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INDUSTRIAL POLICY AND FEATURES OF INDUSTRIAL DEVELOPMENT IN COUNTRIES BELONGING TO INTEGRATION ASSOCIATIONS – THE EUROPEAN UNION AND THE CUSTOMS UNION

Abstract

The article investigates the features of industrial development in countries belonging to integration associations — the European Union and the Customs Union, as well as the policy to support industrial development carried out in them, its targets, mechanisms and instruments. The study is based on analyzing the input-output tables for 38 countries, covering the period of 1995–2011. There have been analyzed: the dynamics of global production, growth rate of output and structure of industrial products in EU and CU countries, share of industry in the economy, growth rate of output and structure of industrial exports, export orientation of industrial production, growth rate of the internal market capacity and consumption structure of industrial products, growth rate of GDP of high-tech industries and share of high-tech industries in industrial GDP. There have been ranked: 20 EU and CU member countries — the largest manufacturers of industrial products, largest exporters and importers of industrial products, 20 countries leading in capacity of the internal market for industrial products, 20 EU and CU member countries with the highest level of import dependence of the internal market for industrial products, 20 EU and CU member countries leading in terms of GDP of high-tech industries. Basic features of the industrial policy in European Union countries as well as in CU member countries have been studied, their differences and weaknesses defined.

Key words

industry, industrial policy, industrial production, the European Union, the Customs Union, high-tech industries

Introduction

The development of the world economy during the past decade is characterized by gradual growth hindered only in crisis years. And it is the industrial sector that played a special role in ensuring the economic security of both individual countries and their associations (the European Union (EU) and the Customs Union (CU)). So, today it is difficult to overestimate the importance of industry in the economic development of many leading countries of the world because it is industry that ensures a multiplicative effect in economy as a whole shaping demand for raw materials, energy resources, labor force, creating the largest volumes of value added.

The **aim of the article** is to prove a hypothesis that a sustainable development of economy is characteristic to those countries that carry out an active industrial policy and retain a high share of industry in their economy.

Materials and methods

The information basis of the research is data of input-output tables for the period of 1995 – 2011 [1] on 27 countries of the world, which are full-fledged members of integration associations - the EU and the CU (the acronym "CU" refers to the customs union among Eurasian countries). The study is restricted by 2011 due to a corresponding periodicity of formation and publication of input-output tables in countries of the world. General scientific methods make up a methodological foundation of the research. They include: description, comparison, statistics review, system analysis and others, which help characterize this phenomenon development in a more comprehensive way. For the purposes of the given study the methods of dialectic cognition, structural analysis and logic principles that provide for making authentic conclusions as regards the investigated topic were applied.

Results and discussion

The analysis of main trends of industrial development for the past decades [2-5] indicates that during this period an unstable tendency for production increase with a gradual decrease of its rate was observed in the world. Thus, from 2006 to 2014 the rate decreased from 4.1 to 2.7% (Table 1).

Table 1. Dynamics of the world production for the period of 2006–2014, %

Region	Year								
	2006	2007	2008	2009	2010	2011	2012	2013	2014
World total	4.1	4.0	1.5	-2.1	4.1	2.8	2.3	2.3	2.7
Developed countries	2.8	2.5	0.0	-3.7	2.6	1.4	1.1	1.3	1.8
Developing countries	7.7	8.0	5.4	2.6	7.8	6.0	4.7	4.6	4.7

Source: [6, 7]

During this period, the average annual increase in the world production amounted to 2.4%, including developed countries – 1.1% and developing countries – 5.7%.

The production development had unstable rates in integration associations of the EU and the CU. Thus, for the EU its average annual growth rate amounted to 0.8% in 2006–2014, while for the CU the average industrial production index amounted to 1.6% in 2008–2014 [6, 7].

The analysis of industrial development on the basis of the input-output tables, covering the period of 1995–2011 for countries belonging to the integration associations of the EU and the CU indicates more dynamic development of the latter (Fig. 1).

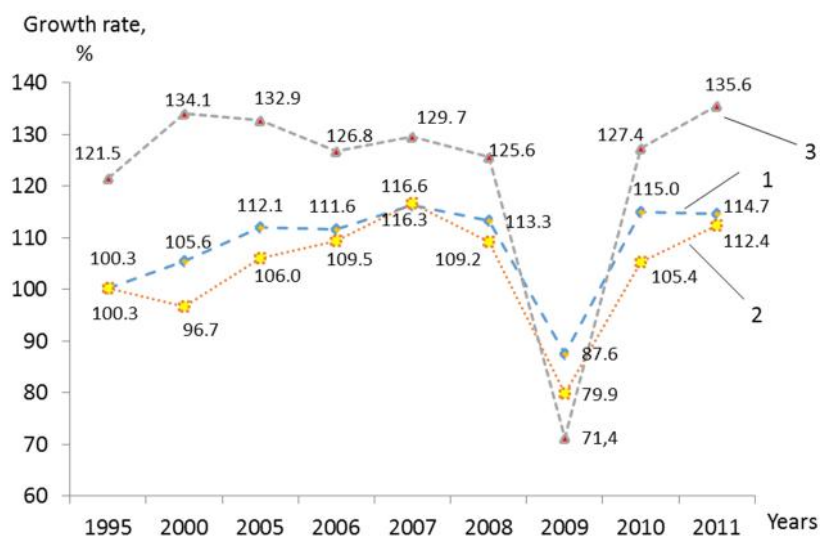


Fig. 1. Growth rate of industrial output 1 – world; 2 – EU countries; 3 – CU countries
Source: Author's (calculated on the basis of the data [1])

As can be seen from Fig. 1, a significant advantage in the growth rate of industrial output of CU member countries continued throughout the analyzed period. Thus, the average growth rate of industrial output during the period of 1995-2011 amounted to 115.26% in the CU, while it amounted to 104.43% in the EU.

The long-term preservation of a relatively low growth rate of industrial output in EU countries resulted in decrease of their share in the structure of the world industrial output by 9.38% (Fig. 2–3). A considerable

increase in the share of countries that are not participants of the considered integration associations (the EU and the CU) also should be noted.

A considerable advantage in the industrial output growth of CU countries can be explained by a high level of absolute indicators of industrial output of EU member countries. By the results of 2011 the list of the largest manufacturers of industrial products among countries participating in the integration associations includes 18 EU countries (Table 2).

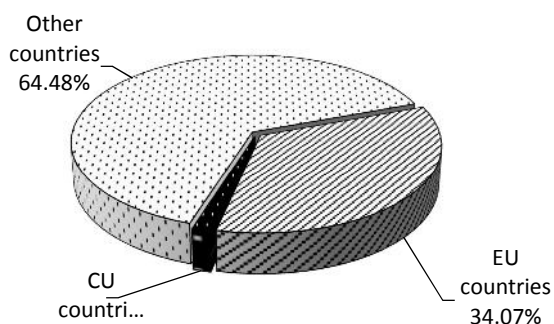


Fig. 2. Structure of industrial production in 1995

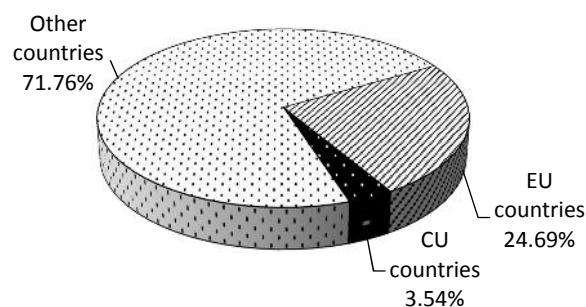


Fig. 3. Structure of industrial production in 2011

Source: Author's (calculated on the basis of the data [1])

Table 2. Ranking of 20 EU and CU member countries – the largest industrial manufacturers

Country	1995		2000		2005		2011	
	Production output, mln USD	Rank	Production output, mln USD	Rank	Production output, mln USD	Rank	Production output, mln USD	Rank
EU countries								
Germany	1 539 174	1	1 251 774	1	1 907 442	1	2 644 505	1
Italy	807 300	3	789 363	2	1 194 089	2	1 411 822	2
France	855 336	2	757 404	3	1 087 188	3	1 407 738	3
Great Britain	709 194	4	753 881	4	957 767	4	965 887	5
Spain	395 025	5	379 392	5	667 231	5	858 637	6
Netherlands	259 936	6	229 188	6	354 519	7	531 750	7
Poland	103 880	11	118 246	10	227 754	10	409 720	8
Belgium	200 236	8	172 445	8	249 907	8	344 403	9
Sweden	162 106	9	165 166	9	235 242	9	339 331	10
Austria	127 621	10	106 795	11	184 800	11	289 821	11
Czech Republic	57 684	15	63 508	16	141 261	13	244 190	12
Finland	96 823	12	96 970	12	140 306	14	186 208	13
Ireland	55 620	16	91 004	13	143 433	12	185 400	14
Hungary	36 099	19	48 126	17	96 564	17	141 498	15
Denmark	84 850	13	73 639	14	113 926	15	141 013	16
Romania	36 386	18	30 508	19	73 868	19	132 427	17
Portugal	76 757	14	69 387	15	103 593	16	128 656	18
Greece	54 085	17	46 659	18	81 019	18	91 833	20
CU countries								
Russia	242 894	7	184 937	7	549 708	6	1 330 425	4

Country	1995		2000		2005		2011	
	Production output, mln USD	Rank	Production output, mln USD	Rank	Production output, mln USD	Rank	Production output, mln USD	Rank
Kazakhstan	No data	-	No data	-	50 943	20	128 372	19

Source: Author's (calculated on the basis of the data [1])

The most intensive growth of industrial production among the considered countries took place in Russia (by 5.5 times), Czech Republic (by 4.2 times) and Poland (by 3.9 times). However, even taking into account more than a fivefold increase of the industrial output in Russia in 2011, this indicator was twice less than the corresponding indicator of the largest European manufacturer – Germany. Also a significant increase in the industrial output of Belarus, which ranked 22 with the production output of 71 462 mln USD in 2011, is worth mentioning.

The level of significance of industrial production in the economies of CU countries is considerably higher than the corresponding average indicator for all world countries and the level of EU countries as well (Fig. 4). The decrease of this indicator during the crisis in the global economy should be noted. The average value of the share of industry in the economy of EU countries amounted to 32.5% versus 39.9% in CU countries for the period of 1995–2011.

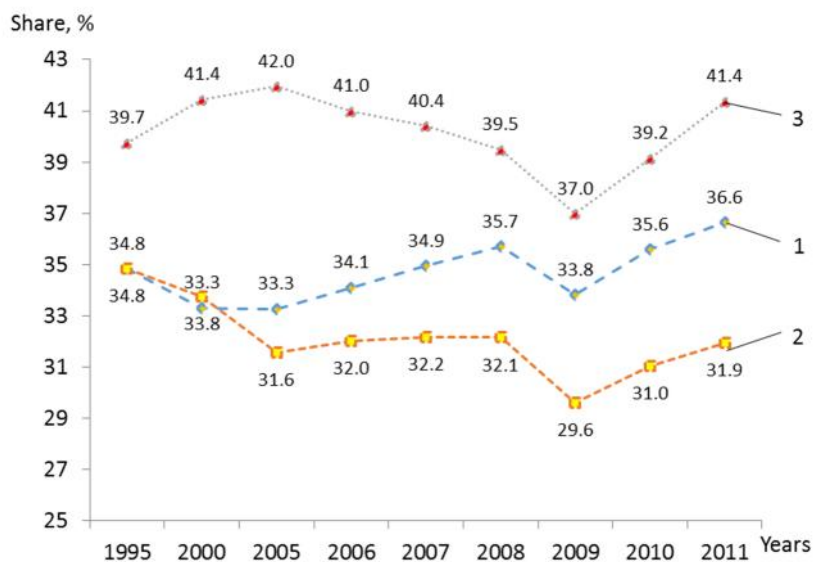


Fig. 4. Share of industry in the economy: 1 – world; 2 – EU countries; 3 – CU countries

Source: Author's (calculated on the basis of the data [1])

A considerable difference in the industrial development of the EU and the CU is observed in terms of the growth rate of industrial exports (Fig. 5).

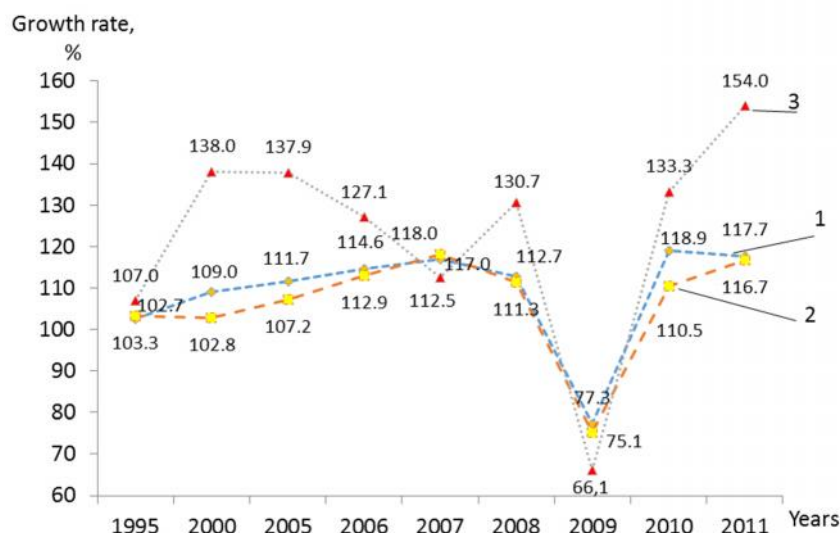


Fig. 5. Growth rate of industrial exports: 1 – world; 2 – EU countries; 3 – CU countries
Source: Author's (calculated on the basis of the data [1])

The increase in the volume of industrial exports in the EU took place at a slow rate — in line with the global trends.

The world market conditions after the crisis period were more favorable for countries of the CU, which allowed increasing the volume of industrial exports by 133.3% and 154.0% in 2010 and 2011 respectively. At the same time decrease of this indicator in 2009: 33.9 % versus 24.9 % in the EU, is more noticeable in comparison with the EU. Preserving the high growth rate of the industrial exports ensured an increase in the share of CU countries in the total world volume from 1.34 % in 1995 to 3.71 % in 2011 (Fig. 6–7).

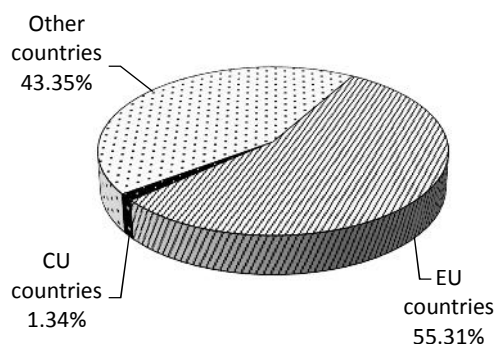


Fig. 6. Structure of industrial exports in 1995

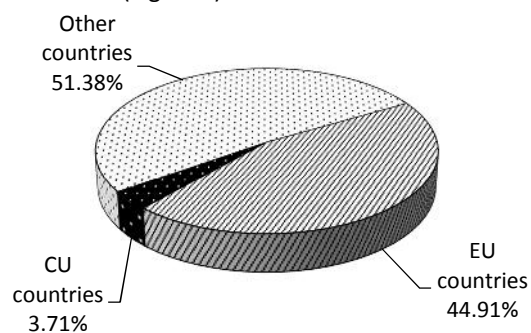


Fig. 7. Structure of industrial exports in 2011

Source: Author's (calculated on the basis of the data [1])

It should be mentioned that more than half of the world industrial exports in 1995 was concentrated in EU countries. As of 2011 the value of the indicator was significantly smaller, but high enough, given the high growth rate of exports of CU countries and third countries. The ranking of EU and CU member countries — the largest exporters of industrial products during 1995–2011 did not undergo noticeable changes (Table 3).

Table 3. Ranking of 20 EU and CU member countries – the largest exporters of industrial products

Country	1995		2000		2005		2011	
	Volume of exports, mln USD	Rank	Volume of exports, mln USD	Rank	Volume of exports, mln USD	Rank	Volume of exports, mln USD	Rank
EU countries								
Germany	515 529	1	539 789	1	960 309	1	1 391 659	1
France	265 943	2	288 848	2	424 465	2	560 771	2
Italy	220 087	4	227 054	4	352 823	3	496 038	3
Great Britain	241 901	3	278 441	3	348 919	4	437 236	4
Netherlands	153 436	5	146 228	5	229 250	5	376 515	5
Spain	86 802	7	108 512	7	184 840	7	289 146	7
Belgium	136 074	6	121 360	6	188 209	6	268 502	8
Poland	25 649	14	34 532	14	91 402	12	182 155	9
Sweden	78 775	8	86 967	8	128 613	9	178 534	10
Austria	48 533	10	56 045	11	104 921	10	153 826	11
Czech Republic	17 629	16	26 544	15	72 845	13	140 033	12
Ireland	40 591	12	69 650	9	102 774	11	119 223	13
Denmark	50 233	9	45 769	12	71 686	14	93 444	14
Hungary	9 015	17	22 573	17	51 369	16	84 449	15
Finland	39 504	13	45 514	13	66 880	15	83 937	16
Slovakia	7 560	19	10 980	18	28 542	18	51691	18
Portugal	21 759	15	22 610	16	34 468	17	40 407	20
CU countries								
Russia	48 256	11	58 654	10	141 680	8	299 490	6
Kazakhstan	-	-	-	-	23 113	19	72 185	17
Belarus	-	-	-	-	-	-	45 709	19

Source: Author's (calculated on the basis of the data [1])

The largest exporters of industrial products among the above mentioned list of countries during the whole analyzed period remained Germany, France, Italy and Great Britain. More than a sixfold increase in industrial exports in Russia contributed to its moving from the 11th to the 6th position in the ranking. Noteworthy is the fact that the top positions in the ranking of exporters of industrial products are occupied by the countries leading in terms of the largest production output. At the same time the increase in industrial production is largely oriented towards export of products to foreign markets.

Quite a high level of saturation of internal markets for industrial products in European countries contributes to export orientation of their industrial production (Fig. 8).

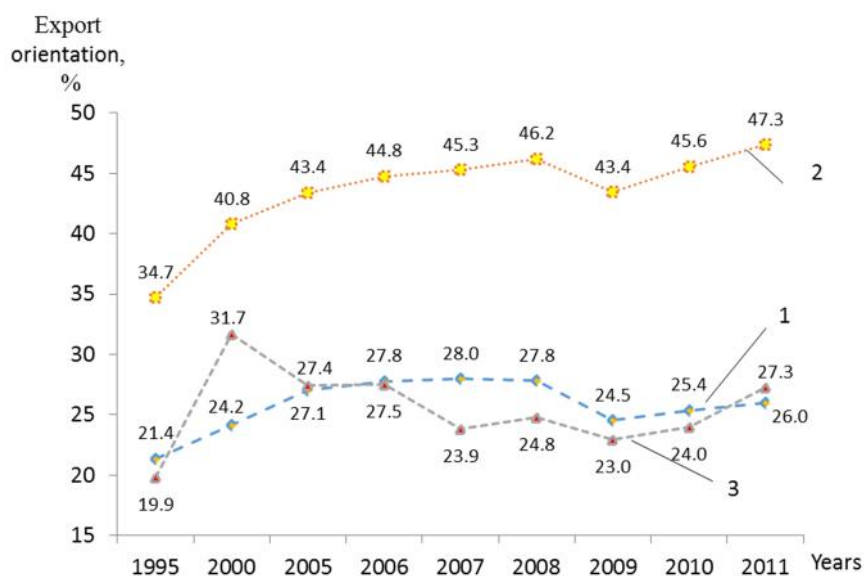


Fig. 8. Export orientation of industrial production: 1 – world; 2 – EU countries; 3 – CU countries
Source: Author's (calculated on the basis of the data [1])

The data presented in Fig. 8 indicate the presence of a stable tendency for growth in export orientation of industrial production in EU countries. By the results of 2011 almost half of the industrial products in these countries was realized in foreign markets. This testifies to the growth of their dependence on external factors. However, it should also be taken into account that a substantial part of exports is carried out within the common market of EU countries. The indicator of export orientation of industrial production in CU member countries is almost twice lower than that of the EU. There can be observed the dynamics of its decrease during 2000–2010 and a significant increase in 2011.

Unlike European countries, the industrial development of CU member countries occurs at the expense of their internal markets. Considerably higher, compared to EU countries, level of capacity of the internal market for industrial products can be observed during the entire study period (Fig. 9).



Fig. 9. Growth rate of capacity of the internal market for industrial products: 1 – world; 2 – EU countries; 3 – CU countries
Source: Author's (calculated on the basis of the data [1])

A significant decrease of this indicator in EU countries occurred during the crisis for these countries period of 1998–1999 (by 24.5% and 43.0% respectively) and the global crisis (28.9%). The average growth rate of capacity of the CU internal market for industrial products for 1995–2011 amounted to 115.3%. The value of the

respective indicator for EU countries amounted only to 104.6 %, which gives grounds to speak about a low intensity of development of their internal markets. For comparison, the average growth rate in the world over the same period amounted to 106.6%.

The structure of consumption of industrial products underwent significant changes in 2011 compared to 1995 (Fig. 10–11).

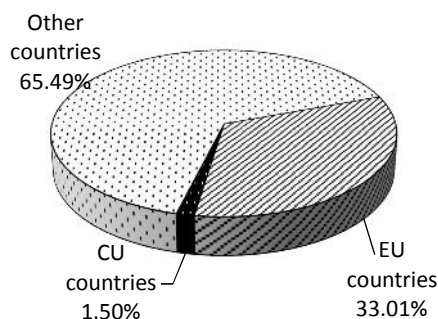


Fig. 10. Structure of consumption of industrial products in 1995

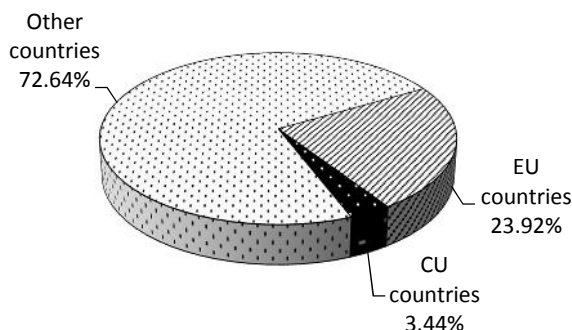


Fig. 11. Structure of consumption of industrial products in 2011

Source: Author's (calculated on the basis of the data [1])

Unlike EU countries, which share in the structure of the world consumption of industrial products significantly decreased (by 9.1 %), the share of CU countries increased by 2.3 times. The main reason of the decrease in the EU share is a significant increase in consumption of industrial products in third countries, which are not participants of the analyzed integration associations.

Considering a relatively low growth rate of capacity of internal markets for industrial products, EU countries hold top positions in the ranking of 20 countries leading in terms of this indicator during 1995–2011 (Table 4).

Table 4. Ranking of 20 countries leading in terms of capacity of the internal market for industrial products

Country	1995		2000		2005		2011	
	Capacity of the internal market, mln USD	Rank	Capacity of the internal market, mln USD	Rank	Capacity of the internal market, mln USD	Rank	Capacity of the internal market, mln USD	Rank
EU countries								
Germany	1 431 968	1	1 155 340	1	1 651 907	1	2 328 836	1
France	832 889	2	744 211	4	1 094 696	3	1 472 308	2
Italy	768 862	3	775 571	2	1 185 657	2	1 411 923	3
Great Britain	701 809	4	775 414	3	1 031 868	4	1 067 591	5
Spain	409 329	5	414 258	5	746 633	5	904 632	6
Netherlands	233 647	7	205 243	6	299 389	7	446 672	7
Poland	100 349	11	126 756	10	225 323	9	407 481	8
Belgium	183 577	8	163 807	8	237 002	8	339 476	9
Sweden	139 186	9	141 589	9	202 000	10	306 326	10
Austria	134 004	10	108 824	11	181 440	11	289 866	11
Czech Republic	60 803	16	65 406	16	135 925	12	227 653	12
Finland	82 042	13	79 047	13	121 912	15	171 321	13
Romania	38 803	19	34 156	19	87 874	19	154 645	14
Portugal	82 888	12	81 977	12	123 617	14	150 251	15
Greece	72 245	15	70 834	14	124 583	13	143 088	16

Country	1995		2000		2005		2011	
	Capacity of the internal market, mln USD	Rank	Capacity of the internal market, mln USD	Rank	Capacity of the internal market, mln USD	Rank	Capacity of the internal market, mln USD	Rank
Hungary	40 539	18	52 956	18	103 335	17	140 361	17
Denmark	78 162	14	66 757	15	106 054	16	132 392	18
Ireland	41 808	17	62 775	17	102 866	18	125 685	19
CU countries								
Russia	249 009	6	167 401	7	522 726	6	1 336 818	4
Kazakhstan	-	-	-	-	45 559	21	96 345	20

Source: Author's (calculated on the basis of the data [1])

Having a developed internal market helps reduce dependence on conditions in the international market for industrial products. The leaders of the presented ranking are also EU countries: Germany, France and Italy. A significant increase in the capacity of the internal market of Russia allowed it occupying the 4th position in the ranking. In general, by the results of 2011, the capacity of the internal market of EU countries was sevenfold higher than the corresponding figure for CU countries.

Along with a substantial level of export orientation of industry in EU countries, a considerable volume of imports of corresponding products to these countries should be mentioned. The list of twenty countries — the largest importers of industrial products for the period of 1995–2011, did not undergo significant changes (Table 5).

Table 5. Ranking of 20 EU and CU member countries — the largest importers of industrial products

Country	1995		2000		2005		2011	
	Volume of imports, mln USD	Rank	Volume of imports, mln USD	Rank	Volume of imports, mln USD	Rank	Volume of imports, mln USD	Rank
EU countries								
Germany	408 323	1	443 356	1	704 774	1	1 075 990	1
France	243 496	2	275 655	3	431 974	2	625 341	2
Great Britain	234 516	3	299 974	2	423 020	3	538 940	3
Italy	181 649	4	213 262	4	344 390	4	496 139	4
Spain	101 106	7	143 378	5	264 242	5	335 141	5
Netherlands	127 147	5	122 283	6	174 120	7	291 437	7
Belgium	119 415	6	112 722	7	175 304	6	263 575	8
Poland	22 118	16	43 042	10	88 970	11	179 916	9
Austria	54 915	9	58 074	9	101 561	9	153 870	10
Sweden	55 855	8	63 391	8	95 371	10	145 529	11
Czech Republic	20 747	17	28 443	16	67 509	12	123 497	12
Denmark	43 546	11	38 888	13	63 813	13	84 824	13
Hungary	13 455	18	27 403	18	58 139	15	83 311	14
Finland	24 723	14	27 591	17	48 486	18	69 050	15
Greece	22 570	15	29 312	15	52 323	17	63 028	16
Portugal	27 890	12	35 201	14	54 492	16	62 002	17
Ireland	26 779	13	41 421	11	62 208	14	59 507	18
Romania	8 976	19	11 533	19	35 317	19	55 470	19
Slovakia	7 512	21	10 772	20	29 821	20	50 040	20

Country	1995		2000		2005		2011	
	Volume of imports, mln USD	Rank	Volume of imports, mln USD	Rank	Volume of imports, mln USD	Rank	Volume of imports, mln USD	Rank
CU countries								
Russia	54 371	10	41 118	12	114 698	8	305 883	6

Source: Author's (calculated on the basis of the data [1])

As can be seen from Table 5, the highest rate of increasing the volume of industrial imports for the period from 1995 to 2011 is observed in Poland (by 8.1 times), Slovakia (by 6.7 times), Hungary and Romania (by 6.2 times). More than a fivefold increase in the volume of industrial imports took place in Russia, which ensured the country's moving from the 10th to the 6th position in the ranking. Other countries participating in the CU — Belarus and Kazakhstan — occupied, respectively, the 21th and the 22nd positions in 2011. The total import of CU countries is almost by fourteen times lower than the corresponding figure for EU countries.

The consequence of the rapid growth in the volume of industrial imports to EU countries was increase in their import dependence from 32.1% in 2005 to 46.5% in 2011. Unlike the EU, the growth in the share of imports in the total volume of consumption of industrial products of CU countries was significantly lower (from 21.8% to 24.2% for the corresponding period). It is worth noting that the growth of the import dependence indicator took place in all EU countries except Ireland. The ranking of 20 EU and CU member countries with the highest level of import dependence of the internal market by the results of 2011 is presented in Table 6.

Table 6. Ranking of 20 EU and CU member countries with the highest level of import dependence of the internal market for industrial products

Country	1995		2000		2005		2011	
	Import dependence, %	Rank	Import dependence, %	Rank	Import dependence, %	Rank	Import dependence, %	Rank
EU countries								
Belgium	65.05	1	68.81	1	73.97	1	77.64	1
Netherlands	54.42	5	59.58	4	58.16	8	65.25	2
Slovenia	49.66	6	55.81	6	63.01	2	64.20	3
Denmark	55.71	3	58.25	5	60.17	6	64.07	4
Estonia	55.27	4	64.30	3	61.32	3	61.81	6
Hungary	33.19	15	51.75	9	56.26	9	59.36	7
Slovakia	36.96	11	50.78	11	59.08	7	56.24	8
Lithuania	47.74	7	50.99	10	54.06	11	55.79	9
Czech Republic	34.12	12	43.49	14	49.67	12	54.25	10
Latvia	46.14	8	55.36	7	60.48	4	54.15	11
Austria	40.98	9	53.36	8	55.98	10	53.08	12
Great Britain	33.42	14	38.69	17	41.00	18	50.48	13
Sweden	40.13	10	44.77	13	47.21	13	47.51	14
Ireland	64.05	2	65.98	2	60.47	5	47.35	15
Germany	28.51	20	38,37	18	42.66	16	46.20	16
Poland	22.04	24	33.96	22	39.49	21	44.15	17
Bulgaria	31.28	16	47.94	12	46.04	14	44.09	18
Greece	31.24	17	41.38	16	42.00	17	44.05	19
France	29.24	19	37.04	19	39.46	22	42.47	20

Country	1995		2000		2005		2011	
	Import dependence, %	Rank	Import dependence, %	Rank	Import dependence, %	Rank	Import dependence, %	Rank
CU countries								
Belarus	-	-	-	-	-	-	63.53	5

Source: Author's (calculated on the basis of the data [1])

As can be seen from Table 6, the lowest level of import dependence of the internal market for industrial products among all EU and CU member countries in 2011 was observed in Russia (22.9%). In general, it can be argued that the market share of industrial imports of CU countries is lower than that of the EU, with the difference in values of these parameters having a stable tendency to growth. However, this quite a significant import dependence in the EU countries can be explained by the fact that they sell a large share of their products in the common market of the Community.

Restrictions of economic cooperation with CU countries (primarily Russia) negatively affect their investment climate, exchange of experience and technology with EU countries. However, the development of high-tech industries of CU member countries during the period of 1995-2011 occurred at a considerably higher rate compared to the EU (Fig. 12). During the period of 1995–2011 the average GDP growth of high-tech industries in EU countries amounted to 103.7%, and in the countries of CU – 112.8%. There should be mentioned a sharp decline in this indicator for both of the studied integration associations, which occurred in the crisis year of 2009. The period of recovery after the crisis is characterized by a significant predominance in GDP growth of high-tech industries of the CU.

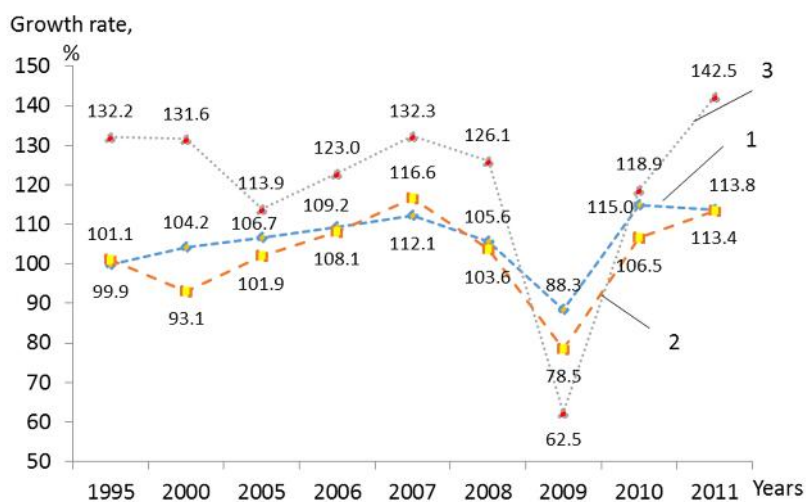


Fig. 12. GDP growth rate of high-tech industries: 1 – world; 2 – EU countries; 3 – CU countries

Source: Author's (calculated on the basis of the data [1])

GDP growth of high-tech industries of CU countries is going at a lower rate compared to other industries. This is confirmed by the reduction in GDP share of high-tech industries in GDP of CU countries for 1995–2011 (Fig. 13). The low level of this indicator as compared to EU countries and the average level of all the world countries should also be noted.

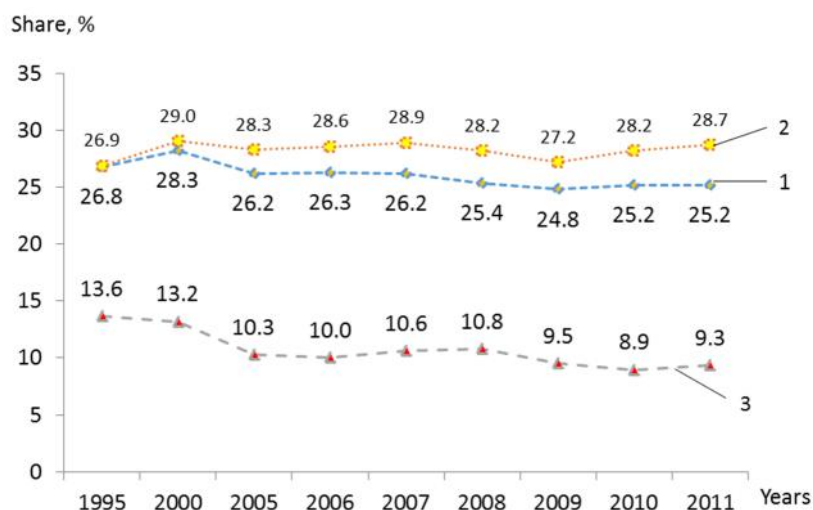


Fig. 13. GDP share of high-tech industries in industrial GDP: 1 – world; 2 – EU countries; 3 – CU countries

Source: Author's (calculated on the basis of the data [1])

Unlike the CU countries, the dynamics of GDP share of high-tech industries in GDP of EU member countries was more stable. The average level of this indicator in the EU for the period of 1995-2011 was 28.3% (in the CU — 12.0%) and fell no lower than 26.9%. These data indicate that the industrial development of EU countries is going on with preserving the shares of industries, while the share of the high-tech component of industrial development of CU countries is progressively decreasing.

The ranking of 20 EU and CU member countries leading in terms of GDP volume of high-tech industries by the results of 2011 is presented in Table 7.

Table 7. Ranking of 20 EU and CU member countries leading in terms of GDP volume of high-tech industries

Country	1995		2000		2005		2011	
	GDP volume of high-tech industries, mln USD	Rank	GDP volume of high-tech industries, mln USD	Rank	GDP volume of high-tech industries, mln USD	Rank	GDP volume of high-tech industries, mln USD	Rank
EU countries								
Germany	211 948	1	171 198	1	264 010	1	360 567	1
Italy	58 635	4	58 789	4	86 433	2	99 056	2
Great Britain	67 789	2	73 945	2	78 097	4	81 307	3
France	65 664	3	62 953	3	79 500	3	80 195	4
Spain	25 074	5	24 181	5	37 298	5	39 551	6
Sweden	17 796	6	18 413	6	25 649	6	32 859	7
Austria	12 092	10	11 052	8	18 259	8	25 326	8
Netherlands	13 725	7	12 773	7	16 539	9	22 915	9
Czech Republic	2 931	15	4 410	15	10 463	13	19 452	10
Poland	5 549	13	6 313	14	12 111	12	16 014	11
Hungary	1 814	18	3 454	16	9 079	15	15 550	12
Finland	8 205	11	10 896	9	15 712	10	14 142	13
Belgium	12 314	9	9 689	10	12 337	11	13 395	14
Denmark	7 929	12	6 626	13	8 882	16	10 760	15
Ireland	4 656	14	8 145	12	10 284	14	10 157	16
Romania	1 926	17	1 366	19	4 527	17	9 622	17

Country	1995		2000		2005		2011	
	GDP volume of high-tech industries, mln USD	Rank	GDP volume of high-tech industries, mln USD	Rank	GDP volume of high-tech industries, mln USD	Rank	GDP volume of high-tech industries, mln USD	Rank
Portugal	2 581	16	3 158	17	4 011	18	5 700	18
Slovakia	908	21	1 157	20	2 830	19	5 636	19
CU countries								
Russia	12 773	8	9 666	11	23 777	7	48 690	5
Belarus	-	-	-	-	-	-	3 777	20

Source: Author's (calculated on the basis of the data [1])

In 2011 the largest GDP volume was observed in EU countries: Germany, Italy, Great Britain and France. Among the participants of the CU Russia (the 5th place) and Belarus (the 20th place) are in the presented ranking. For the period of 1995-2011 the most intensive (more than fivefold) increase in absolute value of GDP volume of high-tech industries occurred in Hungary, the Czech Republic, Slovakia and Romania. Growth of the corresponding value in Russia by 3.8 times ensured its moving from the 8th to the 5th position in the ranking.

The conducted analysis of the dynamics of industrial development in the integration associations revealed a significant advantage of EU countries. To the list of the most developed EU member countries there can be included Germany, Italy, France and Great Britain. It is these countries that during the whole analyzed period occupied the top positions in the rankings in terms of production output, internal market capacity, industrial exports. CU member countries are behind EU countries in terms of all the indicators but demonstrate a higher rate of development.

One of the key differences in industrial development of CU member countries is their orientation towards the internal market and a low level of import dependence, which indicates their relatively low level of integration into the world market for industrial products. At the same time, the internal markets for industrial products of EU countries are more open and the production development occurs at the expense of foreign markets. This, in its turn, increases dependence of EU countries on external factors. The advantage of EU countries in the world market for industrial products is ensured at the expense of high-tech production.

Consequently, the above mentioned tendencies indicate recovery of the trend of state support for industry both in EU and CU countries because recently it is industrial development that has been considered by the academics and practitioners as a basis for sustainable socio-economic development of the country. At the same time the features and achieved level of development of EU and CU countries are reflected in industrial policies carried out in them.

In recent years the EU has been paying great attention to industrial policy. The European Parliament adopted a number of resolutions to strengthen the industrial policy. The economic strategy "Europe 2020" aimed at economic growth and creating new jobs has been approved. The implementation of a new program "Horizon 2020", which combines the framework programs on research and development of competitiveness and innovations, has been started. Table 8 presents a brief characteristic of the essence and features of industrial policy in individual countries of the European Union.

Table 8. Features of industrial policy in individual countries of the European Union

Country	Features of industrial policy
Germany	Increasing attention to using selective measures in the direction of achieving one or two goals in a certain industry. Development of key technologies and manufactures in the energy sector (renewable and nuclear safety); environment, nano- and biotechnology, etc. [8].
France	Increasing attention to industrial policy: – creation of the innovation agency and mobilization of financial resources for the

Country	Features of industrial policy
	development of five major sectors of economy: energy, transport, information technology, environment protection, health care [9] in 2005; <ul style="list-style-type: none"> – establishment of the Fund of Strategic Investment (FSI) in 2008 of 35 mlrd. EUR to support growing business and stimulating the country's exit from the recession; – focus on the commercial conversion of scientific developments of universities and the need to support such priority sectors as digital technologies, nano- and biotechnologies, renewable energy sources, environmentally friendly cars, etc. [10].
Great Britain	Increasing attention to industrial policy in 2008-2009: <ul style="list-style-type: none"> – establishment of the Fund of Strategic Investment to support innovations; – preserving and increasing the number of jobs; – development of energy efficient technologies; – development of manufacturing industry and digital infrastructure; – supporting export of products [11].

Source: Author's (compiled on the basis of the data [8–11])

Based on of the above mentioned it can be concluded that the main purpose of state support of industrial development in the EU is to make the European economy the most competitive and dynamic in the world. The industrial policy of the leading countries – EU members (Germany, UK) can be defined as a policy to support knowledge-intensive and high-tech industries. The general conclusion to be drawn with regard to the practice of implementing industrial policy in EU countries is dominance of a comprehensive approach to the selection of both development priorities (knowledge-intensive and high-tech industries) and its implementation instruments (creation of strategic investment funds, etc.).

Strategy 2020 demonstrates the undeniable evolution in the approach of the European Commission to the development of the industrial sector in the EU, but so far not all member countries of the Community have implemented the “new approach” to industrial policy in their strategic documents and are not fully prepared to participate in new programs and projects.

CU member countries also pay great attention to the development of industry, which is testified by the elaborated concepts, strategies and regulations as well as the approved national programs. However, the set goals in some degree differ from the strategic guidelines of industrial development in EU countries.

The main strategic goals of industrial development of Russia, Belarus and Kazakhstan are as follows:

-) ensuring structural changes in favor of manufacturing and processing sectors;
-) development of manufactures belonging to “breakthrough” areas of higher technological paradigm;
-) import substitution in the industrial sectors, providing technological and environmental safety, etc.

The analysis of the existing national programs of Russia, Belarus and Kazakhstan in the field of industry indicates that they have a high degree of convergence in the part concerning the development methodology, industrial development issues, goals and objectives, instruments and mechanisms of implementing the state policy in the field of industry. But they lack coordination of the national industrial policies with the mechanisms of deeper industrial cooperation with the prospect of carrying out a coherent industrial policy in key sectors.

In each of the countries the objectives on increasing the volume of production output and exports according to the similar sectoral priorities are set, with no focus on the formation of a common internal market within the CU considering specialization of the countries by certain types of products. An important problem of implementing national industrial programs within the CU is the lack of coordination. The CU member states consider internal markets of each other from the standpoint of available and spacious export market, while their national internal markets are intended by them for import substitution by their products. Exports of goods from Russia, Belarus and Kazakhstan to other countries has a high degree of intersection that leads to unjustified competition between CU member countries, and, taking into account the priority of relevant sectors and exercised government support — to strengthening the contradictions between them.

Summary and conclusions

1. The main differences of the industrial development in countries belonging to the integration associations of the EU and CU are as follows:

a) the development of industry in the integration associations of the EU and the CU, as well as in the whole world, had an unstable rate. However, if the average annual growth rate amounted to 0.8% in the EU in 2006–2014, the average index of industrial production in the CU in 2008–2014 amounted to 1.6%;

b) the detailed analysis of the development of industry according to the input-output tables for the period of 1995–2011 by countries belonging to the integration associations of the EU and the CU indicates more dynamic development of the latter. Thus, for the analyzed period the industrial GDP in the CU member countries increased by 593.5% versus 155.2% in the EU member countries and exports of industrial products increased respectively by 772.9% and 294.5%;

c) GDP of high-tech industries in the CU also had a higher growth rate — 401.3% compared to the EU member countries — 166.0%, while by the share of high-tech industries the EU member countries continue leading — 28.7% vs. 9.0% in the CU;

d) one of the key differences in industrial development of CU countries is their orientation towards the internal market and low level of import dependence indicating a relatively low level of integration into the global market of industrial products. At the same time, internal markets for industrial products in EU countries are more open, and the production development occurs at the expense of external markets. This, in turn, increases the dependence of EU countries from external factors. The advantage of EU countries in the international market for industrial products is ensured by high-tech manufacturing. So, over the analyzed period the industry in CU member countries developed more dynamically than in EU member countries. But in terms of the level of industrial structure progressivity EU member countries continue to be considerable ahead of CU countries.

In general, the conducted analysis revealed a significant advantage of the EU countries over the countries of the CU in the development of their industry. The list of the most industrially developed EU countries includes Germany, Italy, France and the UK. It is these countries that during the whole period of the study occupied leading positions in the rankings in terms of production output, capacity of internal markets, export of industrial production. The countries of the CU fall behind the EU countries in terms of all absolute indicators, while demonstrating a higher growth rates.

2. A considerable increase in the share of knowledge-intensive industries in manufacturing of innovative products has become a distinctive feature of the development of the modern world industrial complex.

3. In recent years, much attention has been paid to the industrial policy both in EU and CU countries. However, if the EU applies a comprehensive approach to the selection of both development priorities (knowledge-intensive and high-tech industries) and instruments of its implementation, in CU countries there observed lack of coordination of the industrial policies in the countries, their insufficient elaboration, lack of effective implementation mechanisms, which practically does not allow to ensure effective industrial development and competitiveness of its products in foreign markets.

4. The comparative analysis of the industrial development in the countries of the EU and the CU allowed proving that a sustainable development of economy is characteristic to those countries that carry out an active industrial policy and retain a high share of industry in their economy. At the same time the industrial policy of the countries has its peculiarities and differences specified by conditions and priorities of their development.

During the years that passed after conducting by the authors the fundamental research of the development of industry for 27 countries of the world, which are full-fledged members of integration associations — the EU and the CU - for the period of 1995 – 2011, in the world economy there occurred changes that have already affected and will continue affecting its development. For example, there took place events that influenced the economy of such a significant CU member country as Russia. These are the drop in world oil prices and sanctions of the international community in response to the Russian aggression in Ukraine. The changes in the Russian economy, in turn, can influence the development of economies of a number of other countries in a certain way. Also, in the authors' opinion, one of the factors that are already beginning to affect the development of economies of countries of the world (including those belonging to the EU and the CU) is the slowdown of the economic growth of China. Therefore, the authors see prospects for further research in conducting a similar analysis of the development of industry and industrial policy in the EU and CU countries on the basis of the presented approach in the succeeding period, which should reflect the impact of the

mentioned (and other) factors and global macroeconomic conditions on the development of economies of the countries and define effective areas of their growth in the future.

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