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ANALYSIS AND EVALUATION OF THE EFFECT PRODUCED BY CIVILIZATION COMPONENT ON PARAMETERS OF DEVELOPMENT AND RATE OF COMPETITIVE CAPACITIES OF THE COUNTRIES

Abstract

The paper offers the algorithm of the analysis and evaluation of the effects produced by the civilizational determinants on the competitive capacity rate of national economy, the hypothesis is substantiated about the influence made by civilizational belongings of the countries on their parameters and vectors of development, and consequently, the countries' competitive positions in geo-economic and geopolitical panel.

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Key words:

Civilization, civilizational model, sub-model of civilization, «cultural core», socio-economic development, competitive capacity

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The internal dualism and contradiction of globalization that today form the contours of a «new world order», more and more attract the attention of scientists and increase scientific interest in explaining the problem of global socio-economic imbalances and asymmetries, causing search for relevant system-wise factors that determine the attributive nature of the hierarchical architecture of global economy, and also determining the competitiveness of countries in the geoeconomic and geopolitical aspect. However, despite numerous studies in this direction, now this problem is not solved and needs further investigation.

Fragmented solution of this problem is due to the fact that in modern economic literature, although there is formed a clear realization that the global socio-economic imbalances and asymmetries, the level of socio-economic development, and competitiveness of the countriesis determined not only by economic, but also by uneconomic factors. Nevertheless, there are no integrated theoretical and empirical studies to combine these factors, to establish cause-effect relations between both economic and uneconomic factors of development and the results obtained on this basis.

It is possible to solve this problem by laying the basis for an explanation of global imbalances and asymmetries of socioeconomic development, of sourcing and competitiveness of individual actors of the global interaction of civilization theory, the basic unit of analysis is the civilization implying a complex, capable of self-organization, multiethnic, socio- economic system, characterized by a unique culture, internal structure, trajectory characteristics and dynamics of development, and retains its uniqueness for large periods of time. Thus, the necessity of laying the foundation for an explanation of global imbalances and asymmetries of the civilization theory is conditioned by the fact that the civilizational identity of the country specifies the particular «rationality» of national economic agents and their behaviour, determines the characteristic features of society organization

(i. e. pertaining and relationship to a particular religion, life (value of life), friendship, family, freedom, labour, resources, time, property and wealth (poverty); a tendency to reinstate certain types of hierarchical systems (related to power), risk and change (related to risk and change; level of tolerance), sets the vector of socio-economic development of the country and, consequently, determines its hierarchical position.

The objective of this study is to empirically test the hypothesis on the influence of civilizational belonging of the countries on their parameters and vector of development and, consequently, the competitive status and competitive position of the countries in the geo-economic and geopolitical terms .To achieve this goal, it was analyzed the influence of civilizational peculiarities on the parameters of the development and level of competitiveness of 68 countries worldwide. The algorithm of this study is shown in figure 1.

Fragmentary solution of this problem is due to the fact that in modern economic literature, although a clear awareness is formed that the global socio-economic imbalances and asymmetries, likewise the level of socio-economic development and competitiveness of the countries is determined not only through economic, but also uneconomic factors,. Nevertheless, there are no integrated both theoretical and empirical studies that combine these factors, establishing the cause-effect relationships between both economic and uneconomic factors of development and the obtained on this basis the results.

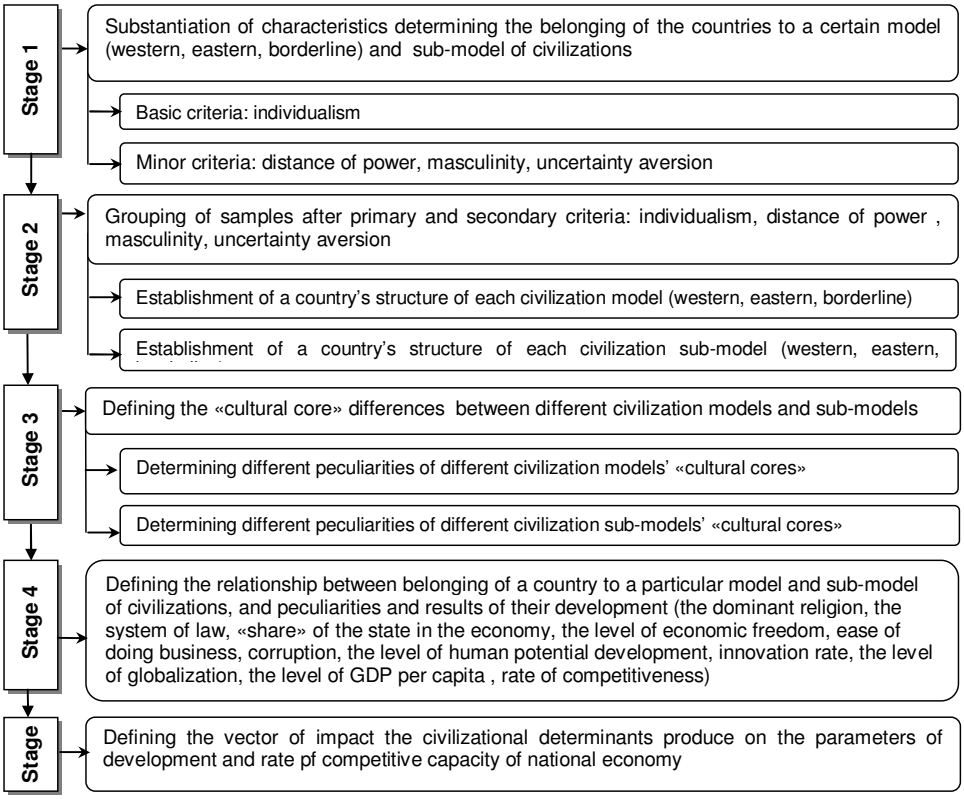
The solution of this problem is possible by laying the basics in the explanation of global imbalances and asymmetries of socioeconomic development, sources and level of competitiveness of individual actors of global interaction of civilization theory, the basic unit of analysis within which the civilization is positioned, that is a complex, capable of self-organization and self- development poly-ethnical, social and economic system characterized by the unique culture, internal structure, trajectory peculiarities and dynamics of development preserving its uniqueness for over long periods of time. Thus, the necessity to explain the global imbalances and asymmetries through the civilization theory is conditioned by the fact, that the civilization belonging of the country sets the peculiarities of «rationality» of national economic agents and their behaviour, also determines the characteristic features of the organization of the society (pertaining and relations to a certain religion, value of life, friendship, family, freedom, labour, resources, time, property and wealth (poverty); propensity to regeneration of certain types of hierarchic systems (relation to power), risks and changes (relation to risks and changes;, tolerance rate), it determines the vector of socio-economic development of the country, and , as a result, it defines its hierarchic position.

The purpose of this study is reduced to empirical test of the hypothesis that the influence of civilization belonging of the countries to their parameters and vector development and, consequently, the competitive status and competitive position in the geo-economic and geopolitical plane. To achieve this goal the impact of civilizational characteristics on the parameters of development and the

rate of competitiveness of 68 countries worldwide was studied. The algorithm of this study is shown in Figure 1.

Figure 1

Algorithm of analysis and evaluation of impact the civilizational determinants produce on the rate of competitive capacity of national economy



However, under a model of civilization the most common set of relatively static available and / or latent signs of civilization should be understood, which define its most important common peculiarities and the development potential that best distinguish it from other civilizations. The sub-models are implied the al-

ternatives of a certain civilization that are specific to group of countries that are the structural elements of certain civilization, characterized by similar conditions of ontogeny (individual development). The «cultural core» means the ideological principles, ideological and value viewpoints, samples of thinking, etc. It should be noted that the importance of «cultural core» within the offered algorithm is explained by the following: first, it allows to make differentiation of civilizations; second, it directly and mediately influences on the formation of the institutes, which in their turn, influence on the parameters and results of the functioning of the civilizations both, as a whole, and certain structural elements, that is the countries creating conditions for economic development and creation of a certain level of competitiveness of national economies.

On the first stage the analysis of scientific literature was made [1–9, 20–28] enabling to make a conclusion that in the basics of civilization differentiation the system of values suggested by Gerard Hofstede should be put: individualism (IDV), distance of power (PDI0, masculinity (MAS), uncertainty adverse (UAI). However, the parameter of «individualism» (IDV) should be taken for major criterion, the binary opposition to which is «collectivism», since just that parameter is the most representative index of cross-cultural differences and it significantly varies from one model of civilization to another.

Based on the principle of Pareto efficiency it was established on the second stage that 80% differences between the systems of countries' values, and respectively 80% differences between the models and sub-models of civilization could be explained that 20% make the changes within the «individualism» parameter. Consequently, out of sixty eight selected countries seventeen were related to the western civilization model: USA, Australia, Great Britain, Netherlands, New Zealand, Italy, Belgium, Denmark, France, Sweden, Ireland, Norway, Switzerland, Germany, South Africa, Finland, Poland.

Seven countries were related to the border-line model: Czechia, Austria, Hungary, Israel, Spain, Ukraine, and India.

Forty four countries were related to the eastern model: Argentina, Japan, Iran, Jamaica, Russia, Brazil, Egypt, Iraqi, Kuwait, Liven , Libya, Saudi Arabia, UAE, Turkey , Uruguay, Greece, Philippines, Mexico, Ethiopia, Kenya, Portugal, Tanzania, Zambia, Malaysia, Hong-Kong, Chile, China, Ghana, Nigeria, Sierra-Leone, Singapore, Thailand, El Salvador, South Korea, Taiwan, Peru, Costa-Rika, Indonesia, Pakistan, Columbia, Venezuela, Panama, Ecuador, Guatemala.

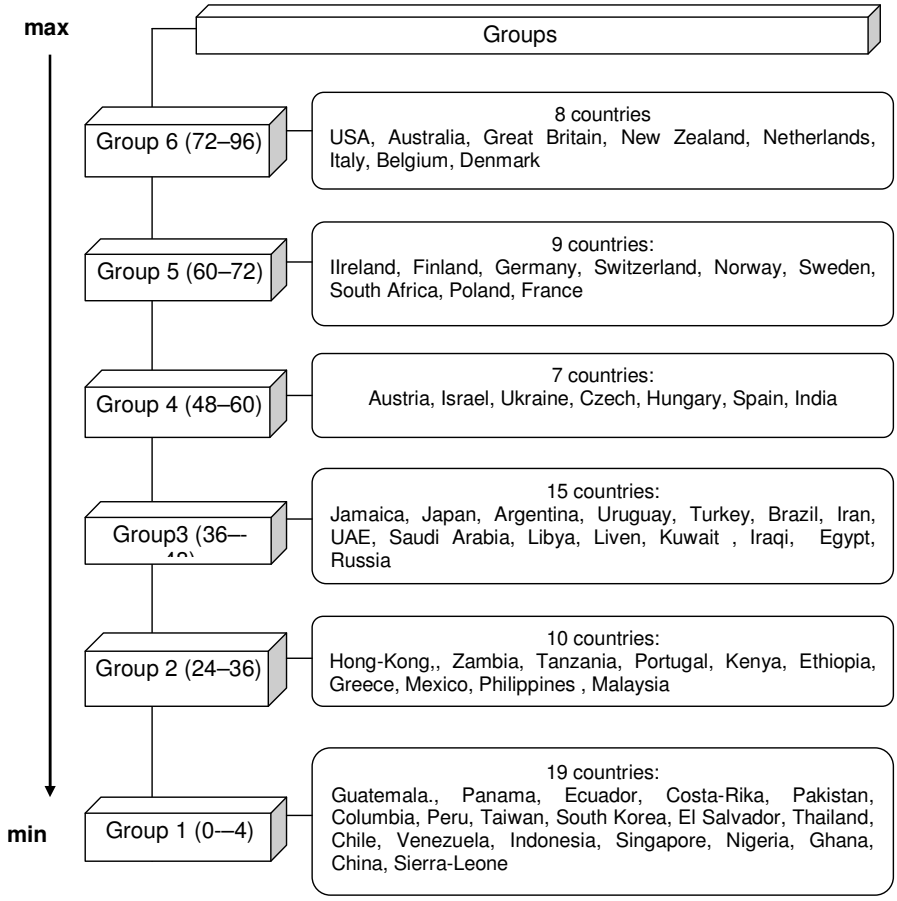
In order to reduce subjective approach when grouping the countries after their belonging to certain civilization sub-models and defining the optimal quantity of homogenous groups of countries from the view of variation of grouping features (major and minor criteria**)** Sturge's formula was applied that enabled to determine the optimal number of relatively homogenous groups of countries.

Following from the grouping after major and additional criteria there was defined the following:

1. Six relatively homogenous groups of countries shown in fig. 2.

Figure 2

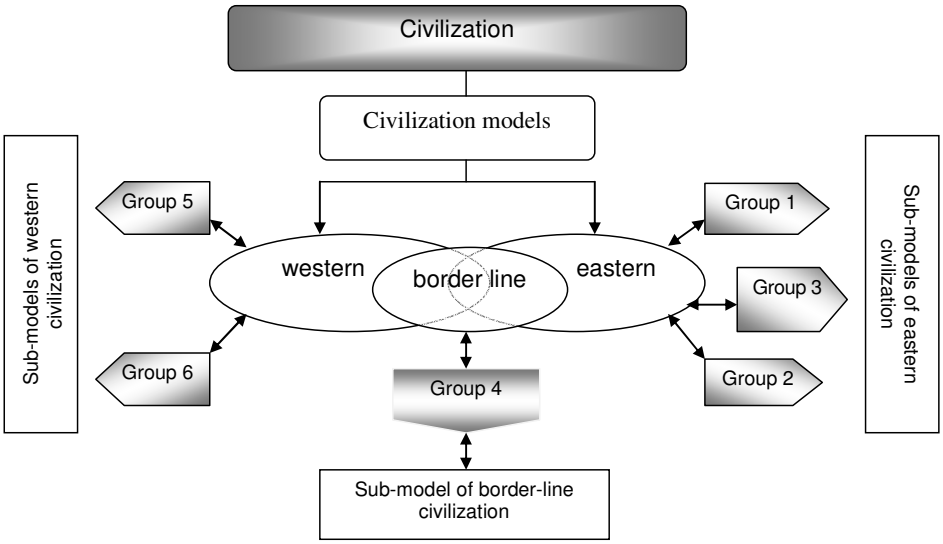
Groups of the countries defined after the parameter of «Individualism»



2. Defined peculiarities of each of the noted country groups pertaining to the civilization models and sub-models (fig. 3).

Figure 3

Grouping of the countries after their belonging to a certain civilization model and sub-models



Group 6 – Sub-model 1 of the western civilization: USA, Australia, Great Britain, New Zealand, Netherlands, Italy, Belgium, Denmark;
Group 5 – sub-model 2 of the western civilization: Ireland, Finland, Germany, Switzerland, Norway, Sweden, South Africa, Poland , France;
Group 4 – Sub-model of border-line civilization: Austria, Israel, Ukraine, Czech, Hungary ,Spain, India;
Group 3 – Sub-model 1 of the eastern civilization: Jamaica, Japan, Argentina, Uruguay, Turkey, Brazil, Iran, UAE, Saudi Arabia, Libya, Liven, Kuwait , Iraqi, Egypt, Russia
Group 2 – Sub-model 2 of the eastern civilization: Hong-Kong,, Zambia, Tanzania, Portugal, Kenya, Ethiopia, Greece, Mexico, Philippines , Malaysia
Group 1 – Sub-model 3 of the eastern civilization : Guatemala., Panama, Ecuador, Costa-Rika, Pakistan, Columbia, Peru, Taiwan, South Korea, El Salvador, Thailand, Chile, Venezuela, Indonesia, Singapore, Nigeria, Ghana, China, Sierra Leone.

On the third stage there was determined the integral quantitative and qualitative characteristics of the «cultural core» of each civilization model and were made their comparisons.

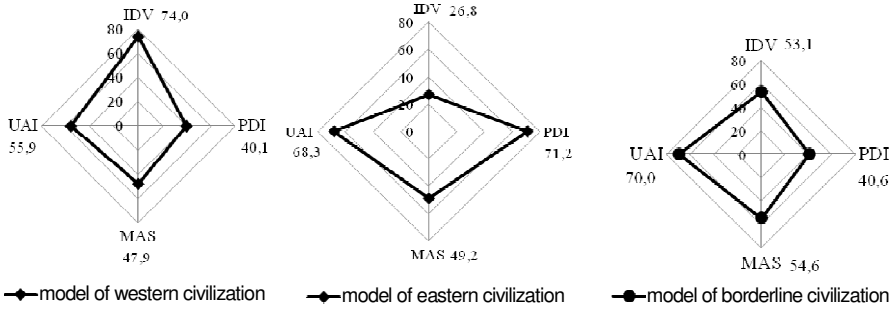
The integral quantitative characteristics of each civilization model, that is the «cultural core» was established as arithmetical average of its each element (i. e. individualism, power distance, uncertainty aversion, masculinity) peculiar to

the countries belonging to a certain civilization model (western, eastern, borderline).

The results of the assessment are shown in fig. 4.

Figure 4

Integral quantitative characteristics of the value systems of the civilization models



IDV – individualism, PDI – distance of power, MAS – masculinity, UAI – uncertainty aversion.

Model of western civilization:: USA, Australia, Great Britain, New Zealand, Netherlands, Italy, Belgium, Denmark, France , Sweden, Ireland, Norway, Switzerland, Germany, South Africa, Finland, Poland;

Model of border-line civilizationï:Czech Austria, Hungary Israel, Spain Ukraine, India.

Model of eastern civilization: Argentina, Japan, Iran, Jamaica, Russia, Brazil, Egypt, Iraqi, Kuwait, Liven , Libya, Saudi Arabia, UAE, Turkey , Uruguay, Greece, Philippines, Mexico, Ethiopia, Kenya, Portugal, Tanzania, Zambia, Malaysia, Hong-Kong, Chile, China, Ghana, Nigeria, Sierra-Leone, Singapore, Thailand, El Salvador, South Korea, Taiwan, Peru, Costa-Rika, Indonesia, Pakistan, Columbia, Venezuela, Panama, Ecuador, Guatemala.

To provide the qualitative characteristics of each civilization model «cultural core» the authors proposed the criterion-essential axiological scale for the characterization of societies and economic projections of the «cultural core». According to the proposed scale the western, eastern and border – line civilizations were characterized (table 1).

Table 1

Generalized characteristics of the models of civilizations

Characteristics	Civilization model		
	Western	Eastern	Border-line
Individualism (IDV)	Mainly liberal countries	Mainly collectivist countries	Countries with organically integrated liberalism and collectivism
Distance of power (PDI)	Countries with average stratification level	Countries with over average stratification level	Countries with average stratification level
Masculinity (MAS)	Harmonious combination of masculinity and femininity (approached to latent femininity)	Harmonious combination of masculinity and femininity (approached to latent femininity)	Harmonious combination of masculinity and femininity (approached to latent masculinity)
Uncertainty aversion (UAI)	Countries, which are characterized by rational and selective archaism-futurism	Countries, which are characterized by selective futurism	Countries, which are characterized by selective futurism

Analysis of similarity rate of civilization models was made through application of distance rate (Euclidean distance) between the integral quantitative characteristics of the value systems of civilization models.

The integral quantitative characteristics («cultural cores» of the western civilization model) made the comparison basis

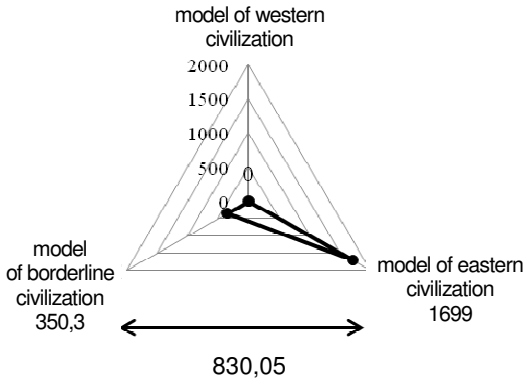
The results of the analysis are shown in fig. 5.

The results of the analysis enable to argue that the most similar are the models of western and border-line civilizations (Euclidean distance – 350,3), while the most different are the models of western and eastern civilizations (Euclidean distance – 1699).

The integral quantitative and qualitative characteristics of each civilization sub-model «cultural core» are defined and also their comparisons were made.

Figure 5

Euclidean distance between the value systems of the civilization models



Just like in the previous case, the integral quantitative characteristics, i. e. «cultural cores» («cultural core») of each civilization sub-model was defined as an average assessment of every element, i. e. «cultural cores» (individualism, distance of power, uncertainty aversion, masculinity) of the countries belonging to a certain civilization sub-model (western, eastern, border-line).

Assessment results are shown in fig. 6.

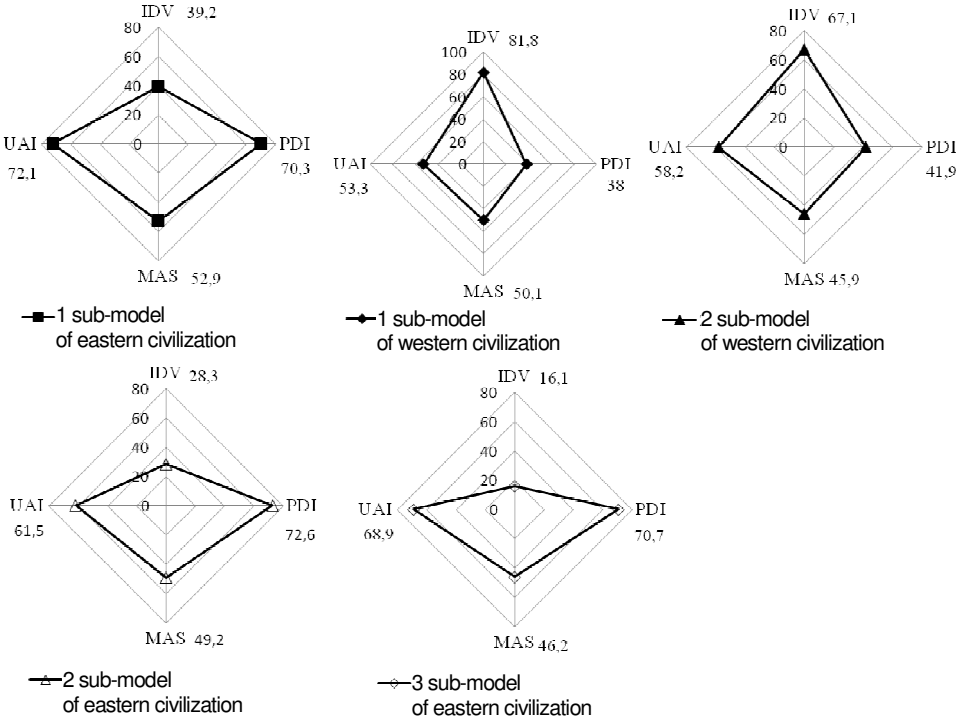
To provide qualitative characteristics of a «cultural core» of each civilizational sub-models there was applied the developed criterion-essential axiological scale for characterization of societies and economic projections of the «cultural cores» (table 2).

The analysis of differences between the civilization sub-models, as in the case of the models was made through application of a measure of distance (euclidean distance). As a basis for comparison the system of values of the submodel 3 of eastern civilization was taken. As a result of the analysis it was found that the most similar are the «cultural cores» of the first, second and third submodels of the eastern civilization, the first submodel of the western and the border-line civilizations, the first and second submodels of the western civilization; while the less similar are the third submodel of the eastern civilization and the first sub-model of the western civilization, also the second submodel of the western civilization and the border-line civilization submodels (Fig. 7).

On the fourth stage there was defined the relationship between the belonging of countries to a particular civilizational model and submodel, and the peculiarities and results of their development.

Figure 6

Integral quantitative characteristics of «cultural cores» of civilizational sub-models



1) IDV – individualism, PDI – power distance, MAS – masculinity, UAI – uncertainty aversion.

2) **the first sub-model of western civilization** is represented by such countries as: USA, Australia, Great Britain, New Zealand, Netherlands, Italy, Belgium, Denmark; **the second sub-model of western civilizatio**n – Ireland, Finland, Germany, Switzerland, Norway, Sweden, South Africa, Poland, France; **the sub-model of border-line civilization:** Czech, Austria, Hungary Israel, Spain Ukraine, India; **the first sub-model of eastern civilization:** Jamaica, Japan, Argentina, Uruguay, Turkey, Brazil, Iran, UAE, Saudi Arabia, Libya, Liven, Kuwait, Iraqi, Egypt, Russia; **the second sub-model of eastern civilization:** Hong Kong, Zambia, Tanzania, Portugal, Kenya,. Ethiopia, Greece, Mexico, Philippines, Malaysia; **the third sub-model of eastern civilization:** Guatemala, Panama, Ecuador, Costa-Rika, Pakistan, Columbia, Peru, Taiwan, South Korea, El Salvador, Thailand, Chile, Venezuela, Indonesia, Singapore, Nigeria, Ghana, China, Sierra-Leone.

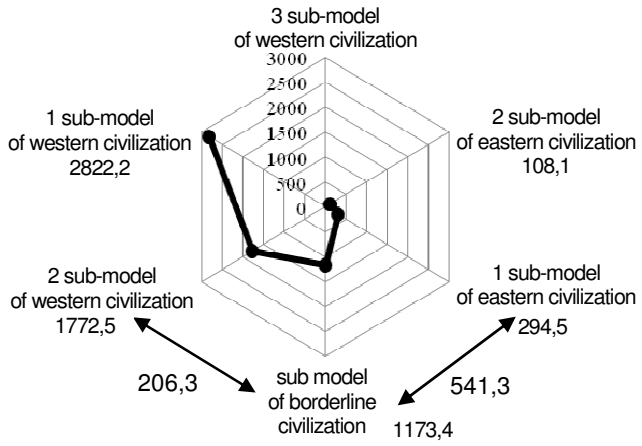
Table 2

Generalized characteristics of civilization sub-models

Civilization sub-models	Characteristics of the «cultural core»			
	Individualism (IDV)	Power distance (PDI)	Masculinity (MAS)	Uncertainty aversion(UAI)
Sub-model 1 of western civilization	Liberal countries	Mainly non-stratified countries	Harmonious combination of masculinity and femininity (approached to latent masculinity)	Rational-selective archaism-futurism
Sub-model 2 of western civilization	Mainly liberal countries	Countries with average stratification level	Harmonious combination of masculinity and femininity (approached to latent femininity)	Rational-selective archaism-futurism
Sub-model of borderline civilization	Countries which are characterized by organic combination of liberalism and collectivism	Countries with average stratification level	Harmonious combination of masculinity and femininity (approached to latent masculinity)	Selective futurism
Sub-model 1 of eastern civilization	Mainly collectivist countries	Countries with above average stratification level	Harmonious combination of masculinity and femininity (approached to latent masculinity)	Selective futurism
Sub-model 2 of eastern civilization	Mainly collectivist countries	Countries with above average stratification level	Harmonious combination of masculinity and femininity (approached to latent femininity)	Selective futurism
Sub-model 3 of eastern civilization	Collectivist countries	Countries with above average stratification level	Harmonious combination of masculinity and femininity (approached to latent femininity)	Selective futurism

Figure 7

Euclidean distance between the integral parameters of civilization sub-models



To establish a link between the belonging of the countries to a particular civilization model and / or submodel and peculiarities of their development the algorithm presented in figure 8 was used. As shown in figure 8, in order to substantiate the impact of the countries' belonging to certain civilization models and submodel on the parameters of their development there test χ^2.was carried out.

The test χ^2.enabled to establish the following:

1. With the 99% probabilities we can admit that the belonging of the countries to certain models and sub-models influence the religion principles of the society.

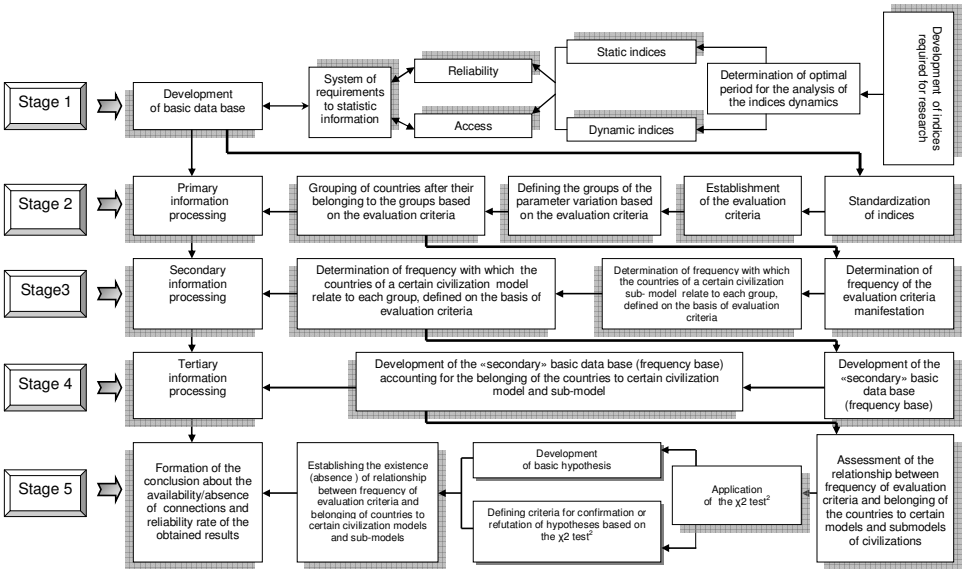
Thus, it was established that the countries with high level of competitive capacity are mainly protestant and catholic countries. The «cultural core» of the first and second sub-models of the western civilization conduces the formation of mainly protestant and catholic religious principles (in these countries the dominant religions are Catholicism and Protestantism).

The «cultural core» of the border-line civilizational sub-model favors the formation of mainly catholic and other religious views (under «other religious views» are implied Judaism, Hinduism and so, that is the religious which are not considered to be the main ones, e.g. Protestantism, Catholicism, Orthodoxy, Buddhism, and Islam)

The «cultural core» of the eastern civilizational sub-model favors the formation of mainly Catholic, Islam and Buddha religious views.

Figure 8

Algorithm of establishing relationship between the belonging of the countries to certain civilization models and sub-models, and peculiarities and results of their development



2. We can admit with 99% probability that the belonging of the countries to certain models and sub-models of civilizations defines the dominant legislation system in these countries.

Therewith the made analysis enabled to establish that the most competitive are the countries with common and continental system of law;

«the cultural core» of the first sub-model of western civilization promotes the formation of both, a common and continental law;

the «cultural core» of the second sub model of western civilization promotes mainly the formation of a continental law;

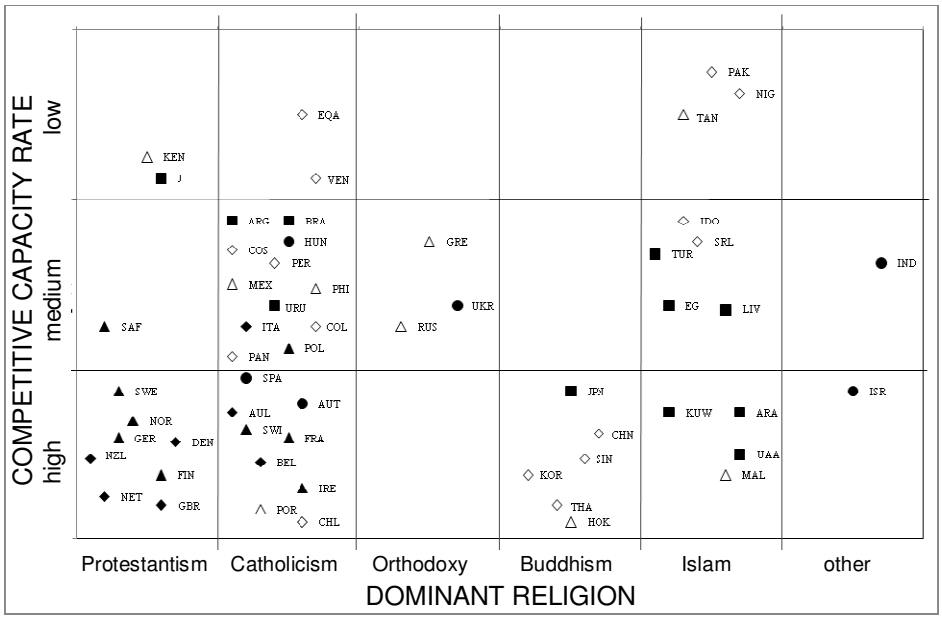
the «cultural core» of the border-line civilization promotes mainly the formation of a continental law;

the «cultural core» of the first sub-model of eastern civilization promotes mainly the formation of a mixed law;

the «cultural core» of the third sub-model of eastern civilization promotes mainly the formation of continental and mixed systems of law.

Figure 9

Influence of the countries depending upon their belonging to certain civilization models and sub-models on the dominant religion



♦ – **countries belonging to sub-model 1 of the western civilization** (**USA**- **AUL** – Australia; **GBR** – Great Britain; **NZL** – New Zealand; **NET** – Netherlands; **ITA** – Italy; **BEL** – Belgium; **DEN** – Denmark);

▲ – **countries belonging to sub-model 2 of the western civilization** (**IRE** – Ireland; **FIN** –Finland; **GER** – Germany; **SWI** – Switzerland; **NOR** – Norway; **SWE** – Sweden; **SAF** – South Africa; **POL** – Poland **FRA** – France);

● **– countries belonging to sub-model of border-line civilization** (**AUT** – Austria; **ISR** – Israel; **UKR** – Ukraine; **CH** – Czech; **HUN** – Hungary; **SPA** – Spain; **IND** – India);

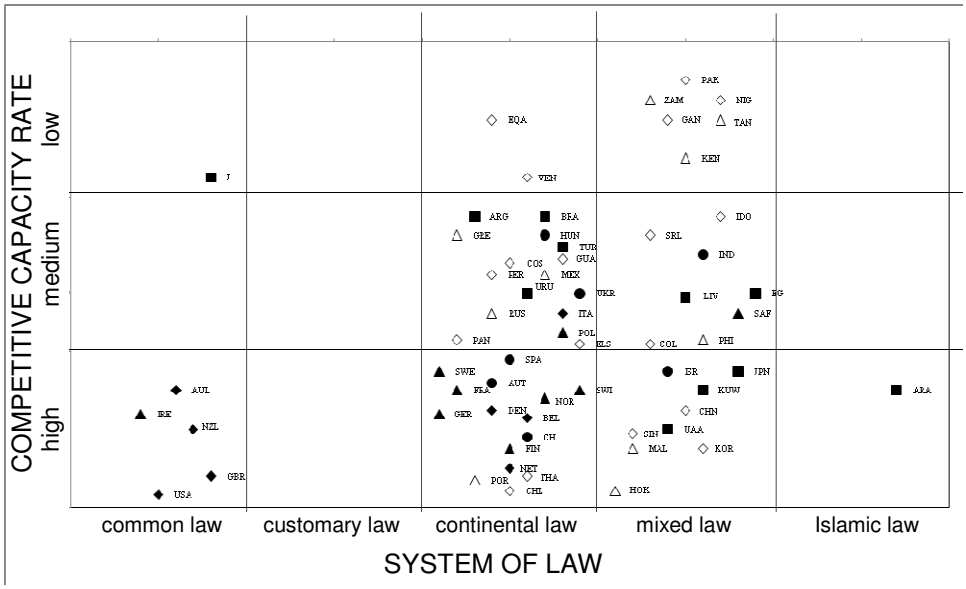
■ – **countries belonging to sub-model 1 of the eastern civilization ï** (**J** – Jamaica; **JPN** – Japan; **ARG** – Argentina; **URU** – Uruguay; **TUR** – Turkey; **BRA** – Brazil; **IRA** – Iran; **UAA** – UAE; **ARA** – Saudi Arabia; **LIV** – Libya ; **LIVN** – Liven; **KUW** – Kuwait; **IRQ** – Iraqi; **EG** – Egypt; **RUS** – Russia);

∆ – **countries belonging to sub-model 2 of the eastern civilization** (**HOK** – Hong-Kong; **ZAM** – Zambia; **TAN** – Tanzania; **POR** – Portugal; **KEN** – Kenya; **EPH** – Ethiopia ; **GRE** – Greece; **MEX** – Mexico; **PHI** – Philippines; **MAL** – Malaysia);

◊ – **countries belonging to sub-model 3 of the eastern civilization** (**GUA** – Guatemala; **PAN** – Panama; **EQA** – Equator; **COS** – Costa-Rika; **PAK** – Pakistan; **COL** – Columbia; **PER** – Peru; **TAI** – Taiwan ; **KOR** – South Korea; **ELS** – El Salvador; **THA** – Thailand; **CHL** – Chili ; **VEN** – Venezuela; **IDO** – Indonesia; **SIN** – Singapore; **NIG** – Nigeria; **GAN** – Ghana; **CHN** – China; **SRL** – Sierra-Leone).

Figure 10

Influence of the countries depending upon their belonging to certain civilizational models and sub-models on the legislation system of these countries



Notations similar to fig. 9.

In general, the «cultural core» of the eastern civilization model defines the domination of a mixed law in the countries of this model of civilization, while the «cultural core» of the western and border-line civilization models defines the domination of a continental law.

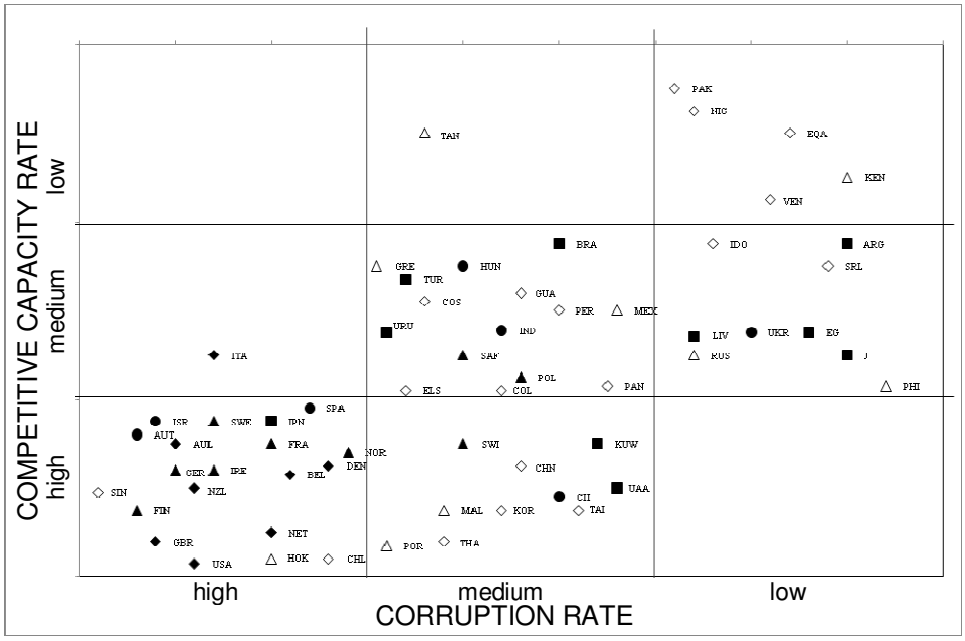
3. With 99% probability we can admit that the belonging of the countries to particular models and sub-models of civilizations defines the corruption rate in these countries.

It is established the following:

- the countries and national economies with the highest rate of competitive capacities are characterized with low and medium level of corruption;
- the «cultural core» of the first and second sub-models of western civilization provides the least favorable environment for the development of the corruption;
- the most favorable environment for the development of corruption is the «cultural core» of the first, second and third sub-models of eastern civilization.

Figure 11

Influence of the countries depending upon their belonging to certain civilization models and sub-models on the development of corruption in these countries



Notations similar to fig. 9.

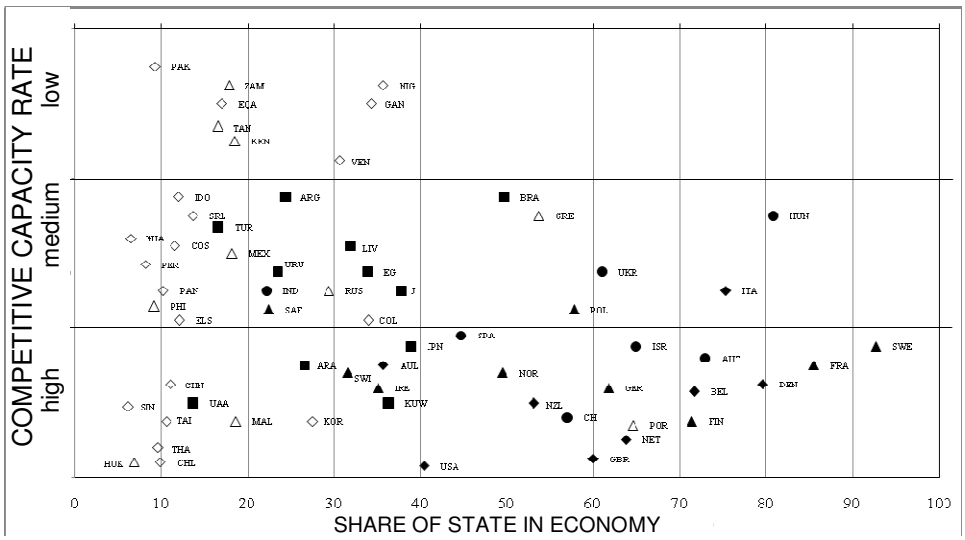
Thus, the most favorable environment for the development of corruption is that, which is originated by the «cultural core» of the eastern civilizational model, and the least favorable – originated by the «cultural core» of the western civilization

4. With 99% probability we can admit that the belonging of the countries to particular models and sub-models of civilizations effects the ratio of the state in economy (percentage of governmental expenditure in GDP) in these countries.

It is established that the most competitive countries are these whose share in the economy equals to 30%. The ratio of state in the economy of over 50% pertains to the countries of the first and second sub-models of western civilization The state ratio in the economy making from 25 to 50% is in the countries of the first sub-model of eastern civilization, and from 10 to 25% – in the countries of the second and third sub-models of eastern civilization.

Figure 12

Relations between the share of state in the economy and civilization belonging of the country



Notations similar to fig. 9.

Consequently, in the countries belonging to western model of civilization the share of the state in the economy makes over 50%, in the countries of eastern model – 10–25%, and in the countries belonging to border-line model of civilization this figure exceeds 50%.

5. With 99% probability we can argue that the belonging of the countries to certain models and sub-models of civilization defines the level of economic freedom.

It is established that the most competitive are free and mainly free countries, while the least competitive are not free and mainly not free countries;

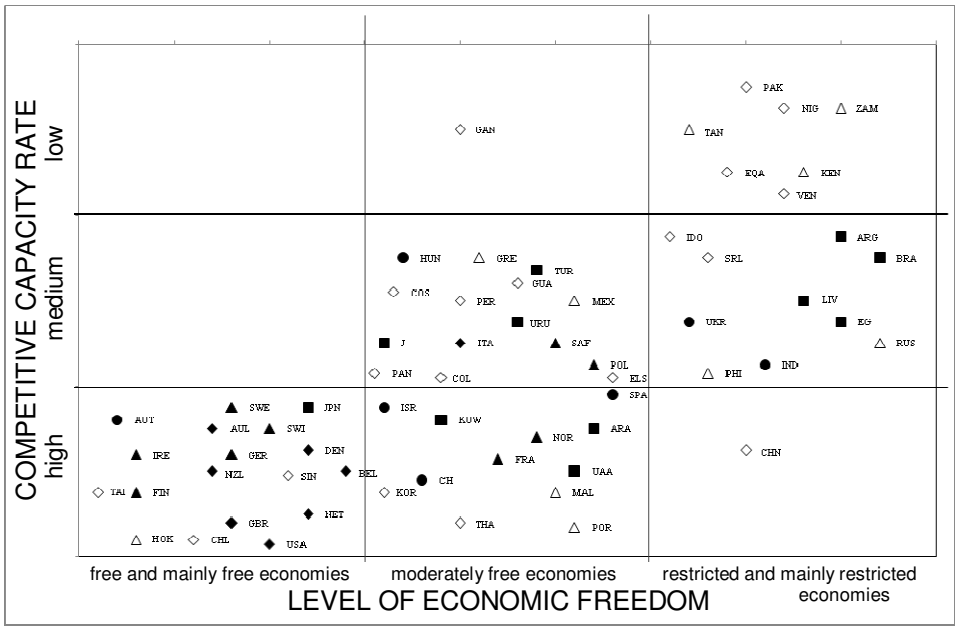
Free and mainly free are the countries belonging to the first and the second sub-models of western civilization;

Moderately free are the countries belonging to the border-line civilizational sub-model and the third sub-model of eastern civilization;

Not free and mainly not free countries are these belonging to the first and second sub-models of eastern civilization.

Figure 13

Relations between the level of economic freedom and civilizational belonging of the countries



Notations similar to fig. 9.

Thus, in general free and mainly free are the countries belonging to the western model of civilization; moderately free are the countries belonging to the border-line civilization, and not free and mainly not free, likewise the moderately free countries are these belonging to the eastern civilizational model.

6. With 99% probability it is worth arguing that the belonging of the countries to particular models and sub-models of civilization influences the level of «easiness of running business».

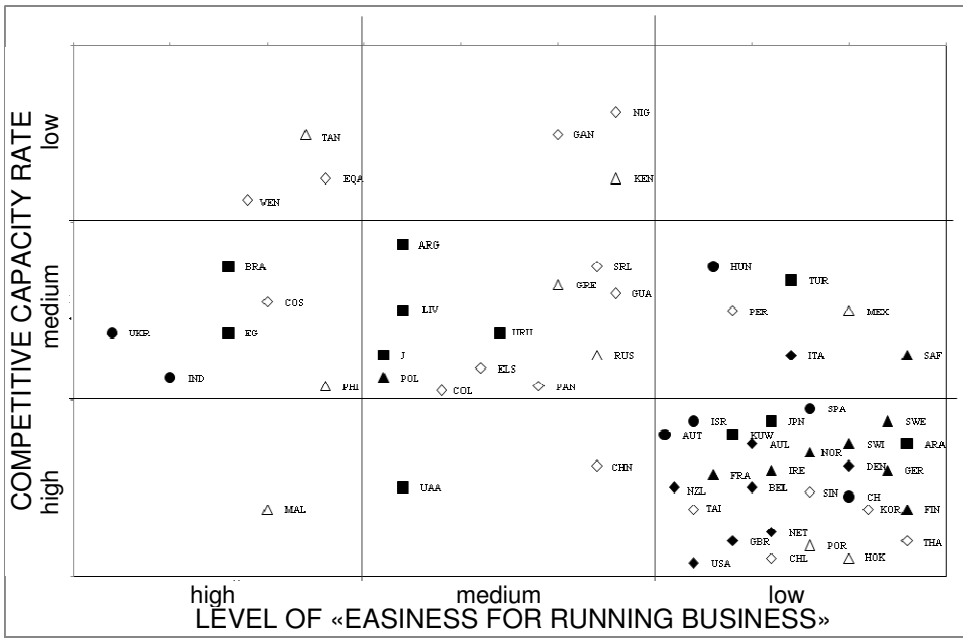
It is established that the «cultural core» of the first and second sub-models of western and border-line civilizations create the most favorable business climate.

The «cultural core» of the first, second and third models of eastern civilization create less favorable conditions for running business.

Consequently, in general the «cultural cores» of western and border-line civilization models create comparatively more favorable business climate that the «cultural core» of the eastern civilizational model.

Figure 14

Relation between the level of «easiness running business» and belonging of the countries to a particular model and sub-model of civilization



Notations similar to fig. 9.

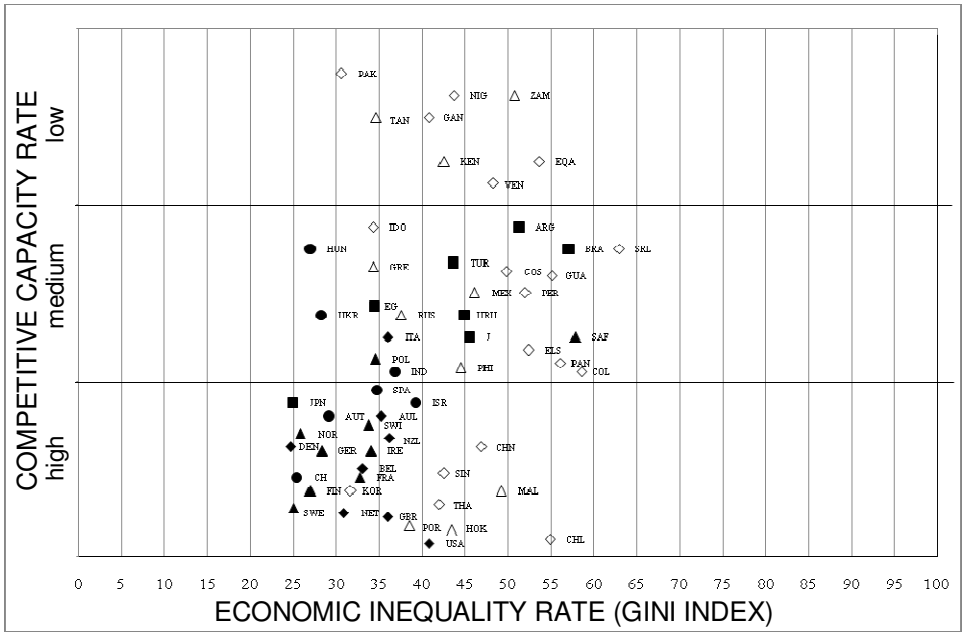
7. With 99% probability it is worth arguing that the belonging of the countries to certain models and sub-models of civilization produce an effect on the typical level of economic inequality.

At first, it was established that the countries belonging to the western, as well as to the eastern and border-line civilizations are the countries with the average level of inequality (Gini index –25–50%). Following from the obtained results there was made more detailed analysis of the income distribution specification within the sample countries – that is, there were countries differentiated within the groups of the «average inequality rate».

As a result of the additional differentiation it was established the following: the countries with the highest competitive capacity rates are these with low level of economic inequality (less Gini coefficient index), and the countries with the lowest rate of competitive capacity are these with the highest level of economic inequality (higher Gini index).

Figure 15

Influence of the countries' belonging to a certain sub-model and model of civilization on their typical economic inequality rate



Notations similar to fig. 9.

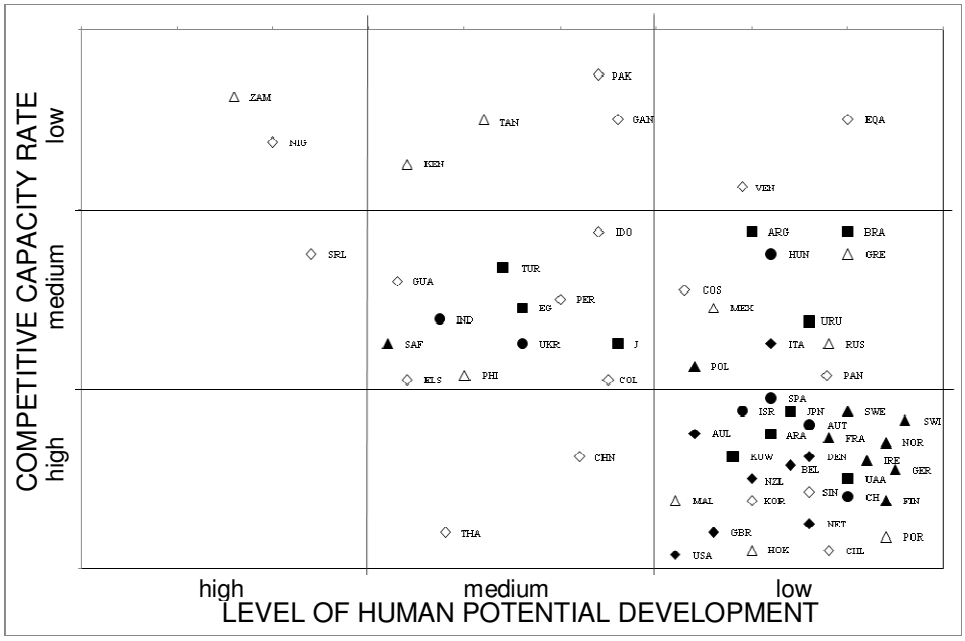
The Gini index of 36–40% pertains to the countries belonging to the first sub-model of western civilization; 31–35% – to the countries of the second sub-model of western civilization; 26–30% – to the countries of the border-line civilization; 41–45 – to the countries of the first sub-model of eastern civilization; 31–35 and 41–45% – to the countries of the third and second sub-models of eastern civilization.

Consequently, it is established that in general the countries pertaining to the western model of civilization mostly are characterized with Gini index of 31–35%, the countries of the border-line civilization model – with 26–30%, and the eastern civilizational model countries – 41–45%.

8. With 99% probability it should be admitted that the belonging of the countries to certain models and sub-models of civilization defines the level of «human potential» development in these countries.

Figure 16

Influence of the countries' belonging to certain models and sub-models of civilization on their typical level of «human potential» development



Notations similar to fig. 9.

It is established that the most competitive are the countries and national economies with high level of human potential development;

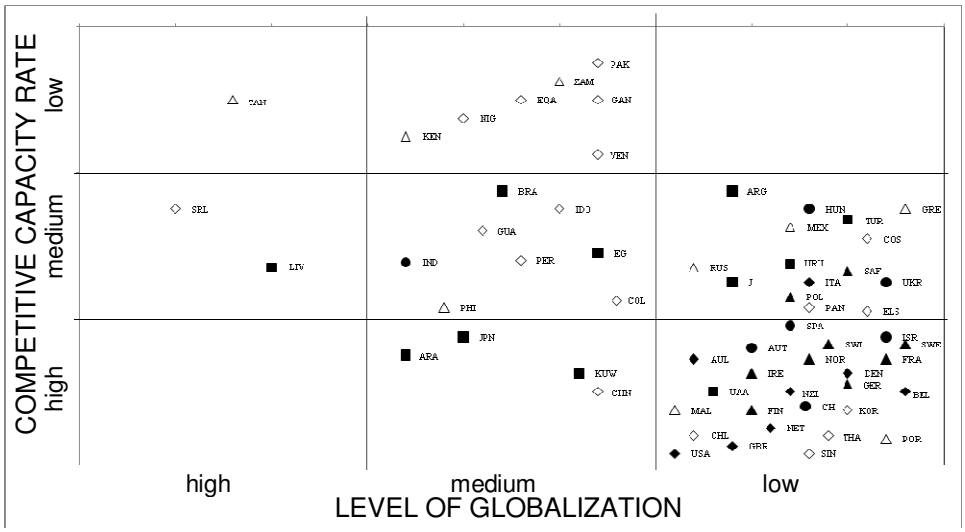
the countries of the first and second sub-models of western civilization, as well as the countries belonging to the border-line civilization model and the first sub-model of eastern civilization are characterized mainly with high level of human potential, while the countries of the second and third sub-models of eastern civilization are these with medium and low level of human potential.

Thus, the countries as a whole, pertaining to the western and border-line model of civilizations are characterized mainly with high level of human potential, while the countries of the eastern civilizational model – with high, medium or low level.

9. With 99% probability we can argue that the belonging of the countries to certain models and sub-models influences the globalization rate of these countries.

Figure 17

Relation between the belonging of the countries' civilization models and sub-models on their typical globalization level



Notations similar to fig. 9.

It is established that the most competitive countries are characterized with high level of globalization;

the countries of the third sub-model of eastern civilization are characterized with mainly medium globalization level;

the countries of the first and second sub-model of eastern civilization, likewise the first and second sub-models of western and border-line civilizations are characterized with high level of globalization.

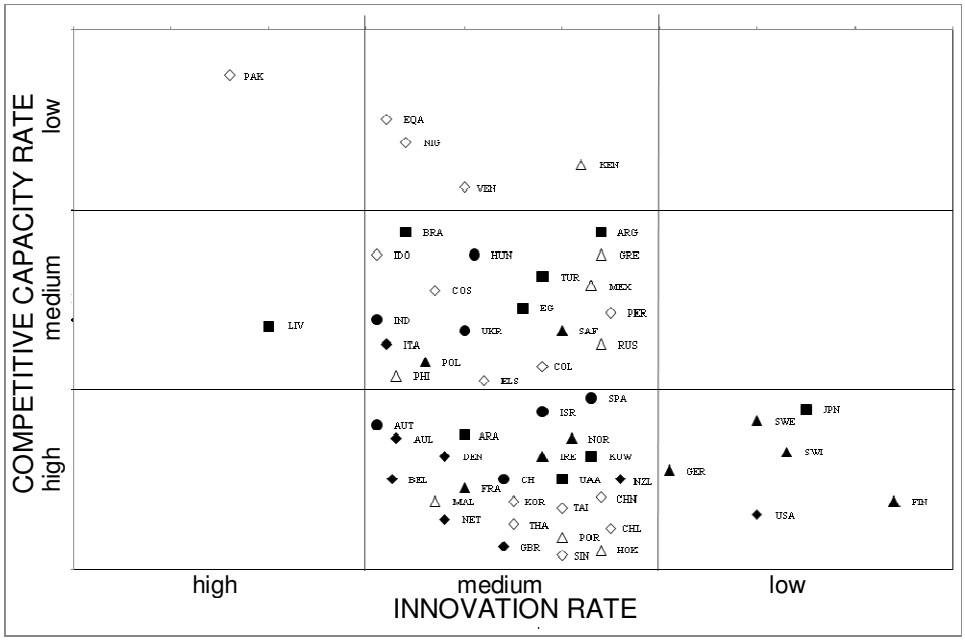
Thus, we can conclude, that the globalization is objective process encompassing the countries of different sub-models and different models of civilizations (actually all the sampled countries are described with high globalization level). Nevertheless, the countries which join the process theb most intensively are these which belong to the models of western and border-line civilizations.

10. With 95% probability we can argue that the belonging of countries to certain models and sub-models defines their innovation rate.

It is defined that national economies with high competitive capacity are these whose innovation rate is medium or high.

Figure 18

Relation between the belonging of the countries to certain models and sub-models of civilizations and their typical innovation rate



Notations similar to fig. 9.

The most positive impact on the innovation level is produced by the «cultural cores» of the first and second sub-models of western civilization, while negative – by the «cultural cores» of the countries belonging to the first sub-model of eastern civilization (18.2% of the given group of the countries are with low level of innovation).

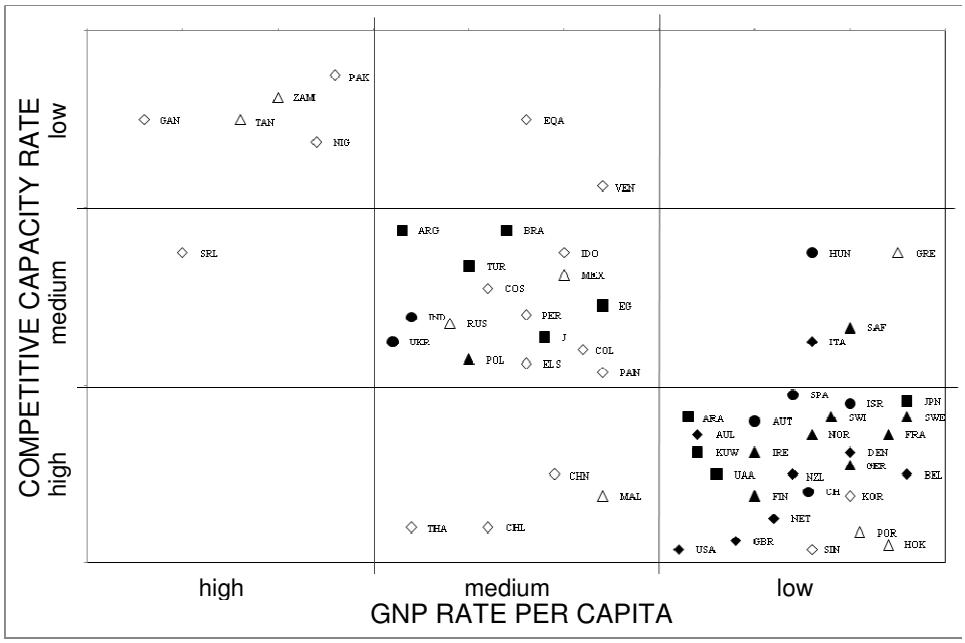
Thus, the «cultural cores» of the countries belonging to the western model of civilization create more favorable environment for the development of innovation activity than the «cultural cores» of the eastern and border-line civilizations.

11. With 99% probability we argue that the belonging of the countries to certain models and sub-models of civilizations influences the typical for these countries GNP per capita.

It is established that the most competitive countries and national economies are these with high level of GNP per capita;

Figure 19

Relation between GNP per capita and belonging of the countries to certain models and sub-models of civilizations.



Notations similar to fig. 9.

The most efficient economically (criterion- income rate per capita) are the countries belonging to the first and second sub-models of western and border-line civilizations, while the least efficient are the countries of the second and third sub-models of eastern civilization.

Consequently, the most efficient in economic aspect (criterion- income rate per capita) are the countries of the western and border-line civilizational models, and the least efficient are the countries of the eastern model of civilization.

12. With 95% probability we can argue that the belonging of the countries to certain models and sub-models of civilizations determines their competitive capacity rate. It is established that the high level of competitiveness is mainly peculiar to the countries of the first and second sub-models of western civilization, and the low level describes the countries of the second and third sub-models of eastern civilization.

Thus, the countries belonging to the western civilization model is more competitive than the countries of the border-line and eastern civilizational model.

In general, following from the results of the fourth stage of the research, we can make the following conclusions:

1) with high probability rate (95-99%) we can argue that the civilizational belonging of the countries influence the parameters of their development, as a whole, and in economic field, in particular. Thus, there is a close relation between the dominant religion in the country, legislation system, share of state in economy, level of economic freedom, easiness of running business, corruption, development of human potential, innovation, globalization, GNP per capita, competitive capacity and the country's belonging to the certain model and/or submodel of civilization;

2) the most succeeding and competitive are the countries belonging to the western model of civilization, that is conditioned by the following: the «cultural core» of the western civilizational model creates comparatively more favorable conditions for economic development and growth, in particular, it favors the formation and development of effective continental system of law meeting modern requirements, likewise it creates more favorable business climate; ensures high level of economic freedom, inclusion into the global system of interrelation and innovation, also it hinders the corruption, aggravation of economic inequality, etc.;

3) the countries belonging to the border-line model of civilization are mainly more efficient and competitive than the countries of the eastern civilizational model. Thus, the countries of the given group are described with lower corruption rate and lower level of economic differentiation, higher level of economic freedom, they are involved in globalization and innovation processes, and as a result, they are more economically developed and more competitive than the countries belonging to the eastern model of civilization.

On the fifth stage there was defined the vector of civilizational determinant effects produced on the parameters of development and level of competitiveness of national economy.

With that aim in view there was made a correlation analysis, the results of which are shown in table 4.

All presented above coefficients are obtained under conditions of normal distribution (normality condition is sustained, with probability of 0.95 if the minimum and maximum values of attributes that are studied, are not beyond $\left[\overline{y} \pm 3\sigma_y\right]$; $\left[\overline{x} \pm 3\sigma_x\right]$, and where $\sigma_x = \sqrt{\overline{x^2} - \overline{x}^2}$ and $\sigma_y = \sqrt{\overline{y^2} - \overline{y}^2}$ – . the dispersion factor and the resulting characteristics).

Table 3

Relation between belonging of the countries to certain models/sub-models of civilizations and parameters of their development

Probability	Indices	Model of civilization							
		Eastern			Total	Borderline	Western		Total
		Sub–models					Sub-models		
		1	2	3			1	2	
99%	System of law, % in the country of certain model/sub-model								
	Continental	33,3	33,3	52,6	41,9	71,4	50	77,8	64,7
	Common	6,7	–	–	2,3	–	50	11,1	29,4
	Islamic	6,7	–	–	2,3	–	–	–	–
	Mixed	53,3	66,7	47,4	53,5	28,6	–	11,1	5,9
	Corruption rate, % in the country of certain model/sub-model								
	High	57,1	33,3	33,3	41,5	14,3	–	33,3	–
	Medium	35,7	55,6	55,6	48,8	42,9	–	66,7	17,6
	Low	7,1	11,1	11,1	9,8	42,9	100		82,6
	Share of state in economy, % in the country of certain model/sub-model								
	Up to 10%	–	20	27,8	16,7	–	–	–	–
	10-25%	35,7	60	44,4	45,2	14,3	–	11,1	5,9
	25-50%	64,3		27,8	33,3	14,3	25	33,3	29,4
	Over 50%	–	20	–	4,8	71,4	75	55,6	64,7
	Level of economic freedom, % in the country of certain model/sub-model								
	High (free and mainly free economies)	7,1	10	15,8	11,6	14,3	87,5	55,6	70,6
	Medium (moderately free economies)	42,9	40	47,4	44,2	57,1	12,5	44,4	29,4
	Low (restricted and mainly restricted)	50	50	36,8	44,2	28,6	–	–	–
	Favorable business climate (level of «easiness for running business»), % in the country of certain model/sub-model								
	High	28,6	44,4	35,3	35	71,4	100	88,9	94,1
	Medium	42,9	33,3	52,9	45	–	–	11,1	5,9
	Low	28,6	22,2	11,7	20	28,6	–	–	–
	Level of economic inequality (Gini index), % in the country of certain model/sub-model								
	26-30%	–	–	–	–	57,1	42,9		21,4
	31-35%	–	33,3	30	25	14,3	57,1	28,6	42,9

Probability	Indices	Model of civilization							
		Eastern			Total	Borderline	Western		Total
		Sub–models					Sub-models		
		1	2	3			1	2	
	36-40%	20	11,1		8,3	28,6	–	57,1	28,6
	41-45%	60	33,3	40	41,7	–	–	14,3	7,1
	46-50%	20	22,2	30	25	–	–	–	–
	Level of involvement into the globalization process, % in the country of certain model/sub-model								
	High	46,6	44,5	38,9	42,9	85,7	100	100	100
	Medium	26,7	33,3	55,6	40,5	14,3	–	–	–
	Low	26,7	22,2	5,5	16,7	–	–	–	–
	GNP rate per capita, % in the country of certain model/sub-model								
	High	36,4	42,9	11,8	25,7	71,4	100	88,9	94,1
	Medium	63,6	28,6	64,7	57,1	28,6		11,1	5,9
	Low	–	28,6	23,5	17,1	–	–	–	–
95%	Innovation rate, % in the country of certain model/sub-model								
	High	9,1	–	–	3	–	12,5	44,4	29,4
	Medium	72,7	100	93,3	87,9	100	87,5	55,6	70,6
	Low	18,2	–	6,7	9,1	–	–	–	–
	Competitive capacity rate, % in the country of certain model/sub-model								
	High	33,3	30	31,6	31,7	57,1	87,5	77,8	82,4
	Medium	58,3	30	42,1	43,9	42,9	12,5	22,2	17,6
	Low	8,3	40	26,3	24,4	–	–	–	–

Table 4

Correlation dependence between the «cultural core» and the parameters of the countries' development

Indices	Desirable parameters and results of development	
	High rate of competitive capacity	High income rate per capita
Level of individualism	$R = 0,92$ $r = 0,96$	$R = 0,95$ $r = 0,97$
Level of power distance	$R = 0,87$ $r = –0,93$	$R = 0,83$ $r = –0,91$
Level of masculinity	$R = 0,007$ $r = –0,08$	$R = 0,012$ $r = 0,11$
Level of uncertainty aversion	$R = 0,5401$ $r = –0,74$	$R = 0,52$ $r = –0,72$

It is established, that the variation of the parameters of «individualism», «power distance» and «uncertainty aversion» explain from 52% to 95% variations of resulting indices (rate of competitive capacity, GND rate per capita). There exists the direct and feedback link between the noted characteristics. Thus, the feedback is observed between the level of competitiveness, level of uncertainty aversion and power distance, while direct link is between the rate of competitive capacity level of individualism. So, with the increasing of individualism parameter the competitiveness of countries and GNP per capita increases, with the increase in such indicators as «the level of power distance» and «level of uncertainty aversion» the reverse trend is observed.

Thus, while assessing the impact of the civilization determinants on the peculiarities of the development and level of competitiveness of socio-economic systems of macro-level aggregation, the hypothesis was confirmed that the civilizational determinants or belonging to a certain country model and submodel of civilization can have both positive and negative effects on the trajectory, dynamic parameters and peculiarities of socio-economic development of the countries thus determining the competitiveness of their national economies.

However, proceeding from the fact that all the sampled countries are described with both, high and low level of competitiveness and GNP per capita, in order to unambiguously interprete the results, a research was made within each model of civilization what relations exist between the share of countries with high levels of competitiveness and natural resources of these countries.

To substantiate the relationship between the availability of natural resources in the countries of certain models and sub-models of civilizations and their typical level of competitiveness there was conducted test χ^2. Using the χ^2 test it was found that it could be argued with 99% probability that the availability of natural resources in the countries of certain civilization models and submodels effects the level of their competitiveness.

It was established that the countries with high level of competitiveness belonging to the western model of civilization, mostly, are rich in natural resources (81.25%); the countries of eastern model of civilization are poor countries; the countries belonging to the border-line civilizational model are both, poor (50%) as well as rich countries (50%) (Table 5).

Therefore, the natural conditions impose their imprint on the system of values and act as an important source of their crystallization. Thus, the countries rich in natural resources are characterized by higher levels of individualism than poor countries (the share of rich countries belonging to the western model of civilization is larger than the share of rich countries belonging to the eastern and border-line patterns of civilization).

Table 5

Grouping of countries in terms of competitiveness and supply of natural resources [29]

Indices	Model of civilization		
	Western	Eastern	Border-line
The share of competitive countries of the total number of countries belonging to a certain model of civilization	94,12	20,5	71,4
The share of rich (in natural resources) countries of the total number of countries belonging to a certain model of civilization	76,5	29,5	28,6
The share of poor (in natural resources) countries of the total number of countries belonging to a certain model of civilization	23,5	50	42,9
The share of countries the status of which in terms of natural resources is not defined*	–	20,5	28,5
The share of poor (in natural resources) countries of the total number of competitive countries belonging to a certain model of civilization	18,75	100	50
The share of rich (in natural resources) countries of the total number of competitive countries belonging to a certain model of civilization	81,25	–	50

* the following countries: Taiwan, Sierra-Leone (Group1), Hong-Kong, Tanzania (Group 2), OUE, Saudi Arabia, Libya, Liven, Kuwait, Iraqi (Group 3), Ukraine, Czech (Group 4), Poland (Group 5) were not presented in this table because of lack of statistic information.

However, after the crystallization process of values is completed, the «cultural core» acts as an important factor of progress, and alongside with natural resources, can be viewed as an important component of national wealth. This is confirmed by the fact that, as seen from Table 5, a greater proportion of competitive countries belonging to the western model of civilization are the countries rich in natural resources, while a greater proportion of competitive countries belonging to the eastern model of civilization are poor, and that at the primary study can lead to a false conclusion that, despite the results of correlation analysis, the values of the eastern civilization model is more advanced as against the values of the western model.

Fallacy of this conclusion becomes apparent at the second revision in terms of the proposed by M. Porter stadial model of competition and promotion of competitive capacities of the countries. Thus, according to Porter's research results, the countries belonging to the western model of civilization, completed the first two stages of the development and moved to the third stage much faster than the countries that belong to the eastern and border-line civilizational models [21]. As a result, most countries belonging to the western model of civilization, today have reached or are on the last stage of the competition development – the stage when the competition is based on wealth, while most of the countries of eastern and border-line civilizations are – only transitting to the stage based on innovations.

Taking into account that the stage of competition on the basis of wealth, unlike the first three, leads to a decline in production, lower economic growth rates, and is characterized by loss of positions in the international competition, it is quite logical that in Table 5 most competitive countries of the eastern civilization are poor, while most competitive countries of western civilization are rich (Table 5 shows the competitive status of national economies within 2008–2010).

According to S. M. Lipset and G. S. Lentz, the above processes could be explained by the fact that «... the more prosperous country is, the lower level of motivation to get achievements ... This may suggest an idea that although modern wealthy nations were once among the most motivated to achieve goals (i.e, before when they had developed), but now ... their wealthy citizens are aimed to achieve goals not connected with work (music, art, literature) to become, after the terminology of R. Inglehart, post-materialists. On the other hand, the elite and middle class in less developed countries, aware of its defective economic status may have higher motivation to achieve success» [9]. The objectivity of this conclusion is corroborated by the following:

- first, that national economies belonging to the eastern and border-line models of civilizations are developing more dynamically than these of the western civilization (table 6);
- second, that the share of countries belonging to the first and second submodels of western civilization, during 2005–2010 made in total 55.9% out of 2000 biggest world companies according to Forbes (for comparison, the share of the border-line civilization sub-model was 4.9%, the share of the first, second and third submodels of eastern civilization – 33.7% out of 2000 biggest world companies). Nevertheless, during this period there was recorded a steady decrease in the range of companies located in the countries belonging to the western model of civilization, and increasing in the number of companies located in the countries which belong to the eastern civilization model (Table 7).

Table 6

Behavior of real GDP, % [15]

Years	Model of civilization							
	eastern				border-line	western		
	sub-models			total		sub-models		total
	1	2	3			1	2	
1991–2000	2,8	3,0	4,1	3,3	3,0	2,7	3,0	2,85
2001	0,3	3,2	3,5	2,3	3,4	1,7	2,2	1,95
2002	1,0	2,9	5,7	3,2	2,8	1,9	2,1	2
2003	6,2	3,2	4,5	4,6	4,3	1,8	1,9	1,85
2004	5,8	6,0	6,9	6,2	5,7	2,9	3,6	3,25
2005	5,0	5,6	6,1	5,6	4,8	2,2	3,2	2,7
2006	5,3	5,4	6,7	5,8	5,8	2,8	4,2	3,5
2007	5,4	6,1	6,8	6,1	5,2	2,7	4,0	3,35
2008	5,4	4,3	4,7	4,8	2,9	0,7	1,3	1
2009	-0,4	0,5	0,1	0,1	-2,6	-3,4	-3,5	-3,45
1991–2009	3,8	4,0	4,9	4,2	3,5	1,6	2,2	1,9

Table 7

Geographic (civilization) structure of the biggest TNCs according to the version of Forbes [11]

Data	Model of civilization							
	eastern				border-line	western		
	sub-model			total		sub-models		total
	1	2	3			1	2	
Share of the biggest world companies, % of total number of rated companies	18,8	4,8	10,2	33,7	4,9	43,5	12,4	55,9
Change of share of the biggest world companies during 2005–2010, % of total number of rated companies	+0,75	+1,25	+6,25	+8,35	+1,5	–10,95	+1,05	–9,9
Change of number of the biggest world companies during 2005–2010	+15	+25	+127	+167	+30	–219	+21	–198

Consequently, the civilizational principles can produce diverse effects on the parameters of development and level of competitiveness of national economy. The most positive impact on the peculiarities of development and competitive capacity rate of the countries and national economies has the «cultural core» and civilizational features of the western model of civilization, and the least positive impact produces the «cultural core» and civilizational features of the eastern civilizational model.

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