Determinants of economic policy concepts within the implementation of the circular economy

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Abstract: The implementation of the circular economy, as an integral support for sustainable development, is the result of established economic policy in the macroeconomic and microeconomic dimensions. In its essence, the creation of the mentioned policy represents a mix of interlinked goals of economic, social, ecological, global, regional, etc.. For this reason, the basic initial determinants of the conceptual economic-political strategy lie mainly in the sociological and political aspects of the formation of society in developed market economies since the second half of the 20th century until the onset of Industry 4.0. From a sociological point of view, from the mentioned period, this society took on a whole range of attributes, such as consumer, informational, risky, etc. From a political point of view, the concepts of economic policy within the framework of the implementation of the circular economy represent the reduction of undesirable phenomena accompanying this social development. For the reasons cited above, the article is prepared with an interdisciplinary approach of economics, economic policy theory, sociology and political science.

Keywords: circular economy, sustainable development, economic policy, economic growth
JEL Classification: A14, B41, Q01

1 Introduction

The implementation of the circular economy is undoubtedly a phenomenon that has gained popularity together with the environmental movement and also the requirements for the protection and creation of the environment. The importance of the implementation of circular technologies is fully in the context of sustainable development in the period of the onset of the Industry 4.0 era. In this era, it is certain that the desired economic growth also brings with it dark sides, such as the pressure to obtain new raw materials. Therefore, one of the priorities of sustainable development is to solve the growing amount of waste, the devastation of nature, and the waste of energy resources. A paradigm shift can be brought about by the application of the principles of a circular economy, where waste is perceived as a resource. In this context, the circular economy represents a concept that can work better not only with valuable materials, but also uses shared services and new consumption models that reduce pressure on primary resources. Its essence lies in technological applications within the framework of connecting material flows and maintaining their value in the cycle for as long as possible. Following the example of natural ecosystems, it proposes closing material flows in functional and never-ending cycles, drawing energy from renewable and sustainable sources and creating sustainable products and services. Materials that would thus become waste in the existing linear economy are reused or recycled.

In this way, the circular economy contributes to the quality growth of the environment and human life by increasing the efficiency of production. According to the concept of sustainable development, the implementation of circular technologies represents an effect in three dimensions: economic, ecological and social (Androniceanu, Kinnunen & Georgescu, 2021). In this way, it fulfills several positive goals of all interested economic entities, so its focus is multifunctional. Therefore, it is the subject of theoretical interest of social economy, which also focuses on issues of protection and creation of the environment in its main areas. In practical activities, the implementation of circular

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technologies across sectors and areas of life is based on the theoretical concept of the state's economic policy in the macroeconomic and microeconomic (within enterprises, sectors, municipalities, etc.) dimensions.

2 Methods

Today's society is affected by the phenomenon of consumerism probably like never before. Consumption has expanded from the area of material goods to the area of intangible goods. At the same time, the consumptive way of life has penetrated the interior of people who already live, think and exist consumptively. Is the consumer lifestyle a threat to society or, on the contrary, a means to its improvement and further development? Answers are sought for this question. Consumption is analyzed and evaluated from several interrelated perspectives. It is an economic, sociological, philosophical and ecological point of view. Certain answers can be found in the implementation of the circular economy. Its concept, in support of sustainable development, arose as a reaction to the significant uncontrollable dynamics of the linear nature of material flows in almost all areas of production. The paradigm shift in its implementation represents a concept that can work better not only with valuable materials, but also uses shared services and new consumption models that reduce pressure on primary resources.

For these reasons, the use of methods of analysis, comparison, synthesis and generalization prevails in the process of understanding the reality of observed phenomena and processes within the paradigm change. The interdisciplinary approach of social sciences and humanities (especially economics, economic policies, sociology, sociology, political science of ecology) is also applied to the current development trend of implementing the circular economy in connection with the emerging era of Industry 4.0.

3 Research results

3.1 Sociological factors to the challenges of circular economy implementation

Since roughly the 1960s, the social space of Western economies has been characterized by the adjective "post-industrial". This means the phase of social development, for whose economy the main input and benefit is no longer from the secondary economic sector, but from the tertiary sector, which is mainly services (Gershuny, 2003). The very name post-industrial evokes some progress after the industrial phase, where it was mainly about the mass production of goods. Subsequently, this company acquires other attributes, namely consumption and risk.

If it is a consumer society, its second wave dates from the early 1980s, and from the mid-1990s, the phenomenon of globalization entered the mentioned way of life of the society, which to a certain extent facilitated the population following this way of life in their consumption habits on a global scale. To a certain extent, it can be stated that the consumer society arises at the moment when the problem ceases to be how to produce products, but how to get people to consume them (Lipovetsky, 2007).

From an economic point of view, the consumption type of society is characterized by an excess of supply over demand. It is not a problem for businesses to produce and deliver a large amount of commodities to the market, but to sell this amount. Mass production is beneficial for companies, because in a large number of products they can more easily minimize fixed costs, which would unnecessarily increase the price of the final product. The stage of overproduction is followed by the stage of massaging the public (potential consumers) with advertising campaigns, a well-thought-out marketing strategy and other persuasive practices. In this way, competition operates on the market along the lines of identical, substitutable and completely interchangeable commodities. The advantage for producers is the fact that consumers have the ability to consume more than they actually need, so they often do not examine their consumer willingness, but what quantity of products they can bear (volume discount sales strategy). The mentioned type of society is diagnosed by the Norwegian social anthropologist Thomas Hylland Eriksen with the "big wolf syndrome", which is voracious and greedy (Eriksen, 2010). In these contexts, one can see the dysfunctional signs of a consumer society on the quality of life, which is related to the production of waste as a by-product of consumption. Thus, consumerism is "a vain society, oriented exclusively to "beautiful appearance" and fast consumption," it plunders nature, and in the end, like a boomerang, its very products return to it - in the form of waste - in which it drowns and - drowns (Goodwin, Nelson, Ackerman & Weisskopf; 2008).

When following the development of a risky society, one can start from historical sciences, which will confirm the considerable courage and riskiness of human existence in all epochs of social development to date. On the basis of interdisciplinary analyzes of the social sciences and humanities within the framework of the investigation of the processes of the creation and development of civilization and culture, it can be stated that all the risks of human existence have been woven primarily into the biological dispositions of man and subsequently into his socialization since the beginning of civilization (Šetek & Petrách, 2017). A clear proof of this is the results of the development of industrial society since the last third of the 18th century, when the production of wealth is linked to increasing risks. This trend prevails even with the onset of the era of Industry 4.0 technologies in the second decade of the 21st century. In essence, this is a new phase

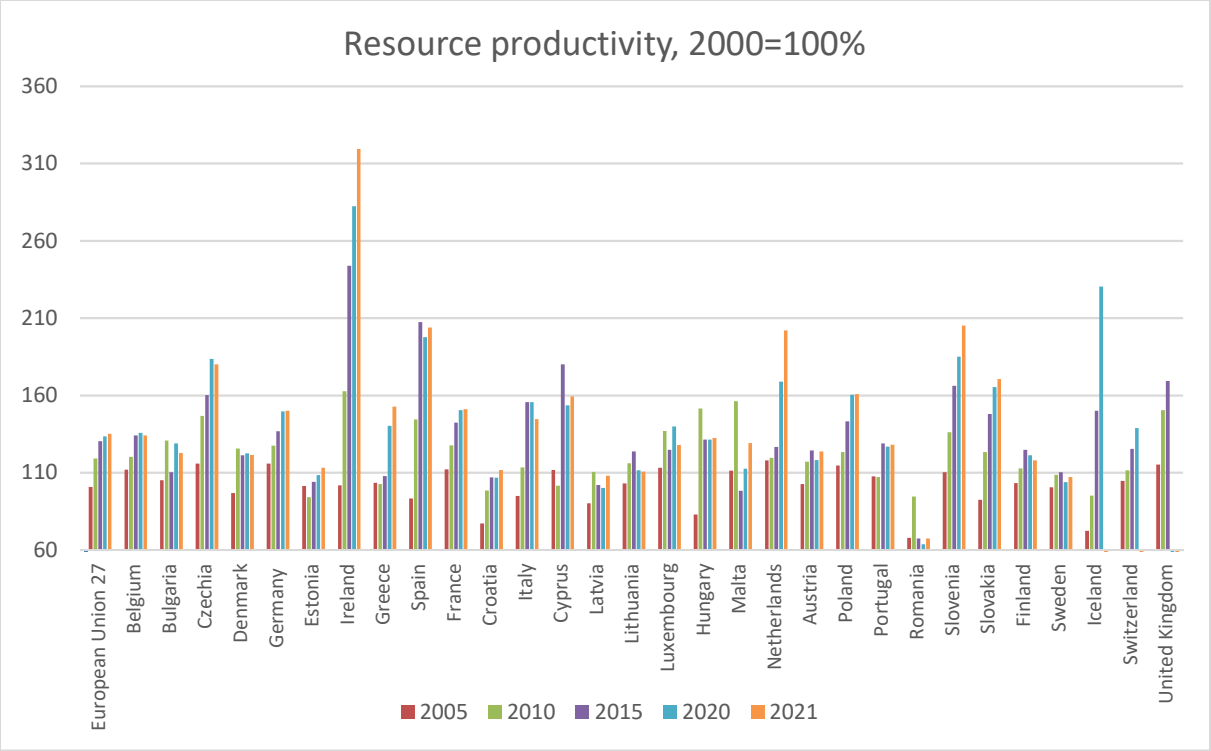
of industrialism, where the dimension of consequences and danger comes into conflict with institutionalized criteria (Jarvis, 2007). As a result, institutions fall into a bizarre contradiction, on the one hand acting as guarantors of security, but on the other hand legalizing practices that are covertly or openly disastrous. In this type of society, risks and dangers are externalized, individualized, trivialized and morally pacified (Krahmann, 2011). They stand out from the authorities and institutions at the expense of individuals, nature itself and future generations. An institutionalized view of the world, modernization and the advancement of technology lead to a separation of the world of institutions from the natural world of people, with the "society of individuals". Risks and dangers go beyond the institutionalized regulatory system; the expression of this is the ecological crisis, the collapse of rationality.

Thus, despite all its strained rationality, industrial society produces its opposite - an irrational threat to man and nature. This gives it another adjective "risky". This is a situation operating across the institutional boundaries of politics and economics. The essence of accompanying risks lies in the secondary externalized consequences of production, research, development and innovation falling under the responsibility of politics, not economics (Sørensen, & Christiansen, 2012). The economy is therefore irresponsible for what it causes. Politics is responsible for that over which it has no control, but it is still ascribed responsibility for the secondary consequences of economic processes. The essential fact of this central contradiction is precisely how and by whom risks are defined – these definitions of risk activate responsibility, not to obscure them, but rather to use them to regain and strengthen democratic and parliamentary influence.

3.2 Circular economy as an integral part of the sustainable development strategy

The concept of a circular economy within the rational use of natural resources consists in environmental protection, which has been a government economic policy strategy in developed countries since the 1960s. In its essence, it is also an appropriate reaction to the above-mentioned type of consumer and risky society. A significant impetus to environmental protection activities came from publications that dealt with human impact on the environment and predicted catastrophe caused by the complete depletion of resources or excessive pollution. These include Silent Spring (Carson, 1962), The Population Bomb (Ehrlich, 1968) and especially the Limits to Growth report of the Club of Rome (Meadows & Randers, 2012), which drew attention to the conflict between limited resources and exponential economic and population growth.

Since the above-mentioned period, ecological issues have fundamentally become an interdisciplinary thematization of the relationship between society and the environment, nature and lifestyle, and the associated possible social, political and economic consequences of ecological problems. In this way, a link was created between the economy and the environment, from which raw material resources enter the economy and serve as a repository for the generated waste. In this context, a relatively new field of environmental economics emerged. The aforementioned field usually perceives the level of environmental protection and economic growth as contradictory quantities, where in order to support one, the other must be reduced. However, there are also various currents of thought that differ in their understanding of the environment and in the recommended tools for its protection, and this is precisely the circular economy (Jonášová, 2018). Its essence lies in technological applications within the framework of connecting material flows and maintaining their value in the cycle for as long as possible. Materials that would thus become waste in the existing linear economy are reused or recycled. In order for the implementation of the mentioned technologies to be possible, it is necessary to take these facts into account already in the design and production phase.



Source: Eurostat, 2022

Improving resource productivity is a path to reducing environmental impacts as well as a path to relative independence of growth and resource extraction. As shown in Fig. Resource productivity in a time horizon of 20 years, in the case of all member countries, it is not possible to talk about its permanent growth, even if a definite trend is visible. Nevertheless, the productivity of resources grows much more slowly than, for example, the productivity of labor and energy inputs.

3.3 The principle of decentralization in the framework of the economic policy decision in the dislocation of circular technologies

It is waste, as a part of renewable resources, whose properties are particularly suitable for the decentralized production of energy commodities (mainly electricity and thermal energy), which, of course, requires more of their construction near settlements. This leads to the inevitable interaction of the investor with local businesses and residents. For this reason, the dislocation of circular technologies within the region depends on the technology of local industrial and agricultural business entities on the one hand and consumers on the other. It is therefore not possible to think in the dimensions of a circular economy if the pace of resource extraction creates uncertainty for future generations as to whether they will be able to exist within the same production and consumption parameters as in the present (Velenturf, Archer, Gomes, Christgen, Lag-Brotons, & Purnell; 2019). For that reason, it is necessary to use the energy of renewable sources, which also includes the potential of waste, which under other conditions would represent a source of environmental devastation. From the point of view of the region's economic policy, it depends on strategic decisions on the choice and deployment of appropriate circular technologies for the energetic and ecological use of waste.

When talking about decentralization, one can think of different areas of life in society. It can be about the decentralization of political power, production and economic processes, institutions, etc.. It is logical, because the development of industrial technologies and the accumulation of capital represents the "vanguard" of the accelerated movement of modern societies and their direction. Perhaps the most significant of the social sciences with their knowledge in this "construction of a new world" is the economics field (Egorov & Harstad, 2017). This confirms many theoretical concepts. It is a theory of free markets, which, according to Friedrich August von Hayek, represent decentralized systems whose results are shaped without the explicit agreement of those who are guided primarily by prices (Hayek, 1993). Then, for example, the economic historian Gabriel Kolko claims that in the middle of the 20th century, due to the constant entry of new competitors into the market, businesses were highly decentralized and competitive, thereby preventing their monopolization (Kolko, 2008). The term "appropriate technology" according to Erich Friedrich Schumacher cannot be neglected, when it is a generally recognized term for powerful, energy-efficient, environmentally friendly and, above all, decentralized technology (Schumacher, 2000). The use of "appropriate technology" means the alternative of transferring capital-intensive technologies from developed countries to less developed ones (Holub, 2007). In the last twenty years of the 20th century, one can see reflections on decentralization movements within the framework of futurological studies of

the studio (Toffer, 1990; Naisbitt, 1992), when the key topics were mainly ecological issues. It is logical, since many of the ecologists' arguments for decentralization refer to the model that the organization of biological systems represents for the organization of a prospective human society. Therefore, the most common argument with biological analogies is based on the principle of species diversity, i.e. diversity applied within the framework of management (Grant, 2012).

Based on the theoretical concepts cited above, decentralization is always a response to the problems of large centralized systems. For example, the typical process of decentralization after the collapse of centrally planned economies since the early 1990s aims to solve problems such as a decline in economic performance or the need for citizens to have a greater share of participation in local politics. For this reason, the decentralization process involves changing established procedures, structures and practices so that the government is more interested in the costs and benefits of its decisions, it is not just a transfer of some power from the central government to the regional governments. In the spirit of these facts, four basic goals of decentralization can be formulated:

1. Participation is associated with the participation of a wider range of individuals in decision-making, democracy, equality and the transfer of powers from central authority to local authorities.
2. Diversity, when the participation of diverse political opinions, civic groups, etc., leads to better decisions than the central authorities would be able to make on the basis of limited information.
3. Efficiency lies in the elimination of excessive bureaucracy, thereby enabling faster responses to solving unexpected problems and improving awareness of local problems. However, decentralization is more effective if its components are not too complex (capable, intelligent).
4. Solving a conflict situation (Hegewisch & Larsen, 1996).

There are different ways of starting the decentralization process. It can be initiated from the center of power - top-down or from individuals or regions bottom-up (Chandler, 1956). A special case is the so-called type of mutually desirable decentralization, where the central government works in cooperation with the regions. In this context, we can also talk about the application of the constructive principle of subsidiarity, from the point of view of the conceptual content and reflection of the integration tendencies of the circular economy and regional policy. The aforementioned principle is therefore necessary for the regulation of the division of powers between the central and regional levels. Within the framework of decision-making on the dislocation of circular technologies, respect for the aforementioned principle guarantees the degree of independence of a lower authority in relation to a higher authority, i.e. regional political representation in relation to the central government.

3.4 The position of economics in the dispute of economic growth within circular implementations

The economies of all current successful countries have a market character. Some of the prerequisites for the successful functioning of market mechanisms are also prerequisites for effective environmental protection, such as a clear definition of ownership rights and obligations. In other cases, however, the market fails in this regard. For many services and goods provided by the natural environment and natural resources, the market does not exist at all (or only works imperfectly), so it cannot lead to an adequate price, and natural resources are undervalued. It is also unable to include in prices (internalize) external costs caused by environmental damage. In these cases, it is necessary to apply certain measures on the part of the state, leading, for example, to the application of the "polluter pays" principle. Using environmental fees or taxes, based on this principle, the external costs of preventing or eliminating environmental damage are internalized (Bag, Sahu, Kilbourn, Pisa, Dhamija & Sahu, 2021).

Any even slightly informed interpretation of sustainable development will certainly not fail to emphasize that among its several basic dimensions is the economic dimension. Nevertheless, one still occasionally hears of the dispute between "economy" and "ecology". In fact, the authors of such words have in mind either the old dispute between economic growth and the protection of the environment and nature, or even more, the dispute between two specific social groups, between "ecologists" and "economists". Economists are most often considered economic theorists, practical politicians working in this area or representatives of various economic activities. Within the concept of sustainable development, there is no theoretical dispute between ecological and economic principles. Many economists, on the other hand, contributed significantly to the development of this concept. A typical example is John Hicks, who in his classic definition of income as "the maximum amount a person can consume in a week and still be as well off at the end of the week as at the beginning" (Hicks, 1946) gets straight to the point: income based on capital spending is not sustainable and therefore cannot be considered income at all (Hicks, 1946). One of the goals of sustainable development is generally considered to be the achievement of "healthy", "sustainable" or "clean" economic growth.

Economic growth, as a key objective of any macroeconomic economic policy, reflects an increase in the level of gross domestic product. It is a necessary condition for permanent sustainability. However, it is necessary to ask yourself a few

questions. Is continued economic growth possible? Is this growth desirable even if possible? In the search for answers to the above questions, the elementary question here is whether economic growth automatically leads to an increase in well-being. Within the framework of general post-materialism in advanced market economies, a tendency to emphasize the importance of other goods is beginning to show, where the quality of the environment takes precedence. It is logical because one of the important qualities of a comprehensively understood standard of living is precisely the quality of the environment, which the contemporary growth indicator does not take into account (Graczyk-Kucharska, 2021; Hofmann, 2022). The traditional enumeration of the gross domestic product has a limited explanatory power, as it does not allow expressing the "ecological demand" of economic growth.

The growth of the gross domestic product should therefore condition the growth of well-being, however, reality shows that the correlation between this indicator and the mentioned phenomenon is not very close (Serageldin, 1996,a). Much of what creates well-being is not captured by the indicated indicator, and on the contrary, a number of items that tend to reduce well-being are included in it. Clear proof of this is the situation in developed market economies at the end of the 20th century, when there was permanent economic growth, however, the indicator of net economic well-being showed a rather stagnant tendency (Serageldin, 1996,b). Meadows' book from the early 1970s already proves the long-term unsustainability of economic growth based on the extensive use of resources regardless of environmental impacts (Meadows & Randers, 2012). However, the current nature of economic growth is still induced by an increase in the consumption of almost all non-renewable and renewable resources.

Based on the above facts, the question arises about the required standards of "healthy" economic growth. When searching for answers, it is necessary to free ourselves from purely economic thinking about the meaning of achieving an annual increase in the quantity of goods produced. It is therefore not only about growth in the sense of quantity, but also of quality. Not every growth associated with a higher material level is necessarily positive growth. For this reason, an approach to its alternative definition, i.e. growth as a means of effective environmental protection and elimination of inequalities, is also necessary. In these contexts, it is necessary to take into account the fact that the costs of eliminating ecological damage and the damage itself cannot contribute to increasing economic growth and this is not necessarily associated with a parallel depletion of resources or an increase in pollution (Serageldin, 1996,a). The experience of the most developed countries proves that a high degree of ecosystem protection does not limit economic growth, provided certain conditions are met. Empirical studies prove that the higher the share of gross domestic product per capita, the lower the negative effects on the environment per unit of gross domestic product. One of the conditions can be identified as the process of structural changes that weaken the role of ecologically demanding industries and thereby contribute to an absolute or relative decrease in ecological devastation.

Based on the facts mentioned above, it can be concluded that long-term economic growth and environmental protection are not opposing elements (Bauwens, 2021), but rather parts of one system that must be perceived as mutually complementary and not confrontational. There is no compelling good reason why sufficient environmental protection should be rejected because of the negative effect on economic growth. It must also be accepted that the level of the environment is a limiting factor in ensuring economic growth in any conditions, and its protection is not an inefficient expenditure of human, material and financial resources, but rather an expression of belief in a better future.

4 Conclusion

Proponents and opponents of the implementation of circular technologies as part of a sustainable development strategy usually differ in how they evaluate the macroeconomic effects of environmental measures. In particular, the opponents argue that the effects of strict regulatory instruments in particular necessarily limit the overall economic performance and especially the competitiveness of the industry. However, actively promoting the implementation of the circular economy is all the more difficult, as it has to compete for the "spot in the limelight" of attention in sharp competition with other problems that humanity is currently facing. In the global dimension, these are mainly war conflicts, natural disasters and other related economic problems of the national and global economy. It is logical, as the mentioned problems are directly transferred to national dimensions (e.g. price growth of energy commodities and subsequent inflationary development in connection with war actions in Ukraine after February 24, 2022), etc.. In this respect, however, it is already possible with satisfaction at least to state that issues of sustainable development are already a completely legitimate element of a whole series of important negotiations at the world level, therefore we can speak of the emergence of a global environmental policy. This also brings appropriate incentives for applied economic policy in the area of circular economy implementation. In order to achieve economic growth labeled as sustainable, it will be necessary for one part of humanity to give up its current advantages in favor of the disadvantaged. Enforcing these changes will require enough political will to solve the problems and implement sustainable principles into real economic realities. Economic growth in accordance with the concept of sustainable development is not an unrealistic demand.

On the basis of the facts cited above, it is certain that, within the framework of economic theory, the assessment of economic progress and development on the basis of traditional macroeconomic criteria will probably gradually be abandoned, when some will probably lose their importance or be supplemented by other indicators. The subject of criticism can primarily be the gross domestic product, whose increasing growth can also be caused by extremely adverse environmental events and the necessity to eliminate their consequences. Another similar example can be labor productivity, it may turn out that "material", "spatial" or "energy" productivity is more important than human labor productivity.

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