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**REVIEW OF UKRAINE COMPETITIVENESS RANKING
BY WORLD ECONOMIC FORUM (WEF) METHODOLOGY**

Abstract. The article researches the issues of the country competitiveness. Competitiveness essence has been analyzed and its components have been differentiated. Ukraine competitiveness ranking has been determined according to WEF methodology. List of competitive advantages and disadvantages together with their review has been formulated.

Keywords: competitiveness, Ukraine, WEF, competitive advantages, competitive disadvantages

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JEL Classification: B 41, H 11, H 40

Introduction. It's common knowledge that national competitiveness is the main driving force on the way to sustainable economic exuberance and citizens' well-being growth. Competitiveness enhancement is a long-term process requiring progress in many spheres, and readiness of the corresponding stakeholders to mobilize resources, time and efforts for a durable period of time.

Literature review and the problem statement. Different aspects of national competitiveness problematics are under thorough investigation. Many different foreign and local scientists have dedicated their works to study the topic: D.Bright, M.Bato [Bato 2005], M.Gelvanovskiy [Gelvanovskiy 2012], E.Denison, A.Krainova [Krainova 2012], P.Krugman [Krugman 1994], V.Leontiev, M.Porter, R.Solou, E.Toffler, R.Fathutdinova, A.Chandler as well as Ya.Basiluk [Basyliuk 2002], V.Geits, M.Dykha [Dykha 2011], Ya.Zhalila [Zhalilo 2005], Yu.Makogon, S.Mochernyi, M.Kyzym [Kyzym 2005], Yu.Kindzerskyi [Kindzerskyi 2006], V.Lagutin [Lagutin, 2011], S.Pakhomov [Pahomov 2008], L.Piddubnyi [Piddubna 2011], S.Radzievska [Radzievska 2012], et.al. The mentioned scientists' works serve as a scientific foundation to research issues of the national competitiveness and develop directions of its enhancement. At the same time, the issue of reviewing the country's ranking in competitiveness index requires further research in view of the necessity to determine competitive advantages and disadvantages typical for Ukraine.

It's worth mentioning, however, that the process of determining national competitiveness index reaches far beyond the national ranking. Being aware and understanding the factors influencing competitiveness, researching the structure and dynamics of their components in comparison with other countries provide managers of different levels with the opportunity to determine the directions, where the country has advantages, and identify the domains, where the country is lagging behind other world countries.

The article **aims** at reviewing Ukraine competitiveness ranking by the WEF methodology and determining the national competitive advantages and disadvantages.

Research results. WEF specialists characterize competitiveness as a set of institutions, policies and factors that determine the country’s productivity level. That level on its behalf impacts the well-being level ensured by the national economy. Moreover, the productivity level also defines return on investment in the economy, which is a fundamental stimulus for economic growth. In other words, competitive economies are the economies that are capable to preserve growth trend.

The concept of competitiveness includes also static and dynamic components. Regardless of the fact that national productivity is determined by its ability to preserve high profit level, productivity is also one of the most important determiners of returns on investments, which is one of the key factors to explain the economy growth potential [Report on Ukrainian regions competitiveness 2013].

Global Competitiveness Index (GCI) accounts complexity of economic processes and proposes weighted average of a big number of partial indicators, each of which reflects one of the competitiveness aspects. Fig.1 demonstrates partial indicators in competitiveness’ 12 components.

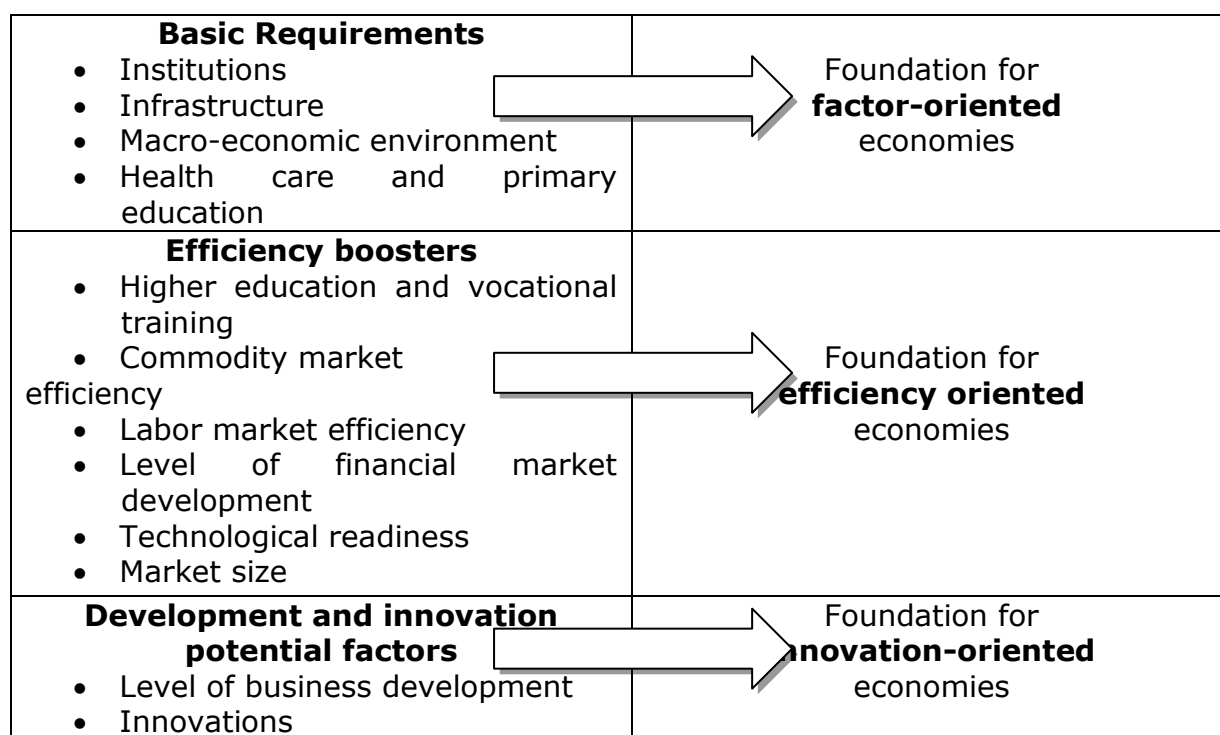


Figure 1 - Competitiveness components

Source: Report on Ukrainian regions competitiveness 2013

GCI also considers economic development stages: the components that are relatively more important for the current stage of national economic development have higher specific weight. In other words, regardless of the fact that all 12 components have specific value for each country, the relative importance of each component depends on the stage on which a country currently functions.

To account these factors, the components are grouped into three sub-indexes, each of which is the most important at a specific economy development stage. Basic requirements sub-index combines the components that have determining value for the countries at factor-oriented stage: stable financing of

public and private institutions (the 1st component); infrastructure development (2nd component); macro-economic stability (3rd component); health condition of workforce that at least have basic education (4th component).

Efficiency boosters sub-index includes the components that are critical for the countries which are on the stage of setting efficient economy: quality of higher education and vocational training (5th component); commodity and services market efficiency (6th component); functioning of labor market at an appropriate level (7th component); well-developed financial market (8th component); ability to use available technologies (9th component); volume of internal and external markets (10th component).

Development and innovation potential factors sub-index covers those components that are critical for innovation oriented countries: new goods production at the expense of highly developed processes or business models (11th component) and innovative technologies (12th component).

The countries, the economics of which are in-between any of those three stages, are considered to be countries with "transition economies". For those countries the components' specific weights vary slowly in the course of the country development, which faces the process of smooth transfer from one development stage to the other.

Table 1 shows weight shares for each sub-index at each development stage. They are calculated by way of building regressions of dependence of GDP growth rates per capita on the results of each sub-index for previous years. In the result different ratios for each economy development stage are obtained.

Table 1 - Weight ratios for development stages

	Factor-orientation stage (1)	Transition from the 1 st to the 2 nd stage	Efficiency orientation stage (2)	Transition from the 2 nd to the 3 rd stage	Innovation orientation stage (3)
GDP per capita, USD	< 2000	2000 – 2999	3000 – 8999	9000 – 17000	> 17000
"Basic requirements" sub-index weight, %	60	40-60	40	20-40	20
"Efficiency boosters" sub-index weight, %	35	35-50	50	50	50
"Development and innovation potential factors" sub-index weight, %	5	5-10	10	10-30	30

Source: Report on Ukrainian regions competitiveness 2013

In WEF ranking Ukraine in the latest five years has changed its position from the stage "Transition from the 1st to the 2nd stage", which she had in 2010 – 2012, to the development stage "Innovation-oriented", which she obtained in 2012 – 2015 ranking.

GCI was composed of 111 partial indicators in 2010 – 2013, and of 114 partial indicators in 2013 – 2015. The indicators that demonstrate meaningful competitive advantage were determined in the following way:

- In the countries that have general GCI ranking from 1 to 10, the partial indicators with ranking from 1 to 10 are considered to be advantages;

- In the countries that have general GCI ranking from 11 to 50, the partial indicators with the higher ranking than the general national rank, are considered to be competitive advantages;
- In the countries that have general GCI ranking lower than 50, the partial indicators with the higher ranking than 51, are considered to be competitive advantages.

Table 2 gives dynamics of GCI ranks and values for Ukraine as well as values of its components in 2010 – 2015 ranking (statistical data used in the ranking pertain to the time period 2009 - 2013 (it's 1/3 of all partial indicators), together with experts' polling review results, which are accounted till 2010 – 2014 [World Economic Forum]).

Table 2 - Dynamics of Global competitiveness index and its components for Ukraine in 2010 – 2015 rankings

Global competitiveness index, sub-indices, components	Year									
	2010-2011 (139 countries)		2011-2012 (142 countries)		2012-2013 (144 countries)		2013-2014 (148 countries)		2014-2015 (144 countries)	
	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Competitiveness index	89	3,9	82	4,0	73	4,1	84	4,1	76	4,1
Basic requirements	102	3,9	98	4,2	79	4,4	91	4,3	87	4,4
Institutions	134	3,0	131	3,0	132	3,1	137	3,0	130	3,0
Infrastructure	68	3,8	71	3,9	65	4,1	68	4,1	68	4,2
Macro-economic environment	132	3,2	112	4,2	90	4,4	107	4,2	105	4,1
Health care and primary education	66	5,7	74	5,6	62	5,8	62	5,8	43	6,1
Efficiency boosters	72	4,0	74	4,0	65	4,1	71	4,0	67	4,1
Higher education and vocational training	46	4,6	51	4,6	47	4,7	43	4,7	40	4,9
Commodity market efficiency	129	3,5	129	3,6	117	3,8	124	3,8	112	4,0
Labor market efficiency	54	4,5	61	4,4	62	4,4	84	4,2	80	4,1
Level of financial market of development	119	3,3	116	3,4	114	3,5	117	3,5	107	3,5
Technological readiness	83	3,4	82	3,5	81	3,6	94	3,3	85	3,5
Market size	38	4,5	38	4,5	38	4,6	38	4,6	38	4,6
Development and innovation potential factors	88	3,3	93	3,3	79	3,4	95	3,4	92	3,4
Level of business development	100	3,5	103	3,5	91	3,7	97	3,7	99	3,7
Innovations	63	3,1	74	3,1	71	3,2	93	3,0	81	3,2

Source: World Economic Forum

As Table 2 shows, Ukraine had the best value (73rd position of 144 world countries) in GCI ranking in 2012 – 2013; and the worst value (89th position of 139 world countries) in 2010 – 2011 ranking. Among sub-indices the best value during the investigated period belongs to the sub-index "Efficiency boosters", and the worst value belongs to the sub-index "Basic requirements". Among 12 GCI components during the period under investigation the best values belong to the following: "Market size", "Higher education and vocational training", "Health care and primary education", "Infrastructure" and "Labor market efficiency". The worst values components include: "Institutions", "Commodity market efficiency", "Level of financial market of development", "Macro-economic environment" and "Business development level".

According to WEF methodology Ukraine would have competitive advantages by partial indicators with the rank higher than 51. To be more objective in determining competitive advantages of a country and accounting dynamics, it is proposed to accept such partial indicators, which during the investigated period met the determined condition three or more times, and rank them by average rank with accounting also variation of countries' number participating in rankings (Table 3).

Table 3 - Ukraine competitive advantages

Component	Competitive advantages	Year					General Rank
		2010	2011	2012	2013	2014	
		- 2011 Rank	- 2012 Rank	- 2013 Rank	- 2014 Rank	- 2015 Rank	
2	Quality of railway infrastructure	25	27	24	25	25	3
2	Number of phone lines (per 100 residents)	47	43	43	37	33	9
2	Number of mobile communication subscribers (per 100 residents)	34	44	45	43	45	11
4	Quality of the primary education	49	52	44	37	40	12
5	Coverage by secondary education (%)	44	48	49	54	41	15
5	Coverage by higher education (%)	8	7	10	10	13	2
5	Quality of math's and natural science teaching	42	36	34	28	30	6
6	Customs duties	40	37	43	41	43	10
7	Practice of hiring and firing	18	17	16	32	64	4
7	Labor wages and productivity	26	42	25	26	31	5
7	Share of women in workforce (% of men's workforce)	32	40	50	53	52	14
8	Legal rights reliability index	6	8	11	12	11	1
10	Internal market size index	37	37	35	36	37	7
10	External market size index	37	36	37	37	38	8
12	Availability of engineers and scientists personnel	53	51	25	46	48	13

Source: author's own development

Table 3 demonstrates that the defined competitive advantages of Ukraine refer to eight GCI components, by three advantages for each of three components: "Infrastructure", "Higher education and vocational training" and "Labor market efficiency"; two advantages refer to the component "Market size", and by one advantage to each of the components "Health care and primary education", "Commodity market efficiency" and "Innovations".

Among determined national competitive advantages the strongest ones are the following: "Reliability of legal rights", "Coverage with higher education", "Quality of railway infrastructure", "Practice of hiring and firing" and "Labor wages and productivity". The weakest ones are: "Coverage with secondary education", "Share of women in workforce", "Availability of scientists and engineers personnel", "Quality of primary education" and "Number of mobile communication subscribers".

To determine Ukraine's competitive disadvantages the limiting ranks of the partial indicators were identified for the period under review with the help of calculating 0.75-quantile of the number of countries participating in rankings. Three partial indicators were identified for Ukraine to be competitive disadvantages. Those partial indicators did not exceed estimated limiting rank and met the indicated condition in three and more cases. Table 4 gives GCI partial indicators for Ukraine, determined and ranked by average rank in disadvantages decreasing sequence.

Table 4 - Ukraine's competitive disadvantages

Component	Competitive disadvantages	Year					General Rank
		2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014	2014- 2015	
		Rank	Rank	Rank	Rank	Rank	
1	2	3	4	5	6	7	8
1	Property rights	135	137	134	143	135	7
1	Intellectual property protection	113	117	120	133	129	26
1	Misuse of budget funds	129	126	117	122	124	22
1	Public confidence in politicians	122	115	120	117	96	35
1	Bribes and informal payments	127	134	133	130	118	13
1	Judicial system independence	134	134	124	139	140	8
1	Favoritism in civil servants decisions	127	95	119	133	116	32
1	Spend-thrift in budget expenditures	131	125	128	143	138	10
1	Burden of state regulation	125	130	135	137	115	14
1	Efficiency of legal system in conflicts resolution	138	138	141	144	129	5
1	Efficiency of legal system in appealing against regulatory acts	138	135	139	146	131	6
1	Transparency of public bodies' politicians	114	116	123	130	104	33
1	Reliability of law enforcement	122	123	123	133	135	17
1	Corporate ethics	130	126	124	130	98	27

End of Table 4

1	2	3	4	5	6	7	8
1	Level of auditing and reporting standards	128	133	122	130	124	16
1	Protection of minority shareholders' interests	138	138	141	146	139	2
2	Quality of roads	136	138	137	144	139	4
5	Quality of management schools	108	116	117	115	88	37
6	Level of market monopolization	128	129	108	132	129	20
6	Efficiency of anti-monopoly policies	126	136	132	137	136	9
6	Taxation impact on the desire to invest	136	141	139	145	137	3
6	Total tax rate (profit %)	113	117	120	126	123	30
6	Expenditures for agrarian policy implementation	135	135	136	127	104	15
6	Predominance of trade barriers	126	138	136	118	106	21
6	Part of foreign property	121	122	126	127	122	23
6	Regulation impact on Foreign Direct Investment (FDI)	128	130	132	133	125	12
6	Customs procedures burden	131	136	138	140	118	11
7	Cooperation in relations employer - employee	110	109	111	125	119	34
7	Focus on professional management	122	131	131	128	115	19
8	Financial services accessibility	122	123	111	126	123	29
8	Getting financial support at internal stock market	120	123	129	127	108	28
8	Banks' reliability	138	141	142	143	138	1
8	Stock market regulation	127	127	124	129	127	18
9	Foreign direct investments and technologies transfer	124	124	109	131	127	25
11	Business-clusters level of development	106	119	127	136	128	24
11	Readiness to delegate authority	109	120	118	124	123	31
12	State procurement of high-tech products	112	112	97	118	123	36

Source: author's own development

As Table 4 shows the identified Ukrainian competitive disadvantages in the period under review belong to 9 GCI components. The component "Institutions" demonstrates the biggest number of disadvantages (16 out of 37), component "Commodity market efficiency" demonstrates nine disadvantages, components "Labor market efficiency" and "Business development level" have two disadvantages each, and components "Infrastructure", "Higher education and vocational training", "Technological readiness" and "Innovations" have one disadvantage each.

Among the determined competitive disadvantages of the country the most topical ones are the following: "Banks reliability", "Protection of minority shareholders' interests", "Taxation impact on the desire to invest", "Quality of

roads", "Efficiency of legal system in conflicts resolution", "Efficiency of legal system in appealing against regulatory acts", "Property rights", "Judicial system independence", "Efficiency of anti-monopoly policies", and "Misuse of budget funds". The disadvantages in "Quality of management schools", "State procurement of high-tech products", "Public confidence in politicians", "Cooperation in relations employer – employee", "Transparency of public bodies' politicians", " Favoritism in civil servants decisions", "Readiness to delegate authority", "Total tax rate (profit %)", "Financial services accessibility", and "Getting financial support at internal stock market" are slightly weaker, but at the same time they are not less important for their immediate rectification.

Conclusions. The conducted dynamic analysis of Ukraine's competitive advantages and disadvantages in WEF rankings in the period 2010 – 2015 has demonstrated that among world countries Ukraine has a small number of competitive advantages; moreover, the big majority of the advantages were not created during the country's independence period. Research of the current competitive disadvantages dynamics has demonstrated that the majority of the disadvantages are connected with the public management low quality, which is manifested in a high corruption level, public bureaucracy, unstable public policy, irregularities in monetary and fiscal policies.

Structural analysis of Ukraine's competitive advantages and disadvantages has identified that the country has undisputable competitive advantages only in a few spheres: primary education and sizes of internal and external markets. At the same time undisputable competitive disadvantages manifest themselves in such spheres: property rights, ethics & corruption, government work efficiency, corporate ethics and security, internal and external competition, business development and technologies ingression.

After structural analysis conducted in other spheres the identified competitive advantages and disadvantages appear to have disputable character: like, for example, high quality of railway infrastructure stands against low quality of motor roads; high level of secondary and higher education coverage and high level of math's training stand against low quality level of management schools; advantages in external competition in customs duties correspond to disadvantages in such spheres as foreign property, impact of regulating foreign direct investments and burden of customs duties; advantages in labor market efficiency is in contradiction to a high level of hiring and firing practices, labor wages and productivity; share of women in workforce correspond to the disadvantages in cooperation in relations employer – employee and focus on professional management; in the sphere of financial market development strong advantage in legal rights reliability stands against disadvantages in banks' reliability and stock market regulation; in the sphere of innovations strong advantage in availability of scientific and engineer personnel contradicts to the low level of state procurement of high-tech products.

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