

УДК 811.161.2'276.6:330]-044.965(045)
DOI <https://doi.org/10.32782/tps2663-4880/2025.43.1.39>

СТРАТИФІКАЦІЯ ЕКОНОМІЧНИХ ТЕРМІНІВ ЗА КРИТЕРІЄМ МАСШТАБНОСТІ У ЛЕКСИКОГРАФІЧНІЙ ПРАКТИЦІ

STRATIFICATION OF ECONOMIC TERMS BY THE SCALABILITY CRITERION IN LEXICOGRAPHICAL PRACTICE

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Статтю присвячено актуальній проблемі стратифікації економічної термінології за критерієм масштабності та її застосуванню у лексикографічній практиці. Обґрунтовано необхідність розробки об'єктивної методики для диференціації термінів на мікро-, мезо- та макроекономічні рівні. Ця потреба зумовлена як теоретичними викликами (глибше розуміння діалектики зв'язку між індивідуальними діями та системними результатами в економіці, потреба в систематизації термінологічного апарату відповідно до рівнів аналізу), так і практичними завданнями (вдосконалення фахової комунікації, особливо в міждисциплінарному контексті; оптимізація структури та змісту лексикографічних продуктів, зокрема фахових словників; підвищення ефективності систем автоматичної обробки економічних текстів та інформаційного пошуку). Проаналізовано останні дослідження у галузі термінознавства, економічної онтології та лінгвістики. Детально розглянуто теоретичні дебати щодо співвідношення мікро- та макроекономіки, зокрема концепцію «мікрообґрунтувань» макроекономіки (К. Гувер) та її критику з позицій посткейнсіанства, що наголошує на емерджентних властивостях макросистем (Ф. Карвальо, Я. Крегель). Проаналізовано альтернативні погляди на зв'язок між рівнями, зокрема ідею горизонтальних взаємозв'язків та двонаправленої причинності (Дж. Кінг), а також сучасні підходи до трактування масштабу як багатовимірної конструкції (Й. ван ден Берг, Г. Вербонг). Виявлено не вирішену раніше частину проблеми: відсутність формалізованої, кількісно обґрунтованої, відтворюваної та теоретично валідної методики стратифікації саме економічних термінів за масштабом, яка б враховувала складність феномену, існування проміжного мезорівня та була адаптована для лексикографічних потреб. Метою статті є розробка та апробація такої методики на основі компонентного аналізу. Детально описано п'ятиетапну методику, що передбачає оцінку кожного терміна за п'ятьма семантичними компонентами (основний суб'єкт аналізу, масштаб системи, рівень агрегації змінних, центральна аналітична задача, домінуючий інструмент політики), вибір яких теоретично обґрунтовано працями Н. Г. Менкью, С. А. Грінлоу та іншими фундаментальними працями з економічної теорії. Оцінювання кожного компонента проводиться за трибальною шкалою (1 – низька вираженість, 2 – середня, 3 – висока). Сума балів (від 5 до 15) визначає індекс масштабності та дозволяє віднести термін до одного з трьох рівнів: мікрорівень (5-8 балів), мезорівень (9-12 балів), макрорівень (13-15 балів). Проведено апробацію методики на вичерпному корпусі з 854 англійських економічних термінів, відібраних з «Англо-українського тлумачного словника економічної лексики» А. Шимків. Представлено детальні результати кількісного аналізу: виявлено виражене домінування термінів мікрорівня (505 одиниць, 59,13%), наявність значної частки термінів мезорівня (219 одиниць, 25,64%), що виконують функцію зв'язкової ланки, та меншої, але концептуально важливої групи термінів макрорівня (130 одиниць, 15,22%). Проаналізовано семантичні профілі термінів кожного рівня. Детально обґрунтовано значення отриманих результатів для лексикографії: запропоновано конкретні шляхи впровадження результатів стратифікації у практику укладання словників, зокрема використання систем позначок рівня масштабності (*Мікро*, *Мезо*, *Макро*) у вокабулі, адаптацію структури та змісту дефініцій відповідно до визначеного рівня, релевантний підбір ілюстративного матеріалу, покращення системи внутрішньословникових посилань та створення тематичних покажчиків. Окреслено перспективи подальших розвідок: міжмовні зіставлення, інтеграція з іншими критеріями стратифікації, корпусні дослідження функціонування термінів, розробка практичних лексикографічних рекомендацій, застосування в NLP та дидактиці.

Ключові слова: економічна термінологія, стратифікація термінів, критерій масштабності, мікроекономіка, макроекономіка, мезорівень, компонентний аналіз, лексикографія.

The article addresses the relevant issue of stratifying economic terminology based on the scalability criterion and its application in lexicographical practice. The necessity of developing an objective methodology for differentiating terms into micro-, meso-, and macroeconomic levels is substantiated. This need is driven by both theoretical challenges (a deeper understanding of the dialectics between individual actions and systemic outcomes in economics; the need to systematize the terminological apparatus according to levels of analysis) and practical tasks (improving professional communication, especially in interdisciplinary contexts; optimizing the structure and content of lexicographical products, particularly specialized dictionaries; enhancing the efficiency of automatic economic text processing and information retrieval systems). Recent studies in terminology science, economic ontology, and linguistics are analyzed. Theoretical debates regarding the relationship between micro- and macroeconomics are considered in detail, particularly the concept of «microfoundations» of macroeconomics (K. Hoover) and its critique from Post-Keynesian positions emphasizing the emergent properties of macrosystems (F. Carvalho, J. Kregel). Alternative views on the linkage between levels are analyzed, including the idea of horizontal interrelations and bidirectional causality (J. King), as well as modern approaches treating scale as a multidimensional construct (J. van den Bergh, G. Verbon). An unresolved part of the problem is identified: the lack of a formalized, quantitatively grounded, reproducible, and theoretically valid methodology for stratifying economic terms spe-

cifically by scale, which would consider the complexity of the phenomenon, the existence of an intermediate meso-level, and be adapted for lexicographical needs. The aim of the article is to develop and appraise such a methodology based on componential analysis. The five-stage methodology is described in detail, involving the assessment of each term based on five semantic components (main subject of analysis, system scale, variable aggregation level, central analytical task, dominant policy instrument), the selection of which is theoretically justified by the works of N.G. Mankiw, S.A. Greenlaw, and other fundamental works in economic theory. The assessment of each component is conducted using a three-point scale (1 – low expression, 2 – medium, 3 – high). The sum of scores (ranging from 5 to 15) determines the scalability index and allows assigning the term to one of three levels: micro-level (5-8 points), meso-level (9-12 points), macro-level (13-15 points). The methodology was appraised on a comprehensive corpus of 854 English economic terms selected from A. Shymkiv's «English-Ukrainian Explanatory Dictionary of Economic Vocabulary». Detailed results of the quantitative analysis are presented: a pronounced dominance of micro-level terms (505 units, 59.13%), the presence of a significant share of meso-level terms (219 units, 25.64%) performing a linking function, and a smaller but conceptually important group of macro-level terms (130 units, 15.22%) were identified. The semantic profiles of terms at each level are analyzed. The significance of the obtained results for lexicography is substantiated in detail: specific ways of implementing the stratification results into dictionary compilation practice are proposed, including the use of scalability level labels (*Micro*, *Meso*, *Macro*) in the vocabulary, adaptation of the structure and content of definitions according to the identified level, relevant selection of illustrative material, improvement of the internal dictionary cross-referencing system, and creation of thematic indexes. Prospects for further research are outlined: cross-linguistic comparisons, integration with other stratification criteria, corpus studies of term functioning, development of practical lexicographical recommendations, application in NLP and didactics.

Key words: economic terminology, term stratification, scalability criterion, microeconomics, macroeconomics, meso-level, componential analysis, lexicography.

Introduction. Understanding the «micro-macro» dichotomy is fundamental to economic science, yet its boundaries and interrelation are subjects of ongoing academic debate. Traditionally, microeconomics is defined as the analysis of the behavior of individual economic agents (households, firms), while macroeconomics studies the economy as a whole, operating with aggregate indicators (*GDP*, *inflation*, *unemployment*). This division, although convenient for teaching and initial knowledge structuring, conceals the complex dialectic between individual actions and systemic outcomes, where macroeconomic phenomena are not always a simple sum of microeconomic processes [1, p. 15]. This inherent complexity is reflected in economic terminology. There are terms clearly associated with one level (e.g., *cost of goods sold*, *EBITDA* – micro; *unemployment rate*, *public debt* – macro), yet a significant part of the terminology system functions at both levels or acts as a link between them (e.g., *price*, *market*, *competition*, *tax*).

The lack of clear, objective criteria for stratifying terms according to their scalability level creates several problems. In the theoretical aspect, it complicates the systematization of the terminological apparatus and can lead to conceptual confusion when describing the interrelations between micro- and macrophenomena. In the practical aspect, difficulties arise in professional communication, especially in interdisciplinary research, where ambiguous interpretation of a term's scale of application can become a source of misunderstanding [2, p. 275]. This problem is particularly acute in lexicographical practice. An analysis of existing English-Ukrainian explanatory dictionaries of economic vocabulary, including the one that served as the source of

empirical material for this study, shows the absence of a consistent system for marking terms by scalability level. Assigning a term to the micro- or macro-level is often implicit, unclear, or entirely missing. This significantly reduces the informativeness and didactic value of dictionaries for the target audience – students, translators, researchers. Furthermore, this uncertainty complicates the development and functioning of automatic economic text processing (NLP) systems, where correct identification of a term's level is crucial for understanding the context and semantic analysis of the text. Thus, developing a scientifically sound methodology for stratifying economic terms based on the scalability criterion emerges as a relevant scientific and practical task at the intersection of terminology studies, economic theory, and lexicography.

Analysis of recent research and publications.

The issue of the relationship between micro and macro levels in economics has a long history of debate, dating back to classical political economy. In modern economic theory, these debates have gained new resonance, especially after the 2008 global financial crisis, which revealed the limitations of many macroeconomic models. The discussion around the concept of «microfoundations» of macroeconomics has intensified. Proponents of this approach, mostly belonging to the neoclassical and new classical schools, argue that any valid macroeconomic theory must be logically derived from models of rational individual agents maximizing their utility or profit [3, p. 337; 4, p. 1146]. This approach aims to ensure the internal consistency of economic theory and avoid *ad hoc* assumptions at the macro level.

However, this reductionist approach is criticized by representatives of other schools, particularly Post-

Keynesianism. F. Carvalho and J. Kregel argue that macroeconomics deals with emergent properties of the system (e.g., level of aggregate demand, inflationary expectations) that cannot be simply summed up from individual actions due to complex interrelations, uncertainty, and institutional factors. They emphasize that macroeconomics requires its own, historically-grounded, inductive method, distinct from the logico-deductive approach of microeconomics [5, p. 483]. This viewpoint underscores the ontological autonomy of the macro level.

An alternative perspective is offered by J. King, who views micro- and macroeconomics not as a hierarchical structure («foundation» and «superstructure»), but as horizontally linked disciplines between which complex bidirectional causality exists: micro behavior influences macro outcomes, and macro conditions, in turn, shape the context for micro decisions [6, p. 591]. This approach acknowledges the importance of both levels and their interaction.

The complexity of delineating levels is also confirmed by research in related fields. In the theory of socio-technical systems and innovations, the concept of scale is viewed not as a binary opposition («small-large»), but as a multidimensional construct including aspects of size (number of elements), level (organizational hierarchy), and relation (connections between elements) [7, p. 1]. This indicates the need for a comprehensive, multi-factor approach to analyzing scalability in economic terminology as well. Although fundamental classifications of terms based on specialization degree exist in Ukrainian terminology studies, developed by I. Kochan [8, p. 50], they do not provide specific tools for quantitative assessment based on the scalability criterion within the economic terminology system itself.

Identification of unresolved aspects of the problem. The literature review reveals the absence of a formalized, quantitatively grounded, and reproducible methodology for stratifying economic terms specifically based on the scalability criterion, adapted for lexicographical needs. No system of clear semantic criteria and procedures for their quantification has been developed that would allow for an objective assessment of a term's affiliation to a certain level of analysis, account for the existence of a significant layer of intermediate, meso-level terms functioning at the intersection of micro- and macro-analysis, and provide lexicographers with a practical tool for consistent term labeling in dictionaries. This methodological gap limits the possibilities for systematizing terminology and creates obstacles for its effective use.

Objectives of the article. The aim of this article is to develop and approbate a scientifically sound methodology for stratifying economic terms based on the scalability criterion using componential analysis, and to demonstrate its potential for improving lexicographical practice. The tasks are: 1) to justify the selection of semantic components (semes) for assessing the scalability of terms; 2) to develop a quantitative scoring scale and an algorithm for classifying terms into micro-, meso-, and macro-levels; 3) to approbate the methodology on a representative corpus of English economic terms; 4) to analyze the obtained results and determine the structure of the studied terminology system based on the scalability criterion; 5) to substantiate the practical application of the developed methodology in lexicography.

Exposition of the main research material. Considering the complexity of the phenomenon, its multidimensionality, and the need for an objective methodology, componential analysis was employed. This method involves decomposing the lexical meaning into minimal distinctive semantic features – semes [9, p. 15], allowing for a structured semantic representation and comparative analysis based on clear criteria. Applying this method to the concept of «Scalability» in economic terminology enabled the identification of five key semantic components (semes), reflecting various aspects of a term's belonging to the micro-, meso-, or macro-level of analysis. The choice of components is based on generalizing theoretical approaches to delineating the subject matter, objects, and typical analytical tasks of micro- and macroeconomics, presented in fundamental works [10, p. 10; 11, p. 8].

The first component, **main subject of analysis**, reflects the central subject whose behavior, state, or activity the term describes. Low expression (1 point) corresponds to a focus on an individual economic agent (e.g., *firm, factory, employee's wage*). Medium expression (2 points) indicates interaction between agents or a market mechanism (e.g., *supply and demand, price, banknote*). High expression (3 points) means the term denotes the economy as a whole, its aggregate state, or national institutions (e.g., *GDP, fiscal policy*).

The second component, **scale of the system**, shows the size of the economic system within which the concept functions. Low expression (1 point) relates to a specific market for a particular good, service, or resource (e.g., *car market, labor market for engineers*). Medium expression (2 points) covers a set of markets or describes a phenomenon with manifestations at different levels (e.g., *natural*

resources, banknote). High expression (3 points) characterizes terms describing the system of all markets within a national economy (e.g., *inflation, economic growth*).

The third component, **level of variable aggregation**, indicates whether the concept is a primary, individual indicator or the result of generalization and aggregation of a large amount of data. Low expression (1 point) corresponds to a variable at the level of a single agent or transaction (e.g., *individual wage, price of one good*). Medium expression (2 points) denotes a class of objects or a standard concept requiring some generalization but having clear individual manifestations (e.g., *factory, banknote, supply and demand*). High expression (3 points) is characteristic of aggregate indicators calculated based on statistical data for the entire economy (e.g., *GDP, inflation rate*).

The fourth component, **central analytical task**, characterizes the typical theoretical problem for which the term is used. Low expression (1 point) is associated with problems of resource allocation, consumer/firm choice, and market equilibrium [10, p. 12]. Medium expression (2 points) means the task can be viewed from both perspectives (e.g., the impact of taxes on a firm and on the state budget). High expression (3 points) relates to problems of economic fluctuations, long-term growth, unemployment, and inflation at the national level [11, p. 15].

The fifth component, **dominant policy instrument**, reflects the level at which policy intervention related to the term usually occurs. Low expression (1 point) pertains to the regulation of specific markets (e.g., *antitrust legislation*). Medium expression (2 points) indicates policy with both micro- and macroeconomic dimensions (e.g., policy regarding natural resources). High expression (3 points) characterizes instruments of general economic regulation (e.g., *fiscal and monetary policy*).

To obtain a quantitative measure of scalability, each term is assigned a score from 1 to 3 for each of the five described semes. The sum of scores (ranging from 5 to 15) determines the term's Scalability Index according to a three-level scale: micro-level terms (5–8 points), meso-level terms (9–12 points), macro-level terms (13–15 points). This methodology, analogous to point-based scoring systems used for classifying complex objects [12, p. 7], allows for the objectification of the stratification process.

The methodology was approbated on a comprehensive corpus of 854 English economic terms selected from A. Shymkiv's «English-Ukrainian Explanatory Dictionary of Economic Vocabulary» [13]. The analysis yielded the following quantitative

distribution: micro-level terms – 505 units (59.13%), meso-level terms – 219 units (25.64%), macro-level terms – 130 units (15.22%).

The analysis results demonstrate the methodology's ability to differentiate terms by scalability level. Micro-level terms (e.g., *wage, factory, price, supply and demand, natural resources* [13]) scored between 5 and 8, showing low intensity across most components. Meso-level terms (e.g., *banknote* [13], scoring 11 points) reflect a dual nature, connecting micro and macro aspects. Macro-level terms (e.g., *GDP, inflation, economic growth, fiscal policy* [13], scoring 15 points) indicate affiliation with the macro-level across all five dimensions.

The analysis of the full corpus shows the dominance of the micro-level, confirming the primacy of studying individual agents' behavior. Meso-level terms serve as connecting links. Macro-level terms form the conceptual core for analyzing the economy as a whole. The obtained results are significant for lexicographical practice, allowing for objective entry labeling (*Micro, Meso, Macro*), structuring definitions, selecting relevant illustrations, and optimizing cross-referencing in economic dictionaries. The approbation confirmed that the proposed methodology based on componential analysis allows not only assigning an economic term to a certain scalability level but also characterizing its semantic profile across key dimensions. This contributes to a deeper understanding of its place within economic theory and its potential use for improving lexicographical works.

Conclusions and prospects for further research. The conducted research resulted in the development and approbation of a scientifically sound methodology for stratifying economic terms based on the scalability criterion using componential analysis. The methodology proved its validity by enabling the quantitative assessment of the affiliation of each of the 854 terms to the micro-, meso-, or macro-level. The analysis of the results revealed a clear hierarchical structure of the studied terminology system: it is based on a broad foundation of micro-level terms (approx. 60%), supplemented by a significant layer of meso-level terms (approx. 26%) that ensure inter-level connections, and crowned by a compact core of macro-level terms (approx. 15%). This structure reflects the logic of economic science itself. The developed methodology holds significant potential for improving lexicographical practice, particularly through the introduction of objective labeling of terms by scalability level, optimization of definition structure, and selection of relevant illustrative material.

Prospects for further research include: approbating the methodology on terminologies of other languages to identify universal and language-specific features of stratification; integrating the scalability criterion with other stratification criteria (abstractness, ontological nature, disciplinary differentiation) to build a comprehensive multi-dimensional model of the economic term's semantic profile; in-depth investigation of the functioning of terms of different

scalability levels in specialized texts using corpus linguistics methods; developing detailed practical recommendations for lexicographers on implementing the stratification results in compiling next-generation dictionaries; exploring the possibilities of using the developed methodology in automatic economic text processing systems and in teaching economic disciplines for better structuring of educational material.

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Дата першого надходження рукопису до видання: 23.10.2025

Дата прийнятого до друку рукопису після рецензування: 28.11.2025

Дата публікації: 30.12.2025