D as the consequence of second-hand technologies’ availability. However in order to guarantee the further development of such regimes in proper way for Russian industry, a range of preconditions should be observed. Otherways, the potential of such development will run its course and the modernization of domestic automobile industry will be impossible. Let’s remember that just an adverse script can be realized.

⁹ At the same time the claims of GM Daewoo are now serious restrictions. According to the company’s report, two workers switched over GM Daewoo to TagAZ Korea (South Korean subdivision of “TagAZ”, developer of Vega), transferred the technologies used under production of Chevrolet Lacetti. Due to this South Korean the court held that the production of Vega should be put on hold before the details are clarified. (Shabashov, 2009). As far as exterior shape Vega almost completely copies Elantra IV generation, Vega, as judged by technical characteristics can compete with Lacetti, sedan Vega can reduce the market share of Lacetti, it is possible to suppose an unfair competition. The reference is put improperly, it should be a little bit higher (Shabashov), the source is added to the list of references.

Preconditions and restrictions for the further development

Primarily control and administration should be carried out. Control of the observation of localization preconditions, prescript in the agreement on industrial assembly, in case of license assembly and strategic alliances, becomes a high-priority problem. Failing the control or in case of its inefficiency and bad management the level of localization can atop at a low mark which in fact will close the access to the foreign technologies. It is also needed to make regularly the preconditions more rigorous, as it happened in the end of 2010, when new preconditions of industrial assembly were accepted according to which the level of localization was to be not less than 60%.

It is necessary to motivate the auto producers to increase the localization if the precondition of localization id not written in the agreement as needed which means that the mere fact localization increasing can be also be absent.

Competitive growth of production capacities of car components in Russia will be the first to increase motivation. If producers are sure that quality of their cars in case of localization will not be lost a major obstacle in development of localization will be removed. If industrial organization of foreign made components is based on the same principles as the production of cars it will help to develop production capacities. But hereby, the Russian suppliers have to restructure from vertical to horizontal specialization, in other words to ensure delivery to a few automakers and not to one only. Focused policy of generation of competition between producers will also strengthen the motivation as it appears in the Leningrad Region. Besides, the competition should be created not only among automakers but also among the producers of auto components.

A particular attention should be paid on the motivation of localization of technologically complex units' and aggregates' production, first of all transmission and power pack.

The staff should be studied and reeducated along with transfer of technology, which can be made with the help of development research and educational centers. Meanwhile only concern VW declared about intention to construct such center in the Kaluga Region. Such centers are essential for effective development of assembly practices, in other words for such development that will allow to conduct modernization of domestic potential. Besides, such centers accelerate processes of diffusion of technologies and standards, they are an essential part of a full cluster's development, and are being developed in two regions in Russia. Summarizing all above-mentioned information, we can conclude that the industry will be developed only in case of abidance by the preconditions of assembly under growing percentage of localization and under certain qualifications of personnel. System positive results of assembly practices are also vey important. If the process of localization is not under control, the industry can be destroyed as the foreign producers are not interested in it. Although production of

“AvtoVAZ” is not very competitive the producers still has a great share in gap in the market of economy class cars and quarter of domestic market, taking away potential clients from foreign producers.

Science 1997 domestic automobile industry worked its way up from evolution from “driving” at the plant “Avtotor” to the industrial assembly practice and strategic alliances which allow developing new Russian models on the base of foreign technologies. (Fig. 5).

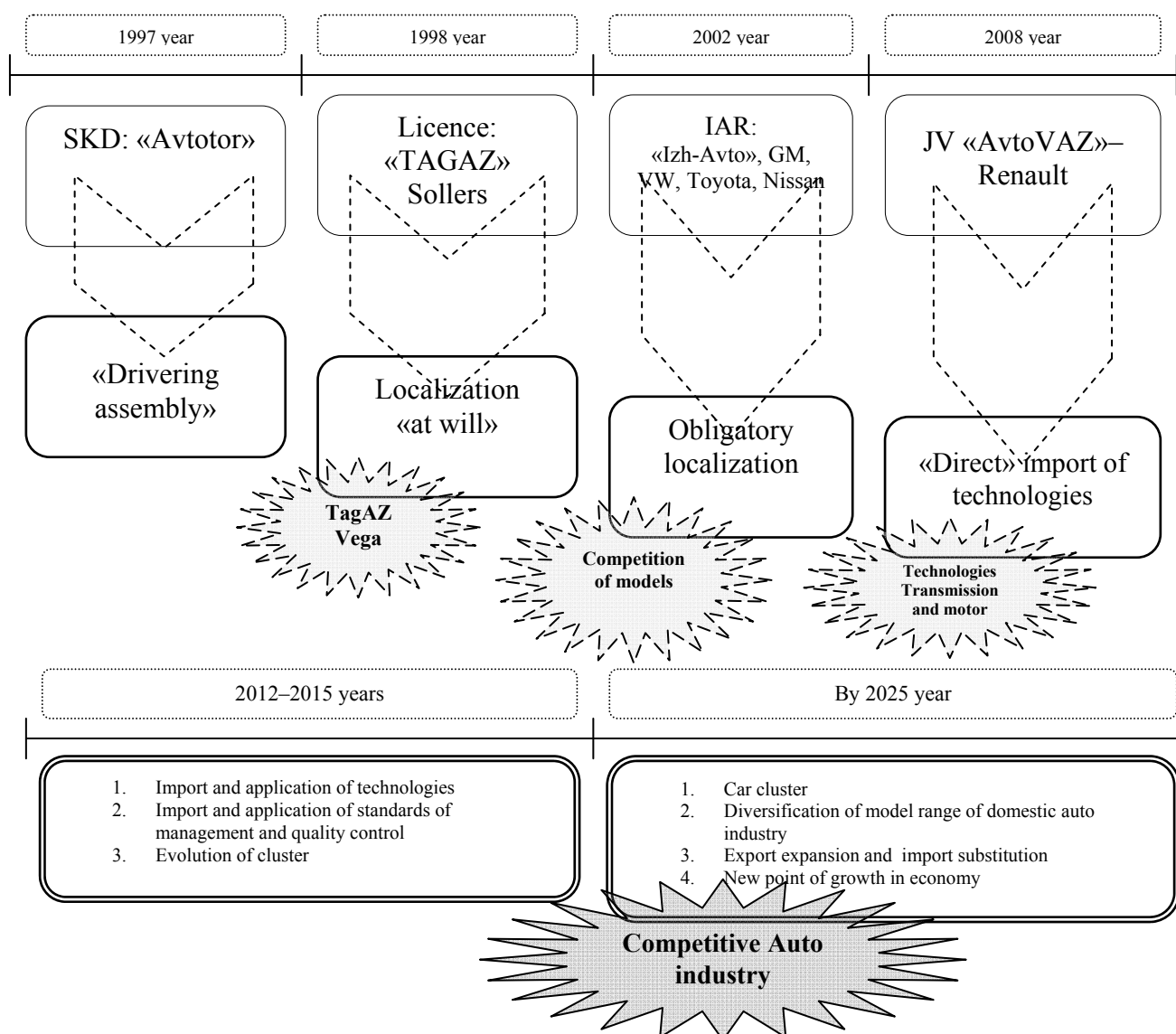


Fig. 5. Evolution of assembly practices of cars and their potential results

As one assembly practice was changing to another a domestic vector of modernization was developed in Russia and development of automobile industry owing original elements which make it well-grounded in domestic conditions. The following basic aspects can be marked: far-reaching way of development, which supposes the work of many representatives of foreign automobile industry in domestic industry. They will be able to give technologies of various technological level and

prescription. This will allow excluding negative consequences if the cooperation with specific producer is finished, as it happened after leaving of FIAT in 1970-s;

- 1) Long-precondition cooperation;
- 2) Already constructed final production plants in possible appearance of components' producers Leningrad and Kaluga regions allow to consider these regions as future clusters;
- 3) Profitable geographical location of Leningrad Region makes the possible export of foreign made cars assembled in Russia to the countries of Eastern Europe effective;
- 4) Production of cars of the same class and price in one region which is being now observed in Leningrad Region forms conditions for development competition among producers. Such competition will stimulate the growth of production localization which allows the companies to save on transaction and transport costs. This will reduce risks of growth of prime costs more quickly than the rivals will be able to do. Each aspect an important role and influence on the motor-car construction industry. If they are put into a system under quality management and responsible control it will allow modernizing domestic industry, although until recently it was hard to believe in it.

Conclusion

The article considers the results of attraction of foreign capital in automobile industry and summarizes interim results of introduction industrial assembly practice. Now a sufficient number of automobile and components assembly plants are working in the industry, gradual growth of level of localization at those enterprises is observed. Probably plants in Leningrad Region soon will be united into a cluster. The cluster will increase competition which will allow speeding up the process of transfer of technologies. The same tendency is also observed in Kaluga Region. Evolution of industrial assembly practices from “drivering” to strategic alliances and in results of functioning of assembly practices allow considering joint ventures as a real opportunity of receiving technologies. Organization of numerous joint ventures of Russian and foreign companies is the main point in the script of development auto industry, fixed in the «Strategies of development cars industry in the Russian Federation till 2020 year».

Public authorities of the Russian Federation is called to create such conditions that can exclude not “receiving” technologies Russian producers have to think already now how to work with such technologies and where their implementation will be the most effective.

As far as today the investments are directed to the industry, world leaders of car and component markets has already appeared, it is necessary to start modernizing not only the production but also

management and control systems. Moreover it is also by no means unimportant to import technologies of not only simple components but complex units and aggregates (engines and transmission).

Only under such conditions we will be able to modernize the industry (see fig. 5). Although over the past 15 years (science 1996 till 2010) our own strategy of development was generated this became the result of evolution of assembly practices due to continuous “conforming” to the conditions of real Russian economy during the whole period. This strategy can appear an effective and unique one. Moreover, it can be applied for the reconstruction of other declining industries with the same tendencies, for example in aircraft industry.

The development of the strategy will allow forming a new point of the growth of economy based on the end mechanical facilities which will lead to the diversification of industrial production and modernization of economy. If such opportunity is lost as likely as not there will be no second chance and the expansion of foreign made cars to the domestic market will make the domestic car industry formal.

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