ECONOMIC AND INDUSTRIAL SYSTEMS AND GLOBALISATION

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ABSTRACT: *The economic and industrial system of a country or geographic area, in all its complexity, can be presented and analysed in social, industrial, economic and environment terms. The studying of the main analysis criteria in specialized literature enables the outlining of a pertinent radiography of the economy under investigation, of its complexity as well as its framing within a certain typology, while representing the starting point of a diagnosis analysis. The displaying of the globally aggregated indicators enables the identifying of performing economic and industrial systems, their analysis and the pinpointing of the features applicable to the development of the economic system under analysis.*

KEY-WORDS: *economics, economic and industrial systems, macroeconomics, world economy, economic growth, market, market economy, green industry, sustainability, national economy, globalisation, world economic circuit, gross domestic product, human development index, GDP.*

JEL CLASSIFICATION: *A200, E100, E270, F010, O150, O470, Q010.*

1. INTRODUCTION

Economy, which is considered the most used notion of the world vocabulary, is also the most flexible concept, designed in accordance with the needs of those who used it, use it or are going to use it in the future. Economy is the key term around which hypotheses, objectives, concepts, theories, strategies and development models are built, and results, development policies and trends are analysed.

The social character of economy is given by the study of the human behaviour in the context of the daily events impacting the individuals. Such events, depending on their importance, use a smaller or a larger amount of resources in order to meet human needs and directly change the environment.

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The responsibility of economy as a science is also connected to the study of all the stages of goods and services production, from the moment of extracting all types of raw materials to their consumption by the final user, which also directly impacts their distribution with a view to meeting consumption needs.

In consideration of the previous assertions, we are going to define economy as a social science that studies the manner of administering the resources available at various moments or time intervals and are consumed in order to meet human needs. The limited amount of all resources requires their proper administration, in the context in which, at present, people's "needs" are unlimited and what we consider we lack today in order to get "everything" determines an imbalance between these needs and nature.

The phenomenon has determined the emergence of the preoccupations for counteracting this reality and for developing the concepts of durability, sustainability or circular economy with a view to stopping the continual degradation of the ecosystem, to balancing social needs and the need to leave enough resources for the future generations.

As such, the notion of ecological industrialisation (Cohen, 2003) as a concept that came out at the beginning of the 1990s represents the direction towards which the development of the industry is moving, while decreasing the impact upon the environment. A characteristic feature of green-industrialisation is the closed production circuit, with as little effect as possible on environment issues such as: desertification, water and soil pollution, protection of species, efficiency of resources use or air quality.

The symbiosis of the connections among economy and industry, the energy they require to develop, the materials consumed and the local communities that benefit from the present advantages become the determining factors of the designing and use of industrial production processes that should protect natural systems (Cohen, 1999).

The numberless economy subjects for study over the years focused on settling the prices for goods and services, the price of production factors (lands, human resources employed, capital, technology, information, etc.), while also analysing the behaviour of financial markets, of stock markets, of the consequences of the state's non-intervention or intervention on the economy, the model of distributing the incomes and of economic growth, or international trade from a local/regional level to an inter-state/world level.

2. CLASSIFICATION OF ECONOMIES AND ECONOMIC SYSTEMS, THEIR SPECIFIC FEATURES

The objective of all economies, irrespective of their type, size or complexity, is the continual improvement of the living conditions of the people and societies, in circumstances where available resources are deficient and limited and human needs are limitless. When an individual uses a resource for one or several needs, that resource is consumed, lacking the opportunity to meeting other personal or group needs (opportunity cost).

We use to define the economic system (https://en.wikipedia.org/wiki/Economic_system/) as the sum of the production, resources, goods and services elements belonging to a state or to a geographic area, which are interdependent and interact, while building a distinct, freestanding unit. The economic system also represents the sum of connections among the individuals, which determine the manner economic and social activities are organized and function within the state as well as the manner economic resources are used. The definition would not be complete without mentioning as a component of the economic systems the relational systems of institutions, organisms, laws, policies and ideologies in accordance to which the social and economic activity of the system is carried out.

State economies may be classified in economic systems depending on several criteria, of which the most relevant and used ones are private ownership and decisional mechanisms:

a) The classification of economic systems depending on the existence or inexistence of private ownership results in:

Capitalist economies, free economies or ***market economies,*** whose features are as follows:

- They mainly rely on the pluralism of the private ownership of production factors (lands, labour force and capital) and means for providing services;
- Supreme consumers are the central element of the economy, whose decisions permanently regulate the balance between demand and offer;
- Capitalism is asserted as a prevailing economic system with social competition providing the stimuli required by perpetual development;
- Economic and social liberty focuses on the individuals and their decisions that regard the manner of integrating within the society; there is individual liberty to fail in the choices made while the state does not interfere with economic activity;
- Profit and entrepreneurs' continual pursuing of getting profit represent the driving power of the economy.

In consideration of the characteristics displayed, we are going to define market economy as a social system where production and services factors are the private ownership of individuals and associated groups, with capitalism as a prevailing economic system enabling full economic and social liberty and the market relying on the consumer; the perpetual driving power is the entrepreneur that continually looks for maximizing profit, while the state is a passive element not interfering with the actions and interactions of the market.

The problem of this system is that it also might be inefficient, resulting in an unequal distribution of fortunes and resources.

In contrast to market economy (free), planned economy displays as defining features the existence of a general production plan at the level of the state or of another organism, which controls production factors, namely decides upon investments as part of the integrated planning.

Socialist economies or economies with centralised planning display the following features:

- Production factors, namely the means for providing services, are state ownership;
- Offer is determined, while demand cannot be used as a variable in a planned economy;

- Distribution of resources is unequal, advantages being given only to certain goods and services;
- Competition lacks, which has as an effect the limitation of sectorial research and development;
- Better social justice, with decreased discrepancies among social classes due to insignificant salary differences; unemployment tending to zero;
- The central character of the economy consumer does not exist, social need being limited to the goods and services planned to be produced;
- Individual's personal and social development is limited and guided towards the needs of the planned economy.

Mixed economies may be defined as an organic mixture of the elements of the market economy system and the elements of state involvement into the economy, of the state and private sectors, of public rules and market mechanism, of large corporations and small companies, of providing a series of social guarantees while differentiating fortunes to various degrees.

b) The classification of economic systems depending on the mechanism for taking or coordinating decisions results in:

Traditional economies characterised by:

- Simplistic systems, where decisions taken rely on tradition, this being specific for those states with a large rural population, where agriculture activities prevail;
- Prevailing of joint, primitive ownership, where land is the main production force;
- Low level of the development of production capacities, where manual work and the rudimentary tools are dominant;
- Demand is limited to the elementary needs of the individual, while offer mainly regards the production of first necessity goods;
- Bilateral transactions represent the fundamentals of economic relations, the intermediary element of modern societies largely lacking;
- The closed and limited character of economy, without major external links, which displays the inertia and conservativism of economic behaviour.

Authoritarian economies that are characterised by:

- The prevailing of state ownership upon the production factors;
- Decisions' centralising by state authority, the state's interference with the economic and social life being seemingly complete; state's dictatorship, with policy prevailing on economics;
- The total control of strategic economic fields, their development being politically settled, with the main institution coordinating the entire economic activity;
- The individual, as a consumer, obeys the state's economic policies;
- Prices are not grounded upon economic laws due to the fact that resources are distributed to all activities, no matter if they are cost-effective or not;
- The seizure and accumulation of economic power by the bureaucrats and politicians determine decisional corruption given the advantages offered by those in favour of whom they decide.

Market economies display individuals' decisional freedom in the case of capitalist or mixed economies and the inexistence of such liberty in the case of the

economies planned by the state; their detailed presentation is mandatory as part of the analysis of the development economic models.

The two classifications of the economic systems overlap determining "mixed" market economies, which, at their turn, generate models of economic development, specific for certain mixed economy forms. Irrespective of classification, an economic system should answer the simple questions of modern economy: what goods/services are produced/provided, how are these produced/provided, what is the amount of the goods/services produced/provided, for whom are they produced/provided.

3. THE MARKET AND THE MARKET ECONOMY

The market represents the key element, the main source of information, the intrinsic, fundamental and central component of an economy, around which the entire economic activity gravitates. It includes all the relations for trading goods and services and is the place where each economic entity displays its own interests, while the decisions taken for protecting these interests naturally contribute to adjusting the demand and offer on the market.

Market economy may be defined as an economic system where the decisions that regard the production and distribution of goods and the providing of services rely on the interaction between demand and offer, in close connection with their purchase prices. Another defining feature of the market regards the fact that the decision to invest is closely connected with the existence of various types of financial and capital markets.

In reality, both the model of the free market economy and the model of planned economy cannot be found as such. Nowadays, under the conditions of a real economy, the two models are combined, determining a mixed economic system that characterizes most of the states worldwide.

The present-day various mixed economies are closely connected with the large range of free market systems, namely protectionist or regulated, each of them carrying the imprint of a state. The choice of the corresponding economic system is determined by the complexity of the internal, specific factors, such as:

- Natural factors: geographic location, climate particularities, and natural resources;
- Ethnic and cultural factors: people's traditions and culture, specific mentality, religious practices;
- Inheritance and history experience;
- Structure of social interests, their merging and social policy adopted;
- The condition of the national economy, the degree of its technologizing and computerisation;
- The level of the economic potential, the priorities of the political vector.

The following types of mixed economies may also be defined:

- Mixed economies characterized by the low interference of the government with the guiding and directing them and with the settling of a series of disparities that various inner markets naturally develop;
- Mixed economies characterized by the government's adoption of a series of measures that regard the guiding and planning of certain economic activities.

4. GREEN INDUSTRIAL DEVELOPMENT: CONCEPT, OBJECTIVES, CHARACTERISTICS

A key element that is mandatory as part of the analysis of all social and economic development systems, focusing on the protection of the environment and starting from a suggestive conceptual evolution (biological symbiosis), created by industrial ecologists, green industrialisation implies the settling of a series of issues which regard the degradation of the environment, the recycling of reusable waste, the regional lack of energy, having as an effect the improvement of economic, social and environment results (Chung, 2007).

Green industrial development has as objectives both the increase of trade success and the decrease of environment pollution and waste. From the main objective, naturally derive specific objectives, such as: optimisation of the use of resources, renewable energy resources, development of less polluting technologies, greening of civil and industrial buildings, ecological planning, etc.

- ***The optimisation of the use of resources*** implies the minimising of the consumption of materials, energy, transportation and water, which results in the decrease of production costs owing to the savings enabled in the fields previously mentioned;
- ***The sources of renewable energy*** regard both the typology of the materials employed and the use of non-polluting energy, while eliminating the sources of energy relying on fossil fuels;
- ***The development of less polluting technologies*** targets the reuse of residual materials, the decrease and substitution of polluting emissions, which are imperative requirements/objectives of environment policy;
- ***Greening civil and industrial buildings,*** based on the innovations in the field of building construction (green engineering). Designing new infrastructures and buildings mandatorily requires the significant increase of the life quality of the communities concerned;
- ***Ecological planning*** involves the organic joining of the objectives previously displayed, while developing the symbiosis man-nature.

As a conclusion, we may assert that the green industrial development at all geographic levels involves the interaction among regional climate, the human potential in the geographic area concerned and the business environment, while emphasizing the success of local communities with regard to regional green industrialisation, which is crucial for meeting the proposed objectives.

5. WORLD ECONOMY, GLOBALISATION OF NATIONAL ECONOMIES

Another notion displaying a large use in daily life and specialized literature regards world/global economy. Its defining framework includes national economies, the interdependence relations among them determined by the co-participation in the international division of labour and the world economic circuit of goods and services.

The evolution, formation and development of world economy incorporate several qualitative stages, of which:

a) The incipient stage: characterized by the exchange of goods and services (of a military nature) among peoples, countries and neighbouring territories from Antiquity until the Middle Ages;

b) The intermediary stage: during the Middle Ages and characterized by the strengthening of world market;

c) The final stage: the final designing of economy as a free-standing entity, at the end of the 19th century and the beginning of the 20th century.

The geographic delimitation of economies does not show the complexity of the elements that form these entities, the content of these economies, irrespective of their level, as the economies include several constitutive components, no matter if we analyse local economy or the most developed form of global/world economy. The complexity of the forms of these economies do not match their geographic delimitation due to the fact that, not just once, a local, economy might be more complex than, for instance, a national or a macro-regional economy (the City of Tokyo vs. Malta, Angola or Honduras).

The complex global system of world economy includes a multitude of elements and structures that are also complex, namely all state economies. Irrespective of the complexity of these economies or of their geographic delimitation, they are characterized by the homogeneity of their components, at all levels. World economy relies on the following constituent elements:

- ***The national economies of the world states,*** representing all the economic and social activities regarded in terms of their unity and interdependence and which are activities that are carried out within the states that are historical entities at a given moment;
- ***The international division of labour***, a component that shows the links, relations and connections among the world states in the process of developing production and world trade, the role and place of each state in the world circuit of the newly created value of products and services;
- ***The international economic fluxes***, a component that includes the complexity of national economic connections among the economic entities in all the states of the world that regard the economy goods, services provided, human resources, capitals, currencies, top technologies and the know-how. All these fluxes displaying a close unitary and interdependent connection form the world economic circuit.

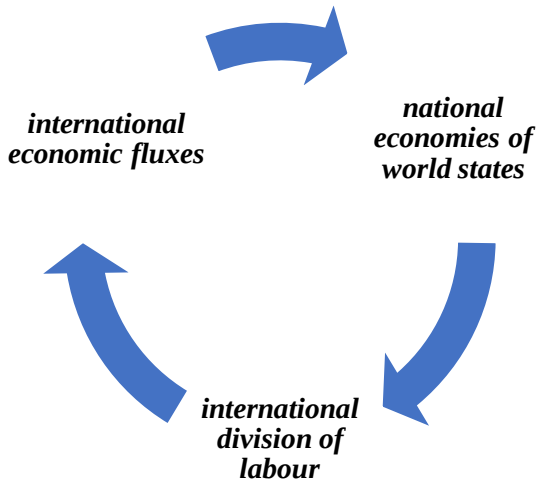


Figure 1. World economic circuit

World economic circuit would be only an empty notion without the existence of goods and services markets, of labour forces, of capitals, currency markets that facilitate the exchange of resources. Due to the fact that economy is closely connected to the existence of markets, to the connections among the markets of the world states, the concept of world market economy is fully applicable to everyday reality.

In conclusion, we are going to define globalisation as the continual process of creating a world market, where geographic distances no more represent a key factor of settling economic and industrial, social, cultural or political relations[9] (Lubbres, 1998).

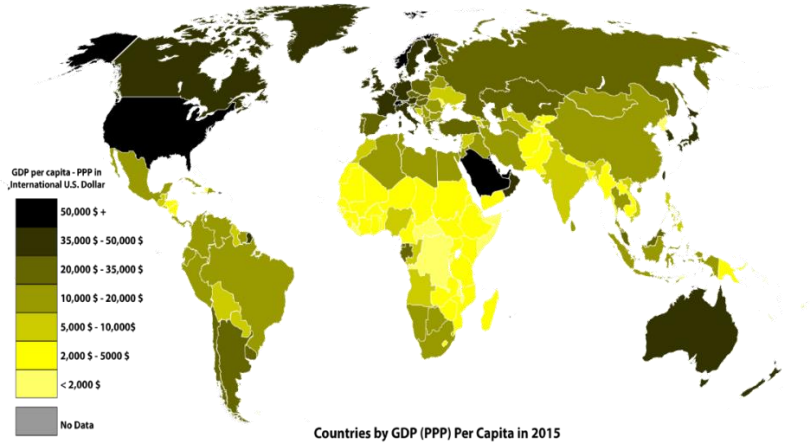
6. GROSS DOMESTIC PRODUCT AND HUMAN DEVELOPMENT INDEX, DEFINING INDICATORS OF NATIONAL ECONOMIES

6.1. Gross Domestic Product (GDP)

Economic activity is measurable owing to the American economist and statistician of Russian origin Simon Smith Kuznets, winner of the Noble Prize for economy in 1971, who got the prize for his contribution to the empirical interpretation of economic growth, the improvement of the manner of analysing economic and social structures and economic development (https://ro.wikipedia.org/wiki/Premiul_Nobel_pentru_științe_economice/).

The famous aggregate called gross domestic product (GDP-1934) is used world-wide and, at present, represents an instrument for the measuring and classification of the economic activities of the states, enabling the structuring of a hierarchy.

The classification of the world economies in accordance with their GDP is displayed in Figure 2, as follows:



Source: Wikiwand – List of the countries depending on GDP per capita

Figure 2. GDP of each country, per capita (2015)

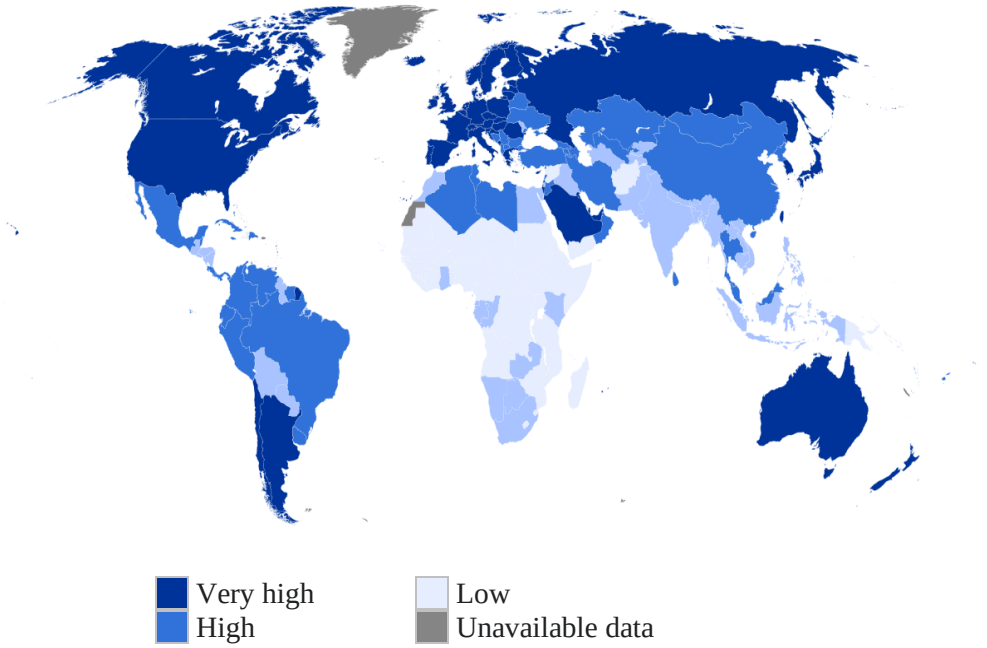
The analysis of global GDPs shows that the highest levels are grouped together and belong to five geographic regions, namely:

- North America (United States of America and Canada);
- The southern part of South America (Argentina and Chile);
- Western Europe (Austria, Belgium, Denmark, Switzerland, Finland, France, Germany, Ireland, Italy, Luxembourg, Norway, Great Britain and Sweden);
- Asia Minor and North Africa (Saudi Arabia, Bahrain, Iraq, Iran, Kuwait, Libya, Nigeria, Qatar);
- North-eastern Asia together with a part of the Pacific area (Australia, China, South Korea, Japan, Kazakhstan, Malaysia, New Zeeland, Russia, Singapore, Thailand, Taiwan), with Japan as the leading force of the region.

6.2. The human development index (HDI)

The social, economic and geographic indicator, created by the Pakistani economist Mahbub ul Haq (https://www.economist.com/obituary/1998/07/23/mahbub-ul-haq/) and the Indian economist Amartya Sen (https://www.nobelprize.org/prizes/economic-sciences/1998/sen/biographical/) in 1990, according to which the economies of world states may be typified, is called the human development index (HDI). This index is a complex aggregate that measures the quality of life and the living standard, the degree of literacy and education, life expectancy, while classifying world economies in developed, under development and under developed countries. It also measures the impact of national economies upon life quality.

The classification of world states according to HDI is displayed in Figure 3, as follows:



Source: Wikipedia – List of the countries depending on the index of human development (IHD)

Figure 3. HDI per country in 2016

The analysis of HDI distribution worldwide shows that the highest levels are grouped together and belong to five geographic regions, namely:

- North America (United States of America and Canada);
- The southern part of South America (Argentina, Chile, also called the Latin-American tiger);
- Western Europe (Austria, Belgium, Denmark, Switzerland, Finland, France, Germany, Ireland, island, Italy, Luxembourg, Norway, Great Britain, Sweden), with Germany as leader in Europe;
- Asia Minor and North Africa (Saudi Arabia, Bahrain, Iraq, Iran, Kuwait, Libya, Nigeria, Qatar);
- North-eastern Asia together with a part of the Pacific area (Australia, China, South Korea, Japan, Kazakhstan, Malaysia, New Zeeland, Russia, Singapore, Thailand, Taiwan), with Japan as the leading force of the region.

Let's notice an almost perfect overlapping between the world distribution of GDP and the world distribution of HDI, an aspect that is used as a detail for displaying the main models of economic development.

In the world states exhibiting high GDPs and HDIs, 100% of the population is able to access health services, the threshold of life hope is over 70 years old and the

rate of school enrolment is over 90 %, all these aspects defining a high living standard[8].

The presentation of GDP and HDI distribution enables the defining of a hub of world economies that includes a relatively small number of states (for instance G20 – "The group of the twenty finance ministers and central banks governors" or G7 - "The group of the seven highly industrialised states"), mostly grouped in the Northern hemisphere of the planet and relying on three regional cores, namely: North America, Asia-Pacific and Western Europe, representing 90 % of the world GDP, two thirds of the population of the planet (G20), and 80 % of the world GDP (G7 member-countries).

The aggregates are used in operational analyses worldwide by international institutions such as: the Organization of the United Nations, the International Monetary Fund or the World Bank.

7. CONCLUSIONS

Economic systems worldwide overlap, resulting in "mixed" market economies, which, at their turn, determine models of economic development specific for the world economies. According to the analysis of the GDPs and HDIs of the states we are able to assert that there are infallible economic models to be followed, which ensure economic and social success that, nonetheless, is reached at the expense of the environment.

As a consequence, green industrialisation, as a driver of economic development, represents the direction to be followed by humanity in a symbiotic man-nature relation. Under such circumstances, the globalisation of world economy promoted and developed mostly by the states displaying high GDPs and HDIs should have in view the following main objective and challenge: the reaching of a balance between social equity, economic and industrial development and environment preservation through an efficient use of the natural resources consumed.

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