SUSTAINABILITY BENCHMARKS AND PROGRESS: EU-UKRAINE EXPERIENCE

UKRAINE

Sustainability benchmarks and progress: EU-Ukraine experience

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INTRODUCTION

In 2015, the United Nations adopted a strategically important document – the 2030 Agenda for Sustainable Development (United Nations, 2015), which signals the world about the importance of achieving and progressing towards the Sustainable Development Goals. This document sets clear guidelines for national policies in the form of 17 goals and 169 targets that allow us to focus on the most critical global challenges such as poverty, hunger, health and education issues, gender equality, climate change, and many others. This became an impetus for the development of regional and national frameworks aimed at adapting and implementing the established values of sustainable development around the world. One of the leaders of this process was the EU, which set itself a rather ambitious goal – to achieve climate neutrality by 2050, one of the key narratives of the European Green Deal (European Commission, 2019).

Ukraine, which has chosen the path of European integration, must consider the EU's main aspirations in the context of sustainable development policies while simultaneously solving its own unique challenges. In particular, a full-scale war resulting from the Russian attack will significantly destabilize the situation, deepening political instability and economic, social, and environmental problems. Despite this, the country's strategic guidelines clearly understand the development vector, which is why it is important to conduct research in this area.

This monograph is devoted to studying the main problems and ways to introduce the values of sustainable development of the European Union in Ukraine at the level of companies, communities, and the country. The comprehensive and multidisciplinary approach proposed in the work allows for a more comprehensive study of existing challenges and prospects in the Ukrainian context. The first section of this study is

devoted to sustainability strategies in EU practice, which can serve as a benchmark for the Ukrainian integration process. The second section reveals more applied sustainable market practices, such as examples of corporate social responsibility (CSR) of European businesses, setting benchmarks in responsible investment markets. In the third section, the authors consider the sectoral aspect of sustainability, particularly practices in the bioeconomy, agricultural and financial sectors.

The collected studies are an important scientific achievement, which is intended to attract attention among academic circles and the public, emphasizing the importance of spreading the values of sustainable development of the EU for the development and post-war reconstruction of Ukraine, motivating partnerships between the state, business, and the public.

The authors are responsible for the originality of the text of the materials provided, the accuracy of the facts, quotations, statistics, proper names, geographical names and other information, as well as for the fact that the materials do not contain data that are not subject to open publication. The cover image was generated using artificial intelligence, and DeepL was employed for English language proofreading.

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Chapter 1. SUSTAINABILITY STRATEGEIS IN EU PRACTICE AS A BENCHMARK FOR UKRAINIAN INTEGRATION PROCESS

1.1 Problems and Prospects of Ukraine's Integration into the EU

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Mykhailichenko Lubomir

Integration processes are the processes of combining the economic, political and other systems of countries in a certain territory in order to increase efficiency and competitiveness. Integrative processes are designed to combine different components, parts or objects into a single whole that has common features, goals and objectives.

The main goal of integration is to create a common market where participating countries can freely exchange goods and services. Other benefits of integration include lower customs barriers, political stability, joint decision-making, and reduced trade administration costs (Kartunov & Laptiev, 1999).

Integration processes are processes created to strengthen cooperation and interaction between different international actors, which can be countries, regions or individual enterprises. The main concepts and theoretical aspects of integration processes are presented in Table 1.1.

Integration processes can be fully realized when the participating countries cease to be independent economic systems and form a single economic system with a common market, currency and politics (for example, in the European Union). Or integration may be partial, with participating countries cooperating only in certain areas, such as free trade in goods, but maintaining the independence of their economic and political systems.

Table 1.1. Basic concepts and theoretical aspects of integration processes

Concepts	Definition
International integration	A process that covers various forms of cooperation between states at the international level. It can be cooperation in the field of economy, politics, culture, education, etc.
Integration associations	A form of international integration that involves the creation of a joint organization or agreement between several states to achieve common goals. The most well-known integration associations are the EU, the North American Free Trade Agreement (USMCA), Mercosur, and ASEAN
Economic integration	A process that involves deepening economic cooperation between countries in order to increase trade and investment. Forms of economic integration include free trade areas, customs unions, common market and economic union
Political integration	A process that includes the creation of common policies and legislation between countries. Forms of political integration include political unions, associations of states, joint institutions and authorities

Source: Reznikov (2020).

The main goal of integration processes is to create a common space for interaction and cooperation between countries or regions to achieve common goals.

Integration processes can take different forms and levels of depth. The main forms of integration include free trade areas, customs unions, common markets, economic unions, political unions, cultural unions and social unions. The level of depth of integration can vary from superficial convergence to the creation of joint legislative and regulatory bodies (Global economy, 2018).

Integration processes can have different effects on the economy, politics and culture of the countries participating in the integration. They can help increase trade, reduce barriers to

the movement of people and capital, and improve economic stability.

One of the key theoretical aspects of integration processes is the idea of comparative advantage. This theory suggests that they can benefit from trading with each other by specializing in the production of goods or services that they are relatively efficient at producing. By doing so, they can then trade these goods or services with other countries for things they produce relatively efficiently. This can lead to increased economic efficiency and higher levels of economic growth (Kahnert, 1969).

In general, integration processes are complex and multifaceted phenomena, involving many different theoretical concepts and practical considerations. Understanding these concepts and their interrelationships is essential for policymakers and scholars interested in promoting economic growth, political stability, and social progress through integration (Filipenko et al., 2004).

It is also necessary to distinguish between the levels and goals of integration communities, their real place in the overall structure of world integration processes and the degree of influence of the evolution of international relations. At the same time, the defining, universal type of integration is the political-economic model, in which international cooperation and internationalization acquire not only a qualitatively new, more mature form, but also new significant forms of transplantation of international regulation and management at the state level. political and economic levels of all processes of integration development (Bilous, 2001).

The development of economic integration processes has many prerequisites, shown in Figure 1.1.

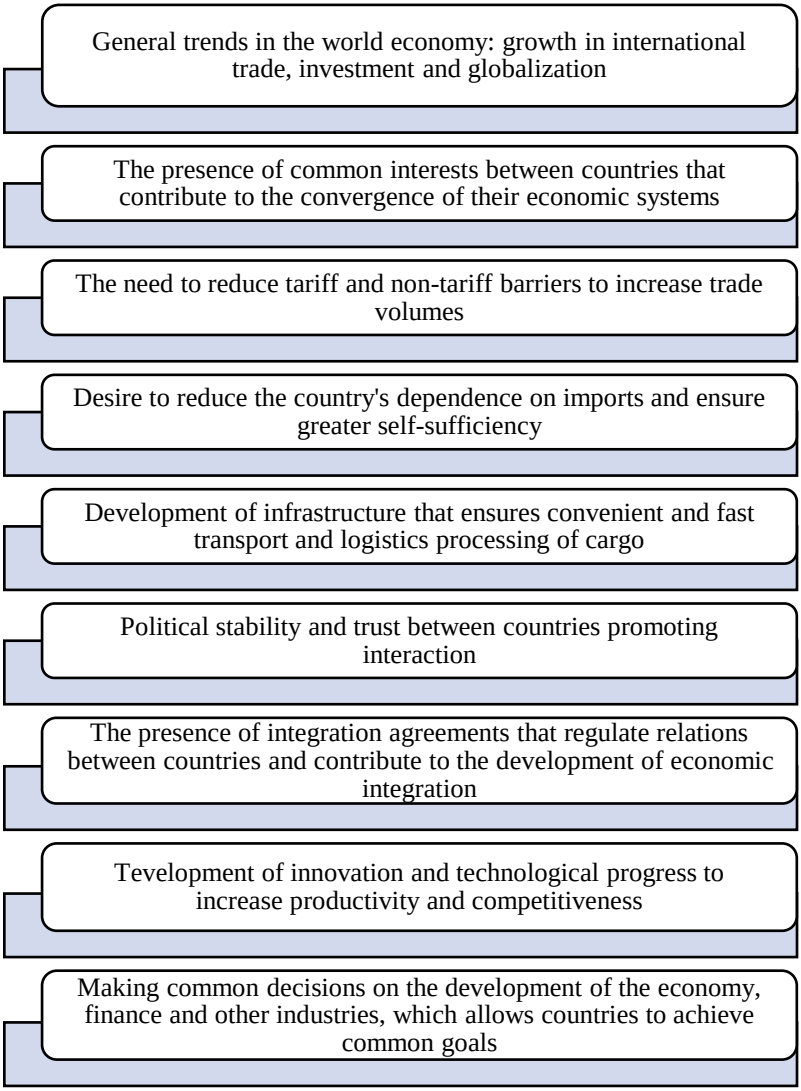


Figure 1.1. Prerequisites for the development of economic integration processes

Source: Molle (2006).

These prerequisites contribute to the development of economic integration, which can lead to increased trade volumes, lower costs and ensure growth of the economies of the participating countries.

Therefore, the prerequisites for the development of economic integration processes are very diverse: from general trends in the world economy to political stability and the presence of integration agreements. These prerequisites are interconnected and interact with each other, contributing to the convergence of economic systems and the development of economic integration. The development of such integration can become a powerful catalyst for economic growth, increasing trade volumes and ensuring greater self-sufficiency of participating countries.

The European Union seeks to create an economic union with a high level of economic integration of countries (common foreign economic policy, common market for services, physical goods, capital and labor and a common currency) and unity (common foreign policy), as well as the establishment of a common citizenship.

The European Union was formed as a result of the consistent development of the process of integration of Western European countries, which went through several stages in its development. The stages of the formation of the EU are given in (Table 1.2).

In 1987, the Single European Act was signed in February 1986 and came into force. This document described other goals of European integration. In particular, he aimed to create a single internal market in 1993 (the next stage of economic integration, which included the integration of economic and corporate policies), and also introduced a common social policy in the field of science and technology; development and environmental protection.

In 1992, the Treaty on European Union was signed in Maastricht (the term “European Union” itself appeared at the Paris Conference in 1972). The agreement came into force on

November 1, 1993. In 1995, Finland, Austria and Sweden joined the European Union.

Table 1.2. Stages of EU formation

Date	Stage
May 9, 1950	The French Foreign Minister R. Schuman made a request to create a common market for coal and steel products in France, Germany and other Western European countries (the request went down in history as the "Schuman Declaration") One of the main goals of the plan was the reconciliation of France and Germany and the avoidance of war between them in the future.
April 18, 1951	Signing of the Paris Agreement on the European Union Coal and Steel Community (CESC). The components of the ECSC include six countries: Belgium, Italy, Luxembourg, the Netherlands, Germany and France, which later became the "locomotive" of European integration).
May 27, 1952	Six European countries signed the founding treaty of the European Defense Community (EDC)
April 8, 1965	An agreement was signed to unite the executive bodies of the ECSC and Euratom and the EEC. This Agreement entered into force on July 1, 1967. As a result, a single level of institutions was created, namely to ensure the development of the European Union. The necessary institutions were the European Commission, the Council of European Communities, the European Parliament and the EU Family Court. In December 1974, in addition to these bodies –the Council of Europe.
1968	Complete the creation of a free trade area and customs (the first two stages of integration) of the European Economic Community (EEC).
1969	The creation of a public market has been completed (third stage). integration) EEC. The original goals of the European Union were defined by the Treaty of Rome in 1957. They have been achieved.

Source: Cocco (2005); Bauman (2008); Freund (1999)

The signing of the Schengen Agreement on visa-free travel for citizens of the European Union in 1997 played a big role in this. All Schengen countries except Iceland, Norway and Switzerland are members of the European Union. In 2002, the single currency of the European Union, the euro, was introduced into monetary circulation, which became a transitional stage in the creation of the economic and monetary union of the European Union –the highest level of integration.

In 2009, the "Lisbon Treaty amending the Treaty on European Union and the Treaty establishing the European Union" came into force. This document was an important step in the history of the European Union. In essence, this put an end to the period of legal crisis in which the European Union was after referendums in France and the Netherlands in the summer of 2005 adopted the first common Constitution (Cocco, 2005).

In the EU, at the first stage of integration, trade diversion is observed, in which extractive industries associated with raw materials and agriculture, protected by high tariff and non-tariff barriers, prosper. The Common Agricultural Program (CAP) benefited local producers at the expense of foreign producers, who were much more efficient. However, in the second stage of integration, signs of trade diversion are less noticeable, and this trend continues during the third stage of integration (Cocco, 2005). After all, if the process of proximity is governed by common and agreed norms, the distinct differentiation characteristics of neighboring countries bring concrete benefits. It should be noted that strong economic ties with neighboring countries require participants to unite common goals and agree on the strategies necessary to achieve them, which will contribute to the creation of efficient trade (Bauman, 2008).

The EU recorded an 18% increase in trade between the main bloc countries when adjusted for a change in trade orientation, which was consolidated over twelve years (Freund, 1999). Regardless of the trade creation or levels of trade diversion that

occurred during the formation of the European single market, it can be seen that after the formation of the economic bloc, it promoted the growth of trade through preferential agreements with other countries or other economic blocs. Thus, at the international level, the economic integration of EU countries has increased world trade in the long term.

In terms of agreements aimed at liberalizing regional trade, it can be said that Europe is the region with the most liberal agreements, including a large number of countries with different commitments to the integration process. It is noted that most trade liberalization agreements increase the welfare of all member countries, especially those where the productive sectors had a strong component of human and labor capital (Kandongan, 2005).

The countries that originally formed the EU, that is, the top six or "inner six," are seeing trade emerge. They increased the amount of exports and imports, while in the agreements signed between members of the European Common Market (ECM) agreement and Iceland, Norway and Switzerland showed trade deviations for non-ECM countries and for non-treaty countries (Kandongan, 2011; Drabik, 2007).

In the specific case of the common currency, it was found that Eurozone countries increased their trade by 0.113% compared to countries that did not adopt the common currency, because countries with the same currency receive significantly greater profits from bilateral trade than those that use their own currency (Rodney, 2002). However, the results for the EU are that although trade between member countries has increased since its creation, by the 1970s this trade creation effect had diminished as, as integration phases progressed, their negotiations with other countries in the world became limited, which affects economic activities in which member countries are less competitive and result in less trade. Thus, the trade creation potential of new member countries in Europe is directly

dependent on the phase of integration they are part of, and the more advanced it is, the greater the benefits in terms of trade creation.

The main component of the implementation of the European integration policy is the determination of the mechanisms for its implementation, which include a set of means, methods, resources, which together ensure the implementation of activities planned in accordance with the tasks set.

These measures are as follows:

– organizational and managerial;

– regulatory and legal;

– financial and economic;

– information and analytical, etc. (Prokopenko, 2008).

So, the European integration policy of Ukraine is implemented through mechanisms that are specific measures that are used by public authorities and society for its successful implementation. Such mechanisms vary in form and effectiveness. We propose to consider the main mechanisms for implementing the European integration policy of Ukraine (see Figure 1.2).

Successful implementation of European integration policy is possible only under conditions of systematic use of policy implementation mechanisms by public authorities, which are a set of methods, principles, and means and are aimed at implementing managerial decisions and contributing to solving problems in the implementation of policies in the field of European integration.

The purpose of the functioning of the political mechanism, namely the public authorities coordinating, regulating and controlling relations in the field of the implementation of the European integration policy, first of all, is to solve the conceptual foundations for the formation of a policy in the field of European integration, to ensure the development and consistent implementation of this policy, as well as through

appropriate methods and technologies to successfully interact with civil society institutions to establish stable relations, harmonize the interests of implementing the European integration policy.

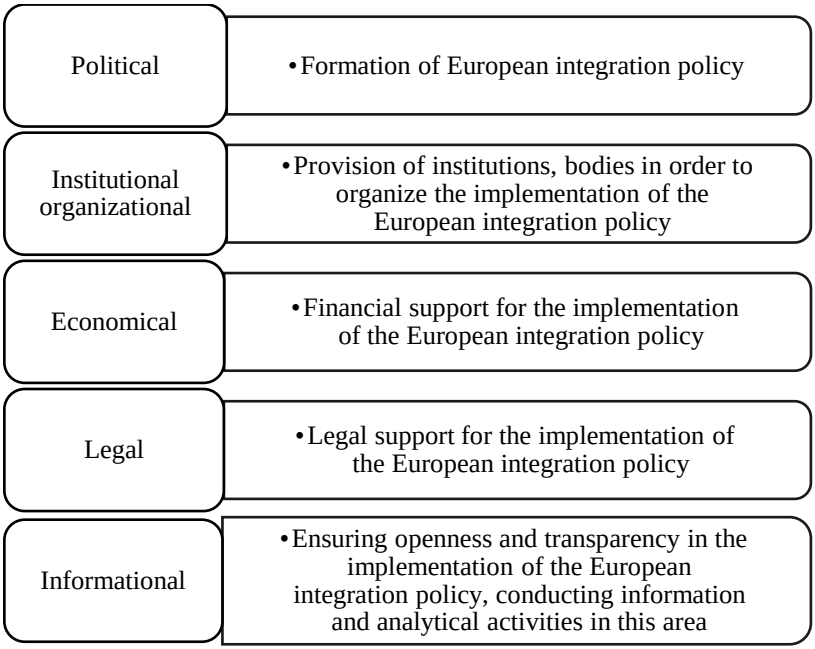


Figure 1.2. Mechanisms for the implementation of the European integration policy of Ukraine

Source: Prokopenko (2008).

The institutional and organizational mechanism is a way of influencing the formation of an appropriate institutional environment in order to create favorable conditions for the implementation of the European integration policy and includes the following phases (see Fig. 1.3).

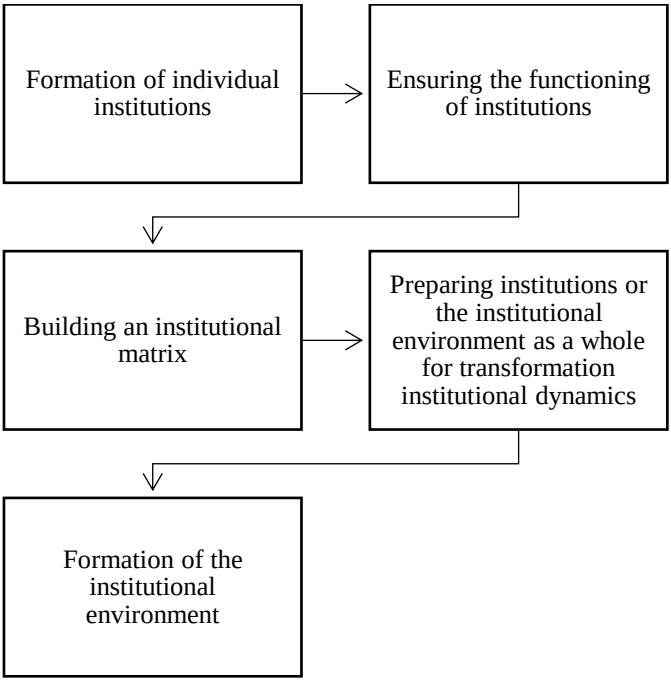


Figure 1.3. Phases of the institutional organizational mechanism

Source: Kifiak (2024).

The peculiarity of the institutional and organizational mechanism is that its participants have the authority to independently, on the basis of mutual consent, make important decisions on a number of issues in the field of European integration policy.

The economic mechanism in the field of implementation of the European integration policy is a system of measures, methods, forms, techniques aimed at ensuring financial stability, balancing the interests of society and the state.

The legal mechanism should ensure the normative regulation of relations in the field of formation and implementation of European integration policy, the consistency of legal acts of all

levels of government; establish uniform criteria in the field of organizing and monitoring compliance with the law.

The legal mechanism ensures the adaptation of legal systems in order to converge, achieve coordinated interaction. With the help of legal mechanisms, normative legal acts are adopted to determine the conceptual foundations and ways of implementing the European integration policy, an appropriate examination of legislation and projects of legal support to European norms and standards is carried out.

The information mechanism ensures transparency during the implementation of the European integration policy and promotes the functioning of a specialized information space in this area in order to ensure the availability of relevant information resources for all interested parties, organize training in the field of European integration of Ukraine, form a positive image of the state, etc. (Institutional mechanism …, 2009).

The content of the institutional and organizational mechanism is not only to ensure the effectiveness of the functioning of the management structure, but also to ensure their functioning with appropriate managerial personnel, since the central element of the institutional and organizational mechanism is the management structure, which combines various aspects of European integration policy and a stable system of service relationships is achieved.

The European integration policy of Ukraine is considered as a complex activity of the state to determine the ways of Ukraine's integration into the EU, to solve the problems that arise in the implementation of this course and to promote the consistent development of the Ukrainian state in the direction of European integration.

Ukraine has only two options for international economic cooperation: European integration and regional integration. Since 2014, Ukraine's economic integration into the EU has been taking place in the context of Russian aggression and the

occupation of a large part of the country's territory. This creates significant challenges and obstacles to integration, as well as significant risks to Ukraine's socio-economic development. At the same time, this may become a unique case in the history of EU enlargement.

The main institutional instruments of Ukraine's integration into the EU at the current stage are the EU-Ukraine Association Agreement (with a deep and comprehensive free trade area as its component) and the status of a candidate country for EU membership. As of September 2022, Ukraine has fulfilled almost 70% of its obligations under this Agreement. The World Economic Forum estimates that Ukraine slightly improved the competitiveness of its national economy in 2013-2019, primarily in those areas that were directly related to the high level of fulfillment of the commitments made under the Association Agreement, and the correlation in this case is significant (Association Agreement, 2019).

A significant victory for our government is the signing of a free trade agreement with the EU, which we propose to consider in more detail (Agreement, 2024).

Thus, since 2017, we can observe the following positive changes for Ukrainian export business:

−a relative reduction in import duties on Ukrainian goods;

−special import quotas were developed for agricultural and food products, which allowed Ukrainian farmers to export their products;

−tariff quotas were approved for poultry, pork, and sugar.

During the period of the FTA, the EU became Ukraine's main trading partner. For example, in 2013-2021, the EU's share in Ukraine's foreign trade increased from 32.1% to 39.2%, including from 26.5% to 39.4% in exports and from 35.1% to 39.8% in imports. This is a significant shift in the geographical structure of Ukraine's foreign trade in a relatively short period of time. The number of Ukrainian exporters to the EU increased

from 10,002 in 2014 to 14,545 in 2019. At the same time, mutual trade between the EU member states in recent years has accounted for 60% to 65% of their total foreign trade. For most EU member states, this figure ranges from 50% to 75%, which indicates a high level of self-sufficiency demonstrated by intra-EU trade. In addition, in 2022, due to external aggression and the naval blockade, the EU's share of Ukraine's total foreign trade increased sharply, accounting for 78% of Ukraine's exports in the second quarter and 63.3% for the year as a whole. Moreover, in the first three quarters of 2022, Ukraine's exports to the EU were higher than in the same period in 2021, although the country's total exports almost halved.

However, as it turned out, the adoption of such a large number of regulatory documents is not a sufficient condition for the successful implementation of European integration policy, as there is no effective mechanism for the implementation of the adopted legislation. Unfortunately, even well-written laws are not implemented in practice. We believe that one of the main reasons for the failure to implement these documents is the lack of proper coordination between the authorities.

The trade and economic relations between Ukraine and the European Union (EU) have a long history and an important impact on the economic development of both sides. Let's look at the evolution of these relations at different stages of their development.

After gaining independence in 1991, Ukraine established its first trade relations with the European Union. In 1998, the Joint Declaration on Cooperation between Ukraine and the European Union was signed, paving the way for cooperation. In 2014, Ukraine signed the Community Agreement with the European Union, which included an important part –the Comprehensive Free Trade Agreement (DCFTA). This agreement provided for the creation of free trade and full integration of Ukraine with the European market.

Following the ratification of the agreement and reforms in Ukraine, the DCFTA was implemented in 2017. This led to the strengthening of trade relations between Ukraine and the European Union. Ukrainian goods and services have become more competitive on the European market. Thanks to the DCFTA and other reforms, Ukraine began to develop its exports to the European Union. Agricultural products, metal products, machinery, and equipment became the main exports.

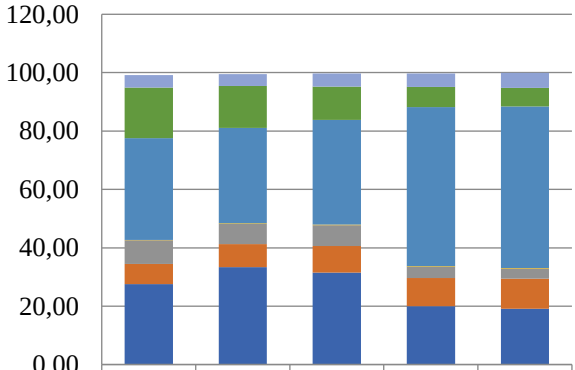
One of the main factors that affected trade relations was Russia's annexation of Crimea and the conflict in eastern Ukraine. This led to the imposition of sanctions against Russia and trade in some regions. Business relations were also affected by the pandemic. Ukraine and the European Union faced challenges in protecting the security of supply and flexibility of goods and services (Rybakova, 2020).

Expanding cooperation in education, science, culture, tourism, and other areas allows for deeper international communication and mutual understanding between Ukraine and the EU. Despite the positive development of trade and economic relations, there are also challenges and obstacles that Ukraine faces in cooperation with the EU. Some of them include trade disputes, technical barriers, and infrastructure deficits that may hinder trade and investment. After the active phase of Russian aggression began in 2022, new trends have been observed in economic relations between Ukraine and the EU. During this period, it has become vital for Ukraine to maintain macroeconomic stability in the face of rising military spending, falling budget revenues, the need to maintain social spending at a certain level, a significant drop in the country's export potential, and a partial blockade of the country's infrastructure by Russia. That is why financial assistance is coming to the forefront of Ukraine's economic relations with the EU in 2022.

After the beginning of the active phase of the Russian invasion in 2022, between March and November, the EU and its

financial institutions urgently mobilized more than €22 billion to support Ukraine's economic, social and financial stability in various forms of macro-financial assistance, budget support, as well as emergency, anti-crisis and humanitarian aid. Thus, 12 billion euros were provided by the EU and its financial institutions, 7.3 billion euros by EU member states and 3.1 billion euros by the European Peace Fund (National Academy of Sciences of Ukraine, 2018).

We propose to analyze the effectiveness of Ukraine's trade and economic integration on the basis of the EU's share in Ukraine's foreign trade (Fig. 1.4).



	2019	2020	2021	2022	2023
European countries (non-EU)	4,24	4,09	4,51	4,58	5,14
CIS countries	17,39	14,38	11,42	6,95	6,35
EU countries	34,84	32,69	35,86	54,48	55,40
Australia and Oceania	0,18	0,20	0,21	0,20	0,20
Africa	8,11	6,91	7,16	3,89	3,40
America	6,88	7,90	9,09	9,66	10,39
Asia	27,54	33,36	31,47	19,94	19,08

Figure 1.4. Dynamics of the share of EU countries in Ukraine's foreign trade in 2015-2023, %

Source: National Bank of Ukraine. (n.d).

Analyzing Figure 1.4, we can observe an increase in the EU's share of foreign trade with Ukraine already in 2019 and a gradual decrease in the share of the CIS countries. It was the period of 2022-2023 that became decisive in the choice of a trading partner, which was undoubtedly the EU.

An important component of the EU's economic assistance to Ukraine is the further expansion of trade liberalization. A special regulation of the European Parliament and the Council of the EU came into force on June 4, suspending for one year most tariffs and quantitative restrictions on imports from Ukraine and effectively introducing the EU internal market regime for Ukrainian goods with certain reservations. In particular, the Regulation provides for the temporary suspension of the following measures:

–reduction of customs duties on imports of industrial goods;

–application of the entry price system for imports of fruits and vegetables

–increase of all tariff quotas for agricultural products;

–reduction of anti-dumping duties on imports originating from Ukraine;

–application of global safeguard measures to Ukrainian products.

Such liberalization is conditional and will be subject to Ukrainian exporters' compliance with the rules of origin, Ukraine's adherence to the main provisions and principles of the Association Agreement, Ukraine's refraining from imposing new restrictions on imports from the EU, and if imports under the new regulation do not or cannot cause serious injury to national producers in the EU. In case of non-compliance with the relevant provisions, the European Commission may apply corrective measures.

Statistical data on the accumulated volume of direct investments from the EU (Fig. 1.5).

The data in Figure 1.5 note that investment flows into Ukraine in 2021 reached 6.8 billion US dollars, which resulted in a slight increase compared to previous years, namely by 30.3%, which indicates an increase in the volume of foreign economic activity and strengthening of the national currency. Negative for the Ukrainian economy was the decrease in FDI in 2022 due to the war in Ukraine and the general decline in the global economy.

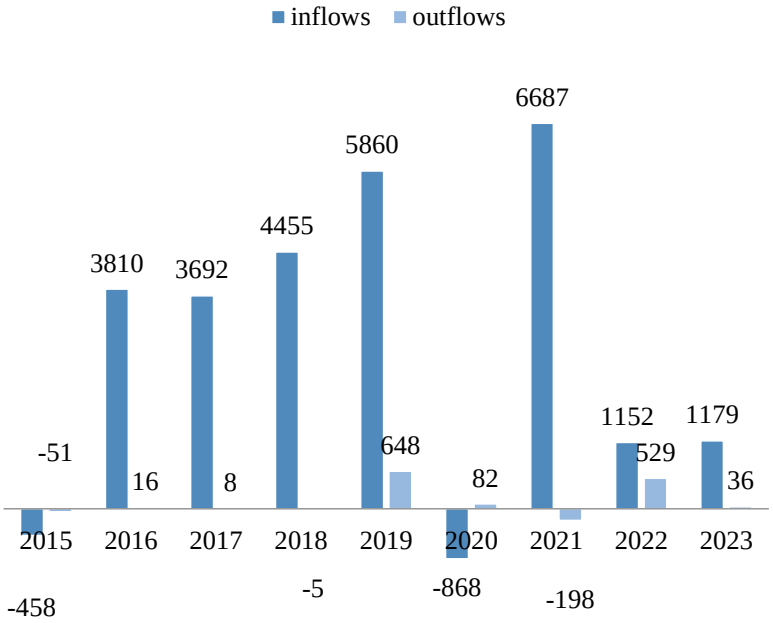


Figure 1.5. Accumulated volume of direct investments in Ukraine for the period 2015-2023, million euros
Source: National Bank of Ukraine. (n.d).

Economic integration with the EU will allow our countries to finally leave the Soviet Union zone and become an equal partner for the world, not being equated with the remnants of the past.

Today, Ukrainian business operates in unstable sales conditions, the decline in industry and sales that occurred against the backdrop of the Coronavirus pandemic has led to a decrease in the number of companies, and the war in 2022 has become a major destabilizing factor that has directly affected the development of business and the Ukrainian economy as a whole.

It was the period of war in Ukraine that contributed to the development of integration processes and actualized the issue of integration with the EU, as Ukrainian companies need stable markets to help them generate revenue from their activities and provide the Ukrainian budget with stable tax revenues.

Ukraine's European integration is an emerging direction for shaping the macroeconomic space of our country (Khbur, 2017), improving its position in the global economic system and creating conditions for the development of Ukrainian business and the economy as a whole. Thus, Ukraine's European integration strategy will have a direct impact on the activities of domestic companies and their economic performance. New prospects will open up for Ukrainian companies, and the possibility of integration into the European community will allow them to gain experience and technologies that can be used to improve the competitiveness of their operations in both the Ukrainian and European markets.

Thus, European integration creates new opportunities for domestic business as an active participant in global economic activity and can be considered as one of the most powerful drivers of growth of economic security and enterprise development due to (Kvasha, 2019):

–the emergence of new knowledge and opportunities for creating new products and quickly bringing them to the market;

–overcoming technological backwardness on the basis of access, rapid dissemination, introduction of new technologies and their unification through close international cooperation and exchange of scientific research, which, in particular, leads to

improved product quality and reduced production and transportation costs, which increases the level of competitiveness of domestic producers, etc.;

–strengthening the position of domestic business in the domestic and foreign markets by improving product quality;

–opening of new markets and growth of trade flows: exports of goods and services, in particular, due to the abolition (reduction) of customs tariffs, duty-free quotas and non-tariff restrictions, and expenditures on foreign goods and services. economic activity decreases accordingly;

–improving the efficiency of traffic and the emergence of new favorable opportunities and simplifying access to capital raising (long, cheap money), in particular, attracting foreign investment, grant assistance, and EU regional development funds;

–improving the business and investment climate for domestic businesses;

–harmonization of national and international standards of production and product quality, which can help expand the access of domestic enterprises to the markets of third countries;

–strengthening the competitive advantages of domestic business through the implementation of international, in particular, knowledge-intensive, high-tech projects;

–development of innovation and financial infrastructure;

–creation of opportunities for information and technological exchange between enterprises of knowledge-intensive industries, which, in particular, will contribute to an increase in the output of products with higher added value;

–improving the quality of functioning of financial, budgetary, banking, investment and corporate governance institutions;

–implementing large-scale political, economic, social and institutional reforms and modernization of the economy, enterprise modernization, and macro-financial stabilization;

–participation in programs to support small and medium-sized businesses;

–improving the quality and standard of living and increasing the purchasing power of the population, which will have an impact on the growth of demand for goods and services of domestic enterprises.

It should also be borne in mind that in support of Ukraine's European integration course, as well as to support our country in the context of a large-scale war, the European Union will not impose import duties on Ukrainian goods, which has allowed domestic businesses to save tens of millions of dollars.

Ukraine's European integration provides a significant level of economic benefits to both the country as a whole and domestic business, in particular through the creation of effective mechanisms of economic stability and security.

Thus, enlargement will be an important factor in accelerating the economic development of the new EU members, which means new business opportunities for Ukraine (Svystun, 2014).

The positive impact of Ukraine's economic integration into the EU is demonstrated by the growth of trade turnover between the countries (Fig.1. 6).

As we can see from Figure 1.6, after 2017, which is marked as the year of signing the FTA, there was an increase in trade turnover by 24.1%. Starting in 2021, trade volumes between the countries began to grow, reaching a peak during the period of martial law in 2022-2023.

Therefore, Ukraine's accession to the European space may lead to a number of threats to domestic business, which may to some extent negatively affect the activities of enterprises:

–increased mobility of the population, which may lead to an outflow of people to the EU, as companies in the EU will offer better conditions and higher salaries, which will actually affect the desire of Ukrainians to work for foreign companies;

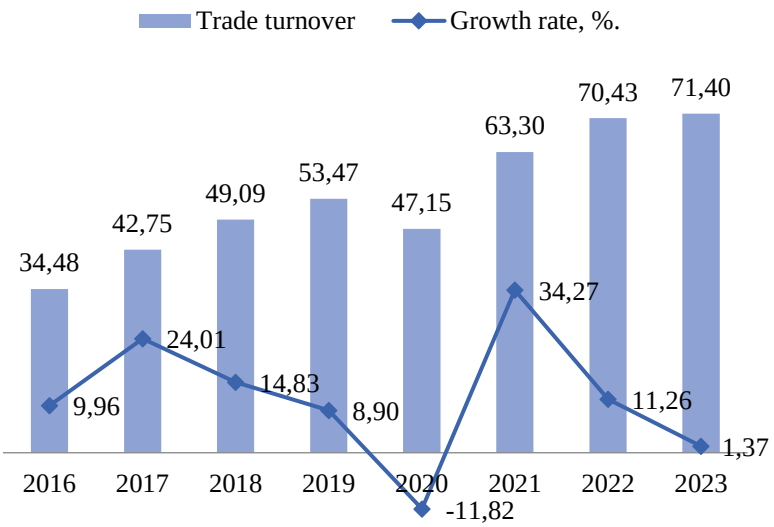


Figure 1.6. Analysis of the dynamics of trade turnover between Ukraine and the EU countries for the period 2016-2023, billion USD

Source: National Bank of Ukraine. (n.d).

–increased competition in various sectors of the economy, especially in the manufacturing sector, as the openness of markets will lead to an influx of foreign goods, and due to the increased level of competition, domestic companies may not be ready for European quality and service standards;

–increase in production costs of domestic companies due to the implementation of EU quality standards and certifications;

–due to the slow transition to digitalization of European companies, the use of technology by Ukrainian companies may slow down;

– there will be a significant impact of TNCs on the Ukrainian economy;

– it will be necessary to upgrade fixed assets and increase employee salaries in line with EU standards.

It should also be emphasized that the process of Ukraine's European integration and the implementation of pro-European reforms is currently hampered by certain internal and external factors, which are shown in more detail in Figure 1.7.

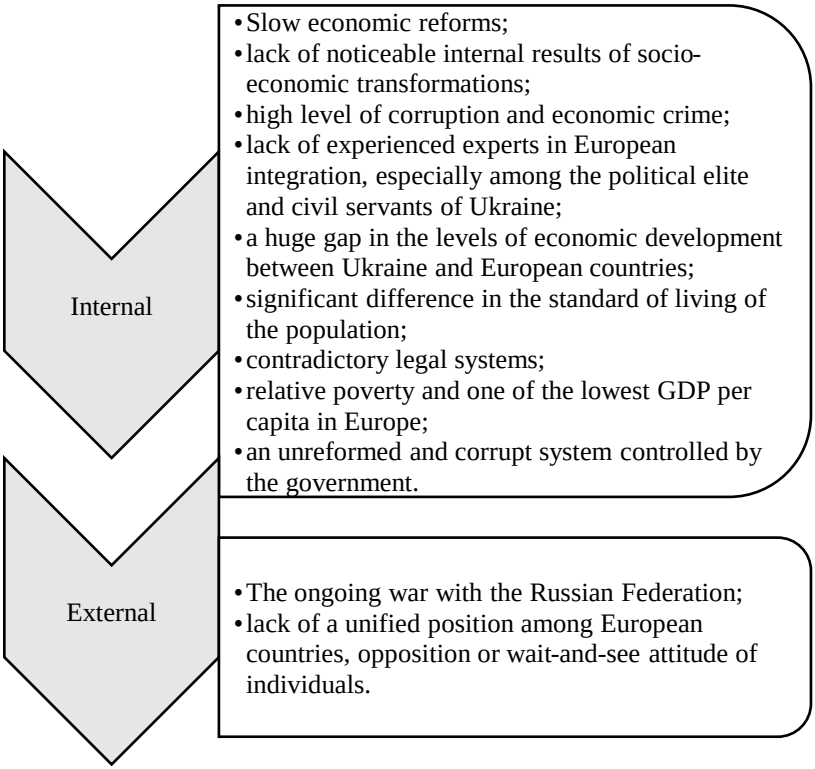


Figure 1.7. Characteristics of internal and external factors that negatively affect the integration of the EU and Ukraine
Source: Rodney (2002); Svystun (2014); Kubilius (2022).

Despite the fact that the path to European integration is a strategic choice of Ukrainians, there are a number of factors in Ukraine that hinder the process of Ukraine's entry into the European family. The most dangerous of them is the high level of corruption in Ukrainian politics and government, which, despite the efforts of officials, is not decreasing, and even during martial law, there are cases of bribery and bribery.

Today, European integration is one of the main tools for creating an efficient Ukrainian economy and improving Ukrainian business, living standards, and regional development, which will ultimately contribute to overall GDP growth and economic independence of Ukraine.

European integration is the main focus of Ukraine's foreign policy, and despite the fact that joining the EU involves a number of problems and complications for domestic companies, the benefits of integration are many times greater.

Integration processes in Ukraine, in particular its membership in the European Union and other international agreements, create both problems and prospects for international business.

Integration processes in Ukraine, such as its membership in the European Union, free trade agreements and other international agreements are opening up new prospects and opportunities for international business. However, at the same time, they create a number of problems that enterprises have to face and solve in order to successfully operate in an integrated environment (Artomov, 2008).

Integration processes such as membership in the European Union, the conclusion of free trade agreements and other international agreements create problems for international business in Ukraine (Figure 1.8).

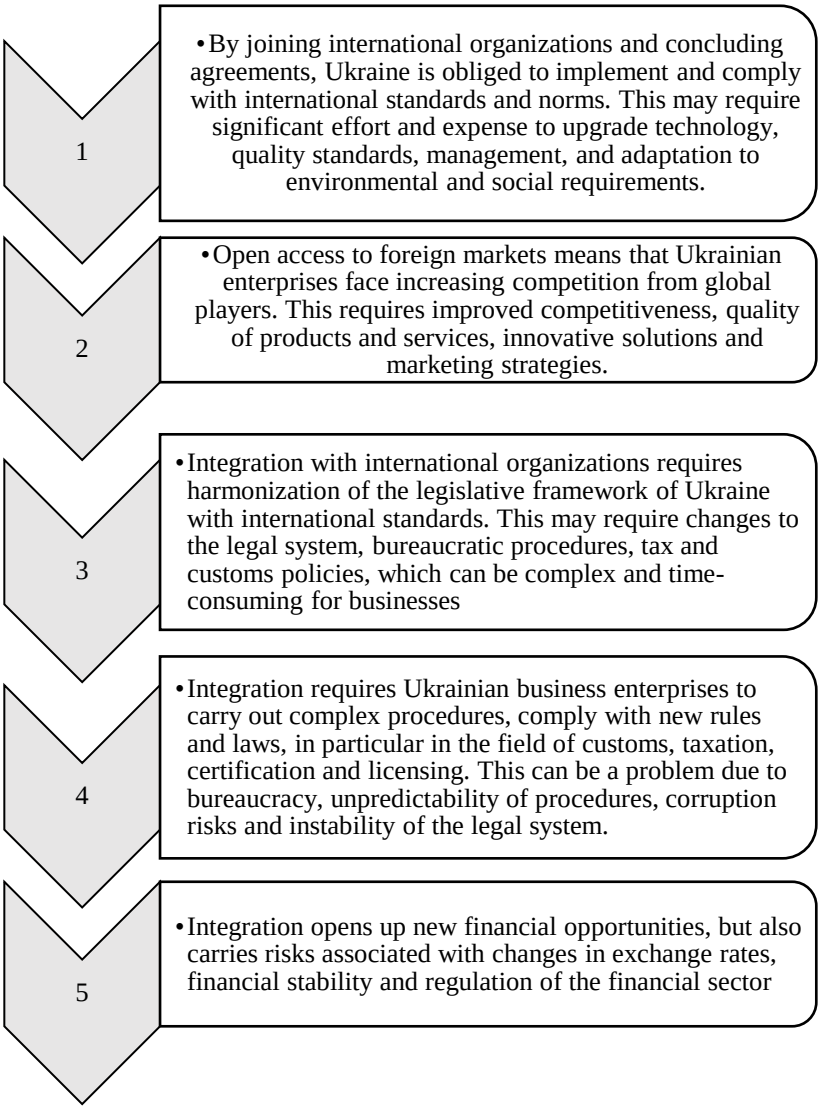


Figure 1.8. Main problems of integration processes in Ukraine
Source: Tymoshchuk (2022); European (2024)

Integration processes in Ukraine open up new opportunities for international business, but they are also accompanied by problems that require attention and solutions. Adapting to new standards, competition in foreign markets, regulatory convergence and financial risks are just some of the challenges businesses face.

The integration processes taking place in Ukraine open up broad prospects for international business. By joining international organizations, concluding trade agreements and reforms, Ukraine is actively integrating into the world economy and becoming an attractive place for conducting foreign economic activity.

In the conditions of the war in Ukraine, prospects for economic integration into the EU opened up for our country, which has already begun, because special export conditions were developed for our country (a road of solidarity for the export of agricultural products) and the removal of duties on the import of a certain list of goods into the EU, which had a positive effect influence on trade relations between countries (Statistics, 2022).

Ukraine can count on cooperation with the EU that will become even stronger in the future: this support is logical and necessary in light of the current protracted war of attrition.

EU candidate status allows Ukraine to participate in various European structures, where physical presence and participation in discussions is of great importance. The country needs to make efforts to integrate into various EU structures in order to gain more support within the EU.

Candidate status can open the door to pre-entry support, which will mainly consist of the following (Figure 1.9).

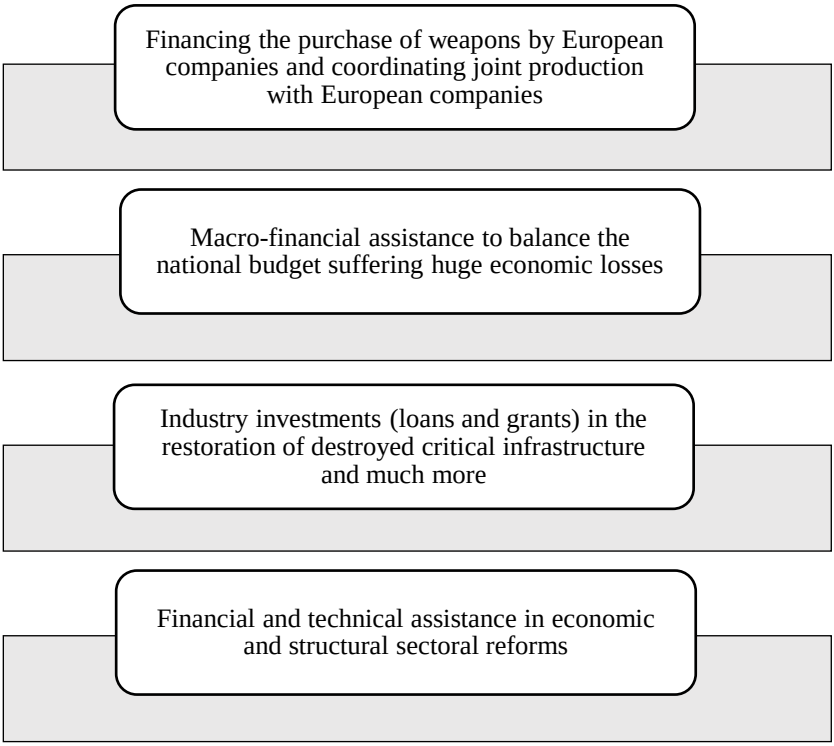


Figure 1.9. Benefits of EU candidate status for the economic development of Ukraine

Source: developed by the authors.

The EU intends to invest in the post-war renewal of Ukraine. The Cabinet of Ministers, together with the Government Office for the Coordination of European and Euro-Atlantic Integration, developed a Recovery Plan and presented it at the conference on the restoration of Ukraine in Lugano.

The problem of access to investment can be solved in the post-war period by using confiscated Russian assets to finance the reconstruction of Ukraine. Although history has not seen precedents of comparable magnitude, international courts and organizations could help organize this (Palahniuk, 2014).

To increase the economic integration of the EU and Ukraine in the field of trade, there are trade barriers with the EU that still need serious solutions (Figure 1.10).

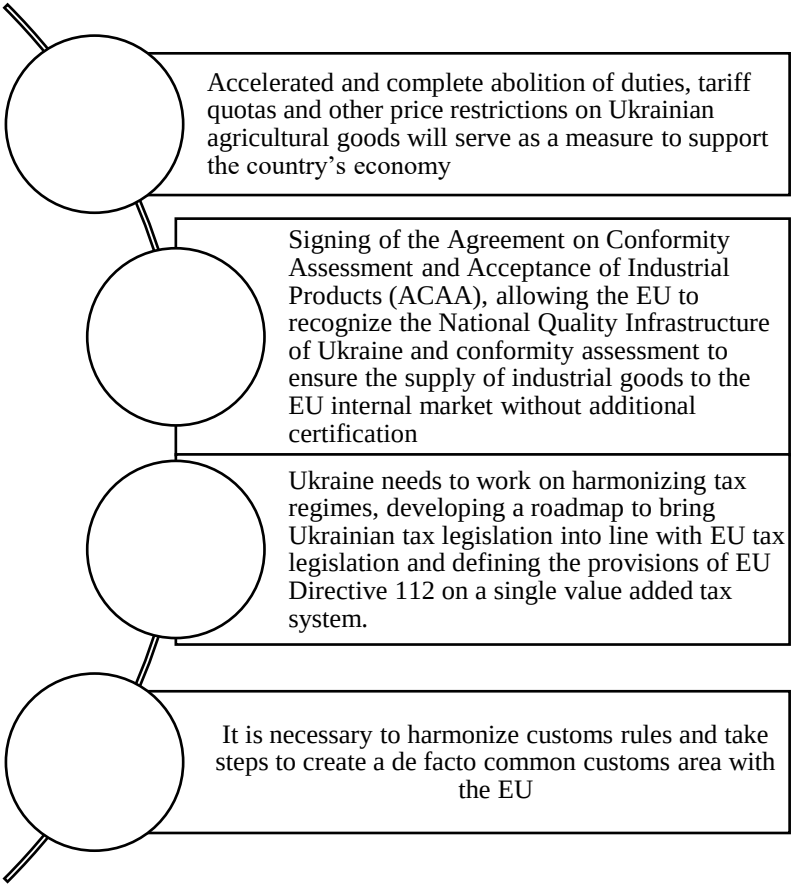


Figure 1.10. Main trade barriers between Ukraine and the EU
Source: Kastakova (2016); Kushniruk (2017)

These four steps will finally liberalize trade with the EU and remove barriers to cross-border business transactions, as well as the smooth movement of goods across borders.

To seize the moment, Ukraine was granted unconditional candidate status for EU membership, an approach that received widespread support from Ukrainian civil society. However, given the numerous institutional problems within the country, the European Commission has outlined seven post-candidate conditions for Ukraine that must be implemented before the start of the accession negotiation process. The previous conditions are mainly related to the rule of law and include demands for reform of the Constitutional Court, judicial reform, anti-corruption, anti-money laundering, implementation of anti-oligarchic legislation, harmonization of media legislation and amendments to national policy and minority legislation.

Despite the fact that Ukraine was granted candidate status in advance, given Ukraine's incomplete implementation of the Association Agreement, full membership in the EU will not happen soon. The current EU enlargement policy is slowing down, among other things, due to the limited ability of the Union's institutions to admit new members. One of the key questions in this regard is whether Ukraine will receive an accession option tailored to its national characteristics and war, or whether the accession process will unfold within the existing accession model for candidate countries.

EU member states can offer Ukraine the prospect of membership, recognize it as a candidate for accession and even, albeit symbolically, enter into accession negotiations.

To date, the outlook for Ukraine is very positive, and the current circumstances may open prospects for Kyiv to join the EU, which would mean revisiting the pitfalls of enlargement policy with lasting implications for the EU27.

Therefore, the EU may consider it appropriate to define, within the European treaties, a new status of partial or partial membership, or to create a new European political and economic space with a strong political security component. This may be an alternative to full membership.

If the EU were to open the prospect of accession for Ukraine, it would be very far from being a promise. Its preservation will require a sound strategy that takes into account aspects of foreign policy, security policy and integration.

The EU must quickly clarify where the enlargement strategy for the Eastern Partnership countries stands in relation to NATO and its open door policy. The Atlantic Alliance officially adheres to this policy, supported by EU states that are also members of NATO.

Today and in the near future, the EU is not ripe for the admission of the countries of the Eastern Partnership as new members. To effectively defend its borders with Russia, it needs to significantly increase its military capabilities under the Common Security and Defense Policy (CSDP) and deepen cooperation with NATO.

The European Commission and Council will not simply ignore Kyiv's request to join. However, the EU will probably not take the time to prepare its response carefully, weighing different points of view in the process of internal clarification. The President of the European Council, Charles Michel, immediately noted the differences between member states on this issue. European Commission President von der Leyen called for a "moment of truth for Europe" (Von, 2022).

At an informal EU summit held in Versailles in early March 2022, the heads of 27 states and governments agreed on the second option. Diplomatically acknowledging Kyiv's application (recognizing Ukraine's "European desires" and its "European choice") and emphasizing that the Council had acted quickly, invited the Commission to present its opinion. This triggers the standard procedure of Article 49 EU. In addition, 27 national parliaments and the European Parliament have been informed about the application. But the answer to the request has been de facto postponed until the end of the war and hostilities in Ukraine (World, 2024).

Regarding Ukraine's membership in the EU, 27 countries assured that it "belongs to our European family." In general, formulas are used that dampen the high expectations of pro-accession forces, including not only Ukraine itself, but also EU member states such as Estonia, now aggressively advocating candidate status for Ukraine. They certainly mean solidarity with Ukraine, but at least Poland and Hungary, more restrained in their support for Ukraine, could use the EU securitization momentum to clash with Brussels over the rule of law. and democracy fell off the agenda as irrelevant.

The EU has long underestimated the geopolitical implications of enlargement and the Eastern Partnership. This was demonstrated in 2013 when Russia's intervention in Kyiv's association agreement with the EU was intended to prevent Ukraine from returning to Western concepts of international order and its institutions.

As a result, we propose to depict the course of events in Ukraine from the war to obtaining the status of a candidate for EU membership (Table 1.3).

There are many reasons to believe that the EU continues to pursue a policy of enlargement in the formation of a new bloc in Europe in order to consolidate its membership promises. Emergency admission is unlikely, and regular accession is a very distant prospect for Ukraine. Therefore, the EU must develop mechanisms for integration and cooperation below the level of EU membership and improve its own ability to act in all areas in order to be able to uphold its values. As long as Russia is pursuing an aggressive and imperial policy towards its neighbors, the EU, together with the US, must counteract it by all means and in the long term.

Table 1.3. Historical events in Ukraine from the beginning of the war to obtaining the status of an EU candidate

Date	Event	Thesis
A	1	2
February 24, 2022	Russian invasion on Ukraine	Already today, the results of these sanctions indicate that industrial production, consumption and investment will decrease, and Russian GDP will contract by -12.5% to -16.5% in 2022. Such figures are quite real, because almost the whole world has proclaimed its resistance to Russia by rejecting the country as a partner and excluding Russia from membership in world communities. The number of sanctions that have been applied against Russia since February 24, 2022 is almost equal to the sanctions against Iran in recent decades
		Since the beginning of the war, the Ukrainian economy has lost about 30-50% of its production capacities, which were located in the East of Ukraine. Not only large factories and factories were destroyed, but also the entire urban infrastructure that ensured the vital activity of cities. According to the forecasts of the World Bank, Ukraine's GDP should fall by 45.1%, which has never happened in the entire history of our country.
		The total losses of Ukraine in the war as of the end of March 2022 reach about 500 billion dollars. USA, of which 80 billion is a loss of business, which these funds could have invested in the development of the economy and which will take years to recover.
March 31, 2022	Opening events in Bucha to the world community	News of the horrendous violence in Ukraine and new allegations of Russian war crimes are causing some European leaders to use harsher language. French President Emmanuel Macron told France Inter radio that what happened in Bucha should lead to "a new series of sanctions and very clear measures", including those aimed at coal and oil.
		As of April 6, the EU has proposed a fifth package of sanctions against Russia, including: –a ban on coal imports

Continuation of Table 1.3

A	1	2
March 31, 2022	Opening events in Bucha to the world community	The President of America told reporters that he “demands new sanctions” in response to the image from Bucha and called Putin a “war criminal”
May 9, 2022	Signed Lend Lease Law for Ukraine	The Lend-Lease Act simplifies the arms supply process and will expedite the transfer of weapons and equipment and other critical supplies to Ukraine and other Eastern European countries by reducing bureaucratic processes. “I signed the Law on Lend-Lease and Protection of Democracy in Ukraine in 2022.
		This bill is another important instrument of our support for Ukraine and its people in their struggle to defend their country and democracy from Putin's brutal war.
		Ukraine received more support from the United States in the amount of 10.3 billion euros and is one of the main Ukrainian opponents in the war against Russia.
June 23, 2022	Obtaining EU Candidate Status	According to Prime Minister Denys Shmygal, this is also "securing the European future" of the country. "This means that Ukraine is not just potentially one day able to join the EU, but that the process has been launched," he wrote on his Facebook page.
		Candidate status gives Ukraine a number of advantages, one of which is the full membership of EU programs and initiatives and the availability of financial assistance

Source: compiled by the authors

Outside of Ukraine, the effects of the Russian invasion have already raised serious concerns among humanitarians about possible global food security, as Ukrainian production of grain and other staple foods has been affected, and Ukraine is known

to be one of the ten largest exporters of agricultural products in Europe.

Also, based on the analysis of these global sources, the global economy will suffer from the hostilities in Ukraine, as most countries depend on Russian energy and gas, and the recent refusal from them will affect their economies. The crisis that the whole world is waiting for may become one of the biggest in the global economy in the future, and governments have started to help Ukraine in this difficult time for our country, as each of them is well aware that a quick end to hostilities and a victory for Ukraine will be their own victory.

The full-scale invasion has caused enormous losses to Ukrainian business, government and civilians alike. More details about the losses that occurred in the Ukrainian economy, namely the dynamics of GDP, are shown in Figure 1.11.

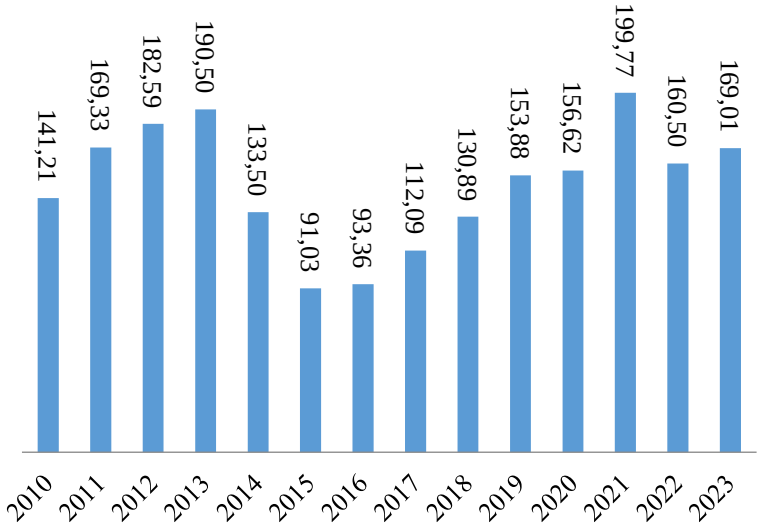


Figure 1.11. Analysis of Ukraine's GDP dynamics the period 2010-2023, bn. USD

Source: Ministry of Economy of Ukraine (2023).

Thus, analyzing Ukraine's GDP, we see positive growth dynamics in 2023 compared to 2022, which is actually an indicator of the intensive work of the Ukrainian government, business and people who continue to work tirelessly for Ukraine's victory.

Ukraine has been called the “breadbasket of Europe” for centuries. This name is quite accurate, given that Ukraine has about a quarter of the world's super-fertile “chernozem” or “black earth” soil. Ukraine is already one of the three largest grain exporters and is a world leader in areas such as soybeans and oil. Exports of Ukrainian agricultural products to key global markets such as China, Egypt, India, Turkey, and the European Union are growing. This makes Ukraine one of the key players in the global agricultural market.

Let's determine the impact of martial law on the structure of Ukrainian exports in 2022 (Figure 1.12).

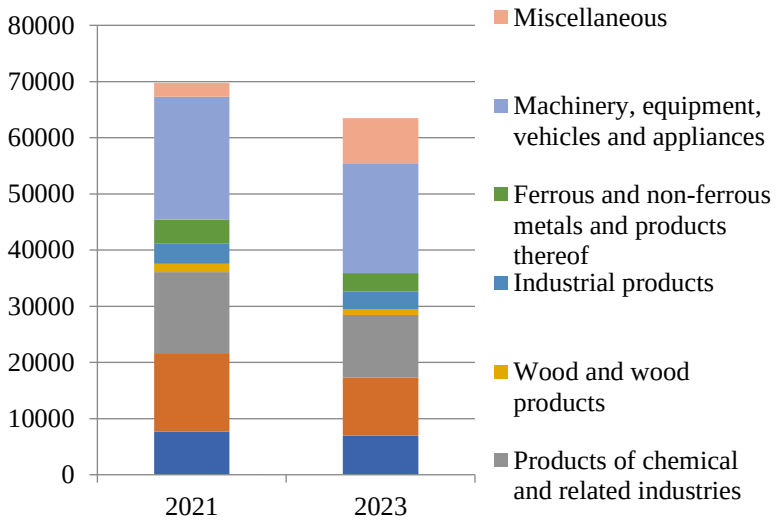


Figure 1.12. Analysis of changes in the structure of Ukraine's exports of goods for the period 2021-2023, %

Source: National Bank of Ukraine. (n.d).

Thus, analyzing the export structure before and after the war, we see that the war had a negative impact on the decrease in exports of ferrous metals, machinery, and wood, while the share of food exports increased. This is all related to the geographical location of companies that exported ferrous metals, as most of them are either under occupation or under constant shelling. Today, food exports are Ukraine's key export destination.

Next, let's examine how the war affected the structure of companies' relocation (Figure 1.13).

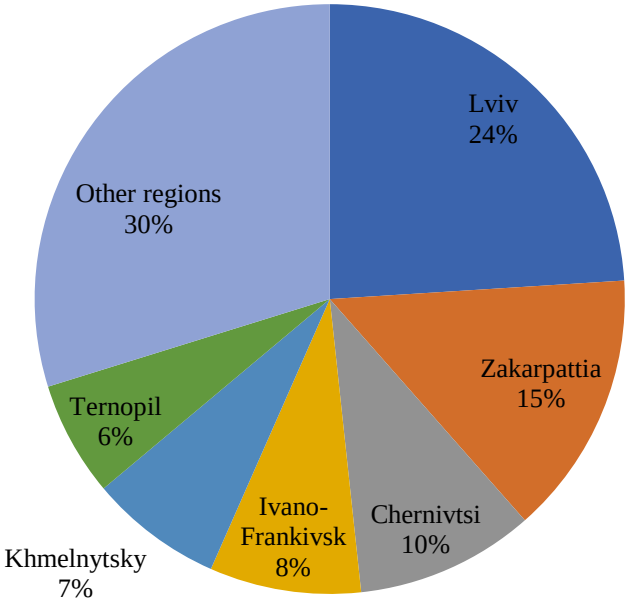


Figure 1.13. Territorial structure of relocation of Ukrainian companies as of 2023, %

Source: Kyiv School of Economics (2023).

Thus, the war affected the relocation of companies' assets from the Eastern part of Ukraine to the Western regions. The

largest share is occupied by Lviv region, which accounts for 24% of all relocated companies, Zakarpattia region – 14.5%, and Chernivtsi region – 9.8%.

Next, let us determine the total losses caused by the Russian Federation to both Ukrainian business and the economy (Figure 1.14).

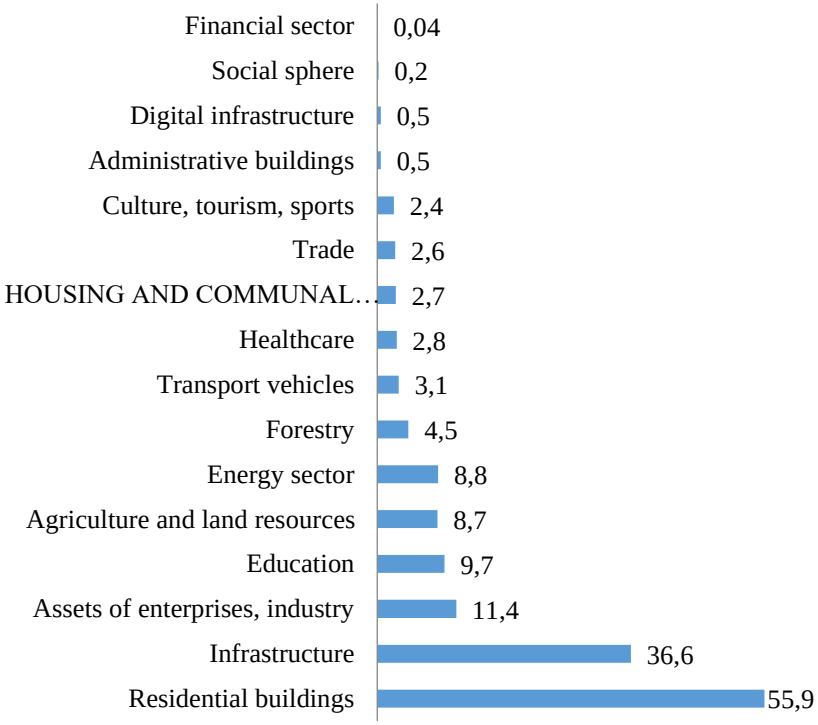


Figure 1.14. Estimates of losses to Ukrainian business and the Ukrainian economyas of 2023, billion USD

Source: The European (2024).

As we can see from Figure 15, civilian residential buildings, infrastructure and business assets suffered the greatest losses, with a total share of 68.9%.

Our country has a strong potential in agricultural production, energy, IT technologies, and other industries. To succeed in business, it is important to know your strengths and weaknesses, and to engage specialists from different industries. In the near future, experts expect assistance in the recovery and reconstruction of Ukraine, including assistance in attracting foreign investment to our country.

The development of business in Ukraine depends on many factors, but mainly on the efforts of entrepreneurs and their willingness to work in difficult conditions and look for new opportunities to develop their enterprises. The deepening of European integration processes and the entry of Ukrainian companies into European markets will provide such opportunities.

After Ukraine chose the course of integration with the EU, a number of changes in its foreign trade policy took place (Figure 1.15).

European countries confidently occupy leading positions in the structure of Ukraine's foreign trade. In 2022, Poland became the largest importer of Ukrainian products, displacing China, which had been in first place since 2019. Romania, which was not among the twenty largest consumers of Ukrainian products in 2021, moved to second place in 2022 (Statistics, 2023).

2022 created a special dynamic in the development of foreign trade. Amid the hostilities, exports of services decreased by 11%, mainly due to transportation services, electricity, financial and other business services. A relatively small decline in service exports was driven by the IT sector, as it was the only export industry that grew in 2022, so overall, service imports increased by 85.66%. Such trends reflect the great potential of Ukraine for the EU in the field of digitalization, despite its peculiarities as a country at war (Ministry, 2023).

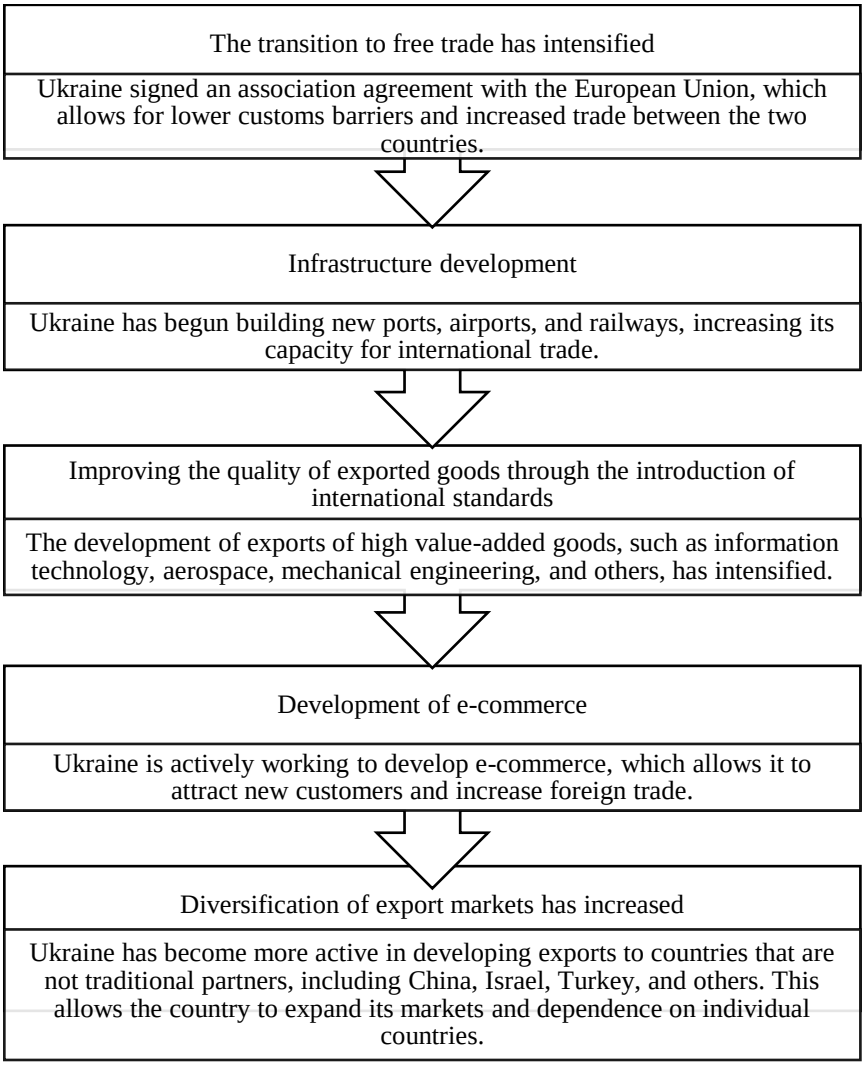


Figure 1.15. Key changes in Ukraine's foreign trade policy related to integration with the EU

Source: compiled by the authors

Therefore, before identifying promising areas of cooperation between the EU and Ukraine, we propose to study the

commodity structure of Ukraine's exports and imports from the EU (Fig. 1.16 and Fig. 1.17).

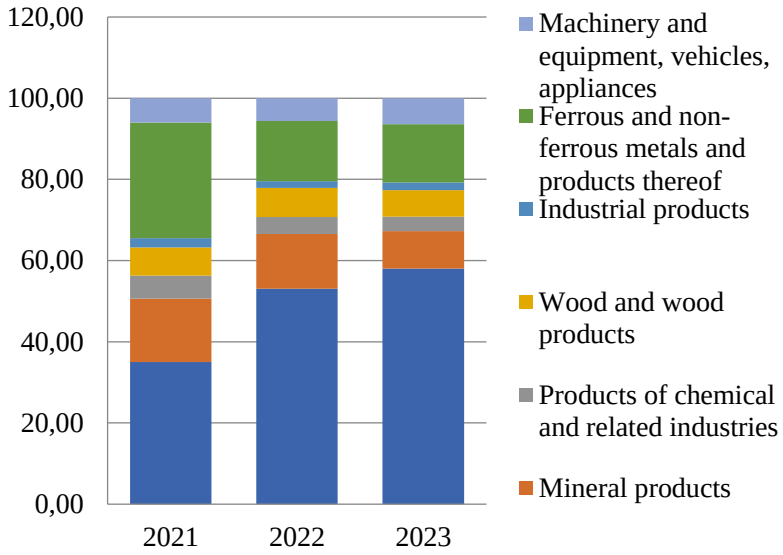


Figure 1.16. Commodity structure of exports between Ukraine and the EU for the period 2021-2023, %

Source: National Bank of Ukraine. (n.d).

The Russian invasion has reduced Ukrainian exports to all sectors of the economy and changed their structure. Only food exports declined relatively slightly and increased their share in the structure from 35.03% in 2021 to 58.08% in 2023. Other sectors of Ukraine's export activity recorded a significant decline in sales: sales of metallurgical products fell by 62%, and minerals – by 49%. In 2021, these two categories of goods accounted for 28.52% and 12% of Ukrainian exports, respectively (Ministry, 2023). In 2023, food products (58.06%), ferrous and non-ferrous metals (14.36%), and mineral products (9.18%) accounted for the largest share of Ukraine's total exports to the EU.

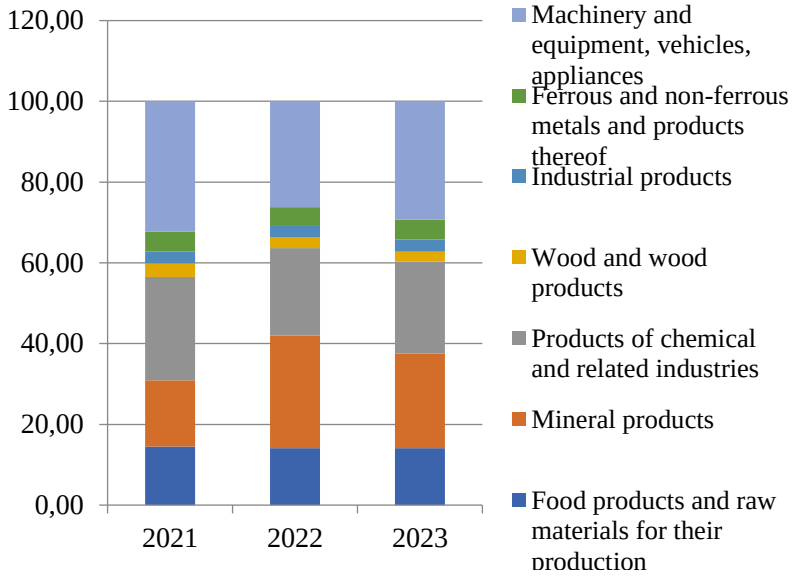


Figure 1.17. Commodity structure of imports by Ukraine and the EU in 2021-2023, %

Source: National Bank of Ukraine. (n.d).

The main groups of imported goods to Ukraine in 2023 were mineral products (23.43%), machinery, equipment and mechanisms (29.3%), and products of chemical and related industries (22.76%). In addition, fuel imports from the EU increased in 2022 (until February 24, 2022, Ukraine imported most of these products from Russia and Belarus). In addition, massive rocket attacks on Ukraine's electricity infrastructure, which have continued since October 2022, have led to a sharp increase in imports of power generators.

Strengthening cooperation with the European Bank for Reconstruction and Development (EBRD) is important for Ukraine on its way to European integration. It is worth noting that Ukraine became a member of the EBRD in 1992 and still cooperates with it in terms of financing infrastructure projects, both public and private. The main focus of the loans is to

improve road infrastructure, modernize gas compressor stations on the Urengoy-Pomary-Uzhhorod gas pipeline, and projects in the housing and utilities sector and energy saving under the Eastern European Partnership's Energy Efficiency and Environment Program. The dynamics of the EBRD's loans is shown in Fig. 1.18.

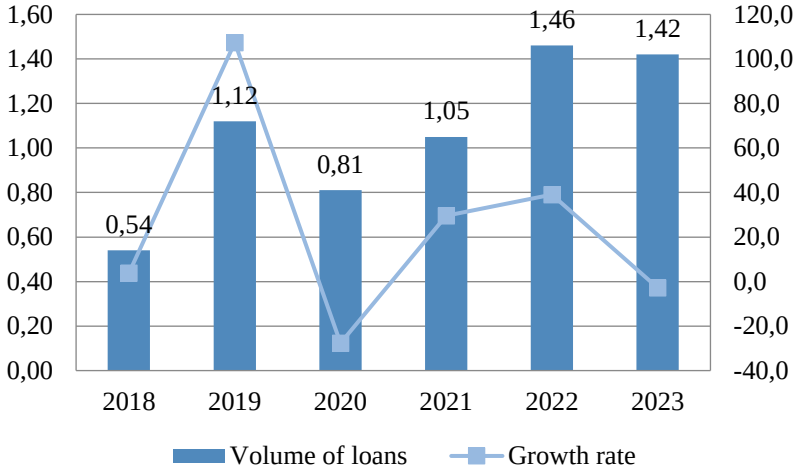


Figure 1.18. Dynamics of EBRD loans to Ukraine for the period 2018-2023, billion USD

Source: Government Portal (2023).

As we can see, in the course of Ukraine's cooperation with the EBRD in 2022-2023, many different project options were implemented, both at the national and regional levels, aimed at restoring the destroyed infrastructure.

Since the beginning of the war in 2022, EU countries have taken a number of measures to support exports from Ukraine to the EU. In June 2022, anti-dumping duties and tariff quotas on Ukrainian goods were canceled. This was a temporary measure to help Ukrainian business, which was used by a number of Ukrainian companies.

The Solidarity Roads initiative was of great importance for Ukraine; the plan envisages increasing the capacity of existing transport corridors, creating new logistics routes for the delivery of export and import products for Ukraine, searching for new partners in the EU and third countries, and simplifying border crossing procedures. In particular, the plan envisages the creation of additional cargo capacities of road and water transport in the EU, transshipment terminals, warehouses, as well as maximum flexibility in the process of completing formalities at border crossing points (Cherep, 2024; Dashko, 2024).

As Ukraine integrates into the European space, it is beginning to take significant steps towards EU membership, and one of the most important was the CMU Resolution No. 1092 of 27.09.2022 “Some Issues of Implementation of the Provisions of the Customs Code of Ukraine on Granting Authorizations”, which entered into force on November 7, 2023 (Kushniruk, 2017). According to this regulation, all companies engaged in export or import are obliged to send their products to the customs control zone, but there are exceptions for companies that have received an economic operator's authorization (AEO), which is actually granted to such foreign economic operators (Fig. 1.19).

In order to obtain the AEO status, these entities need to submit an application to the customs authority and conduct a self-assessment of their company, and if the answer is positive, the foreign economic operator will be able to carry out customs clearance remotely.

This Resolution is the basis for EU requirements, as the sending company or the receiving company must be authorized by customs, and those without authorization must undergo a full customs inspection, which will have a positive impact on reducing smuggling and facilitating rapprochement with the EU.At the time of candidate status, Ukraine had implemented

most of the regulations governing quality standards and marketing of agricultural products.

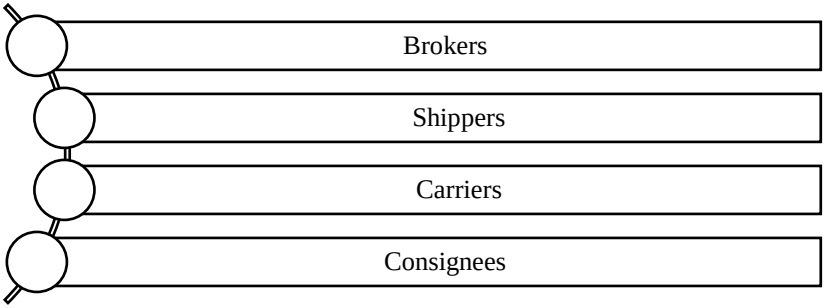


Figure 1.19. Main foreign economic operators that can obtain the AEO status

Source: compiled by the authors

Figure 1.20 shows the progress of the implementation of the Association Agreement with the EU in general and in the agricultural sector.

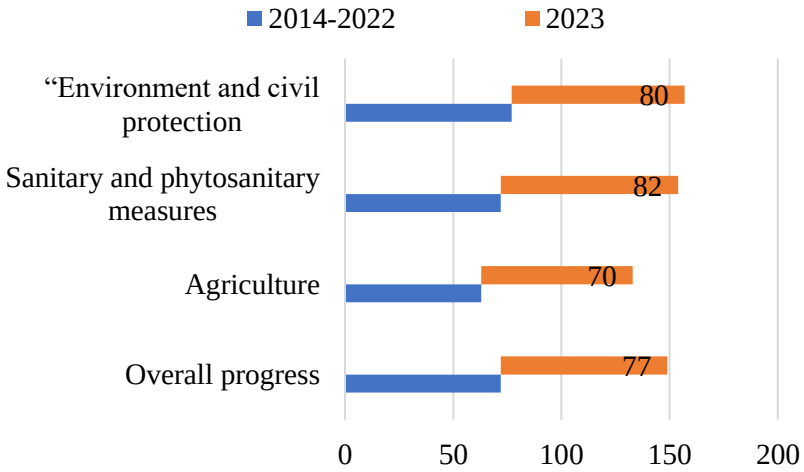


Figure 1.20. Progress in the implementation of the Association Agreement with the EU in general and in the field of agriculture for the period 2014-2023, %

Source: National Bank of Ukraine. (n.d).

As we can see, in 2023, Ukraine made progress in the field of agriculture and the growth was 7%.

The negative point is that the legislation regulating the production of agricultural products in the domestic market has not yet been implemented in these areas:

−protection of agricultural (mostly small) producers from unfair practices;

−vision of the future of the EU CAP (Common agrarian policy) and rules for financial support of national plans developed under the EU CAP;

−rules governing direct payments to farmers, as well as rules for financing, managing and monitoring of fixed agricultural support funds;

−assistance and compensation related to the joint organization of agricultural markets;

−rules for monitoring and accounting in agricultural production;

−promotion of agricultural products from the EU;

−EU rules on the marketing of certain types of agricultural products;

−rules governing the production and sale of genetically modified products;

−rules governing the use of pesticides and fertilizers;

−regulation of competition in agricultural markets.

The Ukrainian government, headed by the Ministry of Agrarian Policy, needs to comprehensively focus its efforts on the implementation of the above points, which is a prerequisite for closer integration of Ukraine with the EU in the area of agriculture.

Therefore, the following steps should be taken to adapt Ukrainian agricultural business to EU requirements (Fig. 1.21).

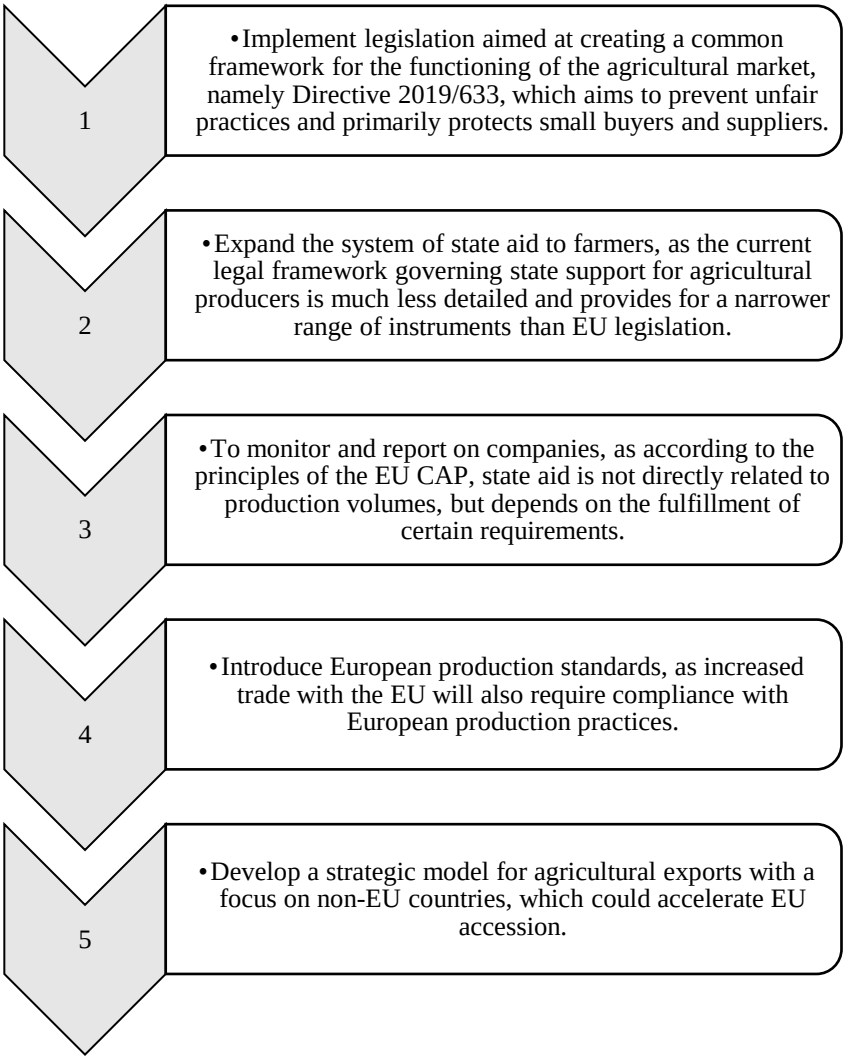


Figure 1.21. Main steps, which should be taken to adapt Ukrainian agricultural business to EU requirements

Source: compiled by the authors

The National Strategy for the Development of Agriculture in Ukraine will determine the future of the agricultural sector in the

domestic market, which is why it is necessary to develop and adopt a relevant policy document.

Particular attention should be paid to the digital transformation of Ukraine's foreign trade sector. Examples of the successful use of digital technologies to improve trade policy and data accumulation in Ukraine include the Single Window for International Trade and the introduction of the status of an authorized economic operator. The Single Window mechanism ensures high-quality control over companies' compliance with legal requirements, prompt exchange of information between customs, companies, and government agencies, fight against corruption, and simplification of foreign economic activity.

Ukraine still needs to take a number of steps to fully integrate with the EU and conduct trade relations with all EU trading partners, but the mechanism has been launched and we hope that very soon Ukrainian goods will be represented in all EU member states and their trading partners.

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1.2 Ways of Integration of the Principles of European Sustainable Development in the Ukrainian Context

Bahorka Maria,
Kvasova Lydmila

In the conditions of the modern world, the issue of sustainable development is gaining more and more importance, becoming an integral part of the political, economic and social strategies of many countries. The European Union, which is one of the leading initiators and supporters of sustainable development, has developed a number of policies and programs aimed at ensuring balanced development, environmental protection, social justice and economic stability. For Ukraine, which strives for integration with the EU and adaptation of its standards to European ones, the implementation of the values of sustainable development is an urgent and urgent task.

The implementation of EU sustainable development values in Ukraine at all levels is due not only to the need to meet European standards, but also to the desire to solve internal problems related to ecology, economy and social development. The implementation of the principles of sustainable development helps to increase the competitiveness of Ukrainian enterprises, improve the quality of life of citizens and strengthen the national economy as a whole. Sustainable development is one of the most important goals of modern society, because it involves achieving a balance between economic growth, social justice and environmental protection. However, the path to sustainable development is full of numerous challenges that require attention and comprehensive solutions.

The first and perhaps the biggest challenge is climate change. Global warming, caused by an increase in the concentration of greenhouse gases in the atmosphere, is already having serious consequences for our planet. Changes in temperature lead to

more frequent and intense extreme weather events, such as droughts, floods and hurricanes, which harm not only natural ecosystems but also human communities. Global efforts to reduce emissions and transition to renewable energy sources are needed to combat this challenge. Another significant problem is the depletion of natural resources. Excessive use of resources such as water, minerals and energy can lead to their depletion. This process negatively affects the economy and the quality of life of people who depend on these resources. In order to reduce the pressure on natural resources, it is necessary to implement sustainable practices of their use and to promote innovations in the field of resource conservation.

Biodiversity loss is another important challenge. Infrastructure development, destruction of habitats and environmental pollution lead to the extinction of species, which disrupts the ecological balance and can have unpredictable consequences for all living organisms. Biodiversity loss is a critical challenge facing our planet today, with far-reaching implications for ecosystems, human health, and the overall stability of the environment. As infrastructure development accelerates to accommodate growing populations and economic demands, natural habitats are increasingly destroyed or fragmented. This destruction not only leads to the direct loss of species but also disrupts the intricate relationships that exist within ecosystems.

Habitat destruction, whether through urbanization, agriculture, or industrial activities, reduces the available space for many species to thrive. As their habitats shrink, species are forced into smaller areas, leading to increased competition for resources such as food, water, and shelter. This can result in population declines and, ultimately, extinction. The loss of a single species can have a cascading effect on the entire ecosystem, as each organism plays a unique role in maintaining ecological balance. For example, the extinction of a predator can

lead to an overpopulation of prey species, which in turn can overconsume vegetation and disrupt the habitat further.

Environmental pollution is another significant contributor to biodiversity loss. Contaminants such as pesticides, plastics, and heavy metals can poison wildlife, disrupt reproductive systems, and lead to a decline in species populations. Polluted water bodies can devastate aquatic life, while air pollution can affect both terrestrial and marine ecosystems. The introduction of invasive species, often facilitated by human activities, can also outcompete native species for resources, further threatening biodiversity.

The consequences of biodiversity loss are unpredictable and can have severe implications for all living organisms, including humans. Ecosystems provide essential services such as pollination, water purification, and climate regulation. A decline in biodiversity can compromise these services, leading to food insecurity, increased vulnerability to natural disasters, and a decline in overall human health. Moreover, the loss of genetic diversity within species can reduce their resilience to diseases and changing environmental conditions, making them more susceptible to extinction.

In conclusion, addressing biodiversity loss requires a multifaceted approach that includes sustainable development practices, habitat conservation, pollution reduction, and the protection of endangered species. By recognizing the interconnectedness of all living organisms and the ecosystems they inhabit, we can work towards a more balanced and sustainable future that preserves the rich tapestry of life on Earth.

Preservation of biodiversity is critically important for maintaining the stability of ecosystems and providing environmental services on which humanity relies (Baker et al., 1997). Environmental pollution is another significant problem. Pollution of air, water and soil not only harms people's health, but also reduces the quality of natural resources that are

necessary for life. To overcome this challenge, it is important to reduce pollutant emissions and find effective ways to clean and dispose of waste.

Social inequality is also a serious challenge for sustainable development. Unequal access to resources, education and opportunities can lead to social conflicts and hinder the implementation of sustainable practices. To ensure social justice, it is necessary to work to reduce inequality and promote equal access to resources and opportunities for all. Social inequality poses a significant challenge to sustainable development, as it undermines the ability of individuals and communities to access resources, opportunities, and services necessary for their well-being. Inequality manifests in various forms, including economic disparities, unequal access to education and healthcare, and discrimination based on gender, race, or socioeconomic status. These disparities not only affect the quality of life for marginalized groups but also hinder overall societal progress and environmental sustainability.

Economic inequality is particularly pronounced in many parts of the world, where a small percentage of the population controls a disproportionate share of wealth and resources. This concentration of wealth limits opportunities for lower-income individuals and communities, making it difficult for them to invest in education, health, and sustainable practices. As a result, those at the bottom of the economic ladder often face barriers to upward mobility, perpetuating cycles of poverty and limiting their ability to contribute to sustainable development efforts.

Access to education is another critical area where social inequality manifests. Quality education is essential for empowering individuals to make informed decisions, participate in the workforce, and engage in civic life. However, marginalized groups often face significant obstacles in accessing quality education, leading to lower literacy rates and limited job opportunities. This educational gap not only affects individual

potential but also stifles innovation and economic growth, which are vital for achieving sustainable development goals.

Healthcare access is equally important in the context of social inequality. Disparities in healthcare can lead to significant differences in health outcomes, with marginalized populations often experiencing higher rates of illness and lower life expectancy. Poor health can limit individuals' ability to work, care for their families, and participate in their communities, further entrenching social and economic inequalities. Additionally, the burden of healthcare costs can disproportionately affect low-income families, diverting resources away from other essential needs.

Gender inequality is another critical aspect of social inequality that impacts sustainable development. Women and girls often face systemic barriers that limit their access to education, healthcare, and economic opportunities. Empowering women and promoting gender equality is essential for achieving sustainable development, as it leads to improved health, economic growth, and social cohesion. When women are given equal opportunities, they can contribute significantly to their communities and economies, fostering a more inclusive and sustainable future.

Addressing social inequality requires a comprehensive approach that includes policy reforms, investment in education and healthcare, and the promotion of inclusive economic growth. By prioritizing equity and social justice, societies can create an environment where all individuals have the opportunity to thrive and contribute to sustainable development. This not only benefits marginalized communities but also enhances overall societal resilience and sustainability.

Here are some additional strategies and considerations for addressing social inequality in the context of sustainable development. Governments must implement policies that promote social equity, such as progressive taxation, minimum

wage laws, and social safety nets. These policies can help redistribute wealth and provide support to those in need, enabling them to access essential services and opportunities. Ensuring that all individuals have access to quality education is crucial (Meadowcroft, 2007). This includes not only primary and secondary education but also vocational training and higher education. Scholarships, mentorship programs, and community-based educational initiatives can help bridge the gap for marginalized groups. Expanding access to affordable healthcare is vital for improving health outcomes in disadvantaged communities. This can be achieved through universal healthcare systems, community health programs, and targeted interventions that address specific health disparities.

Promoting gender equality requires targeted efforts to dismantle systemic barriers that women and girls face. This includes implementing policies that support equal pay, parental leave, and access to reproductive health services, as well as promoting women's leadership in all sectors. Engaging marginalized communities in decision-making processes is essential for ensuring that their voices are heard and their needs are addressed. Community-led initiatives can empower individuals and foster a sense of ownership over development projects.

Encouraging inclusive economic growth that benefits all segments of society is crucial. This can involve supporting small and medium-sized enterprises (SMEs), promoting fair trade practices, and investing in green jobs that provide sustainable livelihoods. Recognizing that individuals experience multiple forms of discrimination and disadvantage is important for addressing social inequality effectively. Policies and programs should take an intersectional approach, considering how factors such as race, gender, and socioeconomic status intersect to create unique challenges.

Collecting disaggregated data on social inequalities is essential for understanding the scope of the problem and measuring progress. Research can help identify effective interventions and inform policy decisions. Addressing social inequality is a global challenge that requires international collaboration. Countries can share best practices, support each other in implementing effective policies, and work together to tackle issues such as climate change, which disproportionately affects marginalized communities.

Economic instability is another aspect that can make it difficult to implement sustainable practices. Financial crises and unregulated markets can hinder the implementation of innovative solutions and force countries to abandon long-term environmental initiatives. To ensure economic stability and support sustainable development, it is important to create effective financial mechanisms and strategies that support environmental and social goals (Carson et al., 2009).

Technical and infrastructural constraints also play an important role in the process of achieving sustainable development. The lack of modern infrastructure and technologies can make it difficult to implement sustainable solutions and reduce their effectiveness. Contribution to the development of new technologies and improvement of infrastructure is key to a successful transition to sustainable development.

Overcoming these challenges requires an integrated approach and global cooperation. Only joint efforts can achieve a balance between economic growth, social justice and environmental protection. Innovation, education, political will and international cooperation are critical to achieving sustainable development and ensuring well-being for future generations (figure 1.22).

However, on the way to achieving these goals, there are numerous obstacles and challenges that require comprehensive research and analysis. It is necessary to develop effective

strategies and tools to overcome the economic, social and institutional barriers that stand in the way of implementing the values of sustainable development. It is important to study and adapt the European experience, which will allow to create effective mechanisms for the implementation of the principles of sustainable development in the Ukrainian context.

Figure 1.22. Challenges for sustainable development
Source: compiled by the authors.

The purpose of this work is to identify the main problems and develop ways of implementing the values of sustainable development of the EU in Ukraine at the level of companies, communities, and the national level. In the course of the study, a comprehensive analysis of the current state of implementation of the values of sustainable development in Ukraine will be carried out, the main barriers will be identified and specific recommendations will be offered to overcome them. In modern conditions of globalization and integration processes, the issue of sustainable development is becoming extremely relevant for all countries of the world, in particular for Ukraine. The European Union has long identified sustainable development as one of the key objectives of its policy, which is reflected in numerous strategies, programs and legislation. The values of sustainable development, such as environmental protection, social justice, economic stability and innovation, are becoming increasingly important to ensure long-term development and prosperity.

For Ukraine, which seeks to integrate into the European community and adapt its standards to European ones, the issue of implementing the values of sustainable development is of particular importance. This is determined not only by the desire to meet European standards, but also by the need to solve internal environmental, economic and social problems. Implementation of the principles of sustainable development helps to increase the competitiveness of Ukrainian companies, improve the quality of life of citizens and strengthen the national economy.

The purpose of this study is a comprehensive analysis and development of strategies for the implementation of the values of sustainable development of the European Union in Ukraine at various levels: companies, communities and at the national level. This question is extremely relevant in the modern context, because Ukraine, striving for European integration, must adapt

its policies and strategies in accordance with European standards of sustainable development. Sustainable development, as a complex and multifaceted concept, encompasses economic, social and environmental dimensions that must interact harmoniously to ensure long-term and balanced development of society. The European Union has long identified this approach as key in its policy, having created numerous regulatory acts, strategies and programs aimed at achieving sustainable development. Ukraine, having a significant potential for the development and implementation of new standards, faces a number of challenges and obstacles along the way (Steurer & Martinuzzi, 2005).

One of the tasks of the research is to identify and analyze the main problems that Ukraine faces in the process of implementing the principles of sustainable development. This includes economic, social and institutional barriers that prevent the full implementation of new standards. It is important to understand what factors hold back development and what measures can help overcome these obstacles.

Another task is the study and adaptation of European experience for Ukrainian realities. The European Union has many years of experience in successfully implementing sustainable development, and this experience can be useful for Ukraine. Analysis of best practices, successful cases and adaptation of these methods to the Ukrainian context will help create effective strategies for implementing sustainable development.

Also, the research aims to develop specific recommendations for different levels: companies, communities and national government. It is important for companies to develop strategies that will help them integrate the principles of sustainable development into their operations, increasing competitiveness and resilience to changes in the market. It is important for communities to find effective ways of implementing sustainable

development at the local level, taking into account the specifics and needs of specific regions. At the national level, it is necessary to develop policies and legislative initiatives that will contribute to the general implementation of the values of sustainable development in the country.

Therefore, this study aims not only to analyze the current state and identify problems, but also to develop specific strategies and recommendations that will help Ukraine implement the values of sustainable development of the European Union at all levels –from companies to the national government. This will contribute not only to the harmonious development of the country, but also to its integration into the European community, ensuring a stable and prosperous future for future generations.

The study of the implementation of the values of sustainable development of the European Union in Ukraine at the levels of companies, communities and the national level required the application of a wide range of methods to ensure a deep and comprehensive analysis. Given the complexity and multifacetedness of the topic, both traditional scientific methods and innovative approaches were used, allowing to obtain versatile and comprehensive information.

The first important method was document analysis and content analysis. To do this, we carefully studied the legal framework, in particular the legislative acts, strategies and programs regulating sustainable development both in the EU and in Ukraine. This allowed us to understand what requirements and standards are established at the international level and how they can be applied in the Ukrainian context. In addition, the content analysis of reports of international organizations, scientific articles and analytical materials provided an opportunity to identify best practices and the main challenges faced by different countries in the field of sustainable development.

The second important approach was comparative analysis. We compared the practices of sustainable development in the EU countries and in Ukraine, which made it possible to identify common and distinctive features, as well as to assess the possibilities of adapting European experience to Ukrainian realities. This comparison made it possible to determine which elements of European strategies can be most effective for Ukraine, and to identify potential obstacles on the way to their implementation.

Sociological methods also played a key role in our research. We conducted surveys and questionnaires among representatives of companies, communities and state authorities to collect data on the current state of implementation of sustainable development. These surveys helped to understand how different stakeholders perceive the concept of sustainable development, what problems they see and what solutions they consider to be the most effective. In addition, in-depth interviews with experts made it possible to obtain valuable insights and practical recommendations from professionals who directly deal with issues of sustainable development.

Finally, we applied forecasting and modeling techniques to assess the potential outcomes of implementing various sustainable development strategies in Ukraine. This made it possible not only to identify possible positive changes, but also to warn about risks and negative consequences that may arise in the process of implementing certain measures.

All these methods combined allowed us to achieve a deep understanding of the problem and develop specific recommendations for the effective implementation of EU sustainable development values in Ukraine at all levels. The use of various methodological approaches provided a versatile analysis and created a basis for well-founded and practically oriented conclusions. Studying issues of sustainable development, especially in the context of adapting European

values to Ukrainian reality, requires a thorough analysis of scientific works, reports of international organizations, legislative documents and other sources of information. The literature review is focused on three main aspects: the theoretical foundations of sustainable development, the European experience of implementing the principles of sustainable development, and the peculiarities of their adaptation in Ukraine. The theoretical foundations of sustainable development are widely covered in the scientific works of such authors as Harlem Bruntlann, who first introduced the concept of sustainable development in reports "Our Common Future" (1987). This report became the basis for further research and policy decisions in the field of sustainable development.

Also important are the works of such authors as Jeffrey Sachs ("The Age of Sustainable Development") and Amartya Sen, who analyze the economic and social aspects of sustainable development. The European experience of implementing sustainable development is described in detail in numerous reports and studies of the European Commission, in particular in the "European Green course" (European Green Deal), which defines the strategy of transition to a climate-neutral economy. OECD (Organization for Economic Cooperation and Development) research, which provides analytical support for the implementation of sustainable development at the national and regional levels, is also an important source (Hák et al., 2016).

The adaptation of European principles of sustainable development in Ukraine requires the study of the local context and existing national strategies. In this context, the scientific works of Ukrainian researchers, such as Lidia Shpak and Oleksandr Popovych, who analyze national characteristics and challenges of implementing sustainable development, are important. An important source is also the reports of the United Nations Development Program (UNDP) in Ukraine, which

provide a comprehensive analysis of the current state and prospects for sustainable development in the country.

Industrial and regional aspects of sustainable development in Ukraine: focus on the Dniprovskyj region

Sustainable development is critically important for ensuring Ukraine's long-term stability and prosperity. This implies a harmonious balance between economic growth, social justice and environmental sustainability. In Ukraine, in particular in the Dnipro region, the implementation of sustainable development faces a number of specific challenges and opportunities that require an integrated approach. The Dnipro region, located in the center of Ukraine, is an important industrial center. Numerous enterprises of heavy industry are concentrated here, including metallurgy, chemical industry and engineering. While these industries contribute to economic growth, they also create significant environmental pressures (Table 1.4).

Table 1.4. The main challenges and prospects of sustainable development in the industrial regions of Ukraine

Challenges and prospects of sustainable development	Key characteristics
A	1
Environmental pollution	Industrial emissions and waste disposal can pollute air, water and soil. This requires modernization of technologies and implementation of environmental standards to reduce the negative impact.
Energy efficiency	Technologies often consume a lot of energy and resources. Switching to the latest energy-efficient solutions and renewable energy sources can significantly reduce the environmental footprint of industry.

Continuation of Table 1.4

A	1
Innovation and green economy	The transition to innovative and ecological technologies can create new jobs and contribute to the development of the "green" economy. The development of environmentally friendly production and products is becoming an important aspect of industrial transformation.
Regional aspects	The Dnipro region, as one of the economic centers of Ukraine, has significant potential for sustainable development. However, this region also faces a number of specific regional challenges.
Socio-economic problems	Uneven development and high dependence on heavy industry can lead to social tensions and economic instability. Development of social infrastructure and support of local initiatives can help reduce these problems.
Regional management and planning.	Effective management and strategic planning are key to ensuring balanced development. It is necessary to implement comprehensive strategies that take into account both economic and environmental aspects of development.
Improving the quality of life	Improving the quality of life Regional initiatives should focus on improving the quality of life of residents, which includes improving infrastructure, education and health services. Supporting local community projects and environmentally friendly initiatives can significantly improve people's lives.
Natural resources and conservation	The region has a number of natural resources that require protection and rational use. Ensuring sustainable management of natural resources is important for preserving the ecological balance.

Source: compiled by the authors.

Sustainable development in Ukraine, and in particular in the Dnipro region, requires a comprehensive approach that takes into account industrial and regional aspects. Modernization of industrial processes, implementation of innovative technologies, socio-economic support and effective management of natural resources are key to achieving long-term sustainability.

Only joint efforts can ensure a harmonious balance between economic development, social justice and environmental sustainability in this important region of Ukraine (Table 1.5).

Table 1.5. Basic principles and strategies

Basic principles and strategies	Detailed description
Sustainable economic development	The EU aims to ensure sustainable economic growth that does not harm the environment and that ensures long-term prosperity. This includes the promotion of innovation, the development of a green economy and the introduction of technologies that reduce the impact on the climate.
Environmental protection	An important aspect is the reduction of greenhouse gas emissions, improvement of air and water quality, protection of biodiversity and preservation of natural resources. The EU is actively working on the implementation of the Paris Agreement and the realization of its climate goals.
Social justice	The EU emphasizes the need to ensure social justice and equal opportunities for all citizens. This includes supporting social inclusion, fighting poverty and inequality, and ensuring access to quality education and health services.
Global responsibility	Global responsibility The EU is also focused on promoting sustainable development at the global level. This includes supporting international initiatives, helping developing countries, and working with international organizations to address global challenges.

Source: developed by the authors.

The European Union (EU) has become a world leader in promoting the concept of sustainable development, recognizing it as the key to ensuring long-term stability and well-being. In line with this approach, the EU seeks to integrate economic development, social justice and environmental protection into its policies and strategies. The concept of sustainable development for the EU is based on principles that apply to all aspects of social life and the economy (Adelle & Russel, 2013).

The concept of sustainable development in the context of the European Union is the basis for its policies and strategies aimed at ensuring balanced and long-term development. Thanks to the integration of economic, environmental and social aspects, the EU seeks to create conditions for sustainable prosperity, environmental protection and improvement of the quality of life of its citizens. The realization of these goals requires effective governance, innovative approaches and international cooperation, making the EU an important player at the global level in the field of sustainable development (Table 1.6).

Table 3 highlights the main EU initiatives and policies aimed at achieving sustainable development and improving the quality of life in Europe. The European Green Deal envisages the transition to a carbon-free economy by 2050, focusing on decarbonization and the development of renewable energy sources. The circular economy action plan aims to reduce waste and preserve natural resources through reuse and recycling of materials. The Biodiversity Strategy focuses on the protection and restoration of natural environments. The social policy and strategy of "Europe 2020" is aimed at improving social and economic development, increasing the level of employment and fighting poverty. These initiatives underline the EU's commitment to environmental sustainability and social progress (Kvasova et al., 2023).

Table 1.6. The main initiatives and policies of the state

Main initiatives and policies of the EU	Key characteristics
The European Green Deal	The European Green Deal is one of the most ambitious initiatives of the EU, which envisages the transition to a carbon-free economy by 2050. The course includes strategies for decarbonization, improving energy efficiency and expanding the use of renewable energy sources.
The EU Circular Economy	The EU Circular Economy Action Plan works to create an economic model that reduces waste, promotes reuse and recycling of materials. This plan is aimed at reducing the pressure on natural resources and reducing the ecological footprint.
The EU Biodiversity	The EU Biodiversity Strategy takes measures to protect and restore natural environments and species. This includes expanding the network of protected areas and implementing measures to preserve important ecosystems.
Social policy and strategy "Europe 2020"	Social policy and strategy "Europe 2020" This strategy is aimed at ensuring social and economic development, increasing employment, improving education and fighting poverty. It includes specific goals and indicators for achieving sustainable social development.

Source: compiled by the authors.

Basic values and goals of sustainable development of the European Union

The European Union (EU) is committed to sustainable development that reflects its core values and goals aimed at ensuring the long-term well-being of all citizens and the planet. These values and goals combine the economic, social and environmental dimensions of sustainable development, creating a comprehensive approach to solving global challenges (Table 1.7).

Table 1.7. Key values of the EU: social justice, democracy and sustainable development

Core values	Description
Social justice and inclusiveness	The EU pays great attention to ensuring social justice and equal opportunities for all. This includes fighting poverty, inequality and social exclusion, as well as supporting social inclusion and access to quality services in the areas of education and health care.
Democracy and human rights	Respect for democratic principles and human rights are key values of the EU. This includes ensuring the rights and freedoms of all citizens, protection against discrimination and promotion of participation in political and social life.
Environmental sustainability.	The EU is actively working on environmental protection and the fight against climate change. This involves reducing the negative impact on ecosystems, preserving biodiversity and rational use of natural resources.
Innovation and sustainable economic development	The EU supports innovation and technological progress as the key to sustainable economic growth. This includes promoting the development of new technologies, green investments and improving energy efficiency

Source: compiled by the authors.

Table 1.7 highlights the core values of the EU, which underpin its development policies and strategies. Social justice and inclusiveness, democracy and human rights, environmental sustainability, as well as support for innovation and sustainable economic development are key factors determining the European approach to building a stable and prosperous society. These values reflect the EU's desire to create a more equal, environmentally safe and technologically advanced future for all its citizens.

Table 1.8. EU strategic goals: the path to climate neutrality and sustainable development

Main goals	Key factors
Achieving climate neutrality	The EU has set itself the ambitious goal of becoming climate neutral by 2050. This involves reducing greenhouse gas emissions, switching to renewable energy sources and improving energy efficiency.
Development of a circular economy	The EU aims to move from a linear economy to a circular economy where resources are used efficiently, waste is minimized and materials are reused and recycled
Improving the quality of life and social equality	The EU aims to improve the quality of life of its citizens through social initiatives such as improving the level of education, access to health services and the fight against poverty and inequality.
Protection of biodiversity and natural resources	Preservation of natural ecosystems and biodiversity is an important priority. The EU works to protect natural areas, restore degraded lands and reduce the impact of human activities on the environment.
Promoting international cooperation	The EU actively supports global initiatives in the field of sustainable development, provides assistance to developing countries, and development works to achieve the UN's sustainable development goals.
Supporting the EU's green transformation	supports the transition to an economy based on clean technologies and renewable energy, in particular through initiatives such as the European Green Deal and the Energy Efficiency Strategy.

Source: compiled by the authors.

The main values and goals of sustainable development of the European Union are focused on ensuring social justice, economic prosperity and environmental sustainability. The EU works to achieve climate neutrality, develops a circular

economy, improves the quality of life of its citizens and actively supports global initiatives. This integrated approach reflects the EU's commitment to sustainable and balanced development that will ensure long-term well-being for people and the planet (Khill & Lenschow, 2005).

Sustainable development has become an important priority for Ukraine in the context of global challenges and the need to ensure long-term stability and prosperity. Implementation of the values of sustainable development in Ukraine is a complex and multifaceted process that covers economic, social and environmental aspects. Let's consider the main elements of this process, as well as the current state of implementation of these values (Table 1.9).

Table 1.9. Sustainable development in Ukraine: economic, social and environmental challenges and initiatives

Sustainable development in Ukraine	Key factors
A	1
Economic aspect	
Reforms and investments	In Ukraine, the economic system is being reformed with the aim of creating a favorable environment for investments and the development of innovations. Programs to support small and medium-sized businesses, as well as attracting investments in technological progress and the green sector, were important steps.
Energy efficiency and renewable energy	Interest in energy efficiency and renewable energy sources is gradually growing. Projects on the development of solar and wind energy, as well as the modernization of infrastructure to reduce energy costs, are being implemented in Ukraine
Industry and environmental sustainability	Reforming industrial processes aimed at reducing the negative impact on the environment is an important aspect of sustainable development. However, the lag in the implementation of modern environmental standards and technologies remains a problem

Continuation of Table 1.9

A	1
Social Aspect	
Social justice and inclusion	Initiatives aimed at combating poverty, ensuring equal access to education and medical services are implemented in Ukraine. However, inequality and social problems such as high unemployment and inadequate social protection remain relevant.
Reforms in education and health care	Reforms are being carried out in the education and health care systems, which aim to improve the quality and availability of these services. An important goal is to ensure inclusiveness and equal access to resources for all segments of the population.
Support of local communities	Increasing the participation of local communities in decision-making and the development of local initiatives contribute to social inclusion and support of development at the local level.
Environmental aspect	
Environmental protection	Measures are being taken to improve the quality of air, water and soil in Ukraine. Programs for cleaning water resources, combating pollution and preserving natural areas are being implemented. However, environmental pollution remains a significant problem.
Environmental protection	Measures are being taken to improve the quality of air, water and soil in Ukraine. Programs for cleaning water resources, combating pollution and preserving natural areas are being implemented. However, environmental pollution remains a significant problem.
Biodiversity and natural resources needs further resolution.	In Ukraine, projects are being implemented to protect biodiversity, create nature conservation areas, and restore degraded lands. However, the problem of illegal hunting and destruction of natural environments

Source: compiled by the authors.

Table 1.9 highlights key aspects of sustainable development in Ukraine, including economic, social and environmental challenges and initiatives. In the economic aspect, the emphasis

is on reforms and investments that contribute to the development of small and medium-sized businesses, as well as the introduction of innovations, especially in the green sector. At the same time, the country is taking steps to increase energy efficiency and develop renewable energy sources, which is an important component of sustainable economic growth. The industry is gradually reforming with the aim of reducing the negative impact on the environment, although there is still a need for more active implementation of modern environmental standards.

Social initiatives in Ukraine are aimed at fighting poverty, ensuring social justice, inclusiveness and access to quality educational and medical services. Along with this, the support of local communities becomes an important element of social inclusion and development at the local level.

Environmental efforts focus on protecting the environment, combating climate change, and preserving biodiversity. Despite the existence of initiatives in these areas, the problems of environmental pollution, illegal hunting and destruction of natural environments require further solutions to achieve true environmental sustainability.

Sustainable development in Ukraine, as in many other countries, faces a number of serious challenges that complicate the effective implementation of strategies and initiatives in this area. Despite progress in a number of areas, existing difficulties indicate the need for a comprehensive approach to solving problems and implementing sustainable development strategies.

One of the most pressing challenges is the lack of resources and funding. The implementation of sustainable development initiatives requires significant investments, which are not always available at the national level. Without adequate financing, it is difficult to ensure the implementation of large-scale projects aimed at environmental protection, social welfare and economic development. Therefore, attracting investment, both from

internal and external sources, is critical to ensure sustainable progress. International aid and cooperation with international financial institutions can become key elements in overcoming financial obstacles.

Political and economic instability is another serious challenge. Periods of political and economic crises are often accompanied by a lack of stability in state institutions and economic systems, which can delay or even stop the implementation of a sustainable development strategy. The stability of the political situation and the harmonious functioning of the economic system are necessary to create favorable conditions for the implementation of reforms and sustainable development.

Educational and information deficits also play an important role. It is important that citizens and businesses are aware of the importance of sustainable development and understand how their activities can affect the environment and society. Raising the level of education and awareness is an important factor in ensuring public participation in processes related to sustainable development. Without proper education and information, citizens may not be aware of the importance of changes, which limits the effectiveness of implementing sustainable development strategies (Fig. 1.23). Despite these challenges, there are also positive prospects. Continuation of reforms, raising the level of education and awareness, as well as ensuring financial and political support are key to achieving long-term success in the implementation of sustainable development. A comprehensive approach covering economic, social and environmental aspects will ensure balanced development and solution of modern problems. The development of partnerships between state structures, business and civil society will contribute to the creation of effective solutions that can serve as the basis for a sustainable future of Ukraine (Kvasova, 2023).

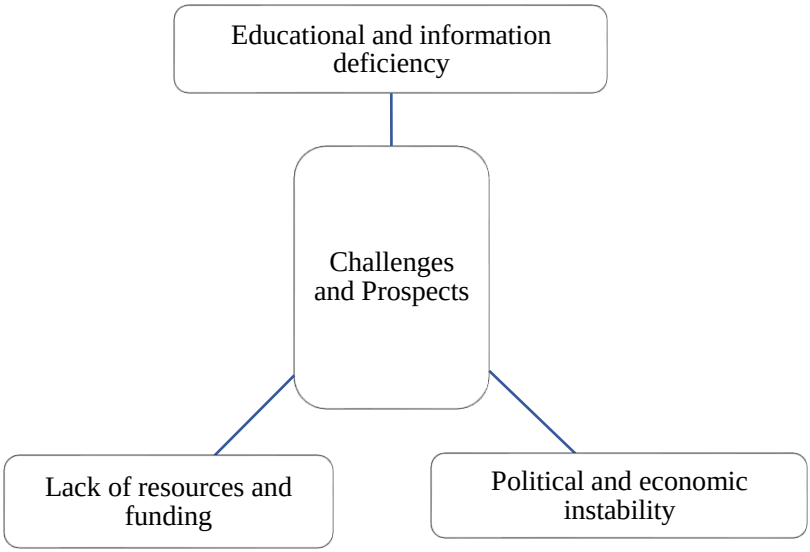

Figure 1.23. Elements that complicate the effective implementation of strategies and initiatives.
Source: compiled by the authors.

Thus, this information confirms that the path to sustainable development in Ukraine will require efforts on several fronts: reducing financial constraints, overcoming political and economic difficulties, and raising educational levels and awareness. Only under the conditions of an integrated approach and sustainable partnership can success be achieved in the implementation of sustainable initiatives and ensure sustainable development of the country (Table 1.10).

Table 1.10. Elements that complicate the effective implementation of strategies and initiatives

Elements	Detailed description of problems
Lack of resources and funding.	One of the main problems is insufficient funding and resources for the implementation of sustainable initiatives. This requires investment and international assistance.
Political and economic instability	Political and economic crises can delay the implementation of the sustainable development strategy and complicate the implementation of reforms.
Education and information gap	Raising awareness of the importance of sustainable development among citizens and businesses is a key factor for the successful implementation of strategies.

Source: compiled by the authors.

The state of implementation of sustainable development values in Ukraine demonstrates progress in a number of areas, but also indicates the presence of significant challenges. Continuation of reforms, raising the level of education and awareness, as well as providing financial and political support are important for achieving long-term success in the implementation of sustainable development. A comprehensive approach covering economic, social and environmental aspects is key to ensuring sustainable and balanced development of Ukraine.

Overview of national strategies and programs of sustainable development in Ukraine

National sustainable development strategies and programs are important tools for ensuring a harmonious balance between economic growth, social justice and environmental protection in Ukraine. They define the priorities, goals and concrete actions that are necessary to achieve sustainable development at the national level. Here is an overview of the main strategies and programs implemented in Ukraine (Table 1.11).

Table 1.11. Overview of the main strategies and programs implemented in Ukraine

Name & Key characteristics	Main goals	Main directions
A	1	2
The National Strategy for Sustainable Development of Ukraine until 2030 is the main document defining the country's long-term development strategy.	Social integration: Reducing social inequality, ensuring equal access to education and medical services, supporting socially vulnerable population groups. Environmental sustainability: Reduction of greenhouse gas emissions, improvement of environmental quality, protection of natural resources and biodiversity. Reforming economic and social systems. Improvement of environmental policy and legislation. Development of green technologies and renewable energy sources.	Its goal is to ensure sustainable development in all three dimensions: economic, social and environmental. Economic development: Increasing the competitiveness of the economy, promoting innovation and technological progress, developing infrastructure and supporting small and medium-sized businesses.
National Action Plan for Environmental Protection is the document that defines specific measures and initiatives to improve the quality of the environment in Ukraine.	Air pollution: Reduction of emissions of pollutants, modernization of industrial emissions. Water quality: Purification of water resources, fight against pollution of rivers and reservoirs. Waste management: Improving the system of collection, processing and disposal of waste.	Implementation of new cleaning technologies and pollutant control. Development of infrastructure for waste management. Monitoring and assessment of environmental quality.

Continuation of Table 1.11

A	1	2
National Energy Strategy until 2035 defines priorities in the field of energy aimed at ensuring energy security and sustainable development of the energy sector.	Energy security: Ensuring the stability of energy supplies and reducing dependence on imported sources. Energy efficiency: Reducing energy consumption and improving energy efficiency in all sectors of the economy. Renewable energy sources: Development of solar, wind and other renewable energy sources.	Modernization of energy infrastructure. Investments in new technologies and research in the field of renewable energy. Development of energy efficiency programs for industrial and residential sectors.
Climate Change Adaptation Strategy envisages measures to adapt to the negative consequences of climate change, which may affect economic and social aspects.	Reducing vulnerability: Increasing the resilience of infrastructure and the economy to climate change. Adaptation of agriculture: Development of strategies for adaptation of the agricultural sector to climate change. Water management: Ensuring sustainable water management in the face of climate change	Development and implementation of adaptation measures in various sectors of the economy. Raising awareness and preparing citizens for climate change. Monitoring and evaluation of the effectiveness of adaptation strategies
Strategy for the development of rural areas aimed at improving living conditions in rural areas and supporting the sustainable development of the agricultural sector.	Economic development: Support of agrarian business, infrastructure development and investment attraction. Social inclusion: Improving access to education, health services and social infrastructure. Environmental protection: Development of ecological practices in agriculture.	Development of rural infrastructure projects. Support of local initiatives and projects to improve the quality of life. Implementation of ecological and sustainable agronomic practices

Source: developed by the authors.

The National Sustainable Development Strategies of Ukraine until 2030 and subsequent documents, such as the National Action Plan for Environmental Protection, the National Energy Strategy until 2035, and the Strategy for Adaptation to Climate Change, outline a comprehensive approach to ensuring the long-term development of the country in three main dimensions: economic, social and environmental. Each of these documents tries to solve specific tasks and challenges related to various aspects of sustainable development (Bilovol, 2019).

1. The National Strategy for Sustainable Development of Ukraine until 2030 represents a fundamental plan for the implementation of the sustainable development strategy, which defines the main directions for achieving sustainable development of the country. The main goals are to increase the competitiveness of the economy through innovation, technological progress and infrastructure development, as well as to reduce social inequality by ensuring equal access to education and health services. The ecological component involves reducing greenhouse gas emissions, improving the quality of the environment, and protecting natural resources. To achieve these goals, it is necessary to continue reforms in economic and social systems, improve environmental policy and legislation, as well as develop green technologies and renewable energy sources.

2. The National Environmental Action Plan focuses on specific measures to improve the quality of the environment. The main tasks include the reduction of air pollution through the modernization of industrial emissions, the purification of water resources and the fight against pollution of rivers and reservoirs, as well as the improvement of the waste management system. For the successful implementation of these measures, it is necessary to introduce new cleaning technologies, modernize the infrastructure for waste management and monitor the quality of the environment.

3. The National Energy Strategy until 2035 focuses on ensuring energy security and increasing the efficiency of energy use. Top priorities include reducing dependence on imported energy sources, increasing energy efficiency in all sectors of the economy, and developing renewable energy sources such as solar and wind. To achieve these goals, it is necessary to modernize the energy infrastructure, invest in new technologies and develop energy efficiency programs.

4. The climate change adaptation strategy focuses on adapting to the negative consequences of climate change, which may affect various aspects of the country's life. The main directions include reducing the vulnerability of infrastructure and the economy, adapting the agricultural sector to climate change, and sustainable management of water resources. For successful adaptation, it is necessary to implement specific adaptation measures in various sectors, raise public awareness and ensure effective monitoring and evaluation of the results of adaptation strategies.

The conclusion of these strategies emphasizes the need for an integrated approach to sustainable development that integrates economic, social and environmental aspects. Successful implementation of strategies requires coordination of actions at all levels, from state policy to local initiatives, and active involvement of all stakeholders. A comprehensive and coordinated approach will allow Ukraine to effectively solve current problems and ensure sustainable development in the future.

National strategies and programs of sustainable development in Ukraine determine the main priorities and directions for achieving harmonious development of the economy, society and environment. They cover a variety of aspects, from energy efficiency and environmental sustainability to social justice and adaptation to climate change. The implementation of these

strategies is critically important for ensuring sustainable and long-term development of the country.

Existing achievements and shortcomings in Ukraine in the sphere of sustainable development

Ukraine has taken significant steps in the direction of sustainable development, implementing a number of reforms and initiatives. However, numerous challenges remain that require further resolution. Here is an overview of the main achievements and shortcomings in Ukraine in the field of sustainable development (Table 1.12) (Honcharuk, 2020).

Table 1.12. Existing achievements and shortcomings in Ukraine

Achievement	Key characteristics
A	1
Energy transformation and renewable energy	Development of renewable energy sources: In Ukraine, there is an increase in investments in renewable energy sources, in particular solar and wind energy. Several large projects have been implemented, such as solar power plants in the south of the country. Energy efficiency: Measures are being implemented to increase energy efficiency in the industrial and residential sectors, including modernization of heating systems and building insulation.
Environmental policy and environmental protection	Legislation and regulation: Ukraine has adopted a number of laws and regulations regulating environmental protection, including legislation on air, water and waste protection. Nature protected areas: Increasing the area of nature protected areas and creating new national parks and reserves.
Social initiatives	Social reforms: Reforms are being implemented in the health care and education systems aimed at improving access to quality services and social justice. Support of local communities: Implementation of local community development programs, including support for infrastructure projects and social initiatives.

Continuation of Table 1.12

A	1
Information technologies and innovations	Development of technologies: The growth of investments in the IT sector, which contributes to the development of innovations and digital technologies in Ukraine. Environmental technologies: Implementation of new technologies in the field of ecology, for waste management and water purification.
Disadvantages	Key features
Problems with the implementation of environmental standards	Environmental pollution: Air and water pollution problems remain relevant, in particular due to insufficient control over industrial emissions and outdated treatment infrastructure. Inadequate waste management: Insufficient efficiency of the waste collection, processing and disposal system. There are big problems with illegal dumping of waste and insufficient development of the infrastructure for their processing.
Lack of resources and funding	Limited funding: Insufficient funding to implement sustainable initiatives and programs, making it difficult to implement long-term strategies. Dependence on international aid: High dependence on international financial and technical resources.
Political and economic instability	Political crises: Political instability and corruption can slow down the process of implementing reforms and implementing sustainable development programs.
Weak implementation and monitoring	Insufficient control: Weak implementation of legislative and regulatory norms, insufficient control over their compliance. Lack of coordination: Insufficient coordination between different state and local agencies, which can lead to duplication of effort or inefficient use of resources.

Source: developed by the authors.

Ukraine has made significant progress in the field of sustainable development, in particular in the development of renewable energy, improvement of environmental policy and social reforms. However, significant shortcomings remain, such as environmental pollution, lack of funding and political

instability. To overcome these problems, it is necessary to ensure more effective implementation of policies, attract additional resources and ensure proper monitoring and control. A comprehensive approach and joint efforts of all interested parties can help Ukraine achieve sustainable and balanced development in the future (Demydenko, 2021).

Implementation of Sustainable Development at the National Level in Ukraine

The implementation of sustainable development at the national level is a complex process that includes the integration of environmental, economic and social aspects into all spheres of governance and politics of the country. In Ukraine, this process covers the development of strategies, implementation of programs and activities, as well as monitoring and evaluation of results. Here are the main aspects of the implementation of sustainable development in Ukraine (Table 1.13).

Table 1.13. Aspects of implementation of sustainable development in Ukraine

Formation of the National Policy	Description of the strategy
Strategies and plans	National Strategy for Sustainable Development: Ukraine adopted the National Strategy for Sustainable Development until 2030, which defines key directions and goals for ensuring economic, social and environmental development. National action plan: National action plans have been developed, which include specific measures and initiatives to achieve the goals of sustainable development strategies.
	Laws and Regulations: Laws governing environmental protection have been adopted, including laws on air pollution, waste management and water resources.

Continuation of Table 1.13

A	1
Legislation Environmental	Energy policy: Legislation supporting the development of renewable energy sources, energy efficiency and reduction of greenhouse gas emissions. 2. Implementation of programs and initiatives Economic development: Green economy: Implementation of programs to support green technologies and investments in sustainable development, in particular in renewable energy sources and energy efficiency. Industrial initiatives: Implementation of initiatives aimed at modernizing industrial processes to reduce the negative impact on the environment.
	Social programs Educational and medical reforms: Reforms are underway to improve the quality of education and health care, ensure social justice and equal access to services. Support of socially vulnerable groups: Programs and initiatives aimed at supporting socially vulnerable segments of the population, including programs to combat poverty and social exclusion.
	Environmental initiatives Waste management: Development of infrastructure for collection, processing and disposal of waste, implementation of a separate garbage collection system. Conservation of natural resources: Projects to protect biodiversity, restore degraded lands and protect water resources.
3. Monitoring and Evaluation	Progress monitoring National indicators: Determination of key indicators for monitoring progress in the field of sustainable development, in particular in the field of ecology, economy and social development. Reports and evaluation: Regular preparation of reports on the implementation of strategies and action plans, which ensures transparency and accountability in the implementation of initiatives.

Continuation of Table 1.13

A	1
3. Monitoring and Evaluation	Adaptation and adjustment Analysis of results: Analysis of achievements and shortcomings in the implementation of programs, which allows to adjust strategies and plans according to new challenges and changes. Flexibility and adaptation: Adapting national policies and programs to new conditions and needs, ensuring flexibility in implementing sustainable initiatives.
4. Involvement of society and partners	Public participation Information campaign: Conducting information campaigns to increase citizens' awareness of the importance of sustainable development and participation in relevant initiatives. Participation in decision-making processes: Involvement of public organizations and local communities in decision-making processes and implementation of sustainable development programs.
	International cooperation Cooperation with international organizations: Participation in international initiatives and programs aimed at sustainable development, receiving technical and financial assistance from international donors. Integration of international standards: Implementation of international standards and best practices in the field of sustainable development into national policies and strategies.

Source: developed by the authors.

Implementation of sustainable development at the national level in Ukraine is a complex and multifaceted process that requires coordination of efforts at all levels of management. Directed national strategies, programs, and initiatives make it possible to achieve significant success in ensuring sustainable economic, social, and environmental development. However, to overcome existing challenges, it is necessary to ensure effective implementation of policies, attraction of resources and active

participation of society and international partners (Martyniuk, 2018).

Policy and legislation on sustainable development in Ukraine

Policy and legislation of Ukraine in the field of sustainable development cover various aspects of economic, social and environmental development. They are aimed at ensuring a harmonious balance between economic interests, social justice and environmental protection. Here is an overview of the key elements of policy and legislation on sustainable development in Ukraine (Table 1.14).

Table 1.14. Policy and legislation on sustainable development in Ukraine

1. Policy in the field of sustainable development
1.1. National strategies and plans National strategy for sustainable development until 2030: The main document defining strategic priorities for ensuring sustainable development in Ukraine. The goal is to integrate economic, social and environmental aspects into all spheres of the country's life National Action Plan: A document specifying the steps and measures for the implementation of the sustainable development strategy. Includes sections on economic development, social integration and environmental protection.
1.2. Energy policy National energy strategy until 2035: A document that defines priorities in the field of energy, including the development of renewable energy sources, increasing energy efficiency and ensuring energy security.
1.3. Social politicians National strategy for the development of human capital: Focused on improving the quality of life of citizens, ensuring equal access to education and medical services, as well as supporting socially vulnerable groups.
1.4. Policy in the field of waste management and environmental protection Waste Management Strategy: Includes measures to improve the collection, processing and disposal of waste, as well as to reduce the negative impact of waste on the environment.

Continuation of Table 1.14

2. Legislation on sustainable development
Law of Ukraine "On Environmental Protection": The main legislative act regulating environmental protection in Ukraine. Establishes requirements for reducing pollution, managing natural resources and preserving biodiversity. The Law of Ukraine "On Environmental Audit": Regulates the conduct of environmental audits to assess compliance of enterprises with environmental standards and norms
2.2. Legislation in the field of energy Law of Ukraine "On Alternative Energy Sources": Promotes the development of renewable energy sources, such as solar and wind energy, by providing support and incentives for investors. Law of Ukraine "On Energy Efficiency": Defines requirements for improving energy efficiency in industry, construction and other sectors.
2.3. Social legislation Law of Ukraine "On Social Services": Regulates the provision of social services to the population, including support for socially vulnerable groups and ensuring equal access to social benefits. Law of Ukraine "On Education": Establishes requirements for the education system, contributes to improving the quality of educational services and ensuring equal access to education for all citizens.
2.4. Legislation in the field of waste management The Law of Ukraine "On Waste": Defines the rules of waste management, including their collection, processing, disposal and reduction of their negative impact on the environment.
2.5. Climate change legislation Law of Ukraine "On Climate Change": Regulates measures for adaptation and mitigation of the consequences of climate change, in particular, reduction of greenhouse gas emissions and adaptation to climate change.

Source: developed by the authors.

Based on this information, several key conclusions can be drawn (Shevchuk, 2020): Ukraine is actively working to integrate the principles of sustainable development into all spheres of social life. National strategies and plans, such as the 2030 Sustainable Development Strategy and the National Action Plan, are fundamental documents that define strategic priorities and specific measures to achieve sustainable development in the

country. Priorities in the energy policy of Ukraine include the development of renewable energy sources and the improvement of energy efficiency. This shows the country's desire to reduce dependence on traditional energy sources and strengthen energy security. Improving the quality of life of the population: Social policies, in particular the National Strategy for the Development of Human Capital, are aimed at improving the living conditions of citizens, ensuring equal access to education and health care, as well as supporting vulnerable sections of the population. The policy of waste management and environmental protection indicates increased attention to environmental problems. The waste management strategy is aimed at reducing the negative impact of waste on the environment, which is an important step towards environmental sustainability.

Adoption of laws such as "On Environmental Protection" and "On Environmental Audit" provides a legal basis for the implementation of environmental initiatives and monitoring of compliance with environmental standards in the country. These findings demonstrate Ukraine's focus on achieving balanced development that takes into account economic, social and environmental aspects to ensure a sustainable future.

Policy and legislation on sustainable development in Ukraine are an important tool for achieving economic, social and environmental balance. Implementation of national strategies and programs, as well as improvement of legislation, are keys to ensuring sustainable development of the country. However, in order to overcome the existing challenges, it is necessary to ensure effective implementation of norms, attract additional resources and support the active participation of all stakeholders (Chyzh, 2019).

State initiatives and programs in Ukraine regarding sustainable development

State initiatives and programs are the basis for the implementation of sustainable development policy in Ukraine. They are aimed at achieving balanced development of the country in economic, social and environmental dimensions. Below is an overview of the main state initiatives and programs implemented in Ukraine (Table 1.15).

Table 1.15. State initiatives and programs

Name of the program	Objectives
Energy Transformation	
Program "Energy Efficiency" Modernization of heating systems and building insulation. Implementation of new technologies to reduce energy consumption. Promoting the development of energy-efficient solutions in industry	The program is focused on increasing energy efficiency in various sectors of the economy, in particular in industry, the residential sector, and utilities
Program "Renewable Energy" Expansion of the territories of nature protection zones. Restoration of ecosystems and protection of rare species of flora and fauna. Reducing the negative impact of human activity on nature.	A program aimed at improving water quality and water management. Cleaning of rivers and reservoirs from pollutants. Development of water supply and drainage systems. Protection of water resources from pollution and depletion.
Environmental protection	
National waste management plan Overview: The program is focused on improving the system of waste collection, processing and disposal.	Development of infrastructure for waste collection and processing. Implementation of a separate garbage collection system. Reducing the volume of illegal dumping of waste.

Continuation of Table 1.15

Social programs Social integration and equal access program	
Overview: The program is focused on ensuring equal access to social services, education and medical care.	Improving the quality of education and medical services in the regions. Support of socially vulnerable population groups. Ensuring equal access to social benefits.
Rural Development Program Overview: The program focuses on improving living conditions in rural areas.	Development of infrastructure and social services in rural areas. Support of the agricultural sector and development of agriculture. Improving the quality of life and attracting investments to rural areas.
Innovative Initiatives National Program "Innovations and Technologies"	
Overview: The program is aimed at supporting scientific research and implementation of innovative technologies.	Support for startups and innovative enterprises. Development of infrastructure for scientific research. Promotion of commercialization of scientific developments.
Digitalization Program	Overview: A program that supports the implementation of digital technologies in various spheres of life. Development of electronic services and infrastructure for digitization. Increasing the availability and quality of digital technologies. Promotion of the development of information and communication technologies.

Source: developed by the authors.

Based on the above table, several conclusions can be drawn regarding the main directions and programs aimed at the development of Ukraine:

The "Energy Efficiency" and "Renewable Energy" programs are aimed at improving energy efficiency and developing renewable energy sources. This includes the modernization of infrastructure, the introduction of new technologies and the

reduction of energy consumption, which contributes to reducing dependence on traditional energy resources and improving the environmental situation.

Waste management and water conservation programs focus on improving the environmental situation in the country. In particular, it is about the development of the waste collection and processing system, the purification of water resources and the protection of ecosystems. This is important for preserving the natural environment and preventing its further degradation (Kvasova, 2023).

Programs of social integration and development of rural areas are aimed at improving the quality of life of the population, ensuring equal access to social services, education and medicine, as well as the development of rural areas. This contributes to increasing social equality and economic growth in the regions.

The national program "Innovations and Technologies" emphasizes the importance of supporting scientific research, start-ups and the implementation of innovative solutions. This stimulates the development of high-tech sectors of the economy and promotes the commercialization of scientific developments.

In general, these programs and initiatives are aimed at ensuring the sustainable development of Ukraine through the modernization of the economy, environmental protection, social support of the population and the introduction of innovations. It is a comprehensive approach that covers key aspects of national development. State initiatives and programs in Ukraine are important elements of the sustainable development strategy, which cover a wide range of issues from energy transformation and environmental protection to social and innovative initiatives. The implementation of these programs allows Ukraine to achieve significant results in ensuring sustainable development, although there are challenges that require further resolution. Attracting resources, international cooperation and

active participation of society are key factors for the successful implementation of sustainable initiatives (Yatskiv, 2021).

Implementation of the values of sustainable development is a complex and multifaceted process that faces numerous problems and obstacles. These problems can be of different nature – economic, social, political or technical. Here are the main problems that make it difficult to implement the values of sustainable development.

Implementation of the values of sustainable development faces numerous challenges covering economic, social, political, technical and cultural aspects. Successful implementation of sustainable development requires overcoming these challenges by developing effective strategies, mobilizing resources, ensuring public support, and integrating new technologies. The joint efforts of government agencies, the private sector and the public are key to achieving the goals of sustainable development.

The study of sustainable development in Ukraine revealed numerous achievements and problems noted in the process of realizing the values of sustainable development. Ukraine has demonstrated significant efforts in the development and implementation of policies aimed at energy efficiency, renewable energy sources and waste management. Progress in these areas confirms the presence of positive trends and the country's commitment to sustainable development.

However, along with positive changes, there are also significant challenges. Inadequate project financing, political instability, social inequality and corruption remain major obstacles. Technical difficulties, such as outdated infrastructure and limited access to new technologies, also make it difficult to implement initiatives. Social inequality and low awareness of the importance of sustainable development emphasize the need for an integrated approach to solving these problems.

Based on the results of the research, it is important to make strategic decisions that can significantly improve the situation. First, it is necessary to ensure a significant increase in financing for the implementation of sustainable development projects. This includes both government allocations and attracting private investment and international aid. Implementation of public-private partnership mechanisms can be the key to efficient use of resources.

Secondly, attention should be focused on raising awareness and education in the field of sustainable development. Integrating sustainable development themes into educational programs at all levels and conducting public campaigns will help change attitudes towards sustainable practices and ensure their adoption. It is also important to provide training for businesses and government officials to facilitate the adoption of new standards and technologies.

Thirdly, the fight against corruption and bureaucracy is critically important for the effective implementation of sustainable development. Reforms need to be implemented to increase transparency and accountability in project implementation. The implementation of electronic monitoring and control systems, as well as tough measures against corrupt practices, can help reduce the level of inefficiency and abuse.

Further research in the field of sustainable development should focus on several key areas. First, it is necessary to study more deeply the economic models that can provide a sustainable financial approach to the implementation of sustainable initiatives. This includes the development of new financing and investment mechanisms, as well as the analysis of the effectiveness of existing models.

Second, it is important to investigate the influence of social and cultural factors on the implementation of sustainable practices. Studying social barriers and cultural characteristics

will help to better understand how to adapt policies and programs to the needs of different population groups.

Third, there is a need to focus on technological innovation and its impact on sustainable development. The study of new technologies, their availability and implementation can contribute to overcoming technical obstacles and increasing the efficiency of projects.

Thus, further research in these areas will help to create more precise recommendations for policy and practice that will contribute to the achievement of sustainable development in Ukraine. These efforts should be aimed at ensuring a balance between economic, social and environmental aspects, which is the basis for a sustainable future of the country.

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1.3 Key Challenges and Pathways for Implementing EU Sustainable Development Values in Ukraine in the Context of Benchmarking

Lysenko Iryna

The implementation of sustainable development values, as enshrined in the European Union's (EU) policies, presents both opportunities and challenges for Ukraine. Consider the main obstacles to the adoption of these values, with an emphasis on governance, economic conditions and social practices in the context of benchmarking. By comparing Ukraine's progress with EU standards, this research identifies gaps in policy implementation and suggests strategic approaches to bridge these gaps.

The implementation of EU sustainable development values in Ukraine presents both significant challenges and opportunities. As Ukraine moves towards deeper integration with the European Union (EU), it faces numerous obstacles in aligning its policies, institutions, and practices with the EU's rigorous standards for sustainable development. However, the use of benchmarking – a process of comparing performance and progress against the best practices and standards of other countries – offers a strategic pathway for addressing these challenges. Through benchmarking, Ukraine can assess its progress, identify gaps, and develop effective strategies for improvement.

The study examines Ukraine's progress toward integrating these values, focusing on governance, economic stability, and societal readiness and with recommendations to enhance Ukraine's alignment with EU sustainable development goals. Through benchmarking with EU member states, the research identifies gaps in Ukraine's current policies, highlighting both institutional weaknesses and economic constraints.

The findings suggest that to successfully adopt the EU's sustainable development goals, Ukraine must strengthen its policy framework, improve governance, and foster greater social awareness aimed at enhancing Ukraine's alignment with EU benchmarks.

Sustainable development is rooted in the idea of balance economic growth, environmental protection, and social inclusion must be pursued simultaneously. The environmental aspect of sustainable development focuses on reducing the degradation of natural resources, mitigating climate change, preserving biodiversity, and promoting the responsible use of resources. Human activities such as deforestation, excessive greenhouse gas emissions, and pollution have severely impacted the environment, contributing to global warming, species extinction, and the depletion of vital resources such as clean water and arable land. Sustainable development seeks to address these issues by promoting environmentally friendly policies, technologies, and practices.

One of the most significant aspects of the environmental dimension is the challenge of climate change. Rising global temperatures, increased frequency of extreme weather events, and the melting of polar ice caps are clear indicators of the environmental crisis the world faces. Sustainable development calls for immediate action to reduce carbon footprints and transition to renewable energy sources such as wind, solar, and hydroelectric power (Novomlynets et al., 2021).

The economic pillar of sustainable development is focused on creating growth that is inclusive, fair, and capable of generating long-term prosperity without exploiting finite resources. Traditionally, economic development has been driven by the extraction of natural resources and industrialization.

Sustainable economic development encourages innovation, resource efficiency, and the development of new industries that prioritize longevity over short-term profits. For instance, the

transition to a circular economy, which seeks to eliminate waste and encourage the reuse of materials, is a prime example of how economic growth can be decoupled from resource exploitation. By promoting sustainable industries, governments can create jobs and boost economic growth while preserving natural resources for future generations.

Social inclusion and equity are the third pillar of sustainable development. This aspect emphasizes the need to address poverty, inequality, and social injustice while ensuring that everyone has access to basic resources such as clean water, healthcare, education, and a decent standard of living.

The social dimension of sustainable development is closely linked to the other two pillars, as environmental degradation and economic instability disproportionately affect vulnerable communities. For example, climate change often hits poorer regions the hardest, leading to food insecurity, displacement, and increased poverty. Sustainable development, therefore, calls for policies that promote social justice and protect marginalized populations, ensuring that the benefits of development are shared equitably across societies.

The European Union (EU) is a global leader in promoting sustainable development, which involves a balanced approach to economic growth, social inclusion, and environmental protection. Since signing the Association Agreement with the EU, Ukraine has committed to aligning its policies with the values and standards of the EU, including those related to sustainable development. However, the path to implementing these values in Ukraine is fraught with challenges, including political instability, economic uncertainty, and social differences.

Benchmarking provides a practical tool for assessing Ukraine's progress in this area by comparing its performance with that of EU member states. The use of benchmarking allows for the identification of best practices and areas where

improvements are needed. Sustainable development has become one of the most critical global challenges in the 21st century, encompassing environmental, economic, and social dimensions.

The concept of sustainable development has been extensively studied in both European and global contexts. In 1987, the Brundtland Commission defined sustainable development as meeting the needs of the present without compromising the ability of future generations to meet their own needs. This concept has since evolved, with the EU becoming one of the foremost advocates of sustainability, particularly through initiatives like the European Green Deal and the EU Sustainable Development Strategy (Report of the World Commission on Environment and Development, 1987).

It is worth noting that issues of sustainable development, as well as Tsalis et al. (2020) compare reporting systems and conduct empirical analysis of companies' reports on sustainable development. Abela (2022) conducts a study of the latest trends in reporting on sustainable development and emphasizes that such reporting will contribute to the sustainability of business models of companies. Hummel & Jobst (2022) review the regulation of disclosure of information on sustainable development in the EU. In the works of Makarenko et al. (2022, 2023), a comparison of various reporting systems for sustainable development was carried out and the possibility of their application in Ukraine was assessed.

Benchmarking, as a tool for measuring progress, has been widely discussed in the literature as the process of comparing performance metrics to best practices. This approach allows countries like Ukraine to learn from more developed nations and tailor their policies to meet international standards.

Despite Ukraine’s commitment to European integration, the implementation of EU sustainable development values faces several critical challenges. First, political instability and corruption undermine the government’s ability to enact and

enforce effective policies. The absence of strong institutions weakens regulatory oversight, making it difficult to ensure compliance with EU standards. Moreover, economic constraints, including the ongoing effects of war and financial instability, hinder Ukraine's capacity to invest in sustainable infrastructure and technologies.

Another significant challenge is the lack of public awareness and engagement in sustainability issues. Unlike in many EU countries, where sustainable development has become a societal priority, Ukrainian society is still in the early stages of understanding and embracing these values. Cultural differences and a focus on short-term economic gains often lead to resistance to environmental and social reforms.

Finally, Ukraine's energy sector, which remains heavily reliant on non-renewable resources, poses a major barrier to achieving the EU's sustainability goals. Transitioning to renewable energy sources will require significant financial investments and structural reforms, which are difficult to implement in the current economic climate.

The core problem, therefore, lies in Ukraine's inability to fully integrate EU sustainable development values into its national framework due to institutional weaknesses, economic challenges, and societal resistance. Addressing these challenges requires a comprehensive strategy that includes policy reforms, capacity building, and the use of benchmarking to measure progress and identify areas for improvement.

The implementation of EU sustainable development values in Ukraine requires addressing several key areas: governance, economic development, and societal engagement. Through the lens of benchmarking, this section analyzes Ukraine's progress and the areas that need improvement.

For many years, Ukraine has strategically oriented its foreign policy towards closer integration with the European Union (EU). This aspiration is driven by both political and economic

motivations. The signing of the Association Agreement between Ukraine and the EU in 2014 was a significant milestone in this journey, formalizing Ukraine's commitment to deeper political, economic, and legal cooperation with the EU. The agreement placed particular emphasis on the creation of a Deep and Comprehensive Free Trade Area and the alignment of Ukrainian laws with European standards.

After the Revolution of Dignity in 2013-2014, Ukraine's pro-European trajectory became more explicit, reflecting a clear desire to join the European community. European integration has since become a top priority for Ukraine's government, which has committed to implementing a wide range of reforms aimed at meeting EU standards. This European integration course reflects the aspirations of Ukrainian society for democratic values, the rule of law, human rights protection, and an improved standard of living. Moreover, EU integration offers Ukraine significant economic advantages, including access to European markets, increased foreign investment, and the modernization of its economy through infrastructure development and improved production standards. One of the key aspects of this integration is the adoption of sustainable development policies, which encompass economic, social, and environmental dimensions.

Ukraine has made substantial strides in aligning its development goals with the EU's sustainable development values, although challenges remain. The pursuit of sustainable development in Ukraine is driven by the need to address long-standing issues of economic instability, environmental degradation, and social inequality. The EU's 2030 Agenda for Sustainable Development and its corresponding Sustainable Development Goals serve as a guiding framework for Ukraine's efforts in these areas.

Environmental sustainability is one of the critical areas where Ukraine has made progress, particularly through legislative reforms aimed at reducing greenhouse gas emissions, improving

waste management, and promoting renewable energy sources. For instance, Ukraine has ratified the Paris Agreement, committing to reducing its carbon emissions and transitioning towards a greener economy. The Ukrainian government has also adopted the National Energy Strategy until 2035, which focuses on energy efficiency and increasing the share of renewables in the national energy mix.

Despite these efforts, Ukraine still faces challenges in reducing its dependence on fossil fuels, especially coal. Much of the country's energy infrastructure is outdated, and significant investments are needed to transition to cleaner energy sources. Nevertheless, through various EU-funded programs, such as the European Investment Bank's (EIB) support for renewable energy projects, Ukraine is gradually moving towards meeting EU environmental standards.

Economic sustainability in Ukraine is closely linked to the country's ability to modernize its industries and adopt circular economy principles. The EU's Circular Economy Action Plan serves as a model for Ukraine, which has been working to reduce waste and promote resource efficiency. One of the key sectors targeted for reform is the waste management industry, where the EU has provided technical and financial support to help Ukraine implement more sustainable practices.

Another area of economic sustainability is the agricultural sector. Ukraine, being one of the largest agricultural producers in Europe, has been adopting sustainable farming practices in line with EU standards. This includes promoting organic farming, reducing the use of harmful pesticides, and improving land management techniques. These initiatives are essential for ensuring that Ukraine's agricultural exports to the EU meet the strict environmental and health standards required by European markets. Furthermore, Ukraine has been integrating sustainability criteria into its trade agreements with the EU, ensuring that its economic activities contribute to long-term

growth without depleting natural resources or harming the environment. However, achieving economic sustainability remains a significant challenge due to the country's ongoing economic difficulties, exacerbated by conflict and political instability.

Social sustainability, which includes reducing inequality, improving living standards, and promoting social inclusion, is another area where Ukraine is aligning with EU values. The Association Agreement includes provisions aimed at enhancing Ukraine's social policies, particularly in areas such as healthcare, education, and labor rights. Ukraine has also made efforts to improve gender equality and human rights protections, which are core components of the EU's social development goals.

Despite these difficulties, Ukraine has made notable progress in social inclusion policies, particularly through EU-supported projects aimed at improving education, healthcare, and social protection systems. The EU has played a key role in supporting Ukraine's social reforms through financial assistance, technical expertise, and knowledge-sharing programs. This partnership has allowed Ukraine to make gradual progress in areas like healthcare reform, which aims to improve access to medical services, and education reform, which focuses on aligning Ukrainian education standards with European best practices (Lysenko et al., 2020).

A crucial element of Ukraine's progress toward sustainable development is its institutional and governance reforms. Weak governance and corruption have historically hindered Ukraine's development efforts, making institutional reform a top priority for the government. The EU has been instrumental in providing both financial and technical assistance for Ukraine's efforts to strengthen its institutions and improve governance.

As part of the EU Association Agreement, Ukraine committed to adopting numerous reforms aimed at improving

transparency, fighting corruption, and creating a more efficient public administration. These reforms are critical for ensuring that Ukraine can effectively implement sustainable development policies across sectors.

A key strategy for Ukraine's progress in adopting sustainable development practices has been the use of benchmarking to compare its progress with that of EU member states. Benchmarking allows Ukraine to identify best practices, assess gaps in its policies, and develop strategies to address these gaps. For example, in the energy sector, Ukraine has been benchmarking its renewable energy initiatives against those of EU countries such as Germany and Denmark, which have been leaders in the transition to renewable energy.

Through various EU-funded projects, Ukraine has also been benchmarking its environmental policies, such as waste management and air quality standards, with those of its European neighbors. This process has helped Ukraine to align its national standards with those of the EU, ensuring that the country can make meaningful progress toward achieving the Sustainable Development Goals.

One of the primary barriers for Ukraine in implementing sustainable practices is the lack of strong governance and institutional frameworks. In the EU, robust institutions ensure adherence to environmental regulations and promote social inclusion. In contrast, Ukraine faces significant political instability and corruption, which impede the enforcement of sustainable development policies. Comparing Ukraine's governance structures with countries like Poland and the Czech Republic, which have undergone successful institutional reforms, highlights the need for Ukraine to strengthen its institutions, ensure transparency, and create independent regulatory bodies that can oversee sustainability initiatives without political interference.

Transitioning to a green economy is a crucial but challenging task for Ukraine. While the EU has made considerable progress in developing a circular economy, reducing waste, and promoting renewable energy, Ukraine remains heavily reliant on fossil fuels. Economic instability and limited financial resources further hinder the country's ability to invest in green technologies. Benchmarking against Germany and Sweden, which have successfully implemented green economic reforms, shows that Ukraine must focus on creating clear economic incentives for businesses and industries to adopt sustainable practices. This can be achieved through tax incentives, subsidies for renewable energy, and investments in research and development for green technologies (UNEP, 2014).

A significant barrier to the implementation of sustainable development values in Ukraine is the lack of public engagement and awareness. In many EU countries, citizens actively participate in sustainability initiatives such as recycling and energy conservation. In Ukraine, however, public awareness of sustainability issues remains low, and societal engagement is limited. Countries like Denmark and Finland have successfully implemented public engagement campaigns that promote environmental responsibility and could serve as models for Ukraine. Developing educational programs and public awareness campaigns will be essential to encourage citizen participation in sustainability efforts and foster a culture of environmental stewardship.

Benchmarking is a valuable tool for assessing Ukraine's progress in implementing sustainable development values by comparing key performance indicators with EU standards. Areas such as renewable energy use, waste management, and social inclusion can be evaluated using EU benchmarks to identify gaps in Ukraine's policies and practices. For example, EU countries that have successfully transitioned to renewable energy sources, such as Spain and Portugal, provide valuable

benchmarks for Ukraine to follow. Regular monitoring through benchmarking will help Ukraine measure its progress and adjust strategies to ensure alignment with EU sustainability goals.

Environmental protection and climate change mitigation are central pillars of the EU's sustainable development framework. Ukraine, however, struggles with high levels of industrial pollution, deforestation, and poor waste management. The EU's Green Deal and climate goals emphasize carbon neutrality by 2050, but Ukraine's path toward these goals remains unclear. By benchmarking against countries like France and the Netherlands, which have implemented comprehensive climate policies, Ukraine can develop more effective strategies for reducing greenhouse gas emissions, improving waste management practices, and investing in renewable energy infrastructure. It will also be important to enhance enforcement mechanisms to ensure compliance with environmental regulations.

The legal framework for sustainable development in Ukraine is still in its early stages, with many gaps in legislation and enforcement. The EU operates under a comprehensive legal structure that governs various aspects of sustainability, from energy efficiency to biodiversity conservation. Ukraine must work on aligning its legal and regulatory frameworks with those of the EU to ensure a smooth integration of sustainability values. This involves not only drafting new laws but also ensuring proper enforcement mechanisms are in place. Benchmarking with countries like Austria and Belgium, which have developed strong environmental laws, will provide a roadmap for Ukraine to strengthen its legal system and support sustainable development initiatives.

One of the most significant challenges for Ukraine is the transition to renewable energy sources. Currently, Ukraine relies heavily on fossil fuels, particularly coal and natural gas, for its energy needs. The EU, on the other hand, has made substantial progress in shifting toward renewable energy sources such as

wind, solar, and hydropower. By benchmarking against countries like Germany and Denmark, which have been leaders in renewable energy, Ukraine can identify the best practices for fostering a transition to cleaner energy. This may involve creating subsidies for renewable energy projects, increasing investment in solar and wind energy, and developing a national energy strategy that prioritizes sustainability.

Financial barriers are a significant obstacle to implementing sustainable development initiatives in Ukraine. The EU provides various funding mechanisms, such as the European Investment Bank's sustainability projects and the EU Cohesion Fund, which support sustainable development in member states. Ukraine, however, lacks access to similar levels of funding and often struggles to attract investment for green projects. By benchmarking with countries that have successfully leveraged EU funding for sustainability, such as Poland and Hungary, Ukraine can identify strategies for attracting both domestic and international investment. Establishing public-private partnerships, developing green bonds, and accessing international climate finance will be key steps in overcoming financial obstacles to sustainable development.

Agriculture plays a crucial role in Ukraine's economy, but the sector is often at odds with sustainability goals due to outdated practices and reliance on chemicals. The EU's Common Agricultural Policy encourages sustainable farming practices, biodiversity preservation, and soil health. Ukraine could benefit from benchmarking with EU countries like Spain and Italy, which have adopted more sustainable agricultural practices. Integrating sustainability into Ukraine's agricultural sector will involve promoting organic farming, reducing the use of harmful pesticides and fertilizers, and encouraging biodiversity conservation in rural areas. Implementing these changes will also contribute to Ukraine's alignment with EU environmental standards.

Education and capacity building are critical to fostering a sustainable development culture in Ukraine. In the EU, sustainable development is integrated into educational curriculums and professional training programs. Ukraine must prioritize the development of educational programs that promote sustainability at all levels, from primary schools to universities and vocational training institutions (Lysenko et al., 2023).

Countries like Sweden and Finland have successfully incorporated sustainability into their education systems and can serve as benchmarks for Ukraine. Furthermore, building the capacity of public institutions and private enterprises to implement sustainable development practices is essential for long-term success. This can be achieved through international partnerships, technical assistance, and knowledge exchange programs.

Based on the analysis, several key recommendations emerge for Ukraine to successfully implement EU sustainable development values. Ukraine must prioritize institutional reforms to ensure transparency and accountability in implementing sustainable development policies. Establishing independent regulatory bodies to oversee environmental and social initiatives is essential for aligning with EU standards.

The government should create financial incentives and policy frameworks to support businesses and industries in transitioning to green technologies. Public-private partnerships could also play a crucial role in fostering innovation and investment in sustainable infrastructure.

Public awareness campaigns and educational programs are needed to foster a culture of sustainability in Ukraine. By involving citizens in sustainability initiatives and raising awareness about the importance of environmental protection, Ukraine can create a stronger foundation for long-term sustainable development.

Benchmarking must be integrated into Ukraine's policy-making processes to track progress and adapt strategies as needed. Establishing a national benchmarking system, in collaboration with EU partners, would allow Ukraine to consistently measure its performance and make data-driven decisions.

Despite the progress made, Ukraine still faces significant challenges in fully adopting EU sustainable development practices. One of the major barriers is political instability, which has often slowed down the implementation of key reforms. The difficult economic situation related to the invasion of Ukraine by the Russian Federation on February 24, 2022 adds additional importance to the issue of ensuring the transparency of domestic companies, since the destruction of the national infrastructure caused by military events necessitated the restructuring of the overall economic system. According to post-war recovery plans, as of July 2023, Ukraine will need at least $750 billion. USA (Recovery plan for Ukraine, n.d).

However, the path forward presents numerous opportunities for Ukraine to strengthen its ties with the EU and accelerate its sustainability agenda. EU funding and technical assistance will continue to play a pivotal role in supporting Ukraine's sustainable development initiatives. Additionally, as Ukraine deepens its integration with the EU, the exchange of knowledge and best practices will allow Ukraine to further align its policies with European standards.

Ukraine's aspirations for EU integration have been a driving force behind its progress in adopting sustainable development practices. Through its association with the EU, Ukraine has made strides in reforming its governance structures, improving environmental policies, and enhancing social inclusion. However, significant challenges remain, particularly in terms of political stability and economic resilience.

By continuing to benchmark its progress against EU standards and leveraging EU support, Ukraine can continue to make meaningful advances toward sustainable development. The partnership between Ukraine and the EU represents a shared commitment to addressing global challenges, from climate change to social inequality, and will be instrumental in shaping Ukraine's path to a more sustainable and prosperous future. While Ukraine faces significant challenges in adopting EU sustainable development values, there are clear pathways to success. By strengthening governance, investing in the green economy, engaging the public, and utilizing benchmarking, Ukraine can move closer to aligning with the EU's sustainability goals. These efforts will not only benefit Ukraine's long-term development but also enhance its integration into the European community.

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1.4 Problems and Prospects of the Sustainable Development Goals Implementation in the lLife Activities of Rural Communities in Ukraine under the Conditions of Marital State

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In today's world, the Sustainable Development Strategy is the most effective concept of the socio-economic and ecologically oriented evolution of modern civilization, the ultimate goal of which is the maximum satisfaction of the physiological needs of the individual and his stay in harmonious synergy with nature in the absence of problems of the social context. Achieving the Sustainable Development Goals (hereinafter referred to as the SDGs) involves sustainable socio-economic growth of society, the results of which do not harm the environment and biodiversity.

The Sustainable Development Goals were adopted by the United Nations in 2015 as a universal call to action to reduce poverty, protect the planet and achieve peace and prosperity by 2030. The goals of the sustainable development of Ukraine for the period until 2030 are guidelines for the development of projects of forecasting and program documents, projects of normative and legal acts in order to ensure the balance of the economic, social and environmental dimensions of the sustainable development of Ukraine (United Nations, n.d.).

Sustainable development of rural areas of Ukraine is one of the key tasks of modern national policy in the context of its harmonization with European values of state building. At the same time, economic strategies for the sustainable development of rural regions and communities must take into account the

multifaceted nature of problems and challenges faced by these subjects of local self-government.

Ukraine, like other UN member states, joined the global process of ensuring sustainable development from the very beginning of its introduction, i.e. in 2000. In order to establish the strategic framework of the national development of Ukraine for the period until 2030, based on the principle of "Leave no one behind", an inclusive process of adaptation of the Central Development Strategy was launched. Each global goal was considered taking into account the specifics of national development. During 2016, a number of national (4) and regional (10) consultations were held in Ukraine. Based on the results of the consultations, it was concluded that the national SDGs will serve as a basis for integrating the efforts of state authorities and local governments, as well as the entire civil society, aimed at ensuring economic growth, social justice and rational environmental management (Ministry of Economy and Trade of Ukraine, 2017).

In 2016, the inclusive process of determining the tasks of the Central Development Program took place in four directions: fair social development; sustainable economic growth and employment; effective management; ecological balance and building resilience. The public vision of the development of Ukraine until 2030 initially covered such benchmarks for achievement as the well-being and health of the population, which was supposed to be ensured by innovative economic development built on the sustainable use of natural resources (Ministry of Economy and Trade of Ukraine, 2017).

At the same time, the full-scale war unleashed by the Russian Federation against Ukraine exacerbated economic, social and environmental problems and made it much more difficult to achieve the goals of sustainable development of rural areas.

Until February 24, 2022, the agricultural sector of Ukraine, which powerfully supported the development of rural

communities, providing 13 million Ukrainians with work and means of livelihood (20% of the workforce) and accounted for 11% of the national GDP, was a key budget-generating sector. As of January 1, 2022, Ukraine ranked fifth in the world in terms of the volume of agricultural products, fourth in terms of corn exports, and third in terms of rapeseed exports. Thus, the war had a negative impact not only on the agro-industrial complex of Ukraine, but also on the entire system of global economic security (Cherevko, 2024).

The main problems in the implementation of the Central Committee in the life of rural communities, with the beginning of a full-scale invasion, were:

1. Destruction of material assets, as well as infrastructure objects that were in state, private or communal ownership.

2. Destruction of logistics connections at the regional and national level.

3. Economic instability associated with Russian aggression, as well as growing competition in the international markets of agricultural products, which requires agricultural producers to redistribute financial flows not to the benefit of rural communities, but to support their efficiency.

4. Personnel shortage of both narrow-profile specialists and workers in general.

5. Complication of the conditions for conducting small and medium-sized businesses.

6. Reducing the amount of state support for programs of social development and stimulation of economic activity in rural areas.

7. Demining and depopulation of territories that were in the zone of active hostilities or are front-line territories.

8. Lack of interest of agricultural producers in compliance with agro-ecological requirements.

At the same time, despite the third year of full-scale military aggression, the implementation of the CSR in all sectors of the

national economy and social life continues in Ukraine. Thus, in 2024, the Cabinet of Ministers of Ukraine updated the objectives of the Sustainable Development Goals and indicators of their implementation, in accordance with the conditions of a full-scale war. Therefore, today there are updated updated tasks for all 17 sustainable development goals. They were developed taking into account the state of war, the work practices of ministries, departments and the State Statistics Service. In total, 100 national tasks and 305 indicators were formulated, which will characterize the achievement –or non-achievement –of these tasks (Ukrinform, 2024a). All of the above goals are interrelated with the recovery, development and European integration of Ukraine to the EU.

In addition, it should be noted that in February 2024, the United Nations Development Program (UNDP) announced the launch of a project called "Implementation of the Sustainable Development Goals in Ukraine in the context of recovery from the consequences of war and on the way to European integration". This initiative aims to strengthen the national system of implementation of the Sustainable Development Goals in Ukraine, especially in the context of the country's recovery and its further rapprochement with the European Union (Ukrinform, 2024b).

The project, which officially began in June 2024, is aimed at supporting the Government of Ukraine, in particular the Secretariat of the Cabinet of Ministers of Ukraine, in the development and implementation of the national system of tasks and indicators of the SDGs. A key aspect of the project is to promote the localization of the SDGs to ensure policy coherence at the national and local levels with updated global and national SDG indicators.

The task of this project is to form a basis for future post-war transformations in all spheres of state power and local self-

government bodies, life activities of Ukrainian society and territorial communities, primarily rural ones.

The report of the Chairman of the Interdepartmental Working Group of the Minister of the Cabinet of Ministers Oleg Nemchynov also emphasizes the importance of the updated system of national tasks and indicators of the Central Bank for the recovery and development of Ukraine. He notes that: "The Sustainable Development Goals are not just a global commitment, they are a road map for the future of Ukraine. The updated SDG system, developed in close cooperation with our UN partners, in particular UNDP, will direct our efforts towards building a sustainable, inclusive and successful Ukraine" (Cabinet of Ministers of Ukraine, 2024).

In addition to legislative support, the UNDP project will assist in the development of recommendations for the integration of the SDGs into the policy-making process at both the central and local levels. The project plans to cooperate with the State Statistics Service to update information about the Central Bank on the Government Portal and prepare analytical materials to support informed decision-making at various levels of government.

It is interesting that this Project provides for the implementation of a number of activities aimed at increasing the level of awareness in the development of the potential of regions for officials of local self-government bodies, which will provide them with the necessary tools and knowledge for the effective implementation of the new Central Development System at the level of united territorial communities (Samus, 2024).

Solving the problems related to the long-term military aggression of Russia against Ukraine is our terrible but colossal experience, which should become a significant contribution to overcoming all military conflicts in the world. Since 2000, the focus of the progressive world community has been on solving environmental problems, the survival of ecosystems and the

revival of biodiversity. Russia's unprovoked full-scale invasion of Ukraine changed priorities around the world and confirmed that without ensuring humanity's basic needs for peace, valuing everyone's right to a dignified life and observing the norms of international law, the implementation of the SDGs in the full context is not achievable.

The sustainable development of rural areas and communities of Ukraine is highlighted by indicators of 14 out of 17 CSD, therefore it is a mandatory condition for the social and economic stability of the state, a guarantee of ensuring both national and food security in the conditions of the Russian-Ukrainian war. It is a prerequisite for the successful adaptation of the inhabitants of rural communities to the new war realities of today, and a necessary element of post-war recovery, which in turn will serve as an incentive for the return and employment of the population that left their places of permanent residence at the beginning of the war. The implementation of the Sustainable Development Goals in the life of rural communities of Ukraine will contribute to the strengthening of their economic stability, the development of full-fledged infrastructural support, social well-being and the formation of ecological sustainability of rural areas.

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Chapter 2. SUSTAINABLE MARKET PRACTICES: BENCHMARKS FOR CORPORATE RESPONSIBILITY

2.1 Corporate Social Responsibility (CSR) of Business on the Example of EU Companies

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Corporate Social Responsibility (CSR) is a multifaceted concept that encompasses various aspects of business operations. It involves not only fulfilling economic goals but also adhering to ethical standards, respecting human rights, complying with environmental regulations, and engaging with the community. To better understand the structure of CSR, the pyramid model is often used, illustrating the primary levels of business responsibility.

Levels and components of the business social responsibility pyramid:

1. Economic responsibility – the base of the pyramid. This refers to the obligation of businesses to be profitable and economically stable. Companies must ensure economic growth, create jobs, and offer products or services that meet societal needs. Economic stability forms the foundation for implementing other aspects of CSR.

2. Legal responsibility – the second level of the pyramid. Businesses must comply with laws and regulations that govern their activities. This includes respecting workers' rights, adhering to environmental standards, tax laws, and other regulatory requirements. Legal responsibility ensures that businesses operate within the established rules of society.

3. Ethical responsibility – the third level. Businesses should uphold ethical standards that go beyond legal requirements. This includes transparency in business practices, honesty in dealings

with partners and customers, and respect for human rights. Ethical responsibility fosters trust in the company and strengthens its reputation.

4. Philanthropic Responsibility – the top of the pyramid. This is the highest level of social responsibility, involving voluntary actions businesses take to benefit society. It includes charitable donations, participation in social projects, support for community initiatives, and other forms of assistance. Philanthropic responsibility reflects a high level of social awareness in business.

Social norms are the basis for determining what is considered responsible business behavior. They affect all levels of the social responsibility pyramid. Companies that adhere to these norms increase their effectiveness, since responsible behavior positively affects the trust of consumers, employees and partners. Successful implementation of all levels of CSR allows a business not only to strengthen its reputation, but also to become a sustainable market participant, contributing to social well-being.

Corporate social responsibility increasingly influences the reputation of companies and consumer decisions. One of the most responsible businesses is Merck, which ranked first in Newsweek's 2024 ranking. Merck received high marks for its corporate governance, transparency, financial stability, and innovations. A leader in healthcare, Merck is known for its commitment to creating a safe and healthy future for society and the environment. The company is actively working on reducing its carbon footprint and implementing new technologies to improve global health. Additionally, Merck emphasizes diversity, inclusion, and supporting local communities, making it a model for other pharmaceutical companies in CSR (Newsweek, 2024).

It's also worth noting the Time and Statista rankings, which highlight the world's most responsible companies. These

rankings cover various sectors and are based on ESG indicators (environmental, social, and corporate governance). They evaluate companies' efforts in climate change mitigation, protecting workers' rights, and promoting responsible business practices.

Besides Merck, which secured first place in Newsweek's 2024 list of responsible businesses, other companies showing high standards of CSR include those mentioned in Time and Statista's World's Most Sustainable Companies, where environmental innovations and social responsibility are key criteria. Among them, several companies stand out, recognized in the World's Most Sustainable Companies ranking by Time and Statista, which considers environmental innovations and social responsibility:

1. Progress ranks highly in various lists, including Newsweek's. It is assessed based on its environmental, social, and governance achievements, spanning a wide range of industries from technology to communications. This technology company specializes in software development and leads in corporate responsibility, focusing on environmental initiatives, sustainable development, and societal accountability. Progress is listed among the most responsible companies in the U.S. for 2024, actively supporting educational projects, improving working conditions, ensuring gender equality, and promoting environmental innovations. Their efforts aim to create a more inclusive and eco-friendly world.

2. Microsoft is a global leader in technology and consistently ranks high among the most responsible companies. They actively invest in green technologies, work to reduce carbon emissions, and plan to become carbon neutral by 2030. Additionally, Microsoft implements initiatives to empower women in technology, supports health and education programs, and combats global climate change. Their ESG efforts

demonstrate significant progress in environmental protection and societal support.

3. Nvidia, known for its graphics processors and artificial intelligence, is also listed among the most responsible companies in the world according to TIME and Statista. The company emphasizes the development of green technologies, innovation to reduce energy consumption, and support for research in environmental responsibility. Nvidia also focuses on improving working conditions and social responsibility within its operations, promoting inclusivity and diversity at all levels of the company.

Another important direction today is socially responsible investing (SRI), which involves support from individual and institutional investors for companies that not only demonstrate effective profitability but also exhibit socially responsible behavior. Corporate social responsibility (CSR) is a crucial aspect of modern business, and various modeling techniques are used for its effective integration into management processes. These techniques help businesses systematize and implement CSR principles, ensuring compliance with social and environmental requirements while enhancing competitiveness and corporate reputation.

1. Key CSR modeling techniques utilized in business include stakeholder analysis, which involves identifying and assessing all stakeholders of the company, such as customers, suppliers, employees, shareholders, the community, and others. This allows businesses to understand their needs and expectations regarding corporate social responsibility. The results of the analysis are used to develop CSR strategies and initiatives that align with the interests of all stakeholders.

2. The use of ESG indicators is another significant approach. ESG indicators (environmental, social, and governance) help assess a company's alignment with sustainable development principles. Modeling based on ESG indicators involves

integrating these metrics into the business strategy, monitoring their performance, and reporting on achievements in this area. This systematic measurement and management of a company's impact on the environment and society allow for more informed decision-making and improved accountability.

3. Management systems for social responsibility play a crucial role in structuring CSR approaches within companies. Implementing systems like ISO 26000 helps to formulate policies, procedures, and practices in line with international social responsibility standards. These systems encompass stages of planning, implementation, monitoring, and evaluating CSR outcomes.

4. Corporate social reporting is an essential component of CSR modeling. It involves creating regular reports that outline a company’s social, environmental, and governance achievements. These reports typically adhere to international standards, such as the Global Reporting Initiative (GRI), enabling companies to demonstrate their accountability to stakeholders.

5. Incorporating CSR into strategic planning helps integrate social and environmental objectives into the overall business strategy. This involves identifying key CSR areas, developing plans and initiatives to support these goals, and monitoring their implementation. Such modeling ensures alignment between business objectives and social responsibility.

6. Impact assessment involves analyzing the effects of a company’s activities on social and environmental factors. This can include evaluating both negative and positive impacts on the community, environment, and other aspects. Tools for impact assessment may encompass cost-benefit analysis, social audits, and environmental evaluations.

7. Active engagement with the public and participation in lobbying processes can be part of CSR modeling. This involves dialogue with community organizations, participation in social

initiatives, and advocating for legislative changes that support socially responsible practices.

8. Building a corporate culture that supports CSR principles is vital. This includes embedding corporate values, training employees, encouraging responsible behavior, and creating conditions for implementing social and environmental initiatives.

9. Investing in innovative technologies and solutions that promote sustainable development is another key aspect of CSR modeling. This may involve adopting environmentally friendly technologies and developing new products and services that meet social needs.

10. Establishing partnerships and collaborations with other companies, NGOs, and government organizations can be an effective technique for achieving CSR goals. Joint projects and initiatives enable the pooling of resources and achieving more significant outcomes in social and environmental issues.

Effective modeling of corporate social responsibility enables companies to not only meet contemporary societal demands and expectations but also achieve long-term market success. Integrating CSR modeling techniques into business strategy fosters the development of sustainable and ethical practices that positively impact the company's reputation and its relationships with stakeholders. To implement gender equality at the management level within an organization:

– clear and specific commitments are established to ensure gender diversity in the workplace, documented in a plan with defined goals (such as the number of women on the board and in management positions), specific responsibilities, timelines, and monitoring methodologies.

– a budget is allocated to support gender initiatives at the organizational level.

– an individual from the board is appointed to oversee the gender equality policy and plan.

– a person or team is designated to coordinate gender equality efforts within the company.

– gender metrics are included in the company's development reporting framework.

– training sessions are conducted to promote equality and combat unconscious bias.

– anti-discrimination criteria for hiring, employment conditions (job security, pay disparities, promotions, privileges, performance evaluations, training, discipline, termination, and other employment aspects) are developed.

Corporate social responsibility is becoming an essential element of strategic management for modern companies. Effective implementation of CSR enhances trust among consumers, employees, and partners, which in turn impacts the financial performance of businesses. Integrating social and environmental goals into corporate strategy allows companies not only to meet societal expectations but also to stand out from their competitors.

CSR models based on ESG indicators and active stakeholder engagement provide a systematic approach to assessing and improving social responsibility. Successful examples of companies like Merck and Microsoft confirm that attention to sustainable development and social initiatives can lead to significant competitive advantages. An important aspect is the need for clear commitments and standards to achieve gender equality and other social objectives. Success in CSR requires organizations to actively participate and be willing to adapt, ultimately fostering a more sustainable and responsible business.

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2.2 Benchmarking in Responsible Investment Markets: how Brand and Marketing Affect the Competitiveness of Startup

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Competitiveness is the ability of a startup to maintain and strengthen its market position amid dynamic changes and increasing competition. It is determined by a combination of factors, including innovation, production efficiency, resource management, adaptability to new technologies and market conditions, and the capacity to meet consumer needs better than competitors. Competitiveness is crucial for long-term success, as it enables startups not only to preserve their market share but also to ensure stable growth and development in an environment of constant change.

In today's environment, consumers have become highly demanding and flexible, driven by their increasing awareness and access to information. This growing consumer knowledge compels companies to refine their business models, integrating principles of responsible investing that emphasize ethical and sustainable practices. The heightened competition across industries means that businesses must rapidly respond to the evolving needs of consumers, who are more discerning than ever before. This intense competitive landscape necessitates that startups differentiate themselves to stand out in the market. As a result, competitiveness takes on exceptional significance. It is no longer sufficient to merely offer a quality product or service; businesses must continuously innovate, adapt, and align with the values of their consumers to maintain a competitive edge. Competitiveness ensures that a company can not only survive but thrive by consistently meeting and exceeding market

expectations. In this context, a strong competitive position becomes a critical factor for long-term success, enabling companies to sustain growth, secure market share, and build lasting consumer loyalty amidst constant change (Krasnyak & Mytsyk, 2019).

Branding plays a key role in today's business environment. An effective brand not only creates a unique company identity, but also helps establish an emotional connection with consumers, increasing their loyalty. In this context, benchmarking becomes an important tool for evaluating the effectiveness of branding strategies. Benchmarking involves comparing one's own business processes, products and services with best practices in the industry, which allows to identify opportunities for improvement and implementation of innovative approaches (Morshchenok, 2017). The use of benchmarking in branding helps companies understand how they are positioned in the market relative to competitors, and based on this, build strategies that will ensure their competitiveness and long-term success.

Benchmarking as a concept for improving business processes was born in the late 1950s, when Japanese specialists began to systematically analyze the activities of leading companies, mostly from the USA and Western Europe. Their efforts were aimed at adapting and implementing advanced ideas and technologies that contributed to increasing the efficiency of Japanese enterprises. Using the best global practices in the field of production and management, Japanese companies were able to create new competitive advantages, which ensured them significant market success. They carefully researched Western products and services to identify their strengths and weaknesses, and based on this knowledge developed improved versions, offering them at competitive prices. In the conditions of modern business globalization, companies are increasingly aware of the need for a comprehensive analysis and implementation of the

best practices of their competitors in order to preserve and strengthen their own competitiveness. Regardless of size or industry, the continued application of manufacturing and management best practices is critical to staying ahead of the curve and achieving sustained market success (Prodius & Prokofieva, 2018).

Benchmarking is a complex process that involves a sequential transition from one stage to another, each of which is critical to achieving optimal results. The key stages of this process are detailed in Table 2.1.

Table 2.1. The main stages of the benchmarking process and their description

The name of the stage	Description of the stage
A	1
Identification of functions and processes that require improvement in one's own company	At this stage, a thorough analysis of the company's key business processes is carried out in order to identify those that have the greatest impact on overall productivity and competitiveness. The process includes gathering internal information on the efficiency, cost, quality, and speed of various processes. The assessment is carried out taking into account the strategic goals of the company and its long-term plans, which allows identifying processes that need improvement to ensure sustainable development and increase the market position.
Identification of industry leaders	After determining the priority processes, the company proceeds to the analysis of the external environment to identify the leading organizations that demonstrate the highest indicators in their respective fields of activity. This stage includes studying market leaders who set standards in the industry, analyzing their strategies, technologies and management approaches. An important aspect is determining the factors that contribute to their success, as well as the conditions in which they achieve such results.

Continuation of Table 2.1

A	1
Internal operational audit	At this stage, an in-depth internal audit is conducted in order to measure and evaluate the performance indicators of the processes identified in the previous stages. Measurements are made using key performance indicators (KPI), which allows you to get a detailed picture of the current state of processes and identify existing problems or deviations. The data collected during this phase serves as a basis for further comparison with the results of best practices used by industry leaders.
External competitive analysis	This stage involves comparing the company's internal indicators with similar indicators of market leaders or the most successful competitors. The analysis includes gathering information about productivity, efficiency, innovation and other key aspects of competitors' activities. This allows you to identify gaps between the company's current performance and best practices in the market, determine the causes of these gaps, and identify opportunities for improvement. The analysis may also include research into market trends and consumer expectations that affect competitiveness.
Integration of best practices and optimization of processes	Based on the obtained results, the company is developing a set of measures to optimize its business processes. This stage includes the adaptation of advanced technologies, methods and approaches, which were discovered during benchmarking, to the conditions of one's own enterprise. The integration of new practices is accompanied by monitoring and adjustment to ensure their effective implementation. The purpose of this stage is to increase productivity, reduce costs, improve the quality of products or services, as well as increase the overall competitiveness of the company in the market.

Source: compiled by the authors based on Staff Capital (2015)

A brand encompasses much more than just a logo or a company name; it represents the collective perceptions that people have about a product, service, company, or individual. Branding is a strategic process that involves the creation, development, and management of a brand to establish a distinct image in the market. This process enhances business visibility, captures consumer interest, and provides a competitive edge. The goals of branding are to increase recognition, build trust, establish a strong identity, and boost sales. Key branding tasks include crafting a strategy, defining the brand's identity, determining communication channels with consumers, managing the brand's reputation, and fostering an emotional connection with the audience. Effective brand management, even for smaller businesses, can enhance reputation, attract customers, and secure partnerships (Munchanka, 2024).

Scientific research and empirical data confirm that successful branding and marketing influence a company's strategy, its positioning in the market, as well as consumer loyalty and profitability.

–Impact on brand recognition and positioning

According to a study by Keller (2013), brands that actively invest in their image and marketing communications have a significantly higher level of recognition among consumers (Keller, 2013). Brand recognition is a critical factor influencing consumer choice, as they tend to choose brands they are familiar with, which increases a startup's chances of success in a competitive environment.

–Customer loyalty and emotional connection

The emotional connection that is formed through effective branding is the basis for consumer loyalty. Loyal consumers not only repeat purchases of the brand's products, but also act as its informal ambassadors, helping to attract new customers through referrals. According to HBR, a 5% increase in loyalty can lead to a 25-95% increase in company profits (Gallo, 2014).

–Competitive advantage due to the uniqueness of the offer

Porter (1980) in his classic work "Competitive Strategy" notes that strategic branding and marketing allow a company to create a unique value proposition that is difficult for competitors to copy. This provides a sustainable competitive advantage, as consumers choose not only the product, but also the associations that the brand creates.

–Sales growth and effectiveness of marketing campaigns

According to Nielsen (2021), effective marketing campaigns can increase sales by 15-20% in the short term. Marketing focused on the right target audience, the use of personalized approaches and analysis of consumer behavior allows you to increase sales and expand the company's market share (Nielsen, 2021).

–Reaction to market changes and innovations

Strategic marketing allows companies to adapt to changes in the market. A study by McKinsey & Company (2019) shows that companies that quickly respond to new market trends and change their marketing strategies according to consumer needs have a higher chance of success (McKinsey, 2019). The introduction of innovations in marketing allows not only to maintain, but also to increase the competitive advantage.

–Pricing strategy and premium brand

Sethuraman and Tellis (1991) showed that a strong brand can charge higher prices for its products due to consumers' perception of its quality and prestige. This allows companies to generate additional profits without losing market share, as consumers are willing to pay more for well-known brand products (Raj, Gerard, 1991).

–Talent attraction and formation of corporate culture

According to research by Universum (2022), companies with a strong brand reputation attract more qualified employees. This contributes to the formation of a corporate culture that supports innovation and increases the efficiency of the company's work

(Universum 2022). High qualification of personnel, in turn, has a positive effect on the company's competitiveness on the market.

Thus, branding and marketing are not just tools for promoting products or services, but strategic components affecting the overall competitiveness of the company. They contribute to the formation of brand recognition, increasing customer loyalty, creating a unique offer, increasing sales, adapting to market changes, setting premium prices and attracting talent, which ensures long-term stability and business development in conditions of global competition.

Benchmarks are unmanaged portfolios of securities reflecting a certain market segment. Such portfolios, known as indices, are administered by institutions, the most famous of which are Standard & Poor's (S&P), Russell and MSCI. Indices serve as market indicators and reflect different classes of investment assets. They may represent broad indices such as the Russell 1000 or specialized asset classes such as small-cap stocks, emerging markets or high-yield bonds. Many mutual funds use indexes as the basis for an investment copying strategy. Such funds are pools of assets that are actively managed by portfolio managers, investing in a variety of securities, including stocks, bonds and money market instruments. Fund managers seek to provide capital growth or income for their investors. Exchange-traded funds (ETFs) also use indexes for passive investment management by tracking indexes such as the S&P 500. ETFs invest in all of the securities included in the underlying index, making them an example of passive asset management (Rosen 2024).

Investment companies use benchmarks as a key tool for evaluating the performance of their portfolios, comparing them to the relevant market segment. Portfolio managers select indexes that best reflect their investment goals and strategies with the goal of outperforming those indexes and achieving

superior returns. Active portfolio management involves not only following market trends, but also the search for innovative approaches that will allow you to overtake the chosen reference point (Rosen 2024). At the same time, it should be taken into account that investors are not always able to invest in all the assets included in the index, because each investment is accompanied by certain commissions and costs that can reduce the actual profit. In addition, investors use benchmark indices in combination with risk indicators for a comprehensive analysis of their portfolios. This allows you to make informed decisions about asset al.location, taking into account current market conditions and available investment opportunities. For this, three main criteria are usually applied, which provide a deeper understanding of market dynamics.

Investors can apply benchmarking not only in the traditional way, but also to go beyond it. One advanced approach is to use indexes to allocate investments in passive funds, with an emphasis on specific portfolio allocation. Active investors can also choose multiple benchmarks across the risk spectrum, analyzing them in conjunction with risk characteristics to ensure optimal asset placement with the lowest risks and the highest possible returns (Rosen 2024).

Continuous monitoring of risk indicators and benchmarks also helps investors identify opportunities to reallocate portfolio investments to take advantage of market opportunities. Analyzing multiple benchmarks along with their risk characteristics is a useful approach for investors of all experience levels. The use of such guidelines contributes to the effective evaluation of both current and potential investments, and also helps to ensure optimal diversification of the portfolio, in accordance with the goals of the investor.

In the realm of investment management, benchmarking plays a crucial role in evaluating portfolio performance. However, it is essential to be aware of the potential risks and limitations

associated with this practice. The table 2.2 outlines key risks and constraints related to benchmarking, highlighting how improper application can lead to misleading conclusions and ineffective strategies. Understanding these risks helps investors make more informed decisions and utilize benchmarks more effectively.

Investment strategies are typically categorized as either active or passive, each employing benchmarks in distinct ways that can significantly affect portfolio development and oversight. Active investors use benchmarks as performance standards, aiming to surpass them through deliberate deviations in their investment approach. Their objective is to achieve returns above the benchmark by employing strategic asset al.location and market timing techniques (Lawler, 2024).

Table 2.2. Risks and limitations of benchmarking

Main risks	Description
A	1
Selection of an Inappropriate Benchmark	Choosing the wrong benchmark can lead to distorted results and misleading conclusions. For example, comparing a technology-focused portfolio with a broad market index can result in skewed analysis. It is crucial to ensure that the benchmark accurately reflects the sector, risk profile, and investment strategy of the portfolio it is meant to measure.
Ignoring Nuances	Investors may face challenges when they overlook the nuances associated with different benchmarks. Each benchmark has its own methodology and criteria. Ignoring these subtleties can lead to misinterpretation of benchmark data. For instance, two benchmarks within the same sector may vary significantly due to factors such as market capitalization or geographic focus.

Continuation of table 2.2

A	1
Misinterpretation of Benchmark Performance	Misinterpreting benchmark data is another area where investors might get confused. Benchmarks provide an overview of market or sector performance, but incorrect interpretation or oversimplification of benchmark data can lead to poorly informed investment decisions.
Dynamic Nature of Benchmarks	Benchmarks are not static; they are dynamic and may change over time. Factors such as component changes, rebalancing, or methodological adjustments can affect the composition and performance of a benchmark. Investors who are not attuned to these dynamics may find their comparative analysis becoming outdated or inaccurate.
Over-Reliance on Benchmarks	Excessive reliance on benchmarks can lead to complacency and a lack of critical analysis. While benchmarks are useful for comparison, they should not be the sole factor guiding investment decisions. Investors need to consider other aspects such as economic conditions, market trends, and individual investment goals.

Source: compiled by the authors based on Lawler (2024)

On the other hand, passive investors strive to replicate the performance of specific benchmarks, operating under the belief that consistently outperforming the market is difficult over the long term, particularly after factoring in the costs of active management. Passive strategies involve investing in funds that closely track indices, such as index funds or ETFs, which mirror well-established benchmarks like the S&P 500 or FTSE 100 (Lawler, 2024). The emphasis in passive investing is on closely aligning with the benchmark while maintaining cost-effectiveness.

Selecting between active and passive investment strategies hinges on an investor's goals, risk tolerance, and overall investment philosophy. While active management aims to capitalize on market inefficiencies to deliver superior returns, passive management focuses on broad market exposure and minimizing investment costs. A clear understanding of these strategies enables investors to align their choices with their financial objectives and risk preferences.

When assessing investment objectives, choosing the appropriate benchmark is paramount. A benchmark provides a reference point for evaluating investment performance, making it essential to select one that aligns with the asset class or investment strategy in question. This decision is complex and requires careful consideration to ensure accurate performance assessment and effective portfolio management.

Benchmarks are used to gauge how well an investment performs relative to a standard or index. An incorrect benchmark can lead to misleading evaluations of investment success. For instance, using a broad market index like the S&P 500 to measure the performance of a bond portfolio would be inappropriate due to the different risk profiles and return characteristics of these asset classes. To choose the right benchmark, it is important to match it with the investment strategy and asset class of the portfolio. For example, a global equity fund should be compared to a global equity index such as the MSCI World Index, while a U.S. small-cap fund should use an index like the Russell 2000 (Fastercapital, 2024). Additionally, the benchmark must align with the portfolio's investment goals and have a reliable and transparent data history. This ensures that the benchmark accurately reflects the portfolio's performance and supports sound investment decisions.

Benchmarking is fundamental in evaluating investment goals by offering a comparative basis to assess investment

performance. Through the comparison of investment returns against a benchmark, investors can ascertain how well their investments are performing. Benchmarks are crucial for analyzing the performance of individual securities, mutual funds, and entire portfolios. They are widely used by investors, financial advisors, and portfolio managers to monitor and evaluate investment progress.

Benchmarks serve several critical functions in investment analysis. Firstly, they provide a means to measure performance by comparing returns with those of the benchmark. For example, if an investor's stock achieves a 10% return while the benchmark returns 12%, this reflects underperformance relative to the benchmark. Secondly, benchmarks are instrumental in evaluating risk-adjusted returns. By contrasting the returns of a high-risk investment with the benchmark, investors can determine if the returns are adequate for the level of risk undertaken. For instance, a high-risk stock yielding a 15% return compared to a 12% benchmark return indicates that the stock has outperformed on a risk-adjusted basis (Fastercapital, 2024).

Additionally, benchmarks are valuable for assessing portfolio construction. By comparing a portfolio’s performance with an appropriate benchmark, investors can determine the effectiveness of their portfolio’s diversification and overall structure. For instance, if a portfolio with a 10% return lags behind a benchmark with a 12% return, it may suggest issues with portfolio diversification or construction. Benchmarks are also used to set performance targets, allowing investors to measure if they are meeting their investment goals. For example, if an investor targets a 10% annual return and uses this as a benchmark, consistently underperforming may indicate the need for a strategy adjustment (Fastercapital, 2024).

In order to achieve competitive advantages, enterprises, regardless of their size and industry, need to constantly implement the best global practices in all spheres of activity,

adopting the most effective technologies. Benchmarking is an important tool that promotes business efficiency and ensures transparency. It allows organizations to identify shortcomings in a timely manner, compare their level with the leading companies in the world, quickly implement new approaches with minimal risk, and also reduce the cost of developing new projects.

To fully understand the essence of benchmarking and its role as a tool in a competitive environment, the main types of this process should be considered (Leonova, 2016).:

–internal benchmarking involves comparing processes, products or services within the same organization. This allows you to create an information field for research with minimal costs, but the possibilities for comparison are limited, which can lead to subjective results.

–competitive benchmarking is focused on comparison with direct competitors operating in different markets: local, regional or international. Choosing competitors that operate at a different level of the market, for example, an international one, allows you to get more relevant and meaningful data, although access to such information can be difficult.

–functional benchmarking focuses on comparing one's own processes with similar processes in another industry. This approach allows obtaining objective and useful data with less effort, using ethical and legal data collection methods.

–general benchmarking is aimed at studying the best practices of companies that openly publish information about their approaches and management systems. These processes and approaches can be adapted to improve business processes.

Benchmarking in the markets of responsible investment plays a key role in shaping the competitiveness of companies, taking into account the current trends of sustainable development and social responsibility. In the conditions of growing globalization and increasing regulatory pressure, companies are forced to adapt their business models to the principles of environmental,

social and governance responsibility (ESG). In this context, benchmarking acts not only as a tool for evaluating the effectiveness of investments, but also as a means of identifying best practices that contribute to increasing the sustainability of business and its compliance with the requirements of sustainable development (Leonova, 2016).

Incorporating ESG (Environmental, Social and Governance) principles into a company's brand is necessary to achieve long-term competitiveness and sustainability in today's market. Companies that actively integrate ESG factors into their business strategies and brand values not only improve their reputation among consumers, investors and partners, but also create additional value for their shareholders.

Firstly, consumers increasingly prefer brands that demonstrate a responsible attitude to the environment, social issues and corporate governance. This becomes an important differentiator in the market, which allows you to attract new customers and maintain the loyalty of existing ones. Secondly, the integration of ESG-approaches into the brand contributes to the strengthening of trust among investors. Investors are increasingly targeting companies that take environmental and social risks into account in their operations, as this demonstrates their ability to manage risks and ensure sustainable development in the long term. Finally, brands that consider ESG factors have a higher chance of success in partnerships, as such companies are considered more reliable and ethical partners (Branding Strategy Insider, 2015). This opens up new opportunities for cooperation, development and growth in various markets.

Marketing and branding, as important components of competitiveness, become especially significant in the markets of responsible investment. Companies that successfully integrate the principles of sustainable development into their marketing strategies and brand policy have a competitive advantage in the market. This is due to the growing demand from investors and

consumers for ethical products and services that not only bring financial benefits, but also contribute to the preservation of natural resources, support of social justice and transparent corporate governance. The application of benchmarking allows companies to evaluate their own ESG achievements in comparison with market leaders, as well as to adjust their strategies to ensure long-term competitiveness. At the same time, the successful use of marketing tools to promote the brand, which supports sustainable development, increases the confidence of consumers and investors, which in turn contributes to the growth of market share and financial stability of the company.

In today's competitive environment, responsible investment becomes not only an ethical imperative, but also a strategic factor that determines the long-term competitiveness of companies. Benchmarking, as a method of comparing and evaluating the performance of startups, plays an important role in ensuring this competitive potential, especially in the context of responsible investment. Brand and marketing integrated into a responsible investment strategy not only strengthen the company's reputation, but also contribute to the attraction of a wider audience of investors who are increasingly paying attention to social responsibility and sustainability.

Startups that actively use benchmarking to compare their marketing approaches and investment strategies with global best practices can significantly improve their efficiency and competitiveness. Benchmarking also allows you to assess how successfully a company integrates the principles of sustainable development into its operational and strategic processes, and how these principles affect its market position. The use of benchmarking in combination with branding and marketing strategies contributes not only to increasing financial indicators, but also to the formation of a sustainable and responsible company capable of competing in the global market.

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2.3 Lessons from the EU-Ukraine Cooperation in ESG Benchmarking for Responsible Investment Markets

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Vorontsova Anna

The modern world faces numerous problems, such as climate change, social inequality, and the need to transition to sustainable development models. In this context, responsible investment has become an important tool for directing capital in areas that address environmental, social, and governance (ESG) issues. One of the main mechanisms supporting responsible investment is the development and use of financial benchmarks that help investors assess progress in achieving sustainable goals and choose appropriate instruments for investment.

While measuring financial performance is relatively straightforward, measuring sustainability has traditionally been more challenging. This is where ESG benchmarks come in.

ESG benchmarks serve as important analytical tools, allowing a company's data to be compared to industry standards. Without such comparisons, both across industries and among competitors, it is difficult to understand whether progress is moving in the right direction. Benchmarking helps assess progress in key aspects of sustainability, provides context for the data collected, and identifies areas for further improvement (Sustainability Magazine, 2024).

The European Union, a world leader in implementing sustainability policies, has developed a comprehensive regulatory framework for ESG benchmarks. This includes the establishment of climate benchmarks, such as the EU Climate Transition Benchmarks (CTB) and the EU Paris-Aligned Benchmarks (PAB) (Regulation (EU) 2019/2089), as well as the establishment of strict transparency and methodology

requirements. For Ukraine, which is on the path to integrating into the European economic and political space, studying the EU's experience in this area is vital. It can aid the country in implementing effective mechanisms for responsible investment and attracting international capital to develop its economy.

The issue of implementing and regulating benchmarks in responsible investment markets is particularly relevant for Ukraine for several reasons:

- first, Ukraine is actively working to bring its legislation into line with European standards in accordance with the Association Agreement between Ukraine and the EU. This involves reforming the financial sector and creating conditions for the implementation of sustainable development principles;

- second, the development of ESG investments is an important element for mobilizing the resources needed for the post-war economic recovery, in particular in sectors such as energy, infrastructure and agriculture.

Currently, Ukraine does not have specialized ESG benchmarks, and the regulatory framework for their implementation is limited. However, international partners, including the EU, are actively supporting Ukraine's efforts to promote responsible investment through financing green projects, technical assistance, and legislative adaptation. Learning from Europe's experience is important for creating solutions that are tailored to local conditions while taking into account global trends.

Financial benchmarks are standards or benchmarks used to evaluate and compare financial instruments or assets.They play a key role in the global economy, providing a foundation for determining critical parameters such as interest rates and stock indices.

– interest rates: for example, the "London Interbank Offered Rate" (LIBOR) serves as a basis for determining interest rates for loans and other financial products worldwide;

– stock indices: indices such as the “S&P 500” or the “Dow Jones” act as benchmarks for assessing market performance, enabling investors to compare their investment results with overall market trends.

Financial benchmarks are critical for the stability and transparency of global financial markets, offering reliable reference points that companies, governments, and investors use to make important decisions (Figure 2.1).

By familiarizing yourself with the EU approach and implementing best practices, Ukraine will be able to strengthen its financial system, promote the development of ESG investments and improve its compliance with international sustainability standards.

In responsible investment markets, benchmarks are of paramount importance (Fig. 2.2).

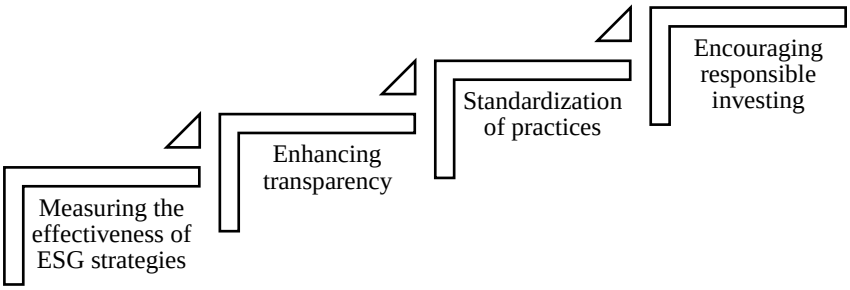

Figure 2.2. The main functions of benchmarks

Source: compiled by the authors.

The EU actively incorporates sustainable development principles into its financial system to achieve the goals of the Paris Climate Agreement and the UN Sustainable Development Goals (SDGs). The EU Sustainable Finance Strategy includes regulatory initiatives to stimulate investments in ‘green’ and socially responsible projects (European Environment Agency, 2021).

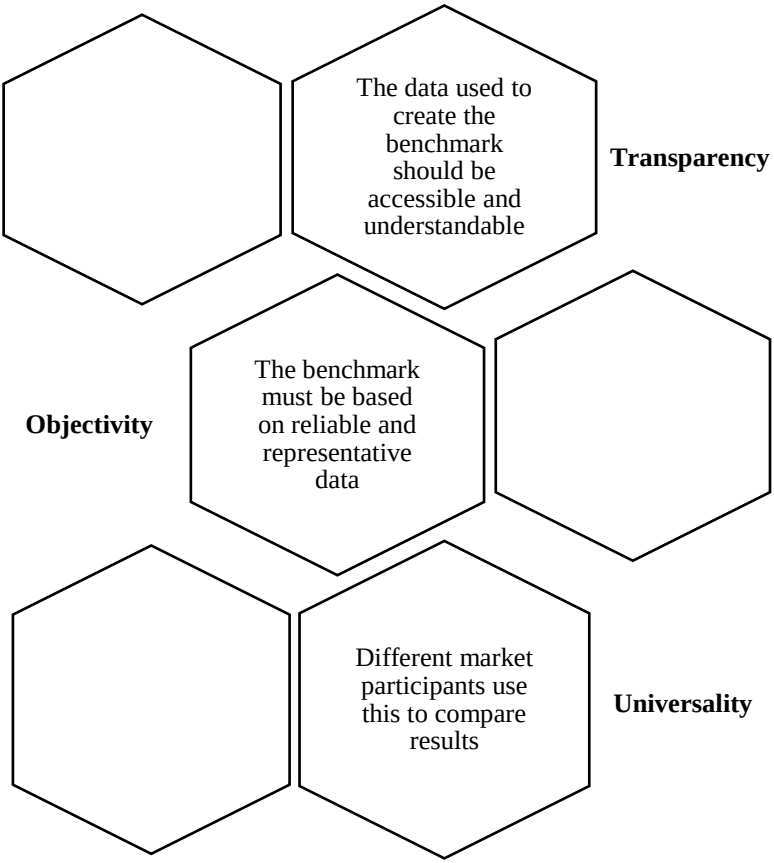

Figure 2.1. Key characteristics of benchmarks
Source: compiled by the authors.

Regulation (EU) 2016/1011 (Benchmark Regulation, BMR) (European Parliament and Council, 2016) aims to ensure transparency and reliability in benchmarks, including ESG benchmarks. Benchmark providers are required to comply with strict rules regarding methodology, governance, and data disclosure. In 2019, amendments to the BMR introduced two new categories of ESG benchmarks (European Parliament and Council, 2019).

The creation of reliable benchmarks, the establishment of EU standards, and the development of ESG benchmarks enhance investor confidence in the responsible investment market and stimulate the growth of new financial instruments such as green bonds or climate ETFs.

Ukraine currently lacks a clear regulatory framework for regulating ESG investments or establishing relevant benchmarks. However, there are several initiatives that contribute to sustainable development, including:

- The Law of Ukraine "On Capital Markets and Organized Commodity Markets" (adopted by the Verkhovna Rada of Ukraine in 2021), which partially meets the requirements of European legislation.
- National Sustainable Development Strategy until 2030 (approved by the United Nations Development Program in 2017), which includes elements of environmental and social development.
- Development of the green bond market (an initiative of the National Securities and Stock Market Commission of Ukraine, 2021), within the framework of which the initial mechanisms for issuing such bonds were introduced in Ukraine, as well as a standard that meets international requirements was developed.

In Ukraine, benchmarks are predominantly tied to standard indicators, such as interest rates or stock market indices. Specialized ESG benchmarks are absent, although there is

potential to create sustainability-focused indices (e.g., through universities and research centers).

Ukraine is gradually adapting its financial legislation to EU standards in line with the Association Agreement. Reforms in the field of sustainable development remain limited, with the main focus on environmental issues, such as increasing energy efficiency and measures to combat climate change.

In 2021, the NSSMC started developing tools to support responsible investment, in particular through the expansion of the green bond market.

Currently, Ukraine lacks mandatory requirements for companies to disclose ESG metrics, as stipulated by European standards (see Fig. 3).

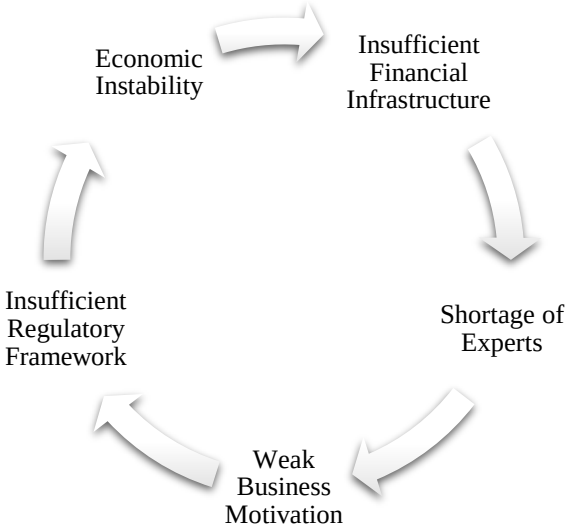

Figure 2.3. Key obstacles to implementing ESG benchmarks
Source: compiled by the authors.

The EU actively supports Ukraine through funding sustainable development projects:

– European Green Deal (EU Green Deal)

– EU4Energy program

– Financial support for developing ESG products, for example, through the European Investment Bank (EIB).

In addition, the IMF, the World Bank, and the IFC are supporting Ukraine in integrating sustainable development principles into the financial sector.

Despite the difficult economic situation and underdeveloped infrastructure, Ukraine has significant opportunities for implementing ESG benchmarks. Leveraging European experience and international support can be an important step in the process of integrating sustainable development into the Ukrainian financial system (Table 1).

Table 2.3. Practical cases and recommendations: examples of successful ESG benchmark implementation in the EU and their application in Ukraine

Example	Application in Ukraine
A	1
EU Climate Transition Benchmark (CTB)	
The STOXX Europe Climate Transition Benchmark, which includes companies with low carbon emissions and commitments to further reductions.	Developing local indices for Ukrainian companies demonstrating progress in reducing emissions. Engaging state and private enterprises in such initiatives through government support programs.
EU Paris-Aligned Benchmark (PAB)	
The MSCI Paris Aligned Climate Index, which includes companies supporting the goals of the Paris Climate Agreement.	Implementing similar standards for Ukrainian enterprises in the energy, transport, and agriculture sectors. Promoting these companies through international financing programs.

Continuation of table 2.3

A	1
ESG Indices	
The FTSE4Good Index Series, which evaluates companies based on environmental, social, and governance (ESG) criteria.	Creating an ESG rating for large Ukrainian companies (including state-owned enterprises) in economically significant sectors. Establishing a rating platform in collaboration with international organizations.

Source: compiled by the author based on European Commission. (2020), MSCI. (n.d.), London Stock Exchange Group. (n.d.).

The introduction and regulation of ESG benchmarks in Ukraine based on European experience is an important step on the path to sustainable economic development. This will not only improve the country's investment attractiveness, but also contribute to its deeper integration into the international financial community. Thus, with international support and active government support, Ukraine has significant potential for the development of responsible investment in the coming years.

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2.4 EU Legislation on Labeling and Benchmarking in Responsible Investment Markets

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Bilan Svitlana

Responsible investing became a cornerstone of global financial systems. Using responsible investing as the main driver of post-pandemic recession recovery, the European Union (EU) has become a global leader in promoting transparency, accountability, and trust in sustainable finance. Sustainable finance combines more than financial returns; it covers environmental, social, and governance criteria (ESG). Recently, the EU has focused on regulating labelling and benchmarking related to sustainable finance and responsible investment to prevent "greenwashing" and other types of "washing" and meet investors' and other stakeholders requests.

These mechanisms help investors understand the sustainability credentials of a financial product or company, enabling them to make informed decisions. By applying clear labels to investment products and providing benchmarks for ESG performance, financial markets create a system where responsible investments can be evaluated more quickly and consistently (Gutsche & Zwergel, 2020).

ESG (sustainability, ethical) labels are proofs of the fact, that financial product meets sustainability or moral or predefined ESG standards. These labels guarantee that the product meets certain ESG criteria, offering investors firm assurance that the product meets the principles of responsible investing.

Labels simplify the process of identifying suitable investment opportunities. With the proliferation of financial products marketed as "green," "ethical," or "sustainable," labels are a way to provide a standardized recognition system, ensuring that these

claims are legitimate and verified by third parties. This is crucial to prevent "greenwashing", where companies or products falsely appear more environmentally or socially responsible than they are.

There are various labels for responsible investment products, each with its own criteria and certification processes. Some of the most well-known labels in the EU and global markets include:

1. EU Green Bond Standard (EU GBS) (European Union, 2023): This label sets a high standard for green bonds and ensures that it allocates funds to environmentally sustainable projects. It aligns with the EU's Sustainable Finance Disclosure Regulation (SFDR) (European Union, 2019) and EU Taxonomy, providing explicit definitions of what constitutes green investment.
2. LuxFLAG (Luxembourg Finance Labelling Agency): This label certifies investment funds that integrate ESG criteria into their investment processes. LuxFLAG's labels include specific categories such as "Environment," "Climate Finance," and "Microfinance," making it easier for investors to align their values with their investment choices (Green Finance, 2022).
3. Nordic Swan Ecolabel: The Nordic Swan label evaluates funds based on ESG factors and provides a certification for those meeting stringent criteria. It's recognized across the Nordics and helps investors understand which financial products are genuinely responsible.
4. Greenfin Label (France): The Greenfin label was created by the French authorities. It helps to certify the funds that support the ecological and energy transition, and excludes funds dealing with nuclear power or fossil fuels in their portfolio.
5. FNG-Siegel (Germany, Austria, Switzerland): The FNG label is the leading sustainability certification in German-speaking countries. The basis of assessment is funds' transparency, exclusion criteria (e.g., controversial weapons,

nuclear energy), and impact investment (European Commission, 2021; Megaeva et al., 2021)

Labels increase investor confidence in companies' ESG commitments and market confidence by guaranteeing that labeled products meet certain standards (KPMG, 2023).

However, labels also have some issues associated primarily with the multitude of labeling schemes across different regions and markets. For example, a green bond that qualifies under one standard may not meet the criteria for another, demanding for interoperability. The lack of global harmonization in labeling schemes means that investors must often navigate a complex and fragmented system.

Benchmarking refers to comparing the performance of an investment, company, or portfolio against a recognized standard or set of standards. In responsible investing, ESG benchmarking allows investors to measure how well a company or fund is performing against its peers or a predefined ESG framework.

The primary purpose of ESG benchmarking is to provide transparency and comparability in investment performance. As traditional financial benchmarks measure factors like market returns, ESG benchmarks assess how well an investment aligns with responsible or sustainable investing criteria. (What is ESG Benchmarking: Your Comprehensive Guide, 2024).

Investors can ensure that capital is directed to responsible businesses by investing in companies or funds that score high on ESG benchmarks.

Companies that are included in major ESG indexes or score well on benchmarks often see enhanced reputations and increased investor interest, giving them an incentive to improve their ESG practices further.

While labeling and benchmarking are essential tools in the responsible investing ecosystem, they are not without their challenges. Some of the key issues include:

1. Lack of Standardization: The diversity of ESG labels and benchmarks means there is no universally accepted standard. Different jurisdictions have their own criteria, making it difficult for investors to compare products across markets.

2. Greenwashing Concerns: As the demand for ESG products grows, so does the risk of "greenwashing". Companies and asset managers may seek to present themselves as more sustainable than they are, capitalizing on the ESG trend without making meaningful changes to their business models. Labels and benchmarks that fail to enforce strict criteria or allow for lax reporting can contribute to this problem.

3. Data Quality and Availability: ESG data can vary in quality when companies may greenwash, report inconsistently or omit key metrics. In general, it means misleading disclosure and unreliable ESG data.

4. Harmonization of Global Standards: the absence of harmonization between regional labeling and benchmarking systems presents a significant challenge. Investors and asset managers are navigating a complex landscape, where the same company or product may be labeled or scored differently.

In conclusion, labeling and benchmarking are critical to the growth and credibility of responsible investing. Current EU legislative initiatives on labeling in responsible investment markets:

1. EU Taxonomy Complementary Climate Delegated Act. The EU introduced the first delegated act on sustainable climate change adaptation and mitigation (European Union, 2020), which entered into force in January 2022. The Additional Climate Delegated Act (European Union, 2022) covers nuclear and gas energy and applies from January 2023 to close the gaps.

2. EU Taxonomy Environmental Delegated Act (European Union, 2023). In March 2022, the Sustainable Finance Platform published technical criteria for four environmental goals. A draft delegated act with updated criteria was published in April 2023

and is expected to be adopted by June 2023. The proposed amendments include updating the Delegated Acts on climate taxonomy and taxonomic disclosure.

3. Benchmark Regulation. The EU assesses the feasibility of an ESG benchmark under the Benchmark Regulation (European Union, 2016), supported by research on minimum standards and transparency requirements. The EC also plans to update the climate transition benchmarks and Paris standards (European Union, 2019) to align with the EU taxonomy.

4. Prospectus Regulation. According to the Prospectus Regulation (European Union, 2017), the European Commission will introduce targeted disclosure of information on environmental, social, and sustainable securities to increase comparability, transparency, and harmonization, and to combat "greenwashing".

There are other actions:

1. Supporting Transition Efforts. The European Commission is exploring options for expanding the EU taxonomy to include intermediate-level economic activities, promoting transparency, and mobilizing funding for robust transitions to sustainable development. In March 2022, the Platform on Sustainable Finance published its final report recommending an extended taxonomy to the EC. According to Article 26(2) of the Taxonomy Regulation European Union. (2020), the EC will publish a report on the provisions for activities that do not significantly impact the environment and are harmful.

2. General Framework & Other Labels. The EC in cooperation with the European Supervisory Authorities (ESAs) and the Platform for Sustainable Finance (PSF), will assess the need for a general framework for labeling financial instruments by 2023. Efforts will include the development of bond brands, such as transition or sustainability-linked bonds, and introducing minimum sustainability criteria for financial products under

Article 8 of the SFDR 2019/2088, 2020/852 (European Union, 2020) to ensure consistent application and performance.

Setting out how financial market participants must disclose sustainability information, helps investors who seek to invest in companies and projects supporting sustainability objectives to make informed choices. The SFDR is also designed to enable investors to properly assess how sustainability risks are integrated into the investment decision-making process. In this way, the SFDR contributes to one of the EU's big political objectives: attracting private funding to help Europe make the shift to a net-zero economy.

The European Commission is currently conducting a comprehensive evaluation of the framework, looking at issues such as legal certainty, usability, and how the Regulation can play a role in the fight against "greenwashing" (European Commission, 2024).

In June 2024, EU regulators proposed sweeping changes to sustainable investment labels to give investors clearer, more reliable information and to reduce the risk of misleading claims about sustainability, commonly known as "greenwashing". The proposal introduced two new categories for financial products:

−sustainable: products that already meet stringent sustainability criteria.

−transition: products that are not yet sustainable but aim to become so over time.

This new labeling system would replace the current classification under SFDR, which categorizes funds under Article 8 and Article 9 based on their sustainability characteristics. Article 8 refers to funds with some environmental characteristics, while Article 9 targets products with a primary sustainability goal. However, with increased scrutiny from EU watchdogs, asset managers have been downgrading funds from Article 9 to Article 8, leading to confusion among investors. The new labels aim to simplify the

landscape, making it easier for investors to understand what they're buying.

The EU's financial regulators – the European Securities and Markets Authority (ESMA), European Banking Authority (EBA), and European Insurance and Occupational Pensions Authority (EIOPA) – have recommended the introduction of a sustainability indicator that would grade investment products. This indicator would apply to funds, life insurance, and pension products, providing a standardized system to help investors compare sustainability performance across different offerings. The common regulatory framework that unites these European supervisory authorities in their approach to disclosures and benchmarks related to sustainable development is based on the SFDR and the related Taxonomy Regulation, Regulation 2019/2089 (European Union, 2019).

In 2019, the EU took a significant step forward with the adoption of Regulation 2019/2089 (European Union, 2016), amending Regulation 2016/1011, which established two key types of benchmarks:

1. EU Climate Transition Benchmarks (CTB): Designed to support companies on a credible path toward reducing carbon emissions.

2. EU Paris-Aligned Benchmarks (PAB): Even more stringent, these align with the objectives of the Paris Agreement, aiming to limit global temperature increases to 1.5°C (Emissions EU ETS, 2024).

These benchmarks require detailed ESG disclosures from administrators, improving transparency and comparability of information. The Technical Expert Group on Sustainable Finance (TEG) (European Commission, 2018), established in 2018, has played a central role in defining the minimum technical standards for these benchmarks. For example, the carbon intensity of companies included in these benchmarks must be much lower than the market average and demonstrate

“year-on-year” reductions in emissions. This strict methodology ensures that only genuinely climate-conscious investments are included.

In addition to climate-focused benchmarks, the EU is working on introducing a new ESG benchmark label that would encompass all three pillars of ESG – environmental, social, and governance.

SFDR, effective since 2021, requires financial institutions to disclose how they integrate ESG factors into their investment processes. EU Taxonomy Regulation, enacted in 2021, provides a comprehensive classification system for determining whether economic activities are environmentally sustainable. EU GBS will apply to bonds funding environmentally sustainable projects and require strict alignment with the EU Taxonomy

However, as regulators identified, this system has been prone to "greenwashing" – where funds market themselves as sustainable without meeting rigorous standards. The proposed overhaul aims to fix this by introducing simplified labels for sustainable and transition products and creating clear objectives and criteria for each category.

By 2024, the EU will be a leader in sustainable finance regulations. With tools like the SFDR, EU Climate Benchmarks, and the soon-to-be-introduced EU GBS, the EU sets a global standard for transparency and accountability in sustainable finance. This regulatory framework will not only help investors make informed decisions but also drive the transition toward a low-carbon, socially responsible economy, ensuring that finance plays a pivotal role in addressing the world's most pressing sustainability challenges (Martini, 2021).

The Commission regularly provides guidance on the interpretation and application of certain EU Taxonomy criteria and disclosures. It has also launched a series of online tools and guides to help users navigate the criteria and fill out their reporting templates. This should save stakeholders time and

resources when assessing and reporting on their taxonomy alignment (Viñes Fiestas, 2023).

As investor demand for trustworthy information on sustainable investments grows, the EU is expected to continue developing legislation to prevent "greenwashing" and provide standardized benchmarks for responsible investing. Improved labeling standards and uniform reporting formats can provide more apparent, more reliable ESG benchmarking, enhancing the credibility of the responsible investment market in the EU and helping investors make informed choices that reflect their values and financial objectives.

A total of 3,038 investors representing over $100 trillion in assets have signed the commitment to integrate ESG information into their investment decisions. Sustainable investing is proliferating, and mutual funds that invest in line with ESG ratings are reaping significant returns. ESG ratings increasingly influence decisions, potentially with far-reaching effects on asset prices and corporate policy (Berg et al., 2022).

Sustainability and ESG rankings and ratings serve as essential tools to assess and promote ESG areas through higher transparency of ESG information and accountability of companies. Well-known ratings like MSCI ESG Ratings or Sustainalytics (Sustainalytics, 2024) provide a detailed assessment of a company's risk exposure and performance in ESG-related areas. At the same time, rankings such as the DJSI highlight industry leaders in sustainability. These evaluations give investors the confidence to invest in companies with solid ESG credentials, thus encouraging firms to improve their sustainability strategies to remain competitive. For companies, excelling in these rankings and ratings often translates into better access to capital, enhanced reputation, and stronger stakeholder relationships.

While both rankings and ratings aim to assess ESG performance, there are critical differences between them.

Ratings focus on providing a score or grade based on specific ESG criteria.

Rankings, by contrast, compare companies to one another, often highlighting the top performers in a sector or region and making it easier to identify sustainability leaders. Together, these tools offer complementary insights – ratings for in-depth risk analysis and rankings for comparative performance assessment – thus vital in advancing sustainable investment and corporate responsibility across the EU.

ESG ratings evaluate a company's or financial instrument's sustainability performance by assessing its exposure to sustainability risks and its impact on people and the environment. These ratings are critical for both investors and companies:

– investors: ESG ratings enable investors to integrate sustainability factors, risks and opportunities into their decision-making process, align their portfolios with sustainable development goals (SDGs).

– companies: ESG ratings offer companies insights into how they regard sustainability compared to their peers.

Depending on their methodology and data, ESG rating providers use various terms, such as ratings, scores, valuations, or opinions. Specialized ESG rating agencies typically provide these ratings, though some financial institutions develop internal ESG ratings.

Various forms of ESG ratings depend on what factors or methodologies they are created:

1. Aggregated ratings (combination of environmental, social, and governance criteria into a single score).
2. Individual factor ratings (focus on specific factors, for instance social).
3. Subfactor ratings (include more specific assessments such as climate risks or human rights compliance).

Critical aspects of regulating ESG ratings include:

1. Transparency of Objectives and Methodologies: The regulation mandates that ESG rating providers disclose what their ratings assess and how they assess it. This is crucial because ESG ratings vary widely in methodologies, and investors need to understand the criteria used to judge a company's sustainability performance.

2. Strengthened Governance of ESG Rating Providers: ESG rating agencies must now have robust governance frameworks in place to prevent conflicts of interest and ensure the independence of their ratings. For instance, agencies that also provide consultancy services to the companies they rate must take extra measures to avoid potential bias in their assessments.

3. Disclosure Requirements for Financial Institutions: Financial institutions that develop their own ESG ratings must now adhere to the same transparency and governance standards as specialized rating providers. This ensures consistency in how ESG ratings are created and disclosed across the market.

4. Supervision by the ESMA: ESG rating providers offering services within the EU must be authorized and supervised by the ESMA, which helps to ensure that these providers adhere to high standards of transparency, governance, and independence (Council of the European Union, 2024).

5. Mitigation of Conflicts of Interest: ESG rating providers must prevent and mitigate conflicts of interest, ensuring that their ratings are not influenced by the companies included into the ratings.

The CSRD (European Union, 2022), SFDR, and EU Taxonomy Regulation collectively strengthen the foundation for ESG ratings in the EU by enhancing data quality, transparency, and standardization. The CSRD mandates detailed ESG disclosures from companies, improving the information available for accurate ESG ratings. The SFDR requires asset managers to disclose the sustainability classification of their financial products (Articles 6, 8, and 9), aiding rating agencies

in their assessments. The EU Taxonomy provides a unified classification for green activities, helping rating providers evaluate companies' alignment with environmental goals. Additionally, the EU is considering a proposed regulation specifically for ESG rating agencies, aiming to set standards for their methodologies and transparency, directly regulating the rating sector for the first time.

Several specialized agencies dominate the ESG rating market, each offering methodologies and rating frameworks. The table 2.4 provides an overview of three prominent organizations as corporate rating agencies – Moody's Ratings, MSCI, and Ecovadis.

Table 2.4. Overview of ESG ratings and EU company leaders as corporate rating agencies

Rating	Description	Core Services	EU Companies Often Included
A	1	2	3
Moody's Ratings	Provides credit ratings, research, and risk analysis across sectors, including ESG assessment, helping companies and investors assess financial health, credit risk, and sustainability performance (Caridad et al., 2020)	Credit ratings, ESG risk evaluations, and financial reporting	Siemens Volkswagen Group, TotalEnergies, Danone

Continuation of Table 2.4

A	1	2	3
MSCI	Offers ESG ratings, investment analytics, and risk management tools to assess sustainability in global markets	ESG data, valuation, climate risk analysis, portfolio validation for sustainable investment decisions	Volkswagen Group, Siemens, TotalEnergies, SAP, Airbus, AXA, Danone, L'Oréal
Ecovadis	Offers sustainability ratings and assessments for companies across industries, focusing on supply chain transparency, social responsibility and environmental impact	Supplier sustainability ratings and risk management tools	SAP, Heineken, Danone, Philips, LVMH, BASF, ING Group, Airbus

Source: compiled by the authors based on Moody's (2024); MSCI (2024); EcoVadis (2024).

Moody's Ratings focuses on financial health, credit risk, and ESG evaluations, offering insights for businesses and investors. MSCI provides ESG analytics and climate risk assessments. Ecovadis specializes in sustainability ratings, emphasizing supply chain transparency, social responsibility, and environmental impact.

The table 2.5 highlights two additional credit rating agencies – S&P Global and Vigeo Eiris—offering specialized credit and ESG ratings with a focus on sustainability and corporate responsibility.

Table 2.5. Overview of ESG ratings and EU company leaders as credit rating agencies

Rating	Description	Core Services	EU Companies Often Included
A	1	2	3
S&P Global	Provides credit ratings, analytics, and analytics for financial markets worldwide, with a particular focus on sustainability metrics and climate risk solutions under EU regulations (Caridad, 2020)	Credit ratings, ESG and climate risk assessment, Intelligence and market analysis, Research on sustainable development, Risk management solutions	Airbus, Royal Dutch, SAP, TotalEnergies, Santander Group, Danone
Vigeo Eiris	Acquired by Moody's in 2019, it provides in-depth ESG ratings primarily for responsible investors and companies committed to sustainability and social responsibility. Unlike traditional credit rating agencies, Vigeo Eiris does not focus only on credit risk but evaluates companies on a number of non-financial criteria, including labor rights, environmental protection, corporate governance, human rights and business ethics.	ESG & CSR Ratings, Sustainability Assessments, Sector-Specific ESG Research, Regulatory Compliance Analysis, Reporting & Disclosure Tools	Airbus, AXA, Danone, L'Oréal, Allianz SE, Enel S.p.A

Source: compiled by the authors based on Weinreb (2022); CSRHub (2024).

The table 2.6 outlines three additional leaders in sustainability and ESG evaluation: Equileap, CDP, and Covalence.

Table 2.6. Overview of other ESG ratings and EU company leaders

Rating	Type	Description	Core Services	EU Companies Often Included
A	1	2	3	4
Equileap	Specialist Data Providers	The most comprehensive global database on diversity, equity, and inclusion in the workplace, collecting, analyzing, and providing corporate information on gender equality, race, ethnicity, and LGBTQ+ diversity, enabling investors and corporations to make informed decisions	Incorporating social factors into ESG investment processes, Regulatory requirements, Portfolio construction and analysis, Shareholder engagement, Controversy screening, Diversity, Equity, and Inclusion assessment and benchmarking	Danone, Aena, L'Oréal, Allianz SE, Enagás, Publicis Groupe, Kering
CDP	Disclosure standards	Leads a global environmental disclosure system, supporting thousands of companies, cities, states, and regions each year to measure and manage risks and opportunities related to climate change, water security, and deforestation	Environmental Disclosure, Scoring and Benchmarking, Supply Chain Engagement, Data and Insights for Investors, Target-Setting and Strategy Guidance, Policy and Regulatory Support	Danone, L'Oréal, Beiersdorf AG, Kering, Lenzing AG, Novartis

Continuation of Table 2.6

A	1	2	3	4
Covalence	Investor resources	A sustainability rating agency that evaluates companies based on ethical and environmental criteria, providing insight into corporate social responsibility through unique metrics and news analysis. It emphasizes collecting real-time data from various sources, including the media, non-governmental organizations, and stakeholders, which provides a comprehensive picture of a company's ethical performance.	ESG ratings, Portfolio reports, ESG news data, "Greenwashing" risk indicator, SDG and thematic scores, ZKB Tracker Certificate, ESG media analysis, Training	L'Oréal, SAP, Siemens, Air France-KLM, Pernod Ricard SA

Source: compiled by the authors based on Equileap (2024); CDP (2024); Covalence (2024).

Rankings of the most responsible companies in the EU have garnered increased attention, especially in the context of climate change and global corporate governance trends. These rankings, often determined by ESG performance, showcase how businesses are contributing to the broader goals of sustainability, social responsibility, and transparency.

Table 2.7, which provides an analysis of some of the most popular global sustainability and responsibility rankings, provides detailed information on their focus, key criteria and examples of the most significant EU companies featured in them.

Table 2.7. Leading EU Sustainability and Corporate Responsibility Rankings for 2024

Ranking	Focus	Key Criteria	Most Responsible EU Companies
A	1	2	3
Scorecards			
Global 100	Identifying the world's most sustainable corporations	Resource efficiency, greenhouse gas emissions, waste	Vestas Wind Systems A/S, Schneider Electric SE, Siemens Gamesa Renewable Energy SA, Nordex SE, Chr Hansen Holding A/S, SMA Solar Technology AG, Kering SA
World`s Most Ethical Companies	Recognizing ethical leadership and corporate governance	Third Party Management, Govermance, Culture of Ethics, Ethics & Compliance, Environmental & Social Impact	Accenture, Nokia, L'Oréal, Johnson Controls, Aptiv PLC, IBERDROLA, Medtronic
Tomorrow`s Value Rating	Assessing corporate sustainability impact	ESG integration, stakeholder engagement, human rights	Danone, Siemens, Iberdrola, Enel

Continuation of Table 2.7

Sector benchmarks			
Principles for Responsible Investment	Impact of sustainable development on investors and assists signatory companies in integrating ESG criteria into their decisions and practices	policy and strategy, governance and oversight, integration of ESG factors, active ownership, transparency and reporting, alignment with the 6 PRI Principles	AXA, Amundi, Allianz, ING Group
World Benchmarking Alliance	Recognizing leaders in innovation	Research and development spending, disruptive technology, new product impact	Danone, Kering, Bayer, UPM-Kymmene, ACCIONA

Source: compiled by the authors based on Diez-Cañamero et al. (2020); Corporate Knights (2024); Honorees (2024); World Benchmarking Alliance (2024); PRI (2017); Trellis (2024).

EU initiatives impacting ESG rankings focus on creating consistency and comparability for investors assessing sustainability. The EU Climate Benchmarks Regulation establishes the CTB and PAB, offering standardized criteria for evaluating portfolio climate alignment, thus supporting rankings based on climate goals. The EUGBS introduces a framework for green bonds, which could lead to rankings of top sustainable bond issuers. In addition, the EU eco-label for financial products, which is currently being developed, sets strict criteria for retail financial products, guiding the ratings of the most sustainable investment funds for retail investors.

As Europe continues to lead the global charge in sustainability, the future of corporate responsibility lies in the hands of companies in renewable energy solutions and ethical supply chains; in sustainable practices which are not only good for the planet but also make good business sense. As they continue to innovate and inspire, the rankings of the most responsible companies will continue to evolve, reflecting the ever-growing importance of sustainability in the business world (Arribas et al., 2021).

In the future, EU corporate responsibility rankings may become more robust tools for assessing sustainability performance, helping investors identify leaders in ESG and supporting EU companies in their journey toward more sustainable practices.

The future of ESG ratings and ranking in the EU looks promising, with ongoing regulatory improvements aimed at reducing "greenwashing" and enhancing transparency. As sustainability becomes more ingrained in business practices and investment strategies, the importance of robust ESG ratings will only increase.

The EU is taking significant steps towards regulating ESG ratings, as the use of ESG data and ratings has rapidly increased in financial services. There are concerns about data quality, transparency of methodologies, and potential conflicts of interest in how these rankings are developed and used. In response, the European Commission has proposed a new regulation on ESG rating activities. The proposal comes shortly after a consultation on a similar issue at the UK Treasury, signaling that two important jurisdictions are moving towards formal regulation of ESG ratings. This shift is critical for firms developing and selling ESG scores, opinions, and ratings across Europe, as it could substantially impact their business models (KPMG, 2024).

The EU regulators are particularly concerned about the risk of benchmark administrators misusing ESG ratings, which could result in incorrect benchmark calculations, harming the broader financial system.

The regulation will cover ESG ratings, defined as a combination of opinions or scores relating to the environmental, social, and governance profile of an entity, financial instrument, or product. Human analysts (opinions) or automated scoring systems may generate these ratings based on specific methodology. The scope of ESG characteristics is broad, encompassing climate-related issues as well as societal and broader environmental concerns. Even products not explicitly labeled as ESG could fall under the scope of this regulation, as the rating's application in the financial market could bring them into compliance.

This regime will apply to ESG ratings provided to EU-regulated financial services providers, with some exceptions, such as in-house ratings or those developed by central banks under specific conditions. ESG data that does not involve opinions, scores, or modeling will be excluded from the regulation.

For firms that provide ESG ratings in the EU, authorization from ESMA will be required. ESMA will develop further rules and guidance and collect supervisory fees proportionate to each provider's annual net turnover. Non-EU entities will also be regulated if they provide ratings within the EU. They could either seek recognition from ESMA or have their ratings endorsed by an EU-authorized entity.

Under the proposed regime, ESG rating providers must maintain independence from other business services like credit ratings, consulting, or banking. Providers must manage and disclose any potential conflicts of interest to ESMA. Analysts involved in ESG ratings will also need to maintain their

independence and be prohibited from joining companies they have rated for six months after issuing a rating.

Failure to comply with the regulation could lead to significant fines, up to 10% of the provider's annual net turnover. The consultation period for the proposal ended in August 2023, and stakeholders expect to agree on the final regime by mid-2024, though the European Parliament elections and other factors may delay this timeline.

ESG rating and ranking providers should begin evaluating the potential impact of the regulation on their operations. This involves reviewing their current data products, assessing governance structures, and managing conflicts of interest. Non-EU companies should also consider structuring their ESG rating business in line with the new rules, either by setting up an organization in the EU or using the third-country recognition mechanisms proposed by ESMA.

Sustainability ratings and ranking in the EU face several challenges that hinder their effectiveness and credibility in guiding responsible investment as a lack of standardization and transparency.

These problems arise from the expectations of investors, financial analysts, and other rating users with financial expertise. This can be achieved by opening up ratings to a wider audience and working with stakeholders, especially non-governmental organizations, and (potential) clients who represent sustainable development's environmental and social dimensions and thus open up new perspectives (Windolph, 2011).

Despite these challenges, the EU has significant potential to improve the reliability and usefulness of sustainability ratings and rankings through regulatory initiatives. Prospects for improvement are also bolstered by discussions around creating a European-wide standard or accreditation system for rating agencies, which could increase transparency and harmonize methodologies

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Chapter 3. INNOVATION BENCHMARKS FOR ADVANCING SECTORAL SUSTAINABILITY

3.1 System Support of Enterprise Innovation Development Management in the Focus of Sustainable Development Values and Bioeconomy

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In today's global economy, the innovative development of enterprises is becoming a key factor in their competitiveness and long-term sustainability. At the same time, it is increasingly important to integrate the principles of sustainable development, which require alignment of economic activity with environmental and social values. Within the framework of the bioeconomy, which focuses on the rational use of biological resources and the transition to more environmentally friendly production processes, there is a need to develop a systematic approach to innovation management.

Systematic support for managing the innovative development of an enterprise in the context of sustainable development and bioeconomy involves the integrated implementation of innovative solutions focused on energy efficiency, reducing environmental impact and improving the quality of life, which requires coordination of various areas of the enterprise – from research and development to resource management and strategic planning (Staffas et al., 2013). In this context, there is a need for effective management models that combine technological innovations with environmental and social values, which become the basis of the modern economy and ensure the sustainable development of enterprises in the long term. In this regard, it is advisable to take a closer look at the essence and stages of bioeconomy development, which define its key

principles and role in the transformation of modern economic models.

The development of the bioeconomy in the world has gone through several key stages, each of which was associated with scientific and technological progress and changes in perceptions of sustainable development and use of biological resources (Birch et al., 2013). The analysis of the literature allowed us to identify the following main historical stages of bioeconomy development (Bugge et al., 2016; Oleshko et al., 2022; Budyakova 2024).

1. *The initial stage (until the middle of the twentieth century) was agriculture and subsistence economics.* In the early stages, humanity used biological resources (plants, animals) to meet its basic needs, such as food, clothing, and shelter. This can be considered the first stage of the bioeconomy, as economic activity was closely linked to the use of bioresources. By the middle of the twentieth century, the development of agriculture and the food industry became the main form of the bioeconomy and included the cultivation of crops and animals to meet the needs of the population.

2. *The Green Revolution (1940s-1970s) was the industrialization of agriculture.* In the mid-twentieth century, the Green Revolution began, which included the active use of technology, fertilizers, pesticides, and genetically improved crops to increase agricultural productivity, facilitating the transition to a more industrialized economy based on bioresources. The rapid development of biotechnology, particularly in agriculture and the food industry, laid the foundation for the bioeconomy.

3. *Biotechnological revolution (1980s-2000s) – genetic engineering and biotechnology.* In the 1980s, the development of genetic engineering led to the active use of biotechnology in various fields, including medicine, agriculture, and industry. The use of genetically modified organisms has become an

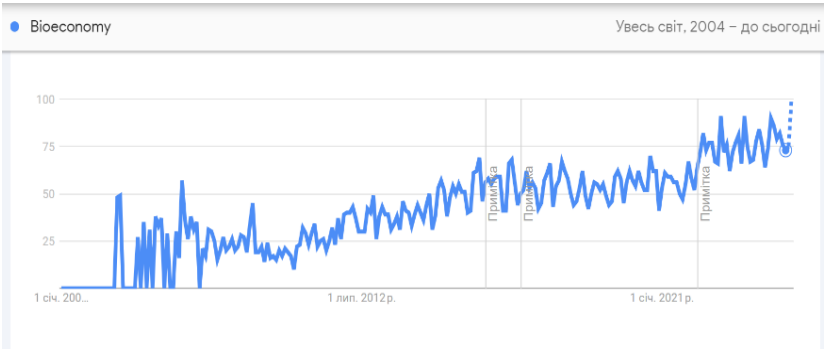
important factor in increasing yields, reducing the use of chemicals, and improving climate change resistance. During this period, active development of technologies for the production of biofuels, biomaterials and biochemicals from renewable resources began.

4. *Transition to Sustainable Development and the Modern Bioeconomy (2000s – present) – Sustainable Development and Climate Challenges.* In the twenty-first century, the bioeconomy has become a key tool for achieving sustainable development and combating climate change. The emphasis has shifted to reducing the use of fossil resources and switching to renewable sources of bioresources, such as biomass. Technologies for the production of biofuels from crops are actively developing, which is a response to the problem of depletion of fossil resources and reduction of harmful emissions. Innovations in the production of bioplastics, biopolymers, and other biomaterials from plant resources that replace traditional synthetic materials. The bioeconomy is being integrated into the concept of a circular economy, where resources are reused, which helps to minimize waste and preserve biodiversity. The use of biotechnology to create new medicines, vaccines and therapies based on biological processes has gained significant traction, especially during the COVID-19 pandemic.

The study of the dynamics of the popularity of "bioeconomy" search queries on Google over the past decade shows a constantly growing interest in it around the world from year to year (figure 3.1).

One of the first definitions of the bioeconomy was provided by Juan Enrique Cabot and Rodrigo Martinez, who stated that it is: "the part of the economy that uses new biological knowledge for commercial and industrial purposes to improve human welfare" (Enriquez & Martinez, 2002). According to scientists G. Macedon and M. Talaviri, bioeconomics is a field that lies at the intersection of ecology and economics, a science that studies

the mutual influences of humans and nature in the process of resource consumption and economic activity. (Nesterenko et al., 2023).



a) Dynamics of the popularity of "bioeconomy" search queries in Google for the period 2004-2024.

b) The popularity of the search query "bioeconomy" by region in 2004-2024.

Figure 3.1. Results of the trend analysis (Google Trends tool) on the evolution of public interest in the bioeconomy for the period 2004-2024.

According to another approach, the bioeconomy is defined as an economic model that positively affects the well-being and health of the population and is responsible for economic growth and development. The use of renewable energy, biotechnology and bioprocesses creates all the conditions for the development and production of innovative bio-based products, while improving the social component of the economic system (by creating additional jobs). (Viaggi et al., 2012).

The bioeconomy is an economy in which the main components of materials, chemicals and energy are obtained from renewable biological resources, which involves a transition from the use of fossil resources to the production of renewable biomass and its transformation into food, feed, energy, biofuels and bio-based products (De Besi et al., 2012).

The bioeconomy encompasses all sectors and systems that rely on biological resources (animals, plants, microorganisms and biomass produced, including organic waste), their functions and principles. It includes and interconnects: terrestrial and marine ecosystems and the services they provide; all major productive sectors that use and produce biological resources; and all economic and industrial sectors that use biological resources and processes to produce food, feed, bioproducts, energy and services (European Commission, 2019).

Bioeconomy refers to the sustainable production and conversion of biomass into food, medicine, industrial goods, and energy. Renewable biomass includes any biological material (agricultural, forestry, livestock, fishery products) as a finished product for raw materials (European Commission, 2011).

Moving from understanding the essence of the bioeconomy to its practical application, it is worth paying attention to European approaches to its regulation. There are numerous programs and legislative initiatives in Europe that encourage the use of bioresources and support environmentally friendly technologies. Thus, in 2012, the European Commission adopted

the strategy “Innovations for Sustainable Growth: A bioeconomy for Europe”, which presents a comprehensive approach to solving problems of various nature (social, environmental, energy, food, etc.) (European Parliament, 2012). Thus, the European Union has created and is implementing special strategies and policies aimed at supporting the development of the bioeconomy, including legal and financial instruments that reduce dependence on fossil resources and increase the number of innovations in this area.

To date, Ukraine has adopted the Strategy for Innovations Development until 2030 with a full plan for the implementation of innovations in 10 key areas. The goal of the strategy is an economic and technological leap when the share of innovative products in the country's GDP should be at least 15-20%. For example, the global biotechnology market is estimated at $1.244 trillion, while the Ukrainian biotechnology development ecosystem is in its infancy. The reasons for this are the lack of an ecosystem, low development of innovation infrastructure, outflow of personnel, the gap between education and science and business, and the insecurity of Ukrainian patents. To solve the problems, the strategy proposes to create a state-supported biocluster that will bring together all ecosystem participants to plan new projects, lobby for industry interests, etc. Another project is the creation of competence centers (hubs). They are supposed to bring together experts in a particular industry and geographically. The third project is Biotech University, which provides for the creation of specialized programs for in-depth study of the industry and research (Ministry of Digital Transformation, 2023).

In general, the bioeconomic strategy should be considered as a mechanism for implementing the Sustainable Development Goals (SDGs) set by the UN as part of the 2030 Agenda. The bioeconomy contributes to the achievement of these goals through the sustainable use of biological resources, innovations

in biotechnology and renewable sources, and the creation of environmentally friendly products and services (Kashchena & Nesterenko, 2023b).

Bioeconomy is based on sustainable development processes that ensure the interconnection between three subsystems: economic, environmental and social. The transition to bioeconomy is aimed at increasing the rational use of natural resources, stimulating the development of the bioeconomy, achieving the principle of parity in the use of natural resources for future generations, establishing social partnership, establishing ecological and economic thinking of the population that does not contradict the principles of sustainable development, and ensuring the national security of the state. (McCormick & Kautto, 2013).

The introduction and development of the bioeconomy, which aims to achieve sustainable development goals, is also becoming necessary against the backdrop of growing indicators that lead to environmental degradation.

The SDGs combine the human desire for economic growth, the desire for social equality and justice, and rational environmental management. The material basis includes available natural resources, labor resources, financial resources, etc. Intangible resources (e.g., intellectual property), as well as the aforementioned indicators for assessing the level of sustainable development, form the information basis. The synergistic factor shows how the components of the system affect each other (human impact on the environment, the impact of the environment on human health). Thus, the SDGs should be considered within the framework of the following components: society, economy and biosphere (figure 3.2).

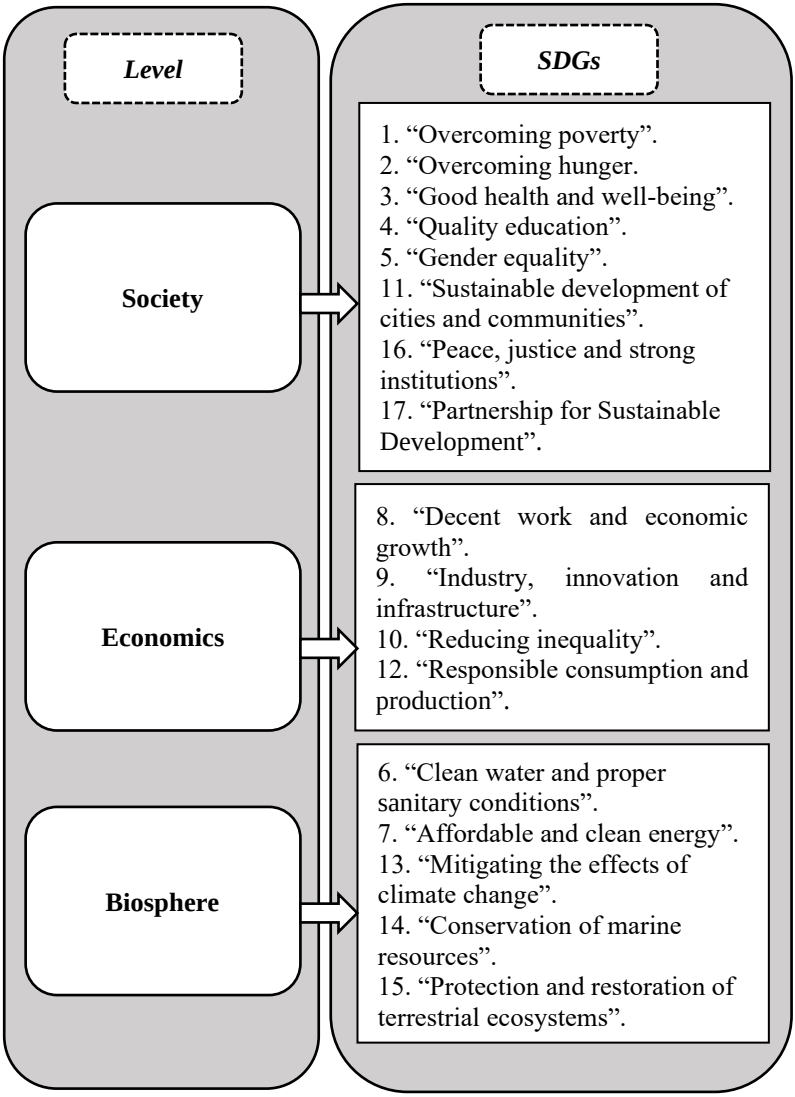


Figure 3.2. Levels of sustainable development goals at the heart of the bioeconomy

Source: compiled by the authors based on United Nations (n.d.); Pfau et al. (2014); Kucher (2021).

Looking at the bioeconomy in terms of three dimensions, it is possible to determine its positive impact on the economic, environmental and social spheres. For example, economic factors help to understand how the bioeconomy can contribute to sustainable economic growth, including the development of new markets, job creation and productivity through the use of biomass and innovative biotechnologies. Environmental factors reflect the ability of the bioeconomy to minimize environmental impacts, for example, by reducing greenhouse gas emissions, sustainable use of natural resources, and pollution. Social factors relate to the quality of life of people, including social equity, access to new technologies, and the creation of new opportunities in rural and urban areas. Table 3.1 summarizes the main impacts of the bioeconomy and the indicators by which they can be measured.

Table 3.1. Key factors and indicators of bioeconomy development

Factor.	Characteristics	Indicator
A	1	2
Biotechnology	Innovations in genetic engineering, agriculture, medicine and industry. Development of genetically modified crops to increase yields and climate resilience.	Gross domestic product from biotechnology sectors.
Bioenergy	The use of biomass, biogas, and biofuels for energy. Production of biofuels from plant waste, such as corn or cane.	Production and consumption of biofuels (million tons or cubic meters).
Circular economy	Reusing resources and reducing waste by recycling biological materials. Production of biodegradable materials and recycling of organic waste.	Share of recycled waste and biodegradable materials in total production.

Continuation of Table 3.1

A	1	2
Sustainable use of resources	Using renewable bioresources instead of fossil fuels to reduce pressure on ecosystems. Switching to biomass for energy or biofuels.	Share of renewable resources in the overall energy balance.
Food security	Increasing agricultural productivity and food availability. The use of biotechnology to fight hunger and improve food quality.	Food security index, level of food production.
Biodiversity conservation	Using environmentally friendly technologies to preserve natural ecosystems. Sustainable forest management and biodiversity conservation through controlled use of resources.	Share of protected areas, level of deforestation.
Reducing carbon emissions	Production of energy and materials with a low carbon footprint. Replacement of plastic with bioplastics, production of bioethanol as an alternative to gasoline.	Greenhouse gas emissions (tons of CO_2 per year).
Job creation	New jobs in biotechnology, bioenergy and sustainable production. Employment in biofuels, biomaterials, and biotechnology companies.	Employment in bioeconomic sectors, number of new jobs.
Innovations in agriculture	Implementation of new technologies to increase yields and resilience to climate change. Use of drones and precision agriculture for efficient crop management.	Level of agricultural productivity, share of innovative technologies used.

Continuation of Table 3.1

A	1	2
Medical innovation	Development of biotechnology to improve healthcare and create new medicines and vaccines. Development of biological medicines and vaccines, such as mRNA vaccines.	Number of new biological products, improved public health.
Restoration of degraded land	Using bioengineering solutions to restore degraded land and preserve soil. Application of bio-agricultural crops to restore eroded lands.	Share of restored land, reduction of soil erosion.
Environmentally friendly materials	Creation of biodegradable or renewable materials as a replacement for traditional plastics. Production of bioplastics and compostable packaging.	Production of biomaterials, share of biodegradable materials.
International partnership	Cooperation between countries to develop the bioeconomy and achieve sustainable development goals. Joint international projects in the field of renewable energy and biotechnology development.	Number of international agreements and projects in the field of bioeconomy

Source: compiled by the authors based on Vicente (2010); Kovalevska et al. (2021).

The development of the bioeconomy implies a transition to a new technological mode based on the use of biological materials, technologies and services that can ensure sustainable growth. Under these conditions, the goal of the bioeconomy is to build a new economic system that can solve a number of environmental, economic and social problems and is generally focused on achieving sustainable development goals. In order to

determine the key goals and objectives of the bioeconomy, it is necessary to study the main factors and socio-economic changes that affect it:

1) the climate factor – global warming and high levels of pollution lead to economic downturns and slower global GDP growth;

2) demographic factor – the rapid growth of the world's population causes a significant increase in demand for food;

3) resource and environmental factors – modern production methods cause significant losses of biodiversity and destruction of ecosystems;

4) economic and financial crises – leading to a decline in living standards, rising unemployment and economic difficulties;

5) the balance between food security and the energy crisis – the dynamics of global fuel and food prices indicates the risks of an approaching food crisis;

6) development of nano- and biotechnologies – there is a rapid growth of production in the biotechnology industry;

7) responsible management and use of resources at the state level, including international recommendations, policy documents, standards and eco-markers; dematerialization of the economy; digitalization of the economy; decentralization of energy systems.

Today, the total contribution of the bioeconomy to the European economy is 9%. Many countries see the bioeconomy as a key strategy for reducing dependence on fossil fuels and promoting sustainable development by integrating biological processes into traditional economic models. European bioeconomy strategies are mainly focused on four key areas: research to generate knowledge; support for innovation (including stimulating entrepreneurship, creating favorable conditions, developing international standards, and assessing risks and benefits); education and training of young

professionals; and integrated governance and communication with society to ensure effective management and open dialogue with the public. The analysis of bioeconomic strategies allowed us to identify key goals for the development of the bioeconomy in Europe. Among the main objectives are: ensuring food security, effective management of limited and depleted natural resources, reducing dependence on non-renewable energy sources, adaptation and mitigation of climate change, as well as job creation and strengthening the competitiveness of the European economy (Kashchena et al., 2021). In addition to national bioeconomic strategies, international organizations and associations are also involved in bioeconomy development. One of these projects is BECOTEP (Bio-Economy Technology Platforms), launched under the 7th Framework Program (FP7), which is based on the principles of the Knowledge-Based Bio-Economy (European Commission, n.d.). European technology platforms develop research programs at the EU and national levels, funded by both public and private sources. They help bring together stakeholders to achieve agreed goals and efficient information exchange within the EU.

The Global Biotechnology Innovation Score is used to determine the level of biotechnology development. It consists of the following key indicators:

– productivity – measured by the financial results of biotechnology companies as they produce valuable products and services;

– intellectual property protection – important for attracting investment, as new biotech products require significant investment, and without proper protection, risks increase;

– intensity – uses relative indicators for comparison by population and size of economy;

– business support – assesses the business environment and availability of financial resources;

– education and human resources – measured by the number and quality of graduates trained in the country;

– research and development (R&D) funding – takes into account national investment in research from both public and commercial sources:

– politics and stability – takes into account political stability as an important factor for supporting innovation.

In 2024, Ukraine was ranked 46th out of 54 countries in the Global Biotechnology Innovation Index (GBI). Although the country has shown some improvements in areas such as intellectual property protection, the biotechnology sector faces serious challenges overall. At present, there are a number of obstacles to the development of the bioeconomy in Ukraine:

– the biotechnology sector requires serious investments, long and complex research and, accordingly, highly qualified specialists;

– barriers to reaching the world level, including complex procedures for obtaining permits and licenses;

– lack of the necessary legal framework and state system for regulating and implementing scientific developments in this area (Kashchena et al., 2022).

To improve Ukraine's position in this ranking, it is necessary to increase support for entrepreneurship, investment in science and education, and stabilize government policy. Modern advances in artificial intelligence, big data, and automation are opening up new opportunities for the bioeconomy, allowing for improved resource efficiency and accelerated development of new technologies (Kashchena et al., 2023a).

The development of synthetic biology and biomimicry opens up opportunities for the creation of new products and technologies based on natural processes. The bioeconomy is developing towards increasing the efficiency of bioresources use, supporting sustainable development and protecting the

biosphere, and in the future it will play an even more important role in the global economy (European Commission, 2012).

Sustainability should be implemented by: establishing the value of ecosystem services; improving the image of biotechnology products; conducting a detailed analysis of the bioproducts market; promoting the development and transformation of the biorate market; supporting capacity building; informing the public about the policy of supporting the production of bioproducts; ensuring the development of standards for bioproducts; developing educational and training programs; forming "green thinking"; strengthening social partnerships; supporting.

Sustainable development of an enterprise involves balancing economic, social and environmental factors for the purpose of long-term development. Implementation of sustainable development values in innovation management processes allows creating new products and services that not only meet market needs but also contribute to the conservation of natural resources and reduce negative environmental impact (Table 3.2).

Table 3.2. Modeling of system support for managing the innovative development of an enterprise

Stage	Characteristics	Key tasks
A	1	2
1. Strategic planning of innovations	Formulation of long-term goals and selection of areas of innovation focused on sustainable development and bioeconomy.	Prioritization of bioresources (biomass, biofuels, biomaterials); market assessment for bioeconomic products and services; development of eco-strategies.
2. Investments in research	Attracting resources for the development of technologies related to the bioeconomy and environmentally friendly solutions.	Investments in research on biomass processing, biotechnology (bioplastics, biochemistry), development of solutions to reduce carbon footprint and replace fossil resources.

Continuation of Table 3.2

A	1	2
3. Change management	Adaptation of internal processes and organizational structure to implement innovations with a focus on the bioeconomy.	Reorganization of production processes to implement bioeconomic solutions (biodegradable materials, use of renewable resources); training of personnel to work with new technologies.
4. Implementation of innovations	Implementation of innovative projects focused on the bioeconomy in production processes.	Introduction of environmentally friendly products, transition to biofuels, optimization of biomass use, introduction of a circular economy with a focus on the reuse of biological resources.
5. Monitoring and evaluation of performance	Continuous analysis of the results of innovation activities, taking into account environmental and bioeconomic indicators.	Determination of KPIs that reflect the impact on biodiversity, reduction of CO2 emissions, level of bioresource recycling, reduction of dependence on fossil fuels; environmental certification of products.

Source: compiled by the authors.

Digitization of system support for management of innovative development of the enterprise in the focus of sustainable development and bioeconomy is an important stage in the development of modern enterprises. The integration of digital solutions makes it possible to increase competitiveness, optimize the use of resources, ensure environmental sustainability and meet modern market challenges (Kashchena et al., 2023b).

Digitization is a key driver of modern innovative development, transforming enterprise management and opening up new opportunities for sustainable growth. In combination

with bioeconomy and concepts of sustainable development, digital technologies ensure efficient use of resources, optimization of business processes and reduction of negative impact on the environment. Management of the innovative development of the enterprise in the conditions of digital transformation involves system support covering the planning, implementation and evaluation of innovations, taking into account the values of sustainable development and the principles of bioeconomy (Nesterenko et al., 2024).

Digitization in the management of innovative development of the enterprise consists in the integration of digital technologies in all spheres of activity with the aim of increasing efficiency, automating processes, creating new products and services. Such technologies include big data (Big Data), artificial intelligence (AI), Internet of Things (IoT), blockchain, cloud computing and other innovative solutions. The implementation of digital technologies creates new opportunities for optimizing production processes, analyzing markets, monitoring the use of resources and reducing the environmental footprint.

Digitization provides an opportunity to increase competitiveness through the introduction of advanced technologies and the creation of products based on renewable resources. For example, in the bioeconomy, digital tools can be used to optimize production processes based on biomass processing or to monitor a company's impact on ecosystems. Investments in digital technologies are a necessary condition for supporting innovative development in the conditions of global competition and the requirements of sustainable development (Oleshko et al., 2024). In particular, digital solutions make it possible to reduce greenhouse gas emissions, increase the efficiency of the use of natural resources, and integrate environmental standards into production. Innovative technologies such as blockchain can be used to ensure

transparency and traceability of supply chains, which is an important aspect of sustainable development.

Digitization requires significant organizational changes, including adaptation of corporate culture to new conditions. The key task is staff training, development of new competencies and formation of openness to innovations. Change management involves the creation of flexible management structures that are able to quickly respond to market challenges and adapt new technologies to production and management processes (Kashchena et al., 2022).

The implementation of digital technologies in the field of bioeconomy is one of the key areas of innovative development of enterprises. The use of big data makes it possible to optimize biomass processing processes, increase the efficiency of agricultural systems, reduce waste and develop new types of biofuels. For example, thanks to IoT, it is possible to provide more accurate control over production, as well as to automate processes related to the management of renewable resources.

Digital solutions provide the possibility of continuous monitoring and evaluation of the effectiveness of innovative measures. For this, digital KPIs are used, which allow analyzing both the economic and environmental results of the enterprise. Monitoring resource use, greenhouse gas emissions, and energy efficiency is an important aspect of sustainable development management. This allows enterprises to meet the requirements of the modern market and international environmental standards.

Digital solutions provide the possibility of continuous monitoring and evaluation of the effectiveness of innovative measures. For this, digital KPIs are used, which allow analyzing both the economic and environmental results of the enterprise. Monitoring the use of resources, greenhouse gas emissions and energy efficiency is an important aspect of sustainable development management, which allows enterprises to meet the

requirements of the modern market and international environmental standards.

Thus, the innovative development of enterprises in modern conditions is an integral component of their long-term success and competitiveness on the global market. However, technological progress can no longer be considered separately from issues of environmental sustainability and social responsibility. In the era of the transition to the bioeconomy and the implementation of the principles of sustainable development, there is a need for a systematic provision of innovation management, which will allow combining economic efficiency with environmental and social responsibility. This approach ensures both the sustainable functioning of enterprises and their contribution to the preservation of natural resources and the development of society as a whole.

Systematic support for the management of the innovative development of the enterprise in the focus of the values of sustainable development and bioeconomy is a necessary condition for ensuring its competitiveness and long-term sustainability. The integration of environmental, social and economic aspects into the processes of innovation management allows to create enterprises of the future, which will contribute not only to their own development, but also to the sustainable development of the entire society. The implementation of such approaches opens up new opportunities for enterprises in the field of using renewable resources, reducing the negative impact on the environment and increasing the efficiency of production processes.

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3.2 Ensuring the Sustainability of the Agricultural Sector: Strengthening Market Orientation and Enhancing Competitiveness

Masliaieva Olga,
Syrota Oleksandr

Ensuring the resilience of agricultural enterprises in the context of the war in Ukraine is crucial to ensuring the country's food security. The war has caused significant damage to infrastructure and logistics chains, making it difficult to produce and supply food. In these circumstances, agricultural enterprises that adapt to the changing market environment can ensure continuity of production, which is vital in times of economic crisis. Cooperation between the government, international organizations and farmers helps to create conditions for sustainable agricultural development. Supporting the national agricultural sector is a key element for Ukraine's economic stability and independence. Research on the competitiveness of agricultural enterprises is important for ensuring stable economic activity, especially in times of crisis and war. It helps to identify the most effective strategies to increase the productivity and sustainability of the agricultural sector. Understanding the key factors affecting competitiveness helps to develop support programmer for farmers and agricultural enterprises. Research on this topic helps to predict and minimize the risks associated with economic instability. To date, this process requires a thorough and comprehensive approach to research, improvement and clarification of its components, as in the face of growing competition and constantly changing market conditions, it is key to achieving success in the agricultural sector in the face of growing competition and ever-changing market conditions.

The article is aimed at substantiating the theoretical foundations of competitiveness of an agricultural enterprise and providing practical recommendations on the importance of developing enterprise strategies.

The agricultural sector plays a crucial role in economic development and food security in many countries. The competitiveness of agricultural enterprises is a key factor in ensuring their sustainability. In the current context of globalization and instability, especially during times of war, the ability of enterprises to remain competitive becomes critically important. A high level of competitiveness not only drives economic growth but also ensures the long-term resilience of these enterprises.

Ukraine has a well-developed food industry that is able not only to fully supply the country's population with food but also to build an active position in the international markets for many key agro-food products. Thanks to its traditionally strong food exports, Ukraine is one of the guarantors of food security in the world.

Agricultural enterprises with a high level of competitiveness are able to use resources efficiently, which increases their productivity and reduces costs. This allows them to remain profitable even in times of economic instability. Such businesses can quickly adapt to changes in the external environment, including changes in market conditions and legislation. This ensures their flexibility and ability to survive in an economic crisis. Competitive businesses invest in the latest technologies and innovations, which increases their efficiency and productivity. The use of advanced technologies allows them to increase yields and improve product quality, which, in turn, contributes to the growth of demand for their products both in the domestic and international markets. Competitive enterprises also ensure a high level of employment and create stable jobs, which is an important factor for social stability in the regions.

Competitiveness is the basis for the sustainability of agricultural enterprises. It ensures their ability to withstand challenges and crises while maintaining high productivity and economic efficiency. All of these factors contribute not only to the survival of enterprises, but also to their sustainable development in the long term, which is important for ensuring food security and economic stability of the country.

The competitiveness of a producer reflects its ability to strategically adapt to external changes. Some authors believe that the competitiveness of an entity is determined by a set of interrelated economic characteristics (factors) that can be influenced to achieve a market advantage. These factors include both the characteristics of the product and the conditions of its production and sale. However, despite the validity of this approach, the economic essence of competitiveness is not fully disclosed, as the definition does not reflect the relationships between producers that form the basis of its emergence.

Other researchers interpret the competitiveness of an entity as the ability to optimally use its potential to achieve a favorable market position. It should be borne in mind that an entity operates in a differentiated environment as a complex socio-economic system consisting of a large number of internal elements united by a common goal. The components of this system, represented by production units and organizational structures, interact with each other to effectively solve development problems that contribute to their competitiveness. An entity, as a single system, can be competitive only when all its components are competitive.

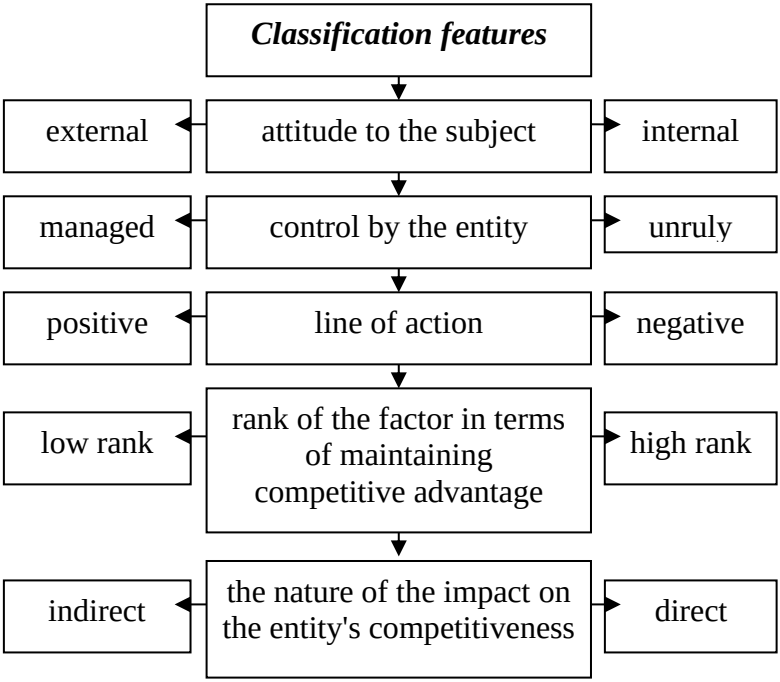

Figure 3.3. Classification of factors of enterprise competitiveness

Source: compiled by the authors.

A generalization of the classification of the factors of enterprise competitiveness allows us to draw the following conclusions:

– usually, factors are divided into external conditions that have a direct impact on the activity of the entity; characteristics of the internal environment of the entity are presented in the form of functional zones (areas) of management. This approach is universal for the conditions of any sector of the economy;

– the composition of the factors and their impact on the entity's advantages may change over time and depend on the competitive features of the industry;

– from the point of view of the competitive advantage management process, the most significant are the controllable factors, the degree of influence of which can be controlled by the entity. This group of factors is essentially identical to the group of direct influence factors;

– the key to the formation of sustainable competitive advantages of an entity is the active development and use of unique factor characteristics.

Being a subcategory of competitiveness, competitive advantage includes all its characteristics, but also has its own special features. A study of the points of view of various authors has allowed us to identify the following features: competitive advantage is an integral part of competitiveness; competitive advantage is inherent not only in the business entity, but also in the products (goods, services) it produces; the source of competitive advantage can be in any area of the entity's activity; real competitive advantages cannot be equated with potential opportunities. In contrast to opportunities, it is a fact that is recorded as a result of actual customer preferences; the ability to measure advantages using economic indicators (profit, profitability, market share, sales volume).

The definition of competitive advantages of an enterprise as a basic-level subject of competition was formulated as follows: competitive advantages of an enterprise are a concentrated, economically measurable manifestation of the subject's advantage over competitors. They are formed from a combination of consumer characteristics of manufactured products (goods, services), which reflect the state of potential of the internal environment of the enterprise and the attractiveness of external conditions at a particular time.

As a central typology, it is proposed to use the classification of determining the types of advantages as a combination of quality and cost properties of products, taking into account the

degree of competitive position of the subject in the intra-industry market Table 1.

Table 3.3. Classification of competitive advantages

<table>
<tr><td colspan="6">Competitive position in the intra-industry market segment.</td></tr>
<tr><td colspan="3">Minimal</td><td colspan="2">Maximal</td><td></td></tr>
<tr><td rowspan="4">Value parameters</td><td rowspan="2">Low level (attractive)</td><td>Fixed low costs</td><td>Low costs</td><td>Low level (unattractive)</td><td rowspan="4">Qualitative parameters</td></tr>
<tr><td>Fixed combination of differentiation and low costs</td><td>Combination of differentiation and low costs</td><td>High level (attractive)</td></tr>
<tr><td rowspan="2">High level (unattractive)</td><td>Lack of advantages</td><td>Lack of advantages</td><td>Low level (unattractive)</td></tr>
<tr><td>Fixed differentiation</td><td>Differentiation</td><td>High level (attractive)</td></tr>
</table>

Source: compiled by the authors.

The complexity of the subject's choice of the types of advantages created in accordance with the state of internal potential and external conditions of activity necessitates the development of scientifically sound approaches to the organization of the process of managing competitive advantages and its effective use in practice.

In today's environment, one of the main tasks for agricultural enterprises is to develop economic strategies for further development, which will ensure maximum use of their competitive advantages, effective implementation of production potential, strengthening of their positions in the agricultural market and achievement of stability in financial activities.

Creating a strategy for the development of an agricultural enterprise is a complex and multifaceted process that includes forecasting performance indicators based on in-depth economic analysis, analysis of possible risks and threats, as well as careful calculation of resources, assessment of alternative ways of development and profitability.

To develop an effective strategy, a company must conduct a comprehensive economic analysis of its current operations. This includes assessing productivity, costs, profitability, analyzing the competitive environment, evaluating product demand and other important aspects. Based on this data, it is possible to understand the strengths and weaknesses of the company and identify opportunities for its development (Masliaieva & Hanziur, 2024).

Conducting a SWOT analysis helps businesses understand their internal strengths and weaknesses, as well as external opportunities and threats, which helps them develop a strategy to increase efficiency and competitiveness. SWOT analysis of an agricultural enterprise is a strategic analysis tool that helps to formulate an effective development strategy and make better management decisions (Perfilova, 2008).

By conducting SWOT analysis, an agricultural enterprise can better understand its opportunities and challenges and develop a strategy that takes advantage of its strengths and provides real answers to its challenges. Such an analysis helps to increase the chances of success and effective management of the enterprise.

SWOT analysis can be used to develop recommendations for the future development strategy of an agricultural enterprise:

– creation of partnerships;

– retraining of personnel;

– purchase of innovative, resource-saving, technical and technological means of production;

– introduction of agricultural insurance, which will reduce the risk of force majeure and form reliable partnerships between agricultural enterprises and investors to attract additional capital;

– justification of prices for agricultural products by establishing minimum and maximum purchase prices for the most important products by the government;

– creating production infrastructure to store agricultural products and sell them at better prices;

– encouraging employees of enterprises to increase labor productivity, save resources, and improve financial and social performance;

– development of measures to improve the management of the enterprise.

Correct and timely response to internal and external changes in society and the agricultural sector of our country will play a key role in the effective operation of agricultural enterprises. (Masliaieva & Hanziur, 2020).

Ensuring the sustainability of agricultural enterprises is one of the key tasks of the modern economy, especially in times of war, unstable external environment and growing challenges of globalization. An effective system of enterprise sustainability management involves the application of integrated approaches that cover financial, organizational, marketing, innovative and social aspects of activity. The proposed mechanisms are focused on creating conditions for the stable development of enterprises, ensuring their competitiveness and adaptation to external changes. Successful implementation of these mechanisms will allow enterprises not only to maintain their economic stability but also to achieve new levels of efficiency. At the same time, it is important to integrate modern technologies and innovations that will help increase productivity and rational use of resources. Thus, sustainability becomes the basis for the long-term successful operation of agricultural enterprises in a competitive environment.

Agricultural enterprises should be able to respond quickly to changes in market conditions, adapt to new conditions and introduce innovations, while maintaining financial stability and sustainability.

The financial and economic mechanism ensures that the company's key financial indicators are at an appropriate level,

which is the basis for its sustainable development. Rational management of resources, including financial resources, allows to optimize production processes and increase profitability. Effective cost management reduces the risks associated with fluctuations in product prices and reduces the company's dependence on external factors.

The organizational and managerial mechanism is aimed at improving the internal structure of the enterprise, which allows it to increase its ability to adapt. An important component of this mechanism is the development of staff management competencies and the application of modern management methods that increase the efficiency of the enterprise. A flexible organizational structure ensures a quick response to changes in the external environment and increases the company's competitiveness.

The marketing mechanism ensures stable sales of products and increases the efficiency of the company's interaction with the market. An important component is the development and implementation of a product promotion strategy that meets modern consumer requirements and ensures stable revenues for the company. Expanding sales markets and searching for new sales chain and strengthen the company's market position and helps diversify risks.

The innovation and technology mechanism helps to increase the company's productivity and competitiveness through the introduction of the latest technologies. The use of innovative approaches to production helps to reduce costs, improve product quality and ensure compliance with international standards. It also opens up new opportunities for the company's development, contributes to its efficiency and ensures sustainable development.

The social mechanism plays an important role in ensuring the stable operation of the enterprise by supporting employee motivation and social protection. Improved working conditions,

higher salaries and opportunities for professional development contribute to higher productivity and lower staff turnover. Ensuring social stability at the enterprise helps to create a favorable working environment that contributes to the achievement of the enterprise's strategic goals.

Integration of all these mechanisms into the activities of agricultural enterprises allows to create a sustainable, flexible and competitive organization capable of long-term success.

The high level of competitiveness of agricultural enterprises is an important factor for their sustainability and ability to adapt to the crisis. Ukraine's well-developed food sector allows it not only to meet domestic demand but also to hold leading positions in global agri-food markets. The introduction of the latest technologies, investments in innovation, and increased productivity help to improve product quality and increase demand.

An important aspect for businesses is to develop effective economic strategies based on an in-depth analysis of internal potential and external conditions. The SWOT analysis helps agricultural enterprises to better understand their strengths and weaknesses, as well as opportunities and threats, which allows them to formulate strategies to improve their competitiveness. The recommendations offered, such as partnerships, the introduction of agricultural insurance and employee incentives, help businesses remain competitive and ensure sustainable development. A timely response to changes in the external environment is a key factor for the efficient operation of agricultural enterprises. The competitiveness of agricultural enterprises depends on their ability to make optimal use of resources and respond effectively to market challenges. It is also determined by the ability of an enterprise to invest in new technologies that increase yields and product quality. A clear strategy that takes into account both internal resources and external threats is also an important component of success.

Properly organizing the process of managing competitive advantages can ensure a company's leading position in the market. Thus, competitiveness is the basis not only for economic efficiency but also for the long-term development of the agricultural sector.

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3.3 The Methodology of Marketing Research. The Capitalisation of Financial Agents in the Financial Services Market in Ukraine in the Context of Sustainable Development

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Nazarenko Iaroslava,
Tesliuk Nataliia

The current state of financial intermediation in Ukraine has a disadvantage, which is the insufficient satisfaction of the financial interests of the participants of financial relations due to the lack of sufficient capitalization. This issue has been intensified by the increase in financial needs in the context of post-war reconstruction. The purpose of the study is to establish a methodology for scientific research on the capitalization of financial intermediaries as the main participants of financial relations.

In order of marketing research, the capitalization of financial intermediaries, it is proposed to use static and process approaches. The static approach defines the capitalization of financial intermediaries as the value of accumulated capital resulting from the initial formation of capital and its subsequent growth through activities. On the other hand, the process approach defines a series of actions that result in the accumulation or increase of capital.

The study of the capitalization of financial intermediaries involves three main areas. The first area focuses on understanding the theoretical and methodological foundations related to the concepts of "capitalization" and "financial intermediaries." This is based on an analysis of works by domestic and foreign scientists, current legislation, and various methodological approaches to analyzing the capitalization of financial intermediaries. The second area involves an empirical

analysis of the capitalization of financial intermediaries as a whole and by specific groups. The third area focuses on providing scientific justification for optimizing the capitalization of financial intermediaries, which includes using economic and mathematical modeling methods.

An empirical analysis has been conducted to study the capitalization of financial intermediaries in general and by specific groups such as insurance companies, commercial banks, leasing companies, factoring companies, credit unions, pawnshops, and other financial companies. This analysis is based on both absolute and relative indicators using data from the National Bank of Ukraine and the State Statistics Service of Ukraine. The study determines the current level of capitalization of financial intermediaries and proposes future prospects for further capitalization.

Financial intermediaries aim to meet the financial needs of various entities such as legal entities, households, the state, and local governments by attracting and allocating financial resources. In Ukraine, a drawback of the current state of financial intermediation is the inadequate fulfillment of the financial interests of the participants in financial relations due to the lack of sufficient capitalization. Financial intermediaries do not possess adequate funds to support the needs of the state and local governments, valuable investment projects of legal entities, and to provide loans to households and small businesses, which is particularly crucial in the context of post-war reconstruction. The capitalization of financial intermediaries necessitates a scientific rationale to ensure that the level of capitalization is adequate to address public needs.

Various aspects of the capitalization of financial intermediaries have been examined by both domestic and foreign scholars. In the domestic literature, studies on capitalization primarily focused on banking institutions. For instance, Ilchuk P., Kots O., and Kud A. compared the

capitalization of the banking system in Ukraine with that of Poland, Switzerland, and Germany, highlighting the importance of capitalization as a financial result of banking activities (Ilchuk et al., 2020). Additionally, Didenko & Efimenko (2021) researched the capitalization of the banking system in relation to mitigating potential risks of bank default, which contributes to macroeconomic stability. Other scholars explored the capitalization of individual banks as a means to ensure the stability of the banking market as a whole (Sova & Yakimova, 2020). The main problems associated with the process of capitalisation of the banking system of Ukraine are identified: 'insignificant absolute size and unsatisfactory dynamics of equity and regulatory capital indicators of the banking system as a whole; unbalanced structure of the authorised capital of the banking system due to the dominance of banks with state participation in it; suboptimal structure of the equity capital of banking institutions, which is manifested in the dominance of the authorised capital indicator, the amount of which in many banks exceeds the amount of equity capital; the spread of the COVID-19 pandemic in the world, which forced the state, represented by the National Bank of Ukraine and the Verkhovna Rada of Ukraine, to increase the amount of equity capital in the banking system. The prospects for the capitalisation of Ukrainian insurance companies have been studied by scholars in the context of income tax reform (Boiko & Shirinyan, 2019).

Despite the studies on the capitalisation of banks and insurance companies, insufficient attention has been paid to comprehensive research on the capitalisation of financial intermediaries.

Scientific research of most financial phenomena includes a triad of areas: research of the theoretical and methodological foundations of the financial phenomenon under study, empirical analysis of the financial phenomenon under study based on economic and statistical analysis, and substantiation of

recommendations for improving the efficiency and effectiveness of the financial phenomenon under study based on scientifically sound proposals, including the use of economic and mathematical modelling methods. Thus, the study of capitalisation of financial intermediaries involves the following areas of research:

– theoretical and methodological foundations are used to clarify the essence of the concept of "capitalisation" and the concept of "financial intermediaries". This is based on the study of scientific achievements of domestic and foreign scholars, as well as provisions of the current legislation. The main methodological approaches to the analysis of capitalisation of financial intermediaries are generalized based on the study of scientific achievements of domestic and foreign scholars, and the author's approach is substantiated.

– analysing the capitalization of financial intermediaries in general and by groups using absolute and relative indicators.

– providing evidence-based recommendations for optimizing the capitalization of financial intermediaries, including the use of economic and mathematical modelling methods.

The concept of "capitalization" has been the subject of many scientific works (Melnyk, 2018, 2019a; Nedilska et al., 2023), with most of them focusing on the study of "enterprise capitalization" (Melnyk, 2019b; Marchenko, 2020; Zaitseva, Iastremska & Iastremska, 2021). Capitalization is defined as the process of accumulating or increasing capital, a set of economic relations that arise during this process, and as an indicator of the market value of a business entity, primarily determined in the stock market. There are three main approaches to studying capitalization: the process approach, the value approach, and the relational approach. The process approach focuses on the movement of capital and its accumulation, formation, and growth in value. The value approach examines the assessment

of the value of capital and ways to ensure its growth. The relational approach considers the subjective relations associated with the availability of organizational mechanisms for effective capital formation processes. Actual definitions of the concept of "capitalization" can be found in Table 1.

Table 3.4. Current definitions of the term "capitalisation"

Definition author	Definitions of the term "capitalisation"
A	1
Bezdushna et al. (2022)	At the micro level, the concept of "enterprise capitalisation" should be considered as a monetary expression of the value of an economic entity and the main financial and property indicator of its investment attractiveness. At the same time, considering the concept of capitalisation as a property indicator of investment attractiveness, it is advisable to expand its interpretation from the classical one, as the market value of shares of a corporate enterprise, to the general one – as a policy aimed at increasing the value of capital of any economic entity, territory or state
Marchenko (2020)	The economic essence of the category of capitalisation can be interpreted as a system of economic relations that arises for an economic entity in the process of distributing part of the added value for the purposes of investment (reinvestment), capital growth and creation of added value on its basis
Kuksa et al. (2022)	Capitalisation of an enterprise is the process of increasing (exceeding the size) of the enterprise's capital, which results in an increase in the market valuation of its value
Nedilska et al. (2023)	Capitalisation should be interpreted as a multilevel process of assessing the efficiency of the development of the entire economy of the country, which changes depending on the tasks and problems set by market participants

Continuation of table 3.4

A	1
Ilchuk et al. (2020)	Capitalisation is the process of increasing the amount of a bank's capital by reinvesting the profit, and issuing shares and other securities, which ensures the stable functioning of the bank, maintaining its liquidity and financial stability. Capitalisation is a relative indicator that characterises the level of capital provision of a bank or a banking system in comparison with other performance indicators (assets, GDP, profit, etc.)
Zaitseva (2020)	– value-based approach: capitalisation is focused on creating value for the company and ensuring its growth. – resource approach: capitalisation should be understood as the process of transforming resources into value streams and added value. – analytical approach: within the framework of the income approach, capitalisation should be seen as a method of valuing assets or the value of a company's business. – systemic approach: capitalisation is determined in accordance with the basic principles of systems theory, taking into account not only economic aspects, but also social and environmental ones. – input-output approach: capitalisation is a process of targeted influence on the results of capital formation while identifying, developing and maintaining the competencies required to ensure the efficiency of this process. – cognitive approach: capitalisation is the process of building up intellectual and social capital, developing methods for assessing costs and results associated with non-financial forms of capital, substantiating the directions and mechanisms for the growth of intangible capitalisation

In order to study the capitalization of financial intermediaries, we intend to use both the static and process approaches. According to the static approach, the capitalization of financial intermediaries is defined as the value of accumulated capital resulting from the initial formation of capital and subsequent formation through operations. The process approach defines the capitalization of financial intermediaries as a series of activities leading to the accumulation or increase of capital.

The essence of the concept of "financial intermediary" is determined primarily by the current international legislation (Commission Regulation (EU) No. 651/2014 of 17 June 2014): financial intermediary means any financial institution, regardless of its form and ownership, including funds of funds, private equity investment funds, public investment funds, banks, microfinance institutions and guarantee companies. Thus, the essence of the concept of 'financial intermediary' is based on the concept of 'financial institution', which is defined in domestic legislation (Law of Ukraine "On Financial Services and Financial Companies" of 14.12.2021 No. 1953-IX) as "a financial institution is a legal entity whose purpose is to carry out financial services activities, which, by the law, provides one or more financial services based on a relevant license" (The Verkhovna Rada of Ukraine, 2021). The logical chain of the conceptual and categorical apparatus is to determine the essence and list of financial services since the Law of Ukraine "On Financial Services and Financial Companies" of 14.12.2021 No. 1953-IX does not contain a list of financial intermediaries or financial institutions. According to Art. 4 of the Law of Ukraine "On Financial Services and Financial Companies" dated 14.12.2021 No. 1953-IX, financial services include insurance; lending of funds and banking metals; raising funds and banking metals to be returned; financial leasing; factoring; providing guarantees; trading in currency values; financial payment services; financial services provided within the framework of

professional activities in the capital markets (The Verkhovna Rada of Ukraine, 2021). Financial intermediaries may include insurance companies, commercial banks, leasing companies, factoring companies, credit unions, pawnshops and other financial companies that have the appropriate licenses.

We agree with the opinion of Melnyk (2009) that "the existence of different interpretations of the concept of capitalization makes it impossible to have a single methodological approach to analyzing capitalization...". According to the static approach, the capitalization of financial intermediaries is determined based on absolute indicators (equity capital of financial intermediaries) and relative indicators (ratio of equity capital of financial intermediaries to GDP). According to the process approach, the capitalization of financial intermediaries is determined based on absolute indicators (the amount of growth in financial intermediaries' equity, the amount of reinvested net profit) and relative indicators (the ratio of reinvested net profit to financial intermediaries' equity, GDP, and net profit). It is worth noting that in the scientific developments of scientists on the capitalization of commercial banks (Ilchuk et al., 2020; Didenko & Yefimenko, 2021; Sova & Yakimova, 2020; Hladkykh, 2021), they mainly study capitalization based on equity capital rather than total capital.

The empirical analysis of the capitalisation of financial intermediaries in general and the capitalisation of financial intermediaries by groups based on absolute and relative indicators was conducted using data from the National Bank of Ukraine and the State Statistics Service of Ukraine. Fig. 1 shows the dynamics of financial intermediaries capitalisation based on equity in 2019-2023. Absolute capitalisation indicators as the sum of financial intermediaries' equity indicate a positive trend in the long term with a growth rate of 129%, including 2017 – 22.3%, 2019 – 22.9%, 2020 – 1.8%, 2021 – 23.1%, 2023 –

31.5%. However, absolute indicators do not allow for a full assessment of the dynamics of financial intermediaries' capitalisation in the context of macroeconomic development, so it is advisable to consider the capitalisation of financial intermediaries in line with the development of the national economy (as measured by GDP). It is in terms of capitalisation relative to GDP that we observe a negative trend. The negative dynamics indicate that there was a decrease in the capitalisation of financial intermediaries by 1.5 pp of GDP in 2016-2022. The years 2017-2018 were critical, when the loss of financial intermediaries' capitalisation amounted to 1.6 pp of GDP, due to the banking sector's "cleansing" of insolvent and undercapitalised banks. In 2021-2022, the loss of financial intermediaries' capitalisation was 0.3 pp of GDP annually.

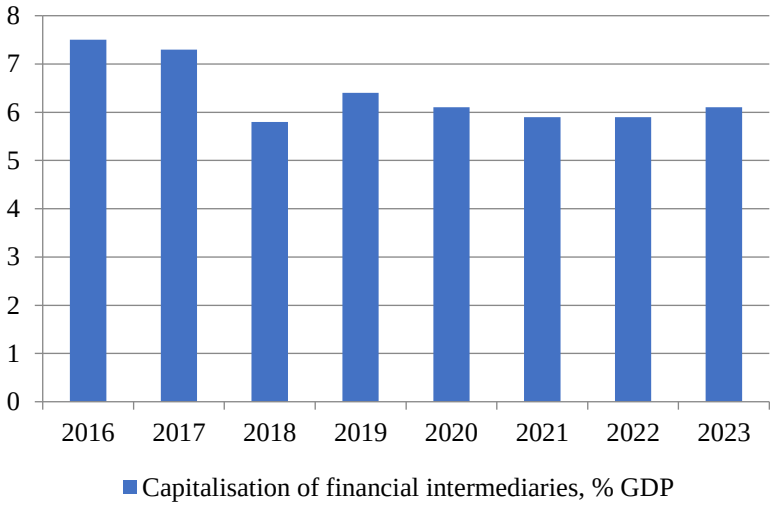

Figure 3.4. Capitalisation of financial intermediaries in 2016-2023, % GDP

Source: compiled by the authors based on data from the National Bank of Ukraine and the State Statistics Service of Ukraine

Thus, the capitalisation of financial intermediaries in the long-term period was about 7%, and in the medium-term period – about 6%, which does not correspond to the level of capitalisation of European countries.

The peculiarities of the capitalisation of financial intermediaries in Ukraine are the uneven internal structure of capitalisation (capital) by type of financial intermediary. According to Fig. 2, commercial banks with an equity share among financial intermediaries of more than 70% are the most capitalised, reaching a maximum of up to 80%, which offsets the role and importance of other financial intermediaries.

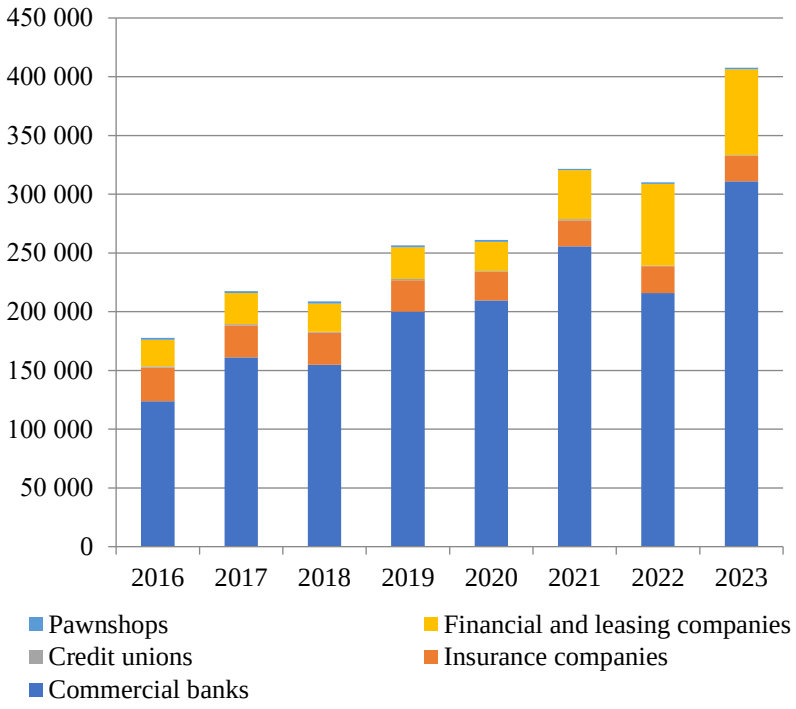

Figure 3.5. Capitalisation of financial intermediaries in Ukraine

Source: compiled by the authors based on data from the National Bank of Ukraine and the State Statistics Service of Ukraine

The capitalisation of commercial banks relative to GDP was around 5% until 2021, in 2021 the capitalisation of banks was reduced to 4.7%, and in 2022 the capitalisation of banks was reduced to 4.1%. Figure 3 shows the dynamic of equity of financial intermediaries in Ukraine during 2016 -2023.

The current practice of capitalization of commercial banks in Ukraine has a disadvantage in that there is a high share of state capital. Bazylyuk A. V., Boyko N. V., Karlova I. O., and Tesliuk N. P. studied the presence of the state in the banking services market of Ukraine in terms of economic, social, and political relations (Bazilyuk et al., 2020). The capitalization of commercial banks in Ukraine is mainly concentrated in state-owned banks such as Oschadbank, Ukreximbank, Ukrgasbank, and Privatbank. The capitalization of state-owned banks is financed from the budget, including debt financing. Domestic scholars have shown that the costs of capitalizing state-owned banks in Ukraine nominally exceeded other public expenditures (such as civil defense, military education, communications, telecommunications, informatics, and social protection of the unemployed) and were several times higher than the costs of fire protection and rescue, the judiciary, defense activities of the state, agriculture, construction, environmental protection, and social protection of war and labor veterans, and caused structural changes in budget expenditures (Davydenko et al., 2023; Boiko et al., 2020; Khomenko et al., 2021, 2024; Shkarlet & Khomenko, 2017).

Insurance companies used to be the second largest financial intermediaries in terms of capitalization. However, their capitalization has declined due to changes in the insurance market and the withdrawal of some companies from the market. This decline has had a negative impact on the promotion of insurance through legal entities and households. Life insurance and risk insurance companies, including those with foreign capital, have a higher level of capitalization. Some of these

companies include: INGO Insurance, UNIQA Insurance, ARCS Insurance, PZU Ukraine Insurance, TAS Insurance Group (private), USG Insurance, Alfa Insurance, VUSO Insurance, MetLife Insurance, PZU Ukraine Life Insurance, and Arsenal Insurance. On the other hand, the capitalization of financial companies has increased, particularly those involved in lending to households.

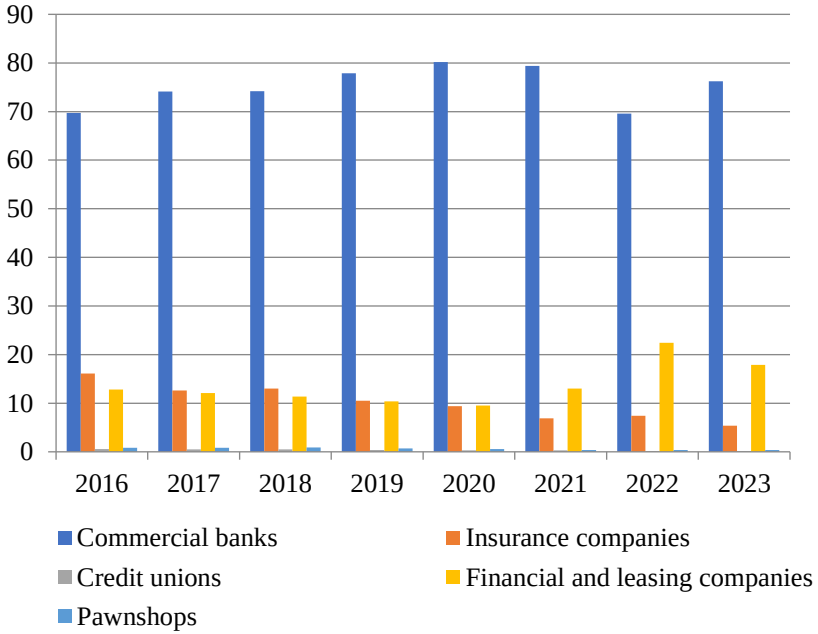

Figure 3.6. Dynamics of Equity structure of financial intermediaries in Ukraine

Source: compiled by the authors based on data from the National Bank of Ukraine and the State Statistics Service of Ukraine

The research of the capitalization of financial intermediaries involves the following areas of research: theoretical and methodological foundations. This includes clarifying the essence of the concept of ‘capitalization’ and the concept of

‘financial intermediaries’ based on the study of scientific work of domestic and foreign scholars, as well as the provisions of current legislation. It also involves generalization of the main methodological approaches to the analysis of the capitalization of financial intermediaries based on the study of scientific work of domestic and foreign scholars and substantiation of the author's approach. Additionally, it includes empirical analysis of the financial intermediaries' capitalization. The research identifies the insufficient level of capitalization of financial intermediaries, and suggests that in future studies the need for the formation of financial resources of financial intermediaries to finance the post-war reconstruction of Ukraine should be determined.

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3.4 Sustainability Indices of Leading European Stock Exchanges

Oleksich Zhanna

In the face of rapid global changes, businesses and investors increasingly turn to tools that enable them to assess the environmental, social, and governance (ESG) responsibilities of companies. In 2023, 93% of Russell 1000 companies and 98.6% of S&P 500 companies prepared sustainability reports that covered non-financial indicators of their activities (Oliynyk, 2024). These high percentages indicate that as companies grow and succeed, ESG principles are becoming an integral part of corporate strategy, playing a critical role in business planning and operational activities. The topic of sustainability indices on European stock exchanges is particularly relevant amid global economic, social, and environmental challenges. Sustainability indices serve as key mechanisms for evaluating ESG criteria and encouraging investments in responsible businesses.

There is a growing interest among investors in ESG principles. Interestingly, 84% of top managers are convinced that ESG contributes to the creation of a more effective corporate strategy, and 85% of investors note that ESG increases profitability, makes portfolios more sustainable, and improves fundamental analysis (Bloomberg Intelligence, 2023). Sustainability indices are important tools for investors seeking to invest in companies that are actively working to reduce the negative environmental and social impacts of their activities.

The European Union has set ambitious targets, including achieving carbon neutrality by 2050 and meeting the UN Sustainable Development Goals. Sustainability indices on stock exchanges are important tools for tracking progress, assessing how companies are meeting these targets and ensuring their compliance with environmental and social standards.

As the transition to a low-carbon economy accelerates, companies and financial institutions need clear criteria to assess the sustainability of their businesses. Sustainability indices provide transparency into financial performance and help investors identify companies that meet sustainability requirements and can be included in environmentally and socially-oriented investment portfolios.

ESG ratings and data models provide investors with the necessary tools to assess and manage ESG risks across multiple dimensions. Investors need data-driven approaches that allow them to:

- effectively manage ESG impacts;
- comply with corporate governance requirements;
- integrate ESG data into securities and portfolio analysis;
- implement investment strategies that are consistent with ESG principles (London Stock Exchange Group, n.d.a).

The integration of advanced technologies, such as big data and artificial intelligence, improves sustainability assessment methods and increases the accuracy of indices. This opens up new opportunities for more detailed and accurate ESG assessments, increasing their relevance for modern companies and investors.

Since 2011, reports of the International Finance Corporation have emphasized the importance of sustainability indices. They are important tools for investors to assess the financial sustainability of companies and financial institutions, analyzing their compliance with ESG principles.

In addition, these indices contribute to market development, recognition of companies for their responsible corporate behavior. Vives and Wadhawa (2012) note that the main function of sustainability indices is to provide a reliable guide for responsible investments. The authors also highlight the potential of these indices to encourage companies, especially in developing countries, to adopt responsible business practices.

Sustainability indices are powerful tools for sustainable finance, aimed at addressing environmental, social and governance issues. The strategy combines financial performance with social and environmental benefits, taking into account ethical, environmental and economic aspects in the investment process (Brzeszczyński and McIntosh, 2014).

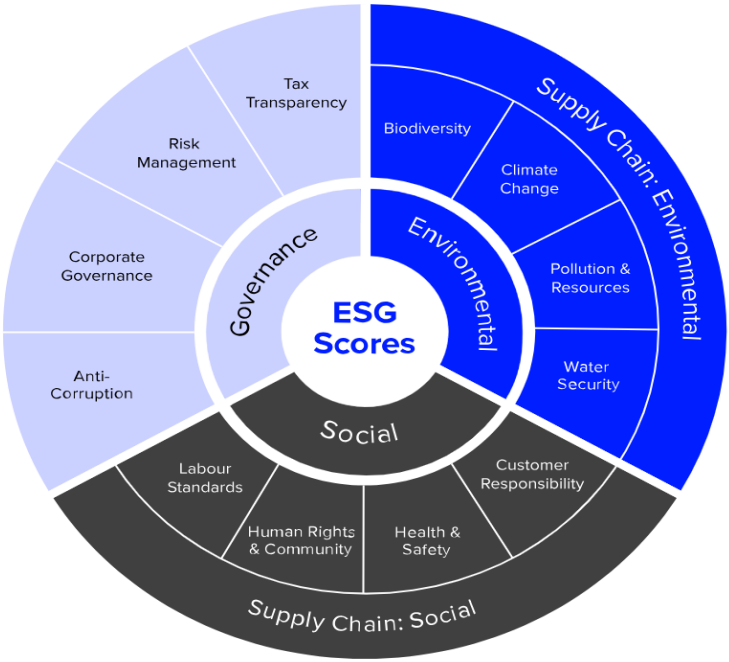

Figure 3.7. ESG assessment comprises three components: environment, social, and governance
Source: London Stock Exchange Group. (n.d.a).

According to Ziegler (2012), the formation of sustainability indices can be influenced by factors that are not directly related to corporate, environmental or social activities (Boytan, 2020). In addition, some researchers draw attention to the fact that some sustainability indices include companies that have been involved in controversial situations (Arribas et al., 2019, 2021).

Sustainable development indices are key tools in solving global problems. They support the implementation of sustainable development strategies, the implementation of international obligations, the promotion of ethical investments and the adaptation of economies to sustainable growth. Given new regulatory initiatives and the growing role of ESG in economic life, the topic of sustainability indices on European stock exchanges is becoming increasingly relevant (Figure 3.8).

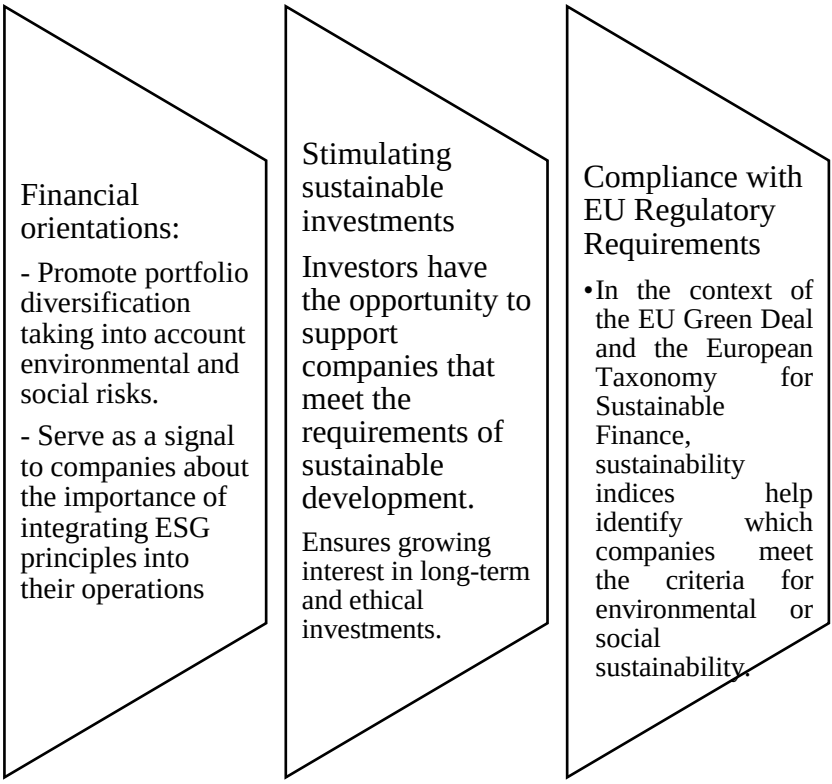

Figure 3.8. The role of sustainability indices

Source: compiled by the author.

In 2009, the UN Secretary-General launched the Sustainable Stock Exchanges (SSE) initiative. Its mission is to build the capacity of stock exchanges and securities market regulators, promote responsible investment in sustainable development, and encourage companies to engage in environmental, social, and governance (ESG) practices (Boitan, 2020).

In recent years, there has been a growing interest in creating sustainability-focused stock indices due to the increasing importance of socially responsible investments (SRI). According to the Index Industry Association (IIA), the number of ESG indices grew by 13.85% in 2019 and by 40.20% in 2020 (Vilaset al., 2021).

To be included in these sustainability indices, companies undergo a rigorous analysis and selection process based on their adherence to ESG criteria in financial decision-making. As a result, these indices serve as market benchmarks for companies that recognize the importance of sustainability.

FTSE Russell, RobecoSAM and S&P Dow Jones Indices are international organizations that focus on sustainable investments, taking into account economic, environmental and social criteria in their strategies. In 2006, RobecoSAM created a division called Sustainability Services, which provides companies with sustainability assessment reports. RobecoSAM is a leading global index provider, offering a wide range of indices, data and analytical solutions that meet the needs of clients across asset classes, styles and strategies, covering 98% of the investment market.

FTSE Russell indices reflect an accurate representation of global markets, combined with specialized knowledge acquired from developing local benchmarks worldwide. Expertise and index products are widely utilized by institutional and retail investors globally (London Stock Exchange Group, n.d.b).

The primary sustainability indices include the Dow Jones Sustainability Index (by RobecoSAM and S&P Dow Jones

Indices) and the FTSE4Good Index (by FTSE Russell) (Table 3.5).

Table 3.5. Characteristics of sustainability indices

Dow Jones Sustainability Index	FTSE4Good Index
Year of Creation	
1999	2001
Purpose	
Recognition of best practices in sustainable development by public companies. This global index evaluates the good practices of companies based on various environmental, social, and economic criteria	Intended to assess the effectiveness of companies demonstrating special practices in environmental protection, social responsibility, and governance (ESG)
Number of Covered Indicators	
The index evaluates approximately 600 indicators using a comprehensive questionnaire consisting of around 150 questions, which thoroughly assess various aspects of a company's operations, including its policies, codes of conduct, training programs, equality measures, salary structures, and more	It consists of over 300 indicators across 14 different categories, organized into three main areas: environmental, social, and corporate. The information is reviewed and updated every six months to reflect changes and include companies that have enhanced their practices and transparency

Source: compiled by the author.

The series of indices are designed to evaluate the performance of companies demonstrating exceptional practices in the areas of environmental protection, social responsibility, and governance (ESG).

For example, the FTSE4Good indices can be utilized in four main ways (Figure 3.9).

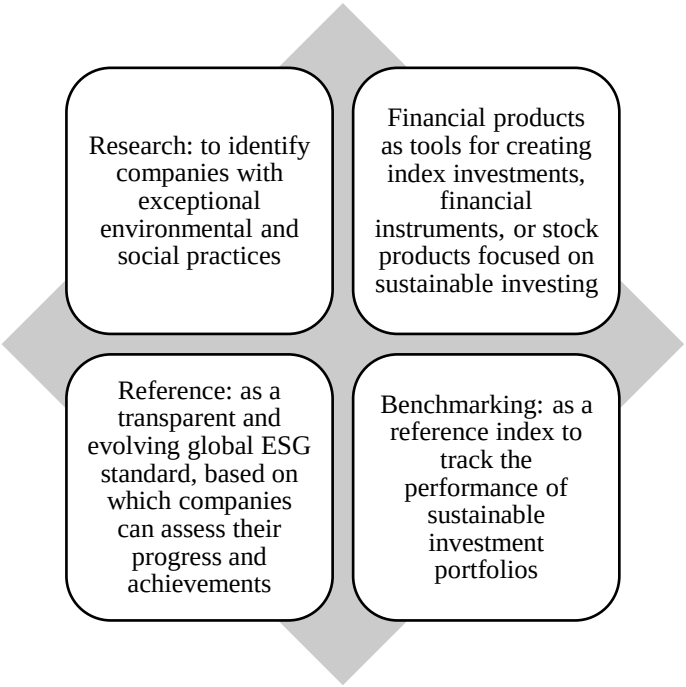

Figure 3.9. Four main ways to use FTSE4Good indices
Source: London Stock Exchange Group. (n.d.).

Besides the Dow Jones Sustainability Index (DJSI) and the FTSE4Good Index, there are several other global sustainability indices, including:

– MSCI Global Sustainability Index;
– STOXX Global ESG;
– CDP;
– Euronext Vigeo Index Eurozone and Europe 120.

These indices assist investors in integrating environmental, social, and governance (ESG) criteria into their investment decision-making process.

Another important aspect shared by all these indices is their aim to create a better future for society as a whole. A company's

presence and position in these stock indices depend on demonstrating consistent progress in sustainable development. These indices also impact the likelihood of such companies being included in investment portfolios (Figure 3.10).

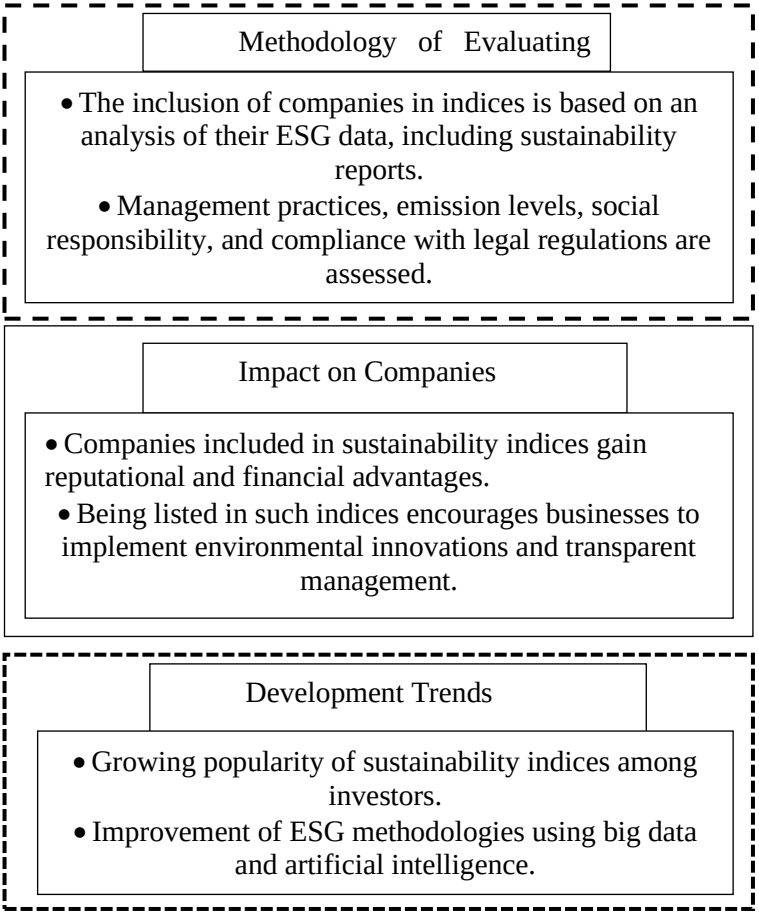

Figure 3.10. Integration of ESG principles through stock indices

Source: compiled by the author.

Sustainability indices are key tools for assessing business responsibility and attracting investments in sustainable development. Despite challenges such as inequality in access to resources and methodological shortcomings, the potential for their improvement promises to significantly increase their effectiveness (Table 3.6). The introduction of innovative technologies, the development of unified standards and increased transparency can make these indices even more important elements of the global economy.

Table 3.6. Challenges and prospects for sustainability indices

Challenges	Prospects
The lack of global standardization of ESG criteria makes it difficult to compare indices.	The risk of "greenwashing" when companies exaggerate their sustainability efforts.
The low quality of data provided by some companies can distort the assessment results.	Integrating climate risks into the assessment methodology.
The risk of "greenwashing" (exaggerated sustainability claims)	The growing importance of sustainable indices in the process of forming portfolios of large institutional investors.

Source: compiled by the author.

Sustainability indices on the leading European stock exchanges are becoming key tools to promote environmentally and socially responsible business practices. They promote sustainable investment, integrate ESG principles into corporate governance and strengthen investor confidence. Despite challenges, the improvement of methodologies and enhanced regulatory oversight position these indices as a promising tool for transforming the EU economy in alignment with the objectives of the Green Deal.

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Sustainability benchmarks and progress: EU-Ukraine experience

Abstract

Today, it is difficult to imagine global politics without the ideas and guidelines of the concept of sustainable development, which implies an urgent and inevitable need for a comprehensive solution to existing economic, environmental, and social challenges, which will become the only opportunity to protect the interests of future generations. Ukraine, whose political development vector is aimed at integration into the European Union (EU), has additionally faced many challenges associated with the full-scale war against it by Russia and economic and political instability. In this regard, the implementation of the principles of sustainable development is a complex but vital process that requires a thorough study of the best European practices and effective benchmarks that will contribute to overall progress. Accordingly, this monograph is devoted to studying the main problems and ways to introduce the values of sustainable development of the European Union in Ukraine at the level of companies, communities, and the country.

The first section of this work analyzes sustainability strategies in EU practice as a benchmark for the Ukrainian integration process, which allows for the identification of existing problems and prospects of the integration process in Ukraine, in particular in the context of introducing EU sustainable development values in Ukraine; to suggest potential ways of integrating the principles and values of European sustainable development into the Ukrainian context. The second section presents the best sustainable market practices, mainly through the measurement of corporate social responsibility of business, the introduction and regulation of benchmarks in responsible investment markets, and the example of marketing and labeling. The third section considers innovation benchmarks for advancing sectoral sustainability, in particular regarding the systematic provision of management of innovative development of an enterprise in the focus of sustainable development values and bioeconomy, ensuring the sustainability of the agricultural sector, capitalization of financial agents in the financial services market in Ukraine in the context of sustainable development and sustainability indices of leading European stock exchanges. As a result, this work allows us to disseminate the EU's experience in sustainable development and the values of the sustainable development goals, which will be useful among academic, business, and government circles in Ukraine.

Keywords: sustainable development goals, benchmark, value, corporate social responsibility, responsible investment, labeling, legislation, integration, index, EU, Ukraine.

JEL Classification: Q01, Q56, M14, F15, G11, O13.

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