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Discourse on Complexity: Can Ecolinguistics Contribute to the Development of More Equitable and Sustainable Economic Models?

Elena Mattei (Corresponding author)

Dept. of Foreign Languages, Literature and Cultures, University of Bergamo

Piazza Rosate, 2, 24129, Bergamo, Italy

E-mail: elena.mattei@unibg.it

Luigi Capoani

Department of Economics, University Ca' Foscari of Venice

Cannaregio, 873, 30100, Venice, Italy

E-mail: luigi.capoani@unive.it

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Abstract

This study examines how language shapes competing economic paradigms by comparing traditional economic discourse with emergent complexity-oriented narratives through Corpus-assisted Ecolinguistics. Using a purpose-built Economic Complexity Corpus (ECC) extracted from the CORE repository (2019-2024) and a set of ELSERVIER economic discourse subcorpora (ELSC), we combine quantitative analysis with Sketch Engine (by generating frequency lists, LogDice collocates, and multi-word keywords) with qualitative concordance inspection and semantic annotation. The aim is to identify meaningful linguistic patterns across corpora, examining how language use reflects and shapes specialists' and public perceptions of sustainability and economic practices. Corpus comparison shows a clear discursive split: ECC foregrounds (eco)systemic vocabulary—*complexity, innovation, green growth, emissions* and *equity*—while ELSC emphasizes metric-centered frames (*GDP, productivity, price, household*) that treat socio-environmental issues transactionally. Collocational and prosodic evidence reveals that identical lemmas and premodifiers (e.g.,

growth, product, natural, green) carry different evaluative orientations across corpora, with ECC linking complexity to reduced inequality, sophisticated knowledge and better environmental performance and ELSC often treating ecological issues as economic opportunities or constraints on growth. These findings suggest a critical need for economic narratives to evolve towards more holistic models that prioritize well-being over mere economic expansion and that test the effectiveness of economic measures by considering *value* and *progress* not only associated with economic attributes but with sustainable provision of renewable resources, shelter, and education in the long-term. By fostering awareness of linguistic framing of economic issues, this research urges for a paradigmatic shift aligning the economic thought with ecological interdependence. Future studies should examine how public and digital media discourses adopt or resist these models, enhancing understanding of sustainability within complex adaptive systems.

Keywords: Economic discourse, Economic complexity, Growth, Ecolinguistics, Corpus linguistics

1. Introduction

Our society has always been defined by the interactions among different components within different economic and business sectors. Private and public institutions, together with citizens, collaborate continuously to create value and economic growth. Traditionally, this capacity has been analyzed so far mostly using metrics such as the Gross Domestic Product (GDP). However, such metrics fail to account for environmental protection or citizens' welfare; on the contrary, they consider *growth* anything that implies an economic transaction, from the purchase of cigarettes and health-related costs to the expenses associated with natural disasters or pollution. This narrow and short-sighted economic logic continues to inform government decisions and policies, with significant impact on the future of nations.

A growing concern is how to measure a country's ability to sustain growth and development in ways that also encompass social well-being and justice (Tacchella et al., 2012). As emphasized by the European Commission (Note 1) and the American Economic Association (Note 2), there is an urgent need to account for major ongoing transitions, such as the digital transformation and the shift towards a net-zero emissions and circular economy. To sustain their domestic economies, countries must reassess financing, resources, and skilled human capital through new business models. In this context, a noteworthy study conducted by Rafique et al. (2021), examining the period from 1970 to 2017, finds a strong and positive correlation between economic complexity and reduced ecological footprint. This suggests that developing countries should implement policies aimed at transforming their energy sectors, integrating sustainability into economic strategies to ensure long-term resilience and growth (Capoani et al., 2025).

A significant shift in economics, also known as *complexity revolution*, reflects an evolution towards understanding the economy as a complex, evolving system driven by the actions of intentional agents and striving for equality (Djeunankan et al., 2024). At the heart of this discourse lies the pivotal role of language in perpetuating dominant - or constructing alternative - economic narratives and policies. The emerging field of Ecolinguistics, in

particular, critically examines how language shapes and reflects ecological attitudes, advocating for more sustainable communication practices. Supported by Critical Discourse Analysis (CDA), ecolinguistics influences eco-sensitive behavior and policymaking (Stibbe, 2012). Considering the potential of eco-sensitive perspectives (Stibbe, 2020; Forte, 2020; Forte, 2024; Faraz and Saleem, 2024) and the gap in ecolinguistics-based, economic research (Kamarullah & Yanti, 2024), it becomes thus paramount to:

1) detect and construct narratives that challenge hegemonic neoliberal discourse within economic discussions, and

2) find new metrics for measuring socioeconomic 'success' based on calculations that take into account the ability to protect human rights and the environment, as both are considered a foundation for life and regeneration of ecosystemic, living entities, including humans and the biosphere (Meyer & Vilsmaier, 2020; Ponton, 2022).

This paper aims to explore the relationship between language use in economics and its environmental implications by employing methodologies from both Corpus Linguistics and Ecolinguistics. Specifically, we analyze the Economic Complexity Corpus (ECC) alongside traditional economic sub-corpora to uncover lexical differences that reflect distinct economic paradigms, behaviors and policies. Through this integrated lens and a mixed methodological approach, this study seeks to demonstrate how language within economic discourse can foster more ecosystemic (ecological and systemic) economic practices and inform policy development in a context where complexity, interdependence, and ecological awareness are paramount, as demonstrated by current research (Zhang & Xiao, 2024). Through this study, we can better understand how linguistic choices shape economic narratives and eventually support the transition toward more holistic, sustainable models of economic development.

The paper is organized as follows. Sections 1.1-1.3 discuss economic narratives in academic discourse through a critical and economic approach, relying on ecolinguistics and complexity theories. Here, we propose a new paradigm for understanding, measuring and interpreting economic events. Section 2 outlines the methodological framework adopted for this study, including corpus selection, annotation and computational analysis using Sketch Engine. Section 3 reports and discusses the semantic distribution and term categories across neoliberal and complexity economic discourse. Section 4 discusses ideological implications in relation to language uses. This analysis is key to show how lexical frequency and collocations of terms shape differing perceptions of growth, development, and ecological sustainability, either legitimating inequalities and short-term economic profit or providing alternative frameworks that balance growth with ecological realities.

1.1 Unveiling Bias in Economic Discourse Through Ecolinguistics: The Need for a New Paradigm of Growth

Economics is a complex field shaped by numerous variables and dynamic interactions among individuals, firms, and institutions. These interconnected systems evolve unpredictably, as they all make different choices that have an impact on each other in multiple ways; this challenges conventional economic models of linearity, requiring methodologies that account for such adaptive complexity of relations and mutual influences. Recent studies show that economic

complexity metrics improve predictions of growth, income inequality, and emissions (Hidalgo, 2020; Balland et al., 2022) (Note 3). Because complex systems continuously evolve and adapt in response to each other, their dynamics cannot be captured by traditional optimization techniques. Overly simplistic models misrepresent reality; instead, research should aim for *simple* representations of *complex* systems (Foster, 2005). Equilibrium theories, such as the Arrow-Debreu model (1954), emphasize for example predictability but overlook non-linear interactions central to real-world economies. Even the law of supply and demand, while illustrating equilibrium through price adjustments in response to excess demand or supply, reduces market balance to a Pareto-optimal state that ignores broader systemic dynamics. Traditional metrics like GDP also fail to reflect true progress. As Costanza et al. (2009) note, GDP was never intended to measure well-being, and scholars argue for instruments that capture economic and social dimensions more holistically (Sarkar, 2016). Outcomes often stem from hidden systemic interactions among diverse, not entirely predictable factors that conventional measures miss. Emerging perspectives therefore call for a paradigm shift: growth must be understood in ecological and social terms, integrating well-being, justice, and sustainability. This rethinking is now more urgent than ever, given global transitions such as digital transformation, net-zero emissions goals, and emerging circular economies.

1.2 Considering the Environment: Specialized Knowledge and Natural Resources to Overcome Inequality and Ensure Wellbeing

Economic complexity theory offers such an alternative framework, recognizing the adaptability and interconnectedness of economic systems while addressing sustainability and inequality (Colander, 2018). By highlighting how countries can improve outcomes through more sophisticated exports and knowledge dissemination, complexity metrics promote strategies that balance growth with environmental responsibility. Key tools include the Economic Complexity Index (ECI)**,** which measures productive capabilities through diversification and interconnectivity; the Environmentally Adjusted Net Domestic Product (EDP) and Measure of Economic Welfare (MEW)**,** which incorporate factors like environmental impact and social equality; and the Fitness-Complexity Method (FCM) (Tacchella et al., 2012), which evaluates a country's adaptive capacity and ability to sustain development through non-linear connections. Together, these approaches emphasize structural complexity as a driver of sustainable development. Unlike traditional models that assume rational, fully informed agents, complexity theory embraces bounded rationality, acknowledging limited knowledge and uncertainty. This perspective underscores the importance of knowledge networks, where product sophistication enhances innovation and productivity with implications for both social and environmental systems. Sustainable initiatives—such as green technologies, universal basic income, and universal basic services in health—can improve equality, workforce integration, and overall well-being. Yet such perspectives are often marginalized in mainstream discourse, partly due to the role of language in shaping economic understanding. Ecolinguistics therefore stresses the need for discourse that respects the environment and supports sustainable policies, by examining how discourse frames sustainability and reveals the ideological forces embedded in economic narratives.

1.3 Ecolinguistics: The Importance of Language in Economic Narratives

If language plays a pivotal role in framing economic narratives, shaping public perception, and influencing policy decisions, Ecolinguistics offers then a critical lens to examine how linguistic choices can perpetuate environmental degradation or, conversely, promote sustainability by reshaping discourse. Through Critical Discourse Analysis (CDA), scholars uncover the ideologies encoded in economic language, showing how terminology centered on profitability often obscures ecological impacts. Research demonstrates that economic discourse not only reflects but actively shapes societal attitudes toward growth and sustainability. Yet systematic analysis of economic language through the combined perspectives of linguistics and ecolinguistics remains limited, particularly in relation to economic complexity. Addressing this gap, this paper compares the Economic Complexity Corpus (ECC) with a traditional economic sub-corpus to reveal lexical differences that embody conflicting paradigms. Such disparities highlight how conventional discourse reinforces ideological narratives that contribute to environmental harm. As Stibbe notes (2012), CDA exposes how capitalist-based, neoliberal assumptions or expressions like "profit is good" mask social and ecological costs, underscoring the need to critically interrogate the discourses guiding economic thought. The framing of concepts such as *growth* carries inherently positive connotations, encouraging societies to prioritize expansion over sustainability. Stibbe specifically argues for a shift toward narratives that emphasize well-being and ecological health, exemplified by measures such as Gross National Happiness or the Happy Planet Index**.** Ecolinguistics seeks thus to promote language that foregrounds community well-being and environmental integrity, recognizing the importance of context in shaping societal attitudes. Quantitative Ecolinguistics analysis (McEnery & Hardie, 2011) further reveals the ideological roots of economic discourse, strengthening the case for language that prioritizes sustainability over mere growth. Future interdisciplinary approaches, then—integrating knowledge theories and ecolinguistics—hold promise for developing more accurate models to represent and explain economic phenomena.

2. Methodological Framework: Analyzing Economic Complexity Through a Linguistic Lens

This study investigates the Economic Complexity Corpus (ECC) in comparison to conventional academic economic discourse, using sub-corpora from the ELSEVIER OA CC-BY Corpus (ELSC) (Kershaw & Koeling, 2020) (Note 4), which collects 40,000 scientific research papers from Elsevier journals and provides representative samples across academic disciplines. Relying on the CORE database (Knoth et al., 2023) (Note 5), we retrieved a compiled corpus of 83 relevant research papers on economic complexity, published between 2019 and July 2024 (Giordano, 2025) (Note 6). Since the corpus consists exclusively of academic texts, the discourse type is expert-to-expert, characterized by domain-specific terminology and technical jargon.

A computational analysis supported by text-mining software Sketch Engine helped identify statistically significant patterns of occurrence in language use within both corpora, revealing how economic narratives have evolved and shaped public understanding. By focusing on specific terms and their connotations, we assessed how traditional economic language promotes linear and growth-centric models, while complexity theory introduces a discourse

that integrates environmental and social dimensions.

2.1 Corpus Selection and Preparation

This study thus compares quantitative findings from the computational analysis of two distinct economics corpora: the ELSEVIER corpus, which comprises works focused on traditional economic models and business practices, and the COMPLEXITY corpus, centered on the complexities surrounding economic systems and environmental considerations. A total of 22 sub-corpora from ELSEVIER were included, specifically targeting those tagged with 'ECON' on Sketch Engine. Table 1 outlines the size of both corpora (Note 7), while Figure 1 shows the composition of the ELSC subcorpora used for the analysis.

Table 1. Corpora' s size (ECC and ELSC)

Corpora	**Tokens (including nonwords)(Note 8)**	**Tokens (excluding nonwords)**	**Types (unique words)**
ECC	833,449	617,337	55,729
ELSC	232,511,611	187,615,459	1,569,010

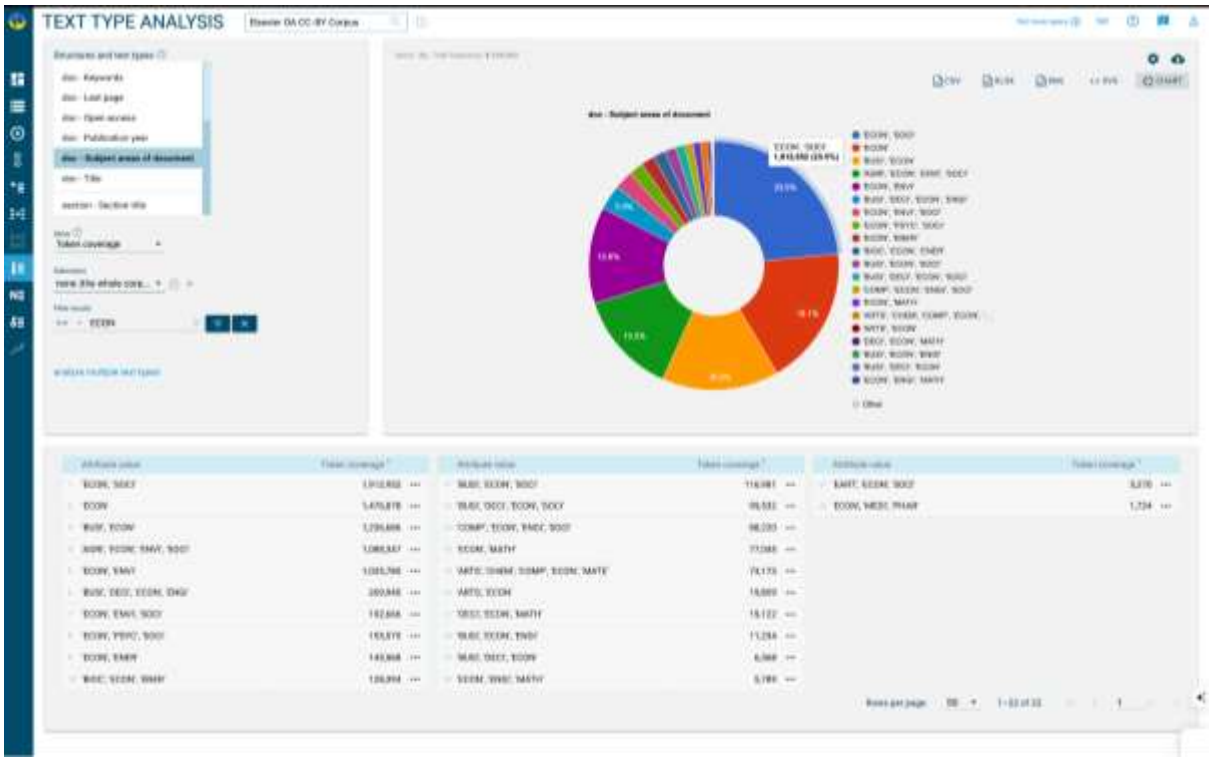


Figure 1. Composition of ELSC documents tagged with the label 'ECON'

The selection of the 22 subcorpora addressing only economic aspects - often in conjunction with interdisciplinary issues - allowed for an unbiased and non- restrictive overview of the ELS economic corpus and of the discipline as a whole. This way, the differences highlighted in the following analyses show that, despite a multidisciplinary approach to economics (including environmental sciences as well), complexity theory offers a unique, innovative and holistic perspective that can advance disciplinary research methods when conceiving measures of inclusive wealth and wellness calculation.

2.2 Triangulating Methods: Multi-Layered Analytical Process

The processes of terminological generation, classification and prosodic investigation were conducted with Sketch Engine and through both manual coding and search. Figure 2 illustrates the process of lexical computation from a multidimensional perspective, aiming to reveal linguistic framing patterns through the evaluative and semantic description of economic views of entities, their relationships, and the problems and solutions they involve.

Statistically speaking, wordlists allow for an analysis of the most frequently used terms in a dataset, while keywords are single-token items that occur more frequently in the focus corpus (i.e. the smallest, or more specialized) compared to a reference corpus (Brezina, 2018); for this reason, they are useful to identify typicalities and specificities of a particular discourse (Note 9). Keyword and multi-unit keyword lists (Note 10) were generated by calculating the keyness score with Simple Maths (Kilgarriff, 2012). Here, ECC was compared against ELSC, while ELSC was compared against the EnTenTen corpus of general online English (EnTenTen21) to enable the discovery of typical terminology of the discourse. Overall, normalized frequencies were the point of departure for any inter-corpus comparison, due to the considerable size difference between corpora, and the threshold for term occurrence was set at 10 hits.

2.3 Annotation Approach: From Extraction to Evidence-Supported Coding

The computational analysis followed a five-stage methodology. Specifically, we combined corpus-driven extraction with close, evidence-based manual coding so that every category assignment and prosody identification could rest on observable collocational and concordance patterns. The goal was twofold: (1) assign each high-frequency adjective, noun and multi-word keyword a clear semantic category and prosody; (2) document how the same lexical items behave differently across the ECC and the Elsevier ECON subcorpora (ELSC). All assignments were made from distributional evidence (logically ranked collocates and KWIC lines) rather than intuition.

First, we generated frequency and keyword lists in Sketch Engine (top 70 adjectives, top 50 nouns, top 30 multi-unit keywords) and normalized frequencies for cross-corpus comparison (Step 1 in Figure 2). For each node word we exported:

- the Word Sketch collocate list ranked by LogDice (Note 11), showing the most significant left/right collocates; and
- a sample of KWIC concordances to inspect variety of uses. These two outputs are the raw evidence used for all subsequent coding and reporting (Step 2).

Coding proceeded by reading collocate lists and then validating them with concordances. We followed the rule according to which a term's category and prosody are determined by the plurality of its collocational environments, not by isolated examples. For each item we recorded: node word, top collocates, representative KWIC lines, and assigned a semantic category based on semantic patterns deducted from collocational evidence (Steps 3-4).

In particular, adjectives were coded after inspecting the nouns they most often modify. The head-noun profile also determined prosodies, which were further explored through manual scanning of concordances. Similarly, nouns were contextualized by mapping their most significant modifiers. For example, in ECC, "growth" proved to collocate with "economic," "green," "innovation," "sustainable," "future," "inclusive," with concordances emphasizing technological change and policy for sustainable expansion. Conversely, ELSC collocates of "growth" include "economic," "earnings," "productivity," "wage," "GDP". The same term was thus coded as *Economic growth/development* with, however, different prosodies (sustainability-driven and metric-, profit-centered, respectively).

Finally, multi-word items (e.g., "economic complexity," "green growth,", ECC; "food waste", ELSC) were treated as lexical units. Their internal composition and recurring surrounding language guided category and prosody assignments.

Borderline items were double-checked using the Thesaurus function (distributional synonyms via collocational overlap) to confirm clustering with established category exemplars (Step 5). In other words, the Thesaurus function was used to explore synonymic relations through collocational behavior. By anchoring every semantic and prosodic assignment in ranked collocational data and concrete concordance examples, the coding moves from interpretive judgement to transparent, replicable annotation. Together, these stages integrated quantitative distributional data with qualitative semantic interpretation, yielding a comprehensive account of linguistic features in the corpus.

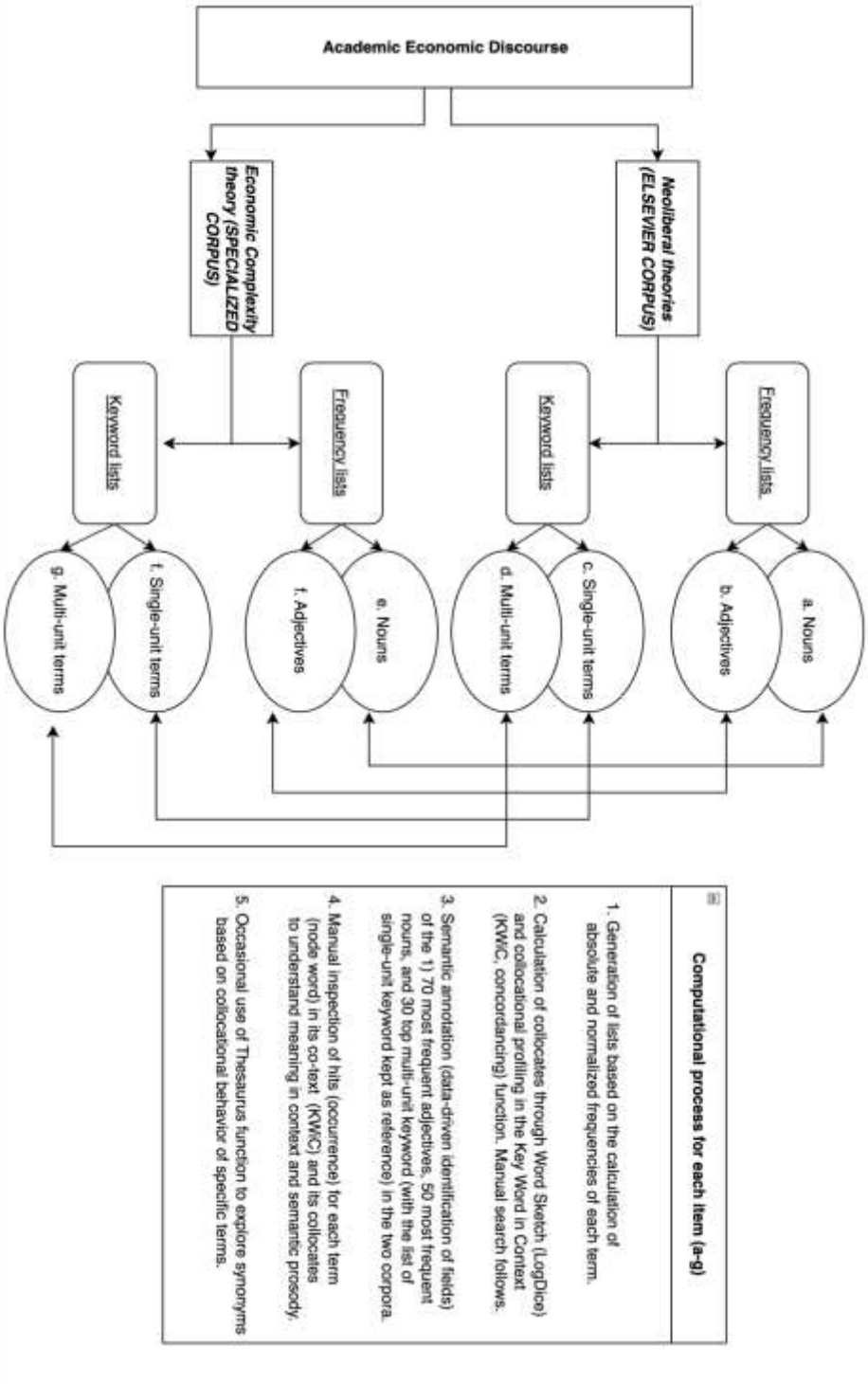


Figure 2. Computation and analysis of lexical elements across corpora following a 5-step procedure

3. Results

This section reports the results of the terminological classification and presents both quantitative and qualitative differences between the two corpora from a semantic perspective. As previously mentioned, each linguistic resource was examined at the concordance level to annotate its semantic load and prosody, supported by Sketch Engine's Word Sketch and Collocation functions. For reasons of space, the semantic categorization and quantification of each term was moved to the Appendix, together with additional evidence supporting the data reported in this section.

3.1 Comparative Analysis of Adjectives

This section compares the 70 most frequent adjectives in the Elsevier Corpus (ELSC) and the Economic Complexity Corpus (ECC), shedding light on both the similarities and differences in terms of semantic emphasis. Both corpora prominently feature the **Scale & Magnitude** category, with ELSC reporting this category at 26% and ECC at 20% (Tables A1-A2). Terms such as "high," "small," "large," "strong," and "low"(collocating with "inequality" in ECC and "income," "prices," "earnings" and "tax" in ELSC) play a crucial role in quantifying, qualifying economic phenomena. These expressions are essential for discussing metrics like GDP growth, inflation rates, and sectoral outputs, highlighting a shared focus on the importance of measurement in economic discourse, as shown by the following passages (emphasis added):

*This suggests that countries with a **high** degree of economic complexity will be characterised by lower levels of income inequality, as evidenced for instance by the cross-country studies by Hartmannet al. [15] and Lee and Vu [16]. (ECC)*

*Removing private pensions raises the average wealth of the households in the **high** earnings deciles, as they save much more to smooth consumption over their lifetime. (ELSC)*

3.1.1 Social and Environmental Aspects: Growth and Well-Being

If we shift our attention to the main differences, we notice that the **Social & Environmental Aspects** category accounts for 9% of expressions in ELSC, which increases in terms of occurrences in ECC (14%). ELSC includes terms like "social," "environmental," "individual," and "natural," signaling a fundamental acknowledgment of socio-environmental factors. However, ECC expands this vocabulary with adjectives such as "human," "cultural", "green," "sustainable," "renewable," and "ecological", placing a stronger focus on sustainability and the social implications of economic policies:

*The outcomes I am looking at should be highly related to employment prospects, as **social** capital, emotional stability and personality traits such as self-efficacy are important determinants of reemployment probabilities (see e.g. Darity and Goldsmith, 1996; Helliwell and Putnam, 2004). (ELSC)*

For instance, macroeconomics has focused on explaining the total value of final goods and services produced, also known as Gross Domestic Product (GDP). However, it is essential to note that increased consumption does not always translate to improved health standards, life

*expectancy, **social** equality, economic stability, or other factors contributing to overall well-being. The question that arises then is how to measure and enhance societal well-being beyond consump-tion maximization. (ECC)*

*Boleti et al. (2021) rely on a measure of environmental performance (including:emissions indicators for different pollutants; effects of pollution on **human** health and environmental degradation; and the effectiveness of environmental policies) to show that increased complexity is associated with better environmental performance. (ECC)*

This focus on ecological and societal dimensions reflects a commitment to framing economic narratives in ways that prioritize collective well-being and ecological integrity, as also confirmed by the dimension of **Growth, Development & Change** category in ECC (33% versus 14% in ELSC), with "structural," "complex," "productive," and "dynamic," placing greater emphasis on the complexities and multifaceted nature of economic development.

3.1.2 Collocational Profiling: What Does the Co-text Tell Us About Economic Complexity?

The analysis of collocational patterns of the most frequent terms also shows clear differences in how the two corpora frame economic concepts. In ECC, "environmental" collocates with "degradation," "sustainability," "pollution," and "quality," which urges recognition of industrial impacts and promotes ecological mitigation, advocating for a view that integrates ecological interdependence over traditional growth-focused paradigms. "Social", as previously seen, frequently links to "welfare," "sciences," "networks," highlighting societal well-being and interconnected structures vital for economic success. Interestingly, collocates of “social” like “human,” “multidisciplinary,” “development,” and “rights” stress that human wellbeing and knowledge are central to growth. Conversely, in ELSC, "social" associates with "capital," "welfare," "housing," with “individual” and “own” collocating with “payoff,” “assets,” “preferences,” “households”, framing social aspects mainly in transactional terms.

Moving further, "global" appears in ECC with "innovation," "governance," "warming," and "trade," underscoring urgent collective challenges and interconnectedness. In ELS, it often refers to economic crises and liquidity issues. Other adjectives, such as “green” (*growth, technologies*), “natural”, (*resources, sciences, extraction*), "sustainable," "renewable," “cultural,” “public” (*health*), “local” (*ecosystem, community*), “ecological” (*footprint, deficit, ECFP*) often accompany phrases such as “structural transformation” and “future generations”, highlighting a focus on long-term ecological health. In ELS, instead, "natural" relates to disasters, while "local" connects with authorities and communities. Also, "public" and "private" are often framed transactionally, focusing on goods, spending, and insurance, limiting broader social responsibility. Finally, in ELS, "low" (linked to inequality in ECC) and "high" (linked to complexity) are used with "income," "wealth," and "costs," indicating a simplistic view of disparities that overlooks systemic complexities. "Large" firms or economies tend to symbolize success but risk ignoring ecological and social impacts. Complexity scholars seem to devote more attention to development, structural change, and sustainability, contrasting with traditional economics’ quantitative and comparative emphasis, thereby expanding the analysis to include ecological and institutional factors (Figure 3).

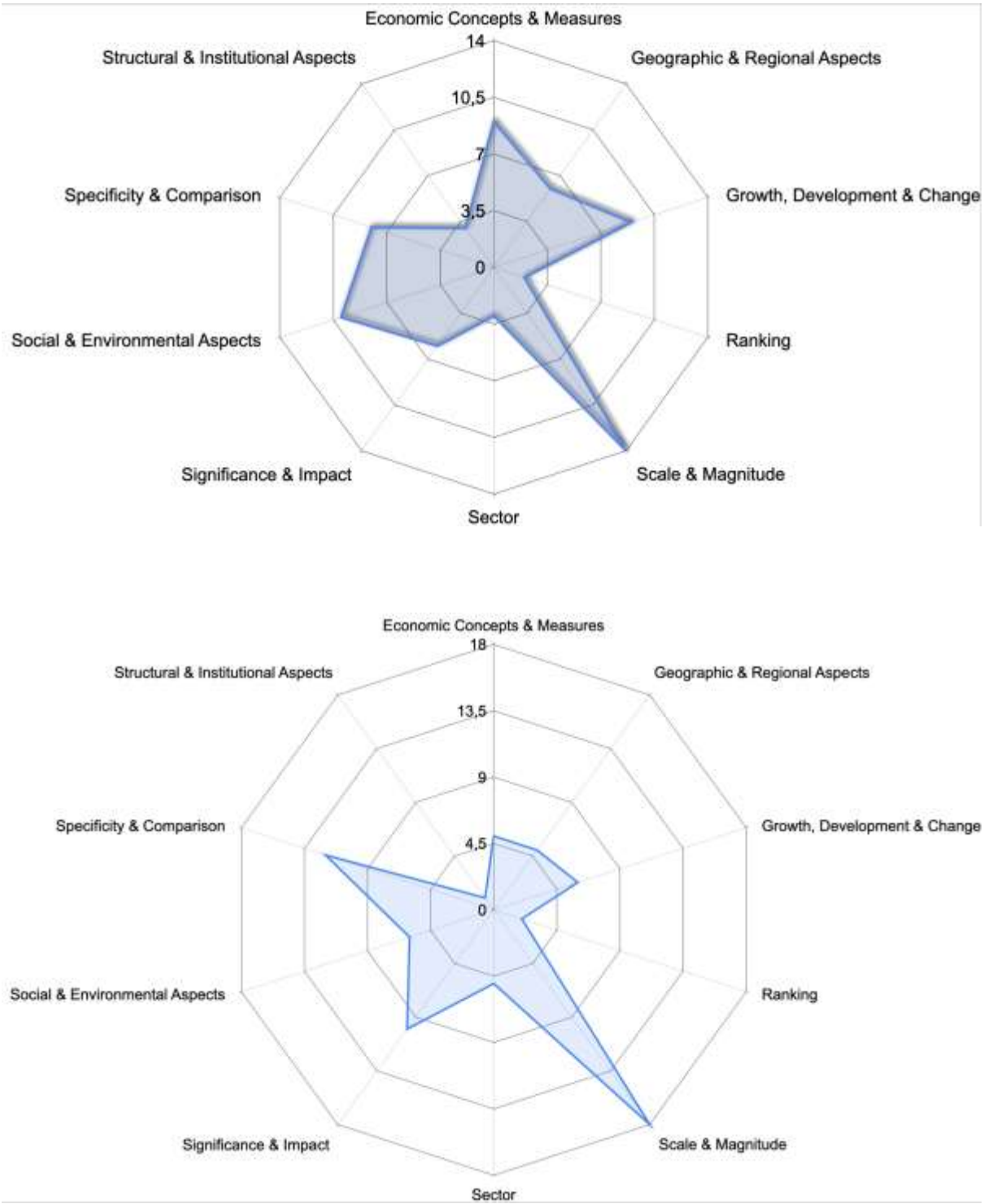


Figure 3. The distribution of semantic categories in ECC (above) and ELSC (below)

3.2 Comparative Analysis of Nouns

The categorization of the 50 most frequent nouns (see the Appendix) reveals both similarities and notable differences (Tables A3-A4). **Data and Research** remains the dominant category

in both corpora at 34%, suggesting that research methodology terminology is equally important in both standard economics literature and complexity theory.

Some differences are seen in the category **Economic measure, variable, index**, which is more prominent in ECC (14%) compared to ELSC (10%), suggesting a greater concentration of metrics and models within complexity theory. Notably, this focus centers on different indicators, specifically ECI, which measures the knowledge, skills, and industrial diversity embedded in a country's exports (Note 12). In line with previous results, **Economic growth and development** is far more frequent in ECC (12%) than in ELSC (6%), reflecting complexity theory's interest in developmental processes and technological innovations. **Geographic and Macroeconomic Scope** receives double the attention in ECC (8%) compared to ELSC (4%), possibly suggesting a broader geographical and system-wide perspective in complexity theory. **Systemicity** shows a threefold increase from ELSC (2%) (with "system" collocating with "bank," "symbol," and "tax") to ECC (6%) (*complex/thinking/adaptive/climate* system), highlighting complexity theory's focus on systems thinking and networks, opposed to a traditional reductionist scope:

*Both complexity and systems thinking have interrogated the narrow mechanistic investigation of social **systems**, such as communities, markets or economies, whereby, these are assumed to operate in relative isolation from external influences, to be well-defined, feature internally complete connections and to be amenable to disaggregation into their individual elements, such that system-wide synergistic or antagonistic effects are ignored (Georgescu-Roegen, 1971; Checkland, 1981; Loasby, 2012). (ECC)*

The Economic Agents and Entities category shows a decrease from ELSC (6%) ("household", for example, co-occurs with "income" and "wealth*"*) to ECC (2%), suggesting individual economic actors receive less attention in complexity theory. Prices and Values drop substantially from ELSC (8%) ("value" collocating with "added," "trade," "cultural," "RCA") to ECC (2%) ("value" collocating with "chain" and "assets"), indicating traditional pricing mechanisms are less central to complexity theory discussions, which favors discussions about cultural barriers to education and the formation of gender roles, also in households (see Appendix).

3.2.1 Varying Linguistic Framing: Category Shifts

The examples within each category reveal interesting shifts in focal terminology. ECC introduces terms like "technology," "innovation," "network," "complexity," and "emission" that do not appear prominently in the ELSC examples. ECC includes "inequality" and "emission" as an example of a prompt for economic change, also by introducing new measures for the development of green policies in economic practices, while ELSC focuses on "risk" (collocating with "aversion," "preferences," "liquidity," "insolvency," "insurance"):

*In general, they also recommend that countries start using or expanding ecological technologies such as carbon capture and utilisation and implement environmental policies such as subsidies and incentives for renewable energy infrastructure, green **technology** investment and carbon tax. Moreover, if considering the general interest in curbing global*

warming as stated in the Paris Agreement, countries with the knowledge of green technologies should consider transferring it to less complex countries (Khezri et al., 2022) […] In the end, environmental protection is also an economic decision. [...] To inform countries about their real possibilities to become complex and environmentally coherent and, therefore, provide some guidance for the creation of policies and industrial strategies toward a transition, the authors created the Green Complexity Index (GCI) and the Green Complexity Potential (GCP). The GCI gives 24 information on countries' current capabilities for producing ecological products, and the GCP shows countries' potential for complexification in ecological products (Mealy & Teytelboym, 2020) (ECC)

However, ELSC acknowledges, to some extent, the complexities and negative effects of charcoal supply chains and "production" (a statistically significant, key term in ELSC, in contrast to "trade," "export sophistication" and "diversification" in ECC) on land degradation and depredation of local communities, thus highlighting the importance of understanding such phenomena:

*Therefore, the land use and land cover change (LULCC) produced by charcoal **production** is a major driver affecting future provisioning of ES and consequently can have important consequences for human well-being. Despite growing socio-ecological systems understanding (Fischer et al., 2015), the resulting complexities of charcoal production and trade for sustainable land management and local livelihoods remain poorly understood. (ELSC)*

*Mopane is the preferred tree species used for charcoal **production** in the study area, followed by Combretum sp., because it produces the highest quality charcoal […]. There are two main charcoal value chains in Mabalane: one run by local producers and one by large-scale operators. The latter is responsible for the largest amount of wood extraction for charcoal production, with only 8% of its monetary benefits remaining in the local communities (Baumert et al., 2016). (ELSC)*

*The importance of manufacturing goods **export** sophistication for economic growth has increased over time. According to recent literature about export sophistication and economic growth, the countries which based their export basket predominantly on highly sophisticated products with higher added value will perform better. (ECC)*

In summary, we may argue that the most significant categorical shifts from ELSC to ECC are:

1) An increased emphasis on systemicity, complexity and networks;

2) Reduced price mechanism focus;

3) An increased focus on growth dynamics due to a technology development and innovation;

4) A more global perspective focused on worldwide economic phenomena.

3.2.2 Socioeconomic Implications: A Call for Holistic Measures and Policies?

Differences in noun usage between the ECC and ELS corpus reflect ideological divergences.

While ECC emphasizes the complexity of economic phenomena, prioritizing sustainability, innovation and social welfare - suggesting a progressive holistic understanding of economic issues rather than a simplistic, transactional approach - ELS reinforces traditional economic narratives focused on measurable outcomes and financial metrics. As suggested by Hidalgo (2020), this approach is more linear and less adaptable to the complexities of contemporary economic realities, relegating social and ecological considerations to secondary status. Figure 4 visually represents and summarizes the differences across corpora in terms of categories and their occurrences.

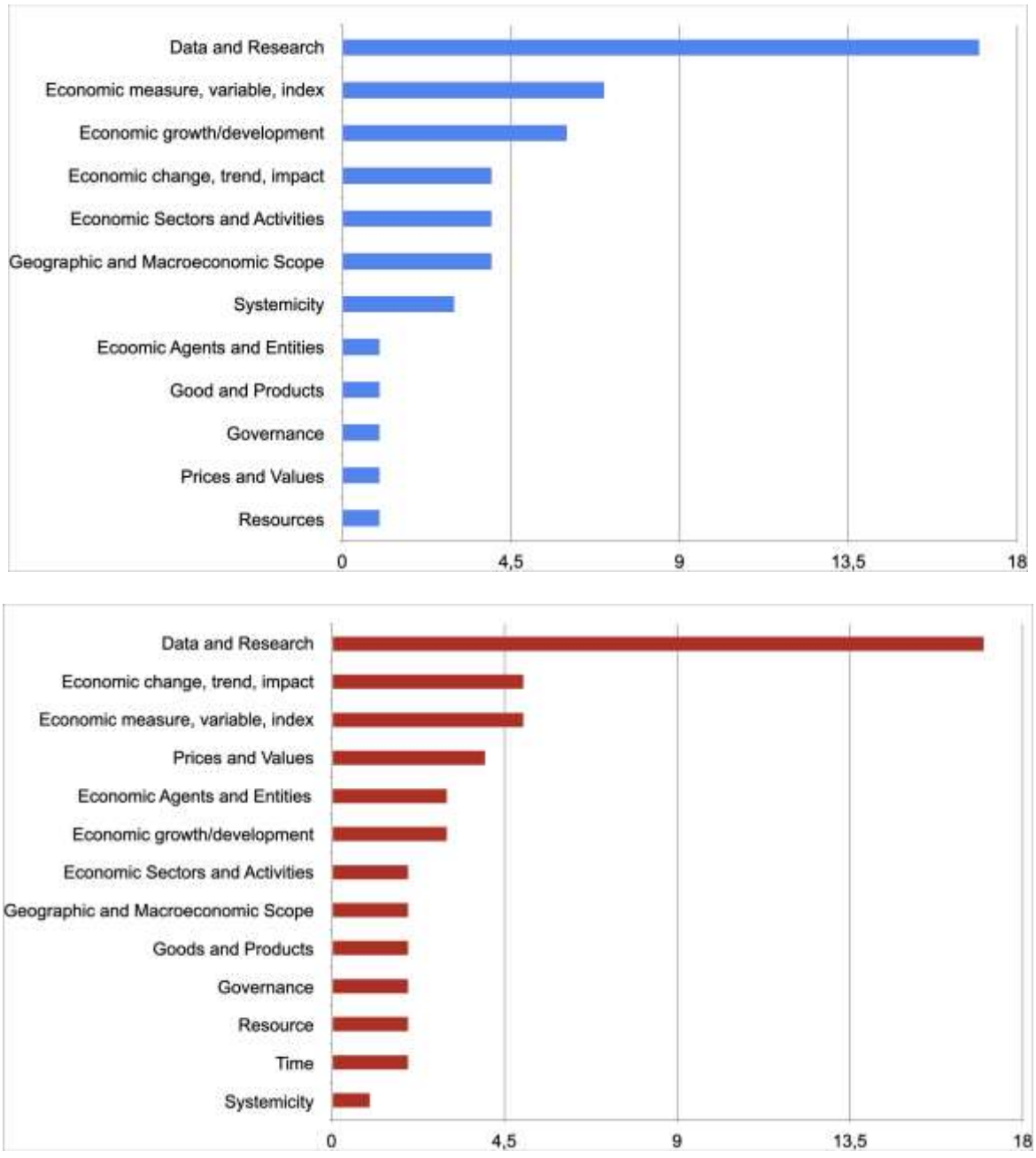


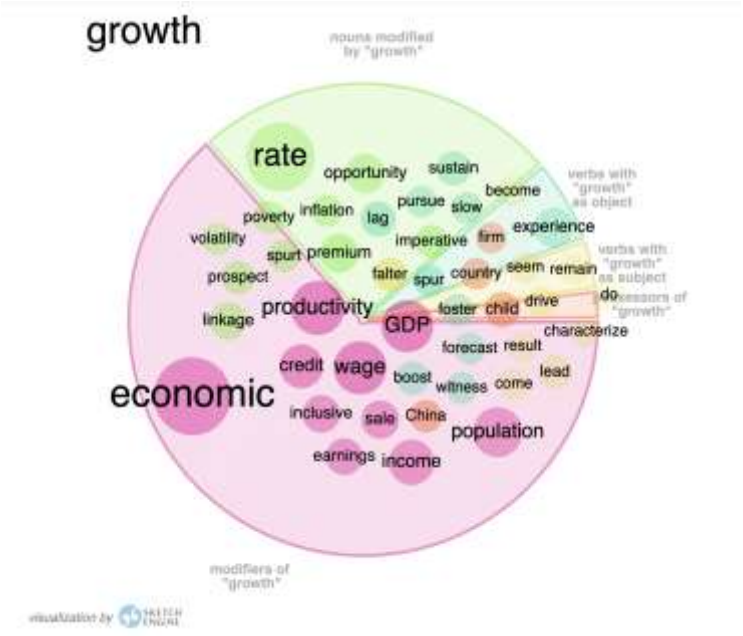
Figure 4. Bar charts illustrating the semantic distribution of the 50 most frequent nouns in ECC (blue) and ELSC (red)

3.3 Comparative Analysis of Keywords and Their Collocates

The following two sections complement the previous one by shedding light on the behavioral patterns of statistically significant words and clusters (called multi-word keywords) across the two corpora and which, therefore, represent the typical formal and semantic features of each academic discourse (Brezina, 2019). As shown below, a list of key terms in both corpora is supported by a discussion of the main co-textual environment and implications.

3.3.1 Growth

In the ECC, the noun "growth" is frequently paired with terms such as "economic," "green, "GDP" and "innovation". This array of collocates underscores a broader understanding of growth that extends beyond financial metrics to include environmental sustainability. It specifically emphasizes a modern perspective that integrates innovation and recognizes the complexities of growth as potentially beneficial or harmful to ecological contexts. In contrast, within the ELS corpus, *growth* primarily collocates with terms such as "GDP," "wage," and "productivity." This framing reinforces a traditional view of growth that favors quantifiable metrics, often neglecting the broader implications of sustainable practices (Stibbe, 2020). The focus here is primarily on financial success, which can perpetuate a narrow understanding of economic progress, as evidenced by the analysis provided in the previous sections. Figure 5 includes the most statistically significant collocates of the keyword across corpora.



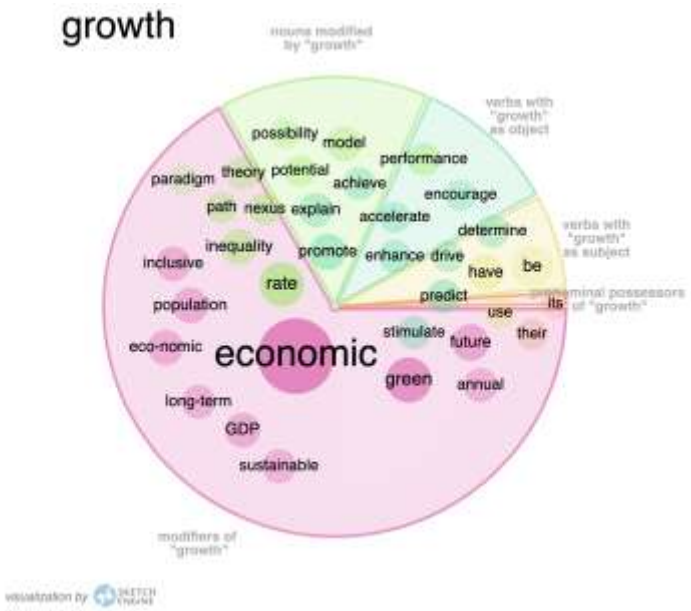


Figure 5. A Word Sketch of the collocates of the term growth in ELSC (above) and ECC (below)

3.3.2 Product

In the ECC corpus, the noun “product” is associated with collocates like "export," "complex," and "ubiquity." Such language implies a recognition of how products are not merely items in trade but are part of intricate, global networks that contribute to inter(national) economic dynamics. Conversely, in the ELS corpus, *product* appears alongside terms such as “Gross Domestic”, "insurance," "end-of-life", “meat” but also "up-cycled.” This narrower focus might indicate a more traditional and profit-oriented approach to products (even though up-cycling is a key component of environmentalism), potentially sidelining the complexities and interconnections found in modern economic contexts:

Due to the stricter government regulations on end-of-life ***product*** *treatment and the increasing public awareness towards environmental issues, remanufacturing has been a significantly growing industry over the last decades, offering many potential business opportunities. (ELSC)*

Favourable consumer attitudes toward upcycled ***products*** *and upcycling businesses in general, and understanding the importance of upcycling in the transition towards sustainable society, have been identified as the most important success factor for upscaling upcycling businesses (Sung et al., 2017a,b). Indeed, capitalising on the potential of creative upcycling to reconnect people with materials may lead to the re-establishment of the culture of making (Bridgens et al., 2018). (ELSC)*

[…] Latin American and Caribbean countries continue to export products associated with high levels of inequality and low levels of economic complexity, and their productive structure strongly constrains their ability to generate and distribute income. The intuition

*behind these findings is that complex **products** require a larger network of skilled workers, related industries, and inclusive institutions for economic competitiveness. Such characteristics are conducive to more equal societies. In contrast, the competitiveness of simple industrial products and resource-exploiting activities is mainly based on resource richness, low labour costs, routinised activities and economies of scale,characteristics that foster more unequal economies. (ECC)*

*In fact, an increase in economic complexity and, therefore, in the diversification and exclusivity of export **products**, offers an important shield against future fiscal crises, since it reduces the probability of suffering this type of crisis by half. (ECC)*

*[…] the production of complex goods requires a wide set of diverse and exclusive capabilities. Therefore, complex **products** are not easily reproducible anywhere, i.e., are less ubiquitous, and are by general rule produced by fewer countries. (ECC)*

3.3.3 Model

In the ECC, the noun "model*"* is associated with terms like "agent-based," "regression," and "EURACE." (Figure 6). This usage reflects a commitment to advanced methodologies capturing the dynamics of complex systems, indicating a shift away from simplistic linear models. In contrast, in the ELS corpus, *model* commonly pairs with "DCC," "GARCH" and "stochastic", dedicating space to discussions of financial market volatility and the implications of dynamic currency conversions on business transactions and innovation. The prominence of descriptors like "business", "probit," and "logit", also signals an interest in using statistical and neoliberal terms to describe modeling, possibly limiting the potential for conceptualizing economic relationships in a 'beyond individualistic profit' context. In ECC, terms such as EURACE, agent-based and dynamic (modeling) indicate a strong emphasis on more complex descriptors and indices that take into account more dimensions of economic modeling and impact, as suggested by this passage (Neagu, 2021):

*Out-of-equilibrium dynamics, complex interactions among economic agents and heterogeneity are three important features that can be encompassed by agent-based **modelling** […]. Furthermore, by capturing heterogeneity between economic agents we can distinguish between different types of productive capital: hard capital and intangible or digital capital. The need for heterogeneity to study the potential effect of a digital transformation is also reflected by the labour force: workers are heterogeneous and they differ in skills. (ECC)*

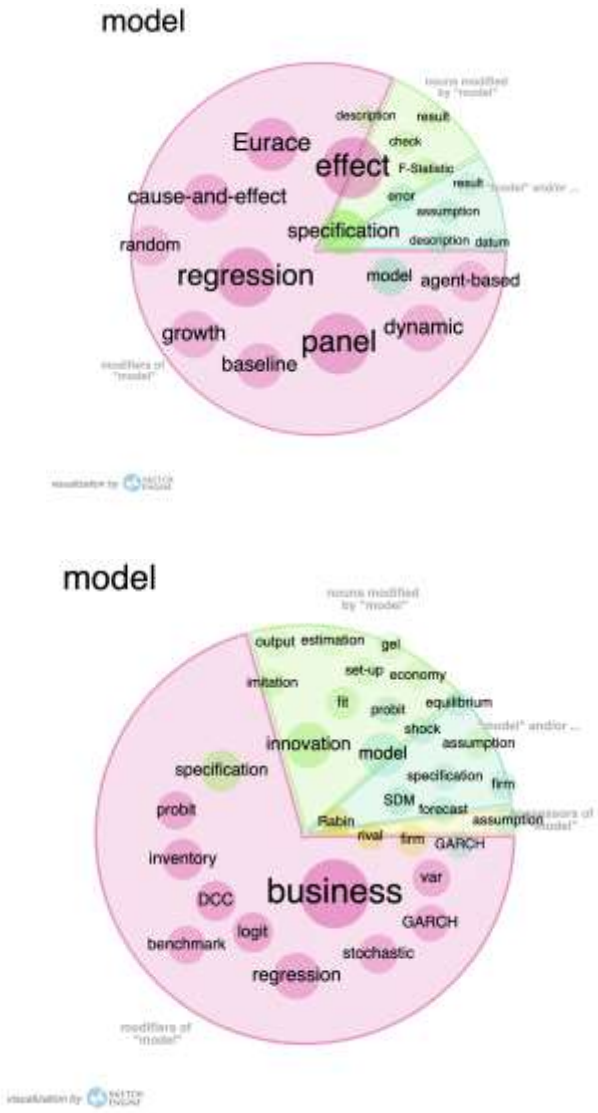


Figure 6. Word Sketches of the collocates of the term growth in ECC (above) and ELSC (below)

Such narratives run parallel to ECC's linkage of "development" with concepts such as "sustainable," "human," alongside "economic", promoting a holistic approach to development that integrates social and ecological factors, advocating for growth that enhances well-being. In the ELS corpus, instead, *development* shares space with terms like "sustainable," but especially "economic," and "financial" (Faraz & Saleem, 2024).

The concept of "value" also differs across the two corpora: in ECC, it collocates with terms like "trade", "RCA" (i.e. Revealed Competitive Advantage index) and "cultural", while in ELSC it appears alongside "creation" and "chain". The role of international relationships included in the RCA highlights an understanding that values are not merely financial but also encompass cultural and relational dimensions, advocating for a perspective that sees economic interactions as deeply intertwined with societal implications. In contrast, the key

collocates of value in the ELS corpus suggest a more transactional perspective.

Interestingly, in ECC, “production” is associated with "green," “cleaner”, and "sophisticated”, suggesting a modern understanding of production that values innovation and sustainability, and promotes advanced, eco-friendly practices. This is further confirmed by the use of “energy,” in ECC, in relation to "renewable," "consumption”, "sources," indicating an emphasis on sustainable practices in energy production and usage, and reflecting a clear commitment to ecological considerations within economic practices. Similarly, “products” is a collocate of “export” together with “sophistication” and “diversification” which, if framed within a narrative that includes frequent nouns like “innovation” (preceded by *growth, green*), “knowledge” (associated with *skills, distributed, sophisticated*) and “inequality” (collocating with *income, poverty, wage, emissions*) highlights an economic vision that sees global interdependence as a strength and opportunity for distributed wealth and recognizes its role in predicting economic changes. Finally, terms like “eci” (ECI) (*complexity, gini, technology*) and “technology” (*green, knowledge, clean*), which appear in the top positions only in the ECC frequency list, are inextricably linked to *“*structural,” “technological” “change”, also in terms of “environmental*”* impact and *“*carbon*”*, or *CO2* emissions. (Rafique et al., 2021).

Conversely, in the ELS corpus, “production*”* is more commonly paired with terms like "agricultural," "charcoal," and "domestic". At the core of ELS is the term "household," which frequently occurs with "wealth," "member," and "head." In household economics, families are both the productive sector and consumers within the market. Such a discourse has been shown to construct familiar nuclei as entities based on a utilitarian agreement to satisfy needs in a cost-efficient manner (Pollack 2003), without considering other factors contributing to (or harming) health other than work and essential needs such as food and shelter. In line with Becker’s economic theory of fertility, children are ‘consumer durables’ (Becker 1981), thus viewed both as expenditures - in developed countries, where mothers may leave their jobs due to childcare demands - and as economic assets in developing countries, where children often contribute to household production.

Concurrently, in ELSC, equal importance is given to "firm" behaviors within diverse sectors, notably the "private" and "banking" sectors, where the efficiency and effectiveness influence economic outcomes. “Prices” are indeed crucial: experts investigate the fluctuations of "commodity," "stock," "house," and "oil" prices, emphasizing their role in shaping consumer behavior and overall market stability. Terms like "transaction" and "labor" costs are essential for evaluating the economic feasibility of projects and the operational efficiency of firms. Alongside costs, disparities in "income"—particularly "labor," "household," and "inequality"—remain central themes, underlining systemic differences affecting economic mobility and social equity. Thus, in ELSC, household dynamics, firm operations, and sector performance are central to economic stability and growth. Although the corpus primarily reflects traditional economic themes, elements of ecosystem do emerge, reflecting the multidisciplinary nature of this sub-corpus:

An extensive literature, both empirical and theoretical, shows that the transmission of physical and human capital from parents to children is a very important determinant of

households' *wealth in the aggregate economy (see Kotlikoff et al., 1981; Gale and Scholz, 1994) [...] (ELSC)*

The value of household assets is a very good proxy for ***household*** *income/wealth (ELSC)*

The narrative of economic growth in ELS sub-corpora also seems to underscore the need for an "increase" in "productivity," "price," "income," "consumption," and "wage" levels to stimulate development. However, such increases must be balanced against potential "impact" factors, including "environmental" considerations, "remittances," "aid," and "shocks" from external events like natural disasters, seen as disruptors to economic stability. Here, environmental challenges are seen as obstacles to economic growth rather than symptoms of a socioeconomic, neoliberal model of consumption, and natural resources are seen as "vital support to the provisioning of ecosystem goods and services needed to maintain human populations":

[…] this review has illustrated the potential of achieving net livelihood gains through integrating trees on farms, providing rural farmers with additional income sources, and greater resilience strategies to adapt to market or climatic ***shocks****. (ELSC)*

This is due to the perceived resilience of woodlots to climatic ***shocks*** *and their importance as a source of cash once the wood is harvested and sold for charcoal or for construction. (ELSC)*

In line with this narrative, the theme of "resource" management is critically examined as the presence of "mineral" wealth can sometimes result in a "curse" rather than prosperity, or lead to depletion despite the acknowledgement of its importance. This perspective highlights the complex interplay of resource availability, scarcity, and economic policy:

Greater transparency is necessary to allow for meaningful review or appeals, and can lead to greater public accountability and engagement, which has been interpreted as consistent with the principle of the common heritage of humankind [40]. The potentially vast ***mineral wealth*** *of the ocean was popularised over fifty years ago […]. Spurred by record-high mineral commodity prices in 2011, the evolution of technical capabilities, and the approval of international regulations for prospecting and exploration, the prospect of deep-seabed mining (DSM) has had renewed attention. (ELSC)*

Particularly, in discussions of essential needs, "food" security emerges as a critical issue, with related concepts such as "waste," "security," "expenditure," and "price" at the forefront of scholarly debates in ELSC. The way "households" manage food resources also ties back to broader issues of "land," "fertilizer," and overall "resource use", which are key to sustaining a growing population. The term "food waste", specifically, has the highest keyness score (27.27) in the ELSEVIER corpus, where it is primarily associated with issues such as pig and pork feeding, extending shelf life, food loss, cost savings, and profit generation/loss - even though the environmental impact of food waste is often discussed:

It is plausible that swill could undergo a similar process of re-legalisation. It is worth noting that the ban on processed animal proteins is still expected to prevent "intra-species recycling",

*i.e. the feeding of poultry waste to chickens, or pork **waste** to pigs. (ELSC)*

*The risks of uncooked swill were demonstrated in 2001 when a UK farmer illegally fed uncooked food **waste** to pigs, precipitating the 2001 foot-and-mouth disease outbreak, which cost the UK economy £8 billion (UK House of Commons report, 2002) (ELSC)*

*A further issue is the myriad of economic drivers of household food **waste** […] microeconomic theory often fails to capture 'real' consumption behaviour arising from non-price factors including poor planning decisions, perceptions of aesthetics and social prestige and the relationship between low purchasing power and low nutrition food choices. The authors also allude to cultural- and lifestyle-factors (i.e., declining culinary knowledge, bad food management), as well as the low ethical-, environmental- and cost perceptions [...] (ELSC)*

It is no coincidence that "product" was detected as a synonym of "food" (Note 13) through the Thesaurus function. This discourse, however, underscores the need for deregulation to permit the use of waste to animals, thereby positioning animals as mere commodities (i.e. food for humans) rather than as living beings with associated health implications. Discussions on the elimination of food waste are limited, with only a few references noting concerns about contaminants like chemicals and metals and their impact on water resources, for example through mentions of the "presence of chemicals and metals in food waste" and "side effects of this are water reduction".

In contrast, the term "food waste" is absent in the ECC. In ECC, "food" is primarily linked to trade, with synonyms being *nutrients*, *soil*, *air,* and *wind* (generated with the Thesaurus function). This framing implies an intention to sustain natural resources and promote overall ecosystem health rather than solely consumption, as seen in concepts of the circular economy (Note 14). Indeed, circular economies seek to reproduce natural processes of resource regeneration, eliminating altogether the presence of waste - denoted by the presence of contaminants which harm the soil, which is seen as a living system providing renewable resources - while also preserving air and water quality. It is no coincidence that CQL searches for generating the occurrences of the prefixes bio-, ecol-, and environment- (computed through the wildcard* function) revealed that such lexical resources were much more frequent in the ECC (0.13%, 0.04% and 0.14% compared to 0.0014%, 0.0004% and 0.003% respectively) and are strictly related to nutrients in the plant world and bioeconomy:

*Knowledge-intensive commodities can be produced with the help of extensive scale knowledge management and production networks. The greater economic complexity of any country indicates its ability to produce more value-added and complex commodities. [...]The ecological deficit defines the difference between bio-capacity and **ecological footprints**. Economic complexity may deteriorate the environmental quality, but economic complexity also offers sufficient resources such as knowledge, competitiveness, and institutions to explain the deficit in the ecological environment. (ECC)*

*The thing the **ecologically** illiterate don't realize about an ecosystem," Kynes said, "is that it's a system. A system! A system maintains a certain fluid stability that can be destroyed by a*

misstep in just one niche. A system has order, a flowing from point to point. If something dams that flow, order collapses. The untrained might miss that collapse until it was too late. (ECC)

*Since GDP only characterizes present economic performance, we need indicators to understand the growth of well-being into the future [7]. As discussed in Section 1.2, the endogenous growth literature points to technology and innovation as the ultimate sources of economic growth. However, these factors still remain hard to measure using classical methodologies[…] Likewise, societal well-being encompasses several other indicators beyond material living standards [10], including environmental aspects (e.g., global warming, **biodiversity**, land degradation, water usage, toxic waste), social factors (e.g., inequality, access to healthcare and education, social capital, labor conditions), and governance matters (e.g., the justice system, security, corruption, human rights). Various alternative indica-tors to GDP have been suggested in the literature, such as the Human Develop-ment Index, the Genuine Progress Indicator (GPI), and the Subjective Well-Being (SWB) [11]. (ECC)*

*The second pillar of this thesis is based on the need to broaden the scope of societal well-being's definition. By focusing only on pure consumption we ignore environmental factors such as greenhouse gas (GHG) emissions, water consumption, waste management, and **biodiversity** loss, social factors such as human rights, inequality, health, and education, and governance factors such as democratic quality, corruption, freedom of speech, and justice. This section outlines how markets fail to incorporate these Environmental, Social, and Governance (ESG) indicators, and presents current proposals to address such failures. (ECC)*

*Synergistic effects caused by natural water pollution can directly affect **biological** diversity, defined as the abundance of living entities in water resources. The biological diversity is represented by all species of plants, animals and microorganisms, genes they contain, interactions and complexity of interactions that the aquatic ecosystems form in the biological environment. […] A large number of species suffer a rapid decline […] as a direct result of destruction of habitats, overfishing, predators or competitors deliberately introduced by humans. (ECC)*

*The biological diversity is represented by all species of plants, animals and microorganisms, genes they contain, interactions and complexity of interactions that the aquatic ecosystems form in the **biological** environment. […] One of the main enemies of biodiversity is poverty, and the degree of biodiversity protection can be improved by raising the standard of living and fighting against the underdevelopment of modern society. Moreover, the pollution of the aquatic environment can have a disproportionate and adverse effect on the poor, indigenous and marginalised populations […] (ECC)*

*Green technology can replace non-renewable energy with renewable energy, reducing environmental damage. **Bioplastics** can replace fossil fuels consequently reducing resource pressure and promoting environmental sustainability (Rosen, 2013; Sonnenschein and Mundaca, 2016; Miao et al., 2017). Some green technologies restore polluted or degraded natural resources. Soil remediation, water purification, and air pollution control can improve*

natural resources. These technologies can restore and sustain natural resources […] for future generations (ECC)

All the excerpts above demonstrate that complexity theories put ecosystemic relationships at the center, in line with current economic and ecolinguistics debates (Tham & Sharma, 2023; Alexander & Stibbe, 2014). Examples of restorative or regenerative practices mentioned by recent literature include shifting from synthetic to organic fertilisers and increasing greater crop variation to promote biodiversity; also, farming types such as agroecology, rotational grazing, agroforestry, conservation agriculture, and permaculture all fall under this definition (Duncan et al., 2020). By recognizing these distinctions, we can appreciate how language serves not just as a medium of communication, but also as a powerful tool for framing economic discourse, influencing policy development and guiding societal attitudes towards sustainability and growth.

3.4 Comparative Analysis of Multi-Word Terms in ECC and ELSC

The multi-word terms analysis also revealed the presence of differences in categorical distribution and terminological focus across the two corpora. While both corpora share several common categories, their distributional patterns shows fundamental differences in focus and approach. As reported in Tables A5-A6, **Data and Research** dominates in ELSC (23.3%) but receives significantly less attention in ECC (10%), suggesting that standard economics literature places greater emphasis on methodological aspects and empirical research procedures.

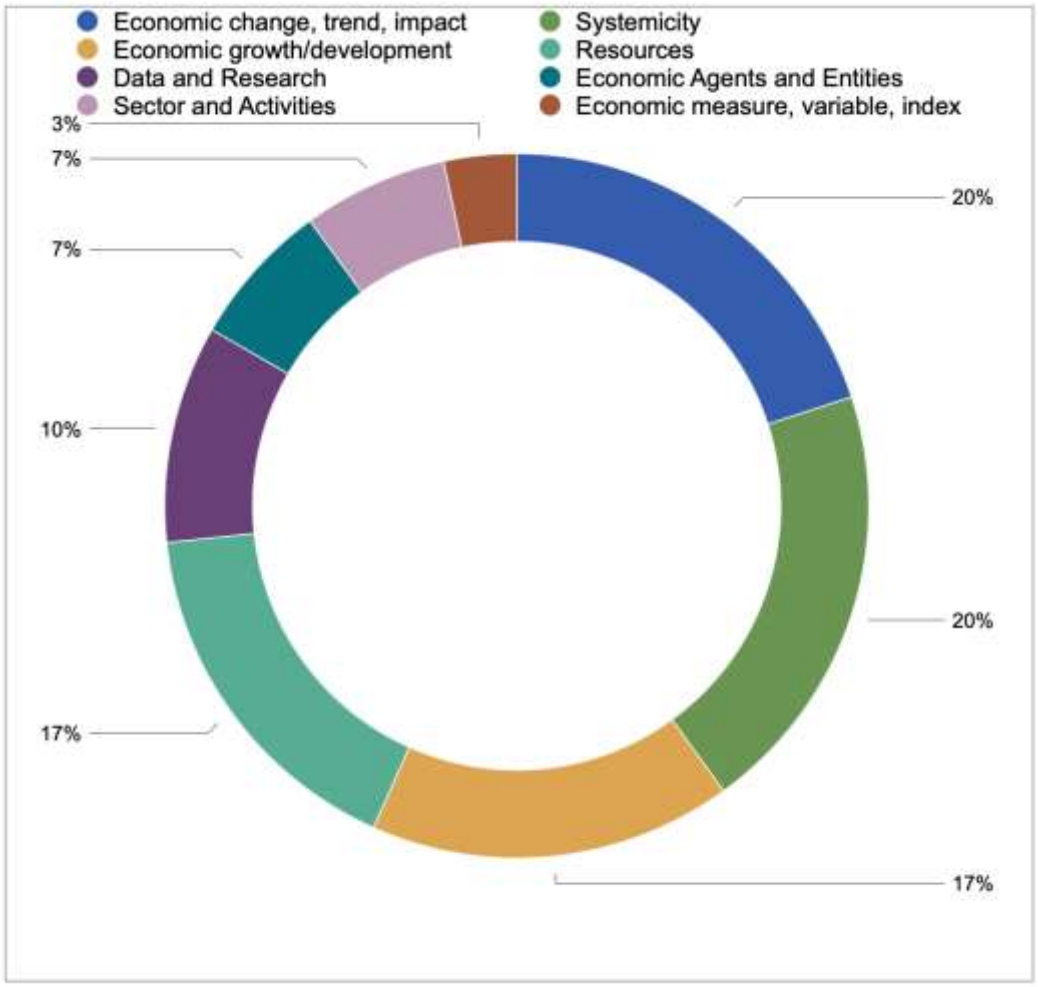
Additionally, **Systemicity** is a major category in ECC (20%) but is entirely absent in ELSC, highlighting complexity theory's distinctive focus on systemic relationships and complex systems thinking. Terms such as "economic complexity," "complexity index," and "complex system" have no parallels in the standard economics corpus.

Economic growth and development also shows a remarkable difference, comprising 16.7% of ECC but only 3.3% of ELSC. This substantial contrast reflects complexity theory's keen interest in developmental processes, particularly sustainable growth. ECC includes terms like "green growth" and "sustainable development", which are absent from ELSC's narrower "economic growth" concept. Furthermore, ECC prominently features sustainability-related terms such as "renewable energy" and "ecological footprint," which do not appear in ELSC. By contrast, ELSC shows a strong presence of the category **Economic concept/variable** (20%), which is only marginally represented in ECC (3.3%), under the name of "Economic measure, variable, index". This emphasis is reflected in the frequent occurrence of traditional economic and financial terms in ELSC, such as "business model," "interest rate," "exchange rate," "risk aversion," “stock market,” and “monetary policy”, which are largely absent in the complexity corpus.

Parallelly, ELSC also uniquely includes the **Good and Products** category (3.3%). Conversely, ECC places greater emphasis on **Resources** (17%) compared to ELSC (10%). More notably, ECC expands this category with terms like "renewable energy," "natural resource," "cultural heritage," and "human development," whereas ELSC’s focus is narrower, limited to "human

capital" and "household income."

Both corpora, however, share concerns with "climate change" and "energy consumption," but ECC includes additional related terms like "carbon emission" and "ecological footprint" while ELSC highlights "food waste" and "food security," as mentioned in the previous section. A graphical summary of the main differences is provided in Figure 7.



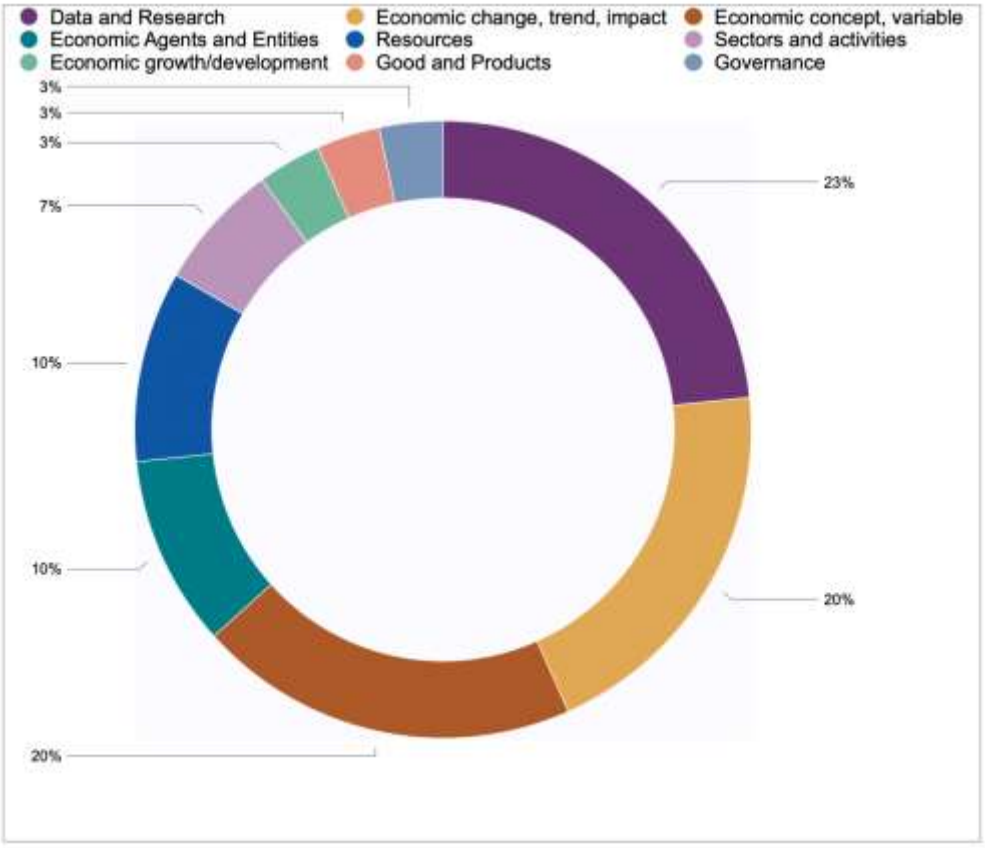


Figure 7. Pie charts illustrating the semantic distribution of the first 50 multi-unit keywords in ECC (above) and ELSC (below)

4. Discussing Lexical Variation: Shifting Conceptual Focus

The inter-corpora differences highlighted so far reflect two fundamentally contrasting approaches to economic analysis.

On the one hand, ECC emphasizes sustainability, systems thinking, and social well-being, using terminology centered on ecological concerns, complex systems, and sustainable growth. This aligns with current literature, which considers holistic systemicity essential for understanding the ecological, social, and economic interdependence among living entities within natural and social environments (Ponton, 2024). Indeed, the effectiveness of economic measures should be tested by considering *value* and *progress* not only associated with 'economic' attributes but with 'sustainable' provision of food, shelter, freedom and participation in the long-term (Costanza et al., 2009). Unlike traditional paradigms that focused solely on unrestrained growth and often interpret ecological imbalances as threats or forms of 'negative natural agency' a kind of retaliation against humanity, ECC promotes the view that ecosystem has an inherent right to thrive, independent of their utility to humans, who are just one of the many species inhabiting Earth. These terminological distinctions demonstrate how Economic Complexity Theory represents a significant departure from

standard economic analysis. In contrast, the ELSC corpus adopts a more traditional economics approach that emphasizes methodological research, financial mechanisms, market structures, and conventional variables. Its terminology favors empirical methods, financial instruments, and well-established economic concepts.

Semantic analysis reveals specifically ideological divergences, by showing how language shapes public perceptions of economic practices and sustainability, ultimately influencing policy decisions. Quantitatively (i.e. category counts) and qualitatively (collocational profiling and semantic connotation in context), the ELS corpus heavily favors concepts based on measurable metrics such as growth and profitability. This focus on transactional metrics tends to overlook environmental and social dimensions, promoting a linear growth model that prioritizes immediate financial gains over long-term sustainability (Meyer & Vilsmaier, 2020). Conversely, ECC's language emphasizes broader, integrative narratives reflecting an evolving paradigm that advocates eco- and system-centric approaches grounded in social equity. Phrases like "green growth" and "sustainable development" highlight a shift from viewing progress solely as economic success to understanding it within an ecosystemic context.

The analysis of noun usage further emphasizes this divide. In ECC, terms such as "growth," "product," and "development" are paired with concepts of complexity and interconnectedness—highlighting a recognition of multifaceted economic interactions. For instance, the pairing of "growth" with "green" underscores an awareness of environmental impacts and sustainability goals. Conversely, in the ELS corpus, similar nouns are often linked to quantifiable indicators like "GDP" and "wage," reflecting frameworks that prioritize quantifying measures of success as well as predictions of *economic activities volume* and *wealth* rather than *sociocultural* and *biological well-being* which, as a 'side effect', may lead to progress and increased GDP and most importantly competitiveness of a country (Balland et al., 2022). In other words, the ELS corpus's framing may reinforce policies that prioritize immediate economic gains, possibly at the expense of environmental integrity and social justice.

4.1 Ideological Implications in Co-textual Patterning

The contrast in collocations illustrates not only divergent linguistic frameworks but also underlying ideological pillars concerning economic thought. Through the frequent use of collocates like "renewable," and "ecological" the ECC positions environmental conditions as intertwined with economic activities, promoting the idea that economic success cannot be divorced from ecological integrity and social equity. This sharply contrasts with the reductive tendencies observed in the ELS corpus, where economic metrics often overshadow social implications. The focus on "individual" in both corpora presents an intriguing point of comparison: in the ECC, "individual" is often situated in broader social frameworks (e.g., "individual rights," "individual well-being"), suggesting a humanistic perspective that values personal experiences as part of larger narratives. Conversely, in the ELS, "individual" might simply reflect personal economic conditions without much engagement with community or relational contexts. The frequent use of adjectives such as "public" or "private" in a transactional context also reinforces a potentially reductive view: a framework that reduces

multifaceted human experiences and relationships into mere economic transactions.

This dialectical analysis of adjective usage underscores the importance of linguistic framing in shaping public perceptions of economic issues. The language we choose to describe economic phenomena carries significant weight: it shapes policy decisions, influences societal attitudes, and constructs the narratives we tell about ourselves and our economies (Stibbe, 2014). The ECC's prioritization of ecological and social dimensions serves as a powerful reminder that language can—and should—be used as a tool for advancing sustainability and fostering a more equitable economic landscape.

4.2 Food as "Waste", "Resource" or" Nutritious, Regenerative System"?

The contrast between traditional (ELSC) and complexity (ECC) economic frameworks becomes particularly evident in how each discourse conceptualizes (or not) food waste and security. In neoliberal discourse, the focus largely centers on food security, with associated terms such as "waste," "expenditure," and "price" prevailing in scholarly debates. Here, "food waste" is primarily linked to economic concerns like extending shelf life, reducing costs, and maximizing profit, often within a deregulated market context. The discourse tends to treat animals as commodities that acquire value only when turned into food, in line with current critiques to traditional economic thinking (Stibbe, 2012, 2020), or even as resources for feeding waste, as reflected in the frequent association of "food waste" with animal feed and profit-driven solutions. While environmental concerns, such as contaminants and water use, are acknowledged, they remain peripheral, embedding a narrow perspective that promotes efficiency, deregulation, and commodification.

In contrast, ECC conceptualizes "food" ethically within a complex, interconnected system that underscores the interdependence of trade, sustainability, and ecosystem "health". In this framework, "food" correlates with terms like *nutrients, soil, air, and wind*, highlighting the importance of maintaining natural cycles and promoting practices aligned with circular and *regenerative* economies. The focus shifts from waste as a failure of efficiency to waste as a potential resource that can be reintegrated into natural systems. This perspective encourages practices such as organic fertilization, crop rotation, agroforestry, and permaculture—approaches aimed at restoring soil health, promoting biodiversity, and ensuring long-term resource viability. The language used in ECC underscores that a regenerative food system is based on the principles of cradle-to-cradle thinking, where waste becomes a resource for renewal rather than a detrimental byproduct.

The focus on wastage as a problem, rather than a symptom of deeper systemic inadequacy, reflects an economic system that disconnects production and consumption, exemplified by the 'distancing' process described by Princen (2002). This separation disrupts nutrient feedback, exacerbates overproduction, and externalizes ecological costs through global supply chains. These are supported by a distant, logistically complex retail system that transports food across thousands of miles, often with little regard to local contexts and ecological realities.

This detachment contributes to a misrecognition of what actual food is, aligning with findings

where "food" has become associated with commodities, cost, and profit rather than nourishment, community, and ecological health. Food security today is not merely about ensuring that everyone has access to enough calories, but is deeply intertwined with the socioecological, political, and cultural transformations driven by the globalized, industrial food system, in which food has been transformed into a commodity subject to the market, rather than a fundamental human right or means of sustenance. This transformation has broader implications for food security. Indeed, rising reliance on highly processed, industrialized food—labeled and marketed as 'food' but often nutritionally void—deepens a cultural disconnection. The excesses of junk food and the global throwaway culture, as noted by Ioris (2020), are symptoms of a society where food has been redefined by market forces, environmental degradation, and technological innovations that often prioritize profit over genuine nourishment. The pervasive marketing of ultra-processed foods, often targeted at vulnerable populations, exacerbates health inequities and cultural erosion, supporting Economic Complexity theory's focus on how neoliberal power imbalances marginalizes local communities and livelihoods, ultimately leading to harm rather than collective prosperity.

Furthermore, the ecological costs of this system are profound. The environmental footprint of globalized food—from long-distance transportation to the reliance on chemical inputs—contributes to climate change, resource depletion, and biodiversity loss. The focus on food (and not only) as *business*, as suggested by the literature on the topic (Duncan et al., 2020), reveals how high-yield industrial agriculture, driven by the logic of productivism, fosters wastage at multiple levels—from food loss during production to consumer-level waste in supermarkets and households. This aligns with findings showing that food waste is often framed within an economic perspective, focusing on profit, shelf life, and the wastefulness of surplus, rather than considering ecological or cultural values.

It seems then that the dominant productivism paradigm, including solutions rooted solely in technological innovation and efficiency improvements in supply chains—such as waste recycling, re-use, composting, food donation, and recycling— may be just temporary solutions, in which scale matters (Soma, 2020). Indeed, large-scale composting or waste-to-resource initiatives may require significant capital and energy and can inadvertently incentivize more waste if not carefully managed. This echoes the lexical presence of *waste as resource*, a useful but potentially problematic concept when implemented without regard for scale, space, and ecological limits.

A purely market-based paradigm has thus failed to address the root causes of food insecurity; specifically, it reveals how the neoliberal perspective reduces food – as product of natural resources that can be exploited - to a mere commodity and humans to consumers, neglecting the nature of both as biological living entities that require balance and care to ensure regeneration and well-being. Instead, economic complexity, rooted in a holistic view of the social and natural environment, advocates for a reconceptualization of food security rooted in food sovereignty, local food systems, and cultural recognition, in line with regenerative economics studies (Ioris, 2020). Reclaiming food's autonomy—by safeguarding peasant farmers, respecting traditional practices, and promoting local, diversified food networks—aligns with current findings highlighting the critical importance of community-led,

regenerative systems (Mattei & Maci, 2025). This perspective calls for moving beyond the "food as a commodity" and "food waste as a byproduct" mindset, towards recognizing food as a vital part of cultural identity and ecological integrity.

5. Conclusion

This study highlighted the importance of understanding the role of language in shaping sustainability-focused narratives that influence decision-making. Moving forward, fostering the awareness that linguistic framing can support the development of inclusive economic models that integrate social and ecological dimensions is essential for addressing contemporary challenges such as climate change and resource management (Ponton, 2024). Future studies should explore how these narratives are received publicly, especially in non-scientific media, to deepen understanding of their influence on policy and practice. Further interdisciplinary research is needed to explore these dynamics, with the goal of aligning economic discourse with the realities of an interdependent, complex world that requires balancing growth and sustainability. Acknowledging these differences can pave the way for more informed economic conversations, ultimately prompting a necessary shift toward holistic models that prioritize both ecological integrity and human welfare in the ongoing evolution of economic thought.

References

Alexander, R., & Stibbe, A. (2014). From the analysis of ecological discourse to the ecological analysis of discourse. *Language Sciences, 41*, 104-110.

Arrow, K. J., & Debreu, G. (1954). Existence of an equilibrium for a competitive economy. *Econometrica, 22*(3), 265-290.

Balland, P. A., Broekel, T., Diodato, D., Giuliani, E., Hausmann, R., O'Clery, N., & Rigby, D. (2022). The new paradigm of economic complexity. *Research Policy, 51,* 104450.

Becker, G. S. (1981). *A treatise on the family.* Cambridge, MA: Harvard University Press.

Brezina, V. (2018). *Statistics in corpus linguistics: A practical guide.* Cambridge, England: Cambridge University Press.

Capoani, L., Fantinelli, M., & Giordano, L. (2025). The concept of resilience in economics: a comprehensive analysis and systematic review of economic literature. *Continuity & Resilience Review.*

Colander, D. (2018). Where does econophysics fit in the complexity revolution?. *2018 ASSA Meetings.*

Costanza, R., Hart, M., Talberth, J., & Posner, S. (2009). *Beyond GDP: The need for new measures of progress.* The Pardee Papers.

Djeunankan, R., Njangang, H., & Oumbé, H. T. (2024). Examining the effect of economic complexity on energy poverty in developing countries. *Environmental Modeling & Assessment, 29*(4), 735-765.

Duncan, J., Carolan, M., & Wiskerke, J. S. (Eds.). (2020). *Routledge handbook of sustainable and regenerative food systems.* London, England: Routledge.

Faraz, H., & Saleem, M. (2024). Framing "development" in economic discourse: An ecolinguistic perspective. *Journal of Higher Education and Development Studies, 4*(1), 220-234.

Forte, D. L. (2020). Ecolinguistics: The battlefield for the new class struggle. *Language & Ecology, 5*, 1-15.

Forte, D. L. (2024). Latin American ecolinguistics: deconstructing discourse studies, coloniality and industrial environmentalism. *Journal of World Languages, 10*(2), 330-349.

Foster, J. (2005). From simplistic to complex systems in economics. *Cambridge Journal of Economics, 29,* 873-892.

Hidalgo, C. A. (2020). 2020 trends in economic complexity. *OEC Stories.* Retrieved from https://oec.world/en/blog/2020-trends-in-economic-complexity

Ioris, A. A. (2020). Controversies around food security: Something difficult to swallow. In J. Duncan, M. Carolan, & J. S. Wiskerke (Eds.), *Routledge handbook of sustainable and regenerative food systems* (pp. 420-435). London, England: Routledge.

Kamarullah, K., & Yanti, L. A. (2024). Mapping the intersection of ecolinguistics and critical discourse analysis: A bibliometric approach. *Sawerigading, 30*(1), 56-74.

Kershaw, D., & Koeling, R. (2020). Elsevier OA CC-BY Corpus. *Mendeley Data.* https://doi.org/10.17632/zm33cdndxs.2

Kilgarriff, A. (2012). Getting to know your corpus. In P. Sojka, A. Horák, I. Kopeček, & K. Pala (Eds.), *Text, speech and dialogue: Proceedings of the 15th International Conference* (pp. 3-15). Berlin, Germany: Springer.

Kilgarriff, A., Jakubíček, M., Kovář, V., Rychlý, P., & Suchomel, V. (2014). Finding terms in corpora for many languages with the Sketch Engine. In *Proceedings of the Demonstrations at the 14th Conference of the European Chapter of the Association for Computational Linguistics* (pp. 53-56). Gothenburg, Sweden.

Knoth, P., Herrmannova, D., Cancellieri, M., Anastasiou, L., Pontika, N., Pearce, S., Gyawali, B., & Pride, D. (2023). CORE: A global aggregation service for open access papers. *Scientific Data, 10*(1), 366.

Mattei, E., & Maci, S. M. (2025). For a future (re)generation: Modeling effective tourism communication for social–ecological development of local communities and destinations. In F. Fusté-Forné & A. Hussain (Eds.), *The Routledge handbook of regenerative tourism* (pp. 557-576). London, England: Routledge.

McEnery, T., & Hardie, A. (2011). *Corpus linguistics: Method, theory and practice.* Cambridge, England: Cambridge University Press.

Meyer, E., & Vilsmaier, U. (2020). Economistic discourses of sustainability: Determining moments and the question of alternatives. *Sustainability in Debate/Sustentabilidade em Debate, 11*(1).

Neagu, O. (2021). Economic complexity: A new challenge for the environment. *Earth, 2,* 1059-1076.

Pollak, R. A. (2003). Gary Becker's contributions to family and household economics. *Review of Economics of the Household, 1,* 111-141.

Ponton, D. M. (2022). Ecolinguistics and positive discourse analysis: Convergent pathways. *MediAzioni, 34,* A36-A54.

Ponton, D. M. (2024). Language and ecology in social imaginaries: Ecolinguistic perspectives. *Journal of World Languages, 10*(2), 273-279.

Princen, T. (2002). Distancing: Consumption and the severing of feedback. In T. Princen, M. Maniates, & K. Conca (Eds.), *Confronting consumption* (pp. 103-131). Cambridge, MA: MIT Press.

Rafique, M. Z., Dogan, B., & Husain, S. (2021). Role of economic complexity to induce renewable energy: Contextual evidence from G7 and E7 countries. *International Journal of Green Energy, 18*(4), 745-754.

Sarkar, A. (2016). Dynamic general equilibrium analysis of stock market behaviour in a growing economy (*Doctoral dissertation*). Durham University, Durham, England. Retrieved from http://etheses.dur.ac.uk/11831/

Soma, T. (2020). Cradle to cradle: The role of food waste in a regenerative food system. In J. Duncan, M. Carolan, & J. S. Wiskerke (Eds.), *Routledge handbook of sustainable and regenerative food systems* (pp. 406-419). London, England: Routledge.

Stibbe, A. (2012). *Animals erased: Discourse, ecology and reconnection with the natural world.* Wesleyan University Press.

Stibbe, A. (2014). An ecolinguistic approach to critical discourse studies. *Critical Discourse Studies, 11*(1), 117-128.

Stibbe, A. (2015). *Ecolinguistics: Language, ecology and the stories we live by.* London, England: Routledge.

Stibbe, A. (2020). Ecolinguistics and economics: The power of language to build worlds. *WEA Commentaries, 10*(3), 2-7.

Tacchella, A., Cristelli, M., Caldarelli, G., Gabrielli, A., & Pietronero, L. (2012). A new metrics for countries' fitness and products' complexity. *Scientific Reports, 2,* 723.

Tham, A., & Sharma, B. (2023). Regenerative tourism: Opportunities and challenges. *Journal of Responsible Tourism Management, 3*(1), 15-23.

Zhang, W., & Xiao, H. Z. (2024). Ecological discourse as a new indicator for improving individual ecological behaviour in environmental protection: An ecolinguistic continuum perspective. *Environment, Development and Sustainability, 26*(4), 9069-9087.

Sitography (all websites were last visited on 22/07/2025)

Ellen MacArthur Foundation. (2019). *Food and the circular economy.* Retrieved from https://www.ellenmacarthurfoundation.org/food-and-the-circular-economy-deep-dive

Elsevier OA CC-BY Corpus. Retrieved from https://researchcollaborations.elsevier.com/en/datasets/elsevier-oa-cc-by-corpus

European Commission. (2019). *Economic Complexity to address current challenges in innovation systems.* Retrieved from https://iri.jrc.ec.europa.eu/sites/default/files/2019-09/Economic%20Complexity%20to%20Address%20Current%20Challenges%20in%20Innovation%20Systems.pdf

Giordano, L. (2025). *Economic Complexity Corpus.* Retrieved from https://github.com/giorluca/Economic_Complexity_Corpus

Lexical Computing. *Sketch Engine*. Retrieved from https://www.sketchengine.eu/

Lexical Computing. *Sketch Engine: Thesaurus*. Retrieved from https://www.sketchengine.eu/quick-start-guide/thesaurus/

Notes

Note 1. https://iri.jrc.ec.europa.eu/sites/default/files/2019-09/Economic%20Complexity%20to%20Address%20Current%20Challenges%20in%20Innovation%20Systems.pdf

Note 2. https://www.aeaweb.org/conference/2018/preliminary/paper/2nbzNhZr

Note 3. In line with these studies, the Observatory of Economic Complexity argues that such novel approaches contribute to addressing income inequality (https://oec.world/en/blog/2020-trends-in-economic-complexity; Last visited 22/07/2025). Indeed, "The underlying idea is that growth, development, technological change, income inequality, spatial disparities, and resilience are the visible outcomes of hidden systemic interactions." (Balland et al. 2022, 1).

Note 4. Link to corpus: https://researchcollaborations.elsevier.com/en/datasets/elsevier-oa-cc-by-corpus

Note 5. The CORE database is a bibliographic database encompassing the world's scholarly

literature and the largest repository of full-text open access research papers.

Note 6. The ECC is available at https://github.com/giorluca/Economic_Complexity_Corpus

Note 7. A screenshot of the ELSC on Sketch Engine is available in the Appendix.

Note 8. A nonword, according to Sketch Engine, is the smallest unit in a corpus, and includes both punctuation and digits. If tokens, generally speaking, include all hits of a word in a corpus, types refer to the number of unique items in the corpus, not their occurrences.

Note 9. While wordlists were calculated by considering, in the ELSC, the 22 subcorpora labeled with 'ECON', in the keyword analysis the ECC was compared against the entire ELSC due to the impossibility of performing the analysis on specific sub-corpora with Sketch Engine. The 22 ELS subcorpora, conversely, could be selected for the keyword and multi-unit keyword analysis and were compared against the EnTenTen corpus of general online English.

Note 10. Multi-unit keywords are specifically statistically significant noun phrases that are identified through frequency (Part-of-Speech, POS, tagging) and lexical structuring comparison, thanks to the reliance on a *term grammar* that defines a set of rules written in Corpus Query Language (CQL) (Kilgarriff et al. 2014). Extracted terms may thus be considered typical of corpus content and serve to identify its topic.

Note 11. The lists of terms along with their frequencies and scores are available in the Appendix. Additional information on methodology is also provided.

Note 12. The Economic Complexity Index (ECI) is considered a more accurate reflection of a country's wealth because it provides insight into its long-term economic potential and future growth, rather than just its current output. While GDP merely shows the present level of economic production, ECI measures the knowledge, skills, and industrial diversity embedded in a country's exports, highlighting what it could produce in the future. Research has shown that ECI is a strong predictor of future GDP growth, with countries that have higher ECI typically experiencing faster growth, even if their current GDP is low. This is because they possess the foundation to transition into more complex, high-value industries. In contrast, high GDP can often be driven by reliance on a single resource, such as oil, which makes an economy more vulnerable to price fluctuations. Additionally, ECI helps pinpoint the industries and technologies in which a country is competitive, guiding its path to further diversification.

Note 13. The Thesaurus function of Sketch Engine calculates the synonym of a word in a corpus based on similar collocational behaviors: the software first identifies the collocates of the word (in this case, food, i.e. a noun) for which a list synonym needs to be generated, and then compares them with the collocates (or co-text) or each word that has the same Part-of-Speech (POS) of the word for which synonyms are requested (i.e. nouns). Building on the theory of distributional semantics, this function assumes that the words that have the largest number of identical collocates (thus occurring in similar sociolinguistic contexts) also have a similar meaning - and thus are used to achieve similar purposes through their semantics. (https://www.sketchengine.eu/quick-start-guide/thesaurus/)

Note 14.

https://www.ellenmacarthurfoundation.org/food-and-the-circular-economy-deep-dive

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Appendix A. Semantic Categorization

Table A1. A semantic categorization of the 70 most frequent adjectives in ECC

Category (ECC)	Counts	Frequency (%)	Examples
Scale & Magnitude	14	20%	High, low, large, small, short, several, strong
Social & Environmental Aspects	10	14%	Environmental, social, human, green, sustainable, renewable, cultural, ecological, individual natural
Economic Concepts & Measures	9	13%	Economic, statistical, dynamic
Growth, Development & Change	9	33%	Structural, complex, recent, productive, new, future, early
Specificity & Comparison	8	11%	Specific, particular, general, standard
Geographic & Regional Aspects	6	9%	Local, urban, regional, global, national, international
Significance & Impact	6	9%	Positive, negative, significant
Sector	3	4%	Financial, industrial, public
Structural & Institutional Aspects	3	4%	Institutional, regulatory, political
Ranking	2	3%	First, second
Total	70	100%	-

Table A2. A semantic categorization of the 70 most frequent adjectives in ELSC

Category (ELSC)	Counts	Frequency (%)	Examples
Scale & Magnitude	18	26%	High, small, large, less, strong, low, many
Specificity & Comparison	12	17%	Specific, standard, own, general
Significance & Impact	10	14%	Positive, negative, primary, key
Growth, Development & Change	6	9%	New, future, recent

Social & Environmental Aspects	6	9%	Social, environmental, individual, poor, natural, human
Economic Concepts & Measures	5	7%	Economic, empirical, real
Geographic & Regional Aspects	5	7%	Local, urban, global, national, international
Sector	5	7%	Financial, public, private, agricultural
Ranking	2	3%	First, second
Structural & Institutional Aspects	1	1%	Political
Tota	70	100%	-

Table A3. A semantic categorization of the 50 most frequent nouns in ECC

Category (ECC)	Counts	Relative frequency (%)	Examples
Data and Research	17	34	Study, result, research, relationship, knowledge
Economic measure, variable, index	7	14	Model, ECI, variable
Economic growth/development	6	12	Growth, technology, innovation, development, income
Economic change, trend, impact	4	8	Impact, emission, inequality
Economic Sectors and Activities	4	8	Export, trade, production
Geographic and Macroeconomic Scope	4	8	Country, world, economy
Systemicity	3	6	System, complexity, network
Economic Agents and Entities	1	2	Market
Good and Products	1	2	Product
Governance	1	2	Policy
Prices and Values	1	2	Value
Resources	1	2	Energy
Total	50	100	-

Table A4. A semantic categorization of the 50 most frequent nouns in ELSC

Category (ELSC)	Counts	Relative frequency (%)	Examples
Data and Research	17	34	Result, study, analysis, research
Economic change, trend, impact	5	10	Impact, change, risk
Economic measure, variable, index	5	10	Model, measure, variable
Prices and Values	4	8	Price, value, rate, cost
Economic Agents and Entities	3	6	Market, household, firm
Economic growth/development	3	6	Income, development, process
Economic Sectors and Activities	2	4	Production, sector
Geographic and Macroeconomic Scope	2	4	Area, country
Goods and Products	2	4	Food, product
Governance	2	4	Policy, term
Resource	2	4	Resource, use
Time	2	4	Year, period
Systemicity	1	2	System
Total	50	100	-

Table A5. A semantic categorization of the top 30 multi-unit keywords in ECC

Category (ECC)	Counts	Frequency (%)	Examples
Resources	5	17	Renewable energy, natural resource, human capital, cultural heritage, human development
Systemicity	6	20	Economic complexity, complexity index, complex system
Economic change, trend, impact	6	20	Income inequality, carbon emission, ecological footprint, climate change, energy consumption
Economic growth/development	5	16,6666666666667	Economic growth, green growth, sustainable development
Data and Research	3	10	Statistical moment, panel datum

Economic Agents and Entities	2	6,66666666666667	New firm, developing country
Sector and Activities	2	6,66666666666667	Economic activity, labour market
Economic measure, variable, index	1	3,33333333333333	Comparative advantage
Total	30	100	–

Table A6. A semantic categorization of the top 30 multi-unit keywords in ELSC

Category (ELSC)	**Counts**	**Frequency (%)**	**Examples**
Data and Research	7	23,333333333333	Case study, standard deviation, control group
Economic change, trend, impact	6	20	Food waste, climate change, food security, financial crisis, energy consumption, land use
Economic concept, variable	6	20	Business model, interest rate, exchange rate, risk aversion
Economic Agents and Entities	3	10	Stock market, labor market
Resources	3	10	Human capital, household income
Sectors and activities	2	6,66666666666667	Private sector, public sector
Economic growth/development	1	3,33333333333333	Economic growth
Good and Products	1	3,33333333333333	Life cycle
Governance	1	3,33333333333333	Monetary policy
Total	30	100	-

Appendix B. Additional Data and Excerpts

B1. Comparative analysis of adjectives

The **Economic Concepts & Measures** category, in particular, holds different representations in the two corpora, with ELSC at 7% and ECC at 13%. While both underscore terms like "economic" (*growth, prosperity, crisis* in ELSC versus *complexity* and *growth* in ECC) and "statistical," ECC includes additional phrases such as "dynamic" and "analytical," indicating a broader focus on novel measures that need to be used to study the negative effects of traditional economic systems and replace them with alternative frameworks - even though the issue of interrelatedness is brought to light by ELSC as well:

*The application of complex network theory to economics has given the chance to define the hidden capabilities (i.e., natural and human resources, investments, finances, etc.) of production of countries whose **economic** growth is determined. (ECC)*

*As major components of human capital, health and education impact long-run **economic** growth. (ECC)*

*On the other hand, increases in capital expenditure intensity brought about by policies facilitating investments, for example to increase productivity, have an adverse impact on emissions, therefore pointing at a trade-off between **economic** growth and environmental quality. [...] The fact that we find evidence that capital expenditure intensity has increased all emissions of all pollutants except PM10 indicates the importance of redirecting capital investment towards "green" industrial technologies. (ELSC)*

*Sikka (2011) argues that while civil and political rights are manifestly the imperative by-products of **economic** growth, corporations view economic growth in terms of financial and contractual obligations whereby social, cultural and political rights (which provide a conducive setting for human rights) are ignored and excluded. (ECC)*

*Complexity-sympathetic economists associate these nonlinear **dynamic** processes with the evolutionary traits of knowledge creation, selection and diffusion, whereby agents relentlessly update, adapt, discard or replace their behavioural strategies and decision-making processes, as they explore, learn and interact with each other, within and across varying contexts (Lindgren, 1997; Loasby, 2012). These evolving complex dynamics defining economic system architecture may lead to 'genuine novelty' (Harper and Endres, 2012) or knowledge generation, as new combinations of ideas, capabilities and activities are imagined [...] (ECC)*

*Moreover, You et al. (2022) utilized the recently developed Granger causality approach by Juodis et al. (2021) to examine the causation between EC, **economic** growth, and carbon emission for selected panel of 85 countries. As revealed by the study, the result indicates that countries with high-level of EC need to find an efficient balance between EC and GDP, as findings reveal that EC may positively reduce CO2 emissions. (ECC)*

*Furthermore, environmentally-related technologies reduce ecological degradation, including GHG emissions, through switching from traditional **economic** growth (i.e. the use of traditional production factors) to innovation-driven model (Awan, 2019; Awan et al., 2022). ECC)*

In **the Specificity & Comparison** category, ELSC reports 17%, compared to ECC's 11%. The expressions used in both categories—including "specific," "standard," and "general"—are critical for nuanced discussions and comparisons of economic models. The major **differences** may be found in terms of social and environmental aspects, growth dynamics, and structural considerations, as well as in variations of adjectives within these categories.

Interestingly, "public" and "private" in the ELS corpus are often presented in transactional terms, relating to "goods," "spending" and "insurance". This framing can minimize the potential for these entities to engage in broader, more socially responsible practices, emphasizing the need for a reimagined discourse that addresses environmental and communal health. Here, "public" reflects a more transactional viewpoint rather than engaging with social welfare or community networks as explored in the ECC corpus.

Finally, in the ELS corpus, terms such as "low," - associated with "inequality" in ECC corpus - and "high" ("complexity" in ECC) are often used with "income," "earnings", "wealth," and "costs," thus revolving around a simplistic diagnostic of economic situations—one that tends to delineate disparities without deeply interrogating the systemic structures that create such inequalities. This approach overlooks the complexity and dynamism represented in the ECC and the pressing need for robust frameworks that consider the sufficiency of social experience alongside economic indicators. The adjective "large," in ELS, associated with "firms," "economies," and "banks," in a parallel manner, tends to idealize scale as an indicator of success but runs the risk of neglecting the implications of size on ecological and social systems. This scaling perspective may reinforce problematic ideologies, where size alone is seen as synonymous with prowess, as opposed to acknowledging the importance of sustainability.

B2. Comparative analysis of noun categories (only excerpts)

*Our baseline **measure** of capital income is GDP at factor cost minus employee compensation. (ELSC)*

*Brunetti et al., (2016) propose an alternative **measure** of financial fragility based on available income and wealth portfolio characteristics. Jappelli et al., (2013) propose an aggregate measure of financial fragility based on the sensitivity of bankruptcies to aggregate shocks. (ELSC)*

*It is also observed that market-power in emerging banking **systems** is steadily increasing over the period, whereas the evolution of competition in developing countries is more or less constant over the sample period. It seems that the impact of the financial crisis is strongly felt in the advanced countries. (ELSC)*

*However, it is not just sufficient to prove the correlations between economic **values** of cultural heritage site and economic indicators, but to assess overall socio-cultural and environmental impacts due to the increased tourism activity at the cultural heritage site. (ELSC)*

*However, for the offer of ecological products and the investment in greener technologies to take place, the government and the private sector need to change their approach, but the demand side and public opinion also matter. According to Lapatinas et al. (2021) research, economic complexity shapes cultural **values** and beliefs related to environmental protection. Hence, they suggest that countries that want to implement measures to reduce degradation should be aware of cultural barriers and find the right incentives for the policies to be successful among the population (Lapatinas et al., 2021). Now, turning the attention to the discussions on the impacts of complexity on social issues, there are, as mentioned previously, very few studies related to gender equality, health and crime. With respect to gender, scholars investigated the role of complexity on gender inequality in education and the formation of gender roles. Saâd and Ella (2019) used data from the Gender Parity Index in education and the ECI for the period 1984-2014 and concluded that economic complexity reduces gender inequalities in education, especially at the tertiary level taking into consideration the global sample (Saâd & Ella, 2019). And Zanaj (2021) found that economic complexity is correlated with female emancipation as knowledge accumulation favours more egalitarian attitudes, while low levels of complexity are compatible with back-lashing gender roles. However, the attitudes towards gender relate only to women's position within a household. Concerning their position in the public sphere, opinions are more inclusive only in places at high levels of complexity. (ECC)*

Appendix C. Raw data: Wordlists and Keyword Lists

Table C1. Adjective frequency lists (1-70) - ECC

NO.	ITEM (ECC)	FREQUENCY	RELATIVE FREQUENCY	CATEGORY
1	**economic**	4493	5390.85175	Economic Concepts & Measures
2	**other**	1017	1220.23063	Specificity & Comparison
3	**high**	996	1195.03413	Scale & Magnitude
4	**new**	914	1096.64779	Growth, Development & Change
5	**different**	911	1093.04828	Specificity & Comparison
6	**complex**	873	1047.45461	Growth, Development & Change
7	**more**	636	763.09408	Scale & Magnitude
8	**environmental**	628	753.49541	Social & Environmental Aspects
9	**low**	611	733.09825	Scale & Magnitude
10	**social**	509	610.71523	Social & Environmental Aspects
11	**significant**	470	563.92173	Significance & Impact
12	**positive**	446	535.12572	Significance & Impact
13	**human**	437	524.32722	Social & Environmental Aspects
14	**first**	429	514.72856	Ranking

15	**global**	415	497.93089	Geographic & Regional Aspects
16	**empirical**	412	494.33139	Economic Concepts & Measures
17	**large**	412	494.33139	Scale & Magnitude
18	**good**	387	464.33555	Significance & Impact
19	**negative**	382	458.33638	Significance & Impact
20	**financial**	379	454.73688	Sector
21	**natural**	345	413.94254	Social & Environmental Aspects
22	**green**	335	401.94421	Social & Environmental Aspects
23	**same**	334	400.74438	Specificity & Comparison
24	**regional**	328	393.54538	Geographic & Regional Aspects
25	**important**	321	385.14654	Significance & Impact
26	**total**	311	373.14821	Economic Concepts & Measures
27	**productive**	308	369.54871	Growth, Development & Change
28	**technological**	308	369.54871	Growth, Development & Change
29	**sustainable**	304	364.74937	Social & Environmental Aspects
30	**average**	303	363.54954	Economic Concepts & Measures
31	**main**	297	356.35054	Scale & Magnitude
32	**many**	296	355.15071	Scale & Magnitude
33	**available**	295	353.95087	Economic Concepts & Measures
34	**statistical**	289	346.75187	Economic Concepts & Measures
35	**renewable**	285	341.95254	Social & Environmental Aspects
36	**similar**	280	335.95337	Specificity & Comparison
37	**industrial**	267	320.35553	Sector
38	**urban**	257	308.35720	Geographic & Regional Aspects
39	**several**	252	302.35803	Scale & Magnitude
40	**institutional**	250	299.95837	Structural & Institutional Aspects
41	**international**	246	295.15903	Geographic & Regional Aspects
42	**second**	245	293.95920	Ranking
43	**specific**	243	291.55953	Specificity & Comparison
44	**cultural**	239	286.76020	Social & Environmental Aspects
45	**particular**	237	284.36053	Specificity & Comparison
46	**public**	234	280.76103	Sector
47	**great**	224	268.76270	Scale & Magnitude
48	**recent**	221	265.16320	Growth, Development & Change
49	**possible**	220	263.96336	Significance & Impact
50	**real**	217	260.36386	Economic Concepts & Measures
51	**long**	215	257.96419	Scale & Magnitude
52	**ecological**	210	251.96503	Social & Environmental Aspects
53	**dynamic**	204	244.76603	Economic Concepts & Measures
54	**strong**	202	242.36636	Scale & Magnitude
55	**structural**	199	238.76686	Growth, Development & Change
56	**individual**	199	238.76686	Social & Environmental Aspects
57	**various**	198	237.56703	Scale & Magnitude

58	**future**	197	236.36719	Growth, Development & Change
59	**regulatory**	196	235.16736	Structural & Institutional Aspects
60	**early**	194	232.76769	Growth, Development & Change
61	**small**	189	226.76852	Scale & Magnitude
62	**national**	187	224.36886	Geographic & Regional Aspects
63	**short**	186	223.16902	Scale & Magnitude
64	**local**	186	223.16902	Geographic & Regional Aspects
65	**comparative**	185	221.96919	Economic Concepts & Measures
66	**general**	176	211.17069	Specificity & Comparison
67	**political**	174	208.77102	Structural & Institutional Aspects
68	**present**	173	207.57119	Growth, Development & Change
69	**standard**	171	205.17152	Specificity & Comparison
70	**few**	167	200.37219	Scale & Magnitude

Table C2. Adjective frequency lists (1-70) – ELSC

NO.	ITEM (ELSC)	FREQUENCY	RELATIVE FREQUENCY	CATEGORY
1	**other**	14537	1782.57578	Specificity & Comparison
2	**high**	14248	1747.13763	Scale & Magnitude
3	**different**	9871	1210.41519	Specificity & Comparison
4	**more**	9103	1116.24045	Scale & Magnitude
5	**low**	8627	1057.87173	Scale & Magnitude
6	**large**	8472	1038.86511	Scale & Magnitude
7	**significant**	7312	896.62201	Significance & Impact
8	**social**	7302	895.39577	Social & Environmental Aspects
9	**economic**	6422	787.48722	Economic Concepts & Measures
10	**important**	6221	762.83992	Significance & Impact
11	**new**	5756	705.82006	Growth, Development & Change
12	**same**	5194	636.90573	Specificity & Comparison
13	**local**	5189	636.29262	Geographic & Regional Aspects
14	**financial**	5109	626.48275	Sector
15	**small**	5104	625.86963	Scale & Magnitude
16	**positive**	4959	608.08924	Significance & Impact
17	**first**	4883	598.76987	Ranking
18	**good**	4514	553.52185	Significance & Impact
19	**environmental**	4511	553.15398	Social & Environmental Aspects
20	**many**	4502	552.05037	Scale & Magnitude
21	**public**	4362	534.88310	Sector
22	**similar**	4244	520.41354	Specificity & Comparison
23	**negative**	4116	504.71775	Significance & Impact
24	**average**	4060	497.85084	Scale & Magnitude
25	**total**	3981	488.16360	Economic Concepts & Measures
26	**main**	3585	439.60475	Scale & Magnitude
27	**great**	3572	438.01064	Scale & Magnitude

28	**individual**	3547	434.94506	Social & Environmental Aspects
29	**particular**	3448	422.80535	Specificity & Comparison
30	**global**	3394	416.18368	Geographic & Regional Aspects
31	**strong**	3173	389.08392	Scale & Magnitude
32	**possible**	3171	388.83867	Significance & Impact
33	**specific**	3166	388.22556	Specificity & Comparison
34	**key**	3160	387.48982	Significance & Impact
35	**agricultural**	3146	385.77309	Sector
36	**potential**	3087	378.53831	Significance & Impact
37	**available**	3008	368.85107	Economic Concepts & Measures
38	**empirical**	2996	367.37959	Economic Concepts & Measures
39	**future**	2932	359.53169	Growth, Development & Change
40	**less**	2913	357.20185	Scale & Magnitude
41	**relative**	2886	353.89102	Specificity & Comparison
42	**current**	2795	342.73229	Growth, Development & Change
43	**several**	2762	338.68572	Scale & Magnitude
44	**second**	2662	326.42338	Ranking
45	**national**	2640	323.72567	Geographic & Regional Aspects
46	**consistent**	2565	314.52892	Scale & Magnitude
47	**rural**	2557	313.54793	Sector
48	**international**	2552	312.93481	Geographic & Regional Aspects
49	**additional**	2499	306.43578	Scale & Magnitude
50	**previous**	2478	303.86069	Growth, Development & Change
51	**recent**	2443	299.56887	Growth, Development & Change
52	**political**	2434	298.46526	Structural & Institutional Aspects
53	**private**	2374	291.10786	Sector
54	**poor**	2340	286.93866	Social & Environmental Aspects
55	**standard**	2324	284.97669	Specificity & Comparison
56	**relevant**	2268	278.10978	Significance & Impact
57	**common**	2252	276.14781	Specificity & Comparison
58	**further**	2201	269.89402	Scale & Magnitude
59	**long**	2201	269.89402	Scale & Magnitude
60	**natural**	2167	265.72482	Social & Environmental Aspects
61	**various**	2106	258.24480	Scale & Magnitude
62	**human**	2096	257.01856	Social & Environmental Aspects
63	**overall**	2068	253.58511	Specificity & Comparison
64	**few**	2050	251.37789	Scale & Magnitude
65	**own**	2048	251.13264	Specificity & Comparison
66	**real**	1987	243.65262	Economic Concepts & Measures
67	**early**	1978	242.54901	Growth, Development & Change
68	**general**	1953	239.48342	Specificity & Comparison
69	**primary**	1930	236.66308	Significance & Impact
70	**urban**	1849	226.73059	Geographic & Regional Aspects

Table C3. Noun frequency lists (wordlists) (1-50) – ECC

NO.	ITEM (ECC)	FREQUENCY	RELATIVE FREQUENCY	CATEGORY
1	**complexity**	4555	5465.24142	Systemicity
2	**[number]**	3230	3875.46209	Data and Research
3	**country**	3202	3841.86675	Geographic and Macroeconomic Scope
4	**growth**	1742	2090.10989	Economic growth/development
5	**product**	1572	1886.13820	Good and Products
6	**model**	1342	1610.17651	Economic measure, variable, index
7	**economy**	1262	1514.18983	Geographic and Macroeconomic Scope
8	**development**	1242	1490.19316	Economic growth/development
9	**level**	1122	1346.21315	Economic measure, variable, index
10	**study**	1119	1342.61365	Data and Research
11	**[url]**	1116	1339.01414	Data and Research
12	**effect**	1113	1335.41464	Data and Research
13	**variable**	1098	1317.41714	Economic measure, variable, index
14	**datum**	1084	1300.61947	Data and Research
15	**result**	1073	1287.42131	Data and Research
16	**system**	1048	1257.42547	Systemicity
17	**policy**	1040	1247.82680	Governance
18	**analysis**	1009	1210.63196	Data and Research
19	**value**	996	1195.03413	Prices and Values
20	**market**	977	1172.23729	Ecoomic Agents and Entities
21	**time**	956	1147.04079	Data and Research
22	**eci**	934	1120.64445	Economic measure, variable, index
23	**research**	913	1095.44795	Data and Research
24	**figure**	887	1064.25228	Data and Research
25	**energy**	876	1051.05411	Resources
26	**income**	848	1017.45878	Economic growth/development
27	**economics**	832	998.26144	Economic measure, variable, index
28	**index**	828	993.46211	Economic measure, variable, index
29	**export**	799	958.66694	Economic Sectors and Activities
30	**network**	796	955.06744	Systemicity
31	**production**	754	904.67443	Economic Sectors and Activities
32	**impact**	751	901.07493	Economic change, trend, impact
33	**table**	750	899.87510	Data and Research
34	**trade**	720	863.88009	Economic Sectors and Activities
35	**emission**	717	860.28059	Economic change, trend, impact
36	**change**	714	856.68109	Economic change, trend, impact
37	**technology**	697	836.28392	Economic growth/development
38	**innovation**	686	823.08576	Economic growth/development
39	**approach**	681	817.08659	Economic measure, variable, index
40	**relationship**	672	806.28809	Data and Research

41	**activity**	654	784.69108	Economic Sectors and Activities
42	**case**	653	783.49125	Data and Research
43	**panel**	652	782.29142	Data and Research
44	**number**	640	767.89342	Data and Research
45	**world**	628	753.49541	Geographic and Macroeconomic Scope
46	**knowledge**	622	746.29641	Data and Research
47	**method**	621	745.09658	Data and Research
48	**region**	612	734.29808	Geographic and Macroeconomic Scope
49	**inequality**	603	723.49958	Economic change, trend, impact
50	**process**	587	704.30224	Economic growth/development

Table C4. Noun frequency lists (wordlists) (1-50) – ELSC

NO.	ITEM (ELSC)	FREQUENCY	RELATIVE FREQUENCY	CATEGORY
1	**model**	17710	2171.65971	Economic measure, variable, index
2	**effect**	17519	2148.23864	Data and Research
3	**result**	15440	1893.30468	Data and Research
4	**market**	13601	1667.80032	Economic Agents and Entities
5	**household**	13505	1656.02848	Economic Agents and Entities
6	**datum**	12800	1569.57901	Data and Research
7	**level**	12651	1551.30813	Economic measure, variable, index
8	**study**	12573	1541.74351	Data and Research
9	**country**	12453	1527.02870	Geographic and Macroeconomic Scope
10	**firm**	11082	1358.91208	Economic Agents and Entities
11	**price**	10663	1307.53289	Prices and Values
12	**time**	10498	1287.30003	Data and Research
13	**impact**	10121	1241.07103	Economic change, trend, impact
14	**value**	9856	1208.57584	Prices and Values
15	**change**	9798	1201.46368	Economic change, trend, impact
16	**table**	9775	1198.64334	Data and Research
17	**group**	9122	1118.57029	Data and Research
18	**rate**	8927	1094.65873	Prices and Values
19	**year**	8823	1081.90591	Time
20	**cost**	8777	1076.26523	Prices and Values
21	**policy**	8632	1058.48484	Governance
22	**analysis**	8611	1055.90975	Data and Research
23	**information**	8222	1008.20927	Data and Research
24	**case**	8199	1005.38893	Data and Research
25	**variable**	7810	957.68844	Economic measure, variable, index
26	**food**	7641	936.96509	Goods and Products
27	**risk**	7424	910.35582	Economic change, trend, impact
28	**income**	7396	906.92237	Economic growth/development

29	**area**	7178	880.19048	Geographic and Macroeconomic Scope
30	**section**	6945	851.61924	Data and Research
31	**system**	6901	846.22381	Systemicity
32	**number**	6857	840.82838	Data and Research
33	**development**	6808	834.81984	Economic growth/development
34	**production**	6791	832.73524	Economic Sectors and Activities
35	**period**	6450	790.92067	Time
36	**paper**	6405	785.40262	Data and research
37	**resource**	6301	772.64979	Resource
38	**example**	6257	767.25436	Data and research
39	**research**	6177	757.44449	Data and Research
40	**difference**	6132	751.92644	Economic change, trend, impact
41	**sample**	6103	748.37037	Data and Research
42	**process**	6094	747.26676	Economic growth/development
43	**use**	5970	732.06146	Resource
44	**increase**	5962	731.08047	Economic change, trend, impact
45	**measure**	5955	730.22211	Economic measure, variable, index
46	**approach**	5951	729.73162	Economic measure, variable, index
47	**literature**	5863	718.94076	Data and Research
48	**product**	5695	698.34004	Goods and Products
49	**term**	5680	696.50068	Governance
50	**sector**	5574	683.50261	Economic Sectors and Activities

Table C5. Multi-unit keyword lists (1-30) – ECC

NO.	ITEM	FREQUENCY (FOCUS; ECC)	RELATIVE FREQUENCY (FOCUS)	SCORE	CATEGORY
1	economic complexity	2073	2487.25464	2488.255	Systemicity
2	economic growth	749	898.67529	899.675	Economic growth/development
3	income inequality	300	359.95004	360.950	Economic change, trend, impact
4	complexity index	230	275.96170	276.962	Systemicity
5	economic development	225	269.96252	270.963	Economic growth/development
6	renewable energy	221	265.16321	266.163	Resources
7	natural resource	182	218.36969	219.370	Resources
8	statistical moment	176	211.17068	212.171	Data and Research
9	economic activity	168	201.57202	202.572	Sector and Activities
10	CO2 emission	162	194.37302	195.373	Economic change, trend, impact
11	labour market	159	190.77351	191.774	Sector and Activities
12	complex system	156	187.17403	188.174	Systemicity
13	economic complexity index	155	185.97418	186.974	Systemicity
14	carbon emission	145	173.97585	174.976	Economic change, trend, impact

15	comparative advantage	135	161.97752	162.978	Economic measure, variable, index
16	climate change	133	159.57785	160.578	Economic change, trend, impact
17	human capital	127	152.37885	153.379	Resources
18	cultural heritage	114	136.78102	137.781	Resources
19	ecological footprint	112	134.38135	135.381	Economic change, trend, impact
20	complexity economics	108	129.58202	130.582	Systemicity
21	green growth	108	129.58202	130.582	Economic growth/development
22	panel datum	98	117.58368	118.584	Data and Research
23	complexity theory	92	110.38468	111.385	Systemicity
24	energy consumption	92	110.38468	111.385	Economic change, trend, impact
25	new firm	91	109.18484	110.185	Economic Agents and Entities
26	developing country	90	107.98501	108.985	Economic Agents and Entities
27	sustainable development	89	106.78518	107.785	Economic growth/development
28	unit root	86	103.18568	104.186	Data and Research
29	growth rate	86	103.18568	104.186	Economic growth/development
30	human development	86	103.18568	104.186	Resources

Table C6. Multi-unit keyword lists (1-30) – ELSC

NO.	ITEM (ELS SUBCORPORA, 22)	FREQUENCY (ELS SUBCORPORA, 22) (FOCUS)	RELATIVE FREQUENCY (FOCUS)	SCORE	CATEGORY
1	food waste	1126	138.07390	139.074	Economic change, trend, impact
2	supply chain	1110	136.11192	137.112	Economic concept, variable
3	climate change	1036	127.03780	128.038	Economic change, trend, impact
4	business model	853	104.59772	105.598	Economic concept, variable
5	food security	757	92.82588	93.826	Economic change, trend, impact
6	interest rate	693	84.97799	85.978	Economic concept, variable
7	economic growth	677	83.01601	84.016	Economic growth/development
8	human capital	621	76.14911	77.149	Resources
9	stock market	549	67.32022	68.320	Economic Agents and Entities
10	case study	539	66.09399	67.094	Data and Research
11	standard deviation	518	63.51890	64.519	Data and Research
12	future research	488	59.84020	60.840	Data and Research
13	labor market	484	59.34970	60.350	Economic Agents and Entities
14	exchange rate	460	56.40675	57.407	Economic concept, variable
15	financial crisis	460	56.40675	57.407	Economic change, trend, impact
16	monetary policy	443	54.32215	55.322	Governance
17	private sector	439	53.83165	54.832	Sectors and activities
18	land use	435	53.34116	54.341	Economic change, trend, impact
19	risk management	433	53.09592	54.096	Economic concept, variable
20	control group	423	51.86968	52.870	Data and Research

21	dependent variable	416	51.01132	52.011	Data and Research
22	positive effect	415	50.88869	51.889	Data and Research
23	labour market	384	47.08737	48.087	Economic Agents and Entities
24	energy consumption	379	46.47425	47.474	Economic change, trend, impact
25	empirical evidence	374	45.86114	46.861	Data and Research
26	life cycle	368	45.12540	46.125	Good and Products
27	risk aversion	355	43.53129	44.531	Economic concept, variable
28	public sector	355	43.53129	44.531	Sectors and activities
29	social capital	355	43.53129	44.531	Resources
30	household income	348	42.67293	43.673	Resources

Appendix D. Corpus Composition (ELSC) on Sketch Engine

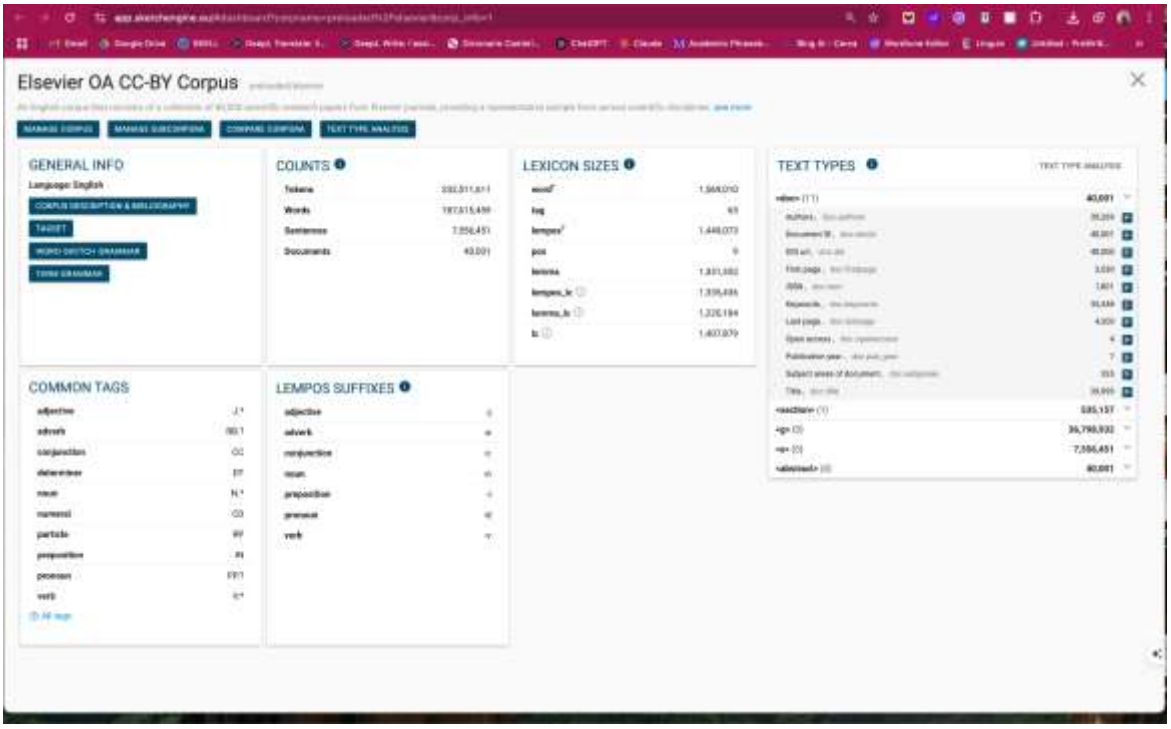

Figure D1. Screenshot of ELSC composition and size on SE

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