

PROBLEMS AND PROSPECTS OF DEVELOPMENT OF THE AUTOMOTIVE INDUSTRY IN UKRAINE

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Abstract. The article identifies major problems of the development of the automotive industry in Ukraine in 2010-2015, such as: catastrophic decrease of the production volume of cars, trucks and buses; reduction of the production capacity of automotive industry enterprises; loss of the competitiveness of the domestic automakers on the national automobiles market; increase of the dependence of automakers from borrowed funds; prevailing unprofitability of automakers and bankruptcy of some of them. Nowadays the only way to preserve the Ukrainian automotive industry is an active state protectionism of the development of the automotive industry as a strategically important sector of the national economy.

Keywords: automotive industry, automaker, automobiles market, mechanical engineering.

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Introduction

Automotive industry is the important part of the mechanical engineering in Ukraine. According to the «Concept of the state target economic program of the passenger car industry development for the period until 2020» «...vehicle production in Ukraine provides the high level of the added value (over 70 percent), generates the demand for goods and services of the related industries enterprises (production of metal, plastics, car windows, chemicals, etc.) and promotes the research activity. Creation of one workplace in enterprises of the automotive industry entails the creation of six workplaces in the related industries» (Concept of the state target economic program of the passenger car industry development for the period until 2020).

As the important part of the industry of Ukraine, the automotive industry is very sensitive to changes in the national economy development. According to the data of the State Statistics Service of Ukraine (Industrial production indices by activity for 2010-2012; Industrial production indices by activity for 2013-2015) the growth or reduction of the automotive production index occurred predominantly faster than the growth or reduction of the mechanical engineering production index and the industrial production index.

Based on the above referred data, the purpose of the article is detection of the problems and prospects of development of the automotive industry in Ukraine.

The research methodology is method of analysis and synthesis, systematic approach, methods of the economic analysis.

The information base of research is the statistical data the Ukrainian motor vehicle manufacturers association «UkrAvtoprom» and Agency for infrastructure development of the stock market in Ukraine «SMIDA». Retrospective research period is 2010-2015 years.

Analysis of the trends and patterns of development of the automotive industry in Ukraine

Nowadays the automotive industry in Ukraine is represented by the limited number of producers.

Detailed description of the leading automakers in Ukraine is represented in Table 1.

Table 1

Description of the leading automakers in Ukraine*

<i>Auto makers</i>	<i>Location</i>	<i>Brands</i>	<i>Description of business</i>
JSC «ZAZ»	Zaporizhia city	ZAZ, Lanos, Sens, Forza, I-Van	the only enterprise in Ukraine, which has the complete cycle of passenger cars' production, including stamping, welding, painting, trimming the bodies and assembling the vehicles. The production is oriented mainly on the consumers of class C cars. Fruitful cooperation: Adam Opel, Daimler AG, GM DAT, VAZ, TATA, Chery, KIA. JSC "ZAZ" is included into "UkrAVTO" group of companies (JSC «ZAZ». <i>About company</i>)
BOGDAN Corporation	Lutsk city, Cherkassy city	Bogdan	one of the most dynamic enterprises in Ukraine, combines the capacity to produce buses and trolley buses, cars, trucks and commercial vehicles, and has its own extensive retail and service network. Partners: Hyundai, Subaru, Skoda, Citroen, Great Wall, Jac, Daewoo, Zotye (BOGDAN Corporation. <i>About Corporation</i>)
PrJSC «EUROCAR»	Solomonovo village Zakarpattya region	Skoda	official supplier of SKODA cars in Ukraine. Eurocar dealership network is one of the largest in Ukraine and recognized as the best in Europe in the sphere of service network organization and the level of equipment in cars maintenance stations. Capacity of Eurocar plant is full of number of technological innovations, with the flexibility of the production process, in a unique for Ukraine's technical solutions. Current Eurocar plant produces a complete range of SKODA cars. Member of Atoll Holding Group (SKODA in Solomonovo. <i>About company</i>)
JSC PA «KrASZ»	Kremenchug city Poltava region	Ssang Yong, Geely, Great Wall	specializes in large-vehicle assembly, performing the pre-sale preparation, guarantee and postguarantee maintenance of vehicles. The capacity consists of two assembly workshops: department of the passenger cars assembly and department of the commercial vehicles assembly (JSC PA «KrASZ». <i>About company</i>)

<i>Auto makers</i>	<i>Location</i>	<i>Brands</i>	<i>Description of business</i>
PJSC «AutoKrAZ»	Kremenchug city Poltava region	KrAZ	one of the world's leading manufacturers of heavy-duty vehicles. The only truck manufacturer in Ukraine, which has a closed technological cycle of production. PJSC «AutoKrAZ» manufactures the wide range of the trucks and spare parts for them, trailers and semitrailers. Member of the financial-industrial group «Finance and Credit» (PJSC «AutoKrAZ». <i>History</i>)
PJSC «BAZ»	Proliski village Kyiv region	Etalon, Baz	enterprise of the design and manufacture of vehicles. Main partners: «TATA Motors LTD» (India), Ashok Leyland (India), «FAW» (China), «Deutz AG» (Germany), «Hino Motors» (Japan), «ZF Friedrichshafen AG» (Germany), «DANA Spicer» (USA). Member of Etalon Corporation (PJSC «BAZ». <i>About company</i>)
PJSC «Chasiv Yar buses plant»	Chasiv Yar city Donetsk region	Ruta	Was established in 1958. Over the years, the company was engaged in the capital repairs of the Gaz and ZIL automobiles, and production of the special vehicles. Since 1995, the main products of the plant were the small class buses. Different from the automobile assembling enterprise by the presence of such types of production – forging and pressing, welding, coloring, assembling (PAT «Chasivoyars'ki avtobusy». <i>The history of "Ruta" models</i>)
PJSC «Chernihiv autoplant»	Chernihiv city	Etalon, Chaz, Baz	Was established in 2003. Produces urban, suburban and tourist buses, trolleybuses. The main products are the small class buses – «Dolphin», Chaz and Baz. Member of Etalon Corporation (PJSC «Chernihiv autoplant». <i>Official web-portal of Chernihiv city council</i>)
JSC «Cherkassy bus»	Cherkassy city	Ataman	Assignee of Cherkassy automobile repair plant. In 1999 the plant started the production of the city buses. During 1999-2006 years there was a comprehensive upgrading of production: building the new painting areas, fiber plant, welding shop; the reconstruction of the production facilities; gasification; purchasing the equipment (JSC «Cherkassy bus». <i>History</i>)

* compiled by the authors based on Official web-portal's of JSC «ZAZ», BOGDAN Corporation, SKODA in Solomonovo, JSC PA «KrASZ», PJSC «AutoKrAZ», PJSC «BAZ», PAT «Chasivoyars'ki avtobusy», PJSC «Chernihiv autoplant», JSC «Cherkassy bus».

The dynamics of the production volume of the cars, trucks and buses in Ukraine in 2010-2015 years are represented on Figures 1-3.

Unfortunately, now PJSC «LAZ» (Lviv bus plant) and LLC «Automobile plant «AntoRus»» are stopped the production activity (Figure 3 and Table 2).

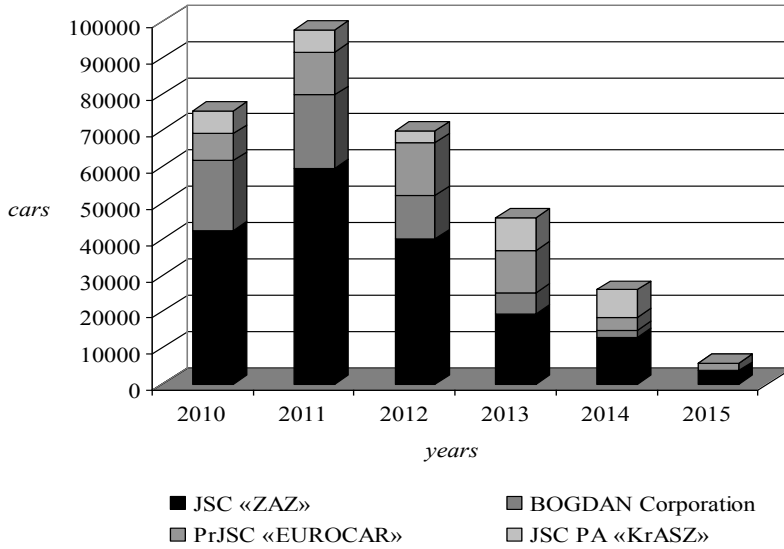


Fig. 1. Dynamics of the production volume of the cars in Ukraine in 2010-2015 years (constructed by the authors based on Statistics. Data file. Ukrainian motor vehicle manufacturers association «UkrAvtoprom», 2011, 2012, 2013, 2014, 2015)

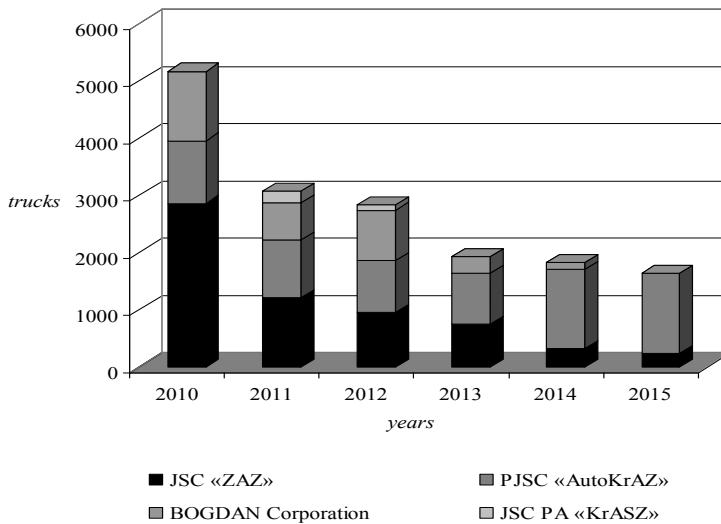


Fig. 2. Dynamics of the production volume of the trucks in Ukraine in 2010-2015 years (constructed by the authors based on Statistics. Data file. Ukrainian motor vehicle manufacturers association «UkrAvtoprom», 2011, 2012, 2013, 2014, 2015)

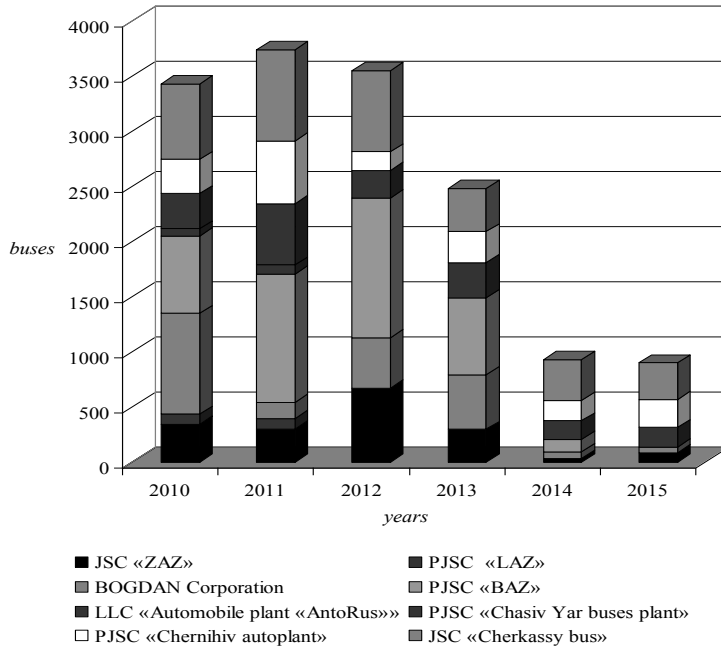


Fig. 3. Dynamics of the production volume of the buses in Ukraine in 2010-2015 years (constructed by the authors based on Statistics. Data file. Ukrainian motor vehicle manufacturers association «UkrAvtoprom», 2011, 2012, 2013, 2014, 2015)

Table 2

Breakdown structure of the automobile production by the leading automakers in Ukraine*

Automakers	Particles of the automotive industry output					
	2010	2011	2012	2013	2014	2015
<i>cars</i>						
JSC «ZAZ»	56,16	60,83	57,28	42,09	49,26	64,10
BOGDAN Corporation	25,50	20,74	17,27	13,01	7,71	0,00
PrJSC «EUROCAR»	9,92	11,94	20,89	25,12	14,07	35,90
JSC PA «KrASZ»	8,43	6,49	4,56	19,78	28,97	0,00
<i>trucks</i>						
JSC «ZAZ»	55,33	39,17	33,77	38,83	17,35	14,00
PJSC «AutoKrAZ»	21,16	33,17	31,79	46,38	75,97	85,64
BOGDAN Corporation	23,51	21,15	30,91	14,78	6,68	0,37
JSC PA «KrASZ»	0,00	6,52	3,53	0,00	0,00	0,00

Automakers	Particles of the automotive industry output					
	2010	2011	2012	2013	2014	2015
<i>buses</i>						
JSC «ZAZ»	10,05	7,98	18,88	12,00	3,34	9,34
PJSC «LAZ» (Lviv bus plant)	2,60	2,60	0,00	0,00	0,00	0,00
BOGDAN Corporation	26,71	3,85	12,84	20,04	6,89	6,01
PJSC «BAZ»	20,40	31,13	35,73	28,12	11,84	0,11
LLC «Automobile plant «AntoRus»»	1,93	2,25	0,03	0,00	0,00	0,00
PJSC «Chasiv Yar buses plant»	9,32	14,75	7,00	12,77	18,19	19,35
PJSC «Chernihiv autoplant»	9,06	15,28	4,77	11,35	19,91	28,25
JSC «Cherkassy bus»	19,93	22,16	20,75	15,72	39,83	36,93

* calculated by the authors based on Statistics. Data file. Ukrainian motor vehicle manufacturers association «UkrAvtoprom», 2011, 2012, 2013, 2014, 2015

As we see currently all Ukrainian automakers have problems in the business that gets reflected in the decrease of the automobiles production.

In the analyzed period Ukrainian automakers mostly lost their competitive position in the cars and trucks market (Table 3).

Table 3

Top-10 leaders in the automotive market in Ukraine during 2010-2014*

Places	Brands of automobiles				
	2011	2012	2013	2014	2015
cars					
1	Vaz (Russia)	Vaz (Russia)	Hyundai (South Korea)	Hyundai (South Korea)	Toyota (Japan)
2	Zaz (Ukraine)	Toyota (Japan)	Vaz (Russia)	Zaz (Ukraine)	Geely (China)
3	Hyundai (South Korea)	Hyundai (South Korea)	Zaz (Ukraine)	Geely (China)	Zaz (Ukraine)
4	Toyota (Japan)	Zaz (Ukraine)	Kia (South Korea)	Toyota (Japan)	Hyundai (South Korea)
5	Mitsubishi (Japan)	Renault (France)	Volkswagen (Germany)	Kia (South Korea)	Volkswagen (Germany)
6	Renault (France)	Skoda (Czech)	Toyota (Japan)	Volkswagen (Germany)	Renault (France)

Places	Brands of automobiles				
	2011	2012	2013	2014	2015
		Republic)			
7	Chevrolet (USA)	Volkswagen (Germany)	Skoda (Czech Republic)	Skoda (Czech Republic)	Skoda (Czech Republic)
8	Ford (USA)	Nissan (Japan)	Renault (France)	Nissan (Japan)	Nissan (Japan)
9	Skoda (Czech Republic)	Ford (USA)	Nissan (Japan)	Renault (France)	Ford (USA)
10	Nissan (Japan)	Geely (China)	Geely (China)	Ford (USA)	Kia (South Korea)
trucks					
1	Gaz (Russia)	Volkswagen (Germany)	Gaz (Russia)	Fiat (Italy)	Volkswagen (Germany)
2	Volkswagen (Germany)	Gaz (Russia)	Fiat (Italy)	Volkswagen (Germany)	Fiat (Italy)
3	Fiat (Italy)	Renault (France)	Volkswagen (Germany)	Gaz (Russia)	Renault (France)
4	Zaz (Ukraine)	Fiat (Italy)	Renault (France)	Renault (France)	Gaz (Russia)
5	Renault (France)	Ford (USA)	Ford (USA)	Ford (USA)	Ford (USA)
6	Peugeot (France)	Citroen (France)	Peugeot (France)	Maz (Belarus)	Peugeot (France)
7	Ford (USA)	Peugeot (France)	Citroen (France)	Citroen (France)	Citroen (France)
8	Maz (Belarus)	Kamaz (Russia)	Kamaz (Russia)	Peugeot (France)	Zaz (Ukraine)
9	Mercedes-Benz (Germany)	Mercedes-Benz (Germany)	Mercedes-Benz (Germany)	Zaz (Ukraine)	Mercedes-Benz (Germany)
10	Jac (China)	Hyundai (South Korea)	Maz (Belarus)	Mercedes-Benz (Germany)	Maz (Belarus)
buses					
1	Baz (Ukraine)	Baz (Ukraine)	Baz (Ukraine)	Baz (Ukraine)	Peugeot (France)
2	Gaz (Russia)	Gaz (Russia)	Paz (Russia)	Paz (Russia)	Etalon (Ukraine)
3	Khaz (Ukraine)	Bogdan (Ukraine)	I-VAN (Ukraine)	Ruta (Ukraine)	Ataman (Ukraine)
4	Bogdan (Ukraine)	I-Van (Ukraine)	Gaz (Russia)	I-Van (Ukraine)	Ruta (Ukraine)
5	Paz	Ruta	Ruta	Gaz	I-Van

Places	Brands of automobiles				
	2011	2012	2013	2014	2015
	(Russia)	(Ukraine)	(Ukraine)	(Russia)	(Ukraine)
6	Laz (Ukraine)	Maz (Belarus)	Maz (Belarus)	Ataman (Ukraine)	Gaz (Russia)
7	Uaz (Russia)	Uaz (Russia)	Uaz (Russia)	Uaz (Russia)	Paz (Russia)
8	I-Van (Ukraine)	Paz (Russia)	Ataman (Ukraine)	Bogdan (Ukraine)	Bogdan (Ukraine)
9	Tur (China)	Khaz (Ukraine)	Bogdan (Ukraine)	Striy Auto (Ukraine)	Uaz (Russia)
10	Ruta (Ukraine)	Temsa (Ukraine)	Ford (USA)	Ford (USA)	Ford (USA)

* compiled by the author based on Statistics. Data file. Ukrainian motor vehicle manufacturers association «UkrAvtoprom», 2011, 2012, 2013, 2014, 2015

The data in Table 3 indicate the reorientation of the cars and trucks market in Ukraine from domestic automotive products to imported automotive products: cars – from Russia, South Korea, Japan, China, France, Germany, Czech Republic and USA; trucks – from Russia, Germany, Italy, France, USA, Belarus, China and South Korea.

This situation is caused by the internal problems in the economic activity of these enterprises.

In the Table 4 the main results of the comprehensive economic diagnosis (which includes the number of the key indicators such as the coefficient of depreciation of the capital assets, the assets turnover ratio, the coefficient of the equity capital, the financial stability ratio, the coefficient of independence from the borrowed funds, the absolute liquidity ratio, the operating profitability) of the leading automotive companies in Ukraine are presented.

Table 4

**Main results of the comprehensive economic diagnosis
of the leading automotive companies in Ukraine***

Automakers	Value of indicators					
	2010	2011	2012	2013	2014	2015
Coefficient of depreciation of the capital assets						
JSC «ZAZ»	0,26	0,28	0,29	0,35	0,48	0,66
BOGDAN Corporation	0,48	0,47	0,42	0,36	0,26	0,23
PrJSC «EUROCAR»	0,78	0,81	0,84	0,87	0,89	0,91
JSC PA «KrASZ»	0,70	0,71	0,74	0,77	0,79	no data
PJSC «AutoKrAZ»	0,82	0,86	0,89	0,90	0,92	0,94
PJSC «LAZ» (Lviv bus plant)	0,98	0,99	no data	no data	no data	no data

Automakers	Value of indicators					
	2010	2011	2012	2013	2014	2015
PJSC «BAZ»	0,54	0,55	0,56	0,57	0,59	0,63
LLC «Automobile plant «AntoRus»»	0,97	0,97	0,98	no data	no data	no data
PJSC «Chasiv Yar buses plant»	0,36	0,38	0,40	0,43	0,47	0,52
PJSC «Chernihiv autoplant»	0,09	0,10	0,16	0,18	0,22	0,26
JSC «Cherkassy bus»	0,44	0,47	0,52	0,55	0,59	0,63
Assets turnover ratio						
JSC «ZAZ»	0,74	0,72	0,69	0,68	0,65	0,60
BOGDAN Corporation	0,93	0,81	0,69	0,52	0,19	0,14
PrJSC «EUROCAR»	2,06	1,99	1,82	1,59	1,18	0,76
JSC PA «KrASZ»	0,12	0,16	0,14	0,11	0,13	no data
PJSC «AutoKrAZ»	0,19	0,16	0,12	0,14	0,25	0,32
PJSC «LAZ» (Lviv bus plant)	0,02	0,01	no data	no data	no data	no data
PJSC «BAZ»	0,18	0,13	0,15	0,17	0,12	0,09
LLC «Automobile plant «AntoRus»»	0,10	0,06	0,03	no data	no data	no data
PJSC «Chasiv Yar buses plant»	0,57	0,52	0,45	0,41	0,34	0,31
PJSC «Chernihiv autoplant»	0,60	0,54	0,49	0,46	0,44	0,32
JSC «Cherkassy bus»	1,13	1,04	0,96	0,91	0,87	0,99
Coefficient of the equity capital						
JSC «ZAZ»	0,51	0,49	0,47	0,45	-0,11	-0,29
BOGDAN Corporation	0,25	0,22	0,19	0,16	0,01	-0,22
PrJSC «EUROCAR»	0,46	0,52	0,48	0,41	0,25	-0,15
JSC PA «KrASZ»	0,23	0,26	0,19	0,18	-0,13	no data
PJSC «AutoKrAZ»	0,24	0,22	0,21	0,16	0,14	0,08
PJSC «LAZ» (Lviv bus plant)	-0,68	-0,72	no data	no data	no data	no data
PJSC «BAZ»	0,27	0,22	0,21	0,18	0,13	0,12
LLC «Automobile	-0,62	-0,65	-0,69	no	no	no

Automakers	Value of indicators					
	2010	2011	2012	2013	2014	2015
plant «AntoRus»»				data	data	data
PJSC «Chasiv Yar buses plant»	0,98	0,98	0,96	0,97	0,98	0,99
PJSC «Chernihiv autoplant»	0,11	0,08	-0,02	-0,06	-0,01	-0,01
JSC «Cherkassy bus»	0,31	0,35	0,32	0,30	0,27	0,28
Financial stability ratio						
JSC «ZAZ»	0,77	0,82	0,79	0,76	0,39	-0,04
BOGDAN Corporation	0,87	0,90	0,88	0,86	0,75	0,59
PrJSC «EUROCAR»	0,74	0,71	0,68	0,64	0,58	0,55
JSC PA «KrASZ»	0,37	0,34	0,32	0,28	0,21	no data
PJSC «AutoKrAZ»	0,34	0,33	0,31	0,32	0,35	0,35
PJSC «LAZ» (Lviv bus plant)	-0,29	-0,34	no data	no data	no data	no data
PJSC «BAZ»	0,49	0,47	0,42	0,37	0,39	0,36
LLC «Automobile plant «AntoRus»»	-0,16	-0,21	-0,18	no data	no data	no data
PJSC «Chasiv Yar buses plant»	0,98	0,98	0,96	0,97	0,98	0,99
PJSC «Chernihiv autoplant»	0,65	0,63	0,57	0,60	0,54	0,48
JSC «Cherkassy bus»	0,62	0,59	0,61	0,62	0,64	0,63
Coefficient of independence from the borrowed funds						
JSC «ZAZ»	0,96	1,04	1,13	1,22	-10,09	-4,45
BOGDAN Corporation	3,00	3,55	4,26	5,25	9,31	-5,55
PrJSC «EUROCAR»	1,17	0,92	1,08	1,44	3,00	-7,67
JSC PA «KrASZ»	3,35	2,85	4,26	4,56	-8,69	no data
PJSC «AutoKrAZ»	3,17	3,55	3,76	5,25	6,14	11,50
PJSC «LAZ» (Lviv bus plant)	-2,47	-2,39	no data	no data	no data	no data
PJSC «BAZ»	2,70	3,55	3,76	4,56	6,69	7,33
LLC «Automobile plant «AntoRus»»	-2,61	-2,54	-2,45	no data	no data	no data
PJSC «Chasiv Yar	0,02	0,02	0,04	0,03	0,02	0,01

Automakers	Value of indicators					
	2010	2011	2012	2013	2014	2015
buses plant»						
PJSC «Chernihiv autoplant»	8,09	11,50	-51,00	-17,67	-10,00	-10,00
JSC «Cherkassy bus»	2,23	1,86	2,13	2,33	2,70	2,57
Absolute liquidity ratio						
JSC «ZAZ»	0,29	0,25	0,31	0,28	0,14	0,05
BOGDAN Corporation	0,04	0,06	0,02	0,01	0,03	0,03
PrJSC «EUROCAR»	0,13	0,15	0,17	0,18	0,14	0,15
JSC PA «KrASZ»	0,16	0,12	0,10	0,08	0,09	no data
PJSC «AutoKrAZ»	0,04	0,02	0,04	0,01	0,02	0,03
PJSC «LAZ» (Lviv bus plant)	0,001	0,0005	no data	no data	no data	no data
PJSC «BAZ»	0,05	0,03	0,03	0,02	0,01	0,03
LLC «Automobile plant «AntoRus»»	0,01	0,003	0,001	no data	no data	no data
PJSC «Chasiv Yar buses plant»	2,31	1,46	1,68	1,24	1,97	4,28
PJSC «Chernihiv autoplant»	0,06	0,04	0,03	0,03	0,02	0,04
JSC «Cherkassy bus»	0,05	0,08	0,07	0,05	0,06	0,05
Operating profitability						
JSC «ZAZ»	0,18	0,12	0,11	0,08	-0,21	-0,32
BOGDAN Corporation	0,09	0,02	-0,03	-0,08	-1,04	-1,35
PrJSC «EUROCAR»	0,10	0,06	0,02	0,05	0,09	0,12
JSC PA «KrASZ»	0,01	0,01	0,02	0,03	0,01	no data
PJSC «AutoKrAZ»	0,07	0,09	0,10	0,13	0,19	0,24
PJSC «LAZ» (Lviv bus plant)	-1,36	-1,52	no data	no data	no data	no data
PJSC «BAZ»	0,14	0,08	0,06	0,09	0,12	0,11
LLC «Automobile plant «AntoRus»»	-1,27	-1,66	-1,84	no data	no data	no data
PJSC «Chasiv Yar buses plant»	0,07	0,09	0,08	0,05	0,06	0,09
PJSC «Chernihiv	0,15	0,08	0,09	0,06	0,12	0,003

Automakers	Value of indicators					
	2010	2011	2012	2013	2014	2015
autoplant»						
JSC «Cherkassy bus»	0,05	0,06	0,01	0,02	0,01	0,07

* calculated by the authors based on Data bases of Agency for infrastructure development of the stock market in Ukraine «SMIDA»: JSC «ZAZ», BOGDAN Corporation, PrJSC «EUROCAR», PJSC «AutoKrAZ», PJSC «Chasiv Yar buses plant», PJSC «Chernihiv autoplant», JSC «Cherkassy bus».

Conclusions and suggestions

According to research results the authors identify major problems of development of the automotive industry in Ukraine in 2010-2015, such as:

- catastrophic decrease of the production volume of cars, trucks and buses;
- reduction of the production capacity of automotive industry enterprises;
- loss of the competitiveness of the domestic automakers on the national automobiles market;
- increase of the dependence of automakers from borrowed funds;
- prevailing unprofitability of automakers and bankruptcy of some of them.

The discovered peculiarities indicate the urgent need for state regulation of development of the automotive industry in Ukraine.

Currently the state regulation of development of the automotive industry and the automobiles market is carried out through the application of the macro-economic approach. In view of this it is expedient to implement a partial decentralization of the state regulation of the automotive industry development.

This means the implementation of the regional and microeconomic approaches to the state regulation of the development of the automotive industry in Ukraine.

Thus the prospect of further research is the creation of the effective mechanism for state regulation of development of the automotive industry in Ukraine, which will provide solving the identified problems.

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