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MODIFICATION OF ECONOMIC DEPENDENCE AND ACHIEVEMENT OF CLIMATE NEUTRALITY AT THE CROSSROAD

ISBN 979-8-89504-809-2
DOI 10.46299/979-8-89504-809-2

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Monograph

2024

UDC 338.1

Approved for publication
by the Academic Council of the Educational and Scientific Institute
of International Relations
Taras Shevchenko National University of Kyiv
(protocol No. 14 dated 24 June 2024)

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Reznikova N., Medvedieva M., Grydasova G., Matiushyna O. Modification of economic dependence and achievement of climate neutrality at the crossroad. Monograph. – Primedia eLaunch, Boston, USA, 2024. – 121 p.

Library of Congress Cataloging-in-Publication Data

ISBN – 979-8-89504-809-2
DOI – 10.46299/979-8-89504-809-2

UDC 338.1

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ACRONYMS

ACEAN	The Association of SouthEast Asian Nations
BIA	Bilateral investment agreements
CBAM	Carbon Border Adjustment Mechanism
CIS	The Commonwealth of Independent States
CJEU	The Court of Justice of the European Union
CMEA	The Council of Mutual Economic Assistance
ECtHR	The European Court of Human Rights
EGD	The European Green Deal
FAO	The Food and Agriculture Organization of the United Nations
FDI	Foreign direct investment
GATT	General Agreement on Tariffs and Trade
GDP	Gross domestic product
GHGs	Greenhouse gases
IBRD	The International Bank for Reconstruction and Development
IDA	The International Development Association
IFC	The International Finance Corporation
IMF	The International Monetary Fund
LDC	Least Developed Countries
LT-LEDSs	Long-term low GHG emission development strategies
MERCOSUR	The Common Market of the South
MIGA	The Multilateral Investment Guarantee Agency
MMRICM	The mechanism of multilateral regulation of international commodity markets
NDCs	Nationally determined contributions
NECPs	National energy and climate plans
OECD	The Organisation for Economic Co-operation and Development

R&D	Research and Development
TNB	Transnational bank
TNCs	Transnational corporations
UNCITRAL	The United Nations Commission on International Trade Law
UNCTAD	The United Nations Conference on Trade and Development
UNDP	The United Nations Development Programme
UNFCCC	The United Nations Framework Convention on Climate Change
UNIDO	The United Nations Industrial Development Organization
WB	The World Bank
WIPO	The World Intellectual Property Organization
WTO	The World Trade Organization

ANNOTATION

Rise of new forms of economic dependence, caused by dialectic interactions of national and global, is implicit in the nature of globalization, because objective transformation change in industry, communications, trade, foreign investment and international finances has turned the global economy into the integrated global organism. Apart from international labor division, its operative factors are large-scale global value chains, self-sufficient global financial system and information network. Globalization is an imperative for formation of radically new level and type of dependence characterized by multidimensionality and multi-subordination resulting from the changing vector of interactions in parallel with the increasing interdependence of countries.

The dependence theory that occurred at the conjunction of two intellectual movements – Marxist and structuralist approaches to interpretation of economic development – has become rather an interpretation tool or methodological framework for critiques than a full-blown theory. By assuming either internal or external factors as determinants for economic backwardness, it failed to synthesize them because it did not emphasize domination of either of them over the others, which may be seen as simplification in the global transformation context. Substantiation of the new paradigm becomes important once the existing theoretical approaches are no longer capable to systematize and fully explain new facts, events and processes of in the real world, which is the purpose of the proposed theoretical and methodological model. The objective reason for constructing and studying the new dependence paradigm at the current phase of globalization, defined as the paradigm of countries' neo-dependence at the current phase of globalization, is the gap between the available empirical data and the methodology for their rational interpretation on the established theoretical background.

The study is based on the scientific hypothesis that the changing forms and qualities of dependence is a natural process of the global economy from the perspective of spatial and temporal structural change. The replacement of the R. Prebish concept of “Center – Periphery” and peripheral capitalism by meta-system characteristics of the global economy gives rise to the suggestion that the bifurcation point in the development of the international relations theory has already been reached, when the traditional methodology of economic studies has to be combined with the methodology of in-depth transformations; global development doctrines need to be modified by including the principles of reversibility and irreversibility of the global processes and their causal links.

Theoretical and applied aspects of cross-country economic interactions in the globalization context have been studied by outstanding Ukrainian and foreign scientists. However, given the acknowledgement of significant scientific contributions in economic studies in the field, it should be emphasized that conceptualization of novel forms and qualities of economic dependence at the current phase of globalization has remained the central problem in studying the specific nature of relations given the changing role of governments, the increasing capacities of transnational corporations, the occurrence of complex dynamic imbalanced systems, the widening gap between dependence and path dependence. It needs to be known when exactly the historic cycle of previous transformations gives birth to a new pattern of the world, which cannot be comprehended within the traditional methodological framework without investigating theoretical and methodological model of economic neo-dependence at country level.

Modification of economic dependence in a globalized world has led to the transformation of global climate policy. The major stakeholders on international arena strive to adopt and implement new concepts in order to fight against climate change more effectively. Among such concepts is climate neutrality which should serve the purpose of mitigating the negative consequences of climate change and adapting to them. Achievement of climate neutrality became a cornerstone in global, supranational, regional and national climate and energy policy. New economic transformation has changed the role of civil society which became more active in international efforts to protect climate system of the Earth. Climate neutrality is closely linked to the concepts of green economy and sustainable development. The monograph analyzes the concept of climate neutrality, its policy instruments under the Paris Agreement, such as nationally determined contributions and long-term low greenhouse gases emission development strategies. The authors also highlight the main tools of climate neutrality under the European Union law, such as greenhouse gases emissions reduction targets, emissions trading system, carbon border adjustment mechanism, renewable energy sources and energy-efficiency, taxation of energy products, innovative geoengineering technologies, etc. which are embodied into a number of the EU policy and legal instruments relating to the Energy Union, European Green Deal, European Climate Law, ‘Fit for 55’ Package. The authors pay a special attention to the issue of climate neutrality in the situation of the Russian invasion into Ukraine.

The last chapter considers the current stage of climate policy development within the European community’s fight against global warming, in line with the European Green Deal, by EU member states and some parties of the Paris Agreement, particularly those that have obtained candidate status for EU membership. The author examine legal aspects of implementing the framework of the European Climate Law in national legislation, focusing on the institutional hierarchy, national mechanisms for implementing climate policies, and systems of checks and balances. Special attention is given to the climate policies of countries such as France, the Netherlands, Ireland, Bulgaria, Ukraine, and Moldova. The aim is to present a comparative analysis of the climate legislation of these countries, as their national frameworks form the foundation for developing climate diplomacy and achieving agreed compromises among the parties to the Paris Agreement in the fight against global warming.

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1. Determinants for modification of dependence paradigm in the context of synergetic world order

In the process of phase-to-phase evolution, geopolitical world order changes its external characteristics, but also its essence, with subsequent rediscovering of dependence as a reason and a consequence of the existing asymmetries in economic development. The primary asymmetries, to which we include uneven distribution of primary resources, asynchronies of technological, economic and financial origins, geopolitical, socio-cultural and institutional differentiation, cause asymmetries in redistribution of global rental incomes and disruptions in hierarchical and functional integrity of the geo-space, with the modified dependence-based relations.

If we rely on ideologies of past century theoreticians who regarded dependence and weakness of economic development as a consequence of the growing global capitalism and dependence per se as a factor for economic exploitation (absorption of capital or surplus of goods) of developing countries by developed ones, they give us grounds to argue that dependence is a reason behind insufficient economic development, which implies that autonomous and independent development won't occur unless developing countries either overcome or essentially weaken the dependence pattern.

Hence, negative attitudes felt in interpretations of dependence concepts by adepts of structuralist and (neo)Marxist approaches made one view dependence as a result of: uneven economic development of countries setting up relations; unfair distribution of proprietorship on production means; impossibility of industrial development on Periphery; failure of Periphery to generate endogenous rapid technical progress; lack of capabilities to manage important components of the economic system due to its structural deformation. Dependence, therefore, comes to be a reality arising from certain historic factors that hampered autonomous economic development in a country setting up relations of subordination in the interests of a dominant country. Hence, economic development per se is a measure of the reasonability and the effectiveness of cross-country interactions; dictated by needs of the time and the historic context, these interactions determine the intentions of participating countries and the tools of their impact.

Canonically, the notion “dependence” is interpreted as “being under someone’s influence or someone’s power; obedience to someone, caused by someone’s action or the circumstances; the condition of linkage to something by way of subordination to it; the conditionality of something on certain circumstances or reasons”. It is obvious that dependence is defined in a way that predetermines the fatality of destructive and asymmetric relations for countries being under influence or pressure. Such tonality in the interpretation could be excused in analyses of the colonial phase in globalization, although even then it implied a variety of conclusions conditional on accumulation regimes in metropolis countries.

Quite often economic interdependence is referred to in professional literature only implicitly, as the reality that is not subject to disproval and does not need separate studies. Lack of insight in the dependence theme as the essential ground for the interdependence phenomenon due to weak focus on the conceptual aspect resulted in its simplified and blurred interpretation aggravated by stylistic gaps when the notions of “interrelation”, “interdependence” or “interaction” can be used as synonyms. One should agree with adepts of the approach based on interpretation of interdependence as the eternal reality that interdependence components are a derivative of interactions and their causalities. Interactions constitute the reason and the ways of the world being; the sequence of events forms the time, while their autonomy forms the space, which enables us to interpret the world by analyzing interactions of interactions. Accordingly, interdependence constitutes an integral property of the world and the overall relationship of its elements. Philosophers argue that there are no events without reasons, and there are no events without consequences. Hence, something that influences and something that is influenced cannot exist without each other: the reason and the consequence; the influence and the dependence.

Analysis of economic dependence dimensions includes economics patterns of the countries setting up the relations of exchange. The first dimension is related with *time*. The same country may have different degrees of dependence (dominance) in different times, because economic pattern of this country changes in time. This will be the *time dimension* of dependence (dominance). The second dimension is related with the level of economic development in a country. This means that economic dependence for developing countries differs from the dependence for developed countries, because the two groups of countries are, above all, at different phases of economic development. This leads us to an important conclusion: distinctive features of economic dependence are conditional on economic development phase in a country.

Economic vulnerability means that foreign economic transactions of a country have great importance for its welfare, and it is conditional on occasional or purposeful measures taken by other countries; but economic vulnerability also means that the economic pattern of a vulnerable country is sufficiently diversified and flexible to minimize the damage resulting from measures taken by other countries. From this it follows that a vulnerable country can take measures in response and find quite easily internal or external substitutes.

Economic dependence means that the dependent country’s economy is open and narrow to an extent that it fails to redistribute resources in a way to create substitutes once the need for them occurs or fails to take measures in response to occasional or purposeful measures taken by other countries to harm it. Dependence is a function of internal and external conditions in a country or a group of countries. The type of dependence related with the internal environment in a country can be referred to as internal dependence. Internal dependence occurs as a consequence of a set of internal factors hampering the country’s development. Dependence associated with the external environment is external dependence. It implies that a set of external factors hamper the country’s development. Overall dependence, therefore, encompasses internal dependence and external dependence, and the links between them.

It should be noted that economic dependence or dominance of countries cannot be clearly seen in calm periods, when economic transactions are supposed as ones properly made.

Economic dependence (dominance) can be clearly seen only in the emergency periods when usual bilateral or multilateral transactions between countries are suspended, as in case of warfare, depressions or sanctions.

The chronological review of interpretations of “dependence” category in various theories enables for outlining the background and the implementation mechanisms for dependence-based relations, for finding out their determinants, for tracing their links with economic development and dependence forms it generates. This gives us grounds to assume the existence of historic links between theoretical concepts of dependence, group them in the logical evolutional sequence and explain the essential basis of neo-dependence paradigm:

(i) the path dependence concept (theories: growth poles theory, endogenous development theory, local development theory, growth theory, modernization theory), with emphasis on resource-based, minerals-based, factor-based, production-based, structural, technological and innovation-based types of dependence;

(ii) the concept of world system approach, with emphasis on financial, monetary, institutional and political types of dependence;

(iii) the concept of dependence (through analysis of structuralist, Marxist and neo-Marxist approaches), with emphasis on structural, technological and financial types of dependence;

(iv) modified concepts of dependence (through analysis of globalization-based and neo-structuralist approaches), with emphasis on structural, production-based, market-based, neo-liberal, political, institutional types of dependence.

Dominants for modification of dependence-based relations are: globalization as a manifestation of internationalization, liberalization and deteritoriation; institutionalization of cross-country interactions; market fundamentalism; openness of the economy; monetary and debt character of the global economy; transnationalization.

Determinants for fundamental change in the perception of the essential meaning of dependence are: main forms of international economic relations with their immanent laws of development; types of economic relations, prevailing in Center, and ways of expansion, used by Center; types of economic relations existing within the peripheral countries that are subject to dependence-based relations; factor efficiency of countries; revolutionary transformations in the character of competitiveness.

The review of the above theories allows us to argue that while system theories prioritize the objective factors behind the rise and escalation of economic dependence relations, and consider them as the reality, one-level theories overemphasize particular manifestations of dependence (distinctions in political interests, specific ways of development strategies implementation, non-economic factors of influence) beyond the overall historic context. This gives us grounds to argue that only a combinatory approach encompassing conclusions of the above mentioned system and one-level theories will enable for in-depth analysis of factors for underdevelopment in Periphery countries, to find out methods to eliminate relations of destructive dependence.

The review of theories shows that dependence is seen as a reason and a manifestation of backwardness (modernization theories), underdevelopment (dependence theories), as the reality to be taken for granted (world system theories). It cannot be, however, overlooked that the idea of dependence, based on the assumption that asymmetric mutual influence of Center countries and Periphery results from economic backwardness of the latter and dominance of the former, is confined to the subordination of Periphery countries' interests to the objective of growth in Center countries by channels of finances or workforce, **without consideration for potential influences of Periphery on Center**.

This dual categorical concept with its specifications (Wallerstein's three-level hierarchical structure "core – semi-periphery – periphery", with "semi-periphery" constituting the most dynamic chain triggering change in the period of global economy restructuring and respective transformation of the political map) laid the basis for the following interpretations of Center and Periphery of the global economy: a country could be referred to as Center when it had the dominant and active role in the global trade with foreign trade being concentrated in it, when it was large exporter and importer, and when international capital flows were streamlined from it to other countries; a country was referred to as Periphery when it had minor or passive role in the global trade. A common feature of Periphery economies was their external dependence on Center as the lender of capital, the source of a major part of imports and the consumer of goods exported by Periphery economies. While Center countries had close relations with each other, Periphery countries rarely had dyad relations as they were focused on relations with Center.

Vertical interactions resulting from asymmetric relations between Center and Periphery were revealed in peculiar patterns of labor division and trade, imbalanced exchange, exogenous political influence, which caused variations in socio-political characteristics of the countries. Another option is the so called feudal interactions, with the relations of Periphery concentrated on its Center and failure of Periphery to interact with other global economic actors, which conserved the economic pattern of Periphery, on the one hand, and adapted its economic pattern to the Center's interests, on the other (Figure 1).

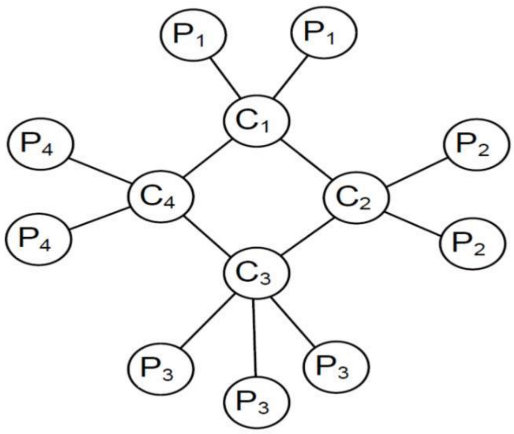

Figure 1. Dependence between Center and Periphery given the feudal pattern of interactions

Note: C – Center, P – Periphery

Source: constructed by the author

In the above context **dependence** can be regarded as a sign of structural deformation and be interpreted by us as failure to manage important components of an economic system and weak cross-sectoral dependence within it, which confirms lack of its internal dynamism that would allow for its operation as an independent and autonomous unit capable to partly eliminate the factors generating

underdevelopment. In various periods these factors could be: the existing institutional matrixes determining distribution of wealth and income, historic background for the occurrence of the international labor division, orientation of growth on dependence on interests of "modernized minority" countries, the increasing costs for introduction of local industrial technologies conforming to the consumption pattern in developed countries, which opens up the door for large transnational corporations.

Furthermore, given that the economic environment is volatile and its transformation mechanisms are subject to modifications, we can argue that structural dependence used to take form of resource-based or technological dependence, provoked by factors like economic specialization, production pattern, labor productivity, conditions of trade, patterns of capital accumulation and access to financial resources, liberalization of market, operation of the intellectual property market, innovation waves, investment in human capital etc. (Figure 2).

<table>
<tr><td>Quality of investment in human capital</td><td>Waves of innovations</td></tr>
<tr><td colspan="2">Intellectual property market (patents, licenses) as a factor widening technological gap</td></tr>
<tr><td>Liberalization of commodity and capital market</td><td>Specifics of capital accumulation and access to financial resources</td></tr>
<tr><td colspan="2">Resource capacity</td></tr>
<tr><td>Accumulation regimes in a hegemon country</td><td>Labor productivity</td></tr>
<tr><td colspan="2">Conditions of trade</td></tr>
<tr><td>Economic specialization</td><td>Production pattern</td></tr>
</table>

Figure 2. Determinants of structural dependence

Source: constructed by the author

Interpretation of economic backwardness as a consequence of historic relations resulting from expansion of a dominant country and as a reason to further exploitation of Periphery countries reveals a deterministic emphasis that is enforced by doubts about equal opportunities of the two groups of countries to benefit from the advantages of free trade. This interpretation called for implementation of the principles of economic nationalism through import substitution policy of industrialization, government interventions and planning.

By projecting dependence theories on existing approaches to interpretation of economic growth and backwardness (development-based approach, global system approach, globalization-based approach, neo-structural approach) we can see that the notion of "dependence" is addressed in each, which gives us **grounds to consider the economic dependence concept as a research problem within a broader field of international economic relations** (Figure 3)**.**

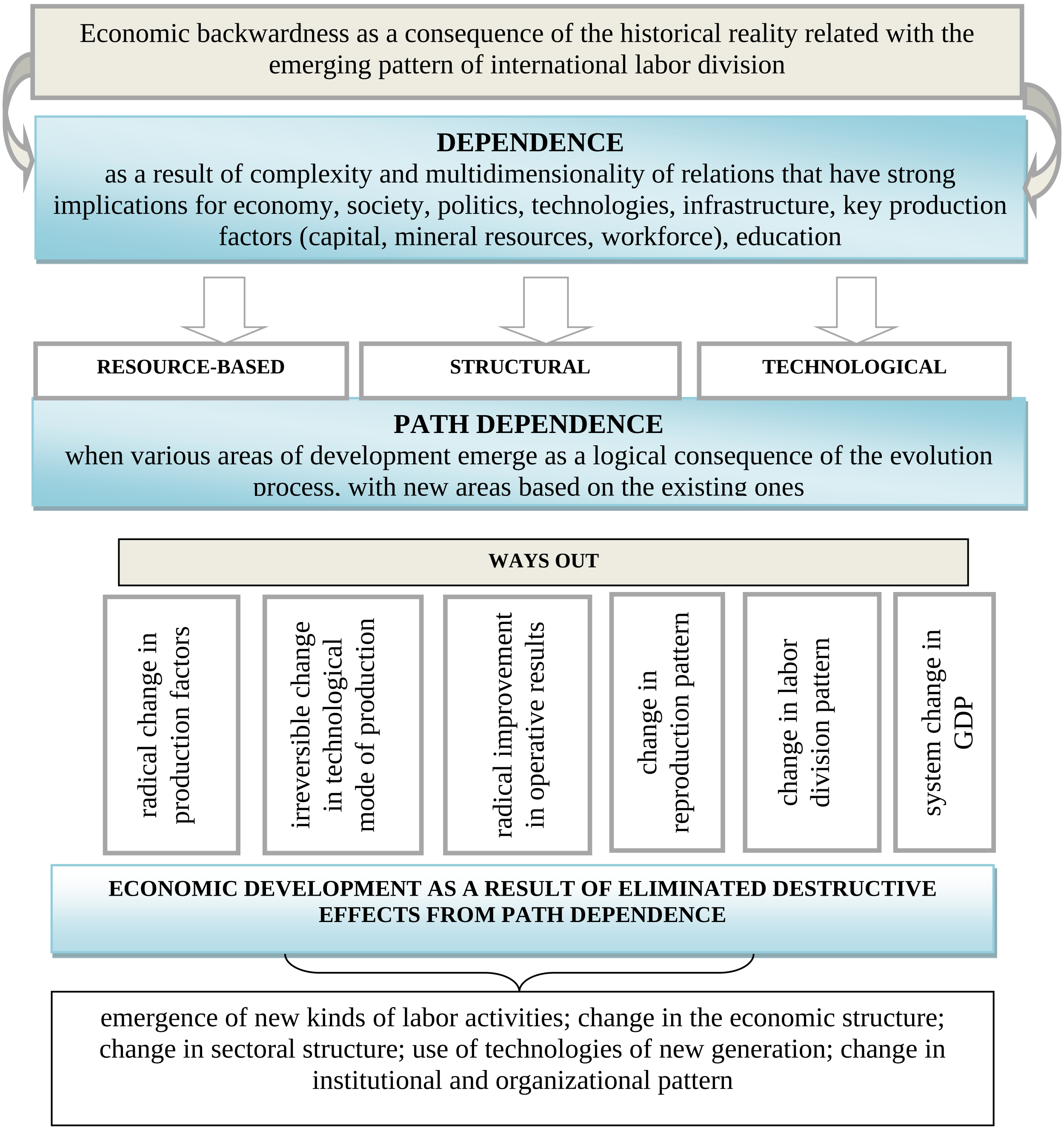

Figure 3. Economic development as a result of eliminated dependence relations

Source: constructed by the author

However, arguments brought forward by adepts of all the approaches, given the similarity of input conditions (economic backwardness of Periphery resulting from dominance of Center, economic underdevelopment resulting from skipping certain development phases of the capitalist system, inappropriate conditions for integration of Periphery countries in the global economy) and **difference in conclusions** (economic development of Periphery countries as a factor behind the failure to generate endogenous dynamic technological process; economic development of Periphery countries as a factor behind bad conditions of trade due to the existing structural and technological asymmetries and unfair international division of labor), **do not allow us to come out with a universal scientific hypothesis.**

The dependence theory born at the conjunction of two intellectual thoughts, Marxist and structuralist approaches to interpretation of economic development, can, therefore, be rather an interpretation tool or a critique methodology than a full-blown theory. The dependence theory, as a response on the neo-liberalist approach and an alternative to earlier modernization theories, was built on debates about implications of colonial systems for the international labor division, triggered, above all, by geographic determinism, forms of contemporary economic imperialism (neocolonialism), effects from free trade ideas and principles of policies based on economic nationalism as a way out from the dependence condition (Figure 4).

Control of prices on mineral and industrial goods	Commitments to buy fixed volumes of goods in companies from the former metropolis country

Agreements to sell fixed volumes of minerals to the former metropolis country to have supplies of non-competitive products with low technology capacity from it

Monopoly of the former metropolis country in transport services	Exemption of selected transnational companies from taxes

Technical/financial/consultative assistance to a recipient country is conditional on its support of business interests of a donor country

Control of capital flows to a former colony; manipulation by currency rates	Concessions of land and rights on minerals; defense agreements; financial support of friendly governments

Dependence of the national bank system in a Periphery country on the bank system in a Center country through pressures on financial decisions taken in a Periphery country

Preservation and maintenance military bases	Assistance in coups d'etat

Foreign influence on political decisions by bribes to local administrations or high rank officials belonging to ruling parties

Figure 4. Determinants of neocolonial dependence

Source: constructed by the author

The notion of "development", in terms of either quantitative or qualitative transformations, was central in creating unions of countries, which pushed participants of global economic relations towards higher phases of integration in their cooperation and coordination policies. Accordingly, the dependence-based relations occurring in the process of co-existence and their effects were undergoing essential change. In the development concept used in Western strategies, development constitutes the ideal pattern to follow, the readily made concept for immediate adoption and use, even a prescription that enabled Western countries to recover from backwardness and achieve "well-off condition" of development. Development here is treated as the process and the ultimate goal: the process by which communities develop, and the goal to which they approach, because the ultimate goal is to be developed. In this development concept emphasizing the ultimate goal, the ultimate goal is very clearly understood. Finally, the same framework for development can be found in the evolutionist theory, where the progress and the idea of change is part of the continual process of growth.

The Ukrainian scientist N. Kravchuk is convinced that the triumph of power based on spatial expansion law acts as a guarantor for hierarchical organization of international relations and strict regulation of mutual relations within the boundaries of empires, which represents a typical example of dominance in the international system with vertical international order. This gives rise to concepts-antitheses like "Center – Periphery", "West – East", "North – South". Essentially, the whole system of geopolitical relations was being built on the fundament of spatial expansion and vertical hierarchical subordination. States, empires or interstate associations were established in this way, and at geopolitical level this process meant enforcement of the spatial factor in the history of human civilization [10, p. 109].

By extrapolating "spatial asymmetry" on international relations as an essential feature of their asymmetry, N. Kravchuk determines two systems of coordinates (Figure 5). Historically, *the first one can be found in internal relations within the boundaries of empires or intestate associations*. Relations between their entities are asymmetrical, because one entity is Center (in empire states it is administrative and political unit or "pole"/"core" in geopolitical interpretation; in interstate associations it is a leader country), and the second entity is its Periphery.

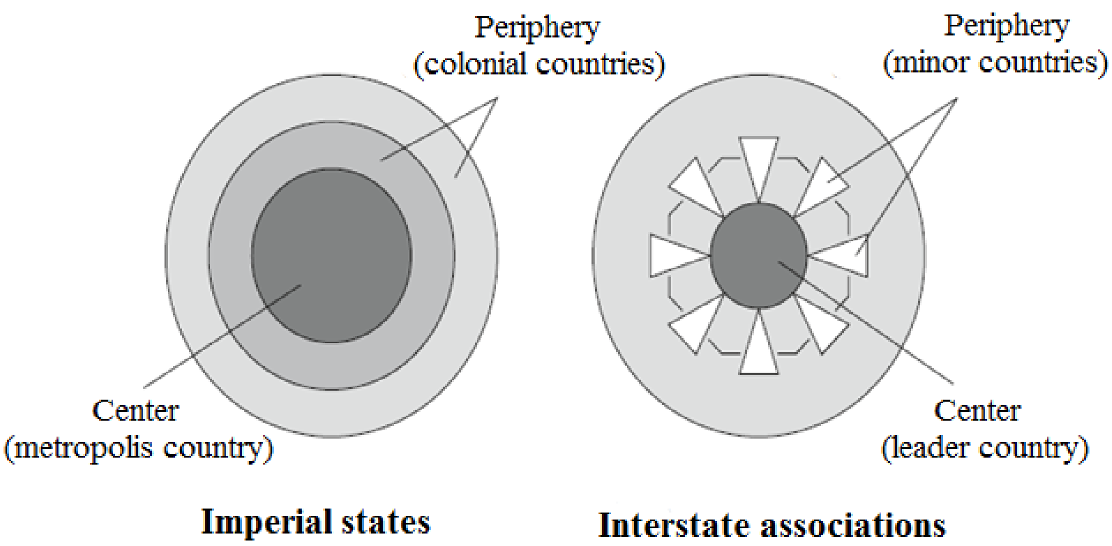

Figure 5. Vertical dimension of asymmetries in geopolitical constructs "empire state" and "interstate association" [10, p. 109]

Source: constructed by the author

Accordingly, asymmetrical relations within the system "Center – Periphery" reflect correlations between the whole and its parts. This pattern of relations calls for strict centralization and unconditional subordination of the entity's interests (as a part of the closed system) to the interests of Center embodying the integrity of the whole system; a typical form of asymmetrical relations within the system is the situation of dominance and subordination. On the one hand, most part of resources of an entity as a part of the system need to be streamlined to meet the Center's interest, because Center is supposed to accommodate and represent the interest of the whole and its part. On the other hand, these relations call for feedback, which may involve cooperation and mutual assistance, as empire states have to reinforce their periphery because they treat it as the foothold for further external expansion. Such dependence gave birth to lasting, even age-old dependence of peripheral zones on countries that embodied the core of empire.

Two waves of globalization signaled transition from domestic independent economic networks to the global interdependent network, which demonstrated the *lasting upward trend – from local network to regional network, followed by national network, cross-regional network and, finally, the global network.* An evidence of the changing intensity of global interactions relative to the intensity of local or national interactions is expansion of long distance trade due to the reduced costs for transportation and communications [2]. As this reduction takes form of a lasting and increasingly rapid downward trend linked to technological change, it is supposed to be the main driving force for global expansion of trade.

The main alternative hypothesis concerns the pattern of political power in the international system of political states. A broader terminological category for this approach is “stability of hegemony”, although there are important differences in various approaches to interpretation of hegemony and various hypotheses on the origin of causal links between hegemony and globalization of trade. But the general idea is that the international system is something more than mere “anarchy” of political states contesting and fighting with each other. The world order is considered as a product of international competition and cooperation. Better order or more peaceful interactions occur when a single hegemonic political state has sufficient power to influence other states and international entities and to force them to something.

Dominance is sequential considering the system cycle of growth and fall of key hegemonic states. When a hegemon is falling, the system enters the period of contest between great political states, and the scale of globalization declines. Most of the authors of discourses on hegemony agree that the Netherlands had the role of hegemon in the European international system in 18 century, Britain had it in 19 century, and the U. S. had it in 20 century.

Figure 6 shows four main arguments on types of links between stability of hegemony and globalization of trade. According the first argument, which is conflict, hegemony is considered mostly in military terms. The hegemon’s power depends on whether or not it can reach the whole world, and, therefore, by its capacity to build intercontinental military forces. The global trade becomes simpler, because a hegemon sets up the rules for international trade and acts as “power balancer” in the system of political states. As this role creates the relatively peaceful international system of political states, the entities can conduct cross-border trade more freely and more regularly than they could if the system was split into hostile groups. This argument based on conflict implies the sequence of upward and downward moves in globalization of trade paralleled with rise and fall of hegemons and change in the brutality of warfare between key political states.

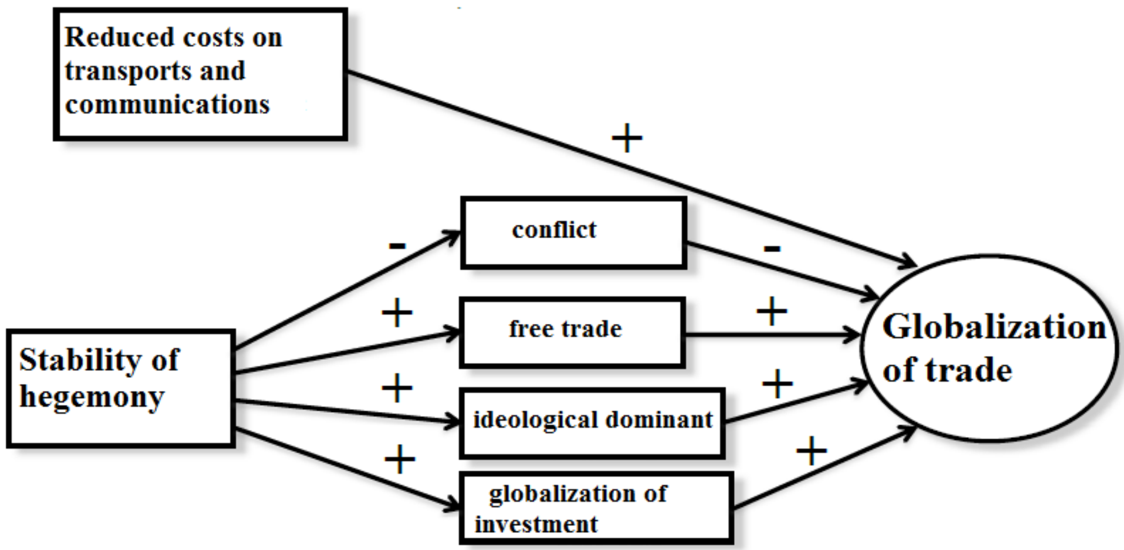

Figure 6. Determinants of global trade

Source: constructed by the author

International liberalism of the British hegemony (the first wave of globalization), the ideology of "free world" articulated in the U. S. after World War II (the second wave of globalization) and the neoliberal "Washington Consensus" (legitimizing free trade and IMF's "programs of structural change") are examples of ideological aspects of hegemony, which are considered as main reasons for the increasing trade liberalization (the third wave of globalization). The next argument that combines hegemony with liberalization of trade is associated with economic aspects of hegemony, especially the role of international capitalists coming from a hegemon state and their main ally states in encouraging international investment. Globalization of investment (the increasing scopes of international investment relative to the scopes of domestic investment) is considered as the main reason for globalization of trade [3].

Pyramidal structure of geopolitical relations, with the corresponding relations of economic interdependence, had higher dynamics enabling for potential change of the country's position in this hierarchy. Neo-dependence is a form of poly-dependence, which immanent feature is unified rules for global coexistence from the perspective of liberal philosophy in the globalization era and its institutionalization.

The existence of a single center generating the dependence-based relations, embodied in the core countries (Center), blocked parallel relations between the Periphery countries that used to be within the orbit of interests of the core countries. At the same time, gradual move towards interdependence lifts these constrains and enables Periphery countries to essentially diversify trade and financial relations. They have gradually taken form of signed bilateral investment agreements (BIA) between OECD member countries (the old member countries and the newly accessed ones) and the ones without OECD membership [4]. It is notable that the U. S. was the last one among the core countries of the global economy to sign agreements with Japan[1]. The second wave of signing BIA occurred at the end of 1980s, mainly between European countries and developing countries, and the third wave was associated with the GATT activities [7].

However, the crucial change occurred once the dependence became multi-dimensional and multi-level; apart from absence of a single center generating intentions to cooperate, it resulted from the possibility to set up a rapidly developing center on Periphery; it would gradually moving up to the rank of global actors, which we consider as a neo-dependence feature.

Appreciating the contributions from the adepts of structuralist approach in rethinking the reasons and the consequences of the growing economic interdependence of countries, and having the objective to substantiate the causality between the dependence effects and the country's prospects to achieve economic development goals, we propose to ground theoretical modeling on the I. Svennisons' conception of "healthy circle". First and foremost, we deem it necessary to distinguish between the notions of "development" and "growth", which are related, but erroneously used as

[1]While the U. S. took on to sign the first agreement with Japan only in 1980s, the U. K. signed it as early as 1970.

synonymic ones. It is known that the key parameters of growth (the increased results of economic activities; the increased public wealth; the increased production output can be a result of economic development in a country (i. e. transition from one pattern of production factors to another one; irreversible process of change in technological means of production; radical improvement in the output, transition from one reproduction pattern to another; change in labor division pattern and GDP pattern) and its cause. On the other hand, only when the recorded economic growth has the features of balanced growth[2], it will be capable to trigger change in economic pattern and cross-sectoral distribution, which will provoke change in institutional setting.

According to I. Svennison, when economic growth increases the populations' incomes, change in consumption patterns will be inevitable, which, in turn, will trigger radical change in the economic pattern of a country to open up new sources for economic growth. This system of argumentation is called “healthy circle” (Figure 7).

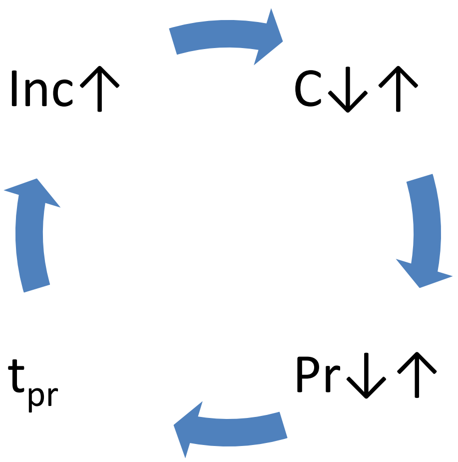

Figure 7. "Healthy circle" of I. Svennison

Source: constructed by the author

Notes:

t_{pr} – economic growth; Inc↑ – growth in incomes; C↓↑ – change in the patterm of consumption; Pr↓↑ – change in the pattern of production.

[2] The growth when operation of all the sectors is “launched” with sufficient rapidity, with orientation mostly on the internal demand, which increases the role of domestic market as the main driver of development

Growth, therefore, becomes a means for sustainable development; it enables to overcome underdevelopment as a dependence feature by triggering radical transformations in economic, social, institutional and political spheres, accompanied by building up a dynamic multi-level system of dependence-based relations (Figure 8).

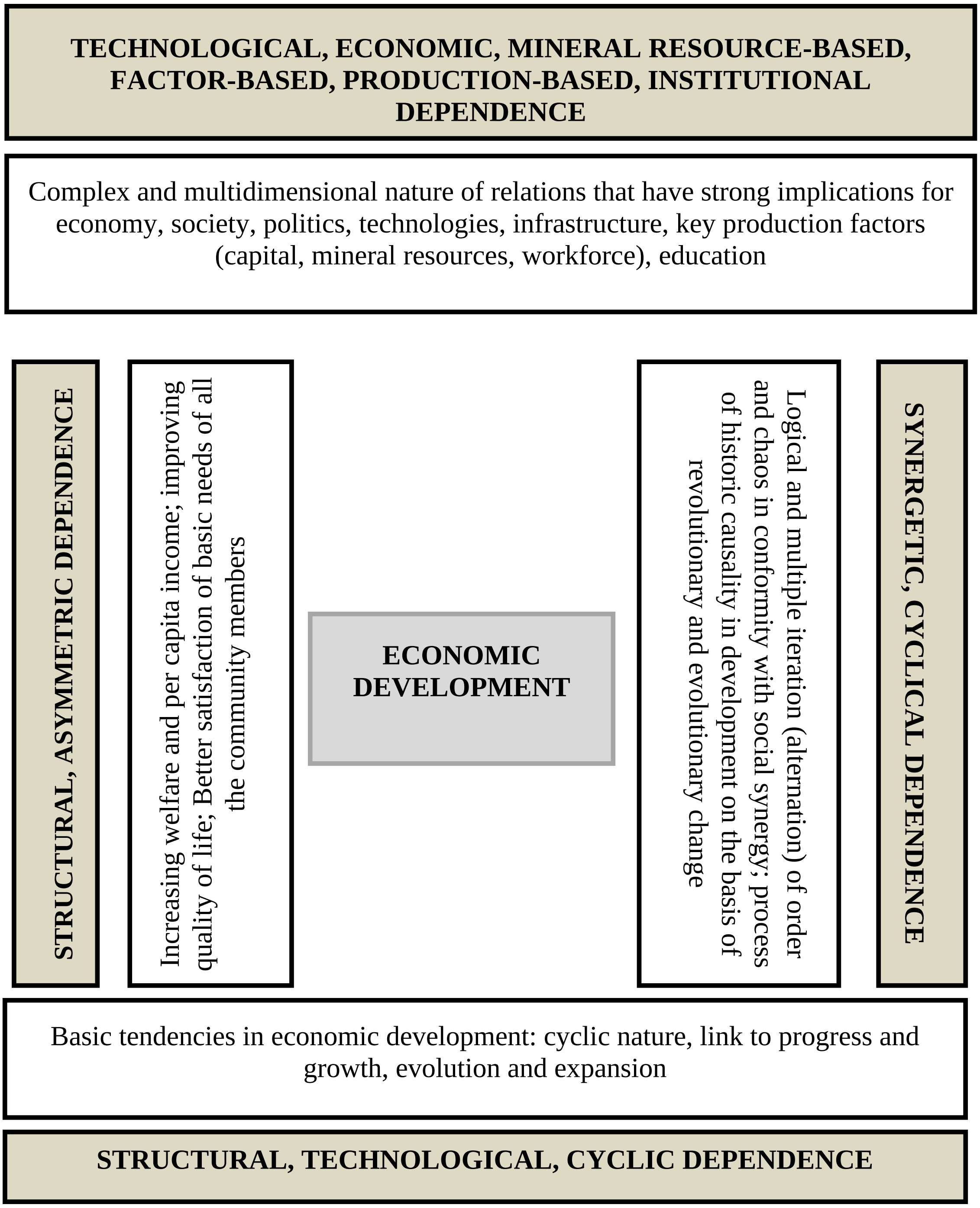

Figure 8. Economic development as a dominant of dependence-based relations

Source: constructed by the author

At the same time, gradual economic transformations, apart from dependence-based relations (with various effects of sensitivity and vulnerability for partner countries) and asymmetric interdependence, generate symmetric interdependence (in case of symmetric effects, as a consequence of both the diversified pattern of trade and the standardized rules of cooperation, which are intrinsic in market fundamentalism).

It, therefore, can be argued that in spite of various emphases in the existing interpretations of the notion of "economic development", development may trigger various forms of dependence, interdependence and re-configuration of economic development poles. Yet, use of the measures of the country's share in the global GDP or the country' geographic profile in the global trade cannot be sufficient for the awareness of the role of transformation processes in redistribution of power centers in the global economy unless it is combined with studies of the existing and potential impact of transformation processes on the occurrence of the global economic growth poles, irrespective of the hierarchical position (in the countries' hierarchy) of countries that are generators and beneficiaries of the sources of economic growth.

The phase of the so called diffusion-based globalization, dated from the end of the second globalization wave till the beginning of the third one, intensified discussions about the impact of economic openness resulting from liberalization of goods and capitals flows on economic development of countries. It created demand for rethinking of the dependence problem, but with various effects for countries encouraging the global cross-country interactions and Periphery countries. ***By adapting Svennison's "healthy circle" for dependence-based relations, we can interpret the latter as the progressing ones*** when they result in economic restructuring in Periphery countries due to expansion of their foreign trade and radical change in the internal consumer demand, with generated demand for technological and financial cooperation with consideration to differences in potentials and strategic objectives of development in partner countries.

For us it is the way to emphasize opportunities opening up for countries where governments will have political will to implement strategic objectives of socio-economic development, even by taking unpopular tactical decisions (administrative regulation, fiscal and investment (innovation-driven) policy, budget redistribution, import substitution policy). The quality of established cross-country relations is, therefore, emphasized: dependence-based relations capable to trigger economic restructuring in a Periphery country by intensive use of its resources, human and innovation capacities transform into its interdependence-based relations with a Center country (see Figure 9).

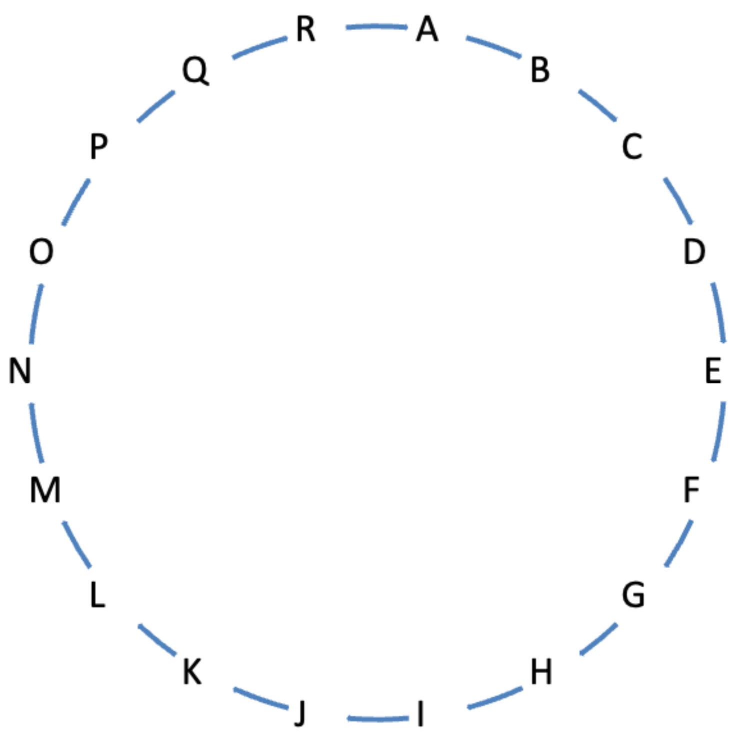

Figure 9. Harmonic circle of the progressing interdependence

Source: constructed by the author

Notes: A (institutional dependence) → B (liberalization of global trade) → C (competition as a determinant of dependence-based relations) → D (market-based interdependence) → E (trade-based interdependence) → F (structural dependence) → G (implementation of import substitutions policy) → H (creation of new jobs) → I (growth in the population incomes and economic activity) → J (growth in the domestic market capacity) → K (technological cooperation) → L (investment cooperation) → M (increasing number of implemented social and infrastructure projects) → N (economic restructuring) → O (growth in the national product) → P (growth in the economy of scale) → Q (sustainable growth) → R (economic development).

However, at the phase of global trade liberalization and institutionalization of its regulatory framework, which complicates (or makes impossible) use of protectionist measures by governments of Periphery countries because of the unified conditions for accession to the global market of goods/services and due to structural, financial and technological asymmetries in the capacities of countries setting up relations of cooperation, disregard for strategic priorities of economic development in favor of short-term advantages can shrink the country's opportunities to have larger benefits from the international labor division. Cross-country relations of the colonial phase caused the mineral-based specialization of Periphery countries, aggravating their factor-based dependence.

As a consequence, the extensive growth in Periphery countries entailed low labor productivity and overexploitation of resources, technological and innovation dependence, and trade patterns not diversified by export category and export destination. Sectoral disproportions cemented structural dependence and provoked demand for external financial and investment resources. Amidst the abovementioned, poor investment in physical and human capital, as a sign of distorted growth, hampered the balanced development (technological, institutional, social development in parallel with the growing economy of scale) (Figure 10, Figure 11).

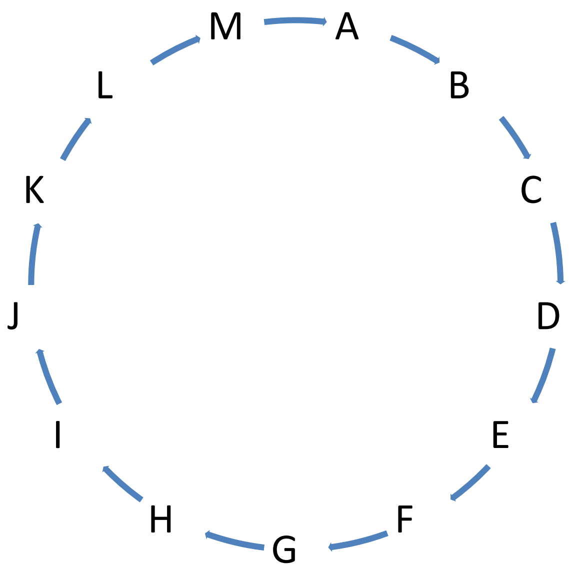

Figure 10. Erroneous circle of destructive dependence

Source: constructed by the author

Notes:

A (colonial dependence) → B (mineral-based specialization) → C (factor-based dependence) → D (extensive growth) → E (low labor productivity, exhausted resources) → F (technological and innovation-based dependence) → G (trade structure not diversified by export sector and export destination) → H (trade-based dependence) → I (ineffective sectoral structure of economy) → J (financial dependence) → K (investment dependence) → L (imbalanced growth or distorted[3] growth) → M (imbalanced development)

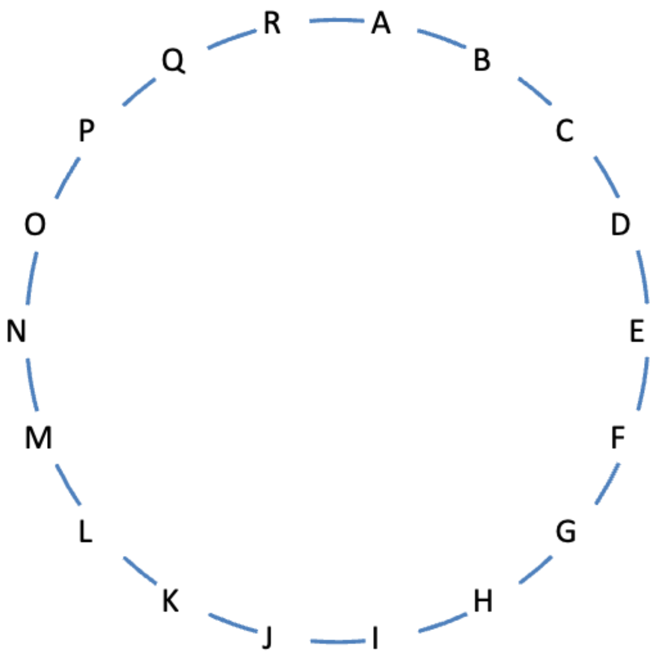

Figure 11. Erroneous circle of destructive interdependence

Source: constructed by the author

Notes:

A (institutional dependence) → B (liberalization of global trade) → C (competition as a determinant of dependence-based relations) → D (market-based interdependence) → E (trade-based interdependence) → F (structural dependence) → G (implementation of import substitution policy) → H (low factor productivity) → I

[3] Growth amidst the aggravated environmental performance, poor investment in physical and human capital.

(technological dependence) → J (investment-based dependence) → K (sectoral asymmetries) → L (financial dependence) → M (debt bondage) → N (shrinking social and infrastructure projects) → O (falling population incomes and economic activity) → P (reduced national income) → Q (shrinking economy of scale) → R (unsustainable growth)[44].

The abovementioned enables us to formulate the synergetic concept of neo-dependence, where neo-dependence is interpreted from the perspective of poly-variant cross-country interdependence. Being interpreted in this way, neo-dependence tends to strengthen due to diversified forms of the increasing economic openness; it is based on non-linear endogenous change and processes enforced by exogenous factors; it involves mutual impact of Center and Periphery countries, described in sensitivity and vulnerability terms and hampering convergence or unification of its forms; it allows for various complementary configurations of coordination of national economic policies, with the subsequent hybrid options.

We define seven principles of synergetics, of which two pertaining to existence (homeostasis, hierarchy) and five to principles of formation (non-linearity, instability, open condition, dynamic hierarchy, observability). At the same time, a peculiarity of our approach to the choice of principles of synergetic paradigm is that they are chosen in a way to constitute an integrated system (Figure 12). Synergetics is seen by scientists as a general theory of self-organization in systems with various origin. Integrating elements in synergetics are objects of study, which are complex non-linear systems with reversed links. The need for synergetic studies is proved by the fact that cooperation of many subsystems within a system is based on the same principles irrespective of the subsystems' origin. Once the principles are learnt, the problem of rational system's management can be rethought. From synergetic perspective, management of a system, including the financial one, by "imposing" on it organizational forms that are extrinsic to it cannot be accepted. When a system is learnt,

[4] A type of growth when the phase of relatively rapid growth is followed by the phase of slack or even negative growth.

the managerial influence does not need to be increased, but needs to be coordinated with the tendencies implicit in the system. I. e. synergetics implies that instead of “imposing” development patterns on complex systems one should understand how their implicit development tendencies could be encouraged.

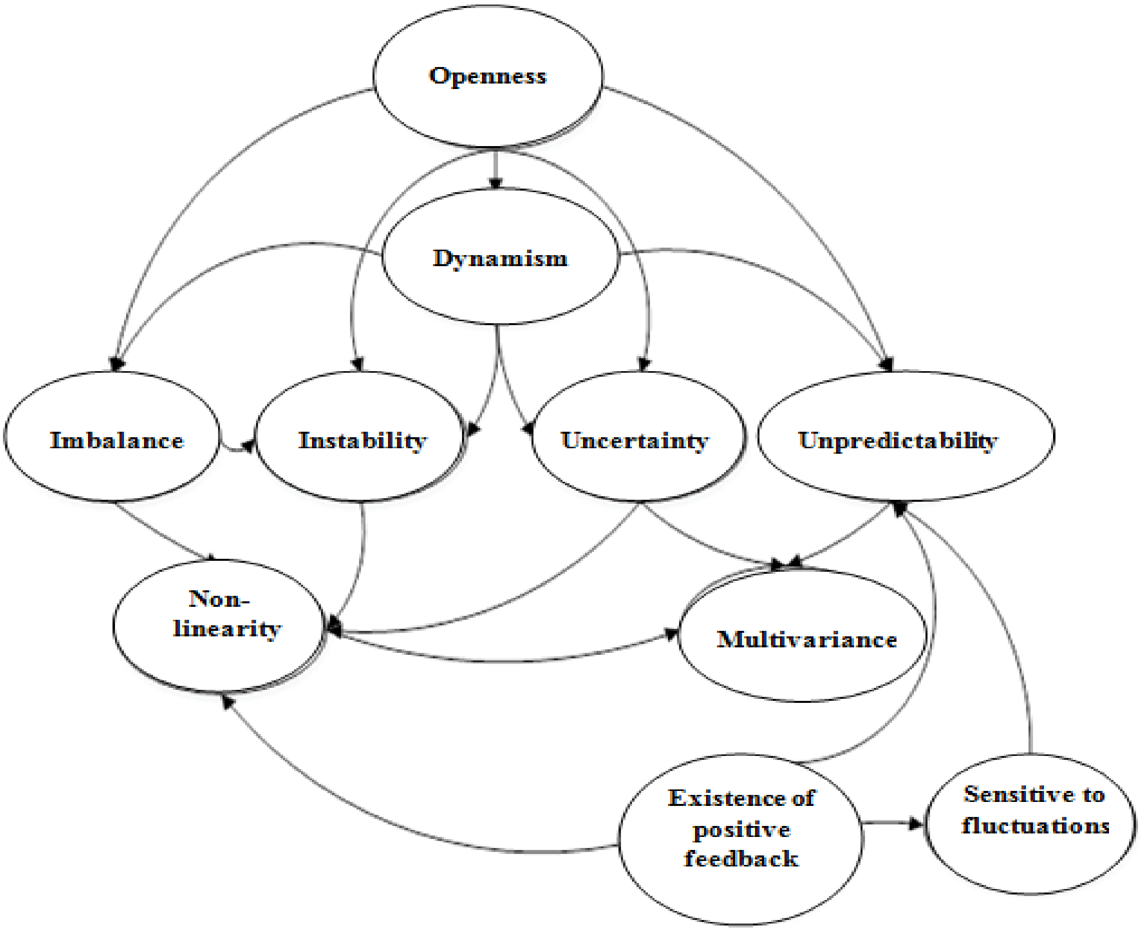

Figure 12. The causality of principles of synergetic approach to dependence: cognitive map

Source: constructed by the author

Methodology of synergetic paradigm of dependence implies the view of globalization as the process of rapid formation of the single global financial and economic area on the basis of advanced information technologies and coordination of regulatory principles, creation of flexible labor, commodity and capital markets, which calls for relations based on neo-dependence. Synergetic approach to economic neo-dependence recognizes instability of interrelations as a fundamental feature of various patterns of cross-country interactions, and rejects negative view of entropic (disordered) character of a system as merely destructive one.

Given the classical relations of dependence, economic development as an imperative for cross-country associations could occur in Periphery countries once they were in the orbit of Centre countries' interests; if it occurred, it was unsteady and unsustainable. In other words, development of Periphery embodied the dependence-based relations, whereas development of core economies was a sign of dominance. Relations of economic interdependence were changing with the increasing capacities of Periphery to find internal sources of development, although the impact of exogenous factors continued to prevail. Neo-dependence demonstrated a novel phenomenon, when the development of core countries became dependent on the development of most powerful countries in Periphery joining global value chains under the pressure of internationalization processes. Moreover, the development of Periphery and Center alike became dependent on G7 business cycle and exposed to global imbalances in savings and investments, generated by countries in both groups [6].

In case of the dominating relations based on economic dependence, economic losses from the suspended interrelations between Periphery countries and Center countries had the explicitly asymmetric character, which but widened the gap between these countries, whereas in case of the established economic interdependence, the blurred asymmetric character of the interactions could be explained in sensibility and vulnerability terms.

Neo-dependence tends to minimize destructive effects from suspended cross-country relations due to the existing ramified networks of replaceable trade partners.

Also, quite low measures of economic interdependence for Center countries and for powerful countries of Periphery give evidence of the decreasing asymmetric dependence of the latter on the former, which is interpreted by us as a sign of neo-dependence. This phenomenon is a result of economic integration processes, which are a novel form of cross-country relations, because economic integration embeds elements of true economic federalism in cross-country relations. It is interesting that according to the majority of foreign lawyers, limitations put on the country's sovereignty is an implicit sign of any kind of economic integration, although it would be more correct to refer it to as voluntary limitation of jurisdiction by the government. Although the political sovereignty of a country is not limited from legal point of view, it can disappear when an integrative association is approximate to the federative form of political structure. The logic of economic integration, therefore, implies principles of economic neo-dependence with emphasis on economic federalism; according to the latter, a single market has to be created through comprehensive harmonization of all the production and distribution factors. This harmonization can occur once countries agree to hand over the legal jurisdiction, that is, to limit the sovereignty in favor of greater jurisdiction of economic integration bodies.

In time of the third globalization wave, the most common cooperation forms were cooperation in economic policy, political cooperation and integrative cooperation, which transformed essentially the role of national governments. The integrative cooperation offered a new format for cross-country interactions, built on the principles that are distinct from the earlier ones: from the subordination principle implying clear hierarchy and deep asymmetry of dependence-based relations to the multi-dependence principle implying the move towards symmetry given the established standard rules for cooperation, which would gradually eliminate Center – Periphery fragmentation of the global economy.

According to a common opinion of globalists, globalization devalues previous ideas about regulatory role of the law and sets new “rules of the game” along with the weakening political capacities of countries. Countries willing to fit into the new global system have to follow the economic rules based on recommendations of “Washington Consensus”, “Post-Washington Consensus” and the rules of “golden corset” with its openness, deregulation, privatization of national economies, limitations on political sovereignty. Regulatory institutes will be IMF, World Bank, World Trade Organization and others. This approach has had strong effects for the current system of international economic relations, as it made sovereign countries more or less dependent on “economically stronger” sovereign countries and supranational economic organizations controlled by them.

It was as early as in 70–80s of the past century that Ukrainian scientists rightly emphasized that economic independence was supposed to be the material basis and support for the country's political sovereignty. Yet, the prime importance of the country's economic independence for its political independence does not mean that the sovereignty of countries with poor economic development does not exist because of their dependence on the largest capitalist countries [5]. Being true per se, these theses become even more important in view of the increasing economic interdependence of countries and the growing integrative processes. Although the political sovereignty of a country and its economic independency are closely related, they are not equal or convertible categories, and issues of political sovereignty cannot, therefore, be replaced by ones of economic independence and vice versa.

The political state as a political system institute in time of the third globalization wave comes under pressure of internationalization processes, on the one hand, and under pressure of integrative associations becoming a new instrument of political power, on the other hand. Integrative associations have been transforming into a means of comparisons and coexistence of interests at the global level of international economic relations by acquiring specific features in view of start-up conditions and intentions of the associated countries (Figure 13). Institutional and legal relations between integrative associations lay the ground for building up a new balance of forces in a new global system of international economic relations, which is the global one.

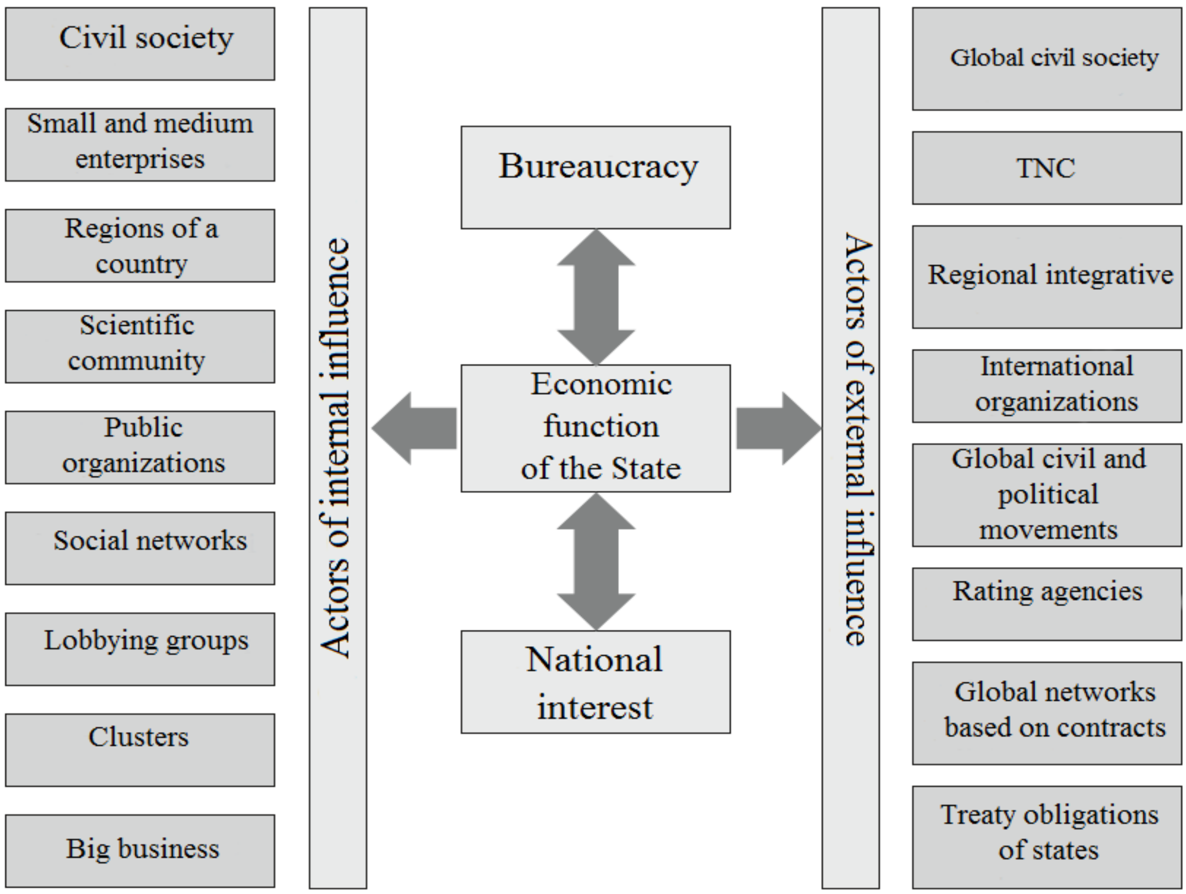

Figure 13. External and internal actors having impact on economic functions of national governments

Source: constructed by the author

The Tinbergen – Pinder conception clearly demonstrates the transformative nature of integrative interactions in terms of the so called positive and negative integration. The negative integration refers to a set of actions aiming to lift cross-country barriers in implementing the principle of “four freedoms”; it is associated with building up the system of interrelated markets, creating the single market economic area in a group of countries participating in integration. The positive integration is interpreted as actions aiming to converge economic and social policies of the integrating countries, to harmonize their political power institutes, which often entails building of supranational power bodies. Therefore, the phase of positive integration involves essential correction of the quality of cross-country dependence from interactions per se to interdependence. Regional integration is interpreted as the location of a range of forms for countries’ integration. Thus, in the range of V. Dobson, integration is the strongest form of cross-country interactions, which involves the common policy for all the participating countries (Figure 14).

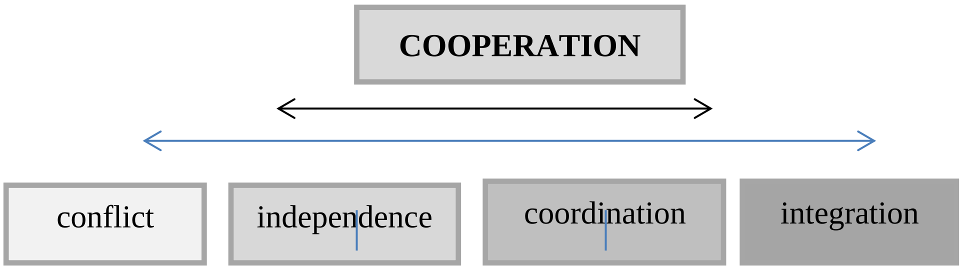

Figure 14. Dobson's range
"policy – conflict – independence – integration"

Source: constructed by the author

Yet, we believe that neo-dependence demonstrates extension of the Dobson's range on at least two other phases, federalization and disintegration. Although this interpretation of the integration phenomenon shows the way it locates relative to the other forms of interactions, it does not always explain the ways cooperation transforms into integration. Integration here is set against conflict, and independence has the central position. However, interpretation of conflict and integration as equal options of interactions, opposite to segregation, would be controversial. The low level of the integration goal is an indication of positive integration with setting up a common policy. When commenting this break down of integration into the two abovementioned sub-types, we deem it necessary to note that negative integration is unlikely to occur without a minimal set of positive factors. We, therefore, propose to interpret it as a variable combination of the two dimensions. Integration per se is a continual process with variable characteristics. Integration used to be seen only from the perspective of "form" and "process", but it should be born in mind that integration processes involved significant qualitative phases, controversial points, boosts or crises, which tended to be overlooked in analyses based on the logic of phase determinism. We, therefore, believe that stagnation and disintegration phases need to be included in **scientific discourse**

and be interpreted as the final phases of the integration process.

Issues of economic integration have been out of focus in scientific literature. Its critical review allows us to give a typology of disintegration models, based on the two parameters: “top-down” and “bottom-up” processes, and their relative roles in disintegration and the rapidity of its process. The economic area integrated from “top-down” and “bottom-up” is going to be taken by us as the starting point of disintegration processes: when only one disintegration channel can be found in a relatively highly performing region, the processes will have simpler character.

A distinctive feature of the conflict-based disintegration is combination of centripetal forces mainly at cross-country interactions level, with too high rapidity of disruption. The initiative for disintegration comes from the political system, whereas the economy is forced to adjust to the ongoing disintegration processes. The disintegration path looks as follows: the increasing contradictions between countries eventually trigger the chain of political conflicts (the model, therefore, is referred to as conflict one), with subsequent liquidation of formal integration structures; national elites adopt strict protectionist measures to force private entities to reorganize spatial patterns of their operation, with the subsequent fragmentation of markets.

Three driving forces of conflict-based disintegration can be referred to:

(i) the awakening “sleeping institutes” in the conditions of enforced integration;

(ii) the changing preferences of actors under the pressure of integration process per se, i. e. the self-destructing integration, and

(iii) manifestation of force-majeure factors that could not be predicted earlier.

As regards “sleeping institutes”, a conflict leading to disintegration has the following logic. Assume that an integration group was created not so much as a voluntary union of countries, as under the pressure of a hegemon country, i. e. by asymmetry of the power capacities. Instruments for control were chosen by a hegemon in a way to imitate operation of a standard integration structure, which might be done in view of ideological considerations etc. Destruction of an integration structure can be regarded as an inevitable consequence of the lost hegemon’s leadership in the structure: imitational voluntariness will be immediately contextualized and used by countries for quitting an integration project. Very often this logic occurs in non-democratic political regimes under the impact of democratization, which limits the hegemon's capacities to control the integration area.

The following types of integrative manifestation of neo-dependence can be outlined:

1) emergence of deeper and more comprehensive forms of classical phases of international economic integration (deeper and more comprehensive free trade zones; deeper and more comprehensive custom unions);

2) expansion of sectoral (industrial) economic unions of countries in the conditions of globalization;

3) establishment of innovation, energy, fiscal and bank unions; expansion of monetary unions; new processes at the global insurance market;

4) interregional integrative processes of our time;

5) establishment of mega-regional trade alliances;

6) integrative trade mega-structures.

We propose to distinguish between four forms of interdependence of countries in the process of their integrative interactions: structural interdependence; interdependence of economic and political objectives; interdependence of exogenous variables; political interdependence. In fact, apart from unifying and homogenizing the global economic area by novel factors of economic growth, globalization enriches and diversifies the models and types of economic development by restructuring national economies. The globalization process does not "abrogate" the political state, it makes it more complicated and differentiated, gives new essential meaning to its functions and "incorporates" national economies into much more complex structure of the planetary level.

The political state is the "container" and "regulator" of business segments of TNC. Political borders, therefore, determine two key points for TNC: conditions for penetration into domestic markets and access to domestic resources; rules for operation at domestic markets. We can refer to certain ***territorial asymmetry*** between the limited political borders of a country and absence of these limits for TNC.

It is, however, should be mentioned that TNC can make use of domestic regulations of host countries in a dual way. TNC can either use the so called regulatory "loopholes" in a host country, or it can use legal, political and economic differences of countries, thus gaining the competitive advantage. The concept of the so called ***"regulatory arbitrage"*** refers to TNCs' opportunities to push up competition between countries through investing in them (with proposition of better conditions).

A telling trend of the last decades is expansion of the so called *"competition for allocation"* (or *"competitive auction"*), to attract TNC investment. No matter how many countries are involved in it, one or several, it always implies competition for investment location (*threats to close a daughter company are often used by TNC when it is forced to leave a location)*. TNCs, therefore, can push up competition between countries to have higher profit rate on their investment. This phenomenon entails deep economic restructuring not only in host countries, but in Center countries as well, where it takes form of deindustrialization process. We interpret these transformations as a new form of neo-dependence, because according to theoretical framework of classical dependence theories production pattern in Periphery countries is focused on the needs of Center countries, and it can refocus on the domestic market needs (as a result of import substitution policy) only at the phase of interdependence-based relations immanent in the second wave of globalizations.

Radical transformations occurred in labor division and capital flows. The first globalization wave featured strict vertical interactions. They resulted from asymmetric relations between Center and Periphery and triggered change in labor division and trade patterns, unequal exchange, exogenous political influence, thus differentiating the socio-economic parameters of countries. This first globalization wave and the beginning of the second wave involved interaction options showing that relations of Periphery were focused on its Center and that Periphery was incapable to interact with other international actors: interactions of Center and Periphery were explicitly vertical; interactions of Peripheries were none; multilateral interactions of all the three actors were none; interactions of Periphery with the external world were monopolized by Center, with two possible options (interactions of Periphery with other Center countries are none; interactions of Center or Periphery with Periphery countries belonging to other Center countries are none). However, later half of the second globalization wave and the third globalization wave marked deep change in interaction options. It was partly a result of the alternated waves of protection and liberalism, when in time of protection waves countries could accumulate resources to pursue development strategies, and in time of liberalism waves countries were undertaking massive expansions on external markets; and partly a result of the deepening integrative forms of cooperation in which countries of Center and Periphery were engaged.

The retrospective analysis of disproportions in "Center – Periphery" coordinates, therefore, allows us to outline several phases and highlight peculiar features of the established interrelations.

At the first phase (1850–1914) the global economy featured de-homogenization with diametrically opposite development paths of North and South. In the countries of North (the U. S. and Western Europe) there was industrialization pushed by technological innovation. It entailed rapid urbanization and economic growth, rise of industrial agglomerations – territories with concentrated production capacities. In the meantime, the economies of South which did not have access to technological innovation disposed by West, lost competitiveness, declined development rates and de-industrialized (especially India and China).

The second wave of the first "jump" of globalization (end of World War II – 1960s) marked the increasingly rapid integration processes. Its specific feature was the continually reducing transport costs and innovation in transport sector (use of containers), which reduced barriers for international flows of goods and services, especially in trade of ideas. Differentiated salaries in developing countries given the reduced transport costs caused spatial differentiation of production. The increased international mobility of R&D and technologies was another factor changing the global economic map: countries of South (countries of Southern Asia in particular) got access to innovation that had been previously a monopoly of developed countries. It happened when services became the dominant sector in the North countries' economies and the industry shares were shrinking. Countries of South, instead, were increasing industrial outputs along with boosting industrialization and urbanization. The accelerating economic growth in some of the developing countries was parallel with the convergence of incomes at the global scale. In the beginning of 1960s developing countries took steps to up-grade their status in international economic relations, but their effects were low and fragmented: enlarged scopes of official aid for developing countries; easier access to export markets of developed countries, mainly to mineral ones; recognized rights of developing countries to protect their domestic industries and selected commodity positions by tariff barriers and quotas; other measures to improve trade conditions.

The thirds phase (1990s) marked turn in the global industrialization trend. While the industrial output in G7 countries that used to be drivers of the global industry was gradually shrinking, in developing countries like China, Korea, India, Indonesia, Thailand, Turkey or Poland it was growing. G7 countries lost 24% of the share in the global industrial output from 1970 to 2010: it fell from 71% to 46%, of which 18% was lost since the beginning of 1990.

The fourth phase (after the global crisis of 2008) marked the beginning of a new phase in the development of North – South relations. The crisis of 2008 aggravated the erosion of economic dominance of West and raised the importance of strengthening the government's role in the economy. While the latter is a subject of hot debate among economists, the former is an irrefutable fact. The access to international area and the strengthening international positions of developing countries, in particular China, Brazil, South African Republic, is a challenge for the existing system of global control. Socio-economic development of these countries is of dichotomy origin: high rates of GDP growth and the increasing exports, on the other hand, low per capita GDP, low level of literacy and poverty, on the other hand. The latter causes failures of emerging markets to take on the prominent role in facing the challenges of the global economy, the so called ***"global commons"***. The following barriers still exist on the way to more extensive cooperation between North and South in the framework of global economic management institutions and consolidation of the developing countries' role on the international arena: (i) the asymmetry in resources and capacities of industrialized

Western democracies and emerging economies; (ii) the global financial system, like the trade system, is still under Western countries' control; (iii) the increasing role of developing countries in the global economy along with low measures of quality of socio-economic development; (iv) uncertainties regarding further trajectories of the global economy and its regions.

Dynamics of relations between Center and Periphery has been traditionally referred to as a form of ***"one-way dependence"***, as cyclic fluctuations and growth in Periphery countries are largely conditional on the economic activity of Center. According to R. Findley's standard model "North – South", North has stronger economic impact on South because of ***the structural dependence*** of South on capital goods, finances, technologies and export markets of North. The reason behind ***the asymmetric interactions*** between these two groups is that Periphery consists of poor developing countries specializing on production and exports of a narrow range of mineral goods, whereas Center consists of many industrially developed countries specializing on production and exports of finished goods.

According to this traditional approach, ***Periphery's growth depends on the Center's demand*** for Periphery's exports that are used as input resources in the production sector of Center. External effects of growth in these groups are transmitted mostly by fluctuations in the conditions of trade. However, the abovementioned structural change explicitly shows that ***the traditional approach to the asymmetric interactions Center – Periphery is no longer relevant*** (Table 1).

Table 1

Comparative analysis of the traditional approach and neo-approach to interpretation of economic dependency forms

Economic dependence forms by ***traditional approach of asymmetric interactions "Center – Periphery"***	Economic dependence forms by ***approach of reciprocal interactions "Center – Periphery"***
"One-way" dependence triggered by cyclic fluctuations and growth in Periphery countries, originated by large from economic activity in Center.	Due to weakening structural asymmetries in "Center – Periphery", their interactions have been transformed into ***interdependence***, in view of the increasing economic significance of rapidly developing Periphery countries for the dynamics of global economy.
Center has stronger economic impact on Periphery through ***structural dependence*** of Periphery on capital goods, finances, technology, and export markets of Center.	The emerging market economies began to export capital to industrially developed countries in the first decade of 21 century, mainly in form of accumulated currency reserves, invested in the latter's bonds. At the same time, such "upstream flows of capital" did not have large negative effects for growth of developing economies, which shows that lack of investment was not the main barrier for their growth.
Asymmetric interactions, originating from poorness of developing country in Periphery and their narrow specialization on production and exports of mineral resources, whereas Center is composed of many industrially developed countries specialized in manufacturing and exports of finished products.	Some of the developing countries could accumulate significant foreign currency reserves, attract and absorb loans from international financial markets, allowing them to accumulate heavy flows of direct foreign investment in parallel with investing part of their assets abroad.
Growth in Periphery ***depends on the Center's demand*** for Periphery's exports used as inputs in the Center's industry.	Gradually increasing share of internal demand in the total demand as a determinant of growth in Periphery.

Source: composed by the author

The global economy has undergone several structural changes in the globalization period, with the nature of interactions between North and South transformed from one-way dependence to multidimensional interdependence. The increasing economic weight of South countries that are rapidly developing means that this group should have a more significant contribution in the growth rate of the global economy.

Also, the group of South countries that are rapidly developing has already have impact on the dynamics of demand and supply at global commodity markets. China, India and other rapidly developing countries of South have become final consumers of minerals, foods and energy, and their demand did have impact on the dynamics of global prices on minerals in time of globalization. Rapid diversification of exports and industrial production in rapidly developing countries of South has far-reaching consequences. This is an evidence of change in the traditional pattern of international labor division. Trade of rapidly developing countries of South with North countries has changed from trade in minerals for intra-sectoral trade, with goods imported from rapidly developing countries of South used as intermediate products by North countries. As a consequence, economic external effects between North and rapidly developing countries of South have become more interdependent. Also, there has been parallel increase in trade flows between rapidly developing countries of South, which causes stronger intra-group external effects.

Change in the scope and structure of financial flows has impact on the nature of financial interactions between North countries and rapidly developing South countries. By the traditional approach, the accumulation of North’s financial flows by South is evidence to the prevalence of debt flows, official sources of lending, sensibility of these flows to interest rates in the economies of North before the diffusion period of globalization. Due to the rapidly growing portfolio investment flows, fluctuations at the financial markets in North countries and in rapidly developing countries of South have become more interdependent, because the financial flows have become sensible not only to risks and profitability of a recipient economy, but to the macroeconomic environment in North countries. As a result, the change occurring in the globalization period means that interactions of North and rapidly developing countries of South have taken more diversified forms, with the relations between the two groups of countries being more symmetric and interdependent than the relations of North and developing countries of South.

Channels of macroeconomic interdependence of countries with OECD and without OECD membership used to be defined by analyzing the impact of international trade through variations in the external demand, internal interest rates and conditions of trade, but later the emphasis was made on finding the determinants of capital flows resulting from financial liberalization in many developing countries. Bearing in mind that trade and capital flows lay the basis for development of international relations, speculative currency attacks in 1990s raised concern about imbalances of capital (between real and monetary balance, short-term loans and official reserves), currency discrepancies in private and public balance accounts. At the beginning of the Asian financial crisis and the crisis in Latin America, the role of public “balance account” grew in the conditions of currency discrepancies to active and lending capital as an important channel for transmission of macroeconomic shocks. This channel of capital complements traditional channels of short-term macroeconomic interdependences, trade and financial channels (Figure 15).

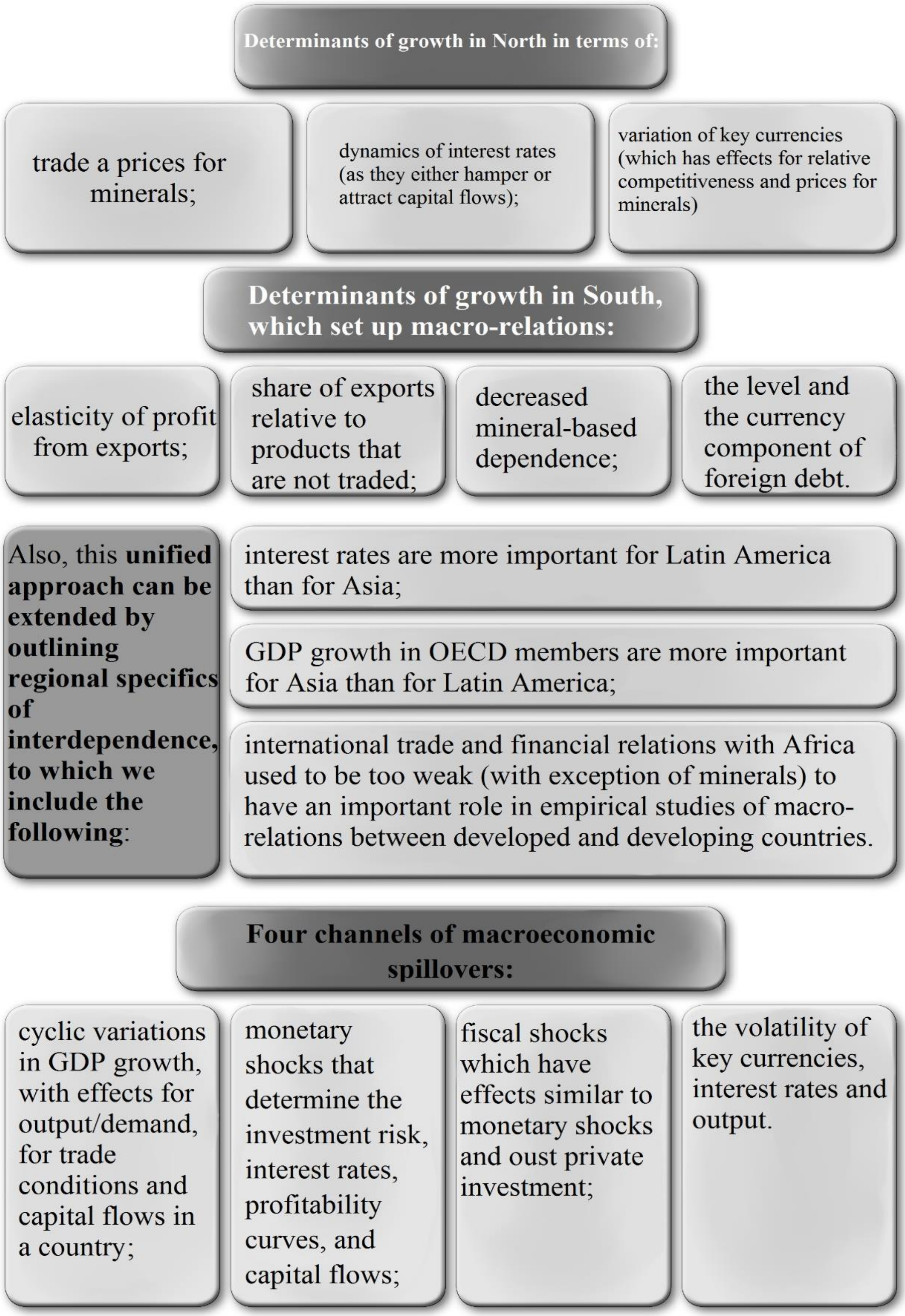

Figure 15. Macroeconomic interdependence in terms of growth in South and North

Source: constructed by the author

By making reference to four channels of macroeconomic impact (cyclic variations in GDP growth with impact on output/demand, change in the conditions of trade and capital flows; monetary shocks determining investment risk, interest rates and profitability curves, capital flows; fiscal shocks with impact similar to the one of monetary shocks, which cuts private investment; volatility of key currencies, interest rates and production output), we can define the key macroeconomic variables measuring cross-country interdependence: determinants of growth in North and determinants of growth in South, which lay the basis for macroeconomic relations (Figure 16).

Ways in which high level of the accumulated debt can reduce growth rates can be explained by the "debt load" phenomenon that shows that the amount of debt in future may be higher than the country's capacity to pay it, and the expected costs of debt service will decrease the flows of national and foreign investment.

Potential investors expecting that higher domestic output will be taxed more heavily by creditors for debt service purposes won't be prone to suffer investment-related losses in order to assure future growth in output. This conclusion can be illustrated by the Laffer's debt curve, which assumes that higher debt shocks are related with lower probability of debt repayment. On the upward or "positive" part of the curve the increasing net vaklue of debt is related with the increasing expected repayment of debt, and on the downward or "negative" part of the curve the increasing debt reduces the expected repayment of debt.

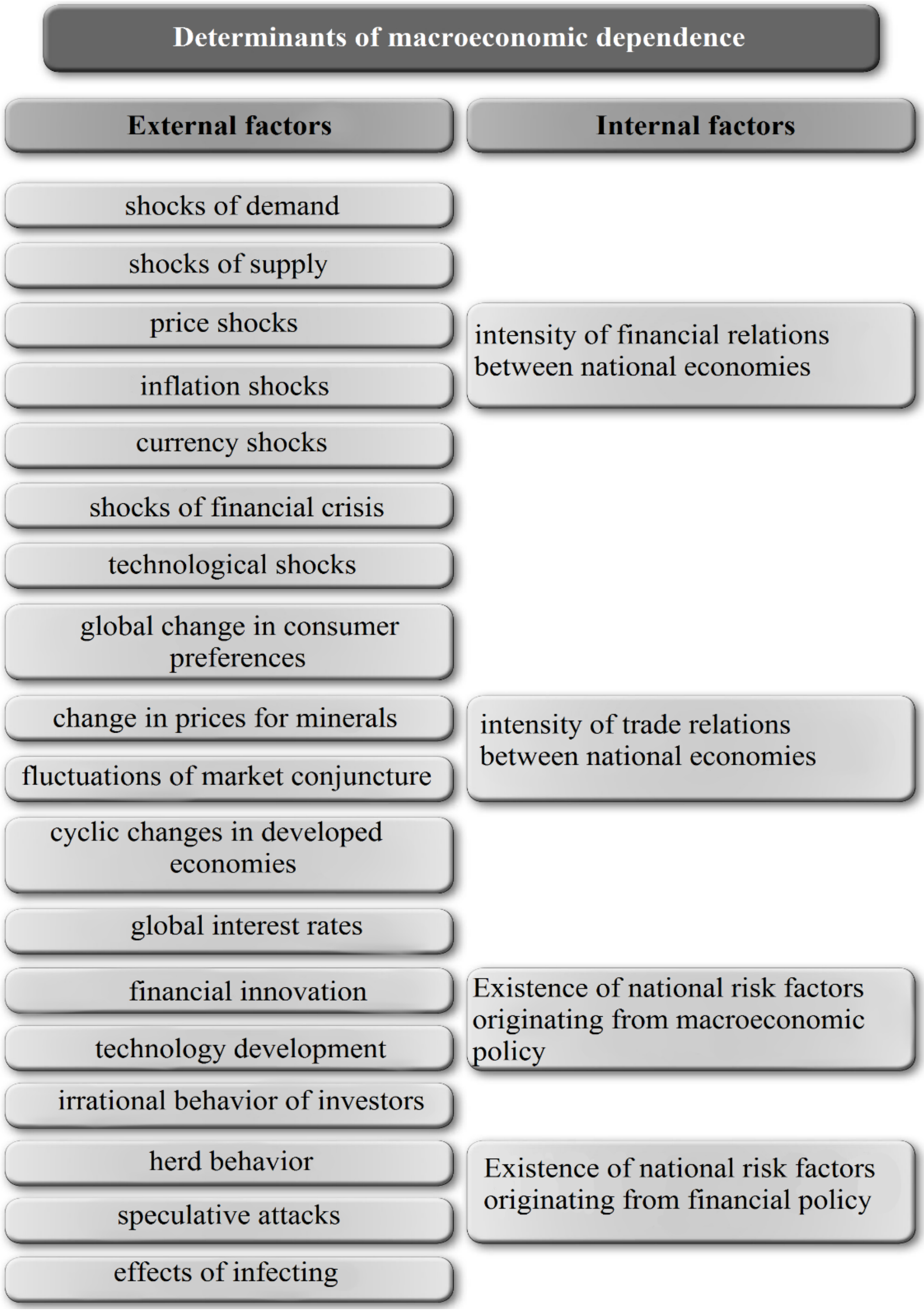

Figure 16. Determinants of national economies' vulnerability in the financial globalization context

Source: constructed by the author

Also, because expectations of writing off a part of debt cannot stimulate private foreign investors for additional investment, they reduce the accumulated capital. Debt load can affect the growth not only through investment scopes, but also through slower productivity growth. Many authors insisted on broader explanations of the debt load theory and attempted to interpret it by the reduced investment costs resulting from the need for debt repayment. As a consequence, governments have stimuli to implement complex political reforms with potentially high political and economic losses, which will affect productivity growth.

The above said can promote transformation processes in national economies, which allows for new interpretation of cross-country interactions in several formats:

- partial overlapping of their participants' interests, resulting from considerable compromise ("country – Center" or "country – Periphery" interactions);
- parallel implementation of equal interests of countries (interactions within integrative groups);
- mutual absorption of the participants' interests (more often in search for solutions of global problems: the ones related with instability and the socio-economic ones);
- cross-country interactions resulting from operation of various kinds of international organizations which membership impose limitations on setting up impartial domestic economic policies.

Therefore, according to classical interpretations, economic interdependence exists when either of the two cooperating countries will have to bear costs of disrupting the economic cooperation. These costs are conditional on the market structure, the specificity of assets and the significance of interactions. However, the significance of interactions per se strengthens interdependence, but only in case when the market environment constrains the possibility for adaptation. This logic of thinking assumes that the highest forms of interdependence exist when trade relations cannot be disrupted, the adaptation process is costly and the economic relations are significant.

We believe that **interdependence paradoxes** have another dimension:

- **Countries with chairmanships in international organizations** (which also make up declarations of millennium with the priority of individual over the economy in the context of poverty alleviation, social inequality, demographic challenges, sustainable development etc.) **are mostly the countries of origin of the most powerful TNC**; as capitalization in these countries exceed GDP in some other countries, their intentions diverge from the social problems of the latter countries and focus on making extra profit.

- **Economic growth in capital recipient countries:** in spite of many attempts, no clear empirical evidence of their dependence on investment and international aid (including financial one) has been found.

- **Benefits from globalization coexist with high risks of losses**, which were later explained by experts from various international economic organizations standing behind the schemes of liberalization of commodity and capital markets in developing countries by absence of the so called input conditions for their implementation; it was the way to take the responsibility off the so called inside experts and put it on the so called “fate” or a set of non-economic effects, which hampered the adaptation process and outcomes that they predicted.

- **Market effectiveness** that is laid in the basis of many economic models and implies rational behavior of economic actors **does not conform to the existing realities of economic landscape that has the speculative component with the sophisticated financial tools, which widens the gap between financial and real sectors of the economy**; these tools are built on principles of information asymmetry, which per se fails to generate standard conditions for operation in the competitive environment for all economic actors.

- **Capital flows from industrial countries to developing countries were much smaller than the predicted flows of capital between countries with various ratios of labor and capital**. With the beginning of this century “Lucas paradox” became even more explicit, because countries with emerging markets began to export capital to more industrially developed countries, mostly in form of accumulated currency reserves, which were invested mostly in government bonds. These flows of capital did not affect the growth of developing economies, which showed that lack of investment resources in these countries was not a key barrier for growth. The latter can be explained by low profitability of investment in the countries with low income. One possible reason for this is absence of institutions for protection of property rights (risks of expropriation of private investment) or poorly developed financial system, which makes investors' rights more vulnerable. In countries where investment is hampered by absence of domestic institutes, a disproportionally large share of the inflowing foreign capital can be used to finance consumption, which overvalues exchange rate and reduces investment profitability.

Positive effects from financial openness on the whole and foreign capital inflow in particular need to be mentioned in the above context. It should be noted that even when foreign capital is not needed for financing, financial openness per se generates the so called "by-side advantages" such as development of domestic financial sector and quality of administration, which are capable to boost the total factor productivity. Another by-side effect can be macroeconomic discipline. Financial openness offers a mechanism making governments fulfill financial obligations, because ineffective policies entailing high deficits of public budgets or high inflations rates raise the risks of foreign investors' outflow from domestic markets.

- **In the era of economic globalization, governments' capacities to generate domestic economic policies transform into the capacities to choose from the proposed options**; in other words, responsibilities of governments tend to focus on reactions to geopolitical challenges instead of generating them, which is, however, impossible due to the set of primary dependence forms (resource-based, structural, technological or financial dependence).
- **Interaction rules on the global area can be set and implemented once there are entities committed to what is declared by others**; membership in any organization would, therefore, be a result of someone's recognition of others' rights for decision making.
- **Countries cannot shunt between absolute and relative advantages due to the tough institutional frame of coexistence in the global economic area.**

- **Transformation of international aid from purely financial one into the one taking derivative forms**, such consultative ones, generates the dependence at geopolitical level, with prioritization of intangible assets (and conviction that this is really so) over tangible ones.
- **Macroeconomic policies of developing countries** (stimulation of foreign direct investment (FDI) inflow, elimination of payment imbalances, stabilization programs as an outcome of eliminated shocks provoked by crisis transmission), apart from being a reaction to exogenous irritants (hot money, shrinking of the total depend, global instability), **are set up by recommendations and participations of international institutions in the framework of G20/G7 summits**.
- **Liberalization of domestic commodity markets and capital flows is accompanied by their regulation by international institutions**; there has been gradual substitution of national legal systems that are potentially democratic by legal systems that are good for TNC.
- **Statements about ineffectiveness of domestic sectoral and resource management** are used as a pretext for further appropriation of domestic assets by private capital, mostly of foreign origin.
- **Reconfiguration of forces and aggravation of contradictions within the countries of the triad is complemented by rapid advancement of domestic ideas of economic breakthrough in developing countries**, capable to radically change the existing pattern of global interactions.
- **Economic imbalances are evidence to essential "subsidence" of macroeconomic relations**.

In the canonic interpretation, the levels of domestic savings and capital investment have to conform to each other, meaning that change in the savings level will trigger change in capital investment. However, in the last decades this causality between domestic savings and capital investment became looser due to capital flow liberalization. In industrially developed countries, the savings are higher than the capital investment, whereas in developing countries the savings are far smaller than the capital investment. According to expectations, when a typical Chinese investor has access to relatively safe instruments of investment with higher profitability rate, the positive income effect will be complemented by the substitution effect represented by lower rate of savings in private sector. This transformation will result in high welfare measures for China along with the decreasing trade surplus;

- **Dependency of both developed and developing countries on global factors**: demographic, ecological, limited capacity of global resources.

The third wave of globalization showed destructive effects of this regional affinity of countries, which manifested in crisis infecting. Integration and fragmentation, globalization and localization as controversial but inalienable tendencies in the international economy trigger new processes of fragmentation and glocalization (Figure 17). While an immanent feature of fragmentation is building and consolidation of blocks and associations of "national states" in form of complex hierarchical system in parallel with the increasing numbers of global actors and with the ongoing change in the balance of their forces, glocalization is the process of re-stratification of the world by new principles, which prevents from building the new global hierarchy.

Figure 17. Neo-dependence as a sign of fragmentation and glocalization of the global economy

Source: constructed by the author

Fragmentation and glocalization is a novel phenomenon of neo-dependence that is interpreted by us as the process of cross-country interactions generating various interdependence forms by setting up asymmetric (North – South) and symmetric (North – North, South – South, intra-regional) relations with various degrees of sensibility and vulnerability given the unified global rules of coexistence. These global rules are implemented in the process of regulatory harmonization with gradual elimination of regulatory functions of governments as a result of internationalization and laying the grounds for supranational regulation, which immanent feature is gradual reconfiguration of centers of force, which is accompanied by rise of new poles of economic growth, triggered by development of anchor countries of North.

Neo-dependence as an embodiment of diffusion-based dependence, which challenges economic sovereignties, takes multiple forms (resource-based, structural, information-based, technological, trade-based, financial, debt-based, monetary etc.) with setting up causal links between its derivatives according to the economic performance of countries; it legitimizes hybrid forms of cooperation (between regional groups; bi-regional and trans-regional relations that are not always associated with specific regional groups; hybrid relations, in particular relations between regional groups and individual powerful countries) with parallel processes of convergence and divergence of national economic systems in spite of the declared homogenization and heterogenization of the global economic area that is becoming increasingly de-controlled and polycentric (Figure 18).

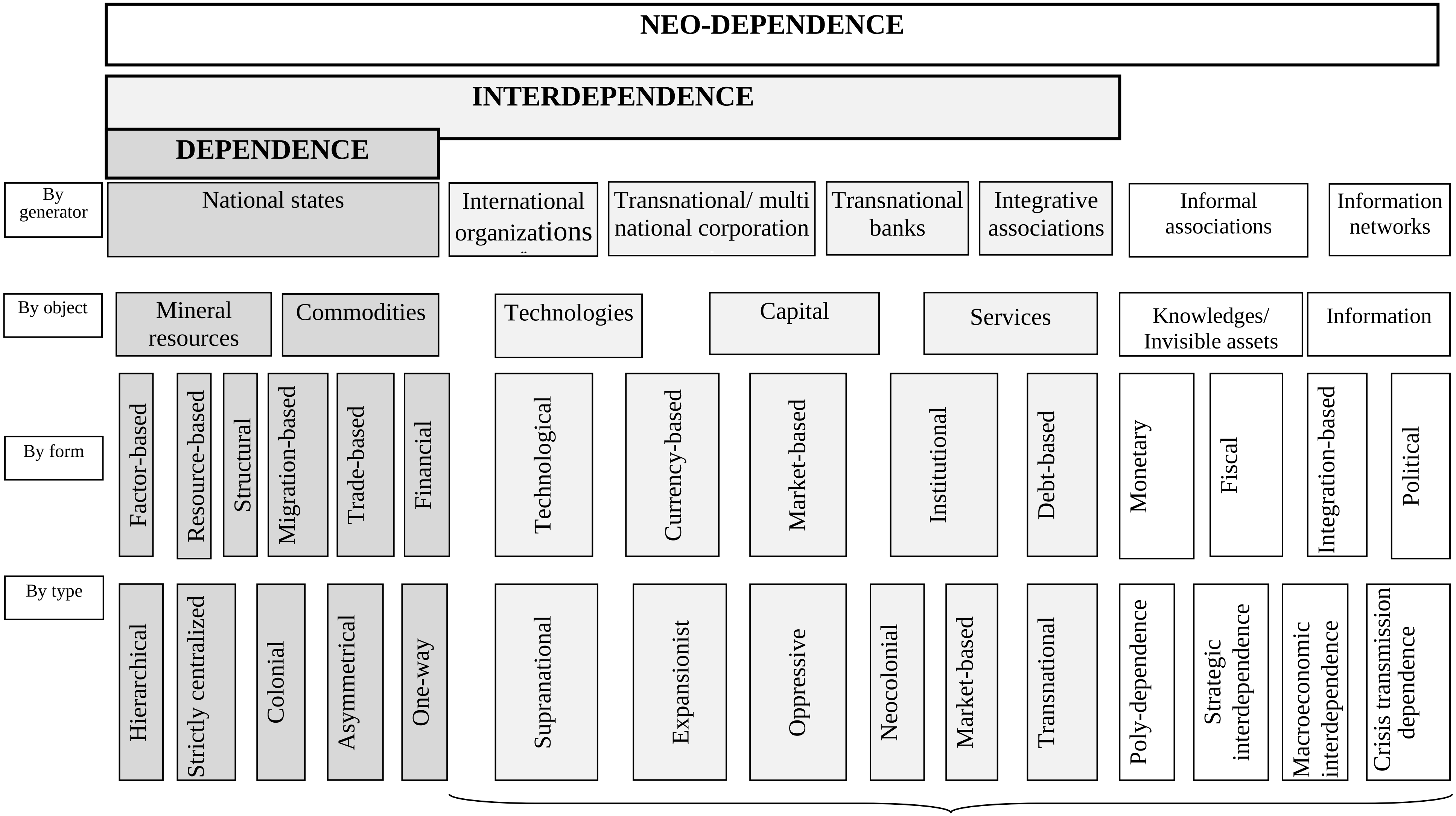

Figure 19. Genesis of neo-dependence

Source: constructed by the author

Neo-dependence is interpreted as the supreme phase of interdependence, which features are polivariance, multidimensionality, hierarchy, de-centralization and multilevel causality generated by countries and other actors of the global economy.

The author's approach to interpretation of neo-dependence actors aims to show that at the current phase cross-country interactions have many dimensions (Figure 19):

– generators of market-based dependence (financial globalization, economic (cyclic) crises; liberalization of trade; highly competitive environment; conditions of trade; intellectual property market; TNC as entities controlling selected commodity markets);

– generators of institutional dependence (international organizations generating dependence; decisions taken by G7/G8/G20);

– generators of integration-based dependence (regional trade agreements; economic and political integration per se in a broader context);

– generators of financial dependence (international economic organizations; TNC; financial centers; stock markets; offshore centers);

– instruments for socio-cultural dependence (transmission of consumption models from rich countries to poor countries, triggered by TNC; cultural and linguistic expansion; introduction of social standards);

– generators of technological dependence (highly competitive environment; TNC; international organizations);

– generators of information-based dependence (rating agencies);

– determinants of civilization dependence (global problems as civilization challenges; limitations on resources and pressures on growth; demographic challenges; cultivation of homo economicus);

– determinants of global change (reconfiguration of economic forces; transformation of substantial dominants in setting up economic objectives at country level).

However, standardization of cooperation rules, fixed in the international organizations statutes, which lay the basis for setting up and expansion of cross-country relations at various levels (structural, technological, financial, investment), in the liberalization era provoked asymmetry of opportunities in spite of declarations on equal opportunities for all. But there has been also the increasing TNCs' pressure on developed countries with TNCs' leading role in the resource redistribution mechanism.

Economic growth of capital recipient countries has no clear evidence, in spite of attempts to find empirical evidence of their dependence on investments and international aid (including financial one). Globalization benefits coexist with risks of heavy losses, which were later interpreted by experts from various international economic organizations, standing behind the schemes for liberalization of commodity and capital markets in developing countries, by lack of the so called input conditions for their implementation; it was the way to take the responsibility off the so called inside experts and put it on the so called fate or a set of off-economic effects, which hampered adaptation and outcomes that they predicted.

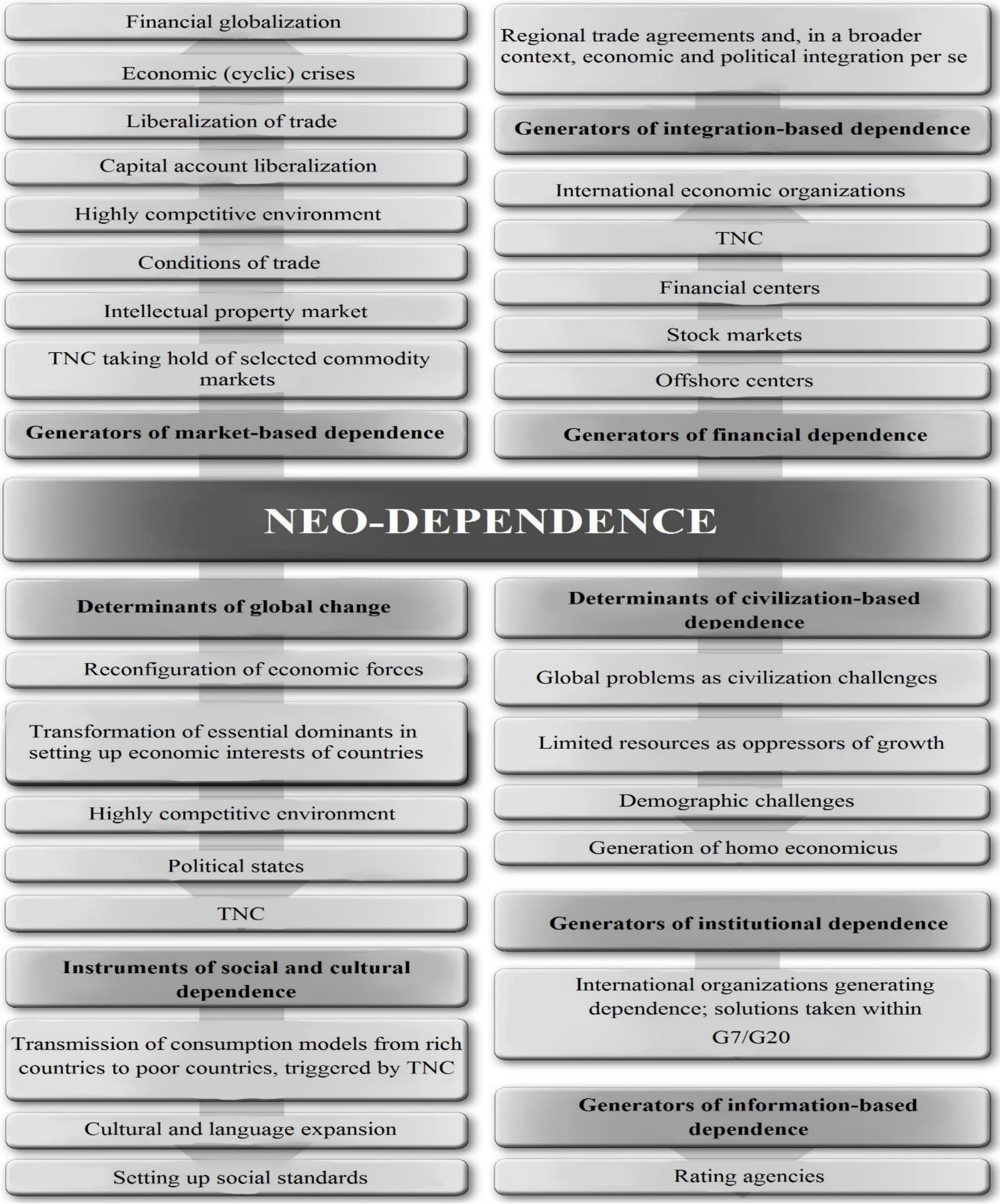

Figure 20. Determinants of economic neo-dependency

Source: constructed by the author

We are convinced that Bretton Woods institutions were successors of the colonial system and implementers of the developed countries' interests (see Table 2, Table 3, Table 4, Table 5).

Table 2

Institutional level of structural dependence

Title of organization	Functions generating dependence-based relations
IMF	• Promotion of structural economic reforms to provide for access to financial resources of Target Fund; • crediting through the mechanism of Structural Fund meat for assistance to poor countries in implanting medium-term programs of macroeconomic restructuring/
UNIDO	• Promotion of international industrial cooperation; • participation in industrialization of developing countries.
IBRD	• Lending for production purposes; • promotion of reconstruction and development in member countries though attracting capital investment for production purposes.
IDA	• Crediting of projects in the poorest countries, aimed at their economic development.
FAO	• Promotion of capital investment in agricultural sector.
MMRICM	• Setting up the balance between industry development and consumption of mineral resources.

Source: constructed by the author

Table 3

Institutional level of technological dependence

Title of organization	Functions generating dependence-based relations
WIPO	Protection of intellectual property rights;
UNIDO	Multilateral technical assistance to developing countries; assistance to developing countries in introducing advanced methods in industry, programming and planning;
IBRD	Promotion of investment and technology transfer; technical assistance to developing countries
UNCTAD	Setting up political guidelines for international trade in technology transfer;

Continuation of table 3

UNDP	Technical assistance to developing countries;
FAO	Technology transfer to developing countries;
OECD	Promotion of development in developing countries through technical assistance

Source: constructed by the author

Table 4

Institutional level of trade dependence

Title of organization	Functions generating dependence-based relations
WTO	• Regulation of international trade policy through setting the following principles: principle of the largest preferences or non-discrimination; principle of national regime; principle of national industry protection; overall ban of quantitative restrictions on imports; principle of creating the stable basis for trade; principle of promoting fair competition; principle of possible actions in emergency circumstances; principle of regional trade agreements.
UNCTAD	• Coordination of trade and development policies of national governments and regional economic groups; • setting up principles and policies on international trade and economic development, including finance, investment and technology transfer.
UNCITRAL	• Unification of international trade law; • coordination of international organizations' action related with international trade law; • promotion of broader participation of countries in existing international conventions and development of new international conventions on international trade law.

Continuation of table 4

OECD	• Promotion of global trade on multilateral and non-discriminatory basis in accordance with international commitments.
MMRICM	• Coordinated actions of governments of countries that manufacturers, exporters and importers of mineral products, aimed at stabilizing global commodity markets through creating international mechanisms and respective organizational forms; • Building up of the mechanism for multilateral regulation of the market with signing international agreements (implemented through international commodity agreements), made up and enforced in the framework and under auspices of UNCTAD and interstate agreements of countries that are manufacturers, exporters and consumers of a given commodity; • normalization of international trade in minerals through coordination of policies of manufacturers, exporters and consumers at the global market, stabilization of prices.

Source: constructed by the author

Table 5

Institutional level of financial and investment dependence

Title of organization	Functions generating dependence-based relations
IDA	• Non-interest loans and grants to governments of the poorest countries;
IFC	• Assistance to developing countries in achieving sustained economic growth, by financing investments, attracting monetary resources from international financial markets, and by consultative services to companies and governments;
IBRD	• Loans to the poorest countries that are insolvent at international financial markets; • loans to developing countries that are incapable to pay interests close to the market ones.

Continuation of table 5

UNCTAD	• Setting up policy guidelines concerning, above all, finances and investments.
MIGA	• Attracting direct foreign investment to developing countries, to support economic growth, reduce unemployment and increase living standards of the population.
OECD	• Initiator of Multilateral Agreement on Investment, for regulation of FDI at international level.

Source: constructed by the author

Structural inequalities built in the Bretton Woods paradigm were a significant factor behind the rise of the global system where economic and political pattern of South countries was in conformity with corporate interests of North countries. J. Stiglitz's description of institutional dependence permeating cross-country interactions is as follows: "We have a system that might be called global governance without global government, one in which a few institutions – the World Bank, the IMF, the WTO – and a few players – the finance, commerce, and trade ministries, closely linked to certain financial and commercial interests – dominate the scene, but in which many of those affected by their decisions are left almost voiceless. Periphery countries are continuously dependent on economic aid that deepens their dependence on the institutions, corporations and countries that do not allow them to have their infrastructural and business assets, political decisions, mineral resources, social support that would form the basis for creating self-sufficient communities".

Economic motives for developed countries investing in developing countries are not confined to the willingness to push up growth rates in developing counties; their intentions to increase their own welfare also matter. Besides that, some business stakeholders in developed countries have benefits from rendering aid. Interests of exporters of goods and services purchased by aid beneficiaries are directly supported by governments of countries lending money to governments of countries that are aid beneficiaries, whose capacity to repay the loans is conditional on whether or not they will continue to receive aid funds. When foreign aid pushes up the national income growth in developing countries, it implies the growing demand for goods and services in developed countries.

In view of the above said we are going to revise the existing concept of aid. A foreign aid cannot be regarded as "foreign economic aid" when mutual relations between recipient and donor countries lead to: economic expansion of a donor country on the recipient's markets; disproportional growth in the exports of goods and services from a donor country; shrinking of import substitution policies in a recipient country; the situation when previous loans cannot be repaid unless new ones are given; the increasing dependence of a recipient country on technology imports from a donor country.

If the existing pattern of relations between a donor country and a recipient country is ignored, the risk of substituting the notion of "aid" by the notion of "hidden profit" will occur. The substitution motives can be perfectly understood from the perspective of donor countries, but the existing pattern of dialogue between the countries from two groups cannot be changed when the rules of the game are purposefully imposed by international institutions.

Bearing in mind the important role of financial organizations (such as the World Bank group), specialized institutions of the UN, international forums for discussions of the global agenda dictated by the contemporary challenges, one cannot but feel a global déjà vu. Although frameworks and wordings are new, the essence is still the same: the same split of the countries into the two proxy camps, the developed countries and the ones seeking to approach the long-awaited development figures; similar kinds of global problems which numbers are increasing, which brings into question the very existence of certain organizations that could have reduced the numbers if acted by their statutes; functions imposed on Periphery countries, which are abandoned by Center countries due to their commitment to the principles of capitalist system (reduction of costs, growth in income) and transition to the new phase of post-industrialization, which per se devalues the calls to achieve the overall prosperity.

Also, the institutional component of financial dependence needs to be highlighted, which fully conforms to the policies of international financial organizations setting up the conditions for credits and loans and selecting potential recipients of aid. Another key area of government intervention limited by global markets and multilateral rules and practices is macroeconomic policy. Finances have the prime importance in it: on the one hand, financial markets put heavy pressures on governments to make them adopt liberalization, on the other hand, opening of capital accounts and higher integration in international financial markets limit the governments' capacities to pursue autonomous macroeconomic policies. Yet, financial markets are the main source of instability. Their pro-cyclic nature makes governments pursue monetary or fiscal policies that aggravate macroeconomic instability rather than mitigate it. It is true for the countries with emerging markets, which have large debts and introduce heavy financial constrains.

Official financing, either multilateral or bilateral, does not always reduce instability caused by the pro-cyclic nature of private financial flows. Countries with emerging markets, facing unexpected or rapid withdrawals of private capital, can often receive official aid once they are committed to strict pro-cyclic macroeconomic policy. On the other hand, the available data give clear evidence that the aid to low income countries is highly volatile and pro-cyclic. It tends to come to end when and where it is needed most, and to call for tough fiscal policies when expansionist policies are needed. This situation can be more harmful for low income countries than instability caused by private capital flows for countries with emerging markets, because unlike countries with emerging markets, low income countries lack the economy of scale to cope with instability of external financing. These countries won't have larger space for strategy building unless the principles of international financial cooperation are revised.

The above said assumes that a domestic economic policy cannot be set up, because pressures from actors of international relations, international organizations in particular, mould the domestic needs into the global market. The author's approach to identification of new entities generating cross-country dependence can be enforced by introducing the notion of the so called cross-interdependence involving a combination of cross-influence factors and absorption of some factors by others. Moreover, at the phase of financial globalization dominance we can find a manifestation of financial dependence in each of the proposed dependence segments. The outlined dependence paradoxes and entities generating dependence are determinants for modification of the global economic interdependence, and they lay grounds for building up the neo-dependence paradigm.

Of the *mechanisms of financial dependence, triggered by the institutional factor*, we can highlight the following: dependence on monetary and credit policies of a country emitting a reserve currency, which generates a set of macroeconomic dependences for an emitting country, like Triffin paradox, and for a country affected by dollarization phenomenon, and the need to raise currency reserves for emission of the national currency.

Besides that, inadequate performance of functions imposed on both groups of countries by the global financial system leads to: escalation of global imbalances; the need for quick adaptation of mechanisms for liberalization of capital flows and foreign trade; the need to implement the conditions for financial aid, imposed from the outside; dependence on "lender of last instance" phenomenon.

Also, theoretical conception of neo-dependence needs to be elaborated due to the so called "globalization failures": absolutization of market and free competition; the increasing dependence of domestic economies on decisions and actions of supranational institutes; the increasing negative socio-economic effects from presence of TNC within domestic economies; the declining effectiveness of traditional tools for macroeconomic regulation; the increasing self-sufficiency and speculative nature of the global financial market, the growing dependence of real sector on monetary and financial components; aggravation of financial crises and destabilization of national economies as a consequence of capital flow liberalization; the increasing gap in income distribution at the global scale; the increasing social and political instability.

We believe that symbiotic dependence is the simplest form of mutual relations with the immanent asymmetry due to the different capacities of countries that are going to cooperate. It may be interpreted as either constructive one (resulting from interactions of Center countries or countries of Center and Periphery, when factors of exogenous origin involved in these interactions trigger endogenous processes capable to launch self-reproductive development), or as destructive one (a metropolis country exploiting mineral resources of a colony country).

Symbiotic dependence does not imply unification of the cooperation conditions or results, which occurred only at the phase of syncretic dependence (that is heterogeneous by nature and seeks to combine what cannot be combined).

Syncretism here constitutes a tendency of coexistence, with the global economy perceived as an integrated whole. However, gaps in the capacities of cooperating countries widen as global competition ideas are promoted. As a result, the concept of syncretic dependence materializes in divergence of the global economic development. At the phase of synergetic dependence economic interactions come under the impact of market-based, conjuncture-based, institutional and transnational dependences, with radical change in the philosophy of dependence, from the canonic cross-country dependence to the dependence based on principles of complex hierarchy.

We have shown that historic background for economic dependence relations and their forms changed with each globalization wave, but while in some cases their direct link can be seen (collapse of the colonial system → neocolonialism; extension of international labor division → transnational dependence; creation of international organizations → institutional dependence), in other cases causal links can be found by deeper analysis (violent liberalism → technological dependence; enforced competition → trade and technological dependence). Economic interdependence is defined as the causality that occurs in interactions of national economics and generates interactions (internal and external; direct and indirect; constructive and destructive; permanent and variable; regenerating and non-regenerating; substitutive and singular; weak and medium, explicit, strong, total; fragmented and global) (Figure 21).

Therefore, transformation processes in the global economic area have taken a radically new dimension, with relations between national economies extended and strengthened to the extent that the global economy can be reasonably referred to as a priority phenomenon with its immanent laws, tendencies, operation mechanisms, the increasing numbers of global actors with further rebalancing of their forces and formation of a new economic and political pattern of the world.

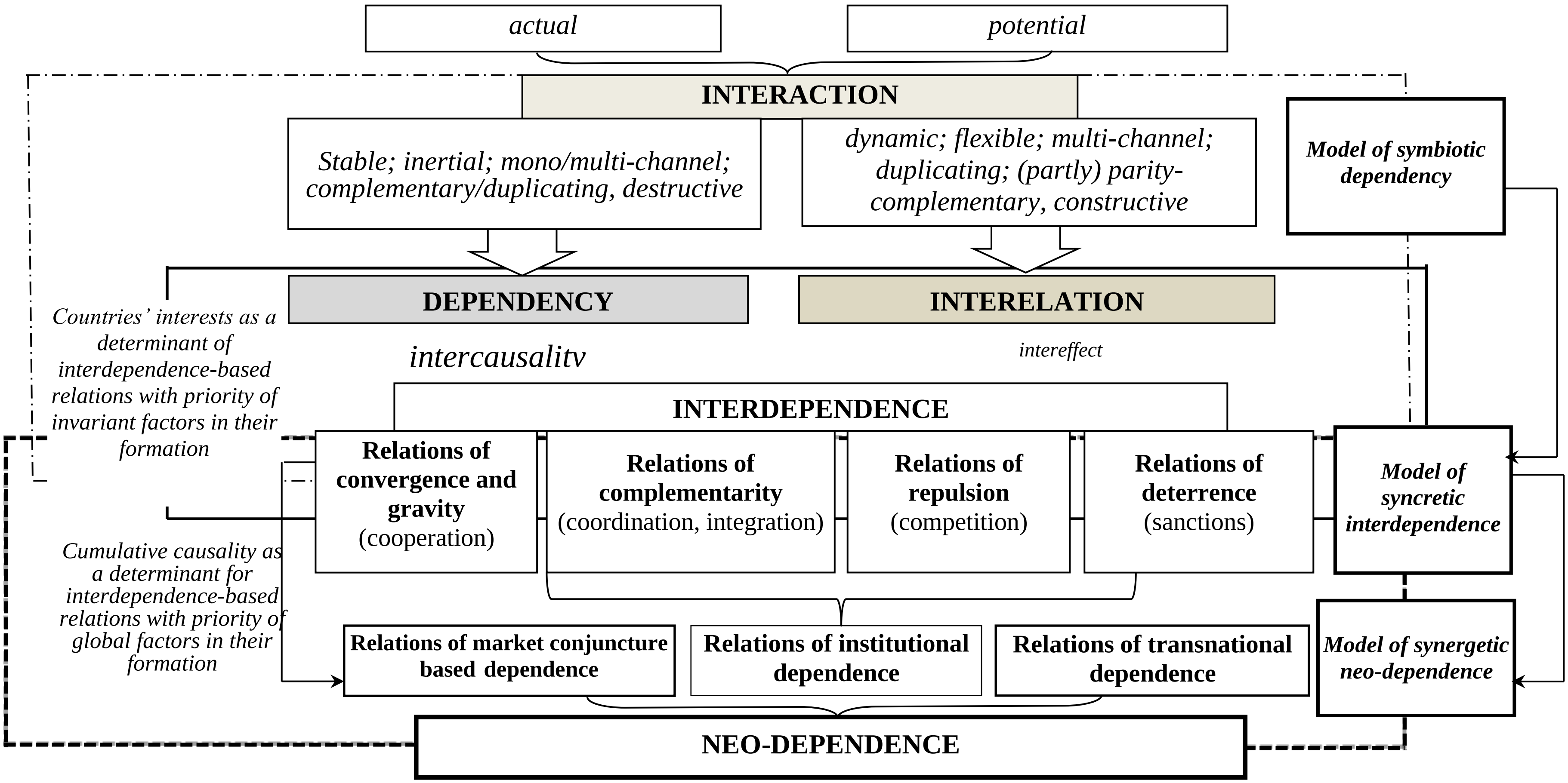

Figure 21. Essential meaning of synergetic neo-dependence paradigm

Source: constructed by the author

Conclusions. Formation of new economic dependence forms is triggered by the dialectics of the national and the global, immanent in the nature of globalization. Change that occurred in the latest decades in industry, communications, trade, foreign investment and international finance has transformed the global economy into the integrated global organism. Apart from the international labor division, this organism is integrated by value added chains of the global scale, the global financial system and the planetary information network.

We have proposed and substantiated a theoretical and conceptual model of global processes, which shows the need for rethinking of dependence. The economic neo-dependence paradigm that we propose has three-level structure:

- **hypothetic level**, for formulation of the hypothesis and the problem setting;
- **empirical level**, for analysis of existing practices and testing of the hypothesis;
- **theoretical level**, for substantiation of the results.

As theoretically substantiated results of empirical testing of the formulated hypothesis gave evidence to a gap between the existing knowledge on economic dependence and the reality, theoretical framework for new knowledge had to be created. The synergetic dependence paradigm as a theoretical basis for international economic relations is built on the concept of synergetic historism. It follows that dependence is not confined to the economic dimension; it applies to other walks of life (political, social and cultural) and puts emphasis on the most explicit aspects of the current phase of global change: multi-hierarchy, instability, diversity, imbalance; non-linearity, temporality.

The methodology of synergetic neo-dependence paradigm is built on the view of globalization as a process of rapid formation of the single global financial and economic area by use of advanced information technologies and harmonization of regulation principles, creating new flexible markets of labor, goods and capital, with the resulting neo-dependence relations. The synergetic approach to economic neo-dependence is based on the assumption that unsteadiness and instability of relations are basic parameters of various forms of cross-country interactions, whereas the entropic (disordered) nature of a system should not be treated as merely destructive.

The changed pattern of interrelations in the first globalization wave, in spite of the seemingly radical change immanent in the second globalization wave, only at the current phase of the global economy transformation, accompanied by perturbations, global crises, change in management philosophy, generates impulses to new patterns of re-balanced driving forces in the global economy and self-organization on new principles (complicated hierarchy, multi-polarity).

By this methodological approach crisis can be interpreted as a creative factor and constructive mechanism for evolution. While the philosophic thinking puts emphasis on integrity, origins and common goals, the divergent nature of economic development assumes that countries participating in economic interactions cannot have a unified intention. Coexistence of the dichotomous objectives can be clearly seen: to win and hold positions in the global economy with its immanent stratification, which aggravates the existing cross-country controversies manifested in multiple asymmetries and generation of their novel combinations (government/company). From the synergetic perspectives, the following fact is becoming increasingly important: global economy entities take a great many decisions, each one being significant but at the same time controversial to another one; taken in their totality, they can generate unpredictable outcomes and put on the agenda global management problems.

Neo-dependence is interpreted by us as the process of mutual impact, with absence of strict hierarchies in cross-country relations and poly-centric nature resulting from the flexible fragmented Center – Periphery structure of the global economy, built on cooperation environments unified by pressures from market fundamentalism and transnational actors and accompanied by transformations in the government's role amidst the deepening integration process and strengthening institutional factors of regulation. Contrary to economic interdependence described in terms of trade shares and amounts of capital flows, economic neo-dependence originates from multiple combinations of mutual impact of generators of civilization-based, market-based, institutional, integration-based, financial, technological, socio-cultural dependence under the impact of globalization change.

While the philosophic thinking puts emphasis on integrity, origins and common goals, the divergent nature of economic development assumes that countries participating in economic interactions cannot have a unified intention. Coexistence of the dichotomous objectives can be clearly seen: to win and hold positions in the global economy with its immanent stratification, which aggravates the existing cross-country controversies manifested in multiple asymmetries and generation of their novel combinations (government/company). From the synergetic perspectives, the following fact is becoming increasingly important: global economy entities take a great many decisions, each one being significant but at the same time controversial to another one; taken in their totality, they can generate unpredictable outcomes and put on the agenda global management problems.

The above said gives clear evidence that economic globalization creates great demand for political globalization, because markets fail to solve the problem of fair distribution and imbalanced development, which they generate. The political globalization of XXI century does not imply the risk of taking form of the dominance of one central country.

Central principles underlying the contemporary model for institutionalization of the global economic development are the following:

- flexibility of the institutional setting, i. e. building up the operating economic system capable to timely delegate the required authorities to the level of most effective problem solution, to adequately respond on global threats and engage experts;
- professional autonomy of decision makers, prevention of all kinds of pressures from various lobbying groups, especially informal ones;
- network pattern of organization as the most favorable one to assure comprehensiveness and regularity of decision making at various levels;
- preservation and stimulation of cultural differentiation as the fundament for the sustainable long-term development of the global community and for the mechanism preventing mass-scale ideological poverty of nations;

- economic-ecological symbiosis as a means for the sustainable economic development and prevention of coercive redistribution of wealth;
- transparence of the global system, accountability of its components, adequate professional and unbiased response on social transformations;
- poly-vector monitoring and control when implementing decisions, opened access to authentic information of official power bodies;
- honest, timely and comprehensive awareness of the key actors in the global institutional system, to avoid information asymmetry;
- clear division of formal and informal powers between various actors of the global decision-making system, to avoid duplication of institutional forms and functions;
- equal access to public wealth and its fair redistribution;
- organization of multilateral, multilevel, clear and formalized system for enforcement and punishment by economic sanctions;
- application of unified regulatory systems and standards to homogenous actors of the global institutional system.

The current phase of the global interactions reinforces the already existing hierarchy of countries regarding their positions in the system of functional relations of technosphere with the external world, with the changing position of the political state in the global pattern of international relations and the blurring traditional political sovereignty.

Neo-dependence shows a novel paradox, when neither of the countries is capable to take on the responsibility for allocation of resources required for orderly and sustainable operation of the global economy and effective control of international institutes charged responsible for transparency of the trade system, stability of the monetary system and proper operation of the global financial markets. Neo-dependence as a process of cross-country interactions based on radically new principles of interdependence of Center and Periphery countries due to the increasing internationalization of the global economy and institutional pressures on national economic sovereignties puts on the agenda search for solutions to the problem of uneven development and aggravates technological, financial and information dependence due to resource and structural cross-country asymmetries. The above controversies can be dealt with by taking the following measures:

1. Create the global economic management institute, focused to finding solutions for the collective global challenges (elimination of global imbalances and gaps in economic development, control over expansion of TNC, de-concentration of technological resources.

2. Transform institutional framework of international organizations generating dependence-based relations: structural dependence (IMF, UNIDO, IBRD, IDA, FAO), technological dependence (WIPO, UNIDO, IBRD, UNCTAD, UN Development Program, FAO, OECD), trade-based dependence (WTO, UNCTAD, OECD), financial and investment dependence (IMF, IBRD, IDA, IFC, MIGA, UNCTAD, OECD).

3. Extend international economic cooperation within integrative associations through harmonizing fiscal, budgetary, banking and social policies in member countries, which will weaken divergent tendencies and relations of asymmetric dependence between member countries and lay grounds for implementing flexible integration scenarios, enabling to enhance sustainability and adaptability of the associations in the face of transformation challenges of the current globalization phase.

4. Create national agencies for development, charged responsible for strict management of stabilization and structural programs recommended to countries, to minimize negative by-side effects of these programs due to aggravated relations of debt-based dependence, financial dependence, investment-based dependence and other forms of dependence.

DOI: 10.46299/979-8-89504-809-2.2

2. Tools for achieving climate neutrality: some universal, European and Ukrainian perspectives

Introduction. The challenges climate change poses for the whole humanity have been highlighted in scientific literature, expert reports, political speeches as well as normative documents and judicial decisions. To face them, the international community elaborates and offers to national governments for implementation some instruments, including legal tools, in order to establish a firm basis for sustainable development of nations. One of such instruments is climate neutrality which helps to transform harmful consequences caused by different climate change mitigation measures into resilient development for all states and individuals. Climate neutrality is an interdisciplinary concept elaborated in the course of the implementation of the Paris Agreement of 2015 (hereinafter – Agreement) and the European Union law on energy and climate issues. Now this concept outlines the universal and regional law-making agenda and determines principal directions of national legislative process of different states on their path to reach sustainable development and green transition.

Climate neutrality itself as well as its main instruments has been duly considered in the works of such authors as Huang M.-T., Zhai P.-M., Falduto Ch., Rocha M., Adashek J., etc. Furthermore, the European dimension of climate neutrality has been the subject matter of the articles of Zeben J., Schlacke S., Wentzien H., Thierjung E.-M, Köster M., Beaufils T., Ward H., Jakob M., Wenz L., Sun X., Mi Zh., Cheng L., Coffman D'M., Liu Yu, Setzer J., Narulla H., Higham C. and Bradeen E. We used the ideas and conclusions of the above-mentioned scholars in order to substantiate our own views on the place of climate neutrality on the modern global and regional political and legal landscape.

The Russian Federation war against Ukraine led to deaths and destructions on the Ukrainian territory as well as to energy crisis on the European continent, food crisis in the developing counties, large-scale and long-lasting environmental damage. This armed conflict impacts the efforts of the world community to achieve low-carbon development and build a resilient economy. That's why it is important to analyze the concept of climate neutrality through the lenses of this war.

The purpose of this chapter is to consider the concept of climate neutrality, its main instruments under the Paris Agreement, describe its main tools under the European Union law, explore climate litigation, investigate the issue of climate neutrality in the situation of the Russian aggression against Ukraine.

Climate neutrality: the concept and policy instruments under the Paris Agreement. The notion of climate neutrality is used alongside with other similar terms, some of them having synonymous meanings and some – having slightly different ones, e.g., carbon neutrality, net-zero emissions, decarbonisation, etc. To find those differences is out of the scope of the present chapter, however, one thing in common is that all of them indicate the desire of the international community to find some solutions to the problem of negative consequences of climatic changes by cutting down the emissions of the anthropogenic greenhouse gases (hereinafter – GHGs) and increasing the capacity for their absorption, that requires a qualitative and rather rapid economic transition in such areas as energy, industry, infrastructure, transport, land use, agriculture, forestry, etc. Climate neutrality denotes the conditions under which GHG emissions into and their removal from the atmosphere are clearly balanced [80, c. 282]. Climate neutrality doesn't mean the complete absence of any GHG emissions, but their neutralization with the help of different traditional and modern tools.

Paragraph 1 of the article 2 of the Paris Agreement proclaims its principal aim – to hold the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels [81]. The key long-term goal of the Agreement is to be achieved through a number of steps: the parties must, firstly, reach the global peaking of the GHG emissions as envisaged in paragraph 1 of the article 4[5]; secondly, communicate and maintain their nationally determined contributions (hereinafter – NDCs) as

[5] The peak of GHG emissions means the point in time when emissions of those gases will decrease each subsequent year until they reach the level the humankind considers safe.

envisaged in paragraph 2 of the article 4; and thirdly, elaborate their long-term low GHG emission development strategies (hereinafter – LT-LEDSs) as envisaged in paragraph 19 of the article 4. The peak of GHG emissions means the point in time when emissions of those gases will decrease each subsequent year until they reach the level the humankind considers safe. Paragraph 1 of the article 4 of the Agreement also stipulates the need to achieve a balance between anthropogenic GHG emissions by sources and removals by sinks of GHGs in the second half of this century [81]. This wording fully corresponds to the notion of climate neutrality, as it is understood in the doctrine, and details the main objective of the Agreement. Although the term ‘climate neutrality’ is not used explicitly in the text of the treaty, it is clearly enshrined into its article 4 structure.

The commitments of state parties to hold the increase in the global temperature at certain levels and to reach the peak of GHG emissions are the obligations of conduct which are rooted in the due diligence concept. If a state acts with due diligence it means that it ensures as far as possible that any activity within its jurisdiction don’t harm the global environment or the environment of any neighbouring state. For this reason, a state has to adopt relevant legislation, set up appropriate bodies and enforce its rules, including with the view to combat climate change. Under the due diligence principle, this state cannot be held responsible for not achieving the final desired result. It must employ all possible means at its disposal and undertake such a course of conduct so as to prevent climate change, hold the increase in the planet temperature and to reach the peak of GHG emissions but that state doesn’t incur international responsibility because the climate neutrality is not reached. In contrast, the obligation of result means that a state has to achieve a particular concrete result, e.g. to adopt and communicate its NDC or LT-LEDS in accordance with a climate treaty. If that state doesn’t do that, it will be held liable under international law. NDCs and LT-LEDSs are the main policy instruments to achieve the goals of the Paris Agreement and to reach the final desired result – climate neutrality. These instruments are the principal obligations for state parties to the Agreement which are monitored by its respective bodies, namely the

Secretariat of the 1992 United Nations Framework Convention on Climate Change (hereinafter – UNFCCC, or Convention).

States are obliged to prepare their NDCs, meanwhile they only seek to formulate and report on their LT-LEDSs. NDCs are individual voluntary obligations of the parties to the Paris Agreement to reduce GHG emissions relative to a certain base year, which must be updated every five years and become more ambitious each time. NDCs are subject to 'normative expectations of progression and highest possible ambition' [82]. The parties formulate their NDCs in the form of short- and medium-term strategies for mitigating the consequences of climate change and notify them to the Secretariat of the Convention which maintains the relevant register. As of September 2022, and starting from 2020, 193 parties to the Agreement have submitted or updated 166 NDCs (the EU has submitted NDC on behalf of all its 27 Member States). The 2022 NDC Synthesis Report at the UNFCCC site shows that the majority of parties (90%) provided quantified mitigation targets in their NDCs, while the rest 10% included only their plans, policies and actions without clear numerical emission targets [83]. This fact, in our opinion, reveals drawbacks in the mechanism of implementation of the Agreement, because if one desires to measure the fulfilment of the obligation of result, some concrete and clear tools must be at his disposal to effectively accomplish that task and find out if a state is under commitment to rectify its activities in order to achieve the common good – climate neutrality. Meanwhile, one of the good indicators is the fact that almost 74% of the parties have already strengthened, i.e., made more ambitious, their commitments to reduce emissions by 2025 and/or by 2030 [83]. That trend shows that many states are really responsible and conscientious about performance of their commitments of result in a good faith.

The European Commission representing the EU as a whole and all its member states submitted the first NDC in 2015. It envisaged the 40% GHG emission reduction target. Due to the adoption of the European Green Deal (hereinafter – EGD) in 2019, the EU updated its first NDC in 2020 with the aim of making it more ambitious: the EU and its Member States, acting jointly, were committed to a binding target of a net domestic reduction of at least 55% in GHG emissions by 2030 compared to 1990 [84].

In addition, the NDC of the EU proclaimed the goal of achieving climate neutrality by 2050. In 2023, the EU again updated its NDC in light of the implementation of its new climate policy but reiterated its commitment to cut down GHGs by at least 55% by 2030 [85]. The USA and China as the biggest GHG emitters also communicated their NDCs. According to the NDC presented by the USA after returning to the Paris Agreement in 2021, this country committed to reduce GHG emissions by 50-52% by 2030, compared to the 2005 level [86]. In its updated NDC, China announced a goal to reduce CO2 emissions per unit of GDP by more than 65% from 2005 levels [87].

LT-LEDSs are considered by developing countries as a certain alternative to binding targets on the cutting down of GHG emissions [88, c. 51], but many developed countries also use them in order to shape their long-term climate policy. As of July 2023, 64 states have notified the Secretariat of the Convention of their LT-LEDSs. LT-LEDS Synthesis Report at the UNFCCC site shows that 94% of the submitted strategies refer to a quantifiable long-term mitigation goal and 6% describe policies and actions without a quantifiable long-term goal [89]. As in the case with the NDCs, the existence of any numerical tools boosts the efficacy of the monitoring process in the mechanism of implementation of obligations of result in accordance with the Paris Agreement. In 87% of all strategies, the time frame for achieving climate neutrality is defined as 2050 [89]. These documents usually encompass climate mitigation and adaptation strategies and present some instruments in order to cut down GHG emissions across all sectors of the economy. We can title them as a long-term vision of each state on the issue of climate neutrality which is based on a thorough analysis of different scenarios best suited for the achievement of low-carbon development. LT-LEDS is usually prepared by official governmental authorities in cooperation with all stakeholders, including the public, and is subject to regular revision and monitoring procedures within a state. Some strategies rely on the climate justice principle, and some cite the principle of common but differentiated responsibilities; some strategies are incorporated into binding national laws, and some are described as mere aspirations to be achieved with the help of various policy tools and instruments. Today about 35 states have proclaimed the goal of achieving climate neutrality in their national legislation.

In 2020, the EU submitted its LT-LEDS where the integration organization reiterated its intention to reach climate neutrality by 2050. According to the LT-LEDS of the USA communicated in 2021 this country plans to achieve climate neutrality by 2050 too. China announced its plans to become climate neutral by 2060.

NDCs, like LT-LEDSs, differ in terms of scope, sectoral coverage, targets, time frames, level of detail [90, c. 15]. In any case, NDC must be in conformity with LT-LEDS in order to fulfil the tasks of the Paris Agreement, in particular, to achieve climate neutrality, as declared in Article 4 thereof. Meanwhile, scientists and experts warn that there is a significant gap between the short- and medium-term goals for mitigating climate change, which are included by states into their NDCs, as well as the long-term goals for climate neutrality, enshrined in their LT-LEDSs, on the one hand, and the level of GHG emission reductions on a global scale, which is necessary to achieve the most ambitious temperature goal of the Paris Agreement [91, c. 102].

To sum up, the NDCs and LT-LEDSs are the main policy instruments for achieving the goals of the Paris Agreement, including climate neutrality, which states have to formulate and communicate to the UNFCCC Secretariat. These policy instruments provide the governmental responses to climate change and describe principal steps in different sectors to be taken on a legislative level so as to facilitate green transition to a carbon neutral economy and development.

Climate neutrality: legislative tools from the European Union's experience. States, civil society and international organizations use various tools to achieve climate neutrality. These tools are mainly elaborated by means of legislation and are enforced through relevant mechanisms including climate litigation. Since the European Union is the world leader in global climate policy, we'll consider its legislative tools as a demonstrative example.

Since 2015, the principal goal of the EU institutions has been to transform the Union into 'a sustainable, low-carbon and climate-friendly economy that is designed to last' [92]. To accomplish this task, a package of proposals has been submitted and a set of legislation has been implemented at the EU level which united the European energy and climate policy into a complex integrated piece of regulations. One of the pillars of this policy is the Energy Union which *inter alia* is aimed at achieving decarbonization. Decarbonization means a large-scale transformation of the economy with the aim of reducing and gradually eliminating CO2 emissions from all its sectors and is the main tool for the realization of the climate neutrality goal. The regulations on the Energy Union implement different strategies to meet the EU commitments under the Paris Agreement [93], in particular the so called integrated national energy and climate plans for member states and their long-term strategies for cutting down GHG emissions.

Since 2019, the EU energy and climate policy has been shaped by a new instrument – the European Green Deal which was drafted as a response to global challenges and in particular – to climate change and global warming and affirmed the EU aspiration to achieve climate neutrality by 2050 [94]. It is a road map for achieving climate neutrality by amending EU legislation in all key sectors of its economy including energy supply, food systems, healthy environment, etc. One of the important points envisaged in the EGD is the recognition that global environmental challenges are not limited by national borders, that's why the EU will play a central role in all climate neutrality initiatives. In the EGD, the Commission set a new GHG emission reduction target for 2030 – at least 50% and towards 55% compared with 1990 levels – and to review and revise all relevant climate-related policy instruments if necessary to implement it [94]. This short-term ambition target together with the long-term goal to reach climate neutrality by 2050 was fixed in the EU legislation making aspirations a legal obligation for the EU and its Member States. Regulation on 'European Climate Law' touches upon all sectors of the EU economy, repeats the EU climate neutrality goal and provides its commitment to uphold negative emissions after the year 2050 [95]. The Regulation provided a short-term climate goal of the EU (to reduce GHG emissions by 55% by 2030) and set an obligation towards the institutions of the Union to determine the medium-term goal by 2040 (Article 4) [95]. It is worth noting that the European Scientific Advisory Board on Climate Change, set up on the basis of the

Regulation, recommended that the EU reduce emissions by 90-95% by 2040, taking 1990 as a base year. According to the ‘European Climate Law’, the European Commission received additional powers to review any legislative proposals within the EU for compliance with the goal of climate neutrality (Article 4), as well as to evaluate the compliance of short- and medium-term climate targets with the goal of climate neutrality (Article 8) [95].

With a view to implementing the EGD and ‘European Climate Law’, a package of legislative proposals titled ‘Fit for 55’ was approved in order to make the EU fit for its 55% climate pledge and undertake all necessary changes across its economy, society and industry in order to reach ‘green transition by 2030 and beyond’ [96]. The Package strengthens some existing EU legislative acts and offers some new legislative initiatives, across a range policy areas and economic sectors such as climate, energy and fuels, transport, land use, forestry and buildings [96].

We can distinguish several most important, interesting and novel legislative tools of the EU in pursuit of its climate neutrality goal.

GHG Emissions Reduction Target. NDC is the main universal form of GHG emissions reduction target today. The EU GHG emission reduction target is enshrined into its NDC and reiterated in the EGD and European Climate Law. Current EU energy and climate law divides all targets to cut down GHG emissions by 2030 between the sectors which are covered by three pieces of legislation, namely the ETS Directive (for energy-intensive industry sectors, electricity and heat generation, maritime transport, aviation, etc.), Effort Sharing Regulation (for domestic transport, agriculture, small industry, buildings, waste, etc.) and LULUCF Regulation (for land-use and forestry) [84]. Each EU member state has to prepare its integrated national energy and climate plan which include its own national contribution to achieve the combined energy and climate pledges as well as related commitments under the Paris Agreement [84].

Emission Trading System and International Carbon Market. GHG emission trading mechanism or similar market tools are considered to be cost-effective means of achieving climate neutrality. According to climate agreements, ETS is the form of carbon pricing which enables one state that emits GHG below its commitments’ level to sell credits to another state that finds it difficult or expensive to meet its own obligations on the GHG emissions reduction. The positions of state parties to the Paris Agreement and experts differ on whether international carbon markets really help in fulfilling the tasks of the Agreement in general and reaching climate neutrality in particular. Some states include international carbon market mechanisms into their NDCs and LT-LEDSs, some exclude them as a contribution to meet their targets, and some do not express an unequivocal position on this issue [90, c. 24]. In our opinion, ETS and international carbon markets envisaged by the Paris Agreement in Article 6, can only be used as a transitional and temporary tool: in order to achieve climate neutrality, states and non-state actors (for example, companies and individuals) should, first of all, resort to intentional reduction of GHG emissions as well as use renewable energy sources, introduce energy-efficient and energy-saving technologies, rather than look for ways to avoid such a reduction through trade benefits.

ETS Directive establishes a scheme for GHG emission allowance trading within the EU in order to promote reductions of GHG emissions in a cost-effective and economically efficient manner [97]. The EU ETS is based on the ‘cap and trade’ principle which was duly analyzed in modern literature. A second ETS phase was established for the buildings and road transport sectors [98, c. 4]. In order to address adequately additional costs arising from such stringent measures and support vulnerable stakeholders, a Social Climate Fund was set up by a special Regulation. The new amendments to the ETS Directive stipulate an increase of the ambition towards emission reductions target on 62%, compared to 2005 levels, by 2030.

Carbon Border Adjustment Mechanism (hereinafter – CBAM). CBAM is the type of the emission trading system which is the unique tool elaborated by the EU and, thus, deserves a special attention. CBAM applies to imports of some categories of products derived from the so-called carbon-intensive industries, e.g. cement, steel, iron, electricity, aluminium, hydrogen, fertilisers, etc., in order to prevent the risk of carbon leakage as well as to create incentives for operators in third countries to cut down their own GHG emissions [99]. There is a transition period for the mechanism enforcement starting from the 1st of October, 2023 and lasting until 2026. During this transition period obligations of the importers will be limited to reporting but starting from 2026, they will have to pay adjustments. *It is expected that in* 2032, the mechanism will be fully implemented.

CBAM must be in full compliance with international trade rules, however, time will show if there will be any trade disputes concerning the mechanism. Analytical studies have shown that, even though the CBAM 'could in principle motivate emissions reduction abroad, key EU trade partners could as well retaliate with trade sanctions' [100, c. 2]. This is explained by the fact that such unilateral acts often cause 'territorial extension' problem, when a regulatory state or integration organization (EU) applies trade measures (CBAM) within its territory but takes into account the circumstances or behaviour of natural persons and legal entities (CO2 emissions from industry) committed abroad (in third non-EU countries). Experts warn that the CBAM effectiveness depends on different internal and external factors [101, c. 1-2].

Renewable Energy Sources and Energy-Efficiency. 'Fit for 55' Package proposals are targeted to the encouragement of the use of more renewable energy sources and improving energy-efficiency and energy savings. Directive 2018/2002 stipulates that in order to cut down GHG emissions, it is necessary to improve energy efficiency throughout the whole energy chain [102]. According to the 'Fit for 55' Package, the revised Directive must result in 9% energy consumption by 2030 [96]. Directive 2018/2001 sets a binding Union target for the share of renewable energy sources: member states must collectively ensure that 'the share of energy from renewable sources in the Union's gross final consumption of energy in 2030 is at least 32%' [103]. According to the EGD and 'Fit for 55' Package proposals, the EU modified target must be at least 40% by the same year.

There are a lot of sources of renewable energy, but we'd like to highlight the EU action towards the development and use of 'clean' hydrogen which gains rapidly growing attention in the world in recent years due to its climate-neutral potential. 'Clean' or green hydrogen is produced with the help of renewable energy sources, which makes it impossible to emit GHGs into the atmosphere. That is why it offers a certain solution to decarbonise industrial processes. In 2020, the European Commission issued a Communication on a Hydrogen Strategy for a Climate-Neutral Europe. Its goal is to help the EU to reach climate neutrality by 2050 and achieve the goals of the Paris Agreement.

Taxation of Electricity and Products from Energy Sector. The EU taxation policy is a very important tool to achieve the objectives of the Energy Union and climate neutrality. Directive 2003/96 envisages the EU rules on taxes in relation to electricity, all motor fuels and most heating fuels. Member States are obliged to impose taxes on electricity and energy products according to the levels of taxation listed in Article 2 [104]. The legislative proposal of the 'Fit for 55' Package to revise this Directive is aimed to combine taxation of electricity and products from energy sector with the EU's climate and energy policies. These objectives are to be achieved by switching from volume to 'energy content-based' taxation, i.e., the taxation which is grounded on the energy content of the electricity and energy products as well as their environmental performance [105].

Innovative Geoengineering Technologies. Geoengineering refers to a set of tools that are aimed at deliberately altering the climate system in order to combat climate change [106]. Generally, global warming geoengineering technologies can be divided into two categories: solar radiation management and carbon dioxide removal [107, c. 163]. The former denotes the technologies which are based on strategies to increase the ability of the Earth's surface or atmosphere to reflect solar radiation (e.g., the use of chemicals to cool the atmosphere, the use of different aerosols to reflect sunlight back into the outer space, the placement of special solar shields in the outer space), while the latter – strategies to remove GHGs from the atmosphere (e.g., traditional technology is planting forests, the innovative one is fertilizing the ocean with iron to boost the phytoplankton photosynthesis process, and CO2 capture and geological storage, etc.). Solar radiation management techniques are only at the stage of hypotheses and projects, while carbon dioxide removal techniques are actively developing and being tested. Nevertheless, both involve unknown risks for the Earth's ecosystem and humans. They are even considered by many experts to be immoral because they shift the emphasis from the necessity to consume less and curb the GHG emissions to the need to utilize more natural resources, including fossil fuels, for the development and use of these unproven innovative technologies.

Geoengineering is governed within the framework of three universal legal regimes, namely the Convention on Biological Diversity (1992), UNFCCC and the Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (1996). The latter allows CO2 dumping and the use of ocean fertilization under strict requirements. In accordance with international law, the EU allowed geological storage of carbon dioxide under Directive 2009/31. Besides, CO2 capture and geological storage technologies are regulated under the ETS Directive and are mentioned in the preamble of the ‘European Climate Law’.

Thus, the EU by means of its legislative acts on the Energy Union, ‘Fit for 55’ Package, European Climate Law, and European Green Deal tries to establish a coherent and integrated system for reaching climate neutrality by 2050. Directives and regulations relating to GHG emissions reduction target, emissions trading system, renewable energy sources and energy-efficiency, carbon border adjustment mechanism, taxation of energy products, innovative geoengineering technologies, etc. are adopted and regularly renewed to be in full compliance with the EU central climate neutrality goal as well as long-term temperature target of the Paris Agreement.

Climate neutrality and European climate litigation: an interplay. Climate litigation refers to cases brought before national, regional or universal courts and other bodies which raise legal issues pertaining to climate change mitigation and adaptation. Such cases became very frequent before the UN monitoring bodies, the European Court of Human Rights (hereinafter – ECtHR), the Court of Justice of the European Union (hereinafter – CJEU) and many national courts of different countries all over the world. Applicants usually claim that their governments do not make enough efforts to cut down the GHG emissions and to reach the goals of the Paris Agreement. They rely on their human rights to life, sustainable standard of living, private and family life, etc. in order to force the respondent states to adopt more stringent legislation with more ambitious emission reduction targets in pursue of common climate neutrality goal. We’ll consider climate litigation related to the EU or its Member States.

The case of *Urgenda Foundation v. State of the Netherlands* is one of the first cases in climate litigation process. It was the first case in which the courts obliged the defendant state to limit GHG emissions, based on the principles of 'no harm', precaution, common but differentiated responsibilities, concepts of due diligence (duty of care) and human rights. The applicant was an environmental NGO representing the rights of present and future generations, in particular in the face of global warming. Courts of various instances of the Netherlands including the Dutch Supreme Court ruled in favour of the applicants. In 2019, the Supreme Court drew to the conclusion that the state had to prevent the imminent danger of climate change it poses for human rights under Article 2 (right to life) and Article 8 (private life, family life, home, and correspondence) of the European Convention on Human Rights by taking and implementing relevant policy measures [108]. The Court upheld the judgment of the Court of Appeals having ruled that the government of the Netherlands was obliged to limit GHG emissions to 25% below 1990 levels by 2020 and found that the state's existing pledge to reduce emissions by 17% insufficient to meet the climate treaties' goals [108]. The Court of Appeals didn't prescribe any particular legislative measures and din't indicate any specific tools to reach climate neutrality by the Netherlands but upheld that the Treaty on the Functioning of the European Union doesn't prohibit a member state from taking more ambitious climate action than the EU as a whole [108]. The Dutch Supreme Court further reasoned that 'it remains for the State to determine what measures will be taken and what legislation will be enacted to achieve that reduction' [108]. Therefore, in this case, a violation of Articles 2 and 8 of the European Convention was established, and the government was obliged to reduce its GHG emissions by any means at its disposal.

The *Urgenda* case inspired similar climate change litigation within the ECtHR. Although the EU is not a party to the European Convention on Human Rights, its Memeber States have to adhere to the standards of the treaty and comply with the judgments of the ECtHR. One of the recent cases is *Verein Klimaseniorinnen Schweiz and others v. Switzerland*. The judgment was issued by the Grand Chamber on the 9th of April, 2024. The case was brought by a Swiss association and its members, a group of elderly people concerned about the effects of global warming on their living conditions and health. They complained about various shortcomings of the Swiss authorities in the field of climate change policy. The applicants alleged, in particular, that the respondent State failed to fulfil its positive obligations to effectively protect life (Article 2 of the Convention) and to ensure respect for their private and family life, including their home (Article 8 of the Convention). The Court highlighted that states have a wide margin of appreciation in outlining respective governmental policies to protect human rights in the face of climate change. It reasoned that 'effective respect for the rights protected by Article 8 of the Convention requires that each Contracting State undertake measures for the substantial and progressive reduction of their respective GHG emission levels, with a view to reaching net neutrality within, in principle, the next three decades' [110]. It seems that it is the first ECtHR case where it explicitly referred to the concept of climate neutrality. The Court went further and underlined certain measures a state has to adopt at the legislative, executive and judicial levels in order to comply with climate neutrality goals, e.g. to specify a target timeline for achieving carbon neutrality, set out intermediate GHG emissions reduction targets, to update these targets, etc. [110]. In its argumentation the Court relied on the primary and secondary legislation of the EU, including its regulations on emission reduction targets and Energy Union, directives on the use of energy from renewable sources and energy efficiency as well as the European Climate Law.

There are several climate cases decided or pending before the Court of Justice of the European Union which concerned the attempts of the member states or public to adjust the EU climate neutrality targets. The CJEU has the powers to shape the EU climate policy and, in this way, makes a direct input into the achievement of the climate neutrality goal. More than 60 cases have now been filed before the CJEU dealing with climate issues and the majority of these cases have focused on the EU ETS in general and the ETS Directive in particular since 2005 [111]. The CJEU has rendered 27 'climate-friendly' judgments, 6 'climate-unfriendly' judgments, and 8 judgements with a 'neutral' outcome [111]. The claimants in these cases were mainly legal entities and governments [111]. We'll turn to the analysis of two cases brought by the representatives of the public – individuals and NGOs.

In 2018, a petition was brought by a group of plaintiffs against the EU Parliament and Council in the General Court. The case is known as *Carvalho Case,* or *the People's Climate Case*. Claimants from several EU and non-EU countries, together with the organization representing Sami people, demanded the abolishment of three EU legal acts: Directive 2018/410 on enhancing the cost-effective emission reductions and low-carbon investments, Effort Sharing and LULUCF Regulations [112, c. 108]. They argued that the EU targets stipulated in these legal acts were not in conformity with the Paris Agreement and required from the EU bodies to adopt a more ambitious target for the reduction of GHG emissions in order to comply with the treaty goals [112, c. 108]. The claimants grounded their position on the Charter of Fundamental Rights of the EU stating that the EU's 2030 climate target violates their human rights [113, c. 42]. Although the petition was dismissed on the procedural grounds by the Court, we can affirm that it influenced the adjustments the EU made in its recent climate initiatives regarding new 55% GHG emission reduction target for 2030.

One of the recent cases is *ClientEarth v. European Investment Bank* (2021). In 2018, the European Investment Bank provided a loan for the construction of a biomass power plant in Spain. Environmental NGO 'ClientEarth' applied to the Bank with a request for internal review of the decision because the organization insisted that the project would not make a contribution to renewable energy objectives [114]. Since the Bank rejected the request as inadmissible, the organization filed a suit in the CJEU against the Bank in 2019. The Court issued its decision on January 27, 2021, where it addressed a number of legislative acts, namely: Article 191(1) of the Treaty on the Functioning of the European Union stipulating the EU climate policy objectives; EU Environmental Action Programme for the period 2014-2020 setting the transition of the European Union into a lowcarbon economy as one of its objectives; 2020 and 2030 climate and energy packages comprising binding national targets on renewable energy; climate policy documents of the European Investment Bank, etc. [115]. The Court delivered an order that the Bank must satisfy 'ClientEarth's' request for internal review. Meanwhile, on April 2, 2021, the Bank appealed that judgment and the case is now pending.

Thus, climate litigation is also used as an efficient tool to advance climate action. The judgments of different national and regional European courts show that there is a solid link between climate neutrality targets and human rights protection. Though states are granted wide discretion to adopt measures to reduce their GHG emissions, there is a trend in current climate litigation to demand from respondent governments the application of some specific tools of climate neutrality.

Climate neutrality in the context of the Russian aggression against Ukraine. *GHG Emission Reduction and Climate Neutrality Targets in NDC and LT-LEDS*. Ukraine undertook its obligations to reduce GHG emissions under the UNFCCC, the Kyoto Protocol (1997) and the Paris Agreement as a country with economy in transition in accordance with Annex I to the Convention. Ukraine recognized 1990 as the base year for estimating anthropogenic emissions of GHGs. After the ratification of the Paris Agreement in 2016, Ukraine submitted its first NDC to the Convention Secretariat, according to which it set the goal of not exceeding 60% of the level of GHG emissions in 1990 by 2030. Since this target was not ambitious enough, in 2021 Ukrainian NDC was adjusted in such a way that from now on Ukraine undertakes to achieve a reduction of GHG emissions by 65% by 2030 compared to 1990 levels and to achieve climate neutrality no later than by 2060 [116].

In 2018, Ukraine was one of the first countries to submit its LT-LEDS to the Secretariat of the Convention. Ukrainian LT-LEDS till 2050 provides strategic vision on climate neutrality which must be based on such pillars as energy efficiency and energy savings, clean transport, sustainable land-use, forestry and agriculture, sound waste management, etc. [117]. Unfortunately, the LT-LEDS doesn't refer to a year when Ukraine plans to achieve climate neutrality. Thus, climate neutrality target was proclaimed not in the LT-LEDS, but in the NDC.

Legislation and Tools for Achieving Climate Neutrality. Ukraine has created a solid legal basis for the achievement of climate neutrality. For example, the Law of Ukraine 'On the Basic principles (strategy) of the state environmental policy of

Ukraine for the period until 2030' envisages that conditions must be created for the decarbonization of the energy sector, active use of energy-saving technologies and energy efficiency, introduction of the best available low-carbon and resource-saving technologies, increase the portion of renewable and alternative sources in energy production, which will lead to significant reduction of GHG emissions. The Strategy refers to the concepts of sustainable and low carbon economic development. In order to achieve climate neutrality, Ukraine adopted some other legislative instruments, namely in the form of national concepts and plans dealing with such areas as climate change mitigation, climate change adaptation, economic development, energy production, transport, waste management, energy efficiency, etc. These concepts and plans have 2030 as a base year when some significant results concerning climate neutrality must be achieved. Besides, Annex XXVII to the European Union-Ukraine Association Agreement providing our country's obligations in the sphere of climate change and energy before the EU was amended due to the adoption of the Paris Agreement and new directives and regulations on EU climate and energy policy.

In order to fulfil our state's obligations under the Association Agreement, the national Concept of green energy transition of Ukraine until 2050 (the so called 'Ukrainian Green Deal') was developed. According to the document, the strategic goal of Ukraine is to reach a climate-neutral economy by 2070. The National Economic Strategy for the period until 2030, adopted in 2021, highlights the need to achieve climate neutrality no later than by 2060. The Energy Strategy of Ukraine for the period until 2050, adopted in 2023, plans to reach climate neutrality by 2050. Thus, 'Ukrainian Green Deal', the National Economic Strategy, the Energy Strategy and the NDC determined different terms for achieving climate neutrality by Ukraine.

Concerning concrete tools to achieve climate neutrality we should mention the following. The adoption of the Law of Ukraine 'On the principles of monitoring, reporting and verification of greenhouse gas emissions' was the first step towards the creation of the Ukrainian ETS. It is estimated that national ETS will be fully enforced in 2025, however, the system today encounters many problems because annual reporting by all enterprises, the creation of a single register for GHGs monitoring and registration of installations are implemented only partially. Meanwhile, active negotiations are underway with other countries to conclude agreements on emission trading within the framework of the Paris Agreement in order to make it possible for Ukraine to enter the international carbon markets by 2025.

To be in full compliance with the EU CBAM, Ukraine has to introduce its national ETS and relevant carbon pricing within it. Iron and steel occupy the largest share (almost 85%) in the structure of Ukrainian exports of CBAM goods, that's why to maintain competitiveness on the EU market in the long term, Ukrainian enterprises will have to be technological restructured, which will require the development of carbon-free electricity, in particular, from renewable sources, including hydrogen [118, c. 4]. Ukraine may be exempted from CBAM on general grounds if it fulfils its obligations under the Association Agreement with the EU and the Treaty Establishing Energy Community in relation to decarbonization of economy and functioning of ETS.

Liberalization of the gas and electricity markets in Ukraine contributed towards the implementation of policies on energy efficiency and investments in renewable energy [116]. Today 63 % of electricity generated in Ukraine is low-carbon in terms of GHG emissions [116]. This is achieved both through the high share of nuclear and hydro generation and by increasing the share of renewable energy [116]. The amendments to the Law of Ukraine 'On alternative energy sources' introduced a green tariff to ensure the use of renewable energy sources [119, c. 224]. Besides, within the framework of the EU Hydrogen Strategy, Ukraine is given a special priority: our state is mentioned in the context of EU cooperation with neighboring countries on the production of clean hydrogen.

Ukraine doesn't use the mechanism of taxation of energy products and electricity, nevertheless, it applies environmental taxes. Among them we'd like to mention a carbon tax (tax on CO2 emissions) provided in 2011. Under Ukrainian Tax Code, if the annual volume of CO2 emissions exceeds 500 tons per year, relevant stakeholders have to pay a carbon tax. Ukraine is not very active in the development and use of innovative geoengineering technologies. It also lacks climate litigation practice.

Impact of the Russian-Ukrainian Armed Conflict on the Global Climate Neutrality. There is no doubt that the armed aggression of the Russian Federation against Ukraine is undermining the efforts of the world community to fight climate change and is slowing down the pace of achieving the short-, medium- and long-term goals of the Paris Agreement, particularly in the context of climate neutrality. This armed conflict has resulted in the release of at least 120 million tons of CO2, including (1) about 39 million tons of CO2 emitted as a result of warfare, fuel used by military units, ammunition production, and fires; and (2) about 50 million tons of CO2 which will be emitted as a result of future recovery of the damaged infrastructure after the end of the war. The number of fires with an area of more than 1 ha during 2022 when the full-scale invasion started increased 35 times compared to the same period last year. The fires exterminated at least 2 million hectares of forests – natural carbon sinks necessary to achieve climate neutrality goals. The most popular projects in renewable energy sources like wind and solar power plants created in the southern part of Ukraine before the war which are now under the Russian occupation have been decommissioned. As a result of the Russian armed aggression against Ukraine the EU experienced acute energy insecurity, given its heavy dependence on Russian fossil fuels [120, c. 7]. Thus, this war became the trigger for the formation of a complex of risks for the implementation of above-mentioned measures on the achievement of climate neutrality by Ukraine.

The breach of the Kakhovka dam by Russian troops in June 2023 led to the drainage of the reservoir, which, according to many experts, will lead to the desertification of the southern region of Ukraine. Flooding of vast territories resulted in the destruction of the fertile soil layer, forests, wetlands and irrigation systems, which are the necessary components in absorbing GHGs. The UNEP report states that the destruction of the dam will affect the drainage of the Dnieper River with such possible consequences as sandstorms, accelerated effects of climate change and potential desertification of neighbouring regions [121, c. 27]. Moreover, large-scale flooding of the southern territories of Ukraine will increase their vulnerability to the negative consequences of climate change, in particular, due to the destruction of infrastructure (water supply systems, irrigation, etc.), as well as the destruction of agricultural lands. During the 28th Conference of the Parties to the UNFCCC in December 2023, Ukraine initiated the inclusion of a mechanism for compensating the damage to the environment and climate as a result of an armed conflict titled 'Aggressor Refunds' within the framework of the Paris Agreement. The implementation of this initiative is possible thanks to Article 8 of the Agreement on the averting, minimizing and addressing adverse effects of climate change as well as the Warsaw International Mechanism for Loss and Damage.

On the other hand, there are certain predictions and hopes that after this war, the transition to a sustainable energy will be accelerated. The armed conflict in Ukraine forced some authors and experts to come to the conclusion that now is 'the time for the EU to … accelerate the implementation of the objectives and ambitions underlying the EGD' [120, c. 5]. As one of the responses to the energy crisis inflicted by the war, in 2022 the European Commission presented REPowerEU Plan which calls for energy efficiency, energy savings, renewables as well as diversification of the EU energy supplies to enhance European energy security in the situation of existing armed conflict between the Russian Federation and Ukraine [122, c. 87]. The Plan reflects the differences in energy sector between member states and proposes balanced responses corresponding to their specific energy needs without compromising the ability of the EU to cut down the emissions of GHGs by 55% by 2030 and achieve climate neutrality target by 2050 [123]. The EU Energy Platform is also open for Ukraine. According to the Plan, Ukraine is considered as one of the corridors for the importation of hydrogen. Thus, REPowerEU Plan with the help of Ukraine will make a huge input into the efficient enforcement of EU climate and energy policy in the context of transition to climate neutrality.

Climate litigation is not so popular in Ukraine as in other countries, nevertheless it has the potential to become an influential tool to frame Ukrainian climate policy.

Conclusions. Climate neutrality is one of the instruments of a green economy. Climate neutrality denotes the conditions under which GHG emissions into and their removal from the atmosphere are clearly balanced. It doesn't mean the complete absence of any GHG emissions, but only their neutralization using traditional and modern methods. NDCs and LT-LEDSs of State Parties to the Paris Agreement are main policy instruments for achieving its long-term temperature goal, part of which is ensuring climate neutrality. The majority of all states' strategies define 2050 as the time frame for achieving climate neutrality. The commitments of state parties to hold the increase in the global temperature at certain levels and to reach the peak of GHG emissions are the obligations of conduct which are rooted in the due diligence concept. In contrast, commitments of state parties to adopt and communicate their NDC or LT-LEDS are the obligations of result. NDCs and LT-LEDSs are the principal obligations for state parties to the Paris Agreement which are monitored by its respective bodies.

The European Union, which is the global leader in climate agenda-setting, has a coherent and integrated system of legislation providing tools for achieving climate neutrality on the whole European continent. The EU enforces its climate targets with the help of legislative acts on the Energy Union, 'Fit for 55' Package, European Climate Law, European Green Deal, various directives and regulations relating to GHG emissions reduction, emissions trading system, energy-efficiency, renewable energy sources, carbon border adjustment mechanism, taxation of energy products, innovative geoengineering technologies, etc. These acts are adopted and regularly renewed to be in full compliance with the EU central climate neutrality goal and long-term temperature target of the Paris Agreement.

Climate litigation is also used as an efficient tool to advance climate action. Applicants claim that their governments do not make enough efforts to cut down the GHG emissions and to reach the goals of the Paris Agreement relying on their human rights to life, sustainable standard of living, private and family life, etc. Usually national and regional European courts neither prescribe any particular legislative measures to reach climate neutrality by respondent states. Recent case-law of the ECtHR reveals another changing trend: to force the governments to adopt more stringent legislation with more ambitious emission reduction targets in pursue of common climate neutrality goal, the Court indicates specific tools to reach climate neutrality.

Before the Russian invasion, Ukraine has created a solid legal basis for the achievement of the climate neutrality. Ukraine presented its NDC and LT-LEDS as the main policy instruments of the climate neutrality to implement its commitments under the Paris Agreement. In 2021 Ukrainian NDC was adjusted to become more ambitious and our state pledged to achieve climate neutrality no later than by 2060. In 2018, Ukraine was one of the first countries to submit its LT-LEDS to the Convention Secretariat. The adoption of the Law of Ukraine 'On the principles of monitoring, reporting and verification of greenhouse gas emissions' became the first step towards the creation of national ETS which is expected to be fully enforced in 2025. Ukraine introduced other elements of the climate neutrality concept, such as green tariff, carbon tax, energy efficiency and renewable energy mechanisms.

The Russian war against Ukraine put many of these green initiatives on hold. The armed aggression of the Russian Federation against Ukraine is undermining the efforts of the world community to fight climate change and is slowing down the pace of achieving the short-, medium- and long-term goals of the Paris Agreement, particularly in the context of climate neutrality. The war became the trigger for the formation of a complex of risks for the implementation of above-mentioned measures on the achievement of climate neutrality by Ukraine. The breach of the Kakhovka dam by Russian troops will certainly aggravate climate crisis. Ukrainian initiative 'Aggressor Refunds' under the umbrella of the UNFCCC and Paris Agreement may become a promising instrument to invoke Russian Federation responsibility for the damage caused to the climate system during its aggressive war against Ukraine.

On the other hand, there are certain predictions and hopes that as a result of the Russian-Ukrainian war, the transition to a sustainable and green energy will be accelerated. As one of the responses to the energy crisis inflicted by the war, in 2022 the European Commission published its ambitious REPowerEU Plan. After the victory, Ukraine will certainly take its own place on the political, economic, social, environmental European landscape and play a crucial role in the process of achieving climate neutrality on the European continent.

DOI: 10.46299/979-8-89504-809-2.3

3. European landscape of climate law

Introduction. The existential threat caused by climate change requires governmental efforts of the states for implementation of the Paris Agreement setting up efforts for development of economic and social transformation, based on the best available scientific and sustainable approaches. As part of the European Green Deal, with the European Climate Law, the European Union has set itself a binding target of achieving climate neutrality by 2050. Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 was named ‘European Climate Law’ [124].

Researches of European landscape of climate law have been provided by various organizations, institutions, and researchers, including United Nations Framework Convention on Climate Change (UNFCCC), Panel on Climate Change (IPCC), World Bank , Organization for Economic Co-operation and Development (OECD), Grantham Research Institute on Climate Change and the Environment (London School of Economics), World Resources Institute (WRI), Climate Policy Initiative (CPI), International Institute for Environment and Development (IIED), Climate Action Network (CAN), Greenpeace, World Wildlife Fund (WWF), Ecologic Institute etc. These organizations and institutions have provided comprehensive research, data, and analysis to inform the development and implementation of climate laws as well.

The framework of the Climate Law in the context of the EU climate policy. Due to the Climate Law, it was legally fixed the goal written in the Green Deal for Europe to achieve climate neutrality by 2050. The law established the interim target of slashing volume of greenhouse gas emissions by at least 55% by 2030, relative to 1990 levels. According to the law there is the concept of reaching net zero greenhouse gas emissions by 2050 by European countries collectively. This objective is primarily pursued through measures such as emission reduction for all sectors of the economy, investments in green and sustainable technologies, preservation of environment and active participation of society in achieving climate neutrality. In the EU framework for achieving the legally binding long-term goal of climate neutrality by 2050 at the latest, the law sets interim targets for 2030 and establishes a process for setting a 2040 target. The text of the law complements and integrates with procedures for planning, reporting, and monitoring national actions in the Governance Regulation (GovReg) of 2018 [125]. The most prominent legal innovation of the EU Climate Law is providing the European Scientific Advisory Board on Climate Change (Art. 3), a new expert body was proposed with the aim to inform and monitor EU policymaking. The law put obligation on the EU Commission to carry out every five years a collective progress check, analysis of the consistency of EU and Member State policies with the climate neutrality goal (Art. 6.2 and 7.1) as well as incorporating the net zero emissions as a benchmark into the impact assessments of planned EU policies (Art. 6.4). The EU legislative framework of the European Climate Law should to be used to raise climate standards of governance at national level of all Member States.

More than a half of the EU Member States adopted or in the process of adopting domestic climate laws to set a broad national framework to redress specific problems posed by climate change in strategic manner. These laws are the best instrument for incorporating a climate neutrality target with indicating the date of achieving the goal. The EU's climate neutrality target currently applies collectively to the Union, but does not apply to each Member State. The Effort Sharing Regulation (ESR) does not establish national climate neutrality targets through EU legislation as well [126]. The individual responsibility of each state must be prioritized specifically in the national climate legal acts.

National climate laws of different states vary as much in scope as in content, they are not equally strong because of inconsistent implementation standards. In the best-case scenarios, the laws contain a set of governance mechanisms including, but not limited to, long and middle term sectoral strategies, monitoring, public participation and the creation of an independent scientific expert body to advise policy makers. These mechanisms have the benefit of guaranteeing that climate will always be high in the political agenda in the national governmental policy and planned measures. The national climate law has to establish the strategic direction for the national climate change policy and often the institutional arrangements for climate action as well.

The Climate Framework Laws Info-Matrix [127] managed by Ecologic Institute is represented in Figure 1.

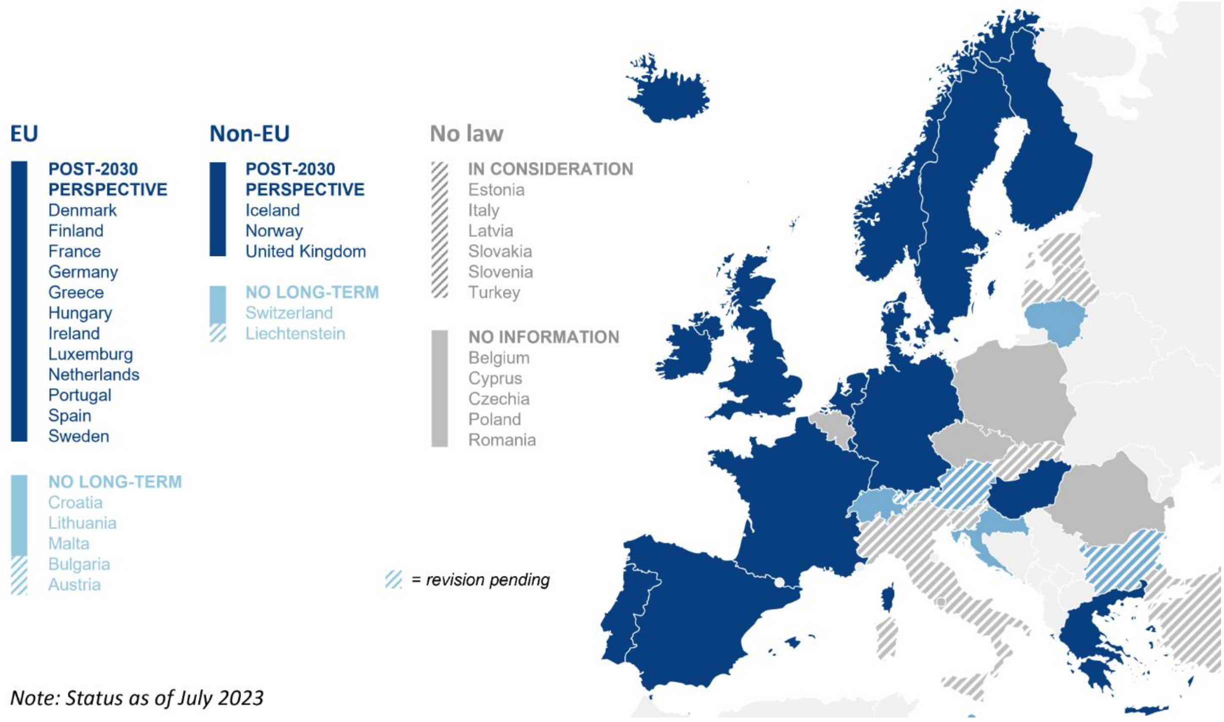

Figure 1. The Climate Framework Laws Info-Matrix

Source: Ecologic Institute, 2023

In some Member States where national climate laws have not been adopted, the National energy and climate plans (NECPs) may be the main or only document setting out national emissions reduction targets up to 2030 and the key policies that will be used to achieve climate goals or could be available another type of domestic legislation containing national climate planning processes [128]. The national energy and climate plans (NECPs) are a part of the EU climate legislation as well. In 2019 NECPs were established under the Regulation on the governance of the energy union and climate action (EU)2018/1999 [125] like a part of the Clean Energy for All Europeans package [129]. The national plans set out how EU countries aim to address five dimensions of the Energy Union: decarbonization, energy efficiency, energy security, the internal energy market, and research, innovation and competitiveness. This approach requires the coordinated efforts of all government agencies promoting both public and private investment. Under the governance regulation Member States for the first time had to develop their draft NECPs for the period 2021-2030 and submit them to the Commission by 31 December 2018. The Commission is authorized to check, analyze, evaluate and provide separate recommendations, what was done for some countries. Each country must submit a progress report every 2 years in accordance with the Implementing Regulation. The Commission monitors the progress of the European Union concerning achieving climate goals. Despite that NECPs set out the goals and measured for achieving climate neutrality by the Member States, the Governance Regulation has not been revised as part of the "Fit for 55" package [130].

Regardless of the nature and hierarchy of national legislation, good national practices must include implementing a carbon budgeting cycle, either annually or every five years, during which the country commits to specifying the exact amount of greenhouse gases (GHG) that will be emitted and the policies that will be adopted to ensure mitigation measures. This cycle must incorporate long-term climate targets, including achieving net zero emissions by a defined legally fixed target year, setting specific emission reduction goals and outlining pathways for GHG reduction. Specific climate targets are essential for the various sectors as well as regulating of banking and borrowing for stimulating more effective and rapid green transition, providing predictability for investors and other economic actors.

Good climate governance is a challenge as for EU Member States as for the states with the candidate status of accession for the EU. The framework EU Climate Law was not implemented in different way in national legislation of numerous EU countries because of different nature of their domestic legal field and political processes that has been caused historically. There is applicable structure of the existed system check and balances of good climate governance proposed by the author like a model for the next comparative analysis of legislation of the Member States (Figure 2).

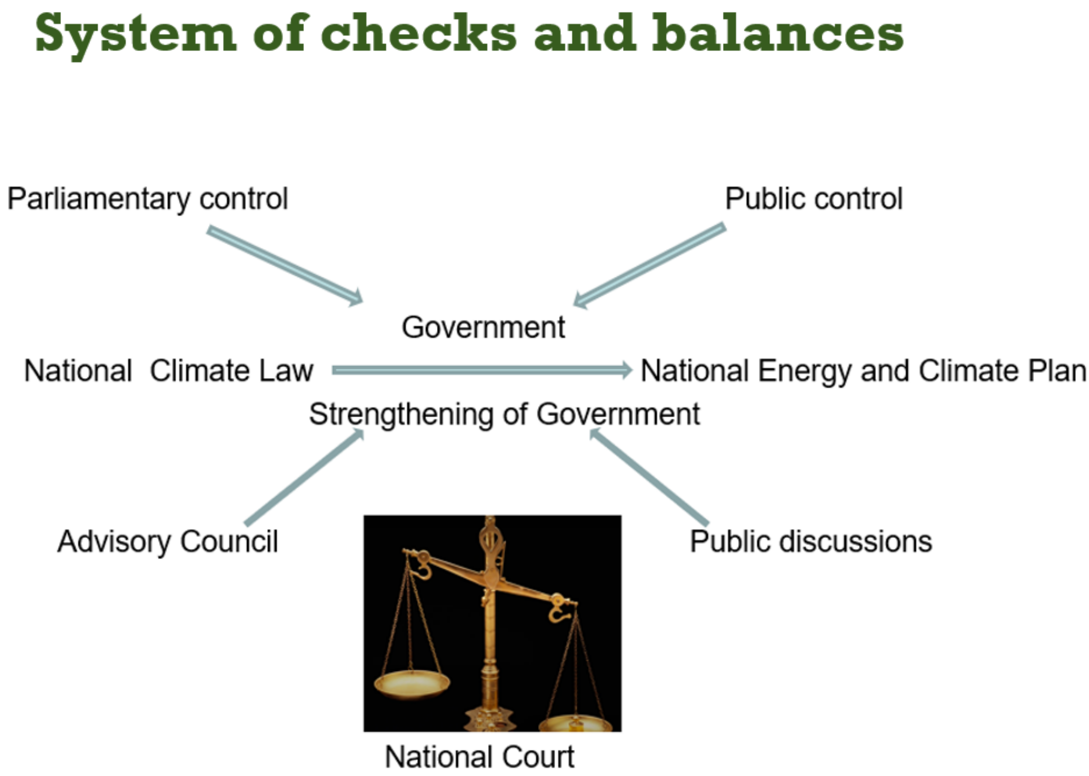

Figure 2. Model of good climate governance in the EU landscape

Source: constructed by the author

The French landscape of the climate law. The first French climate law was adopted in 2019 [131] and established a climate governance structure, including a High Council on Climate Change, and set a long-term goal of achieving climate neutrality by 2050. The second climate law named the Climate and Sustainability Law [132], was adopted in 2021 and aims to implement the proposals of the Citizens' Climate Assembly to reduce emissions in all sectors of the economy. To achieve this goal, the Prime Minister has developed a multi-year planning framework by the Environmental Planning Secretariat. The long-term strategy is the central planning document that links interim budgets and analyzes the contributions of different sectors. The inclusion of rolling budgets helps to align short- and long-term objectives more explicitly. French laws actively link governance processes to the annual budget, but do not explicitly align climate policy and government budgets. Rolling five-year carbon budgets are set 10-12 years in advance, looking ahead to 2050. Very specific instruments are included in the legislation, such as France's carbon tax or the CO_2 standard for thermal power plants.

The French law put the responsibility on the government to develop climate policy. The law also mentions numerous peripheral agencies, which in some cases are assigned specific responsibilities. The French government is obliged to submit an annual review of available public and private climate finances together with the draft budget. Parliament has monitoring functions, climate reports must be made available for review. The French Parliament has right to request analyses or assessments from the High Climate Council.

In France, the committee of experts established under the 2015 Energy Transition Law [133] and was replaced in 2018 by a new High Council for Climate Policy. The French government is obliged to respond to the High Council's recommendations. The French advisory boards are also encouraged to undertake some form of exploratory analysis beyond their reporting and monitoring obligations. The advisory bodies are required to submit independent annual reports, to which the government is required to respond in public. The High Council for Climate Change has its own secretariat in body structure and obtains its own budget due which possible to cover the need of financing of external expert studies.

The French law requires consultation before major strategic and policy plans are submitted to Parliament. Public participation processes for climate change action in France are characterized by a complex structure of overlapping institutions that operate outside the national framework law. Composed of 50 members representing six stakeholder groups, the NCET is responsible for reviewing all French policies related to sustainable development and is mentioned several times in the legislation. While the law itself makes little mention of public engagement, it requires that consultation take place before a plan is submitted to parliament.

Faced with the scale of the protests the French President launched a national “Great Debate” and decided to increase the acceptability of environmental measures by creating the Citizens' Climate Convention (“the Convention”) [134]. Composed of 150 citizens and based on a “spirit of social justice,” the Convention's mission was to propose measures to achieve the national goal of reducing greenhouse gas emissions by 40% by 2030 compared to 1990 levels.

The Irish landscape of the climate law. Ireland passed the Low Carbon Climate Action and Development Act in 2015 [135], which was the first national climate law. In 2021, a number of amendments were made to this law. Unlike the 2015 version of the law, the updated climate law of 2021 set a long-term goal of achieving carbon neutrality by 2050 and introduced an interim goal of reducing greenhouse gas emissions by 51% by 2030 compared to 2018 levels. The set goals should be implemented in accordance with five-year carbon budgets, combined into 15-year carbon budget programs with the corresponding establishment of sectoral limits on emissions. Ireland's Climate Action and Low Carbon Act is a framework climate law that does not provide for specific sectoral policies or measures. At the same time, the 2021 version of the Law [136] strengthens the provisions for the climate change mitigation policy planning with annual Climate Action Plans with a short, medium and long-term strategy for at least a 30-year perspective.

The Irish Climate Act provides detailed guidance whereby each relevant ministry submits a sectoral mitigation plan after consultation with an expert advisory body. These plans are then collected and combined by the Ministry of Environment, Community and Local Government, which is generally responsible for shaping climate policy, into a single climate action plan that must be approved by the government. A similar division of labor applies to annual reporting, for which, again, each ministry must prepare its own sectoral data.

The Irish law specifically mandates the Climate Change Advisory Board to conduct an annual review in addition to periodic reviews at the discretion of the Ministry, as well as to make recommendations on key plans and frameworks for government climate policy. Irish law provides that while the government "may" consult the Advisory Council, the ministry responsible for developing the national transition plan "should" consult the council. The law obliges the Climate Change Advisory Council to undertake an annual review in addition to periodic reviews at the discretion of the Ministry, and to make recommendations on key plans and frameworks for government climate policy. The Council is made up of 10 "ordinary members" with an appropriate balance between men and women and knowledge and experience in at least one of the following areas: climate science, adaptation policy, transport policy, energy policy, agricultural, behavioral and communication science, biodiversity and ecosystem services, economics, finance, political sociology or climate ethics. Irish law also contains a clause that requires members of the Advisory Board to avoid any conflicts of interest. Members are appointed by the executive branch. In addition, Ireland's Climate Change Act stipulates that the four members of the council must be civil servants who are automatically appointed according to their position. Generally, members are appointed for four or five years and may be reappointed for one additional term.

The main function of the advisory bodies is to help monitor the progress of the country's climate policy. The annual report of the Irish Advisory Council on Climate Change is sent to the Minister for the Environment and is published and made publicly available. The Climate Change Committee submits an annual progress report to Parliament, on which the Minister of the Environment must express his opinion in Parliament. The report should include information on progress and assessment of the achievement of national climate targets. Specific climate policies and measures are also evaluated every two years. In order to ensure the functioning of the expert council, it is given access to the secretariat, the function of which is performed by the Environmental Protection Agency. The Environmental Protection Agency's annual greenhouse gas inventory and forecasting reports and the advisory board's annual report contribute to monitoring compliance with national and sectoral plans for each carbon budget and sectoral emission limits. Following the annual report of the Advisory Board, the relevant ministers should report to the Committee on the implementation of the Climate Action Plan. If ministers fail to meet the targets, they must set out what corrective measures are envisaged. Ministers must respond to any recommendations made by the Committee within 3 months. The do-or-explain approach aims to ensure that there is control and accountability. The annual review of the Climate Action Plan serves as an additional verification and adjustment mechanism to ensure that climate goals are met. The National Adaptation Strategy identifies the important role of local authorities in strengthening climate resilience. The four Regional Climate Action Offices are funded by the government and have the function of supporting the preparation of local adaptation strategies in all local authorities, contributing to climate policy at the local level.

In Ireland, public consultations and discussions are held before each submission of the National Mitigation Plan, the National Adaptation Framework and the Sectoral Adaptation Plan. The Irish Citizens' Assembly [137], similar to a forum for dialogue, was established in 2016 to address a range of pressing policy issues, including climate change. The Assembly is composed of a chairman and 99 citizens selected at random to ensure broad representation of Irish society, which, after expert presentations and discussion, must vote in favor of the proposed recommendations.

The Dutch landscape of the climate law. The Dutch Climate Act [138] was passed in 2019, according to which the country must reduce greenhouse gas emissions by 95% by 2050 compared to 1990. As an interim target, the Climate Act specifies that the Netherlands must strive to cut its emission level by 49% by 2030 compared to 1990.

The Climate Act provides a framework for the development of the policy for reduction of greenhouse gas emissions in the country. For achieving this goal by 2050, the national climate law calls for a 49 percent reduction of greenhouse gas emissions by 2030 and a commitment to fully CO_2-neutral electricity generation by 2050. The responsible person in the country for determining the climate plan for the next 10 years is the Minister of Economy and Climate Policy. The Dutch Climate Plan should contain the main points of the climate policy that should be implemented in order to achieve the above-mentioned climate goals.

The country’s legislative body has the role of approving plans submitted by either the government or the responsible ministry. The annual reports and the climate plans are submitted to the respective legislative chambers. The role of the Dutch scientific body is limited to a vaguely defined annual report that includes an update on data and relevant policies.

The Climate Act clearly defines the long-term perspective of Dutch climate policy. According to Article 2 of the Law, the ultimate goal by 2050 and the intermediate goal by 2030 have been defined. Regarding the sectoral targets under the national climate agreement, the Dutch government has taken into account the economic efficiency until 2030 and defined the measures to be taken after the 2050 target is reached. For this reason, the first Climate Plan under the Climate Act also contains policy initiatives to prepare for the long term The Climate Act specifies two- and five-year phases for reviewing and accordingly updating the climate plan based on reports, so the government should focus on policies aimed at the 2050 perspective through exploratory research.

In the Netherlands, policy is largely determined by the coalition agreement and the Climate Agreement. The government's climate policy has been developed in the National Integrated Energy and Climate Plan [139] (NECP), which meets EU requirements for a national long-term strategy. The Netherlands has structured its long-term strategy by setting the agenda for the coming years, while not pretending that all the answers are known in advance.

The Climate Act guarantees the long-term focus of the national climate policy of the Netherlands in accordance with the defined climate goals. The Climate Act also establishes a quality control cycle, which is based on the European NECP cycle. In 2019, the government developed the first national climate plan, which should be revised every five years. According to the Climate Act the Dutch government must report annually to the parliament on the progress made in climate policy through the Climate Memorandum.

The Dutch Climate Plan contains the main principles of the national climate policy, which must be implemented within the next 10 years. It addresses the latest scientific insights into climate change, technological developments, international policy developments and the consequences for the economy and summarizes the national policy, the context in which this policy is developed and the consequences of this policy. The Climate Agreement contains agreements for all sectors. The main focus of these is to achieve the 2030 targets, but they also contain specific stipulations for the period beyond 2030. The contents of the Climate Plan are based on the Climate Agreement, which was concluded between more than 100 civil society parties, both public and private. This agreement contains a package of measures that have the active support of as many contributing parties as possible and which will achieve the political reduction target of 49% by 2030. The Climate Agreement provides sectoral targets based on a set of measures until 2030, and also takes into account long-term measures to facilitate the transition. Many aspects of the agreement have a long-term impact, given that they can be extended beyond 2030 or facilitate the transition that is needed in the long term. In such way, the parties of the Climate Agreement formulated the ambitions for the period up to 2050.

The climate law in the Netherlands has an entire section dedicated to “participation” but does not specify relevant parties or mention the general public, because there is a strong tradition of stakeholder participation in policy-making, as well in climate policy. The so-called “polder model” in the Netherlands is dated back to the 1950s with outgoing history of organization of the structured civil dialogues also called “polders” on a large array of policy issues [140]. In the Dutch society despite retaining no legal authority, historical precedent provides the deliberative model with a high level of legitimacy of public participation.

The Bulgarian landscape of the climate law. The Climate Change Mitigation Act [141] was adopted in Bulgaria in 2014. Despite of numerous amendments after it has been still imperfect. The legislative proposals in the ‘Fit for 55’ package to reduce its net greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels and to achieve climate neutrality in 2050 have not been implemented in the Bulgarian legislation yet. There is no process to ensure that policy development is in line with the achievement of national targets for 2030 or 2050 and no policy retrospective review process to ensure that current policy is in line with the long-term goal.

The achievement of the Energy Union objectives and targets is ensured through a combination of Energy Union initiatives and national policies set out in integrated NECPs. In 2024 the European Commission after evaluating the updated NECPs recommended to Bulgaria to increase its ambitions to align with the EU's targets for

2030 because in 2023 it was initiated infringement procedures against both countries for their failure to submit their NECPs [142]. The governance systems in Bulgaria did not follow the overarching pattern for countries with climate laws. Bulgaria has a (form of) climate framework law in place as well as an internal or inter-ministerial coordination mechanism. Still, in practice the governance system lacked key elements on the other two qualities, accountability and specificity. Bulgaria is missing economy-wide emission reduction targets, a clear process for setting targets as well as a trigger mechanism at a national level to correct for insufficient action.

The Bulgarian National Expert Council on Climate Change under the Ministry of Environment and Water Resources is not an independent and transparent body for next reasons. Most of its members are representatives of ministries and departments, and only a few members are representatives of the Bulgarian Academy of Sciences, the National Association of Municipalities and non-profit legal entities, whose activities are directly related to the limitation of climate change, there are no entry or accreditation requirements, based on expertise. There is no an up-to-date website, public availability of publications and activity on social media. Such approach does not correspond to the international best practices. There are no provisions for active public oversight of climate policy, specific instructions of public participation and dialogue with civil society on climate issues.

The Bulgarian climate law does not provide a supervisory role for the parliament, i.e. the Minister of Environment and Water Resources is not required to report on the development and implementation of climate policy to Parliament. Best practice models ensure the participation of national parliaments because it helps to build cross-party understanding and support, which, in turn, helps build long-term political will and leadership over time.

The involvement of the public in the decision-making process, in the formation of climate policy, according to the provisions of the law, equals practically zero, and is mainly reduced to passive informing on topics that are rather strictly technical, such as reports on the national inventory of greenhouse gas emissions**.** At the same time under Art.62, the Minister for the Environment and Water Resources must provide the public with full information on decisions related to the allocation of quotas, information on project activities in which Bulgaria participates or for participation in which it has authorized others, and emission reports under the Access to Public Information Act or Chapter 2 of the Environmental Conservation Act, depending on the nature of the information requested. The best practice models make a strong emphasis on the process of building public consensus on how to achieve a long-term national climate goal, as well as public participation processes in the development of national climate plans.

Perspectives of implementation of the climate legislation in Ukraine and Moldova. After the start of large-scale Russian armed aggression in 2022, Ukraine and Moldova were given the candidate status for the EU membership. Both countries must synchronize their legislation in accordance with the acquis communautaire. In view of climate policy of the European Union it can be indicated like important the Chapter 27 "Environment", dedicated to environmental protection and climate change policy, the Chapter 15 "Energy", which concerns the synchronization of legislation in the field of energy market regulation, security of energy supply, stimulation of energy efficiency and renewable energy sources and the Chapter 27 of Section II "Sectoral Environmental and Climate Policies" to cover a number of areas regarding the environment and climate, including the existence of a national climate strategy, in particular on emission reduction and adaptation [143].

According to the acquis, obligations in the field of environment and climate make up about 200 regulations. The process of implementing the requirements for Ukraine and Moldova has not been easy. Climate strategies have been adopted in both Ukraine and Moldova. Ukraine has committed to reduce domestic emissions by 65% by 2030 [144], and Moldova by 70% [145]. But neither Ukraine nor Moldova has adopted a climate law yet.

Synchronization of the climate policy and the sustainable development concepts is a mandatory requirement for the EU membership. The old systems of post-soviet Ukraine and Moldova are not appropriative for effective adaptation, since the current policy of international financial support includes, in particular, an environmental component. The institutional development of the organizational architecture of climate governance is an important aspect of the synchronization of the legislative framework for accession to the EU.

Conclusions. Climate laws play an essential role in combating climate. At the same time climate governance is increasingly challenging democracy today because it often necessitates the development of social agreements. The primary driving force in these processes should undoubtedly be public communities, engaging actively not only in discussions and education but also in implementing decarbonization strategies and reducing greenhouse gas concentrations across various sectors. Additionally, monitoring and control are crucial. National climate laws bring mobilization of society to combat global warming on local level.

The adoption of national climate laws forms the base of effective climate governance. This includes establishing a legally defined date for achieving climate neutrality, defining long-term and medium-term strategies, ensuring balanced powers among responsible authorities with clearly defined duties, and involving advisory bodies and public participation as key elements of effective climate law. There is no one universal model of the Climate act because countries have different legal traditions and the act must be fit in its own context. The undeniable fact that only lawmaking could be the effective way to make targets legally binding. Improving of the legal mechanism for regulating activities that have a negative impact on climate change could be achieved due to analysis of the best practices of parties of the Paris Agreement and improvement of the national legislation collecting expert recommendations for achieving global climate goals no later than by 2050.

REFERENCES

1. Abu-Lughod J.-L. (1993) Discontinuities and Persistence: One World System or a Succession of World Systems. The World System: Five Hundred Years or Five Thousand? A. G. Frank, B. K. Gills (eds.). London: Routledge, pp. 278–290.

2. Alesina A., Spolaore E., Wacziarg R. (2000) Economic Integration and Political Disintegration. American Economic Review, Vol. 90(5), pp. 1276–1296.

3. Amin S. (2000) Economic Globalism and Political Universalism: Conflicting Issues? Journal of world-systems research, Vol. VI, No 3. URL: http://jwsr.ucr.edu.

4. Amin S. (1973) Neo-colonialism in West Africa. London: Penguin, 298 p.

5. Amsden A. Good-bye dependency theory, hello dependency theory. URL: http://sites.jmu.edu/benbrewer/files/2011/01/SCID-Amsden.pdf

6. Ardent P. (1965) Le néo-colonialisme: thème, mythe et réalité. Revue française de science politique, Vol. 5, pp. 837–855.

7. Arrighi G. (1994) The Long Twentieth Century: Money, Power, and the Origins of Our Times. London: Verso, 400 p.

8. Arrighi G., Drangel J. (1986) The stratification of the world-economy: an exploration of the semiperipheral zone. The Review, Vol. 10, No 1, pp. 9–74.

9. Arthur W. B. Ermoliev Y. M., Kaniovski Y. M. (1987) Path-dependent processes and the emergence of macrostructure. European Journal of Operational Research, Vol. 30, No 3, pp. 294–303.

10. Baldwin D. Interdependence and Power: A Conceptual Analysis. URL: http://www.princeton.edu/~dbaldwin/selected%20articles.pdf.

11. Berry H., Guillen M., Hendi A. Is the world becoming smaller? Globalization and convergence across countries. URL: http://siteresources.worldbank.org.

12. Brewster H. (1973) Economic Dependence – Quantitative Interpretation. Social and Economic Studies, Vol. 22, No 3, pp. 90–95.

13. Caporaso J.-A. (1978) Dependence, dependency, and power in the global system: a structural and behavioral analysis. International Organization, Vol. 32, No 1, pp. 13–43.

14. Cardoso F. H. (1977) The Consumption of Dependency Theory in the U.S. Latin American Research Review, Vol. 12, No 3, pp. 7–24.

15. Chase-Dunn C., Hall T.-D. (1991) Core/Periphery Relations in Precapitalist Worlds. Boulder: Westview Press, 300 p.

16. Chayes A. (1998) The New Sovereignty: Compliance with International Regulatory Agreements. Cambridge: Harvard University Press, 432 p.

17. Cooper R., Kenen P. B., Jones R. W. Economic Interdependence and Coordination of Economic Policies. URL: http://econpapers.repec.org/bookchap/eeeintchp/2-23.htm.

18. Crozier B. (1964) Neo-colonialism: a background book. London: Bodley Head, 112 p.

19. Czempiel E-O., Rosenau J. (1989) Global Changes and Theoretical Challenges: Approaches to World Politics for the 1990s. Lexington, Massachusetts/Toronto: Lexington Books, 384 p.

20. Denemark R.-A. World System History: From Traditional International Politics to the Study of Global Relations. URL: http://onlinelibrary.wiley.com/doi/10.1111/1521-9488.00 155/abstract.

21. Seers D.-E., Nafziger W., O'Brien D.-C. et al. (1963) Development Theory: Four Critical Studies. International Development Review. No 11(4). URL: http://www.rrojasdatabank.info/ widerconf/Nafziger.pdf.

22. Dobson W., Diebold W. Economic Policy Coordination: Requiem or Prologue? Policy Analyses in International Economics. URL: http://www.foreignaffairs.com.

23. Dos Santos T. (1970) The Structure of Dependence. The American Economic Review, Vol. 60, No 2, pp. 231–236.

24. Emmanuel A. (1974) Myths of development versus myths of underdevelopment. New Left Review, Vol. 85, pp. 61–82.

25. Evans T. L. Understanding the Political Economy of Enforced Dependency in the Globalized World. A Springboard for Sustainability-oriented Action. URL: http://www.feasta.org/documents/enforced_dependency/enforced-dependency.pdf

26. Frank A. G. (1969) Capitalism and underdevelopment in Latin America: Historical Studies of Chile and Brazil. New-York: Monthly Review Press, 344 p.

27. Garud R., Karnoe P. (2001) Path dependence and creation. Mahwah NJ: Lawrence Erlbaum Associates, 417 p.

28. Gills B. K., Frank A.-G. (1991) 5000 Years of World System History: The Cumulation of Accumulation. Core/Periphery Relations in Precapitalist Worlds. C. Chase-Dunn, T.-D. Hall (eds.). Boulder: Westview Press, pp. 67–112.

29. Haag D. Mechanisms of Neo-colonialism. Current French and British influence in Cameroon and Ghana. URL: http://www20.gencat.cat/docs/icip/Continguts/Publicacions/Working Papers/2011/Arxius/WP% 202011-6%20ING.pdf.

30. Haggard S. (1990) Pathways from the periphery: The Politics of Growth in the Newly Industrializing Countries. Ithaca: Cornell University Press, 276 p.

31. Halperin-Donghi T. (1982) "Dependency theory" and Latin American historiography. Latin American Research Review, Vol. 17, No 1. pp. 113–130.

32. Hirst P., Thompson G. The Future of Globalization. URL: http://people.cas.sc.edu.

33. Hoffmaister A., Pradhan M., Samiei H. (1998) Have North - South Growth Linkages Changed? World Development, Vol. 26, No 5, pp. 791–808.

34. Holsti K. J. (1978) A New International Politics? Diplomacy in Complex Interdependence. International Organization, Vol. 32, No 2. URL: http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid =4305880.

35. Homer-Dixon T. (2008) The upside of down: Catastrophe, creativity, and the renewal of civilization. Washington, DC: Island Press, 448 p.

36. Karam A.-E. The meaning of dependence. URL: http://onlinelibrary.wiley.com.

37. Keohane R. O., Nye J. S. (1989) Power and interdependence. Glenview, Illinois: Scott, Foresman, 315 p.

38. Krasner S. D. (1999) Sovereignty: Organized Hypocrisy. Princeton: Princeton University Press, 248 p.

39. Maddison A. Growth and Interaction in the World Economy: The Roots of Modernity. URL: http://www.ggdc.net/Maddison/other_books/Growth_and_Interaction_in_the_World_Economy.pdf

40. Maddison A. (2001) The World Economy: A Millennial Perspective, Development Centre Studies. Paris: OECD, 384 p.

41. Memedovic O. (2009) Structural Change in the World Economy: Main Features and Trends. UNIDO Working Paper. No 24. URL: http://www.unido.org/fileadmin/user_media/Publications/Pub_free/Structural_change_in_the_world_economy.pdf

42. Martin R., Sunley P. (2006) Path dependence and regional economic evolution. Journal of Economic Geography, Vol. 6, pp. 395–437.

43. Meyer-Stamer J. (1998) Path Dependence in Regional Development: Persistence and Change in Three Industrial Clusters in Santa Catarina, Brazil. World Development, Vol. 26, No 8, pp. 1495–1511.

44. Moran T. H. (1978) Multinational Corporations and Dependency: A Dialogue for Dependentistas and Non-dependentistas. International Organization, Vol. 32(1), pp. 79–100.

45. Nitzan J., Bichler S. (2006) New imperialism or new capitalism? Review, Vol. 29, pp. 1–86.

46. Nkrumah K. (1968) Neo-colonialism: the last stage of imperialism. London: Panaf Ldt, 283 p.

47. Nye J. S. (2003) Understanding International Conflict: An Introduction to Theory and History. New York: Pearson – Addison Wesley, 275 p.

48. O'Hagan J.W. Shared economic sovereignty: beneficial or not and who decides? URL: http://www.iiea.com/ftp/Publications/IIEA%20Economic%20Governance%20Paper%202_IIEA_Shared_Economic_Sovereignty_2013.pdf

49. Peregrine P.-N. (2007) Archaeology and World-Systems Theory. Sociological Inquiry, Vol. 66, No 4, pp. 486–495.

50. Proulx M.-U. (1994) Développement économique. Clé de l'autonomie locale. Montréal: Éditions Transcontinental inc., 362 p.

51. Reisen H., Grandes M., Pinaud N. (2005) Macroeconomic policies: new issues of interdependence. OECD Development Centre Working WTO Paper, No 241. URL: http://www.oecd-ilibrary.org.

52. Reznikova N. (2013) The conflict of national and global interests within integration interaction. Regional development and demographic flows of Southeastern European countries. Niš, 21June 2013, pp. 15–21.

53. Sartre J.-P. (2006) Colonialism and Neocolonialism. London: Routledge, 223 p.

54. Schneiberg M. (2007) What's on the path? Path dependence, organizational diversity and the problem of institutional change in the US economy, 1900–1950. Socio-Economic Review, Vol, 5. pp. 47–80.

55. Schouten P. Immanual Wallerstein on world-systems, the immanent end of capitalism and unifying social science. URL: http://www.theory-talks.org/2008/08/theory-talk-13.html

56. Schwartz H. (2007) Dependency or Institutions? Economic Geography, Causal Mechanisms, and Logic in the Understanding of Development. Studies in Comparative International Development, Vol. 42, pp. 15–135.

57. Slaughter A.-M. (2000) Judicial Globalization. Virginia Journal of International Law, Vol. 40, pp. 1103–1124.

58. Slok T., Kennedy M. Driving Risk Premia. URL: http://www.oecd-ilibrary.org.

59. Smith D. A., White D. R. (1992) Structure and Dynamics of the Global Economy: Network Analysis of International Trade, 1965–1980. Social Forces, Vol. 70, No 4. pp. 857–893.

60. Smith T. (1981) The logic of dependency theory revisited. International Organization, Vol. 35, No 4, pp. 755–761.

61. Smith T. (1979) The underdevelopment of development literature: the case of dependency theory. World Politic, Vol. 31, No 2, pp. 247–288.

62. Stiglitz J. E. (2002) Globalization and its discontents. New York: W. W. Norton, 282 p.

63. Stiglitz J. E. Capitalist fools. URL: http://www.vanityfair.com/magazine/2009/01/stiglitz200901. Vanity Fair.

64. Stiglitz J. E. (2006) Making globalization work. New York: W. W. Norton & Company, 358 p.

65. Thirwall A. P. (2006) Growth and Development: with Special reference to Developing Economies. New York: Palgrave Macmillan, 720 p.

66. Thunen J.-H. The isolated state [Der isolierte Staat]. URL: http://www. rieti. go.jp/jp/publi cations/dp/11e074.pdf.

67. Valenzuela J.-S., Valenzuela A. (1978) Modernization and dependency: alternative perspectives in the study of Latin American development. Comparative Politics, Vol. 10, No 4, pp. 535–552.

68. Van Wijnbergen S. (1985) Interdependence Revisited: A Developing Countries Perspective on Macroeconomic Management and Trade Policy in the Industrial World. Economic Policy, No 1, pp. 82–137.

69. Wallerstein I. (1982) La crise comme transition siècle. La crise, quelle crise? Paris, Maspero, pp. 10–57.

70. Wallerstein I. (1974) Rise and future demise of the capitalist world economy: concepts for comparative analysis. Comparative Studies in Society and History, Vol. 16, No 4, pp. 387–415.

71. Wallerstein I. (1974) The modern world-system: Capitalist agriculture and the origins of the European world-economy in the sixteenth century. New York: Academic Press, 440 p.

72. Wohlgemuth M., Brandi C. Strategies of flexible integration and enlargement of the European Union. A club-theoretical and constitutional economics perspective. URL: http://www.intertic.org/Unions%20Papers/flexibleintegration.pdf

73. Grazhevska N. I. (2008) Economic systems in the era of global change. Kyiv: Znannya, 431 p. [in Ukrainian].

74. Kravchuk N. Ya. (2012) Divergence of global development: the modern paradigm for formation of geo-financial area. Kyiv: Znannya, 782 p. [in Ukrainian].

75. Reznikova N. V. (2013) Global economic interdependence: the contemporary paradigm and determinants of modification. Kyiv: “Vistka”, 456 p. [in Ukrainian].

76. Reznikova N. V. (2013) International economic cooperation in the field of economic policy: the problem of soverighty preservation and amapysis of potential benefits. Vital problems of international relations, Vol. 113, part II, Kyiv: Kyiv National Taras Shevchenko University. Institute of International Relations, pp. 149–159 [in Ukrainian].

77. Reznikova N. V. (2013) Phenomenon of unification and peripherization in the process of integration in the global economic system. Vital problems of international relations, Vol. 116, part II, Kyiv: Kyiv National Taras Shevchenko University. Institute of International Relations, pp. 167–175 [in Ukrainian].

78. Reznikova N. V. (2013) Modelling of theoretical constructs of economic dependence in the context of global change. Bulletin of Donetsk National University, No 1, pp. 141–144 [in Ukrainian].

79. Reznikova N. V. (2013) Antinomy of dependence and development in the context of global interactions. Vital problems of international relations, Vol. 112, part II, Kyiv: Kyiv National Taras Shevchenko University. Institute of International Relations, pp. 136–144 [in Ukrainian].

80. Huang M.-T., Zhai P.-M. (2021) Achieving Paris Agreement temperature goals requires carbon neutrality by middle century with far-reaching transitions in the whole society. Advances in Climate Change Research, No. 12, pp. 281-286.

81. Paris Agreement (2015). URL: https://treaties.un.org/doc/Treaties/2016/02/20160215%2006-03%20PM/Ch_XXVII-7-d.pdf.

82. Rajamani L., Brunnée J. (2017) The Legality of Downgrading Nationally Determined Contributions under the Paris Agreement: Lessons from the US Disengagement. Journal of Environmental Law, Vol. 29, pp. 537-551.

83. UNFCCC (2022) NDC Synthesis Report. URL: https://unfccc.int/ndc-synthesis-report-2022#Targets.

84. UNFCCC. Submission by Germany and the European Commission on Behalf of the European Union and its Member States. URL: https://unfccc.int/sites/default/files/NDC/2022-06/EU_NDC_Submission_December%202020.pdf.

85. UNFCCC. Submission by Spain and the European Commission on Behalf of the European Union and its Member States. The update of the nationally determined contribution of the European Union and its Member States. URL: https://unfccc.int/sites/default/files/NDC/2023-10/ES-2023-10-17%20EU%20submission%20NDC%20update.pdf.

86. The United States of America Nationally Determined Contribution. Reducing Greenhouse Gases in the United States: A 2030 Emissions Target. URL: https://unfccc.int/sites/default/files/NDC/2022-06/United%20States%20NDC%20April%2021%202021%20Final.pdf.

87. China's Achievements, New Goals and New Measures for Nationally Determined Contributions. URL: https://unfccc.int/sites/default/files/NDC/2022-06/China%E2%80%99s%20Achievements%2C%20New%20Goals%20and%20New%20Measures%20for%20Nationally%20Determined%20Contributions.pdf.

88. UN Division for Sustainable Development. A guidebook to the Green Economy, Issue 1: Green Economy, Green Growth, and Low-Carbon Development – history, definitions and a guide to recent publications. URL: https://sustainabledevelopment.un.org/content/documents/GE%20Guidebook.pdf.

89. UNFCCC. LT-LEDS Synthesis Report. URL: https://unfccc.int/lt-leds-synthesis-report#Long-term-mitigation-goal.

90. Falduto Ch., Rocha M. (2020) Aligning short-term climate action with long-term climate goals: Opportunities and options for enhancing alignment between NDCs and long-term strategies. OECD Climate Change Expert Group Paper, No. 2. URL: https://www.oecd.org/environment/cc/LEDS-NDC-linkages.pdf.

91. Adashek J. (2022) Hop on the Carbon Neutral Bandwagon: Amending the Paris Agreement to Require Short-Term Goals and Long-Term Carbon Neutral Goals for Nationally Determined Contributions. Maryland Journal of International Law, Vol. 36(1), pp. 101-111.

92. European Commission. Energy Union Package: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and The European Investment Bank 'A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy'. COM/2015/080 final. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52015DC0080.

93. Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.328.01.0001.01.ENG&toc=OJ:L:2018:328:TOC.

94. European Commission. Communication from the European Commission 'The European Green Deal'. COM(2019) 640 final. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52019DC0640.

95. Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law'). URL: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1119.

96. European Commission. Communication from the European Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'Fit for 55': delivering the EU's 2030 Climate Target on the way to climate neutrality. COM(2021) 550 final. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021DC0550.

97. Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC (Text with EEA relevance). URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32003L0087.

98. Schlacke S., Wentzien H., Thierjung E.-M., Köster M. (2022) Implementing the EU Climate Law via the 'Fit for 55' package. Oxford Open Energy, No. 1, pp. 1-13.

99. Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023R0956.

100. Beaufils T., Ward H., Jakob M., Wenz L. (2023) Assessing different European Carbon Border Adjustment Mechanism implementations and their impact on trade partners. Communications Earth and Environment, No. 131. URL: https://www.nature.com/articles/s43247-023-00788-4.

101. Sun X., Mi Zh., Cheng L., Coffman D'M., Liu Yu. The carbon border adjustment mechanism is inefficient in addressing carbon leakage and results in unfair welfare losses. URL:https://www.researchgate.net/publication/369683092_The_Carbon_Border_Adjustment_Mechanism_is_inefficient_in_addressing_carbon_leakage_and_results_in_unfair_welfare_losses.

102. Directive (EU) 2018/2002 of the European Parliament and of the Council of 11 December 2018 amending Directive 2012/27/EU on energy efficiency. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2018.328.01.0210.01.ENG.

103. Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast). URL: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L2001.

104. Council Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32003L0096.

105. Proposal for a Council Directive restructuring the Union framework for the taxation of energy products and electricity (recast). COM(2021) 563 final. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021PC0563.

106. UN International Law Commission. Third Report on the Protection of the Atmosphere. 25 February 2016. UN Doc A/CN.4/692. URL: https://documents-dds-ny.un.org/doc/UNDOC/GEN/N16/051/44/PDF/N1605144.pdf?OpenElement.

107. Medvedieva M., Sopilko I., Guliiev A., Bilotsky S., Nevara L., Lovin A., Sirokha D. (2018) Fragmentation and synergies in international climate change regime. Environmental Policy and Law: The journal for decision-makers, Vol. 48(3-4), pp. 160-168.

108. Case of Urgenda Foundation v. State of the Netherlands. Judgment of the Supreme Court of the Netherlands of 20 December, 2019. URL: https://climatecasechart.com/wp-content/uploads/non-us-case-documents/2020/20200113_2015-HAZA-C0900456689_judgment.pdf.

109. Urgenda Foundation v. State of the Netherlands. Summary. URL: https://climatecasechart.com/non-us-case/urgenda-foundation-v-kingdom-of-the-netherlands/.

110. Case of Verein Klimaseniorinnen Schweiz and others v. Switzerland. Judgment of the European Court of Human Rights of 9 April, 2024. URL: https://climatecasechart.com/wp-content/uploads/non-us-case-documents/2024/20240409_Application-no.-5360020_judgment.pdf. Para. 548.

111. Setzer J., Narulla H., Higham C., Bradeen E. Climate litigation in Europe: A summary report for the European Union Forum of Judges for the Environment (2022). URL: https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2022/12/Climate-litigation-in-Europe_A-summary-report-for-the-EU-Forum-of-Judges-for-the-Environment.pdf.

112. Medvedieva M., Smirnova K. (2019) Climate and Energy Governance at a Crossroad: Global, Regional and National Dimensions. Electrotehnica, Electronica, Automatica, Vol. 67(1), pp. 101-114.

113. Didi R. (2023) Using human rights as a weapon to hold governments and corporations accountable on climate change: Thematic report the use of human rights in climate change litigation in Europe. URL: https://caneurope.org/content/uploads/2023/03/REPORT-Using-human-rights-as-a-weapon-to-hold-governments-and-corporations-accountable-on-climate-change.pdf.

114. ClientEarth v. European Investment Bank. URL: http://climatecasechart.com/non-us-case/clientearth-v-european-investment-bank/.

115. Judgment of the General Court (Second Chamber, Extended Composition) in case 'ClientEarth v. European Investment Bank'. 27 January 2021. URL: http://climatecasechart.com/wp-content/uploads/sites/16/non-us-case-documents/2021/20210127_T-919-General-Court-case-and-C-21221-P-ECJ-case_judgment.pdf.

116. UNFCCC. Updated Nationally Determined Contribution of Ukraine to the Paris Agreement. URL: https://unfccc.int/sites/default/files/NDC/2022-06/Ukraine%20NDC_July%2031.pdf.

117. Ukraine 2050 Low Emission Development Strategy (2017). URL:https://unfccc.int/sites/default/files/resource/Ukraine_LEDS_en.pdf.

118. The Impact of Carbon Border Adjustment Mechanism on the Trade Between Ukraine and the EU. Analytical Document (2021). URL: https://www.rac.org.ua/uploads/content/624/files/cbamukraineua.pdf [in Ukrainian].

119. Bondarenko V., Pokynchereda V., Pidvalna O., Kolesnyk N., Sokoliuk S. (2023) Green Economy as a Prerequisite for Sustainable Development: Analysis of International and Ukrainian Experience. European Journal of Sustainable Development, Vol. 12(1), pp. 221-234.

120. European Think Tanks Group (2022) The European Green Deal and the war in Ukraine: Addressing crises in the short and long term. URL: https://ettg.eu/wp-content/uploads/2022/07/The-European-Green-Deal-and-the-war-in-Ukraine.pdf.

121. United Nations Environment Programme (2023) Rapid Environmental Assessment of Kakhovka Dam Breach Nairobi, Kenya. URL: https://wedocs.unep.org/handle/20.500.11822/43696;jsessionid=4160D6F5803F6A5749CF70DA0B697F65.

122. Hedberg A., Šipka S. (2022) The role of European Union policies in accelerating the green transition. Field Actions Science Reports, Special Issue 24. URL:https://journals.openedition.org/factsreports/6989?lang=en.

123. Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions 'REPowerEU Plan'. COM/2022/230 final. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2022%3A230%3AFIN.

124. Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law'). URL: https://faolex.fao.org/docs/pdf/eur204009.pdf

125. Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council. URL: https://eur-lex.europa.eu/eli/reg/2018/1999/oj

126. Regulation (EU) 2023/857 of the European Parliament and of the Council of 19 April 2023 amending Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement, and Regulation (EU) 2018/1999. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32023R0857

127. Ecologic Institute (2023) Climate Framework Laws Info-Matrix. URL: https://www.ecologic.eu/19320#expanded

128. CAN Europe (2024) Report 'Taking flawed National Energy and Climate Plans to court. Lessons learned from previous cases'. URL: https://caneurope.org/flawed-national-energy-climate-plans-court/

129. Clean energy for all Europeans package completed: good for consumers, good for growth and jobs, and good for the planet. URL: https://commission.europa.eu/news/clean-energy-all-europeans-package-completed-good-consumers-good-growth-and-jobs-and-good-planet-2019-05-22_en

130. CAN Europe (2023) Report 'Climate Laws in Europe Essential for achieving climate neutrality'. URL: https://caneurope.org/content/uploads/2023/12/CAN_Climate_Laws_report_v2.pdf

131. Law No. 2019-1147 of November 8, 2019, on Energy and Climate, France. URL: https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000039355955/

132. Law No. 2021-1104 of August 22, 2021 on Combating Climate Change and Strengthening Resilience, France. URL: https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000043956924

133. Law No. 2015-992 of August 17, 2015, on Energy Transition for Green Growth, France. URL: https://www.legifrance.gouv.fr/loda/id/JORFTEXT000031044385/

134. The Citizen's Convention on Climate, Ireland. URL: https://www.conventioncitoyennepourleclimat.fr/en/

135. Climate Action and Low Carbon Development Act 2015, Ireland. URL: https://www.irishstatutebook.ie/eli/2015/act/46/enacted/en/pdf

136. Climate Action and Low Carbon Development (Amendment) Act 2021, Ireland. URL: https://www.irishstatutebook.ie/eli/2021/act/32/enacted/en/print

137. The website of the Irish Citizens' Assembly. URL: https://www.citizensinformation.ie/en/government-in-ireland/irish-constitution-1/citizens-assembly/

138. The Climate Act (Klimaatwet), the Netherlands, 2019. URL : https://climate-laws.org/document/climate-act_4bc4

139. Integrated National Energy and Climate Plan 2021-2030, the Netherlands. URL: https://energy.ec.europa.eu/system/files/2020-03/nl_final_necp_main_en_0.pdf

140. Dehban S. (2021) Beyond the Dutch Polder Model: A new model for collaboration. URL: https://www.thebrokeronline.eu/article/beyond-the-dutch-polder-model/

141. Climate Change Mitigation Act, Bulgaria, 22/11.03.2014. URL: https://www.moew.government.bg/static/media/ups/articles/attachments/Climate_Change_Mitigation_Actb79ac7271ff39de8cf1d9459a418e3f0.pdf

142. European Commission “Commission publishes new Recommendations on draft National Energy and Climate Plans from Bulgaria and Poland, 26th April 2024. URL: https://energy.ec.europa.eu/news/commission-publishes-new-recommendations-draft-national-energy-and-climate-plans-bulgaria-and-poland-2024-04-26_en

143. Matiushyna O. (2024) Problems and prospects of adapting the law of Ukraine and Moldova to the climate law of the EU. The international scientific and practical conference of students, postgraduates and young scientists “Shevchenko’s spring - 2024”, 12th of April, Kyiv, pp. 69-71 [in Ukrainian]

144. Cabinet of Ministers of Ukraine. Order No. 878-r of December 6, 2017, ‘On the Approval of the Action Plan for the Implementation of the Concept of State Policy in the Field of Climate Change for the Period up to 2030’. URL: https://zakon.rada.gov.ua/laws/show/878-2017-%D1%80#n8 [in Ukrainian]

145. Updated Nationally Determined Contribution of the Republic of Moldova. URL: https://unfccc.int/sites/default/files/NDC/2022-06/MD_Updated_NDC_final_version_EN.pdf