

Prospects for the Reorientation of Investment Flows for Sustainable Development under the Influence of the COVID-19 Pandemic

Perspektywy reorientacji przepływów inwestycyjnych na rzecz zrównoważonego rozwoju w warunkach pandemii COVID-19

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Abstract

The article is devoted to substantiating the expediency of reorienting international investment flows, under the influence of the COVID-19 pandemic, from traditional directions to projects related to social transformation. It is proved that such transformations should be expressed first of all in qualitative changes in education, medicine and employment. Particular attention is paid to the modernization of the paradigm of sustainable development, the components of which should be ranked from social to environmental. The necessity of interpretation of investment strategies implemented in the countries following their common problems is substantiated. Also, attention is paid to the substantiation of the cyclical component, its role in the redistribution of investment flows at the state level. The article proposed cluster investment to solve this problem.

Key words: investments, international investments, international investment projects, sustainable development, clustering, cluster investing, economic cycles

Streszczenie

Artykuł poświęcony jest uzasadnieniu celowości przeorientowania międzynarodowych przepływów inwestycyjnych pod wpływem pandemii COVID-19 z tradycyjnych kierunków na projekty związane z transformacją społeczną. Udowodniono, że takie przemiany powinny wyrażać się przede wszystkim w jakościowych zmianach w

edukacji, medycynie i zatrudnieniu. Szczególną uwagę zwraca się na unowocześnienie paradygmatu zrównoważonego rozwoju, którego elementy należy uszeregować od społecznych do środowiskowych. Uzasadniono konieczność interpretacji strategii inwestycyjnych realizowanych w krajach podążających za wspólnymi problemami. Zwrócono również uwagę na uzasadnienie składnika cyklicznego, jego rolę w redystrybucji przepływów inwestycyjnych na poziomie państwa. W celu rozwiązania tego problemu w artykule zaproponowano inwestycje w klastry.

Słowa kluczowe: inwestycje, inwestycje międzynarodowe, międzynarodowe projekty inwestycyjne, zrównoważony rozwój, klastrowanie, inwestowanie w klastry, cykle koniunkturalne

Introduction

International investment flows are the most important driving force of humanity's economic, social, scientific, and cultural progress (Chen et al, 2020). Today, none of the public economy sectors can be considered self-sufficient and free from the need to attract temporarily free funds (Dzwigol & Dzwigol-Barosz, 2020; Filipova & Yuleva-Chuchulayna, 2020). International investment has increased from year to year, and the goals for which it has been directed have diversified and expanded exponentially (Bashynska et al., 2019; Kwilinski et al., 2020). Smart gadgets, nanotechnologies, environmental projects, alternative energy, the space industry have been the landmarks of humanity and directions for further progress (Miskiewicz, 2020). The COVID-19 pandemic has shown a shocking reality – humanity has often tried to bring the future closer by leveling those more urgent problems and those that, unfortunately, are not solved today (Strilets et al., 2020).

A defining event marked the last decade of the 20th century for humanity – the concept of sustainable development began to enter into the everyday life of supranational institutions, states, local governments, enterprises as well even ordinary citizens (Prokopenko, 2011; Chortok et al., 2018). It raised such questions, the answers to which humanity did not even think. Several acute problems (energy prospects, use of fossil fuels, conservation of species and ecosystems and others) brought the highest priority to solve problems (Prokopenko & Miśkiewicz, 2020).

Until mid-March 2020, it was impossible to imagine a developed country or a country with an economy in transition, all groups of stakeholders which in one way or another would not be involved in addressing individual issues under the concept of sustainable development (Kharazishvili et al, 2020). From buying children's toys and clothes under the WWF or Greenpeace brands to investing surplus funds in socially significant projects and protecting cultural heritage, all this confirmed the understanding of global challenges and, most importantly, humanity's desire to participate in solving them.

An illustrative case was the accumulation of almost 1 billion euros to restore the world-famous Notre-Dame de Paris after a fire that broke out in mid-April

2019 (a year before the pandemic) and caused significant damage to the building (Notre Dame, 2019).

This illustrative case of unprecedented social cohesion demonstrated the desire to preserve the cultural heritage of descendants and an example of a high level of personal identification of people in society. Modern man has become a citizen of the world.

The period from January to May 2020 raised another rather acute issue – in order to preserve the cultural heritage, equal access to natural resources, to ensure a clean environment for future generations, past efforts are not enough. The fundamental problem that underlies the preservation of future generations and the protection of their interests is preserving the present generation, for the solution of which humanity has not been ready.

It exacerbates the fact that sustainable development's basic postulates must be adjusted following new (non-trivial) threats. Therefore, the implementation of investment programs within this paradigm must also change.

The purpose of the article

The article aims to formalize new approaches to understanding the concept of sustainable development and identify promising areas of investment flows within the adjusted paradigm.

Results and discussion

A) Sustainable development and its place in ensuring modern society's economic, social and environmental well-being

The concept of sustainable development proclaimed by the UN in 1987 was indeed a real breakthrough in the chronology of human development. It became a fundamental milestone that gave a clear understanding that modern human's economic thinking has crossed the stages of irresponsible consumption of natural resources, total extensive industrial capacity, ecosystems as a given, unlimited source of resources in the direction of quality development. For the first time, questions have been raised about: what our planet will be like after us; that our generation will leave people who will live in 50-100 years; which animals will adapt and survive by then; what will be the environmental situation at the end of at least the 21st century.

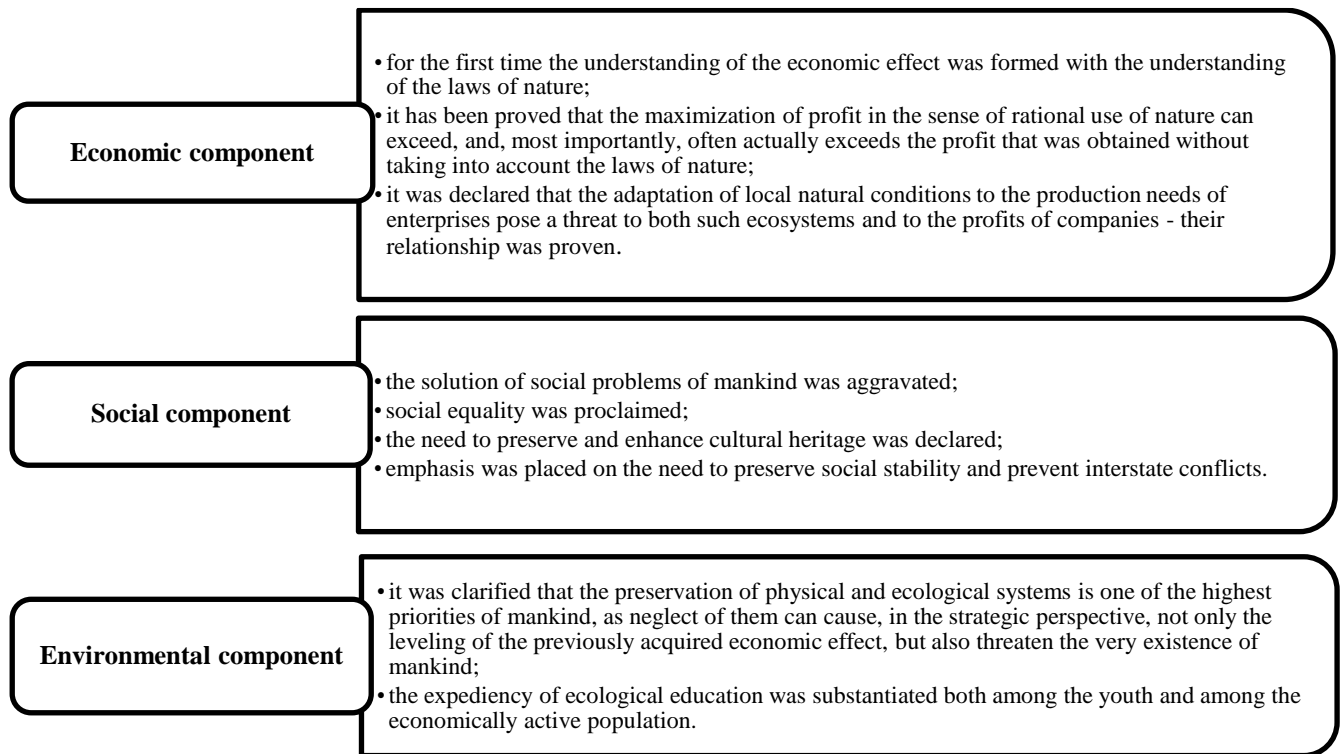


Figure 1. The main components of the classical model of sustainable development (authors' own study)

To this day, 33 years after the proclamation of the concept of sustainable development and in the conditions of unprecedented development of the technological potential of humanity, these questions often remain rhetorical because the goals are set and clear; economic, social and environmental policy developed; financial resources are received and used; the paradigm has gone to the masses, but there is no clear understanding of sufficiency and the result (Zijiang & Xiong, 2020).

In the most general sense, the concept of sustainable development involves the construction and organization of all aspects of human activity, as well as meeting its needs, without neglecting the rights of future generations to protect their rights and interests at a level not lower than the current generation (Kostetska et al., 2020). For the first time, the concept of sustainable development equated the human rights of people living on Earth with those who do not yet exist. We focus on the last thesis below.

The classical approach to explaining sustainable development's essence is based on three main components (Figure 1).

Establishing a strategic balance between each of the three main components is the way to achieve sustainable development goals.

The concept, proclaimed by the UN General Assembly in 1987 and adopted in 1992 at the UN Conference on Environmental Protection and Development in Rio de Janeiro, includes, among other provisions, a rather interesting fact. Given the components on which the concept of sustainable development is

built, the United Nations understands that in order to achieve the goals of the concept, it is necessary to preserve and improve the quality of life of modern generations, as this is the basis for caring for the people of the future. In 2015, the UN General Assembly approved 17 sustainable development goals. However, given the impact of the COVID-19 pandemic, they need to be re-adjusted. Today, especially at the time of the proclamation of the COVID-19 pandemic by the World Health Organization (WHO), there is every reason to believe that the protection of health and life of the current generation, within the classical concept of sustainable development, was realized only indirectly. These significant, fundamental issues were secondary until March 11, 2020 (when the WHO recognized the epidemic as a pandemic). In the classical interpretation, it is the rights of people who do not yet exist were placed higher than the interests of the current generation.

B) Application of cluster analysis methods in grouping countries by evaluating their effectiveness in responding to the COVID-19 pandemic

Statistics on the spread of coronavirus infection give every reason to believe that this approach no longer meets modern challenges and needs to be diversified. Moreover, the problem is exacerbated by the fact that even developed countries – countries with access to the latest advances in science and technology, are not ready to overcome the pandemic (Table 1).

Table 1. Incidence statistics for COVID -19 by country (countries taken are the largest in the area on the continent/region) as of 05.05.2020 (System, 2020; Countries, 2020)

No	Country	Population, million people	Factor 1 The share of detected cases in the total population, %	Factor 2 The proportion of deaths from the total percentage of infected, %	Factor 3 The share of those who recovered from the total number of infected, %
North America					
1	USA	328,9	0,33	6,27	16,36
2	Canada	37,6	0,16	6,56	42,62
3	Mexican United States	133,1	0,02	8,33	62,50
South America					
4	Federal Republic of Brazil	207,3	0,05	6,48	41,67
5	Argentine Republic	43,4	0,01	5,00	35,00
6	Republic of Colombia	48,4	0,01	4,29	25,71
Western Europe					
7	French Republic	65,1	0,26	14,79	30,18
8	Kingdom of Spain	46,7	0,47	11,47	55,50
9	Kingdom of Sweden	10,3	0,22	12,17	17,39
Asia					
10	PRC	1404,3	0,01	5,54	93,98
11	Republic of India	1360,4	0,00	3,26	26,09
12	Republic of Kazakhstan	18,6	0,02	0,71	29,27
Africa					
13	Algerian People's Democratic Republic	38,07	0,0023	0,01	9,79
14	The Democratic Republic of the Congo	77,4	0,00002	0,00	4,24
15	Republic of Sudan	39,5	0,00007	0,00	5,78
Australia					
16	Australia	25,1	0,0058	0,03	1,43

Table 2. Clustering of the countries presented in Table 1 by Factor 1 and Factor 2 (authors' own work)

No countries	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0	0,37	0,69	0,61	0,7	0,7	0,6	0,45	0,46	0,71	0,74	0,77	0,73	0,73	0,71	0,74
2	0,37	0	0,33	0,24	0,34	0,35	0,59	0,73	0,4	0,34	0,41	0,5	0,39	0,38	0,35	0,45
3	0,69	0,33	0	0,14	0,23	0,27	0,68	0,98	0,51	0,19	0,34	0,52	0,1	0,28	0,18	0,47
4	0,61	0,24	0,14	0	0,14	0,17	0,72	0,95	0,53	0,12	0,24	0,40	0,24	0,19	0,12	0,35
5	0,70	0,34	0,23	0,14	0	0,05	0,85	1,07	0,67	0,04	0,12	0,29	0,32	0,05	0,06	0,24
6	0,70	0,35	0,27	0,17	0,05	0	0,88	1,08	0,7	0,09	0,07	0,24	0,37	0,03	0,1	0,2
7	0,60	0,59	0,68	0,72	0,85	0,88	0	0,50	0,19	0,83	0,95	1,08	0,63	0,90	0,82	1,03
8	0,45	0,73	0,98	0,95	1,07	1,08	0,5	0	0,52	1,07	1,14	1,20	0,98	1,11	1,07	1,16
9	0,46	0,40	0,51	0,53	0,67	0,7	0,19	0,52	0	0,65	0,76	0,89	0,48	0,72	0,64	0,84
10	0,71	0,34	0,19	0,12	0,04	0,09	0,83	1,07	0,65	0	0,15	0,33	0,29	0,09	0,02	0,28
11	0,74	0,41	0,34	0,24	0,12	0,07	0,95	1,14	0,76	0,15	0	0,18	0,44	0,07	0,17	0,13
12	0,77	0,5	0,52	0,4	0,29	0,24	1,08	1,20	0,89	0,33	0,18	0	0,61	0,24	0,35	0,05
13	0,73	0,39	0,10	0,24	0,32	0,37	0,63	0,98	0,48	0,29	0,44	0,61	0	0,38	0,27	0,57
14	0,73	0,38	0,28	0,19	0,05	0,03	0,90	1,11	0,72	0,09	0,07	0,24	0,38	0	0,1	0,2
15	0,71	0,35	0,18	0,12	0,06	0,1	0,82	1,07	0,64	0,02	0,17	0,35	0,27	0,1	0	0,3
16	0,74	0,45	0,47	0,35	0,24	0,2	1,03	1,16	0,84	0,28	0,13	0,05	0,57	0,2	0,3	0

Table 1 is quite illustrative, as it includes both developed countries and countries with economies in transition and developing countries.

We will carry out clustering of systematized data to determine certain similarities between the presented countries (Table 2).

Table 3. Grouping of countries by the results of cluster analysis (in the cells of the table, the names of countries are abbreviated, authors' own work)

No groups	Base country	Countries included in the group						
1.	USA	Does not belong to any of the groups						
2.	Canada	Does not belong to any of the groups						
3.	Mexico	Brazil	Algeria	–	–	–	–	–
4.	Brazil	Mexico	Argentina	Colombia	PRC	India	Congo	Sudan
5.	Argentina	Brazil	Colombia	PRC	India	Congo	Sudan	–
6.	Colombia	Brazil	Argentina	PRC	India	Congo	Sudan	Australia
7.	France	Sweden	–	–	–	–	–	–
8.	Spain	Does not belong to any of the groups						
9.	Sweden	France	–	–	–	–	–	–
10.	PRC	Мексика	Brazil	Argentina	Colombia	India	Congo	Sudan
11.	India	Argentina	Colombia	PRC	Kazakhstan	Algeria	Sudan	Australia
12.	Kazakhstan	India	Australia	–	–	–	–	–
13.	Algeria	Mexico	–	–	–	–	–	–
14.	Congo	Brazil	Argentina	Colombia	PRC	India	Sudan	Australia
15.	Sudan	Mexico	Brazil	Argentina	Colombia	PRC	India	Congo
16.	Australia	Colombia	India	Kazakhstan	Congo	–	–	–

The number in the clustering table (Table 2) corresponds to the country number in Table 1.

Due to the mismatch of the input data scales (the values of Factor 1 and 2 differ in times), for the calculations presented in Table 2, they were first normalized to the range [0; 1]. After that, the clusters were determined by the distance between two points in two-dimensional space Euclidean metric:

$$d(x, y) = \sqrt{\sum_{i=1}^n (x_a - x_b)^2 + (y_a - y_b)^2}, \quad (1)$$

where:

$d(x,y)$ – Euclidean distance between two points, represented by individual countries;

x_a and x_b – coordinates of two points on Factor 1;

y_a and y_b – coordinates of two points on Factor 2.

We chose the Pareto rule for the criterion of similarity: ≤ 0.2 (values of distances in Table 2 more than 1 can be neglected because these values can be considered noise or anomalous values) (Dizdaroglu, 2019). To identify clusters, we chose to compare Factor 1 and Factor 2 because:

- Factor 1 in some way demonstrates the general trend with a pandemic in the country;
- Factor 2 demonstrates the situation with the readiness of the health care system for such a situation;
- Factor 3 was taken as a control.

Any analysis based on published data is not without its drawbacks:

- First, the quality of the data directly depends on the efficiency, timeliness, honesty and responsibility when testing for antibodies to COVID-19;
- Second, countries with relatively more developed economies face significant migration levels associated with hundreds of types of economic, scientific, technological cooperation and tourism. We should not rule out close and extensive family ties of these countries' citizens and citizens temporarily residing in these countries.

Accordingly, the load on them is incomparably greater than on others;

- Thirdly, it is the financial capacity to conduct a sufficient centralized procurement of all necessary materials and testing tools.

In principle, in this case, other factors can be considered, but, in contrast, it can be noted that these are statistics, respectively, for analysis. We can choose only the available data.

In this case, we do not have to cluster all countries, but only to check the possibility of applying cluster analysis methods for our purposes.

After analyzing the data obtained, the following groups of countries were identified, cluster analysis results showing signs of similarity (Table 3).

Based on the results of grouping based on statistics, we can draw somewhat non-trivial conclusions:

1. Developed countries in North America and Western Europe do not belong to any of the groups: to countries with economies in transition and developing countries and among themselves. There are some similarities between the French Republic and the Kingdom of Sweden. But this connection, given that there are only two countries in the group and a cross-border connection by our criterion of 0.19, cannot be considered a full-fledged cluster;
2. Australia is the only developed country on the list that falls into a certain group – in a group with countries with economies in transition and developing countries. However, such opposed economies in one cluster are incorrect and will take it as a statistical anomaly.
3. The most relevant group, in this case, are groups 5, 6 and 15, which, except for those excluded from consideration by Australia, are identical. These groups include countries with economies in transition and developing countries. A natural question may arise – whether it is possible to

equate the economies of Brazil, Argentina, India, China - in the vast majority of powerful economies and space powers and, for example, the Congo. We believe that, in this case, it is possible. These countries are characterized by significant stratification of the population, in some places – impressive, respectively, the lion's share of the population has no access to the results of STP or quality medicine. That is why we propose to consider the countries representing groups 5, 6 and 15 as a full-fledged cluster.

We can conclude that international organizations, international financial agencies, investment funds, and multinational corporations can use the approach we have chosen to identify the most acute needs in individual clusters of countries and areas of investment projects.

Nevertheless, developed countries are of more significant concern. We see that since they are not included in groups with other countries or among themselves, their response and depth of the situation depend on other factors' influence. Most importantly, the factors inherent in each of them separately, which exacerbate the relevance of research. Moreover, Factor 3 shows that countries with economies in transition and developing countries show even higher rates of coping with coronavirus disease than developed countries. Therefore, the level of development and capacity of medicine, to date, cannot be considered a decisive factor.

C) Reorientation of international investment projects to the principles of cluster investment and modification of postulates and sustainable development tools under the influence of the COVID-19 pandemic.

Even when we have not singled out a cluster for developed countries, they are a kind of counterbalance to the group we have identified. Therefore, we will still consider developed countries as a separate association by the level of development.

Developed countries, given their investment traditions, have so far been able to solve or at least get closer to solving problems related to sustainable development:

- economic growth in them is guaranteed by high-quality development of management methods, without neglecting social interests and ensuring its reduction of impact on the environment;
- the social component is characterized by a high level of social equality when every citizen has equal rights and equal access to opportunities;
- the environmental component is characterized by extraordinary costs in bioenergy and other renewable energy sources, closed production cycle, replacement of fossil fuels with clean energy and recycling instead of disposal.

Countries that, according to our study, are included in a separate cluster can be characterized as follows:

- extensive management methods characterize economic growth; intensification of efforts in the direction of industrial development, often using not the best, but the cheapest solutions; the impossibility of abandoning fossil fuels, like access to equipment, in general, is limited, and to environmentally-friendly equipment, given its cost, such access does not exist at all;
- social component – a significant population stratification level does not provide equal rights and opportunities for all citizens. Therefore, certain groups of the population either actively migrate to developed countries or live below the poverty line. Limited access to quality medicine, education and jobs only exacerbates these problems (especially in Africa and Southeast Asia);
- environmental component – trade in natural resources with developed countries, animal hunting, and outdated management methods significantly impact ecosystems. On the other hand, especially for African countries, due to the lack of an extensive industrial enterprise network, such an impact may not be significant.

From these positions, neither the predominant solution of problems within each of the three components (which is typical for developed countries) nor the existence of significant problems with them (existing in the countries included in the similarity cluster) does not mean approximation or distance from achieving sustainable development.

In turn, it means the components themselves need to be rethought, taking into account current challenges and the results of their impact.

Of course, it cannot be said that the past world practice, focused on achieving sustainable development goals and which existed until March 11, 2020, was wrong. It only means that it was insufficient, and the emphasis is placed more on ensuring the protection of future generations' interests than the present.

The sustainable development paradigm needs to be adjusted in the direction of a particular shift of emphasis, guidelines and appropriate tools. In our opinion, it is no longer possible to equate the three components of sustainable development and consider them equivalent (Figure 2).

This approach to the systematization of instruments in no way cancels or excludes the efforts aimed at achieving sustainable development goals by March 2020. It only allows for prioritizing those sectors of the economy that are not classic for investors. However, timely, fundamentally qualitative development of which Given today's realities, it could avoid the aggravation of crises and save billions of dollars. Today this money is spent not on economic development but to combat the effects of the pandemic.

It is also necessary to comment on another issue. The tools we show in Figure 2 are more relevant for countries with economies in transition and developing countries. Nevertheless, today it must be under-

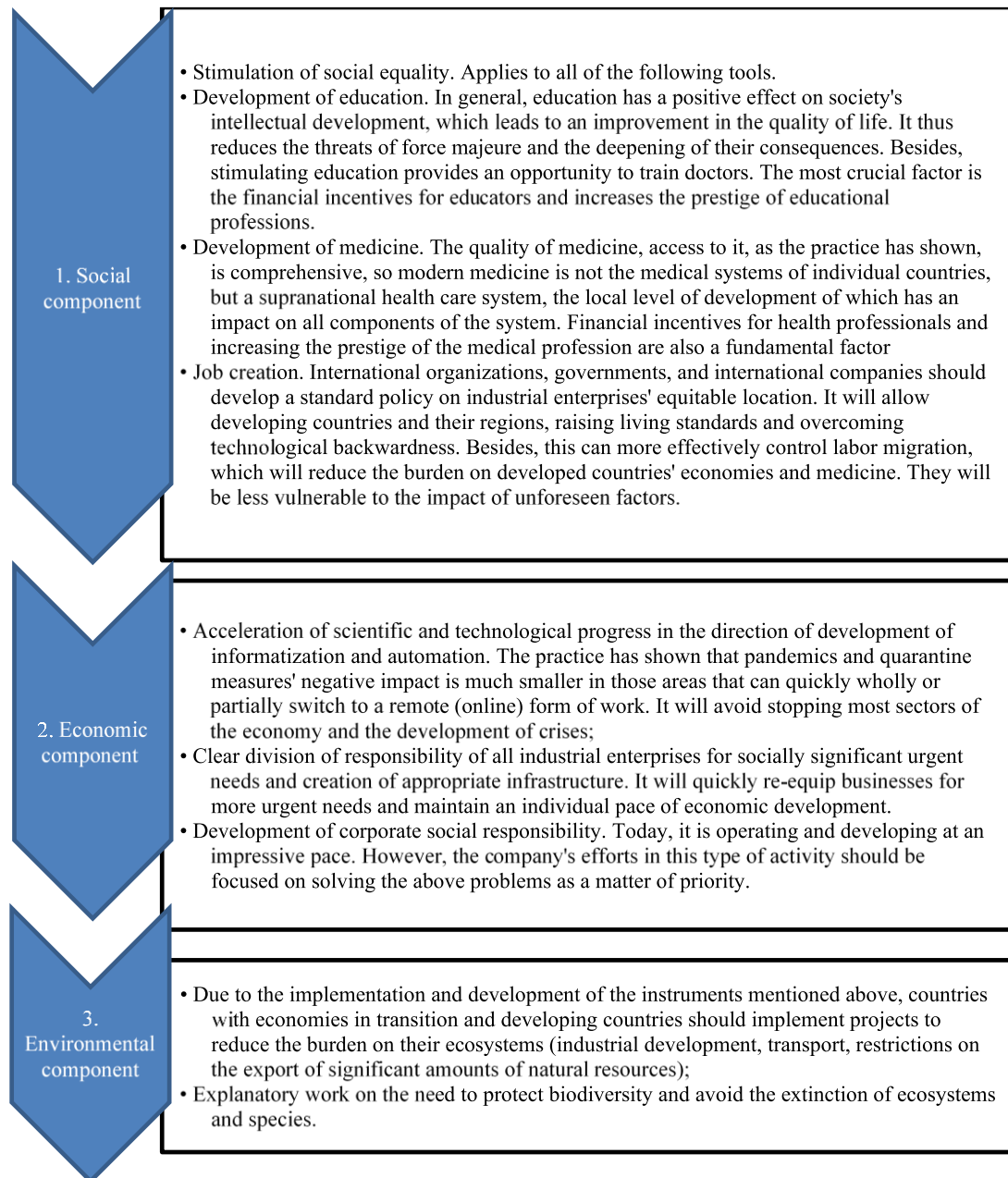


Figure 2. Ranking of sustainable development components by the level of importance (items provided in each of the components are placed in descending order of priority) (authors' own work)

stood that the consequences of increasing internationalization and gradual globalization of society are that due to insufficient funding for education, research, science in some countries (including countries from the cluster we studied) leads to the fact that countries with traditionally weaker economies can make a quite powerful impact on the economies of developed countries. From this statement, we can conclude that developed countries are interested in the enhanced and balanced development of all countries and regions, perhaps in the first place.

In other words, the implementation of the sustainable development instruments listed in Figure 2 by economically weaker countries will give a new impetus

to the further growth of developed countries. Therefore, for the latter, it is also relevant.

It is also worth explaining our logic in placing the economic component in second place and the third's environmental component. The situation here is that most countries (with certain exceptions and limitations) already have a basis for implementing each of the three components. It is no longer necessary to create economies from scratch. It means that today, establishing a sufficient balance between these components must be shifted from their simultaneous absolutization in the direction of multilevel structuring. The above theses give grounds to believe that the economic component results from the effective im-

plementation of the social component. The environmental component will be implemented at a qualitatively different level if the first two components' problems are solved. In our view, the economic component is derived from social. Furthermore, the environmental component is derived from the social and economic.

In support of this thesis about the position of the environmental component in a modified approach to understanding the concept of sustainable development is the gradual restoration of ecosystems, animal habitats, reducing greenhouse gases in the atmosphere (by reducing production and limiting traffic), cleaning the hydrosphere (cleaning European rivers, Venice canals) and other.

In this context, the question may arise about how to organize the reorientation of investment projects to the new challenges of modern internationalized society. We believe that an effective solution to the outlined range of issues can be achieved through cluster investment.

Under cluster investment, we propose to understand the implementation of the targeted (territorial, regional) implementation of investment initiatives by separating countries into clusters. These clusters should be identified by the criteria of shared or joint problems. Cluster investment finances those areas of their social development that will stimulate the quality development of their economies and serve the good of humanity. By humanity, in this case, we mean both present and future generations.

Within the framework of this concept, the basic idea is that developed countries, having excessive financial reversals, often invested them in other countries in the implementation of projects that they considered important from their positions. As a result, renewable energy projects could be implemented with neglected or almost no medicine, electric traction development in the absence of road infrastructure. It means that recipient countries should attract and donor countries should invest in implementing priority, urgent and relevant to the selected area projects.

Simultaneously, developing unique approaches to forming investment strategies for each country is a challenging and unnecessary task. It is enough to identify factors of similarity between countries, separate them into appropriate groups, and form an international investment policy based on such zoning. That is why we chose the cluster analysis method to form our conclusions and build the above concept of cluster investment.

It means that countries' development and attraction of investment initiatives cannot follow the same scenario. Emphasis should be placed on those issues that are the narrowest places in the clusters of states. In our opinion, the dependence of the dynamics of the distribution of financial flows in the country on the global economic climate can be quite significant. Unfortunately, the actual annual macroeconomic data for the period covering the exacerbation of the

COVID-19 pandemic are not currently presented by statistical agencies, especially since the lag between the crisis and real feedback from the economy can reach 2-3 years. At the same time, we have the opportunity to predict the situation with the economy of an individual country after the end of the pandemic, based on retrospective analysis (Halkiv et al., 2020). Furthermore, we can analyze the economic cyclicity and the relationship between cyclicity and investment dynamics.

The work (Kotenko et al., 2018) presents the characteristics of the cyclical nature of crisis phenomena in enterprises, highlights the main phases of crisis phenomena and lists the economic cycle methods. We modify this concept for macroeconomic needs. To this end, we will analyze the actual macroeconomic data to establish the financial and economic response of the Ukrainian economy to the development and consequences of the global financial and economic crisis of 2007-2010. As factual material, we chose data from the State Statistics Service, namely: data (Figure 3) on fixed capital investment (Fixed, 2011; Capital, 2019), construction data (Construction, 2020).

Data on fixed capital investment in Ukraine are taken from two different links, as the approach to the publication of data on the website of the State Statistics Service of Ukraine has changed since 2011. Therefore the mode of access to them has changed.

As a modification of the cyclical model of crisis development, we, on the one hand, chose not indicators of efficiency of the enterprise, but fundamental macroeconomic indicators, and on the other hand, we will try to compare them with generally accepted periods of financial and economic recessions (Roy & Kemme, 2020). Consider the most significant of them:

- Recession of the early 90's – the general global financial and economic downturn (point 1 in Figure 3);
- Dotcom bubble (1995-2001 culminating in 2000) – this crisis is associated with the rapid rise in shares of the first Internet companies, the intensification of competition with the subsequent collapse of the NASDAQ index in 2001 (point 2 in Figure 3);
- Energy crisis in 2000 (point 2 in Figure 3);
- Financial bubble in the US mortgage market (2001-2002) - the collapse of capital investment by almost 600% (point 2 in Figure 3);
- The crisis in Ukraine in 2004-2005 (point 3 in Figure 3);
- The global financial and economic crisis of 2007-2010 (point 4 in Figure 3);
- The conflict in eastern Ukraine (point 5 in Figure 3).

From the presented dynamics and selected for review milestones of financial and economic imbalances, we can state that the economy of such a coun-

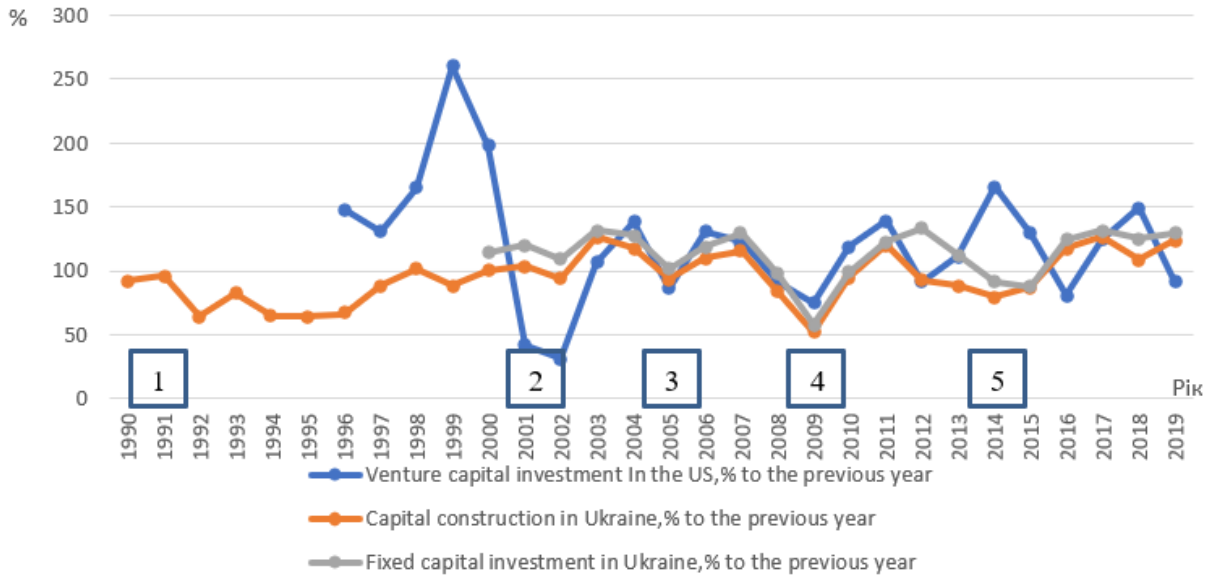


Figure 3. Data on the dynamics of capital construction investments and fixed capital investments in Ukraine (Fixed, 2011; Capital, 2019; Value, 2019; Construction, 2020)

try as Ukraine tends to react to both internal and external manifestations of the crisis. This indicates the coincidence of investment cycles in Ukraine and cycles of financial and economic crises.

For comparison, we chose the dynamics of investment in US venture capital because this indicator, in some way, reflects the business expectations of the country, as the construction index reflects business activity and expectations in Ukraine. Simultaneously, the US economy is more vulnerable to endogenous factors - the crisis of the early 2000s had a more significant impact on the US economy than on the Ukrainian one. The situation with venture financing in 2015-2016 can be explained by fluctuations in business expectations caused by the change of political course in the United States.

Taking into account the presented data, we can conclude that the economy of Ukraine is prone to respond to crises with a lag of 2-3 years. After that, the pre-crisis pace of development is restored. In the current financial and economic situation, we can say to consider two scenarios of further developments:

- Optimistic: if the pandemic gradually subsides and the normal functioning of enterprises resumes by the end of mid-2022 (2-2.5 years of recession during the global financial and economic crisis of 2007-2010), the pace of economic development, including the Ukrainian, which existed in the period before the pandemic, should be restored in 2023.
- Pessimistic: if the pandemic lasts longer than 2-2.5 and if lockdowns are introduced, the further course of events will depend on the impact of numerous economic, financial, social, political factors and the depth of such impact.

All this means that the cyclical component in assessing the need for investment, the direction of their

direction and the time when such investments should be made is a significant factor in the efficient use of limited financial resources.

From these positions and given the physical insufficiency of its financial resources for the rapid recovery of all sectors of the economy in the post-crisis period, we proposed the concept of cluster investment.

Based on this, we can say that the current financial, economic and social situation, exacerbated by the COVID-19 pandemic, shows us the extreme urgency of the problems associated with sustainable development, its fundamental importance and relevance. At the same time, it gives an understanding that the concept proclaimed to be significant for a whole century must be adaptable to the negative impact of global factors and the problems that exist and are relevant on the ground.

That is why cluster investment, designed to protect the lives, rights and interests of the current generation and within the concept of sustainable development, is the basis for ensuring future generations' existence, preserving, maintaining and increasing their opportunities for further development.

Conclusions prospects for further research

The significance and relevance of sustainable development, especially in modern conditions, is quite difficult to overestimate. At the same time, the practice has shown that the postulates proclaimed by the UN General Assembly in 1987 put future generations' interests higher than the current ones. The WHO-declared COVID-19 pandemic has reminded humanity that the foundation of future generations' existence and well-being is the quality of life and well-being of modern society.

Official statistics on infection and mortality from the virus suggest that none of the countries, despite its economic and scientific and technological development, have been prepared for such challenges. In turn, it exacerbates the issue of reorienting international investment flows in the framework of the concept of sustainable development.

The analysis showed that in current conditions, the country could be clustered by mediated, relative to the level of economic development, factors – the proportion of detected cases of coronavirus infection from the total population and the proportion of deaths in the proportion of patients. According to the level of priority, the selected factors gave grounds to rank the main components of sustainable development and the tools that are expected to be implemented within them.

Such an approach allowed to formulate the idea of cluster investment, which is to cluster countries on common problems and further direct investment resources in those areas that need it most. It means that arbitrators' role in this process falls on international organizations, governments of developed countries, and multinational corporations' leadership.

Of course, the method of clustering; factors that may be taken into account in its implementation; formation of targeted cluster investment strategies and programs; the tools used in this case are the subject of separate scientific works. Furthermore, strategic rethinking of the concept of sustainable development, given the current realities, is a promising area of our research.

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