


# “Environmental, social and governance investment standardization: moving towards sustainable economy”

## AUTHORS

Alex Plastun  <https://orcid.org/0000-0001-8208-7135>  
 <http://www.researcherid.com/rid/L-7631-2014>  
Inna Makarenko  <https://orcid.org/0000-0001-7326-5374>  
 <https://publons.com/researcher/2455969/inna-makarenko/>  
Yulia Yelnikova  <https://orcid.org/0000-0002-8478-4716>  
 <http://www.researcherid.com/rid/S-7206-2017>  
Serhiy Makarenko  <https://orcid.org/0000-0001-6455-3585>

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Yulia Yelnikova, Serhiy Makarenko,  
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Alex Plastun, Doctor of Economics,  
Professor, Department of Foreign  
Economic Relations, Sumy State  
University, Ukraine.

Inna Makarenko, Doctor of  
Economics, Associate Professor,  
Accounting and Tax Department,  
Sumy State University, Ukraine.

Yulia Yelnikova, Ph.D., Assistant  
Professor, Accounting and Tax  
Department, Sumy State University,  
Ukraine.

Serhiy Makarenko, Chief Auditor,  
AF LLC «Sumycoop-audit», Sumy,  
Ukraine.



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Alex Plastun (Ukraine), Inna Makarenko (Ukraine), Yulia Yelnikova (Ukraine),  
Serhiy Makarenko (Ukraine)

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE INVESTMENT STANDARDIZATION: MOVING TOWARDS SUSTAINABLE ECONOMY

## Abstract

This paper is devoted to the investigation of environmental, social and governance investment (investment with ESG criterion) normative base in the context of standardization process in sustainable economy financing. Complexity of such standardization and the lack of commonly accepted regulations, indexes metrics are under discussions of scholars, which encourage the need for clear guidance in ESG investment. 651 sustainability rating products and more than 300 investment policy instruments in different countries show the need for classifying the ESG standards. The solution of this scientific and practical task is based on the developed ESG investment standards system classifications. Proposed classification incorporates such criteria as level of standards adoption, mandatory degree, sectorial specificity, degree of companies' awareness of responsible activity, ensuring transparency and the benchmarks formation, creating the institutional support of the ESG investment standardization process in sustainable economy and making more grounded investment and regulatory decisions.

## Keywords

ESG investment, standardization, sustainable economy

## JEL Classification

Q00, Q01, G11

## INTRODUCTION

In the "world of standards" (Brunsson & Jacobsson, 2000) and the "audit society" (Power, 1997), all stakeholders who take part in the responsible investment or investment in accordance with environmental, social and governance criterion (ESG investment) such as institutional investors, companies and their stakeholders, as well as regulators, are in the narrow space situation. This kind of investment process is not regulated by a clearly defined list of standards. Given the fact that the responsible investment is based not only on financial criterion, but also on the basis of ethical, social, environmental or governing measures that are important in forming an investment portfolio (Kurtz, 2008), the number of standards and regulatory documents that adjust financial and sustainable activities of companies increase too. These standards play a crucial role in sustainable or "green" economy as clear guidance to make an investment and finance as a source of finance resources to environmental, social and other projects, labeled "sustainable".

In this case, the normative base of the ESG investment process, which is in the stage of formation, covers a significant number of regulatory documents of different degrees and order of importance. Despite the

fact that most of them have the voluntary status, their importance as well-recognized investments made by all entities, including the state, is determined by the role of these documents as exemplary benchmarks. In addition, these documents create institutional ground for the ESG investment, define the framework for its implementation based on the best practices of financing sustainability initiatives and their goals and serve as instruments for investment process regulating.

In the world's largest 50 economies, more than 300 instruments (laws, standards, codes, principles, etc.) have been developed that form the basis for the decision-making process by investors in the ESG investment sphere. More than half of them were created in 2013–2016 (PRI, 2016a), which indicates the intensification of regulators' efforts to ESG investment regulation.

Clear definition of the most relevant standards, principles, methods and tools for responsible action for each investment process entity grounded arranging of the ESG investment normative base is an important scientific and practical task.

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## 1. LITERATURE REVIEW

The academic sources overview convincingly suggests the benefits of such an arrangement. Thus, Cadman (2012) emphasizes the importance of global standards in the responsible investment field as the basis for “good” governance in this area. It is worth agreeing with the author that governance has a prominent role in the context of overcoming the effects of the recent global financial crisis, and understanding the importance of encouraging various stakeholders and the ESG investment criterion to the investment decision-making process. According to the author, the ESG investment sector is based on Principles of Responsible Investment (PRI). At the same time, financial analysts and investors show a significant variation in the approaches to ESG investment screening that in combination with a significant differentiation among investors, investment products, and the inclusion degree of their investment criterion for environmental, social and governing or individually or in combination (ESG: only E or S or G or 20 other combinations), creates significant challenges for the global standardization process (Cadman, 2012).

The origins of the ESG term and the relevant criteria set, which are the basis for the ESG investment standardization, are associated with labor (Hawley & Williams, 2005), and in the UNEP FI 2005 report it was proved that in a number of countries (Australia, Canada, France, Germany, Italy, Japan, Spain, the UK and the US), the integration of the ESG criterion into investment analysis is one of

the well-founded requirements, which greatly improves the investment decision-making process (UNEP FI & Mercer, 2007).

However, a set of commonly accepted standards for accreditation, evaluation and standardization of the ESG investment process as a basis for financing sustainable economy has not been developed yet. Moreover, there is a lack of distinct ESG investment norms within some complex problems: firstly, a large number of models for evaluating corporate activities and their environmental aspects (West, 2009), secondly, the lack of unified management theory (universal governance theory) for accounting such activities (Carver, 2010), thirdly, the significant gap between the interests of internal and external stakeholders in the decision-making process regarding responsible investment (Cadman, 2011).

At the same time, in our opinion, the lack of unite approach to the responsible or ESG investment standardization is a destructive factor for financial markets, especially for those that are developing, since there is no the only basis for the such investment processes development. In this regard, we cannot agree with the opinion of Sandberg et al. (2009), when scientists acknowledge that standardization can increase the responsible investment distribution, but at the same time doubting that, in generally, responsible investment as the mainstream in the development of financial markets need standardization.

In this study, we accept the point (Brunsson & Jacobsson, 2000) that standardization is defined

as a form of regulation, and standard is a control tool that allows enhancing coordination and compliance in a standardized field and gives regulators the power to control practices and procedures (Power, 1997; Déjean et al., 2004).

The definitive studies of the responsible investment standardization process were conducted by Déjean et al. (2004), in which the need to develop non-financial indicators and their evaluation standards for obtaining extra-financial “quality” for corporate securities is indicated. At the level of the ESG indexes as market standards for the comparison and assessment of corporate activity as the basis for the creation of investment funds, products and derivatives study is conducted by Rivoli (2003) and Slager et al. (2012).

The last group of authors using the FTSE4Good Index demonstrates the impact of three standardization methods. The calculation framing (the creation of indicators and criteria for the ESG investment evaluation, the involvement of wide range of stakeholders, including regulators) for indicators calibration and the formation of standardization and valorization (as a method of accounting of additional value from non-financial criteria) on processes of legitimizing standards in the field of ESG investment. A detailed review of the problems of forming sustainability ratings (Windolph, 2011) confirms their unique role in providing responsible investment information transparency.

Thus, academic sources contain supporting evidence about the ESG investment standardization with the details of the methods and instruments of such a process, as well as the arguments against it. In this paper, we take the view of its importance as the basis of investment policy in the ESG investment sphere, especially in emerging markets. At the same time, a large set of standards in the responsible investment due to the existence of ESG criterion combinations in the course of standardization that requires classification regulation.

## 2. EMPIRICAL EVIDENCE

ESG investment standardization in the context of its regulation as a mechanism of state investment policy and movement towards sustainable econo-

my is becoming widespread not only in developed countries (France, the EU, Canada, the United Kingdom), but also in developing (China, Brazil, South Korea, Kazakhstan, etc.).

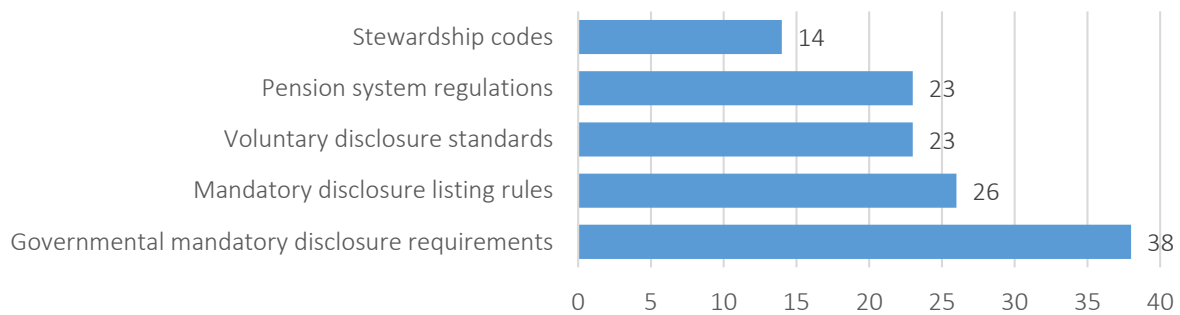
In particular, in China, the creation of green financial system that connects finance and ESG criterion is a part of the national sustainable economic development strategy and China Securities Regulatory Commission encouraged Chinese investors to become PRI signatories in 2016. France’s Energy Transition Law creates the action plan for the transition to low carbon economy and establishes requirements for institutional investors to disclose their activities in the context of achieving the national goals regarding the reduction of greenhouse gas emissions. Project of Sustainable Finance Strategy for European capital markets is the set of regulatory mechanisms implemented in order that the financial system supports the sustainable growth of the European economy, achieving CSF, 2,020 targets of the EU and COP21 commitments. In the United Kingdom and Canada, the ESG criterion for investment risks calculation is typical for pension fund. South Korea, Kazakhstan, India, South Africa, Malaysia have developed the requirements for obligatory disclosure by listing companies according to the ESG investment criterion. Some normative regulation and standardization initiatives of ESG investment are given in Table 1.

**Table 1.** Countries’ experience in ESG investment process regulation

Source: Compiled by the author on the basis of UNEP and World Bank (2016), PRI (2016a), PRI (2016b).

Country	Document	Year
China	Guidelines on Establishing the Green Financial System	2016
France	France’s Energy Transition Law	2016
EU	Project of sustainable finance strategy for European capital markets	2016
United Kingdom	Pensions Regulator	2016
Canada	Guidance Canadian Association of Pension Supervisory Authorities	2017
Singapore	Stewardship principles for responsible investors	2016
Brazil	Resolution No. 3792/2009, Article 16, para. 3, VIII	2009
Kazakhstan	Stock Exchange (KASE) listing rules	2009
South Korea	The Financial Services Commission’s Green Posting System	2012

Source: Compiled by the author on the basis of PRI (2016a).



**Figure 1.** Standards distribution in the ESG investment sphere in the largest 50 countries in the world in 2016

Given the large number and different nature of such normative documents, the development of their scientifically grounded typology is vital for the ESG investment processes stimulation and the market benchmark system formation for companies and institutional investors in developing countries for promotion sustainable economy financing. This thesis is supported by the lack of common approach to the standards classification in the ESG investment field in the scientists' paper works and among the state regulators of financial markets and the numerous organizations of different levels and status working in this field.

Thus, in the Global Guide to Responsible Investment Regulation (PRI, 2016a), there is standards classification that regulate the ESG investment process and meets the criteria of such documents and includes:

- pension fund regulations;
- stewardship codes;
- corporate disclosure guidelines.

Each of these categories provides significant influence on the following fields:

- the decision-making process for the ESG investment implementation (taking into account the ESG criterion in the investment strategy and policy, risk management in pension funds, which is both voluntary and obligatory);
- the interaction between investors and financial companies focused on the creation of

long-term value (codes of conduct which are primarily voluntary);

- the creation of a transparent environment for the ESG investment implementation (guidance on disclosure by using ESG criterion that may have the status of mandatory (issued by public authorities, stock exchanges) or voluntary).

Analyzing the level of these standards expansion among the top 50 countries of the world in terms of GDP (PRI, 2016a), it should be noted that according to the frequency of use, the requirement for corporate disclosure by the ESG criterion (both from state regulators and from the trade organizers) takes the first place. They are implemented in 76% of the investigated countries. The requirements for disclosure and the investment strategies formation by pension funds are in the second place with 46%; the codes of conduct of investors in the ESG investment sphere are in the third and consist of 28% (Figure 1).

It is worth noting that the regulators in the context of the investment policy tend to regulate the disclosure by companies and institutional investors according to the ESG criterion (38 out of 50 countries). Disclosure standardization in companies' non-financial reports is a commonly used instrument on stock exchanges too (in 26 out of the 50 countries, listing companies have to submit, in addition to financial report, the sustainability report in definite form).

Thus, corporate disclosure in terms of the presented classifications remains the most standardized field in the context of the ESG investment process.

Despite focusing on the substantive aspect and mandatory criterion, this classification does not take into account a number of important criteria for the differentiation of regulatory documents in the ESG investment field such as the sectorial or instrumental specifics of such documents, the role in the benchmarks system formation and the level of its regulation. This does not allow regulators or individual investors to take advantage of a clearly structured regulatory ESG investment base and choose the most appropriate forms for standardization of this process.

As a result, it is advisable to expand the considered classification, but not from the position of the definite role of a significant number of standards in the ESG investment field. Considering world experience and scientific research, it is vital to understand not only obligatory and codified norms conformed to the regulator level or voluntary generally accepted investment community principles and codes, but also a set of metrics, ratings, indexes, program documents for the ESG investment international organizations and multi-stakeholder partnerships, etc.

In our opinion, after creating a detailed classification of these norms that are the root of the process of its standardization, the key issue is to ensure the relevance of the certain standards used by regulators and investors and/or explaining the development expediency of new norms. In addition, in an attempt to arrange the ESG investment normative base, we are not aimed at presenting all available standards/documents/principles in the field of sustainable economy regulation. The key target is to create logically complete and easy to use classifications system that allow the regulator and investor to choose the specific conditions for their activities.

### 3. DEVELOPMENT OF ESG INVESTMENT STANDARD CLASSIFICATION

Among the fundamental criteria for the classification of normative documents that accompany the ESG investment regulation process and in addition to the analyzed Global guide on responsible

investment regulation classification, the feature of the mandatory compliance with documents should be considered.

For example, in the system of Global Reporting Initiative (GRI), there are Sustainability Reporting Standards adopted in 2016 that are considered as being one of the most used by companies. But it is a voluntary reporting system for sustainable development, while Directive 2014/95/EU on the disclosure of non-financial and diversity information by certain large undertakings and groups sets the mandatory disclosure by the EU companies and its progress towards sustainable economy and Sustainable Development Goals. Other standards like Model Guidance on Reporting ESG Information to Investors of Sustainable Stock Exchanges Initiative (SSEI) and recommendations of the World Federation of Exchanges (WFE) are general guidelines only, while the listing rules of stock exchanges in South Africa, Malaysia, Taiwan and India have an obligatory guideline for disclosure as a condition of trade admission by companies.

The feature of the sectorial ESG investment specificity presupposes grouping of standards belonging to a certain industry according to the criterion of their developer (the thematic direction or investment product in the ESG investment market). These standards include the following documents issued by:

- Sustainable Stock Exchanges Initiative (SSEI) as a multi-stakeholder platform aimed at development of corporate transparency and long-term ESG investment, which includes 23 stock-exchange partners with more than 21,000 listing companies with a total capitalization of over 41 trillion US dollars;
- PRI as a platform that brings together over 1,400 asset management companies and asset holders at the cost of more than 59 trillion US dollars;
- UNEP Finance Initiative, which includes 200 banks, insurance companies and fund managers and Principles for sustainable insurance that have 80 signatories representing 20% of the world's total insurance premium amounting to 14 trillion US dollars;



- Equator Principles, which primarily include banking institutions that collectively provide 70% of debt financing for projects taking into account ESG criterion in developing countries;
- Sustainable Banking Network, Sustainable Insurance Forum, Green Digital Finance Alliance, Green Bond Standards, which have clearly defined instrumental specificity.

The next feature of forming the ESG investment normative base is the level of standards adoption. Within this classification, supranational, regional, national standards should be considered.

The group of supranational ESG investment standards includes the documents adopted by organizations such as the World Bank (including the International Bank for Reconstruction and Development (IBRD), the International Development Association (IDA), the International Finance Corporation (IFC), the Organization for Economic Co-operation and Development (OECD), the United Nations Conference on Trade and Development (UNCTAD), the Global Environment Facility (GEF). The documents of these organizations have an impact on the ESG investment processes and are divided into the following groups:

- standards directed at the countries' ESG investment, in particular, the developing countries (the World Bank operations manual, IFC Performance Standards on Environmental and Social Sustainability);
- general principles (standards) of responsible business activities for some companies (Recommendation on common approaches on environment and officially supported export credits and OECD Guidelines for multinational enterprises, Environmental Performance Indicators Guideline for Organizations, UNCTAD Guidance on good practices in corporate governance disclosure).

The regional level group of standards includes guides to the financing project in the field of sustainability of regional development banks (African Development Bank, Inter-American Development Bank, European Bank for Reconstruction and Development, etc.). EBRD is considered as one of

the most environmentally responsible banks, since its activities focus first of all on "green investment".

A group of national level standards consists of more than 300 instruments of state investment policy, which are contained in the PRI base and were grouped according to the content criterion.

In addition to the abovementioned, there are such author's criteria as CSR facilitation and proper corporate governance of investment entities, ensuring ESG investment transparency, as well as the formation of benchmarks in the ESG investment system. In our opinion, this triad is a basis for forming the ESG investment standards, especially for the formation of the market and institutional ESG investment environment in developing countries, since these countries require not only the ESG investment standardization or the regulation as an investment policy mechanism, but also the development of the market environment for the business responsibility and accountability, involvement of stakeholders, transparency, taking into account the exemplary practices in the field of sustainability and evaluating of CSR progress.

In our view, the feature of CSR facilitation and proper corporate governance of the investment entities is fundamental in relation to other aspects of the classification, because the standards of this group create a framework for the ESG investment implementation by companies and institutional investors according to their policies of achieving the CSR and responsible business, risk management, strategies and tactics in a condition of sustainability in general. These standards include both standards that refer to one of the ESG criterion and their population:

**E:** Business Charter for Sustainability (ICC); an agenda for voluntary action on the environment (CBI); Natural Footprint, the EU Eco-Management and Audit Scheme (EMAS); ISO 14001;

**S:** UN Guiding Principles on Business and Human Rights, Core Labor Standards ILO, Universal Declaration of Human Rights, The Global Sullivan Principles of Social Responsibility, Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy; The ETI Base Code; Social Accountability International 8000 (SAI);

**G:** OECD Principles of Corporate Governance; the Combined Code; Pensions & Investment Research Consultants Ltd (PIRC), the King II;

**ESG:** Hermes Principles; OECD Guidelines for Multinational Enterprises, ISO 26000 Guidance on social responsibility, Group's Charter (47<sup>th</sup> paragraph), Ten Principles of the UN Global Compact.

As for the feature of the ESG investment transparency, the group of standards intersects with the regulation features (mandatory, voluntary, comply-or-explain), admission levels (supra-national, regional, national), regulatory entities (state and non-state regulators (stock exchanges and non-governmental public associations, stakeholders)), regarding investment criteria (monocrystal-line and cross-criterial), the aggregation degree (general principles of disclosure or specific requirements within the limits of specific indicators set for the index, industry, etc.).

Among the standards of this group, in addition to the already mentioned GRI Sustainability Reporting Standards, the Directive 2014/95/EU on the disclosure of non-financial and diversity information by certain large undertakings and groups, it is worth mentioning Natural Capital Finance Alliance, Guidance on Corporate Responsibility Indicators in Annual Reports UNCTAD, GHG Protocol Corporate Accounting and Reporting Standard, FSB Task Force on Climate related Financial Disclosures, IIRC, SASB and many others (there are more than 30 organizations and special standards nomenclatures).

These standards and requirements are aimed at creating a transparent framework for disseminating of ESG investment information, neutralizing information asymmetry and moral risks and ensuring the process of making informed investment decisions.

National market systems characterize the way of doing responsible business and its transparency and usually show the third feature that we have put in the classification base of responsible investment standards, especially the formation of ESG investment benchmarks system.

Significant components of ESG investment institutionalization are availability of market bench-

marks, codified exemplary practices, methods and models for evaluating the corporate activities of responsible companies.

According to the feature of the ESG investment benchmarks system formation, the standards grouping is the most multifaceted and includes:

- organizations and stock exchanges standards: guides, recommendations and listing model rules of organizations (WFE, SSEI Guidance & Recommendations, Investment and Enterprise Responsibility Review UNCTAD);
- ratings and rankings of responsible or environmental friendly companies and investors: RepRisk, Vigeo Eiris, Corporate Human Rights Benchmark, 100 Best Corporate Citizens etc., Channel NewsAsia Sustainability Ranking, Global Initiative for Sustainability Ratings (GISR);
- sustainability and environmental indexes (DJSI, S&P 500 ESG, FTSE4Good, Ethibel Sustainability Index (ESI) Excellence Global, Global Compact 100 Index (GC 100), MSCI Global Environment Index, etc.).

#### **4. RATINGS, RANKINGS AND INDEXES AS BENCHMARKS AND KEY POINTERS OF ESG INVESTMENT STANDARDIZATION**

In the context of ESG investment standardization, particular attention should be paid to ratings, rankings and indexes of sustainable development, which has a unique metrics system, indicators of companies' compliance such as constituents of index, ratings or rankings of ESG criterion and evaluation of sustainable development. The importance of their study as benchmarks in the ESG investment mechanism is shown in the Déjean et al. (2004), Rivoli (2003), Slager et al. (2012), Windolph (2011) studies.

According to GISR (2017), there are 651 ratings, rankings and sustainability indexes in the world



**Table 2.** Key benchmarks in the ESG investment system

Source: Compiled by the authors.

Instrument	Definition	Advantages
Rating	providing companies based on their effectiveness with an alphanumeric “score” according to a given systematic set of ESG criterion	providing investors with a formalized criterion system of an objective condition not only of the financial position but also of corporate social responsibility of the investment objects (based on the implementation of the values, dimensions and sustainability criteria in its activities strategy)
Ranking	ordering a plurality of companies according to a certain set of ESG criterion	
Index	consolidated group of securities parameters of certain companies that meet ESG criterion on specific markets or on certain sectors	the ability to reduce moral risks and unfavorable selection as demonstration of information asymmetry among financial market participants that are oriented towards abidance by CSR constituents that transform into criterion that are disclosed in their corporate reports

confirming the relevance and significance of the detailed consideration of these metrics in the context of ESG investment standardization.

GISR forces transparency and the best practices in surveys, indexes and ratings based on ESG criterion to improve companies’ activity and investor decision-making (SHIFT, 2017). Its principles for making sustainability ratings can be recognized as exemplary guidelines for their issuers and used in favor of their harmonization.

One of the basic principles applied by this time is the principles of transparency, inclusiveness, confirmation, impartiality, comparability, balance, value chain, long-term horizons, context of sustainable development, comprehensiveness and substantiality (GISR, 2017).

The common feature of these tools is the close interconnection with the level of evaluation of ESG criterion compliance by companies with one or all of them. The specifics of each instrument and their examples are given in Table 2.

Let’s consider the specificity of these ESG investment products as key benchmarks in sustainable economy using by the following groups:

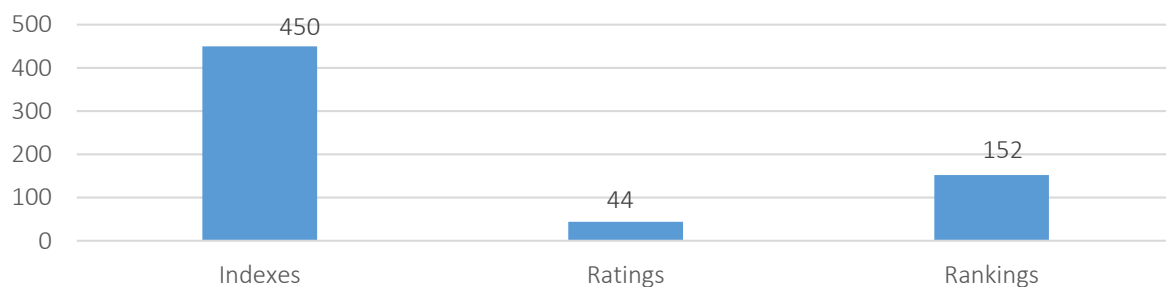
- the type of rating product;
- the target audience – stakeholders;
- the structure of responsible investment ratings issuers.

The largest share among the 651 companies rating tools based on their progress towards sustainability has responsible investment indexes in the ESG investment markets (Figure 2).

They are as popular as the ESG investment standards because of the significant companies’ representativeness, the connection with traditional investment markets, the possibility of funds and derivative financial instruments creation. For example, one index from the group of the Dow Jones Sustainability World Index (DJSI World) represents the financial efficiency of 10% of companies with the best corporate social and environmental responsibility achievements from the 2,500 largest S&P Global Broad Market Index and represents 60 industries classified by RobecoSAM in 47 countries.

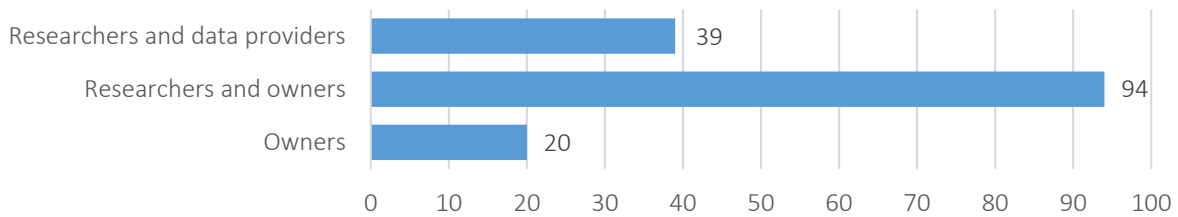
Analyzing the structure of rating instruments issuers in the responsible investment markets and sustainable economy, it should be noted that such

Source: Compiled by the authors according to GISR (2017).



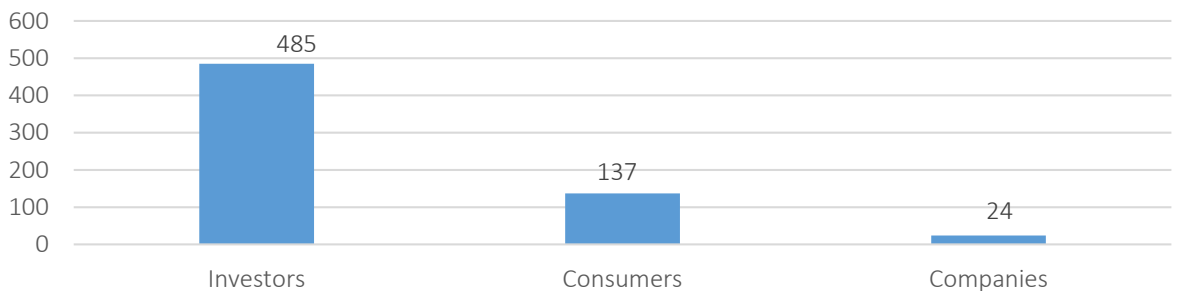
**Figure 2.** Sustainability products in 2017

Source: Compiled by authors according to GISR (2017).



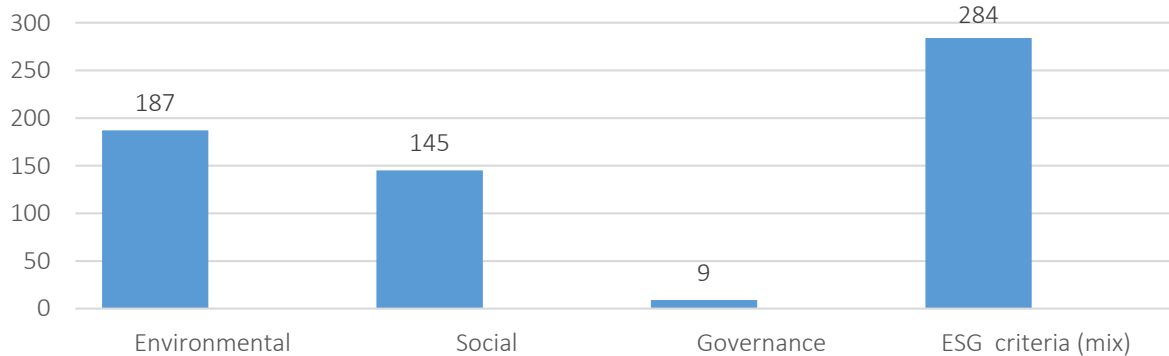
**Figure 3.** Structure of sustainability ratings issuers in 2017

Source: Compiled by authors according to GISR (2017).



**Figure 4.** Target audience of sustainability ratings in 2017

Source: Compiled by authors according to GISR (2017).



**Figure 5.** Criteria for the compilation of sustainability ratings in 2017

data providers as information and analytical companies and researchers have the largest group (94 organizations) among other information intermediaries (Figure 3).

Investors are the target audience for the publication and the use of rating tools in the responsible investment markets and takes a prevailing segment that is 75.1% of all ratings users, rankings and indexes (Figure 4).

This share is determined by the importance of these information products in the processes of making and clarifying the information solutions, companies screening, investment portfolios for-

mation and implementation of investment strategies by them in sustainable economy.

The final direction of ESG investment benchmarks analysis is the key criteria for rating formation (Figure 5).

As we can see from Figure 5, the critical mass of indices, ratings and rankings is based on a set of ESG criteria, rather than on some single criterion, which show the integral account of all measurements of sustainability during the ESG investment and the need to take into account a wide range of environmental, social and economic (governance) indicators, published in the companies' reports.

## CONCLUSION

The ambiguity of the ESG investment regulation is generated by scientists' discussions about the necessity of ESG investment standardization and its role in sustainable economy financing, as well as the lack of commonly accepted standards system and its indexes metrics. Given the set of ethical, social, environmental or governance criteria that are important for the ESG investment implementation, the number of standards and normative documents that regulate the financial and non-financial companies' activities is multiplied and needs to be ordered.

In order to solve this scientific and practical task, we create the institutional provision of the adoption of the most relevant standards, principles, methods and responsible activity tools for each investment process entities. This provision allows to make more appropriate investment and regulatory decisions in sustainable economy context.

Present classification approaches in the sphere of ESG investment standardization do not take into account a number of systematization features of mandatory or voluntary norms, principles, codes, metrics, ratings, indexes, rankings, program documents on ESG investment international organizations and multi-stakeholder partnerships.

Based on the scientists' achievements and the world experience of ESG investment standardization, the author's system of ESG investment standards classification was developed. It envisages their grouping by the level of standards adoption, the obligation degree, the sectorial specificity, as well as the features that are the basis for the formation of the ESG investment market environment (forcing companies' corporate responsibility, ensuring transparency and creating benchmarks).

This system allows ordering the normative base for the ESG investment regulation, which is the basis for its development of the investment policy in developing countries and creates an institutional basis for its evaluation. It gives to create a logically complete and easy in use classification system of features that will provide regulators and investors to choose the most significant standards for their activities.

The investigation of 651 ratings, rankings and sustainability indexes as ESG investment benchmarks in the context of its standardization suggests the need to systematize their methodological basis as the ESG investment standards, the formation of harmonized principles of their formation and implementation. The prospects of their use as ESG investment standards in sustainable economy require a detailed study in the future.

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