






Institutional Economics in the Face of Global Challenges in Europe

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Abstract: The reflections undertaken, according to their authors, are an attempt to use the scientific achievements of the new institutional economics to identify, analyze and evaluate global challenges for the European community. They are an intellectual response to the development dilemmas of the contemporary world, which arouse the interest of representatives of all contemporary currents of economic thought and practice. For the authors of the article, the need and advisability of approximating and linking these two layers has also become an area of research aimed at documenting the usefulness of an institutional approach to the study of complex problems of the contemporary world – with emphasis on those concerning the European continent. With such expectations in mind, the considerations were firstly focused on identifying the achievements of institutional economics as an inspiration for solving the challenges of the contemporary world. In the second instance, the main focus is on identifying, analyzing and assessing the challenges facing the European community in relation to human, material and relational resources.


1 INTRODUCTION


The development challenges of the modern world arouse the interest of many sciences – including all contemporary currents of economic thought – and prompt their representatives to address them. Their persistence and even deepening proves the ineffectiveness of generalizations of these problems by the leading currents of classical economic thought. This is the case when the practice of socio-economic life forces the search for effective hints for their solution. This is the case when a set of challenge planes is expanding, namely: political-military, social and economic, natural-climate and ecological, technical-technological, health, and cultural and civilizational (Camdessus, 2019; Dziurny, 2020; Friedman, 2009; Landes, 2015; Poblócki, 2020; Randers et al., 2014;


Stachowiak, 2004).


Many of the numerous development perturbations of the modern world affecting changes in economic activity and the well-being and prosperity of the global community were recognized and identified in the Millennium Development Goals of the UN Millennium Project - adopted at the UN Session in 2000 (Ośrodek Informacji ONZ w Warszawie, 2022) – and the 2030 Agenda for Sustainable Development – adopted by the UN in 2015 (OECD, 2017). These perturbations have also affected the European community, becoming the premise for the formulation of challenges to be addressed as a responsibility of the entire European community.


Their solution rests with a whole range of scientific disciplines, which are expected to develop theoretical generalizations as well as practical directives for their solution. One of these scientific disciplines is institutional economics – which in its contemporary perception is referred to as new institutional economics. Its theoretical output, built on an interdisciplinary approach to solving social and economic

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problems, can become a source of inspiration for solving the challenges facing the European community (Borkowska et al., 2019; Stanek, 2017; Stankiewicz, 2014).

2 INSTITUTIONAL ECONOMICS AS AN INSPIRATION FOR SOLVING THE CHALLENGES OF THE MODERN WORLD

The logic of thinking reflected in the views of institutionalists, especially those representing the ‘new’ (as opposed to traditional) institutional economics, is based on a paradigm referring to the scientific work of leading neo-institutionalists. It refers to the traditional views of this current and the concepts used by them, among which the category of “social institutions” should be identified as the leading one understood as dominant ways of thinking that take into account social conditions, the functions of the individual and the community, as well as habits of thought and ways of apprehending phenomena by which people are guided. Because they are products of the past, adapted to new conditions, they are therefore never in complete harmony with the requirements of the present (T. B. Veblen¹). The source of their transformation is to be found in the constant improvement of technology (Veblen, 2008).

At the same time, institutionalists were aware – in addition to the premises that determined the need to articulate the paradigm of the new institutional economics – of the demands placed on it, namely that: it is not given once and for all – but should be adopted by consensus of the majority of researchers. They assumed that it could periodically undergo fundamental changes leading to profound changes in science associated with the scientific revolution. They also assumed that it should be characterized by: logical and conceptual coherence; relative simplicity, i.e., it should contain only those concepts and theories that are genuinely necessary for the science in question; and allow for the creation of detailed theories consistent with known facts. This was followed by the formulation of several fundamental questions, namely: is reality objective or partly subjective? does one have to be a participant in a social process in order to understand it well? and, does social reality undergo constant change or is it still the same? The answers to all

¹Thorsten Bunde Veblen (1857-1929) – American of Norwegian origin, sociologist and economist, master of the entire institutional stream. Author of “The Theory of the Leisure Class” (1899).

of these questions provide a substrate for the identification and solution of Europe’s global and regional development problems.

Useful for addressing the challenges of the modern world – according to the authors of the article – is the fact that the institutionalists enriched the picture of the process of socio-economic development with the setting of ‘culture’, which they saw as an organized system of human behavior in which there is an institutional (also called ceremonial) area on the one hand and a technological area on the other (Stankiewicz, 2014). In their view, any economic system remains under constant pressure, on the one hand from the forces of various institutions (legends, customs, social hierarchies) and on the other hand from the incentives generated by technology (C. E. Ayres²).

Institutionalists, referring to the instrumental philosophy dealing with the use of limited resources to achieve individual and group goals, formulate the postulate of adaptation of these opposing forces. The area of this process is the economic system, which is formed by two interrelated but contradictory blocks: the first is the block of the price economy identified as a complex of historically shaped institutions adopting ceremonial behavior, whose value derives from power based on the power of money; the second is the block of the industrial economy based on technology, science and the proliferation of labor tools. Each generates different values, the first price value and the second industrial value. Their synthesis is the idea of a rational society, whose determinants should be abundance of goods, quality of life, freedom, security and excellence. The progress of society, understood in this way, should be aimed at, that is, the progress that ensures the continuity of humanity through the development of science and creativity, rather than the progress that pursues the goals of maximizing utility and satisfaction resulting from the aspirations of individuals. The correct direction of its evolution should be supervised by the institution of social planning.

Views formulated on the basis of an analysis of the disintegration of 19th century civilization characterized by: balance of power, gold standard, self-regulating market and liberal state (K. Polanyi³), supported by arguments from economic anthropology,

²Clarence Edwin Ayres (1891-1972) – American, professor of economics and philosophy, representative of one of the most important centers of evolutionary economics (University of Texas at Austin). Author of many publications, including: “The Theory of Economic Progress” (1944) and “Toward a Reasonable Society” (1962).

³Karl Polanyi (1886-1964) – Austrian, lecturer at the universities of Oxford and London. The author of the work “The Great Transformation; The Political and Economic Origins of Our Time” (1944).

should be considered useful and valuable, for the investigations undertaken. They proved that this civilization collapsed because its economy was based on self-interest and worked against the interests of society (Stankiewicz, 2014).

Necessary for deliberations aimed at identifying the challenges facing Europe and developing directives for solving them is to take into account the methodological achievements of the representatives of this current (I. Lakatos⁴), who, despite their often-diametrical differences (K. R. Popper⁵, T. S. Kuhn⁶), tried to bridge the gap between them. On the one hand, the research procedure leading to a theory from making a lot of observations and using inductive reasoning (K. R. Popper) was rejected, postulating a research path according to the scheme: posing a certain problem by the existing theory – eliminating the errors of the old theory – posing a new problem. In this connection, historicism was also fought against as a view of being able to predict the inevitable course of history. On the other hand, historical knowledge was assigned an important role (T. S. Kuhn), believing that it should not be regarded merely as a repository of chronological descriptions of events, which seek to reconstruct a continuous line of development, but as a detection of the integrity of science in particular periods. This was followed by the introduction as a particular “matrix of scientific discipline”, which was understood as a set of certain generalizations, models, values and patterns accepted by scientists. Within it is placed the practice of ‘normal’ science, whose task is to solve various ‘puzzles and riddles’ until anomalies emerge, that is, facts that cannot be explained on the basis of the matrix. These views have tried to reconcile (I. Lakatos) by seeking a certain synthesis of their approaches, while proclaiming their own reflections (Stankiewicz, 2007).

With regard to economics, the concepts of scientific research programmes are pointed out, in the structure of which it is necessary to distinguish between a “hardcore” forming a set of fundamental and conditionally unquestionable assumptions, the content of which is subject to slow changes; and a “pro-

TECTIVE BELT”, which surrounds the “hardcore” and which consists of auxiliary hypotheses, modified according to the needs of defending the foundations of the scientific research program and whose content must be frequent.

The resultant of all the views cited allows the idea of the paradigm of the new neo-institutional economics to be outlined. It refers to a holistic cognitive approach imposing the need to use a modeling method (more specifically, a benchmark model) allowing to focus attention on the relations between the parts and the whole, to search for a coherent unity of phenomena and to follow the process of social evolution. It is based on a set of elements that constitute the ‘core’ of the paradigm and the ‘safety belts’ that constitute its environment. This implies the need to make interdisciplinary use of the contributions and achievements of other scientific disciplines, especially technology, law, sociology, social psychology, pedagogy, or even neurology, anthropology and other sciences (Stankiewicz, 2007).

At the core of the New Institutional Economics paradigm are four structural elements: “social ceremonies” and “technology” (corresponding to T. B. Veblen’s ideas of the business world and the industrial world); “philosophy” (referring to the views of C. E. Ayres, J. Dewey’s⁷ pragmatism and instrumentalism) and “environment” (based on the views of K. Polanyi and his economic anthropology). Each of these elements has its own “safety belt” which is its environment and characterizes its essential determinants. “Social ceremonies” are described by the determinants: institutions, beliefs and values. “Technologies”, in turn, are described by the determinants: tools and qualifications. “Environment”, on the other hand, is concretized by the determinants: flora, soil, fauna, climate. “Philosophy”, on the other hand, is described by the determinants of social legitimacy (referring to the criteria of social legitimacy – “social legitimacy” by W. C. Neale⁸); participatory democracy (based on the essence of participatory democracy – “participatory democracy” by M. T. Tool⁹) and sufficiency (referring to “sufficiency” by K. Polanyi).

⁴Imre Lakatos (1922-1974) – Hungarian of Jewish descent. Methodologist. Author of the works: “Essays In the Logic of Mathematical Discovery” (1961), “Criticism and the methodology of scientific research Programmes” (1968).

⁵Karl Rajmund Popper (1902-1994) – Austrian physicist and logician. Author of the works: “Logik der Forschung” (1935); “The Poverty of Historicism” (1957) and “Objektive Knowledge”(1972)

⁶Thomas Samuel Kuhn (1922-1996) – American historian and philosopher of science. The author of the work “The Structure of Scientific Revolutions” (1962)

⁷John Dewey (1859-1952) – American, supporter of instrumentalism (varieties of pragmatism). He brought his ideas to institutionalism.

⁸Walter Castle Neale (1925-2004) – author of theorems on the criteria of social legitimacy.

⁹Marc R. Tool (1921-2018) - creator of the concept of participatory democracy. Author of “The Discretionary Economy: A Normative Theory of Political Economy” (1979), and “Essays in Social Value Theory: A Neoinstitutionalist Contribution” (1986). He was the editor of “An Institutional Guide to Economics and Public Policy” (1984).

The formula of the presented paradigm of institutional economics assumes that the observer of reality who intends to study it cannot be neutral and will not be objective, because he is always a representative of a particular culture. In doing so, he or she must take into account the achievements of many sciences in order to make value judgments. With this in mind, attempts are being made to refine it (F. G. Hayden¹⁰, G. M. Hodgson¹¹). In the first instance, the concept of a matrix array of the social system is promoted, composed of streams and resources with no single denominator, whose individual cells integrate relations of free benefit, distribution and exchange (F. G. Hayden). Four issues are also introduced into the paradigm of institutional economics: the concept of exchange understood as the transfer of property rights; the institutions of the market seen as a set of social institutions in which goods are exchanged with particular regularity; the enterprise as a creature that ensures the reduction of opportunity costs, operating under conditions of uncertainty and practicing economic calculation; expectations that boil down to the demand for the creation of institutions conducive to the formation of a mixed socio-economic arrangement in the future, in which tradition, market and planning will coexist (G. M. Hodgson).

An important aspect of neo-institutionalist views is their orientation towards cultural premises (S. Huntington¹²), which, alongside ideological and economic premises, can be the generator of many threats. The multidimensionality of culture, in their view, increasingly causes the differentiation of the world, strongly influencing ideology and economics, succumbing also through feedback to their influence. However, it should also be borne in mind that, despite

¹⁰F. Gregory Hayden – American, professor at the University of Nebraska. The author of the concept of the social system matrix, composed of flows and resources, without a uniform denominator. The individual cells of the matrix integrate the relationships of free benefits, distribution and exchange. He treated the matrix table as a helpful tool for analysts and planners.

¹¹Geoffrey M. Hodgson (1946-) – Englishman, lecturer in economics at British, French, Austrian, Swedish, American and Japanese universities. Author of works: “Economics and Institution. A Manifesto for a Modern Institutional Economics” (1989); “Economics and evolution: bringing Life back into Economics” (1993); “Evolution and Institutions. On Evolutionary Economics and the evolution of Economics” (1999); “The Evolution of Institutional Economics: Agency, Structure and Darwinism in American Institutionalism” (2004).

¹²Samuel Phillips Huntington (1927-2008) – American political scientist, author of publications “The Clash of Civilizations?” (1993), “The Clash of Civilizations and the Remaking of World Order” (1996).

the growing importance of cultural premises, there is – as they point out – a persistence of national cultural economics on the basis of psycho-physical and organizational characteristics (Huntington, 2001).

The output of the institutional economics stream was considered to be usable for a new view of economic theory. The considerations undertaken in this field should be focused both on the theory of the functioning of the mechanisms of social economics, including: the controversies and dilemmas around its fundamental problems; and the institutional view of their resolution. Such a logic of approach to economics should be subordinated to addressing, *inter alia*, such problems as: the theory of design of socio-economic mechanisms, namely: the concept of motive congruence (L. Hurowicz¹³) – that is, the desired state of behavior of participants in a social mechanism; the principle of disclosure (R. Myerson¹⁴) treated as a technical concept, allowing the construction of general theorems on the feasibility of using resource allocation under conditions of incentive constraints and economic problems burdened by adverse selection and moral hazard; and implementation theory (E. Maskin¹⁵) emphasizing the completeness of the elements of a theory to ensure its effective coherence. Opportunities are also indicated to invoke the achievements of public choice theory and political cycle theory, attempting to explain changes in the structure of institutions under the influence of competition between individuals and organizations in the political market.

Recalling the indicated determinants of the institutional outlook on the challenges to civilization emerging before European society, the logic of their identification, analysis and characterization can be put into a set of overlapping global development problems of Europe within the idea defined by the framework of

¹³Leonid Hurowicz (1917-2008) – Polish-American economist of Jewish origin. Nobel Prize winner. Author of the theory of designing mechanisms presented in the works: “The Theory of Economics Behavior” (1945); “On the Concept and Possibility of Informational Decentralization” (1969); “The Design of Mechanisms for Resource Allocation” (1973); “Designing Economic Mechanism” (2006).

¹⁴Roger B. Myerson (1951-) – American professor of economics. Nobel Prize winner. It is one of the world’s leaders in mathematical economics, econometrics, mathematical economics and game theory. Author: “Game Theory: Analysis of Conflict” (1991), “Probabilistic Models for Economic Decisions” (2005).

¹⁵Eric S. Maskin (1950-) – British professor of economics. Nobel Prize winner. Author of fragments of works: “Economic Analysis of Markets and Games” (1992); “Recent Developments in Game Theory” (1999); “Planning, Shortage, and Transformation” (2000).

the paradigm of new institutional economics. In the first place, they are formed by a core reflecting a set of population resource factors, a set of capital resources (material, financial) and a set of relations. The first set includes demographic issues, population allocation and migration, labor resource activity, and poverty and malnutrition. Second, on the other hand, material issues viewed through the prism of availability of raw materials, industrial and agricultural production and the conditions of its implementation and effects. In turn, the third from a set of socio-cultural, scientific-technical and balance sheet relationships (Dziurny, 2020; Rosling et al., 2018; Schwab, 2018).

3 GLOBAL CHALLENGES FOR EUROPE

Focusing only on those challenges that relate to social and economic issues, it should be noted that they have been addressed for more than half a century by scholars, practitioners and politicians representing many of the world's leading opinion formers, such as the Club of Rome, the Rand Corporation or the National Intelligence Council. Virtually every country has established centers dealing with the issue of civilizational challenges. In Poland this is the Forecasting Committee "Poland 2000" at the Presidium of the Polish Academy of Sciences. Opinions of all these institutions have shown that the contemporary world, at the stage of transition from the industrial to the information and information age, reveals clearly visible global development megatrends, which outline the civilizational trends occurring in the contemporary world economy, characterized by relative permanence, anticipation and universalism, towards which an economic society cannot remain indifferent. Their list must include phenomena relating to population (demographic, migration, health, poverty, ...), social reproduction (raw material, material, capital, economic relations...) and civilization (scientific and technological progress, cultural progress, ...) (Dziurny, 2020).

The problems indicated, each of which generates development challenges on the one hand and development threats on the other hand, also concern Europe (Krzynówek et al., 2009; Żukrowska, 2015). The continent, which currently numbers 46 internationally recognized countries, 4 countries with limited international recognition and 7 dependent territories, is not homogeneous according to the commonly accepted criteria of their characterization and assessment. The vast majority of them are in the group of more developed countries (high, medium), but some are also

in the group of less developed countries. In the land area of the world, which is about 130.1 million km² (of which only about 30% is inhabited), the European continent covers over 22.1 million km², which places it on the third position in the world (Roc, 2021).

3.1 Challenges to Population Resources

The great challenge facing the European community is to address the population problem at all levels of its manifestation, that is, demographic, allocation and migration, the productive capacity of labor resources, and the vices of life such as poverty and malnutrition. On most of them, it has more positive overtones than in the world as a whole and in the group of less developed countries (table 1).

Primary among the population challenges for European communities is adapting to the consequences of demographic change on the continent and globally (table 1). At present (beginning of 2022), there are almost 8 billion people in the world, more than 780 million of whom live in Europe, i.e., 9.6% of the total, compared to 59.5% in Asia, 17.2% in Africa, 8.3% in Central and South America, 4.7% in North America, 0.6% in Australia and Oceania. The achievement of such a large human population, despite frequent crop failures, devastating wars and major epidemics of infectious diseases, was largely the result of civilizational advances in medicine favoring the control of many infectious diseases, improved life hygiene and, consequently, a reduction in infant and child mortality and an extension of human life. On the other hand, the uneven distribution of the world's population, in relation to the level of development achieved in the various regions of the world, makes it necessary for Europe to counter the excessive influx of emigrants (Dziurny, 2020).

An analysis of demographic change in the 21st century shows significant population growth both globally and on individual continents (table 1). Projections (according to the UN medium projection variant) assume that population growth will occur at a rate of around 0.5 billion per decade. It is estimated that the population will be over 8.5 billion in 2030 and around 9.8 billion in 2050, rising to around 11 billion in 2100. This situation will occur despite the fact that the growth rate of the world's population overall is declining, while it is increasing significantly in the regions least able to provide health, food, stability, work and prosperity to an increasing number of people (Simon et al., 2010; Roc, 2021).

The greatest population growth is and will continue to be in the developing world, which will exacerbate many of these countries' development issues,

Table 1: Characteristics of the European population in relation to world regions (Roc, 2021).

| Description | 2000 | 2010 | 2020 |
|---|-------------------|------|------|
| <i>Population in millions</i> | | | |
| WORLD | 6127 | 6958 | 7795 |
| More developed regions | 1171 | 1235 | 1286 |
| Less developed regions | 4956 | 5723 | 6509 |
| Europe | 726 | 737 | 748 |
| <i>Percentage of working people at risk of poverty by international poverty line (in %)</i> | | | |
| WORLD | 18.9 ¹ | 14.0 | 6.6 |
| Sub-Saharan Africa | 50.5 ¹ | 45.5 | 36.7 |
| South Asia | 31.3 ¹ | 22.6 | 8.7 |
| Europe | 0.1 ¹ | 0.0 | 0.0 |
| <i>Prevalence of malnutrition (in %)</i> | | | |
| WORLD | 12.4 ¹ | 9.2 | 9.9 |
| Sub-Saharan Africa | 24.6 ¹ | 19.4 | 24.1 |
| South Asia | 20.5 ¹ | 15.6 | 15.8 |
| Europe | <2.5 ¹ | <2.5 | <2.5 |
| <i>Percentage of people using drinking water distribution (in %)</i> | | | |
| WORLD | 66 ¹ | 71 | 74 |
| Sub-Saharan Africa | 20 ¹ | 22 | 30 |
| South-east Asia | 52 ¹ | 54 | 57 |
| Europe | 90 ¹ | 91 | 94 |

Notes: 1 – year 2005

especially in the areas of education, housing, food and water supply and employment. If at present, i.e., at the beginning of the third decade of the 21st century, the birth rate is 10.9 persons per 1 000 population in the world (0.6 persons in more developed regions and 12.9 persons in less developed regions) and -0.7 persons in Europe, then in the middle of the 21st century, it is projected at 5.6 persons in the world (-1.8 persons in more developed regions and 6.7 persons in less developed regions) and -2.3 persons in Europe. The emergence of this situation is influenced by the level of socio-economic and cultural development of society, which is conducive to a successive increase in living standards. It has also become apparent that a very low human birth rate is taking place - and will continue to do so - primarily among people belonging to the Western cultural sphere, who now account for around 13% of the world's population (Camdessus, 2019; Roc, 2021).

In countries with established consumer lifestyles, high automation of production, high levels of education and qualification of people, and satisfactory financial opportunities, two negative correlations can be seen. The first – the higher the standard of living, the lower the birth rate and the second – the lower the level of economic development, the higher the death rate. These trends lead to an increase in people's life expectancy, albeit on a markedly different scale. Life

expectancy is projected to reach 77 years by the middle of the 21st century, with almost 84 years in more developed areas and almost 76 years in less developed areas (Roc, 2021).

Projections for Europe assume an average life expectancy of almost 83 years in this period. This means the consolidation of the trend of aging of the European population, which is the result not only of low birth rates, but also, in some countries of the continent – formerly belonging to the group of planned economy countries – changes in the structure of the economy, lack of life stability (no jobs, no housing, low wages). Now, it is at the beginning of the third decade of the 21st century, due to the effects of the COVID-19 pandemic, that a trend is beginning to emerge, reflected in a noticeable reduction in life expectancy in many countries (Gorynia and Mroczek-Dąbrowska, 2021).

The population issue must also be viewed from the point of view of its impact on the size and structure of the labor force (workforce), its age and labor force participation and allocation. Countries with a large post-working-age population and a relatively small working-age population, as well as a small percentage of women and children, reveal aging tendencies. Hence, this group of countries – which also includes European countries – reveals a growing demand for labor generating, at the same time,

large-scale migration processes from less developed areas with larger working-age populations in under- and medium developed countries constitutes the main source of cheap labor for developed countries.

This direction of perceptions and evaluations of this phenomenon is confirmed by analyses of the state and projections of the demographic burden, i.e., the scale of the percentage ratio of the number of non-productive (pre-productive and post-productive) to productive people. Considered at the level of labor force reproduction, they indicate that the population is a function of natural increase, i.e. the difference between the number of births and the number of deaths. It is influenced by many economic, social and cultural factors. The birth rate is mainly determined by the fertility rate and the length of a woman's childbearing years. Models of demographic change assume a 15- or 25-year reproductive period. A 15-year reproductive period with an assumed 3.5-year birth interval results in a fertility rate of 4.3 children, while a 25-year reproductive period with an assumed 1.5-year birth interval results in a fertility rate of 16.7 children. In practice, the highest fertility rates are eleven / twelve children. Another important factor is the increasing lifespan of people. The existing state and forecasts of this phenomenon signal a growing threat expressed in the necessity of securing the material basis of existence by a decreasing population of productive people with a growing population of non-productive age (Roc, 2021).

Analysis of old-age dependency estimates and projections shows that since the third decade of the 21st century, the number of people of working age is decreasing relative to the number of people of non-working age. This situation is taking place both in the group of more and less developed countries, with quite significant differences in the total and in individual groups. In the group of more developed countries, these proportions are the worst at present – according to data for 2020, there are 45.7% and 46.4% of the total working age population in Europe, with projections of this figure for the middle of the 21st century at 25.4% in Europe and 36.2% in North America. This situation is primarily a consequence of increasing life expectancy, far less a consequence of population growth expanding the stock of people of pre-working age (Roc, 2021).

At the end of 2020, the world's labor force (employed and unemployed) amounted to almost 3.5 billion people, with significant differences in territorial allocation. Asia (excluding Central Asian and Arab countries) and the Pacific had the largest share with 57.1%, followed by Africa with 14.3%, Europe and Central Asia with 12.8%, Central and South America

with 8.6%, North America with 5.5% and Arab countries with 1.7% of the total labor force (Roc, 2021).

The existing population situation, also contributes significantly to increasing migration phenomena – both internal and external. On a global scale, external migrations taking various forms of exile, above all economic, political, military, cultural, ethnic and religious, are particularly dangerous. Increasing differences in demographic structure between developed countries, progressing globalization processes and political and military tensions between the world and developing countries contribute to their widening scale. They are also reinforced by civilizational advances in digital communication and mobility and the rise of nationalist attitudes in many regions of the world.

External migration processes give rise to numerous direct and indirect threats and are a breeding ground for many social tensions and conflicts. Direct threats include problems such as food, employment and unemployment, environmental devastation and urbanization. Indirect effects, on the other hand, are mainly: the severance of traditional social ties; changes in the system of social norms and the value system; a reduction in internal security; and an increase in violence and crime.

The scale of the external migration problem is significant. According to UN data, in 2020 the number of migrants in the world will be over 270 million people (almost 3.5 percent of the total world population), which compares to 2000 (150 million people) and 2010 (214 million people) a marked increase (Wor, 2022).

An increasing proportion of the migrant population are refugees, i.e., people who have been forced to leave their home country because of wars and persecution. Estimates, according to the United Nations High Commissioner for Refugees, place their size at the beginning of the third decade of the 21st century at around 85.5 million people, including 25.6 million men, 22.3 million women and 34.6 million children and young people. Currently (at the end of May 2022), the number of refugees has exceeded 100 million people. A significant proportion of them are choosing Europe as their destination. The scale of the problem on the European continent is currently being expanded by the refugee situation from Ukraine. According to information from the country's border services, more than 6 million people have left the country (as of the end of May 2022) – of whom more than 4.3 million have entered Poland. In addition to this, the consequence of Russia's barbaric assault on Ukraine has resulted in a large internal refugee population estimated at over 6 million people (Wor, 2022).

A certain novelty in the shaping of the external migration flow is the so-called “climatic migration”, which is increasing year by year, contributing to an increase in the number of emigrants, for climatic and natural reasons.

Migration patterns outlined in the first decades of the 21st century indicate that the largest population movements have occurred within individual regions of the world, rather than between continents. Internal continental migration in Europe now significantly exceeds the influx of Africans and Asians to the old continent. It is generally characterized by a direction from economically backward countries and countries experiencing development difficulties to more developed countries. This means that the West is facing increased migration and refugee flows from poor or conflict-prone regions of the world. In addition to this trend, some changes in migration routes can be observed. One of the leading ones is the route of the influx of migrants to France, Germany and the UK (Sachs, 2009).

A major population problem at the turn of the 20th and 21st centuries is meeting health and epidemic challenges – both globally and in Europe. These problems have accompanied man since the beginning of his existence on earth. Infectious diseases have proved to be the most important threat to human health, resulting in enormous human morbidity and mortality. They have not lost their relevance even today, just in the decades of the late 20th and early 21st century. If, worldwide, there were 1043 events resulting in 19.3 million infected people, including 162 000 deaths, in Europe there were only 104 events resulting in 189 000 infected people, including only 4 000 deaths. By far the greater health devastation worldwide as well as on the European continent was caused by the SARS-CoV-2 virus pathogen identified in November 2019 as an epidemic, since March 2020 it has been referred to as pandemic COVID-19. It has contributed to the illness of more than 368 million people and the death of more than 5.6 million people by the end of January 2022. Europe proved to be the area of dominant outbreaks after the American continent. Out of 121.7 million infected, more than 1 609 000 people died. Community To the greatest extent, according to the number of deaths, this situation affected the communities of Russia, the UK, Italy, France, Germany, Poland and Spain. It has caused global social, political and economic disruption (Wor, 2022).

The COVID-19 pandemic revealed a wide range of areas of potential risk. It has contributed not only to high morbidity and mortality but also to the existence of many negative economic impacts across sectors, all

entities and all forms of human activity. It has necessitated many new phenomena, such as remote working, mandatory quarantines shortages of emergency medical, health and safety equipment for citizens. In the economic sphere, it has caused a global weakening of economic activity. Supply shortages, largely caused by panic buying, became apparent. There have been numerous disruptions in the supply chains of consumer and investment goods. In succor of this situation comes the concept of sharing resources and services. In the social and living sphere, society has revealed negligence in the provision of clean air in dwellings, as well as overcrowding. The availability of measures to improve this situation has become an important issue. Numerous controversies were revealed by the pandemic in the social sphere. According to a section of the world community, the pandemic is being used to impose a unified vision of the world and subject people to total control. These opinions correspond to the facts in many countries of the modern world, where the freedom of their citizens has been drastically curtailed. Fear of a pandemic has set in motion processes of sanitization (segregation, selection) and the practical abolition of fundamental human rights and the imposition of total surveillance. This is accompanied by the emergence of disinformation and conspiracy situations, giving rise to attitudes of xenophobia and racism. They have also contributed to the emergence of many anti-vaccine attitudes.

The consequence of the current and future health and epidemic situation of the world is the accumulation of numerous developmental barriers and risks. These are psychological-biological, psychosocial, as well as civilizational (technical, technological) and spatial in nature. Their limitation and overcoming forces the world community to creatively oppose these phenomena in all areas of human life. Health care and the pharmaceutical market were affected first; the labor market and education followed (Solarz and Waliszewski, 2020).

The pandemic also revealed many new areas of social activism. The response to the barriers and threats in these areas has been the search for solutions to the challenges they bring. Its practical implementation has been facilitated by the development of digital economy technologies. The exchange of resources has taken on a completely different dimension by embracing further sectors of the economy. The idea of economic rationality, both in terms of consumption and investment, has also returned.

An important problem of the contemporary world – including Europe – that is directly related to the population problem is the issue of poverty and deprivation. They are a consequence of development

inequalities, translated into differential labor income and inequalities of ownership of capital and property. They manifest themselves not only at the regional and national levels, but also at the individual level. For Europe, it is important to consider this issue first and foremost at the individual level, as it leads to the generation of hunger and malnutrition (Landes, 2015).

Poverty is now defined as a systemic risk, determining the poverty level of all those whose income barely exceeds the extreme poverty threshold and who consequently form the poor layer. For them, the need for social inclusion and the improvement of their living conditions and cultural diversity is recognized. In this process, appeals to the principles of: respect for the dignity of every human being; equality and justice; respect for all human rights and the letter of the law; and ensuring the sustainability of the democratic system.

Poverty, as already pointed out, is always linked to malnutrition (hunger) and also to development (growth). These links and relations reveal both the traditional approach (poverty – unsatisfied material needs; hunger – insufficient food for all; development – linear from tradition to modernity) and the alternative approach (poverty – unsatisfied material and immaterial needs; hunger – sufficient food, with a poor system of distribution and right to food; development – differentiated). Its externalization on a global scale is the determinant of the level of GDP per capita per day, referred to as the international poverty line. According to the World Bank's methodology, a daily expenditure level of less than USD 1.90 per capita (at purchasing power parity in 2011 prices) is considered poverty (Roc, 2021). In Europe, on the other hand, poverty is defined, following the definition in force since 1984, as a situation that refers to individuals, families or groups of people whose resources (material, cultural and social) are limited to such an extent that it excludes them from a minimum way of life in the country in which they live. Following this approach, Eurostat has generated an indicator of poverty and deprivation in Europe, corresponding to nine points, namely: inability to incur unexpected expenses; inability to go on a week's holiday away from home; having arrears (e.g. mortgage, non-payment of rent, etc.); inability to buy every second home; and inability to live in a country where they live; inability to buy a meal every other day that includes meat, chicken, fish or a vegetarian equivalent; inability to heat the home adequately; not having a washing machine; not having a color television; not having a telephone; not having a personal car (Dziurny, 2020).

A significant proportion of the global community

is affected by poverty, even though the number of people living in poverty decreased by about 200 million during the first decades of the 21st century, while the world population grew by about 1.5 billion people. According to the World Bank, in 2018 poverty levels have fallen to 8.6 percent and are estimated to continue to decline. Currently, the phenomenon of poverty affects a large swathe of the population as at least 750 million people were living on less than USD 1.9 a day (Wor, 2022).

An analysis of the level of poverty – measured by the percentage of people at risk of poverty – on a world scale, in the first two decades of the 21st century, shows (table 1) a significant reduction.

The poorest region in the world remains sub-Saharan Africa and South Asia. In 2020, these two areas accounted for about 85% of global poverty, with sub-Saharan Africa accounting for 36.7% (over 420 million people) and South Asia 8.7% (about 200 million people). In the rest of the world, the percentage of poverty does not exceed 5%. The situation is best in North America and Europe (Roc, 2021). The prospect of eradicating poverty – according to the institutions responsible for this task – by 2030 does not seem realistic. This is because it involves providing the poor with humanitarian aid as well as investment aid, especially in building human capital and promoting growth that takes into account the interests of the poor.

Population issues, largely as an aftermath of poverty and deprivation, also involve feeding the global community (Caparrós, 2016). Due to a mismatch between food production and its desired consumption, a significant proportion of the world's population is undernourished or starving. Although these phenomena manifest themselves in the practice of most countries of the world, they are concentrated only in certain regions of the world. The level of malnutrition, as defined by the prevalence rate of malnutrition expressed in %, although clearly decreasing globally (table 1), remains high in sub-Saharan Africa and South Asia. The best situation is in North America and Europe where it has remained below 2.5% for years.

According to the FAO, the World Food and Agriculture Organization, there are currently more than 1 billion hungry people in the world. In turn, estimates by the UN Food and Agriculture Organization cite a figure of 2 billion (about 30% of the total) of the world's population who are undernourished – of whom more than 830 million people are starving, of whom more than 650 million suffer from extreme hunger – 150 million of them children. It is estimated that the level of 400 million undernourished

will not be reached until 2050. Sub-Saharan Africans account for the largest proportion of the undernourished. Hunger and malnutrition are characteristic of less developed countries, but it also affects communities in developed countries. Estimates suggest that 16-20 million people are affected in this group of countries. These include some countries in the West, as well as in the East, especially those that are transforming their economies (Stowarzyszenie Demagog, 2022).

Following the division made, it should be noted that the problem of malnutrition mainly affects underdeveloped countries, where the main cause of food shortages in these countries is the rapid growth of the population, disproportionate to the possibilities of increasing agricultural production (Stachowiak and Stachowiak, 2022).

The consequences of hunger are numerous diseases, often leading to death. The FAO estimates that around 30 million people die every year from hunger and malnutrition. In practice, this means that someone dies of hunger every four seconds in the world. This situation occurs not so much because there is a physical shortage of food, but because poor countries do not have the financial resources to purchase it from countries with large stocks of agricultural commodities. For a large part of the world's population, hunger and malnutrition are no longer present in their lives, but for the rest it is still present. Today, hunger is still a daily reality and has many dimensions.

Given the large increase in population and per capita income, the world's ecosystem is threatened by human activities, including those related to food production, processing and storage. Its consequence can be the phenomenon of the scarcity of healthy and potable water. At the beginning of the 21st century, some 1.1 billion people did not have access to it – mainly in Africa and Asia. This situation is linked to a decline in groundwater levels, which has become apparent in large areas of China, western Asia, the Middle East, the former USSR and the western United States. More than half of the world's rivers are over-exploited and significantly polluted. A large proportion of the world's population (around 2.6 million people) lives without sanitation. Analyses of the availability of safely managed water distribution point to this issue. These are characterized by far-reaching variations across the globe. If this does not pose a significant problem in North American and European countries, one does with regard to sub-Saharan African countries. The solution to this problem involves the need for official development assistance (table 1). If the situation does not change in future decades, the problem of water scarcity is likely to af-

fect hundreds of millions of people. Due to climate change, it will be impossible to cultivate land in many areas of the world.

Reduced availability of water, generates another significant threat to the world which is soil erosion, amplified by the impact of inappropriate farming methods, inadequate irrigation and increased salinity of the land. Manifestations of these threats are increasing natural disasters on a global scale, causing significant material, financial and human damage (Stachowiak, 2004).

3.2 The Challenges of Civilization to Material Resources

The first of the problems to be addressed as a leading solution is the issue of the progressive processes of diminishing and even depleting natural resources worldwide. These have a significant impact on Europe's economic development, raising the question of how to obtain them, both physically and economically. Their characteristic feature is that they are limited and unevenly distributed. They are available from only three zones of the Earth: the hydrosphere, the atmosphere and, for the most part, the Earth's crust. They are renewable and non-renewable in nature. By 2030, cumulative resource consumption is not yet expected to significantly compromise economic development opportunities. While it is estimated that there are still opportunities to reproduce renewable resources through reproduction, assessments as to the sufficiency of mineral resources vary widely and do not present a clear-cut vision. They give both pessimistic and optimistic assessments. The former point to their deepening scarcity, due to ongoing population growth and economic development. The dominant optimistic assessments, however, point to the potential for expanding resource substitution and new technologies, saving known and currently used raw materials and creating new types of materials.

The Earth's raw material resources, in addition to being limited, are characterized by their uneven use. Only 20% of the world's wealthier people use 85% of the world's timber, 75% of its metals and 70% of the world's energy production. According to UN data, around 80% of the world's wealth is held by 15% of the population. It is also legitimate to conclude that the size of the world's resources is limited, although still not fully known, which should be seen as a warning. This situation is particularly noticeable with regard to fossil energy resources. The structure of their recognized resources, estimated at 1057 billion tons of conventional fuel, is dominated by coal (around 63%), followed by liquid fuels (around 19%) and gas

(around 17.7%) (Sachs, 2009).

At the beginning of the third decade of the 21st century (2022), the recognized reserves of hard coal and lignite were estimated at 860 billion tons, which should ensure their availability: hard coal within a horizon of 400 years, and lignite within a horizon of 140 years. Oil reserves, on the other hand, are estimated at around 182 billion tons, which should last for around 160 years. In contrast, the world's proven natural gas reserves are estimated to be close to 187 490 cm, i.e. its availability over the next 60 years. As for uranium, its proven reserves are estimated at 2.44 million tons. In the perspective of the next few decades, the estimated resources will decrease, with a change in the structure of the use of individual raw materials. Natural gas is expected to play an increasingly important role in the economy and may gradually displace hard coal, lignite and oil (Wor, 2022). This trend is confirmed by an analysis of changes in the supply and consumption (extraction) of energy carriers and changes in the production (extraction) of major natural resources (table 2). A separate group of energy raw materials are the so-called renewable sources, the resources of which are basically stable.

The separate major problem of the world economy is the issue of the exhaustibility of many types of natural resources as a consequence of their extraction caused by production needs. It is estimated that currently identified estimated reserves of fossil raw materials – treated as primary raw materials – will be mostly exhausted in the next 60-140 years. A more optimistic approach to the world's natural resources is a dynamic one, based on the belief that these resources do not have a finite size, that they are essentially a function of human knowledge and capacity. This means giving priority not to the physical size of natural resources at any given time, but to an awareness of the possibility of meeting needs for them on the basis of those resources that have already been identified and those that are yet to be discovered, and those that can be secondarily recovered.

The solution to the raw material problem – which is at the same time a global problem – is only possible with a comprehensive approach to it, that is, with a combined solution to the raw material problem with environmental, demographic, food and general development issues. Being aware of the rarity of non-renewable resources and their finiteness, it seems expedient and desirable to direct human economic activity, based on price mechanisms, towards rationality of conduct, consisting in the search for new technologies using relatively cheaper resources, the activity of economic authorities – i.e. the state – towards desir-

able ways of using the environment on the basis of both administrative and economic instruments: and towards all those activities which will lead to a physical reduction of their consumption and the generation and absorption of energy- and material-saving techniques and technologies (Toffler, 2003).

The problem of the exhaustibility of economic resources at the same time as their increased consumption has forced the reconciliation of economic development with the solution of environmental problems, also in its ecological dimension. At the same time, this means that the use of the environment, which is growing along with economic development, is leading to tensions not only as a result of the increasing scarcity of natural resources, but also in view of its destruction and pollution. The consequences of both natural and technical catastrophes, as well as the consumption behavior of households and investment behavior of businesses, contribute to this.

The processes of global economic reproduction – in the material sphere – are significantly affected by natural disasters, of which the following should be mentioned: extreme temperatures and the resulting droughts and fires, floods and storms, as well as volcanic eruptions. These generate considerable material damage, often affecting large numbers of people, some of whom lose their lives. This is indicated by the data on this phenomenon for the period 1990-2011 (table 3).

One of the natural threats facing the world community is the phenomenon of warming. This climatic phenomenon is the result of the world's increasing industrialization, urbanization and the way people live. The increase in heat on Earth is seen by climatologists as an anomaly caused by the impact of human civilization and industrial carbon dioxide emissions. It has been calculated that in 2000, the carbon dioxide content was 30% more than in 1750. If carbon dioxide concentrations were to double by 2100, the Earth's average temperature would be expected to rise by 1.9 to 5.2 degrees Celsius. Such a significant warming of the climate will exacerbate current climate threats and lead to catastrophe on Earth. The years at the end of the twentieth century brought an exacerbation of certain relatively new environmental phenomena, such as urban air pollution, acid rain, the so-called ozone hole, the greenhouse effect, sea pollution, drinking water shortages, declining forest areas and changes in the world's biological resources. They are the consequence of human activity and the means it uses. They are characterized by the fact that they are mostly international in scope and global in dimension. They are all closely linked – in a feedback system – to economic development and global population growth.

Table 2: World production of fossil fuels, major natural resources, industrial products and electricity (Roc, 2021).

| No | Specification | 2000 | 2010 | 2020 |
|-----|-------------------------------------|-------|-------|-------|
| 1. | Hard coal in million tonnes | 3587 | 6510 | 6723 |
| 2. | Oil in million tonne | 33447 | 3615 | 3928 |
| 3. | Natural gas | 97 | 127 | 155 |
| 4. | Cement in million tonnes | 1660 | 3280 | 4100 |
| 5. | Crude steel in million tonnes | 849 | 1034 | 1319 |
| 6. | Refined copper in million tonnes | 14.8 | 19 | 24.5 |
| 7. | Primary aluminium in million tonnes | 24 | 41.8 | 65.2 |
| 8. | Bauxite in million tonnes | | 236 | 371 |
| 9. | Wood (coarse) in hm ³ | 3482 | 3587 | 3915 |
| 10. | Electricity in TWh | 15481 | 21516 | 27044 |

Table 3: Natural disasters in the world by type from 1990 to 2011 (Roc, 2021).

| SPECIFICATION | Number of incidents | Fatalities in thousands | Persons affected | Damage value in USD million |
|-------------------------------|---------------------|-------------------------|------------------|-----------------------------|
| Flood | 2858 | 161 | 2612487 | 430434 |
| Drought | 338 | 4,5 | 1192872 | 64907 |
| Storm (tornado) | 2092 | 386 | 659609 | 736218 |
| Earthquake (seismic activity) | 603 | 805 | 115543 | 637044 |
| Fire | 253 | 1,6 | 5548 | 43541 |
| Extreme temperatures | 350 | 158 | 96671 | 48703 |
| Volcanic eruption | 120 | 1,5 | 3699 | 559 |

They also have in common that their consequences are not fully recognized (Stachowiak and Stachowiak, 2022).

A consequence of natural disasters has been the growing threat of the extinction of some 11,000 animal species as a result of irreversible environmental transformation. Specifically, this threat affects around 25% of all mammal and reptile species, 20% of aquatic animals, 30% of fish and 12% of birds. The increase in this phenomenon is confirmed by analyses of the extinction of endangered species. If the global extinction rate for endangered species (based on the Red List of Threatened Species) in 2020 was 0.73, the most alarming situation was in Central Asia (0.93), North Africa (0.87), Europe (0.84) and North America (0.84). Forests are also at risk of destruction. According to the World (UN) Food and Agriculture Organization (FAO), approximately 40 percent of the world's old-growth forests could disappear over the next 10 to 20 years (Roc, 2021).

Numerous technical and technological disasters also have a significant impact on environmental degradation. They affect all areas of the globe. They are the cause of industrial accidents, accidents in non-industrial facilities and transport accidents (land, sea). They also affect a significant proportion of the population locally, often contributing to their deaths. They caused damage of a high value, which also necessitated further expenditures for their removal.

In view of this situation, the challenge of the future is to address the economic, technical and technological development of individual national economies and the global economy as a whole, without destroying its natural base. The challenge of the future should be to act pro-ecologically. It is becoming necessary to reorient the awareness that it is not the progress of civilization that leads to an ecological disaster, but its inappropriate use.

In the modern world, environmental degradation is a threatening and real phenomenon, but not inevitable. Mankind has an opportunity to prevent it effectively. In the first instance, it should learn about the causes and consequences of environmental degradation and strive to make proper use of the progress of civilization on a global scale. It is also indispensable to make full and effective use of all methods and possibilities of environmental protection. It is also desirable to work towards the elimination of technologies that pollute the environment in a way that endangers life and health, and instead to disseminate technologies that do not poison or pollute the environment. However, this implies a cost. The most synthetic expression of these should be a reduction in the rate of economic growth. However, solving the environmental problem is not only an economic issue, but also a political and institutional one.

One of the important problems plaguing the world at the beginning of the third millennium is the issue of

the regional mismatch between food production and consumption. If we have a situation of a balanced world food market on a global scale, however, in some regions we are dealing with its far-reaching disharmony (table 4). This manifests itself – at close to equilibrium physical availability – as economic inaccessibility to food. As such, it gives rise to numerous regional and local pockets of malnutrition and hunger. This situation is influenced by a range of factors, from climatic to structural, economic and demographic.

When analyzing the physical side of agricultural production and, consequently, food production, it is necessary to point out the far-reaching variation in it across the world. The situation on the African continent is the worst from this point of view. A far from satisfactory situation also applies to many countries in Latin America and Asia. The primary cause appears to be climatic disturbances: harsh winters, droughts, floods and storms. The second, also very important, is the inability of agriculture to increase food supply due to its backwardness, which is determined by the size and structure of the stock of arable land and its trends, technical equipment, mineral fertilization, land reclamation, and government food policy. The economic unprofitability of production is also a frequent cause, which occurs especially under conditions of increasing energy intensity of production. The fact that agricultural production capacity is being exhausted is also not insignificant. All these stoppages are reinforced by the persistence of poverty in many regions of the world.

The causes of this situation are to be found in particular in unfavorable changes to climate and soil conditions. They are therefore primarily objective in nature. However, they have also been caused to a large extent by the overexploitation of pasture and arable land, increasing demographic pressure and the desire to increase the production of pro-export monoculture crops.

Combating these phenomena must be considered humanity's most urgent and important task. Solving this problem is already posing many difficulties today. It will be all the more difficult to solve in the future in view of the demographic forecast scenarios. Meeting this problem, even if it is technically possible, will be limited by factors of an economic, infrastructural, political and also health nature. At present, the most important barriers to the growth of agricultural production are: the inevitable decrease in the area of agricultural land and, consequently, in the food area; the failure to comply with agrotechnical principles; the growing deficit in fresh water; the persistence of an archaic agrarian structure, as well as low agricultural productivity in many regions of the world; the

occurrence, due to climate change, of the phenomena of floods and droughts leading to food disasters; the manner of food distribution and the general development problems of the global economy (Małysz, 2009).

The phenomenon of hunger and malnutrition is closely linked to the mismatch between regional food production and consumption. On the production side, a range of factors – from climatic to demographic to economic – influence this. On a global scale, the existing inequalities in food production and caloric intake make it possible to divide all countries into five groups according to food availability. These are: first - established food powers (14 highly industrialized countries); second – new food exporters (including Brazil, Uruguay, Paraguay, Argentina, Russia, Ukraine); third – self-sufficient countries (basically: China, India, Pakistan); fourth – importers of expensive food (Japan, South Korea, Switzerland, UK, Gulf kingdoms); and fifth – poor and food insecure countries (countries in Central America, Central Asia, North and Sub-Saharan Africa).

Addressing the food issue requires a number of undertakings. reflected in the global community's pursuit of food security, which boils down to ensuring the physical and economic availability of food and the healthiness of food products.

Evaluations into physical access to food indicate that solving this problem poses many difficulties, and it becomes all the more difficult in the future. Indeed, if demographic projections are taken into account, global food production should increase by 75-100% over the next 25 years if there is to be enough food for the entire world population. If meeting this problem from a technical-agronomic point of view (i.e. physical availability of food) is possible, it will be limited by factors of an economic (distribution), infrastructural, as well as political and health (availability of healthy food) nature (Górecki and Halicka, 2013).

3.3 Relational Challenges in Europe

By treating the relational challenges as a complement to the two previously identified population and material challenges, it is necessary to give them a balancing character. They must be seen at the level of both internal development processes and external development processes. They are closely interrelated and interact with each other. The development of the world economy is closely linked to the civilizational development of world society as measured by scientific, technical, technological and organizational progress. This is due to the economic internationalization of the economy and the inclusion of ever wider

Table 4: Production of the world's major food resources (Roc, 2021).

| SPECIFICATION | 2005 | 2010 | 2020 |
|---|-------|-------|------|
| WORLD | | | |
| a. Cereals harvested in million tonnes | 2266 | 2467 | 2979 |
| b. Meat production from slaughter in million tonnes | 260 | 295 | 337 |
| Africa | | | |
| a. Cereal harvest in million tonnes | 142 | 167 | 204 |
| b. Meat production from slaughter in million tonnes | 13.6 | 16.5 | 20.7 |
| Central and South America | | | |
| a. Cereal harvest in million tonnes | 57 | 187 | 284 |
| b. Meat production from slaughter in million tonnes | 39.2 | 46.1 | 56.0 |
| Asia | | | |
| a. Cereal harvest in million tonnes | 1087 | 1227 | 1435 |
| b. Meat production from slaughter in million tonnes | 105.5 | 123 | 131 |
| Europe | | | |
| a. Cereal harvest in million tonnes | 427.5 | 405.5 | 546 |
| b. Meat production from slaughter in million tonnes | 51.9 | 56.6 | 64.0 |

areas of the globe in comparative mechanisms. It is associated with efforts to expand and increase competitiveness and the search for even more innovative development strategies. Achieving a civilizational advantage in these areas involves incurring correspondingly large expenditures (table 5). Its expression is in the reported inventions of new innovative technologies and techniques, as well as consumer and investment products.

The volume of investment in research and development activities is constantly increasing. Higher levels of outlays than the global average is taking place in North America, East Asia and Europe. Leading countries (according to 2016 data) are South Korea (4.23%), Switzerland (3.37%), Sweden (3.25%) (Japan (3.14%), Austria (3.09%), Germany (2.93%), Denmark (2.87%), Finland (2.75%) and the USA (2.74%). Significantly lower levels of outlays as a proportion of GDP are in: France (2.25%), China (2.11%), the UK (1.69%) and Russia (1.1%). In contrast, the lowest levels of outlays as a proportion of GDP are in Central Asia, Sub-Saharan Africa, South Asia and North Africa (Roc, 2021).

The variation in the number of outlays on research and development activities is also evident in Europe. The European Union countries (27) reached 2.23% of GDP in 2020, with the euro area countries (19) at 2.26%, and Poland at 1.32% (in 2000 – 0.64%). Referring to these outlay figures, it should be noted that an outlay figure of 1% of GDP only means maintaining the current level of R&D activity. The world is far from its target in this area: according to the Lisbon Strategy, the European Union countries were to reach outlays of the order of 3% of GDP by 2010, while according to the OECD they should be of the order of

2% of GDP.

The structure of R&D outlays is also far from satisfactory. In underdeveloped countries, outlays on basic research have tended to dominate, followed by those on applied research and, to the smallest extent, on development work. In contrast, in highly developed countries, outlays on development work dominated the structure of outlays.

Civilization progress has a direct impact on the shaping of economic relations on an international scale, the fullest expression of which is participation in the international division of labor, international economic turnover and international economic relations.

In turn, the social reproduction of economic relations takes place in the area of relations within a given country and in the area of foreign relations considered through the prism of foreign trade (table 6), i.e., trade exchange (imports and exports). In the first decades of the 21st century, it showed an upward trend worldwide, with the highest level of growth in exports. The dominant generator of trade exchange (both on the import and export side) was the countries of the economically developed regions – the countries of Europe and North America.

They result in trade contacts and processes of interdependence and developmental dependence.

All these hallmarks of civilizational relations affect the processes of social reproduction – in personal (human) as well as material and financial terms.

Among the important global problems of the contemporary world is the issue of world debt – both in the global, regional and national (state, country) dimensions. It is seen in terms of external (foreign, international) and internal debt (indebtedness). It re-

Table 5: R&D expenditure in relation to GDP (in %) (Roc, 2021).

| SPECIFICATION | 2005 | 2010 | 2015 | 2020 |
|--|------|------|------|------|
| WORLD | 1.53 | 1.62 | 1.7 | 1.73 |
| North Africa | 0.28 | 0.38 | 0.50 | 0.63 |
| Sub-Saharan Africa | 0.41 | 0.40 | 0.42 | 0.37 |
| Latin America and the Caribbean | 0.55 | 0.66 | 0.70 | 0.81 |
| North America | 2.46 | 2.66 | 2.70 | 2.72 |
| Australia and Oceania | 1.85 | 2.18 | 1.79 | 1.76 |
| Central Asia | 0.26 | 0.16 | 0.18 | 0.12 |
| South Asia | 0.70 | 0.70 | 0.55 | 0.59 |
| Southeast Asia | 0.64 | 0.75 | 0.85 | 0.92 |
| East Asia | 2.04 | 2.17 | 2.41 | 2.47 |
| West Asia | 0.71 | 0.74 | 0.81 | 0.94 |
| Europe | 1.59 | 1.75 | 1.85 | 1.89 |

Table 6: Value of imports and exports in USD million (Roc, 2021).

| SPECIFICATION | 2005 | 2010 | 2020 |
|--|------|-------|-------|
| WORLD | | | |
| a) Imports | 6579 | 15151 | 17589 |
| b) Exports | 6485 | 15116 | 17379 |
| Economically developed regions (North America, Asia and Pacific (Japan, Australia and New Zealand), Europe (excluding South-Eastern Europe and CIS countries)) | | | |
| a) Imports | 4548 | 8640 | 9640 |
| b) Exports | 4177 | 8005 | 8910 |
| Economically developing regions (Africa, Asia, Oceania) | | | |
| a) Imports | 1927 | 6000 | 7350 |
| b) Exports | 2144 | 6515 | 7822 |
| South-Eastern Europe and the Commonwealth of Independent States | | | |
| a) Imports | 104 | 511 | 599 |
| b) Exports | 164 | 665 | 647 |

flects the financial side of the economic reproduction process. The economic history of the world confirms the facts of repeated occurrence of situations of external debt of national economies in the socio-political reality of the world. They have highlighted the destructive impact on the economies of individual countries, and even entire regions, of the consequences of international capital movements.

If the global debt burden at the beginning of the 1970s was around USD 90 billion, by the early 1980s it was already over USD 800 billion and by the early 1990s it exceeded USD 1.3 trillion. The 21st century opened with debt reaching almost USD 2.1 trillion. This trend continued in the subsequent decades of this century. The volume of external debt at the beginning of the third decade of the 21st century (early 2022) is estimated to be around USD 79 trillion. Both

more and less developed countries were burdened by it. Currently, the leading countries in the rankings of international debt are highly developed countries (Millet et al., 2012; Gadomski, 2018). In the group of the ten most indebted countries, alongside the world's superpowers, are five European countries (table 7). Less developed countries are also saddled with less debt in terms of value, but with greater economic impact.

The emergence of an international debt crisis of a magnitude not previously recorded in the world's economic history has been due to a number of causes, both of an internal and external nature. In addition to the external debt, the internal debt of a specific country, defined as the debt incurred towards the citizens (residents) of a given country, is also important in terms of the risks of the modern world. An even more capacious category describing the indebtedness of an economy is public debt, defined as the total sum of nominal obligations incurred at home and abroad by entities belonging to the public finance sector, after eliminating all mutual obligations between its units. Public debt is a problem for all countries in the modern global economy. This is evidenced by an analysis of this problem from the point of view of its causes as well as its consequences (table 8).

An important global problem of the contemporary world has become the ability of the economy – both world (global) and regional (continental and integration groupings), as well as national – to ensure the continuity of the production of economic goods and services, the supply of quantitatively and qualitatively adequate labor resources and the expansion of international economic relations. In the practice of economic life, the response to these aspirations became the realization of social reproduction processes. The search for ways to ensure it took into account four factors: natural capital (the value of land, water, miner-

Table 7: External debt of selected countries of the world in 2020 (Słomski, 2020).

| No | Country & Debt volume | Debt to GDP in USD billion | Volume of debt per in % | capita in USD |
|-----|-----------------------|----------------------------|-------------------------|---------------|
| 1. | United States | 26676 | 127.4 | 80958 |
| 2. | Japan | 12139 | 244 | 96494 |
| 3. | China | 7310 | 50 | 5214 |
| 4. | United Kingdom | 3489 | 128.8 | 60890 |
| 5. | Italy | 3055 | 162 | 51258 |
| 6. | France | 3011 | 111 | 49039 |
| 7. | Germany | 2928 | 76 | 35150 |
| 8. | Canada | 1872 | 108 | 49263 |
| 9. | South Korea | 762 | 47 | 14710 |
| 10. | Belgium | 568 | 110 | 48966 |

Table 8: Public debt of selected countries of the world in 2020 (Roc, 2021).

| No | Country | Debt volume in USD billion | Debt to GDP in % | Debt volume per capita in USD |
|-----|----------------|----------------------------|------------------|-------------------------------|
| 1. | United States | 52501 | 128 | 63551 |
| 2. | China | 35558 | 67 | 10506 |
| 3. | Japan | 19458 | 266 | 40263 |
| 4. | France | 8948 | 116 | 42834 |
| 5. | United Kingdom | 7541 | 95 | 47260 |
| 6. | Germany | 6979 | 70 | 46171 |
| 7. | Canada | 5265 | 118 | 45842 |
| 8. | Italy | 5195 | 156 | 31644 |
| 9. | South Korea | 3819 | 43 | 31737 |
| 10. | Spain | 3737 | 120 | 27025 |

als, vegetation and other natural resources); material capital (the value of machinery, buildings and public establishments); human capital (the productive value of people); and social capital (the value of the family, community and the diverse organizations of society). Their use, in line with the challenges of civilization, was seen as essential to efforts to close the gap between rich and poor countries. Help was seen in generating economic growth on the subsoil of the idea of a knowledge-based economy.

Considering as an expression of the reproduction of material goods the indicator of the volume of domestic material consumption per capita (in tons), i.e. the total amount of materials consumed by the economy, which includes the sum of raw materials acquired by the economy on the national territory plus imports and minus exports of these raw materials, it should be noted, It is highest in Australia and Oceania, North America and Europe – with a tendency to decrease, which is the result of the introduction of modern techniques and technologies. The lowest level is in sub-Saharan Africa and South Asia, which reflects the far-reaching civilizational backwardness of countries in these regions.

The formation of reproductive processes is closely linked to economic growth in the subsoil of the national economy and economic relations with the international environment. These factors determine the economic activity of the country as well as the region and, consequently, the entire national economy. The most frequently cited synthetic measure of changes in economic activity, as well as the effects of the social reproduction process, is total and per capita GDP (table 9). If they showed an upward trend worldwide in the first two decades of the 21st century, they revealed a downward trend in the first half of the second decade in the group of countries changing the type of economy and in the countries of Australia and Oceania and Europe.

The outlined developmental tendencies of growth and economic development processes in individual regions of the world prove that in the modern world economy each type of social reproduction occurs. The dominant one in the analyzed period was expanded reproduction, with GDP increasing by more than 2.6 times. Key factors in this situation were the global exchange of knowledge and techniques and technology, international trade and capital flows.

Table 9: Volume of domestic material consumption per capita (tons) (Roc, 2021).

| SPECIFICATION | 2005 | 2010 | 2015 | 2017 |
|---------------------------------|------|------|------|------|
| WORLD | 9.7 | 10.8 | 11.4 | 11.7 |
| North Africa | 6.3 | 9.1 | 7.4 | 7.8 |
| Sub-Saharan Africa | 4.1 | 4.3 | 4.1 | 4.1 |
| Latin America and the Caribbean | 9.3 | 10.2 | 10.3 | 10.6 |
| North America | 29.8 | 23.0 | 20.7 | 19.6 |
| Australia and Oceania | 33.0 | 29.8 | 28.6 | 28.0 |
| Central Asia | 11.5 | 12.6 | 13.7 | 14.1 |
| South Asia | 4.1 | 4.7 | 6.3 | 5.4 |
| South-East Asia | 7.0 | 8.3 | 8.0 | 8.3 |
| East Asia | 12.6 | 18.0 | 21.4 | 22.8 |
| West Asia | 10.5 | 13.0 | 13.9 | 14.4 |
| Europe | 14.5 | 13.2 | 13.1 | 13.1 |

Table 10: Total and per capita GDP (current prices) (Roc, 2021).

| SPECIFICATION | 2000 | 2010 | 2019 |
|---|-------|-------|-------|
| WORLD | | | |
| a. Total GDP in USD billion | 33299 | 66010 | 87445 |
| b. GDP per capita in USD | 5436 | 9489 | 11339 |
| Economically developed countries | | | |
| a. Total GDP in USD billion | | 41676 | 49824 |
| b. GDP per capita in USD | | 41194 | 47149 |
| Economically developing countries | | | |
| a. Total GDP in USD billion | | 22167 | 35141 |
| b. GDP per capita in USD | | 3930 | 5545 |
| Countries changing type of economy | | | |
| a. Total GDP in USD billion | | 2167 | 2479 |
| b. GDP per capita in USD | | 7115 | 7862 |
| Africa | | | |
| a. Total GDP in USD billion | 647 | 1948 | 2461 |
| b. GDP per capita in USD | 796 | 1859 | 1884 |
| Central and South America | | | |
| a. Total GDP in USD billion | 2277 | 5340 | 5434 |
| b. GDP per capita in USD | 4321 | 8936 | 8309 |
| North America | | | |
| a. Total GDP in USD billion | 11029 | 16586 | 23185 |
| b. GDP per capita in USD | 35155 | 48365 | 62244 |
| Australia and Oceania | | | |
| a. Total GDP in USD billion | 478 | 1477 | 1639 |
| b. GDP per capita in USD | 1552 | 40627 | 39169 |
| Asia | | | |
| a. Total GDP in USD billion | 9281 | 20838 | 33082 |
| b. GDP per capita in USD | 2499 | 4968 | 7190 |
| Europe | | | |
| a. Total GDP in USD billion | 9588 | 19882 | 21645 |
| b. GDP per capita in USD | 13170 | 26824 | 28896 |

However, the process of social reproduction also

came up against numerous constraints and barriers, generating significant areas of risk for it and consequently disrupting the continuous reproduction of material goods, labor and economic relations. In the first decades of the 21st century, their forced expression became processes of deindustrialization in rich countries, expressed in terms of a reduction in economic activity due to high labor costs, and processes of relocation of economic activity to developing countries due to lower labor costs, as well as attempts at processes of defeminization. Reducing these negative consequences has forced many countries, as well as regional groupings and international economic organizations, to undertake a number of strategies as well as economic policy measures. The nature of these depended largely on the economic system operating in the country in question (Lorenzi and Berrebi, 2018).

Another important problem affecting reproductive relations is the clash, besides economic interests and political-military conflicts, of the real interests of the various groups of the world community at the level of civilizational (cultural) conflict ("clash"). All of these together affect the world economic situation and, consequently, changes in economic activity, generating concrete and developmental repercussions (Huntington, 2001; Randers et al., 2014). This fact seems to be in line with earlier expectations formulated by many futurologists (A. and H. Toffler¹⁶). It is related to the fact that in the new world order that is taking shape, the growing awareness of the civilizational, national and religious affiliation of numerous peoples and nations is becoming increasingly apparent. Each of the known civilizations differs significantly from one another in many respects. They are united by different value systems, religions, worldviews, customs and social relations. They are also linked by territorial proximity and similarities in historical experience. The globalization processes leading to these changes have given traditional and global civilizations a corporate character (Kleer, 2019).

The cultural clash of 'civilizations' has also become apparent within the market economy, reverberating on issues such as economic growth and development, demographic growth, hunger and poverty, the environment, and the diseases afflicting global society. This underlines the assessment that no reforms can be carried out if the problem of culture is left to the margins of the solutions undertaken. Changes in

¹⁶ Alvin Eugene Toffler (1928-2015) – American writer of Jewish origin, futurologist, author of works on the digital revolution, the communication revolution, the corporate revolution and the technological singularity.

Heidi Toffler (1929-2019) – futurologist, linguist, editor of works and co-author of the works of her husband A. F. Toffler.

this area require a profound cultural reorientation that strengthens the world community towards a different approach to nature and all the values of civilization. They should help to close the gap between the culture of the past and the culture of the present and future. Above all, the idea is not to reduce human beings only to the economic dimension, but more broadly to the institutional dimension (Robbins, 2008).

The above-mentioned background of civilizational (cultural) differences may give rise to dangerous phenomena – destructive ideologies that hierarchies people according to racial, national and religious affiliation. They generate chaos that must be perceived as an expression of civilizational overstimulation. The thesis that we are currently dealing with a period of replacement of the old civilization by a new one seems correct. The civilizational eclipse, however, is not a one-off and short-lived process. It gives rise to a number of turbulences inherent in the aspiration to impose one's position (one's ideas) through violence and expansion. It leads to a process full of contradictions in all spheres of society, including economic, social, political as well as cultural.

These contradictions are already apparent in the maturity of the civilizations being replaced – starting with the agrarian, industrial and informational civilizations to the hybrid one that is the sum of the best features of the previous ones. Its substrate in the global dimension is the dominant mode of economy, which is the market economy.

The civilization of the modern market economy is first and foremost a civilization of knowledge, referring to the idea of a knowledge-based economy, extensive social communication and visualization. The changes it brings relate to the expectations of the nature of the society of the future (A. Toffler) revealed by the overlapping waves of political, economic and systemic change – as brought about by the 1990s. In their subsoil, the construction of a new civilization began, bringing with it a new family style, social and economic life; a new awareness of people, their mutual relations and relation to each other; changes in the way they work; as well as new natural-climate, social and political-military conflicts (Toffler et al., 1995; Toeffler and Toeffler, 2006; Toffler, 2003).

The encroachment of the economy – both national, regional and global – into the areas of the new civilization varies from country to country as well as from region to region and from world to world. Existing religious denominations and churches have a significant influence on this situation. The structure of the world community – according to 2016 data – is dominated by Christians (comprising Catholics, Protestants and Orthodox Christians) - 32.9 percent;

followed by Muslims – 23.6 percent; Hindus – 13.7 percent; Buddhists – 7 percent; followers of Chinese folk religions – 5.9 percent; followers of ethnic religions – 3.6 percent; followers of new religious movements – 0.9 percent; Sikhs – 0.3 percent; Jews – 0.2 percent; spiritualists – 0.2 percent; and irreligious – 11.1 percent (Roc, 2021). Each of the designated religious groups adheres to different values, customs and traditions. These also apply to the spheres of the economy. Among these, there are also fanatical movements with religious backgrounds in each of the religions operating on a global scale. They manifest themselves, albeit on a different scale, by dividing the world exclusively into good guys and bad guys.

Nationalism can also be an expression of the clash of civilizations. They are extreme expressions of the national (civilizational) consciousness of numerous peoples and nations, accompanied by an increase in national aspirations. Often nationalism finds support in a religious background.

An area of civilizational clash is also political pluralism – reflected in respect for democracy. Its spread means a systemic transformation for certain states and nations. It now covers significant areas of Europe (Central and Eastern) and Asia. However, experience in this area shows that it can take on the character of a 'sham', which in essence expresses a drive towards the consolidation of elites and the emergence of renewed authoritarian systems. This has to do with the fact that the process of systemic transformation itself does not contain in itself a tendency towards the consolidation of real democracy and is accompanied by various turbulences. It also means that, as such, it is fraught with many risks and dangers.

Closely linked to the political transformation is the change in the mode of economy, i.e., the expansion of the market economy sphere. This area is increasingly becoming an area of civilizational conflict. This is due to the nature of the market economy system, as it is not a model of closed national economies, but a model of an economy participating in an open international market. The phenomenon of the expanding sphere of the market economy is perceived and assessed differently. The prevailing opinion is that it is beneficial to overall development. It is also possible to perceive opinions that the development of the market system leads and will lead to the emergence of great dangers. With the introduction of the rules of the market economy, there are new challenges and problems to be solved (Ross, 2017).

An important area of the cultural clash of civilizations is the education of society and its effects. Its level creates numerous areas of barriers to the implementation of the knowledge economy on a global

scale. Its accessibility varies widely across the world. In developed countries, education systems cover the entire population of children and young people. By contrast, in a significant number of developing and underdeveloped countries, millions of children and young people do not have the opportunity to attend school. This situation is borne out by information on organized learning. The lowest levels globally are in Africa – especially Sub-Saharan Africa – and Central, South and West Asia. The highest levels are in Europe, Latin America and the Caribbean, Southeast and East Asia and North America.

A certain proportion of the world's population that has not participated in the education process forms an illiterate collective. In 2019, among the population, aged 15 years and over, the % of the population of given sex that could read was dominated by men (89.9%) over women (83.0%). The situation of male dominance over females also occurred for countries placed in the middle (males 90.1%; females 82.7%) and low development group (males 68.6%; females 53.5%) (Roc, 2021). High levels of illiteracy occur primarily in Africa. The main reason for this situation is primarily poverty, as a result of which African children in many countries have to work hard.

4 CONCLUSIONS

The reflections carried out, and on the basis of the paradigm of the new institutional economics, on the challenges facing the European community entitle us to formulate a number of reflections.

First. The output of the new institutional economics as an interdisciplinary science is proving useful for the identification, analysis and assessment of the challenges to civilization for the world community – including the European community. This is reflected in the growing range of analyses and interpretations of institutional economic phenomena. It remains a debatable issue, however, whether institutional analysis of socio-economic phenomena is to act as an alternative to the paradigm of mainstream economics, or whether it is to perform only a complementary or enriching function to the

Second. European society – like world society – subjected to the current of the greatest civilizational revolution taking place, is burdened by the spread of uncertainty, forcing a turn in thinking about the surrounding world. The imbalance in it confronts people with changes of a discontinuous nature, leading to overlapping changes in the economy and politics.

Third. Europe and its society being in the mainstream of the civilizational revolution reveal a better

situation than the other continents in all the analyzed areas of civilizational challenges.

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