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V. Panchenko,

Doctor of Economic Sciences, Associate Professor, Professor of the Department of Economics and International Economic Relations, Mariupol State University

ORCID ID: <https://orcid.org/0000-0002-5578-6210>

N. Reznikova,

Doctor of Economic Sciences, Professor, Professor of the Department of World Economy and International Economic Relations, Educational and Scientific,

Institute of International Relations, Taras Shevchenko National University of Kyiv

ORCID ID: <https://orcid.org/0000-0003-2570-869X>

V. Karp,

PhD in Economics, Associate Professor, Associate Professor of the Department of International Business, Educational and Scientific Institute of International Relations, Taras Shevchenko National University of Kyiv

ORCID ID: <https://orcid.org/0000-0002-2231-8517>

M. Grod,

PhD in international economic relations, Associate Professor, Department of Management, Marketing and Public Administration, National Academy of Statistics, Accounting and Audit

ORCID ID: <https://orcid.org/0000-0002-7539-5778>

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PARADOXES AND RESILIENCE OF FOOD POLICY: COGNITIVE-RATIONAL STRATEGIES OF GLOBAL GOVERNANCE

В. Г. Панченко,

д. е. н., доцент, професор кафедри економіки та міжнародних економічних відносин, Маріупольський державний університет

Н. В. Резнікова,

д. е. н., професор, професор кафедри світового господарства і міжнародних економічних відносин, НН інститут міжнародних відносин Київського національного університету імені Тараса Шевченка

В. С. Карп,

к. е. н., доцент, доцент кафедри міжнародного бізнесу, НН інститут міжнародних відносин, Київського національного університету імені Тараса Шевченка

М. І. Грод,

доктор філософії зі спеціальності "Міжнародні економічні відносини", доцент кафедри менеджменту, маркетингу та публічного управління, Національна академія статистики, обліку та аудиту

ПАРАДОКСИ І РЕЗИЛЬЄНТНІСТЬ ПРОДОВОЛЬЧОЇ ПОЛІТИКИ: КОГНІТИВНО-РАЦІОНАЛЬНІ СТРАТЕГІЇ ГЛОБАЛЬНОГО УПРАВЛІННЯ

The purpose of this article is to explore the cognitive-rational strategies of global governance for managing food policy paradoxes and to substantiate the theoretical foundations for integrating instrumental and communicative rationality in the field of food security. The study proceeds from the idea that the contemporary food system functions as a complex adaptive network in which contradictions are not anomalies but structural features of the interaction between economic, political, and cognitive factors.

The scientific hypothesis of the article is based on the assumption that effective governance of food security at the global level requires the combination of two types of rationality: instrumental rationality, oriented toward systemic consistency, sequential logic, and measurability of policy decisions (J. Tinbergen), and communicative rationality, aimed at achieving understanding, trust, and cognitive coherence among policy actors (T. Slembeck). This creates the need to reinterpret the phenomenon of the "paradox" from the standpoint of food security and policy resilience, where contradictions are viewed not as errors but as points of intellectual growth for the system.

This approach has led to several conclusions. First, the paradox in food policy is an inherent outcome of structural interdependence rather than a deviation from rational design. Its presence indicates the limits of existing policy models and signals the necessity for cognitive renewal. Second, the resilience of food policy does not lie in maintaining stability but in the system's ability to learn from its own contradictions while preserving internal coherence. In this sense, resilience represents a form of reflective reasoning that unites rationality and self-awareness.

Third, the cognitive-rational strategies of global governance for food paradox management are defined as a set of analytical and communicative mechanisms designed not to eliminate contradictions but to use them constructively to strengthen the adaptability of the global food system. These strategies include: systemic reflection, recognizing the interdependence of all levels of food policy — from farm decisions to international agreements; cognitive coordination, aligning knowledge, expectations, and beliefs among scientific communities, governments, producers, and consumers; institutional communicativity, transforming international organizations from data administrators into centers of collective reasoning; adaptive feedback, ensuring the capacity of policy to self-correct through continuous monitoring and intermediate evaluation.

Метою статті є дослідження когнітивно-раціональних стратегій глобального управління продовольчими парадоксами, а також обґрунтування теоретичних засад інтеграції інструментальної та комунікативної раціональності у сфері продовольчої політики. В основі дослідження лежить ідея про те, що сучасна продовольча система функціонує як складна адаптивна мережа, у якій суперечності не є випадковими, а становлять структурну рису взаємодії економічних, політичних і когнітивних чинників. Це передбачає обґрунтування концептуальної моделі осмислення парадоксів продовольчої політики як форм прояву внутрішньої складності соціально-економічних систем, а також розроблення інтегрованого когнітивно-раціонального підходу до їх подолання. Наукова гіпотеза статті базується на припущенні, що ефективне управління продовольчою безпекою у глобальному масштабі потребує поєднання двох типів раціональності: інструментальної, орієнтованої на системність, послідовність і вимірюваність політичних рішень (Я. Тінберген), та комунікативної, спрямованої на досягнення взаєморозуміння, довіри і когнітивної узгодженості між суб'єктами політики (Т. Слембек). Це формує запит на переосмислення феномену "парадокс" з позицій продовольчої безпеки і резильєнтності політики, коли суперечності розглядаються не як помилки, а як точки інтелектуального росту системи.

Це дало можливість дійти ряду висновків. По-перше, парадокс у продовольчій політиці є невід'ємним наслідком структурної взаємозалежності рішень, а не відхиленням від норми. Його наявність сигналізує про межу ефективності існуючих підходів і потребу когнітивного оновлення системи. По-друге, резильєнтність продовольчої політики полягає не у стабільності, а у здатності системи навчатися на власних суперечностях, зберігаючи цілісність у процесі змін. Резильєнтність у такому контексті постає як форма мислення, що поєднує раціональність і самоусвідомлення. По-третє, когнітивно-раціональні стратегії глобального управління продовольчими парадоксами визначаються як комплекс аналітичних і комунікативних механізмів, спрямованих не на усунення протиріч, а на їх конструктивне використання для посилення адаптивності світової продовольчої системи.

Key words: global imperative, paradox, contradiction, regularity, crisis, volatility, economic policy, economic system, food security, food risks, food crisis, food policy, tax policy, tax system, taxes, fiscal incentives, investment policy, investment activity, investment strategy, financial market, futures contract, speculative capital, hunger, humanism, sustainability, resilience, productivity, differentiation, justice, rationality, structural changes, management.

Ключові слова: глобальний імператив, парадокс, суперечність, закономірність, криза, волатильність, економічна політика, економічна система, продовольча безпека, продовольчі ризики, продовольча криза, продовольча політика, податкова політика, податкова система, податки, фіскальні стимули, інвестиційна політика, інвестиційна діяльність, інвестиційна стратегія, фінансовий ринок, ф'ючерсний контракт, спекулятивний капітал, голод, гуманізм, стійкість, резильєнтність, продуктивність, диференціація, справедливість, раціональність, структурні зміни, управління.

INTRODUCTION

The problem of food policy belongs to the most complex issues in modern socio-economic discourse, as it combines material, political, and value dimensions. The processes of food production,

distribution, and consumption simultaneously determine economic efficiency, social justice, and political stability. Therefore, any attempt to organize food relations encounters a series of contradictions that cannot be reduced to purely

technical or administrative solutions. These contradictions take the form of paradoxes—logically justified yet practically conflicting situations in which the achievement of one goal undermines the possibility of achieving another.

Scholarly thought defines a paradox as a statement or phenomenon that seems to contradict common sense but at the same time reveals the inner regularity of the system that generates it. In a logical sense, a paradox is the result of a formally correct reasoning that leads to opposing conclusions. In a philosophical sense, it represents the moment of truth for a system—when its own principles cease to ensure internal coherence. In socio-economic terms, a paradox emerges when political or economic decisions that appear rational according to established criteria produce irrational consequences.

The emergence of paradoxes in the food sphere is not a sign of incompetence or disorder. On the contrary, it indicates the complex and multi-layered nature of a system in which market, governmental, ecological, and cultural factors interact. These elements form not just a collection of parts but a dynamic network of interconnections, where each level influences the others. Within such a system, paradoxes are inevitable manifestations of the internal logic of complex order.

The contemporary global food crisis, which repeatedly re-emerges in different forms, vividly demonstrates this complexity. Food production exceeds historical records, yet millions of people remain hungry. States proclaim food security strategies, yet every attempt at stabilization produces new risks. A system that strives for control becomes a hostage of its own mechanisms. This situation is not accidental—it reflects the very nature of food policy as a policy shaped within a world of limited resources, competing interests, and cognitive constraints.

THE REVIEW OF THE LITERATURE

The literature review outlines the conceptual and empirical framework for analyzing food policy as a system combining instrumental rationality and cognitive coherence. The theoretical basis is the goal-instrument consistency approach, viewing public policy as a system of managed interdependencies and measurable effects [1]. The cognitive-evolutionary perspective extends this by emphasizing that decisions emerge within a communicative field of beliefs and expectations, linking policy quality to shared understanding [2]. The problem of time inconsistency shows that even optimal plans fail without stable rules that protect

long-term priorities [3]. The resilience paradigm interprets sustainability as adaptive learning and transformation rather than static equilibrium [4]. Broader debates on globalization and inequality highlight the duality of openness-growth opportunities alongside systemic instability [5; 6]. Sustainable development integrates productivity, inclusion, and ecological limits [7]. Institutional theory links economic and food security outcomes to governance quality and power distribution [8]. The human development approach reframes food security through freedom and capability, beyond output metrics [9].

The Ukrainian scholarly corpus provides empirical grounding for these ideas. Studies of economic security stress the systemic nature of risks and the need for integrated monitoring, relevant for food availability and access [10; 11]. Research on megatrends and resilience-based policy details external shocks and internal vulnerabilities requiring cognitively coordinated tools [12]. Comparative analyses of post-war recovery emphasize institutional prerequisites for restoring food systems at the local level [13]. Works on globalization outline the strategic framework for open economies, linking the agri-food sector to value chains and quality standards [14]. Historical studies of leapfrog and catching-up development offer insights into industrial and trade instruments applicable to agri-food clusters [15; 16]. Methodological syntheses and textbooks provide tools for integrating quantitative models with strategic planning [17]. Foresight research demonstrates the importance of feedback and anticipatory governance in food markets with long investment and supply lags [18; 19]. Studies on digital transformation connect inclusion and data security with logistics transparency and market trust [20]. Analyses of new growth centers and structural modernization reveal that food policy becomes strategic when aligned with investment cycles and sustainable financing [21—23]. Together, international and national scholarship marks a shift from static governance models toward a cognitive-rational paradigm of food policy, where analytical precision aligns with institutional trust and adaptive learning ensures the system's resilience [1—9; 10—23].

THE PURPOSE OF THE ARTICLE

The purpose of the article is to substantiate a conceptual model for understanding the paradoxes of food policy as manifestations of the internal complexity of socio-economic systems, and to develop an integrated cognitive-rational approach to overcoming them. To achieve this goal, the study

conducts a comparative analysis of J. Tinbergen's structural-analytical approach [1] and T. Slembeck's cognitive-communicative approach [2], applying systemic and resilience-based frameworks to reinterpret the fundamental paradoxes of food policy.

RESEARCH RESULTS

In traditional logic, a paradox emerges when a line of reasoning leads to conclusions that contradict its own premises. In economic policy, however, a paradox has a different nature. It not only exposes the limits of logic but also reflects the interaction between rationality and context. In the real world, decisions are never purely technical: they always possess cognitive and ethical dimensions. Therefore, a paradox in food policy is not a flaw in reasoning but a manifestation of its ultimate tension. Paradoxes can be destructive if the system fails to recognize them, or productive if they become points of self-reflection. In the latter case, the paradox serves as a catalyst for development — a moment when the system becomes aware of its boundaries and begins to learn. This understanding forms the basis of the present analysis.

Food policy, as an intersection of economics, governance, and social ethics, contains multiple internal contradictions that take the form of paradoxes. The most evident among them are the food paradox, the food policy paradox, the food security paradox, and the regulatory paradox of food policy. Each has its own logic of emergence, yet together they form a system in which solving one problem often gives rise to another.

The complexity of food policy lies in its constant position between the rational and the social, the economic and the ethical. Every decision has at least a dual effect: strengthening one subsystem often weakens another. This duality produces paradoxical outcomes that reappear across different historical and political contexts. Four core types can be identified.

The food paradox represents the contradiction between global overproduction and persistent undernourishment. This is not only an economic but also a moral dilemma: the efficiency of production systems does not ensure accessibility of results. It reveals a structural imbalance between production, distribution, and consumption. Surplus in some regions coexists with scarcity in others, showing that both market and policy jointly reproduce inequality as a mechanism of systemic stability.

The problem of hunger today reflects not a lack of food, but structural distortions in tax and investment policies. In many developing economies, tax

systems prioritize fiscal imperatives that guarantee short-term stability but constrain investment in sustainable agriculture and local infrastructure. In advanced economies, excessive concentration of capital in speculative financial instruments detaches investment flows from the real sector. This asymmetry reproduces the paradox of hunger amid abundance: resources accumulate where they are profitable, not where they are essential. Overcoming this cycle requires differentiated tax mechanisms that stimulate investment activity in productive, innovative, and socially oriented sectors of the food economy. Such integration of fiscal and investment policy can transform taxation and investment into systemic tools of food security and global justice.

A crucial dimension of modern food policy is the growing influence of speculative capital and futures trading in global agrarian markets. Financialization increasingly turns food commodities into speculative assets, detaching prices from real production costs and creating additional risks for food security. Futures contracts, once designed to protect producers from price volatility, are now often used for short-term profit-taking. This leads to a phenomenon of "price illusion", where fluctuations in speculative expectations trigger socially sensitive distortions in real food markets. As a result, speculative capital generates a new paradox — the paradox of financial vulnerability, where excess liquidity, instead of stabilizing markets, amplifies volatility. Overcoming this requires fiscal mechanisms that limit windfall profits from short-term operations and investment policies directed toward the real food economy. Under these conditions, futures strategies can regain their original purpose — serving long-term stability rather than fueling crisis cycles.

The food policy paradox arises when state interventions intended to correct market imbalances create new ones. Classic examples include subsidies, protectionism, and selective regulations that benefit certain producers or consumers but distort systemic equilibrium. Stabilization policies meant to reduce risks often generate new ones by weakening self-regulatory mechanisms. This paradox exposes the conflict between efficiency and equity, short-term political gains and long-term structural consequences.

The food security paradox lies in the tendency of control mechanisms, designed to ensure stability, to create new vulnerabilities. The more the system seeks to protect itself, the less flexible it becomes. Excessive centralization, stockpiling, and market closure reduce adaptability and raise the risk of collapse in the face of external shocks. Thus,

Table 1. Basic Paradoxes of Food Policy

Type of Paradox	Logical Essence	Cause	Consequences	Core Contradiction
Food Paradox	Overproduction coexists with hunger	Imbalance between production, distribution, and access	Social inequality, spatial asymmetry	Efficiency vs. Equity
Food Policy Paradox	Stabilization policies generate new instabilities	Mismatch between goals and instruments	Economic inconsistency, structural inertia	Stability vs. Flexibility
Food Security Paradox	Control over resources creates vulnerability	Excessive centralization and system closure	Loss of adaptability, new risks	Security vs. Freedom
Regulatory Paradox	Expansion of regulatory institutions reduces governance efficiency	Institutional inertia, bureaucratization	Slowness, loss of trust	Procedure vs. Outcome

Source: compiled by the authors.

policies intended to enhance security produce a new form of insecurity — institutional fragility.

The regulatory paradox of food policy arises when attempts to improve governance efficiency produce the opposite effect. As institutions, procedures, and norms multiply, the political system loses responsiveness. Bureaucratization, duplication of functions, and distorted information flows turn regulation into a self-serving process. This paradox shows that excessive rationalization can become a new form of irrationality.

Together, these paradoxes form an interconnected logic. They are not isolated anomalies but parts of a cyclical structure: solving one paradox often activates another. Addressing the food paradox through intensified state intervention produces the policy paradox; solving that through regulatory expansion generates bureaucratic inertia; and striving for stability through control results in vulnerability. Hence, food policy reproduces its contradictions cyclically, remaining trapped within its own structural logic (Table 1).

This typology reveals that the paradoxes of food policy are not random or technical failures. They have a systemic nature: each arises at the intersection of two logics — rational and cognitive. Policy rationalizes reality through models and data, while society perceives it through ideas, beliefs, and expectations. Where these logics diverge, a paradox emerges.

However, such paradoxes can be not only observed but also analyzed dynamically. When considered within broader frameworks of systemicity and resilience, they display different depths and varying potentials for resolution. Each paradox transforms when viewed through the lenses of systemic thinking and resilient policy,

opening the way toward a new theory of food stability.

The contemporary era imposes new demands on economic and political reasoning. Static models built on assumptions of predictability and control increasingly prove inadequate. Reality is characterized by complexity, interdependence, and uncertainty. Food systems, combining economic, biological, social, and technological dimensions, epitomize this complexity. Therefore, the analysis of paradoxes in this field must rely not only on the logic of stability but also on the logic of systemic interaction and adaptive resilience.

The concept of systemicity allows us to perceive food policy as a network of interconnected subsystems, where no decision can be entirely local. Every economic, environmental, or social action produces cascading effects at other levels. Within such a system, a paradox is not a random failure but an intrinsic property of interaction among its parts. A systemic paradox is a contradiction embedded in the structure of relationships, where strengthening one element inevitably weakens another.

Resilience, in turn, introduces the temporal dimension. It describes a system's capacity not only to preserve but also to restore its functions after disruption. Yet the very pursuit of resilience can generate new vulnerabilities. A resilient paradox arises when measures designed to enhance stability limit flexibility and weaken adaptability. In this sense, paradox does not negate resilience but serves as its internal mechanism — a moment of tension through which the system learns by being tested.

Applying these two perspectives to the core paradoxes reveals how each evolves: they cease to be isolated contradictions and become dynamic forms of systemic self-movement.

Table 2. Transformation of Food Policy Paradoxes in Systemic and Resilient Dimensions

Basic Paradox	Systemic Interpretation	Resilient Interpretation	Logical Shift
Food Paradox	Overproduction and hunger as interdependent outcomes of the global structure	Self-sufficiency reducing flexibility and increasing vulnerability	From local contradiction to dynamic disequilibrium
Food Policy Paradox	Intervention in one subsystem destabilizes others	Adaptive mechanisms gradually turning into rigid dependencies	From functional logic to evolutionary logic
Food Security Paradox	Control reducing adaptability	Pursuit of stability creating new risks	From control to the dialectic of stability and change
Food Policy Regulation Paradox	Institutional proliferation sustaining structural complexity	Stabilization procedures blocking renewal	From bureaucratic stability to cognitive aging

Source: compiled by the authors.

The systemic food paradox shows that overproduction and hunger are not independent phenomena but interlinked through global mechanisms of trade, finance, and politics. Surplus in one region sustains scarcity in another — a structural logic of an imbalanced world. The systemic food policy paradox illustrates that any intervention — subsidies, quotas, or restrictions — produces multidimensional effects. Efforts to stabilize one indicator often destabilize others, making stabilization itself a source of instability.

The resilient food security paradox demonstrates how attempts to ensure stability through centralization and control can undermine flexibility. In crises, excessive regulation or stockpiling may delay adaptation, while decentralized and network-based coordination fosters genuine resilience. The resilient policy regulation paradox shows that institutions created for flexibility tend to harden over time, losing adaptability and reproducing inefficiency. Resilience without cognitive renewal becomes mere imitation of vitality. Thus, systemicity and resilience do not eliminate paradoxes — they make them conscious. They shift the discourse from how to avoid contradiction to how to live within contradiction without losing the capacity to evolve (Table 2).

Systemic logic teaches us to see the structure of interdependencies, while resilient logic reveals the dynamics of time and change. Together, they form a double mirror of policy: one shows how the system is organized, the other — how it reacts. Only when both mirrors are aligned can we see the complete image of the food world—not as an object of governance, but as a living, thinking system that learns from its own paradoxes. The complexity of modern food policy exposes the limits of one-dimensional thinking. Traditional quantitative

tools that strive for predictability often overlook the cognitive, cultural, and emotional nature of political decision-making. Conversely, purely communicative or behavioral models that interpret actions through beliefs and perceptions fail to ensure measurement accuracy and systemic coherence. Therefore, policy requires the integration of analytical and cognitive dimensions — what may be called a rational-humanistic synthesis.

One line of this synthesis is represented by J. Tinbergen [1], who transformed political thinking into an engineering of goals and means. His logic rests on the principle of consistency: the number of policy goals must correspond to the number of independent instruments. In this view, policy is a system of equations in which objectives can be measured, instruments adjusted, and outcomes verified. For Tinbergen, effective policy is one that can translate moral intentions into a rational form. Yet this logical strength has its limits: models assume complete information, stable behavioral reactions, and predictable social contexts. In reality, political decisions are made amid incomplete data, cognitive biases, and competing interests. Where Tinbergen sees equations, society often sees conflicts of meaning.

The other line is represented by T. Slembeck [2], who begins from the opposite intuition. For him, policy is not a sum of decisions but a communicative process in which economic advice, ideological beliefs, and cognitive expectations interact, creating a shared field of meaning. He rejects the "decisionist" model, where the economist offers ready-made solutions to the policymaker, and instead proposes a "co-thinking" model in which the advisor and policymaker jointly define both goals and instruments within the

Table 3. Applicability of J. Tinbergen's and T. Slembeck's Approaches to Addressing Food Policy Paradoxes

Type of Paradox	J. Tinbergen's Approach (Structural–Analytical)	T. Slembeck's Approach (Cognitive–Communicative)	Integrated Cognitive–Rational Approach
Food Paradox	Identifies structural imbalance between production and distribution; proposes alignment of goals and instruments	Explains social perceptions and behavioral barriers to access and consumption	Combines analytical balance with cognitive trust; builds a framework of fair distribution
Food Policy Paradox	Detects technical inconsistencies among policy instruments	Explains why political actors act against rational logic due to ideological patterns	Aligns models with the actual belief systems of political stakeholders
Food Security Paradox	Points to an excess of goals and lack of adaptive mechanisms	Reveals cognitive fears and responses to uncertainty	Creates a model of adaptive security balancing stability and flexibility
Food Policy Regulation Paradox	Proposes reducing institutional redundancies	Identifies cognitive inertia and habits of excessive control	Combines structural simplification with cognitive renewal; fosters self-organization

Source: compiled by the authors.

society's real cognitive horizon. This perspective helps explain why even the most precise analytical recommendations often fail to be implemented — they do not fit into the cognitive framework of those who make decisions. However, excessive emphasis on communication risks turning policy into an endless process of negotiation devoid of analytical grounding.

Both approaches -Tinbergen's and Slembeck's — are not opposites but complements. The first provides structure; the second, living flexibility. One seeks equilibrium; the other, learning. Together, they form two halves of a unified mode of thought essential for understanding and overcoming food policy paradoxes (Table 2).

This synthesis shows that systemic and cognitive paradigms, when united, allow food policy to evolve beyond static management toward an adaptive, learning-oriented framework where efficiency and understanding reinforce one another. The analysis shows that J. Tinbergen's approach is most effective for addressing structural paradoxes, where conflicts arise from imbalances between goals and instruments, while T. Slembeck's approach reveals cognitive paradoxes related to the limits of perception and trust. Yet only the integration of these logics allows us to see that food policy is not merely a set of decisions, but a form of collective learning within society. Thus, the integrated cognitive-rational approach is not a compromise between two schools of

thought, but a qualitatively new level of reasoning. It enables the system to combine analytical transparency with cognitive comprehensibility—forming the foundation of resilient policy capable of self-correction and ethical balance.

When the analysis of paradoxes leads to the point where technical solutions lose their effectiveness, it becomes evident that food policy requires a different kind of intellect—not just rational, but reflexive. Rationality seeks coherence, yet in reality, coherence is attainable only through a process of continual self-adjustment. Here begins the domain of cognitive-rational resilience—a logic in which thinking and action form a single learning cycle.

Within this domain, J. Tinbergen and T. Slembeck appear not as representatives of two separate schools, but as two poles of a shared evolutionary dynamic. The first ensures structural consistency, emphasizing that any policy must balance objectives, instruments, and outcomes. The second ensures cognitive coherence, demonstrating that any decision must be legitimate in the minds of those who design and implement it. When these two dimensions merge, policy becomes not only systemically sound but also psychologically acceptable—not only efficient but also meaningful.

The integrated cognitive-rational approach operates on three principal levels.

The first is analytical, where the system reflects on its own structure. This is the Tinbergen level:

Table 4. Overcoming Systemic and Resilient Paradoxes of Food Policy within the Integrated Cognitive-Rational Approach

Type of Paradox	Analytical Level (J. Tinbergen)	Cognitive Level (T. Slembeck)	Integrated Level (Cognitive-Rational Resilience)
Systemic Food Paradox	Identifying structural imbalance between production, distribution, and access	Revealing social perceptions that sustain distorted views of scarcity	Aligning distribution models with cognitive maps of fairness; building trust in global balance
Systemic Paradox of Food Policy	Harmonizing objectives and instruments; avoiding redundant interventions	Explaining ideological expectations and cognitive biases in decision-making	Institutionalizing communicative formats of governance; combining structural and cognitive coherence
Resilient Paradox of Food Security	Assessing system stability, risks, and time lags	Identifying fears and social responses to threats; restoring trust	Transitioning to adaptive governance, where security is achieved through flexibility and communication
Resilient Paradox of Food Policy Regulation	Optimizing institutional architecture; reducing excessive administrative layers	Recognizing cognitive inertia of control; fostering a culture of self-correction	Transforming control into coordination; enabling institutional learning through dialogue

Source: compiled by the authors.

aligning means and ends, measuring efficiency, and establishing systemic equilibrium. The second is cognitive, where the system becomes aware of its representations, limitations, and distortions. This is the Slembeck level: building trust, achieving mutual understanding, and recognizing the boundaries of rationality. The third is integrative, where the system transforms contradictions into learning instruments. This is the level of resilience, where policy acquires the ability to learn without self-destruction. At this level, paradox ceases to be a threat and becomes an indicator of a boundary that the system can convert into a resource. If Tinbergen teaches us to see where equilibrium is disrupted, and Slembeck explains why such balance is not perceived as fair, then the integrated approach answers the question of how a system can maintain equilibrium without losing its capacity for change (Table 4).

This matrix shows that only at the integrated level does a paradox cease to be an antagonism and instead become a driving force for development. In a traditional analytical model, it is an "anomaly" to be corrected; in a cognitive model, an "illusion" to be understood; in an integrated model, it is the moment of systemic transformation—the threshold through which a system evolves into a higher state of coherence and resilience.

Conclusions. The article demonstrates that the fundamental paradoxes of food policy—the food, political, security, and regulatory paradoxes—transform into mechanisms of interdependence in

a systemic dimension and into indicators of adaptability in a resilience-oriented one. Instead of attempting to eliminate contradictions, it is necessary to learn to think within them, turning the tension between stability and flexibility into a source of development. Sustainable development in this context emerges as a practical manifestation of cognitive-rational resilience. It requires not only maintaining equilibrium among economic, social, and environmental goals but also the continuous renewal of meanings that grant these goals legitimacy. In food policy, this means that sustainability cannot be achieved without justice, and efficiency cannot exist without trust. Sustainable development thus appears not as a final state but as a process of reconciling the rational and ethical dimensions of policy, where the system's capacity for self-learning becomes the key condition of its durability.

In practical terms, this logic demands the differentiation of tax systems and the rethinking of global imperatives of investment activity. The tax system becomes not only a tool of fiscal balancing but also a means of intelligent management of behavioral incentives within the food sphere. Its differentiation should consider not only production volumes or profitability but also the social and environmental value of activities. Reducing the tax burden on small producers, supporting those who introduce sustainable practices, or imposing additional rates on resource-inefficient sectors does not create redistribution—it establishes a

cognitive architecture of trust in which taxes are perceived as a form of mutual responsibility rather than coercion.

In this context, forming a tax-investment balance becomes a key element of global food strategy. Fiscal incentives aimed at supporting innovative agricultural projects, environmentally friendly technologies, and socially responsible producers serve as mechanisms for preventing hunger not only through direct financing but also by creating a system of predictable economic signals. At the same time, tax policy oriented toward long-term sustainability must take into account the global investment imperatives associated with the transition to a green economy, the diversification of capital sources, and the minimization of speculative capital's influence on food markets. This approach forms the basis of a new cognitive-rational paradigm in which tax and investment decisions function not merely as instruments of economic policy but as tools for the evolution of global food thinking.

Such an understanding of tax policy brings it closer to the logic of resilience: it maintains the balance between fiscal stability and flexibility in responding to new challenges, ensuring the system's adaptive capacity. Tax policy thus becomes a channel of communication between the state, business, and society, where transparency and predictability replace control and sanctions. Investment activity, in turn, should align with the global imperatives of long-term sustainability. This means shifting the focus from short-term profitability to the formation of intellectual and social capital-investments in science, innovation, infrastructure, and food education. Such an approach combines financial rationality with humanistic responsibility, transforming sustainable development into a practical mechanism of global food stability.

In this context, the integration of the approaches of J. Tinbergen and T. Slembeck acquires fundamental significance. The former provided policy with instrumental rationality; the latter endowed it with the cognitive capacity for mutual understanding. Their combination does not produce a mechanical synthesis but rather a new paradigm of thought—a cognitive-rational humanism in which efficiency and justice, structure and communication, system and human coexist and reinforce one another. Cognitive-rational resilience emerging from this synthesis represents not merely the capacity of policy to recover after crises. The differentiation of tax systems ensures a fair balance between fiscal stability and social equity while creating incentives for sustainable

practices in the food sector. This entails adaptive taxation mechanisms that account not only for economic outcomes but also for the environmental and social effects of activities. Simultaneously, the global imperatives of investment activity must shift from short-term profitability toward supporting structural transformations, innovation, and food security. Such an approach integrates economic efficiency with humanistic responsibility, strengthening cognitive trust among the state, business, and society.

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e-mail: economy_2008@ukr.net

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