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Stance complement clauses controlled by verbs in academic research papers

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Abstract

This paper explores stance complement clauses in the genre of academic discourse, analysing stance complement clauses controlled by verbs in economics research articles written in English by non-native writers. Following Biber's taxonomy (2006) of common lexico-grammatical features used for stance analyses, the results of the study show that epistemic verbs of certainty and likelihood are an important means of communicating knowledge in this genre and thus, form an inseparable part of academic research writing. Moreover, the study seeks to analyse the contrast between *stance to-infinitives* and *stance that-clauses* in the studied corpus. While *stance that-clauses* relate mainly to the category of certainty; on the contrary, *stance to-infinitive clauses* are consciously or subconsciously chosen to lessen the risk of a face-threatening act and typically refer to writers' sensory experience (e.g. verbs such as *seem, appear*, etc.). The findings suggest that research papers from the field of economics demonstrate a clear preference for factive verbs over non-factive verbs.

Key words

academic discourse, research papers, stance complement clauses controlled by verbs, stance that-clauses, stance to-infinitive clauses, epistemic verbs

1. The role of stance in academic research papers

In recent years, academic research articles have received a considerable amount of attention as a genre in their own right. This is due to the fact that in order to present one's research results and to sustain one's academic status, the above–mentioned genre is still viewed as a widely accepted and effective platform for knowledge dissemination. Academic writing represents a unique type of professional discourse targeting a relatively large and diverse community. It is generally known that scholarly language has dramatically changed over the decades from impersonal expressions of reality to more tentative and indefinite pieces of academic work. This more or less reflects the fact that the dominant approach to academic writing is aimed not only at the direct transmission of knowledge but also at the indirect evaluation of proposed content. In other words, academics are not only aware of the credibility and amount of information they share with the discourse community, but they seek to attain a dual partnership with their potential readership by evaluating the proposed content, by creating social interactions and by presenting ideational meaning in their research papers. Over the past several years, this tendency has been reflected in the concept of stance (as a writer's evaluation) in academic discourse and has been examined from various perspectives.

Stance in academic writing has already been outlined by different authors who refer to stance as evaluation (Hunston, 1994); attitude (Chafe, 1986; Halliday, 2004); personal feelings, attitudes, value

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judgments, or assessments (Biber et al., 1999); and modality or hedges (Hyland, 1998). The term developed from the notion of evidentiality introduced in 1986 by Chafe, who viewed it as "an expression of attitudes towards knowledge" (Chafe, 1986, p. 262). By allowing writers to express their uncertainty concerning the factuality of their statements or to indicate deference to their readers, stance (and its formal and semantic realization) has become a significant characteristic of academic prose. According to Biber (2006, p.87) stance expressions convey many different kinds of personal feelings and assessments, including attitudes that a speaker holds about information, how certain they are about its veracity, how they obtained access to the information, and what perspective they are taking.

This complex view on stance partially reflects Hyland's (1998) viewpoint on stance markers (or hedges) as content- (related to the scope of the proposition itself) or participant- (writer and reader) oriented hedges in academic writing. Hyland's approach to stance (specifically his theory on the olypragmatic concept of hedges) has been analysed and adopted by many other authors (e.g. Warchal, 2015; Malášková, 2009; Marcinkowski, 2010), since his multifaceted approach and analytical framework is clearly conceptual, taking into account, on one hand, surface features of hedges and on the other hand, their pragmatic analysis. His categorization of hedges is based on their pragmatic functions; in other words, whether they refer to the proposition itself (content-oriented hedges) or whether they invite reader-involvement and accept the writer's personal responsibility for the validity of the content (reader-oriented hedges). Moreover, his diachronic study of stance (in co-authorship with Jiang, 2016) presents a clear picture of changing patterns of stance in academic writing over the past 50 years. Even though Hyland's approach to stance is elaborative, it is necessary to point out that in his view stance is defined as an umbrella term for other interrelated categories (or components of stance) such as evidentiality, effect and presence (Hyland, Jiang, 2016). *Evidentiality* is viewed as the writer's commitment to the reliability of the propositions he or she presents and their potential impact on the reader, expressed through hedges and boosters. *Affect*, in Hyland's view, refers to a broad range of personal and professional attitudes towards what is said expressed through attitude markers. *Presence*, in his theory, concerns the extent to which the writer chooses to intrude into a text through the use of first-person pronouns and possessive determiners (Hyland, 2016). It is necessary to point out that these components (predominantly the first two) can be attributable to the same grammatical means or devices in context. In this view, stance is directly linked to epistemic modality, which reflects the writer's evaluation of probability referring to different degrees of certainty and uncertainty.

It is generally known that epistemic modality as a broad term refers to different grammatical devices one may use in order to show one's commitment to the truth values of propositions. This can be achieved with the use of modal auxiliaries, adjectives, adverbs and unsurprisingly with the category of lexical verbs that "offer a more overt and precise means of signalling the writer's commitment to a proposition than adverbs, signalling relative degrees of assurance and uncertainty" (Hyland & Milton 1997, p. 190 in Marcinkowski, 2010, p. 49). In other words, apart from their many different primary functions (such as to inform, to identify, to define and to characterize), their grammatical potential might be activated in the process of evaluation, assessment and value judgement of the proposed content – be it spoken or written. The present study therefore is aimed at the use of epistemic lexical verbs in scientific research articles with a primary focus on stance complement clauses controlled by verbs.

2. The concept of epistemic verbs: stance complement clauses controlled by verbs in academic research papers

Taking into account the available studies on stance lexical verbs and their use in complement clauses, I consider the following studies the most relevant: Biber's study on common lexico-grammatical features used for stance analysis (1999, 2006); Hyland's subdivision of epistemic lexical verbs into epistemic judgement verbs and epistemic evidential verbs (1998, 2004); and Hyland and Tse's concept of evaluative *that* construction (2005). Let me illustrate the essence of these theories.

Douglas Biber has been continuously working on academic discourse in most of his works (2006, 2016, 2019). In his book *University Language: A corpus –based study of spoken and written registers (2006)* he distinguishes three major structural categories of stance expressions in academic registers: modal verbs (and semi-modals), stance adverbs, and complement clauses controlled by verbs, adjectives and nouns (2006, p. 92). In Biber's view, stance complement clauses controlled by verbs (the focus of this paper) can be sub–classified into two categories: *stance verb plus that-clause* and *stance verb plus*

to-clause. Biber is particularly interested in the distribution of stance verbs and follow–up clauses across various spoken and written registers such as classroom teaching, class management, labs, textbooks, course books, etc. Surprisingly, the genre of research paper is not analysed in his study. Within each category of grammatical stance expressions, he defines several other semantic classes expressing a particular type of stance directly connected to stance verb plus that-clause and stance verb plus to-clause, which form an inherent and interactive part of the analysed sample, as can be seen in the following examples from my corpus.

STANCE VERB + TO-CLAUSE

e.g. The countries *seem to be* vulnerable to world food price shocks. (TEXT 5, probability, likelihood verb)

STANCE VERB + THAT-CLAUSE

e.g. The study *emphasized that* net profit of the analyzed banking sectors increases with a growth of total own funds. (TEXT 7, speech act verb)

In both these patterns the verb phrase (stance verb) modulates the meaning of the dependent clause no matter whether it is finite or non-finite. Even though Biber's approach to the above–mentioned topic is mainly grammatical, the blends of pragmatic approach are easily identifiable here e.g. his classification of lexical stance verbs which help to form the meaning of the follow-up clause to different sub classes such as epistemic verbs, attitude verbs, speech act verbs, etc. In other words, the reasons for using all these expressions in context are definitely pragmatic and might be seen as face–threatening/saving acts.

Quite similarly, Hyland views epistemic lexical verbs as "the most common means of coding the subjectivity of the epistemic source" (1998, p. 119) and grammatical means which are used to hedge either commitment or assertiveness. In comparison with Biber (2006), Hyland (2019, p. 152) stresses the importance of lexical verbs mainly in connection with *complement that–clauses*. In co-operation with Tse (2005) he introduced the model of *evaluative that*– "a grammatical structure in which a complement clause is embedded in a host super-ordinate clause to complete its construction and to project the writer's attitudes or ideas" (Hyland &Tse, 2005, p. 124).
The model of *evaluative that* is composed of

MATRIX CLAUSE (evaluation) + THAT-CLAUSE (evaluated entity)

It is also worth mentioning the perspective from which the content of a that-clause is pragmatically interpreted. For Hyland and Tse (2005, 130), an evaluative that–clause is interpreted with its regard to

a. *the evaluated entity* (e.g. Our findings show that...)
b. *the evaluative stance* (e.g. I believe that…)
c. *the evaluative source* (e.g. Peterson notes that...)
d. *the evaluative expression* (e.g. We make the assumption that...)

As to the evaluative expression in their model, verb forms are categorized in *evaluative that* constructions by the type of the activity they refer to. These are

a. *Research acts* – experimental activities or actions carried out in the real world (e.g. show, demonstrate)
b. *Discourse acts* – the expression of cognitive or research activities (e.g. report, conclude)
c. *Cognitive acts* – the expression of a researcher's mental processes (e.g. assume, believe)

Hyland's most recent research on *evaluative that* in specialist discourse proves that there has been a substantial increase in the use of *evaluative that* constructions over the past 50 years and a substantial increase in research act verbs in specialist discourse (Hyland, Jiang, 2019, p.153). His division of stance lexical verbs into epistemic judgement verbs and epistemic evidential verbs (1998) was inspired by Palmer's view of modality (2001) and adopted by many different authors in their research e.g. Dontcheva-Navratilova (2018), Granger & Paquot (2009).

Judgment verbs – which are further subdivided into *speculative verbs* e.g. assume, predict, suppose, think and *deductive verbs* e.g. deduce, infer

Evidential verbs – indicating the source of knowledge (Dontcheva-Navratilova, 2018, p. 156) further subdivided into *quotative* e.g. suggest, claim, *sensory* e.g. seem, appear and *narrative* e.g. attempt, seek

Dontcheva-Navratilova's comparative study investigates intercultural and interdisciplinary variation in the use of epistemic lexical verbs in linguistics and economics research articles written in English by Anglophone and Czech writers. Her findings show that linguists tend to use a higher rate of sensory verbs as a sub-group of evidential verbs, and economists show a clear preference for deductive verbs as a sub-group of judgement verbs (Dontcheva-Navratilova, 2018, p. 165). This comparative work based on the classification of epistemic lexical verbs by Hyland (1998) gives a detailed view on how the choice of specific lexical verbs is affected by cultural variations indicating the lower use of lexical verbs in research papers by Czech authors. Additionally, her analysis focuses on the distribution of epistemic lexical verbs across the rhetorical sections of research papers (Swales, 1990) with the highest frequency of epistemic lexical verbs in the section on research results in all her corpora (linguistics and economics research articles written in English by Anglophone and Czech writers).

All the examined studies show the prominence of lexical verbs in various genres of academic discourse used to express a writer's opinion, to maintain an indirect contact with the possible readership and to evaluate commitments to the truth of propositions. It could be added that stance complement clauses have attracted some attention in the literature, where these clauses have been discussed in terms of *that-complement clauses*, but the concept of the *to-infinitive stance clause* has been entirely neglected. Studying the relevant sources (e.g. Hyland 1998, 2016,2019, 2019; Biber, 2006) clearly indicates that there are several differences as far as the terminology is concerned, but what these studies have in common is the use of epistemic lexical verbs in order to modify, modulate and reflect the status of knowledge in a text. In line with Biber (2006) and Hyland (2019), I see complement clauses controlled by verbs as the main grammatical means for communicating and modulating authors' attitudes and assessments towards the message conveyed.

3. Material, methods and findings

An analysis of stance verbs and their clausal counterparts was carried out on a corpus of economics research articles published in the Journal of Business, Economics and Management, which is a peer-reviewed journal publishing original research papers. The objective of the journal is to provide insights into business and strategic management issues through the publication of high–quality research from around the world. All the selected research articles were published in the period 2018/2019 by non-native writers of English, and the corpus in the study consists of 50,027 running words. The total number of stance complement clauses controlled by verbs is 278. My primary motivation for selecting a research sample from the field of economics was to exploit the potential use of lexical stance verbs in the corpus, which is viewed as more specific than other types of discourse with its direct manifestation of presented outcomes. In this view, the economics corpus might be analysed as a unique type of discourse with its expected preference for explanation, enumeration, data analysis and a more conceptual than speculative approach.

A closer examination of the RA structure revealed that all the papers follow the traditional macrostructure of Swales' framework (1990), namely the standardized IMRD pattern (Introduction, Methods, Results and Discussion) with a slight preference for blending the results and discussion sections into one consistent part of the research paper. The present study combines quantitative and qualitative methods and draws on Biber's taxonomy of stance complement clauses controlled by verbs and his subclassification of *stance verb plus that-clause* and *stance verb plus to-clause*, which he applied to various types of discourse but not to the genre of academic research papers. Its main objective is to identify and analyse the proportion of stance complement verbs in the studied corpus and to identify how their deliberate or conscious choice may affect the communicative effect of the utterance. In other words, it tries to analyse the frequency of occurrence and distribution of stance lexical verbs in complement clauses. Due to the size of the corpus, more detailed research is needed to contribute to further understanding of the studied phenomena. Nevertheless, the paper defines the main types of stance complement clauses controlled by verbs and thus forms a basis for further research.

Two hypotheses are stated in the research. The first hypothesis is that the frequency of stance verbs plus to–clauses as a category of non-finite clauses is higher than the frequency of stance verbs plus finite that–clauses in the genre of academic research papers on economics. The second hypothesis is that the verb *show*, as an evidential quotative verb, is the most common epistemic lexical verb in the pattern *stance verb plus that-clause*.

3.1. Stance that-clauses controlled by verbs

The stance complement that-clause is a grammatical construction which allows writers to tentatively present their findings and tries to identify authors' commitment to the truth value of the propositions. The following table (Table 1) summarizes the occurrence of stance complement clauses controlled by verbs (to-infinitive and that-clauses) in the corpus. In both types of stance complement clause, the main clause modifies and modulates the content of the dependent clause and consequently modulates the semantics of the proposition syntactically realized by the subordinated clause, either finite or non-finite.

Table 1. Stance complement clauses (SCC) controlled by verbs

Type of SCC	**%**	**No. of stance verbs**
STANCE VERB PLUS THAT-CLAUSE	*78.06*	*217*
STANCE VERB PLUS TO-CLAUSE	*21.94*	*61*

As can be observed, out of all the stance complement clauses in the economics corpus 78.06% of the examples represent the pattern *stance verb plus that-clause*, in most the cases with the verb having a reporting function, e.g.:

(1) *The trade theory argues that open agricultural trade increases food security by enabling food access (movement of food to countries showing deficit)...* (p. 268, TEXT 5)
(2) *Wang et al. (2012) reported that the TQM elements… are the most significant…* (p. 401, TEXT 1)

These quotative evidential verbs help authors to create a context which enables them to react, reflect and report on previous findings, and to indicate their personal commitment to what is presented and reported.

(3) *Aghion, Askenazy, Berman, Cette, and Eymard (2012) suggest that another reason not to proceed with R&D investments would be the limited credit opportunities during recession, which discourages firms from externally financing their innovation projects. This can affect smaller companies that are more innovation oriented...* (p. 354, TEXT 4)

Previous studies indicate that "to-clauses as stance markers are more evenly distributed across spoken and written registers than that-clauses" (Biber, 2006, p. 108). Our preliminary findings suggest that that-clauses in research articles on economics (in the written academic corpus) are found far more often than any other type of stance complement clause. This may be due to the fact that brevity and condensation of the proposed content realized by non-finite clauses do not play a crucial role, hence academic writers prefer precise explanation and evaluation over brevity and condensation.

A closer look at the research results (Table 2) reveals that epistemic lexical verbs represent the most common class in the studied corpus. As the results in Table 2 show, epistemic meanings of certainty and likelihood are the most dominant categories, which either indicate certainty or near certainty (likelihood). It is worth noting that the semantic category of epistemic certainty reflects a prevalence of objective observation and data analysis, since the use of tables and charts plays a crucial role in research articles in the field of economics. On the other hand, the analysis revealed that attitude verbs, which can be viewed as a typical manifestation of writers' beliefs and evaluations, were distributed only to a limited extent (6.45%). Quite surprisingly, one of the epistemic verbs indirectly related to the category of likelihood – the verb *think* – was not used at all with stance complement that-clauses (neither in its referential nor hedging function). This may be due to the fact that more experienced academic writers

consciously choose other verb types in order to express their personal commitment to given content (e.g. the verbs *to believe* or *to assume*).

(4) *It is expected that the relationships among these constructs could be affected by a moderating factor such as age.* (p. 213, attitude verb, TEXT 2)
(5) *This situation means that its active management forces growth of risk capital in banks, changes their business model or accelerates retention of bank risk through its transfer...* (p. 425, epistemic verb of certainty, TEXT 7)

*Table 2***.** Typology of stance verbs plus THAT-clauses

Stance verbs plus THAT-clause	**Examples**	**%**	**No. of stance verbs**
1.Epistemic verbs		**71.89**	**156**
Certainty	*e.g. find, demonstrate, mean*	***54.37***	***118***
Likelihood	*e.g. assume, believe, think*	***17.51***	***38***
2. Attitude verbs	*e.g. agree, expect, prefer*	**6.45**	**14**
3. Speech act and other communication verbs	*e.g. suggest, emphasize, imply*	**21.66**	**47**

Based on the typology of *stance verbs plus that–clause* adopted from Biber (2006, p.92), it can be assumed that academic writers make use of these clauses in order to:

1. report other authors' research outcomes and findings in the introductory parts of their research papers *(e.g. the authors of the work believe that this two-level approach to involvement may result from a misunderstanding...* (p. 209, TEXT 2);
2. evaluate either other authors' research findings or their own achievements in the field in the introductory parts of their research papers *(e.g. their results also reveal that innovation alone does not significantly affect the macroeconomic environment in the long-run...* (p. 362, TEXT 4);
3. present their own research findings and conceptions and contrast them with others in the Results and Discussion sections of their papers *(e.g. we have shown here that distributive trade sector in the EU countries has an important impact on economic growth...* (p. 504, TEXT 8);

These three functions typically result in fourth and fifth functions

4. protect themselves from possible criticism *(e.g. it is increasingly argued that the next wave of the global economic crisis will be induced by excessive fiscal deficits in the EU states...* (p. 503, TEXT 8);
5. establish a(n) (in)direct contact with their readership *(e.g. apparently, empirical results strongly suggest that the price discovery process takes place neither continuously in the same direction nor with the same intensity.* (p. 480, TEXT 9)

Setting clear boundaries between them is impossible, since they all overlap to a certain extent. Furthermore, it is interesting to notice the extent to which a writer chooses to intrude into a text through the use of first–person pronouns, or in other words to observe authorial presence in academic discourse, which is directly linked to the third function explained above. As the results in Table 3 show, personal pronouns *I* or *We*, or in other words, agent–oriented subjects (ex. 6) indicate that personal reference and the need to be directly linked to the presented arguments and research outcomes are not preferred over a faceless style of writing that avoids projecting the writer's role in a text (ex. 7).

(6) *We find that the bond market explicitly leads in price discovery only from the end of 2008 to the end of September 2009...* (p. 481, TEXT 9)

(7) *The results of this paper demonstrated that the business performance in companies had the positive relationship with TQM OC.* (p. 400, TEXT 1)

Even though this may be viewed as an expected outcome, a closer look at Table 3 reveals that subjects in stance complement that-clauses are predominantly inanimates (see 1. and 2. in the table), representing 61.29% of all the semantic heads in the corpus on stance complement that-clauses. This confirms on one hand the impersonal and distant quality of scientific research writing and on the other hand, it displays non–authorial presence in order to present authors' research findings with the use of writer–oriented hedges, where the writer comments on the content of the proposition and additionally does not take full responsibility for their statement (example 8). In this example the verb *indicate* and the noun phrase *the study* are two principal means by which writer–oriented hedging is grammatically realized. e.g.

(8) *The study indicates that net profit of the analyzed banking sectors increases with a growth of total own funds.* (p. 425, TEXT 7)

This strategy is described by Hyland (1998) as "the construction of abstract rhetors which suggests that the situation described is independent of human agency" (Hyland, 1998, p. 172).

Table 3. Typology of semantic heads in stance complement that-clauses controlled by verbs

Semantic heads	**%**	**No.**
1. Abstract rhetors (results, finding, study, analysis)	47.46	103
2. Pronouns (IT, THIS)	13.83	30
3. Authorship (other authors)	20.28	44
4. Pronouns (I, WE, poss. pronouns/authorial presence)	18.43	40

Table 4. The occurrence of the most common epistemic verbs in corpus: absolute numbers

Types of stance verbs	**Stance verbs**	**No.**
1.Epistemic verbs		
Certainty	Show	34
	Find	26
	Demonstrate	10
Likelihood	Indicate	27
	Assume	4
	Believe	3
2.Speech act verb	Suggest	17
	Imply	4
	Point out	4

Table 4 displays the occurrence of epistemic stance verbs with that-clauses in the available corpus. It can be seen from the results that *show* is the most common epistemic verb in the pattern stance verb plus that-clause. It is interesting to note that despite the prevailing tendency for a non–authorial stance in the studied corpus, if authorial presence occurs in an economics text, in most cases it is directly followed by the verb *show* (examples 9 and 10). Based on the studied examples, *show* (in its epistemic meaning and post-predicative function) refers back to either non–animate (e.g. the results, the findings, the models) or personal pre-predicative noun heads with a clear preference for personal antecedents, comprising 60.79% examples with the verb *show* in post-predicative that–clauses (examples 9 and 10). In these examples the subject is personal; however, example 9 (with a writer-oriented hedge) indicates attribution to other authors or the desire of the author to be indirectly identified with the statement. On the other hand, the next example (10) is viewed as reader–oriented hedging. The use of first–person pl. in this sentence indicates the desire of the authors to be directly identified with the statement and possibly to strengthen their personal role in the study.

(9) *Li, Ranjbar and Chang (2017) have shown that the aforementioned hypothesis can be demonstrated only in the case of Greece...* (p. 477, TEXT 10)
(10) *We have shown here that distributive trade sector in the EU countries has an important impact on economic growth...* (p. 504, TEXT 8)

In this sense, the verb *show* as the most common stance epistemic verb in the economics texts clearly reflects scholars' tendency to express evidence for their statements and intensifies the meaning towards the content of the clause. The slight preference for *show* may reflect the idea that in academic writing the consistency and accuracy of the premise or statement is highly dominant and authors are aware of this prominent function in academic writing. Other lexical verbs such as *suggest* and *indicate* are viewed as more tentative in assessing a relevant context (or *non-factive predicators*). These speculative judgmental verbs can be viewed as a means of mitigation in the corpus. The motivation for their conscious or subconscious choice is definitely pragmatic. Let me illustrate two main functions of *indicate* (conceptually activated in the context) as a stance verb with examples taken from the corpus.

Function – to state or mention facts indirectly and briefly

(11) *It is indicated that an increase of total own funds by 1,000 EUR, ceteris paribus, was related to a drop of return on equity by 0.000064% of the banking sector in Poland and by 0.0015% in the Czech Republic.* (p. 468, TEXT 9)

Function – to suggest strongly, to show necessity

(12) *Nair and Choudhary (2016) indicated that, there is need to consider the role of some QM initiatives such as benchmarking by top management for improving and reaping the benefits in the hospitality industry.* (p. 410, TEXT 1)

3.2. To-infinitive stance clauses controlled by verbs

As has been stated, stance complement clauses controlled by verbs are typically *finite that–clauses,* mainly in a reporting function. Even though stance verbs with follow–up to–infinitive clauses are less frequent than stance that-clauses, it needs to be stated that when used, to-infinitive stance clauses typically refer to writers' sensory experiences and their tentative statements. Referring back to Biber's classification of stance verbs to-clauses, he claims that verbs of desire are the most common class controlling to-clauses, especially in the spoken academic register. His findings (2006, p.108) indicate that verbs of causation-effort (e.g. attempt, allow) are relatively common in written and spoken registers and probability verbs (e.g. seem, tend) are less frequent overall in both registers. However, the results of our investigation suggest (Table 5) that verbs of probability (e.g. tend, appear, seem) were the most common class connected with attempts to present writers' research outcomes or possible implications of their research in scientific research papers written by non–native English writers. e.g.

(13) *Also, the evidence tends to indicate that the cognitive process through which the consumer builds purchase intentions is similar in both communication channels irrespective of age difference.* (p. 218, TEXT 2)
(14) *The results of the present study appear to be consistent with the notion.* (p. 217, TEXT 2)

The verb *tend* is the most common verb in the pattern *stance verb plus to–infinitive clause*. In most of the cases it expresses authors' attempts to comment on the results or methods used and pragmatically to state the uncertainty of their statements. Based on the occurrence of this verb with *to-infinitive* and based on what the data shows, it can be said that the verb *tend* is used to refer to authors' attempts to state the purpose of their work, to explain a procedure, or present their research results via writer-oriented hedges (ex.13 and 14). This reflects the fact that in most cases to-infinitive stance clauses refer to interpretation of authors' claims and research acts, with the inanimate subjects in initial position as e.g. evidence, values, results, innovations. In the rest of the examples taken from my corpus subjects refer to personal reference or the human source of evaluation, mainly to the authors themselves. This is in line with the analysis of stance complement that-clauses controlled by verbs (see Table 3) and confirms that even

though personal reference in academic writing is viewed as a powerful tool which may reinforce the author's role in their research, it is quite evident that in economics research papers written by non-native writers of English, there is an observable tendency towards impersonality grammatically realized by abstract rhetors. Another interesting fact observed is that personal reference or the use of grammatical subjects (e.g. I, we) were typically used with stance verbs of modality and effort (e.g. example 15)

(15) *In our research, we seek to focus on if macroeconomic stability is linked with innovation, or vice versa in an economy.* (p. 352, TEXT 4)

In this connection, I would point out that the category of speech act and other communication verbs is quite rare with to-clauses (6.55% – Table 5). This reflects the fact that these verbs refer to authors' plausible results and findings which are less disputable. (e.g. example 16)

(16) *These research outcomes remind us to provide suggestions for long-term sustainable innovation growth.* (p. 352, TEXT 4)

The contrast between stance to-infinitives and stance that-clauses lies not only in their structural and functional difference, but also in their pragmatic meanings. While stance that-clauses refer mainly to the category of certainty, on the contrary stance to-infinitive clauses are consciously or subconsciously chosen to lessen the risk of a face-threatening act as can be seen from the abovementioned example. In other words, they are viewed as linguistic devices showing a writer's lack of confidence.

Table 5. Typology of stance verbs plus TO-clauses

Stance verbs plus TO-clause	**Examples**	**%**	**No.**
1. Probability	e.g. tend, appear, seem	31.16	19
2. Cognition/Perception	e.g. consider, believe, find	24.59	15
3. Desire/Intention/Decision	e.g. aim, agree, prefer	14.75	9
4. Causation/Modality/Effort	e.g. allow, seek, attempt	22.95	14
5. Speech act and other communication verbs	e.g. claim, discuss, ask	6.55	4

Based on this typology of *stance verbs plus to-clause* adopted from Biber (2006, p.92), it can be assumed that academic writers make use of these clauses mainly to:

1. present their preliminary findings via writer-oriented hedges as in the example *time varying parameter models tend to provide more smoothed changes in parameters that is a better estimate of time variation...* (p. 268, TEXT 5);
2. express the objectives of their research via reader-oriented hedges as in the example *we have tried to evaluate the effects of the agricultural price crisis on...* (p. 270, TEXT 5) where the underlined expression (or reader-oriented hedge) directly refers to personal contribution to research outcomes;
3. express their own beliefs and assumptions via reader-oriented hedges and mental verbs (e.g. *assume*, *consider* or *believe*) as in this example where the reader-oriented hedging expression is underlined: *In this study we consider a different approach to explore the impact on consumer price inflation in a time-varying vector autoregression, when the coefficients evolve according to a transition equation and the variance of the forecast error changes over* time (p. 271, TEXT 5) and refers to the author's personal commitment to methodology of his/her research. This is grammatically realized by direct personal reference or the use of the grammatical subject *I* and the verb of cognition (*consider*).

It is necessary to point out that apart from the above–mentioned categories of stance complement clauses, there were also other complement clauses in the corpus (e.g. *non-finite -ing participle clauses*), which were used to a limited extent and therefore not statistically significant.

4. Conclusion

On the grounds of the results above, it can be concluded that stance verbs in academic research papers play a crucial role in manipulating the context being presented, assessing the credibility of the presented statements or arguments and in some cases demonstrating the lack of the writer's confidence in what he/she is presenting. The analysis of the corpus has shown that stance verbs plus that-clauses are typically viewed as linguistic devices which apart from their main reporting function manifest the author's position in his/her writing. This can be achieved mainly with the use of epistemic lexical verbs as the most common stance verbs indicating either author certainty or likelihood. Based on the research results, evidential quotative verbs are regarded as the most common class of stance verbs which typically refer to what other authors have already researched in the field or to what the author of the paper is strongly convinced of, and to external referents such as data, analysis, etc. The prevalence of non–human subjects with stance verb plus that-clauses is a typical strategy academic writers use in order to show (or not show) their presence in a text. This shift to a more faceless writing is quite significant in my economics corpus and impersonalization is increasingly becoming syntactically expressed by subject or object noun phrases.

Coming back to the concept of stance complement clauses and to the first hypothesis in this paper, an interesting fact can be observed– academic writers prefer stance complement that-clauses to stance complement to-infinitive clauses in their research writing. This clearly shows a growing tendency towards finite stance complement clauses, contradicting a widely held belief that non–finite clauses figure prominently in academic registers and does not confirm the first hypothesis that the frequency of *stance verbs plus to-clauses* as a category of non-finite clauses is higher than the frequency of *stance verbs plus finite that-clauses* in the genre of academic research papers on economics. Of course, due to the size of the corpus these findings require further confirmation, but they can be seen as a prompt for further research. When referring to the pragmatics of their use, it is quite evident that stance verb plus that-clauses with verbs such as *show* and *find* refer to the epistemic category of certainty and stance verb plus to-infinitive clauses, on the other hand, reflect categorical meanings of probability and possibility. These preliminary findings suggest that the concept of stance has its own superior role in the genre of academic writing, but there is a slight change in the expected use of epistemic lexical verbs with complement clauses. Verbs of evidence such as *show* or *find* occur quite often in the corpus, while typically judgmental verbs such as *prefer* or *expect* were not used to the expected extent. This confirms the second hypothesis that the verb *show* is the most common epistemic lexical verb in the available corpus. The findings suggest that research papers from the field of economics demonstrate a clear preference for factive verbs to non–factive verbs, hence they do not indicate the distant role of stance in the genre of research articles. My future studies might seek to examine the role of various factors such as language differences (native versus non-native writers) which may indirectly affect this choice.

To sum up, the way authors present their research results and the strategies they combine in order to present them and to establish their own place within the scientific community is becoming extremely important, since it reflects not only their knowledge in the studied field but also their commitment to shared and generally accepted knowledge and finally, their own position in the scientific discourse community.

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