

An Analysis of Logical Function on the VOA Economic News

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Abstract

Logical relationships play an important role in organizing information and connecting events in economic news discourse. This study aims to identify the logical functions used in VOA Economic News and examine their realization through taxis. A descriptive qualitative approach was employed, supported by frequency counts and percentage distributions. The dataset comprised 65 clause complexes selected from five VOA Economic News articles published in 2024 and 2025. The analysis drew on the logical metafunction framework of Systemic Functional Linguistics, examining logico-semantic relations and taxis as complementary dimensions of clause-complex organization. Logico-semantic relations included expansion through elaboration, extension, and enhancement, and projection through locution and idea. Taxis was examined through paratactic and hypotactic relationships between clauses. The findings revealed that enhancement was the most frequent logical function, occurring 21 times (32.31%), followed by elaboration and extension, each with 15 occurrences (23.08%). Locution appeared nine times (13.85%), while idea occurred five times (7.69%). In terms of taxis, hypotaxis predominated, accounting for 51 occurrences (78.46%), whereas parataxis appeared 14 times (21.54%). The predominance of enhancement indicates the importance of circumstantial relationships in connecting economic information, while the prevalence of hypotaxis highlights the role of grammatical dependency in structuring clause complexes. Together, these patterns illustrate how semantic connections and interclausal dependencies contribute to information organization within the selected articles. The study provides an empirical account of logical organization in a small sample of economic news discourse.

and demonstrates the analytical value of examining logico-semantic relations alongside taxis. Its findings offer a basis for teaching clause-complex analysis and developing discourse analysis skills in linguistic and media studies.

Keywords: Logical Metafunction; Systemic Functional Linguistics; Clause Complexes; Taxis; VOA Economic News

INTRODUCTION

Language plays a fundamental role in communicating information, developing understanding, and connecting ideas within discourse. In mass media, language does more than report facts; it also organizes information so that readers can interpret relationships between events and arguments (Clayman, 1990). Economic news represents a particularly complex form of discourse because it addresses market developments, inflation, trade, economic growth, and government policies (Holmes, 2009). Such information frequently involves causal relationships, explanations, and perspectives from different sources that must be presented coherently. McCloskey (1998) highlights the analytical characteristics of economic discourse and its close relationship with interconnected ideas. Consequently, examining linguistic structures is essential to understanding how economic information is organized and communicated to readers.

The complexity of economic news becomes particularly significant when information is presented in English to audiences with diverse linguistic backgrounds and levels of knowledge (Babayeva, 2025). Readers must understand not only vocabulary but also the relationships between clauses to interpret the intended meaning accurately (Crossley et al., 2007). News discourse follows organizational patterns that connect central information with supporting details and explanations (Dijk, 1988). Furthermore, news language must accommodate the characteristics of its intended audience to communicate information effectively (Bell, 1993). These considerations indicate that examining logical relationships between clauses can provide insights into how economic news develops coherent meanings and presents information systematically.

Voice of America (VOA) provides a relevant context for investigating this issue because it disseminates international information, including economic developments. As an international media organization, VOA needs to communicate complex information in an

organized manner that can be understood by readers from different linguistic and cultural backgrounds (Hsu, 2019). International news reporting requires the ability to present complicated material in an accessible form without obscuring its essential meaning (Perrin, 2013). This requirement is particularly important in economic reporting, where factual information is frequently accompanied by explanations of economic changes, policy consequences, and expert opinions. Accordingly, VOA Economic News offers a relevant context for examining how clause relationships contribute to meaning construction within economic news discourse (Cooper, 2025).

This study adopts the position that the clarity of news discourse depends not only on vocabulary and factual accuracy but also on the logical relationships connecting information throughout a text. Systemic Functional Linguistics (SFL) conceptualizes language as a resource for constructing meaning within social contexts rather than merely as a system of grammatical rules (Tampubolon & Sidabutar, 2025). Within this framework, the ideational metafunction concerns the representation of experience and the organization of logical relationships between clauses. Bloor & Bloor (2004) explain that logical function establishes relationships between clauses within a clause complex. This theoretical perspective enables the researcher to examine how one clause expands the meaning of another or projects particular statements and ideas.

Logical function is particularly relevant to discourse analysis because clause relationships can express additional information, clarification, causal connections, and reported viewpoints (Schiffrin, 1986). Gerot & Wignell (1995) explain that logical relationships help readers understand connections between ideas in a text. Similarly, Bloor & Bloor (2004) emphasize the contribution of clause relationships to the systematic flow of information. Jomaa & Bidin (2019) examine logico-semantic relationships as a means of organizing information within clause complexes. These perspectives establish a foundation for investigating how grammatical relationships realize meaning in discourse and how information is connected within economic news texts.

Within SFL, logical function is classified into two principal categories: expansion and projection. Expansion comprises elaboration, extension, and enhancement, whereas projection includes locution and idea. Elaboration clarifies or restates information, extension introduces additional information or contrast, and enhancement expresses relationships involving cause, time, condition, or purpose. Projection, meanwhile, represents linguistic

expressions of speech or thought attributed to particular sources. These categories provide an analytical framework for identifying meaning relationships in economic news, particularly in the presentation of facts, explanations, and expert perspectives within a unified text.

Previous scholarship has established important foundations for applying SFL to discourse analysis. Eggins (2013) discusses the application of SFL to different text types and highlights the importance of clause complexes in organizing information. Martin & Rose (2007) examine how textual structures and relationships between textual elements contribute to meaning construction. Thompson (2013) further explains how functional grammar can illuminate the organization of information in discourse. More recent work also emphasizes the relevance of SFL to analyzing language choices in authentic communicative contexts. Zhang et al. (2026) likewise discuss the relationship between linguistic choices and meaning construction. Although these studies provide valuable theoretical and analytical perspectives, they do not establish a specific empirical account of logical-function patterns in VOA Economic News.

The research gap addressed by this study concerns the limited availability of research specifically mapping the types of logical functions and their realization through clause complexes in VOA Economic News. Previous studies reviewed in the thesis primarily address SFL theory, general news discourse structures, or logical relationships across broader textual contexts. Nguyen (2013) examines how clause complexes realize expansion and projection, while Li et al. (2024) emphasizes the importance of logical relationships between clauses in meaning construction and interpretation. Leong (2021) also investigate the role of clause complexing in organizing ideas within texts. Although relevant to the present investigation, these studies do not specifically provide an empirical mapping of logical-function categories and their realization through paratactic and hypotactic relationships in VOA economic news texts. Hoang (2025) further discusses the significance of logical function in interpreting textual meaning, reinforcing the relevance of examining this linguistic phenomenon within the specific dataset selected for the present study.

The novelty of this research lies in its systematic empirical mapping of logical functions in VOA Economic News through clause-complex analysis. Rather than merely identifying general logical relationships, the study classifies expansion into elaboration, extension, and enhancement, and projection into locution and idea. It also examines whether these functions are realized through parataxis or hypotaxis and calculates the frequency of

the identified patterns. This combined analytical procedure provides a structured description of how logical relationships operate within the selected economic news texts. The novelty therefore lies in the specific research context and the empirical mapping of linguistic patterns rather than in proposing a new theoretical model. Grounded in Halliday (1979) SFL framework, this study aims to identify the types of logical functions used in VOA Economic News and analyze how those functions are realized through clause relationships. The findings are expected to provide a more detailed understanding of meaning organization in economic news discourse and contribute to the application of SFL in the analysis of international media texts.

METHODS

This study employed a descriptive qualitative approach to investigate the types and realizations of logical functions in Voice of America (VOA) Economic News. This approach was appropriate because the research focused on interpreting clause relationships and meaning construction within written texts rather than testing hypotheses or making statistical generalizations. Qualitative research seeks to understand the meanings associated with a particular phenomenon, while descriptive research aims to provide a systematic account of the phenomenon as it occurs (Creswell, 2014). The study also incorporated text analysis and library research because its data were obtained entirely from published written documents (Fairclough, 2003).

The analytical framework was based on Systemic Functional Linguistics (SFL), particularly logical function within the ideational metafunction. The research indicators comprised two principal categories: expansion and projection. Expansion included elaboration, extension, and enhancement, whereas projection consisted of locution and idea. The analysis also examined taxis relationships, distinguishing parataxis, which represents a relatively equal relationship between clauses, from hypotaxis, which indicates a dependent or hierarchical relationship. These indicators provided the basis for identifying patterns of logical meaning and explaining how logical functions were realized within clause complexes.

The data source consisted of five English-language economic news articles published on the official VOA News website in 2024 and 2025. The dataset comprised 65 clause complexes selected through purposive sampling according to their relevance to economic

topics, the presence of relationships between clauses, and their suitability for logical-function analysis. The clause complex served as the unit of analysis, with particular attention given to the semantic and structural relationships between its constituent clauses (Fan et al., 2023). The selected articles addressed economic conditions, trade, tariffs, inflation, employment, and economic growth. This selection ensured that the data corresponded to the research objectives of identifying logical-function types and examining their realization in economic news discourse.

Data were collected manually through the systematic retrieval and reading of the selected articles (Chapman et al., 2010). The researcher identified sentences containing two or more clauses, separated them into individual clauses, and recorded the relevant clause complexes in a data table. The analysis then proceeded by identifying paratactic or hypotactic relationships, classifying logical functions according to the predetermined categories and subcategories, and interpreting how these relationships contributed to information organization (Srinivass, 2017). The frequency of identified patterns was also calculated to support the descriptive presentation of the findings while maintaining the study's primarily qualitative orientation.

Data trustworthiness was maintained through repeated examination of the data, consistent application of the theoretical framework, uniform classification criteria, and systematic reporting of the analytical results (Islam, 2023). These procedures were informed by the principles of qualitative trustworthiness, encompassing credibility, dependability, confirmability, and transferability (Lincoln, 1990). The research process involved defining the research topic and objectives, reviewing relevant literature, selecting articles, identifying and classifying the data, interpreting the findings, and drawing conclusions (Mengist et al., 2020).

RESULTS

This study examined logical functions and their realization through taxis in 65 clause complexes selected from five VOA Economic News articles published in 2024 and 2025. The articles covered several economic issues, including the condition of the United States economy, inflation, employment, international trade, tariffs, and economic growth. The analysis was conducted within the framework of Systemic Functional Linguistics, focusing

on five logical functions—elaboration, extension, enhancement, locution, and idea—and two types of taxis, namely parataxis and hypotaxis.

Distribution of Logical Functions in VOA Economic News

The analysis identified all five logical functions in the selected data. Their distribution according to frequency and percentage is presented in Table 1.

Table 1. Distribution of Logical Functions in VOA Economic News

Logical Function	Frequency	Percentage
Elaboration	15	23.08%
Extension	15	23.08%
Enhancement	21	32.31%
Locution	9	13.85%
Idea	5	7.69%
Total	65	100%

Source: Compiled by the researcher (2026)

Table 1. Distribution of Logical Functions in VOA Economic News shows that enhancement was the most dominant logical function, accounting for 21 occurrences or 32.31% of the total data. Elaboration and extension each occurred 15 times, representing 23.08%. Meanwhile, locution appeared nine times (13.85%), whereas idea had the lowest frequency, with five occurrences (7.69%). These findings indicate that circumstantial relationships involving conditions, time, causes, consequences, concessions, or purposes constituted the largest proportion of the analyzed data.

The predominance of enhancement suggests that clause complexes in VOA Economic News do more than present information about economic events. They also connect such information with the circumstances that contextualize or explain those events. In contrast, idea and locution serve to represent thoughts, expectations, statements, and information attributed to particular sources.

Realization of Logical Functions through Taxis

In addition to identifying the logical functions, this study examined how clause relationships were realized through taxis. This analysis distinguished between relationships involving clauses of relatively equal status and those involving dependency. The distribution of the two types of taxis is presented in Table 2.

Table 2. Distribution of Taxis in VOA Economic News

Type of Taxis	Frequency	Percentage
Parataxis	14	21.54%
Hypotaxis	51	78.46%
Total	65	100%

Source: Compiled by the researcher (2026)

Table 2. Distribution of Taxis in VOA Economic News shows that hypotaxis was the dominant taxis relationship, occurring 51 times (78.46%), while parataxis appeared 14 times (21.54%). This difference indicates that most clause complexes in the selected data involved a dependency relationship between clauses. Hypotaxis occurred in expressions conveying additional information, conditions, causes, consequences, temporal circumstances, and projected speech or thought. Parataxis, on the other hand, primarily connected information of relatively equal status, particularly when adding information or establishing contrast between clauses.

These findings demonstrate that the two types of taxis contribute differently to the construction of logical relationships in economic news discourse. Hypotaxis enables a main proposition to be developed through dependent clauses that provide contextual information or complete its meaning. Parataxis allows related propositions to be presented alongside one another without the same degree of grammatical dependency.

Characteristics of Logical Functions in Economic News

The analysis revealed that each logical function represented a distinct semantic relationship in VOA Economic News. Elaboration provided additional information about an element already introduced, as illustrated in the clause complex, “Inflation, which has played a major role in driving down consumer sentiment, is now sitting at an annualized rate of 2.4%.” The relative clause introduced by which elaborates on the noun inflation by providing further information about its role in consumer sentiment. This relationship is realized through hypotaxis because the relative clause is dependent on the main clause.

Extension was realized when clauses added information or expressed a contrast. For example, the clause complex “We’re seeing growth at a higher-than-expected pace, yet inflation is coming down” connects two propositions that present contrasting economic developments. The conjunction yet indicates an adversative relationship, while the clauses are linked through parataxis.

Enhancement connected clauses through circumstantial relationships, including condition, time, cause, result, concession, and purpose. This function is illustrated by the statement, “If I win, we will quickly build the greatest economy in the history of the world.” The dependent clause introduced by *if* establishes a condition for the proposition expressed in the main clause. The relationship is therefore classified as enhancement with a conditional meaning and is realized through hypotaxis.

Projection was also identified in the selected data through locution and idea. Locution represents the projection of verbal information, as shown in the statement, “The Federal Reserve Bank of Atlanta says growth in average wages has been rising faster than the rate of inflation since early 2023.” In this example, the reporting verb *says* introduces information attributed to the Federal Reserve Bank of Atlanta. Meanwhile, *idea* represents the projection of thoughts, beliefs, or propositions. This relationship is illustrated by the statement, “The data suggest that months of good economic news may be starting to break through to U.S. consumers.” The verb *suggest* introduces a proposition interpreted as an inference drawn from the data. Both examples demonstrate how projection enables economic news to report information and present interpretations of economic conditions.

Overall, the findings indicate that logical relationships in VOA Economic News are constructed through the interaction of logical functions and taxis. Enhancement was the most frequent logical function, while hypotaxis was the predominant clause relationship. These findings suggest that circumstantial relationships and dependency between clauses play important roles in presenting economic developments, explaining conditions, and conveying interpretations in the selected news articles.

DISCUSSION

This study examined logical functions in VOA Economic News through 65 clause complexes selected from five English-language economic news articles published in 2024 and 2025. Drawing on the framework of Systemic Functional Linguistics (SFL), the analysis identified five logical functions—Elaboration, Extension, Enhancement, Locution, and Idea—and investigated their realization through the taxis relations of parataxis and hypotaxis. The findings indicate that clause relations do more than provide grammatical structure; they also organize how economic information is explained, developed, and connected within a text. This interpretation is consistent with Halliday’s (1994) view of language as a meaning-

making system and Halliday (1979) explanation of how logical relations connect clauses within clause complexes.

Enhancement was the most frequent logical function, occurring in 21 instances (32.31%). Its prominence suggests that the selected economic news articles frequently connect events with their circumstances, timing, conditions, causes, consequences, concessions, or purposes. Markers such as *if*, *when*, *after*, *since*, *while*, *despite*, and *to* link central propositions with relevant contextual information. For example, when in Data 37 establishes a temporal relationship between a country's recovery and Biden's inauguration, whereas *since* in Data 60 signals a causal relationship associated with reliance on consumption. These patterns suggest that economic information is not presented merely as a sequence of separate facts; rather, events are connected through contextual, temporal, and causal relations. This finding supports Halliday (1979) account of Enhancement as a means of extending meaning through circumstances and conditions. In economic reporting, this function is particularly relevant because understanding an event often requires information about when or why it occurred, the conditions under which it developed, or the consequences associated with it.

Extension and Elaboration each occurred in 15 instances (23.08%), although they serve different semantic purposes. Extension adds information or establishes contrast, often through conjunctions such as *and*, *but*, and *yet*. Data 9 presents a contrast between a figure and the economic situation, while Data 23 adds information about another action performed by Harris. In Data 63, *but* marks differing government positions. These examples demonstrate how Extension enables writers to introduce additional actions, qualifications, or contrasting perspectives within connected clause structures. Elaboration, by contrast, clarifies information already introduced. The use of which in Data 2, 17, 18, and 31 illustrates how an additional clause provides more specific information about a previously mentioned index, circumstance, or proposition. This distinction corresponds to the explanations provided by Gerot and Wignell (1994) concerning the expansion of meaning through addition, contrast, and clarification. Accordingly, the three expansion functions play complementary roles: Extension broadens the information, Elaboration specifies or clarifies it, and Enhancement connects it with relevant circumstances or relationships.

Within projection, Locution occurred in nine instances (13.85%), whereas Idea appeared in five (7.69%). Locution presents information attributed to a verbal source

through verbs such as said, suggest, says, told, ordered, announced, and acknowledged. Idea, in contrast, represents thought, expectation, or possibility. The frequency difference indicates that attributed verbal statements occur more often than projected thoughts in the selected data. The presence of both functions demonstrates that economic reporting includes not only descriptions of events and conditions but also statements and viewpoints associated with those events. The finding is consistent with Halliday (1979) account of projection as a relationship through which one clause represents another as wording or thought. Nevertheless, the frequency of Locution and Idea cannot by itself establish the objectivity or credibility of the reporting. Such judgments would require further examination of source identities, the context of attributed statements, and the ways in which reported viewpoints are framed.

The distribution of logical functions is complemented by the findings on taxis. Hypotaxis occurred in 51 instances (78.46%), compared with 14 instances of parataxis (21.54%). The predominance of hypotaxis indicates that the clause complexes in the sample more frequently establish hierarchical relations in which one clause depends on another to express a circumstance, time reference, condition, cause, or projected statement. This structure allows a central proposition to be accompanied by supporting explanations without requiring each qualification to appear as a separate sentence. Parataxis, by contrast, connects relatively equal clauses to add or contrast information. Data 28 illustrates the complexity of these relations because it contains both a conditional hypotactic relationship and a paratactic addition. It was classified as hypotaxis for frequency-counting purposes because the principal relationship begins with the conditional marker *if*. This example highlights the importance of examining the overall clause relationship rather than classifying data solely on the basis of an individual conjunction.

Conceptually, the findings support Halliday (1979) framework of logical functions and clause complexes, as well as Gerot and Wignell's (1994) explanation of how logical relations organize meaning. The predominance of hypotaxis also corresponds with Eggins (2013) account of clause complexes as a common resource in news texts for presenting facts, explanations, and interconnected propositions concisely. In addition, Nguyen (2013) discusses the role of clause complexes in realizing discourse expansion and projection, while Li et al. (2024) emphasizes the importance of logical relations in constructing and interpreting textual meaning. The literature review in the thesis also discusses Jomaa and Bidin (2019) and Hoang (2025), whose work emphasizes the significance of logical relations in

information organization and textual interpretation. The present study extends the application of this framework by empirically mapping five logical functions and two taxis patterns in a selected corpus of VOA economic reporting. However, because reader comprehension was not directly measured, the study explains the structural and semantic organization of clauses rather than demonstrating that a particular pattern necessarily improves readers' understanding.

The theoretical contribution of this research lies in applying SFL to explain how economic information is developed through relationships between clauses. Combining logical-function analysis with taxis provides a more detailed account than simply identifying conjunctions because it considers both the meaning of each relationship and the structural organization of the clauses. Practically, the findings may support text-analysis instruction for students of English and linguistics, particularly in examining how causal relations, additional information, clarification, and projected statements are constructed in news texts. Journalists and writers may use the framework to reflect on how information is organized when reporting economic issues. Readers may also benefit from recognizing how facts, explanations, and attributed statements are connected. These applications should nevertheless be understood as potential uses of the findings rather than outcomes that have been directly tested in educational settings, journalistic practice, or reader-comprehension studies.

Several limitations should be considered when interpreting the findings. The dataset comprises only 65 clause complexes from five VOA Economic News articles published in 2024–2025. Purposive selection enabled the analysis to focus on relevant clause complexes, but it limits the generalizability of the results to other VOA articles, different media outlets, or other news genres. Furthermore, the analysis was restricted to logical functions and taxis within the SFL framework. Lexical choices, the interpersonal and textual metafunctions in their broader scope, media ideology, and reader responses were not examined in depth (Sidabutar & Tampubolon, 2024). The analysis was also conducted manually, and the reported findings primarily consist of classifications and frequency counts. Future research could therefore employ a larger corpus, compare media sources or publication periods, and incorporate inter-coder assessment to examine the consistency of classification. Further studies could also investigate reader responses to determine empirically whether particular logical patterns are associated with news readability or interpretation. Despite these limitations, the present study provides a focused account of logical relations in the selected

VOA economic news articles and establishes a basis for further research on meaning organization in news discourse.

CONCLUSION

This study aimed to identify logical functions and examine how they are realized through taxis relations in VOA Economic News. Analysis of 65 clause complexes from five articles identified five functions: Elaboration, Extension, Enhancement, Locution, and Idea. Enhancement was the most frequent, accounting for 21 instances (32.31%), followed by Elaboration and Extension, with 15 instances each (23.08%). Locution occurred in nine instances (13.85%), while Idea appeared in five (7.69%). These findings indicate that the selected economic news texts primarily employ logical relations to connect information with circumstances, causes, temporal references, consequences, and purposes, while also clarifying propositions and presenting statements or viewpoints. In terms of taxis, hypotaxis predominated, occurring in 51 instances (78.46%), compared with 14 instances of parataxis (21.54%). The results therefore address both research questions and demonstrate that hierarchical clause relations are more frequently used to connect central propositions with supporting information in the selected corpus.

Theoretically, this study contributes to the application of Systemic Functional Linguistics to economic news discourse by examining logical functions and taxis within an integrated analytical framework. Its significance lies in mapping clause-relational patterns in the selected VOA economic news corpus, thereby clarifying how economic information is linguistically organized. Practically, the findings may serve as learning material for students and teachers of English and linguistics, particularly in analyzing clause complexes and interpreting relationships between propositions. Future research should expand the number of articles, compare different media outlets and publication periods, and investigate other SFL metafunctions to develop a broader account of news discourse. Inter-coder assessment could also be incorporated to strengthen the consistency of classification. These directions would help establish a more comprehensive understanding of how logical relations contribute to the organization of meaning across different news contexts.

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