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How do writers evaluate their own empirical research? A genre-based inquiry into economics journal papers

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Abstract

Genre literature has indicated that academic discourse communities commonly uphold established conventions with regard to the writing of research articles in their respective disciplines. Recent studies have also acknowledged that disciplinary differences exist in the writing of research articles, and this has resulted in numerous investigations into the specific genre features of this text type in various academic fields. An interesting area which has been identified in past research is a rhetorical move that evaluates the study being reported. To date, however, this move on self-evaluation has not been examined at length in a core academic discipline such as economics. Using the latest Swalesian move-step analytical framework, this study aims to analyse the communicative functions of this move in empirical economics research articles and identify its constituent steps. The textual analysis of this investigation was triangulated by a qualitative analysis of spoken data elicited from specialist informants in the field of economics. Our results indicate that self-evaluation of a study is, by and large, a principal or quasi-obligatory move although each of its three steps is optional in economics research reports. These three constituent steps collectively play a pivotal role in putting the research into perspective for the reader after research results are presented. The findings of this study have contributed to the advancement of genre knowledge in that they have shed some light on how instructors can design relevant teaching materials aimed at helping learners to foreground the value of their studies in the later portions of their research reports.

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1. Introduction

Regardless of academic disciplines, academicians around the globe generally recognise the research article (RA) as “the main channel of scientific or scholarly communication” (Holmes, 1997, p. 322) and the “central genre of knowledge production” (Yang & Allison, 2003, p. 365). Due to the prestigious status of the research paper in the eyes of the academic discourse community (Swales, 2004), it is often the genre through which researchers make the results of their work known to others, and further gain recognition for their position in the discourse community. Publication in prestigious and high-ranking journals are therefore seen as a means for discourse community members to attain a higher level in the research community hierarchy, which may then translate into opportunities for career advancement or research grants (Swales, 1990). Thus it is understandable that academic discourse communities generally strive to maintain the quality and standard of the research article (Leki & Carson, 1997; Swales, 1990).

The interest in these academic conventions has generated numerous studies in the past, notably in the field of genre analysis (Anthony, 1999; Brett, 1994; Holmes, 1997; Kanoksilapatham, 2005; Lim, 2006; Nwogu, 1997; Ozturk, 2007; Peacock, 2002; Samraj, 2002; Williams, 1999; Yang & Allison, 2003). One common finding which has emerged from many past genre studies of the RA is that disciplinary variations affect the rhetorical structure and language used in research articles (Kanoksilapatham, 2005; Lim, 2011; Posteguillo, 1999; Samraj, 2002; Swales, 1990). In order to provide a more useful description of the research article genre, it would be necessary to provide discipline-specific descriptions without disregarding the established general conventions of the wider academic discourse community.

Studies into the RAs of different academic disciplines have suggested numerous generic structures for various sections of the RA, which consists of a series of different moves and steps. An interesting move which has been identified by past studies is a move in which writers evaluate their own research. It was found that a form of self-evaluation was occasionally present in RAs of different fields notably with regard to (i) the research results obtained and/or (ii) the overall study. For instance, in a study on sociology articles, Brett (1994) incorporated a communicative category ‘evaluation of finding’, which was actually an evaluation of research findings done either by confirming that the findings match a hypothesis or by highlighting that it was different from the earlier assumed premise(s). Apart from Brett (1994), Lim (2005) also proposed a move (i.e., ‘evaluating findings’) to evaluate research results in his study of management RAs. The three constituent steps (consisting of ‘supporting a hypothesis’, ‘rejecting a hypothesis’, and ‘indicating mixed results’) in Lim’s (2005) proposed move are coterminous to Brett’s (1994) rhetorical categories apart from an additional step where mixed results may be indicated. It should be noted that both Brett’s (1994) and Lim’s (2005) studies were focused on the Results sections of the RAs in the disciplines concerned. Yang and Allison (2003), however, proposed a self-evaluation move in the Discussion section of Applied Linguistics, which they called ‘evaluating the study’. According to Yang and Allison (2003), when writers evaluate their own research, they typically indicate its limitations, significance or advantages, and/or evaluate the methodology used.

It is interesting to note that the findings of past genre researchers seem to indicate that self-evaluation of a study can be done on a narrow scale (i.e., evaluating findings) or broad scale (i.e., evaluating the study). This might be ascribable to the scope of past studies which have focused on individual sections of the typical Introduction-Method-Results-Discussion (IMRD) macrostructure. This study, nonetheless, focuses on examining the presence of a self-evaluation move in economics research articles without being confined to specific sections in order to provide a clearer delineation of how writers evaluate their own work in the RA. The field of economics is chosen as it is a rigorous academic field of study which places massive discursive expectations on its writers (Lung, 2011). The research questions guiding this study are provided as follows:

- (1) What constituent steps are used by economics researchers to evaluate their own empirical research?
- (2) How do economics researchers employ language mechanisms to perform the communicative functions in each rhetorical step?

Using Swales' (2004) move-step analytical framework, this study investigates how economics researchers use a range of communicative strategies and language mechanisms to evaluate their own research reports. The findings are likely to enhance our understanding of the prevalent rhetorical resources employed by economists in the discipline.

2. Research methodology

A corpus of 40 RAs was purposively selected from five high impact economics journals, where eight RAs were each chosen from *European Economic Review*, *Quarterly Journal of Economics*, *Journal of International Economics*, *The Economic Journal*, and *Journal of Development Economics*. To maintain consistency and account for possible and frequent changes in the genre or discipline (Holmes, 1997), the articles were selected from only the last issue of each journal for the year 2008. Special issues were avoided as they were devoted to specific topics and could introduce some bias into the sample (Dahl, 2009; Ozturk, 2007). These 40 RAs in the corpus were then assigned a number (RA1 through RA40) to facilitate identification.

Following established practice in the field of genre analysis (Nwogu, 1997; Posteguillo, 1999), the views of disciplinary experts in economics were sought regarding the reputation of the journals. In addition, the impact factor of each journal was considered by referring to the Institute of Scientific Information (ISI), and only journals with high impact values were incorporated in the sample. As Swales (2004) has pointed out that research publications often contain theoretical pieces, review articles, data-based RAs and other shorter communications, it was necessary to narrow the scope of the sample to only data-driven empirical research articles. This was to ensure that the findings would genuinely reflect disciplinary practices in the presentation of research self-evaluation.

As researchers have agreed that different sections of the research article differ mainly in terms of functions, rhetorical structures and linguistic realisations (Lores, 2004), the data analysis procedures of this current study involved (i) identifying the constituent steps in the move which writers use to evaluate their own research, and (ii) analysing linguistic features that give each step a "uniform orientation and signal the content of discourse in it" (Nwogu, 1997, p. 122). Swales' (1990, 2004) robust two-layer analysis of moves and steps was used, and segments of texts performing self-evaluation functions were divided into distinct units to identify the move and steps.

In this study, the identification of the self-evaluation move and its corresponding steps was done by first looking at explicit text division devices, such as section boundaries, numbering systems, subheadings, paragraph divisions, and other typographical devices (Connor & Mauranen, 1999). Linguistic means that were utilised to identify the move and steps also included looking at boundary indicators, such as discourse markers (connectors and other metatextual signals), tense usage, modality and introduction of new lexical references which signal the rhetorical intentions of writers for each text segment. Since some steps may tend to appear more frequently than others, a step was classified as a principal step only if it appears with 50% regularity in the corpus. In the process of determining the status of 'evaluating the study' in this study, the terms 'obligatory', 'quasi-obligatory' and 'optional' need to be defined here. In accordance to some recent previous studies (Lim, 2010; Soler-Monreal et al., 2011; Yang & Allison, 2003), a move is considered 'obligatory' if it appears in all (100 percent) of the texts, and 'quasi-obligatory' if it occurs in 51 to 99 percent of the texts. Nonetheless, a move is regarded as only optional if it appears in only half or less than 50 percent of the texts. Any patterns of organisation of the move and steps which signal relationships between them were also isolated and their strategy of executing the communicative purpose of writers was identified.

After the self-evaluation move and its constituent steps were identified, the first researcher interviewed eight specialist informants (labelled as Specialist Informants A through H) who were economics experts to obtain their views on the analysis. While some researchers have cautioned against the use of specialist informants as time-consuming and possibly even not yielding consistent views (Swales, 1990), the benefits and insights which they could provide proved useful for this study as the researcher might not be aware of specific conventions or acceptable practices of the field. In this study, the criteria for choosing the specialist informants to be interviewed were based

on Lim's (2006) guidelines, which required that they (i) held doctoral degrees in their academic field, and (ii) had their research articles published in reputed international journals. The specific areas covered by the questions posed to the specialist informants were related to (i) the main structure and kinds of information they deemed essential to be included in evaluating one's economics RAs, (ii) the problems they encountered in presenting the self-evaluation move, and (iii) the areas which they thought should be given more emphasis in the evaluation concerned. These insights gained from the specialist informants were recorded digitally, and every word spoken during the interviews was transcribed before a qualitative analysis was conducted.

3. Results and discussion

In the corpus of empirical economics journal papers, a total of three steps related to research self-evaluation were identified. Specialist Informants C and E were of the view that an evaluation of the overall research is normally done in the final section of an RA (i.e., typically the 'Conclusion' section). Three main areas are highlighted in the evaluation of a study and these areas are connected with (i) whether the study has fulfilled its original purpose for which it was carried out, (ii) limitations of the study, and (iii) significance of the study. Based on these informational elements, the three steps have been identified as Step 1 (i.e., 'comparing findings with a hypothesis'), Step 2 (i.e., 'indicating limitations of the research'), and Step 3 (i.e., 'indicating significance of the research'). The researchers decided not to separate the steps into evaluative steps of a narrow sense (i.e., evaluating findings) or of a broad sense (i.e., evaluating the overall study) as an evaluation of findings also forms part of the total evaluation of the entire study. Table 1 shows the frequency of occurrence of each step within the move. Based on the research methodology of this research outlined earlier, it was found that while all the steps in this self-evaluation move are optional, Steps 2 and 3 have a higher frequency of occurrence (i.e., 42.5% and 45.0 % respectively) compared to Step 1 (i.e., 17.5%).

3.1. Step 1: Comparing findings with a hypothesis

Step 1 handles one of the major questions which needs to be answered distinctly and completely in a research report. This segment is related to whether their results are clear enough to support an initially postulated research hypothesis. Figure 1 shows examples involving research hypotheses in Step 1 and when they are first presented in earlier parts of the journal paper. Three main communicative features are prominent when writers compare their findings with a hypothesis, and these include (i) an indication of the hypotheses (either explicitly indicated or implied), (ii) the use of *locative adjuncts* (e.g., 'in Section 2', 'at the end of Section 3', etc.) that point to the location where the hypotheses were first presented in the RA, and (iii) the use of lexical verbs or adjectives denoting that the findings support the research hypotheses (e.g., 'support', 'supportive', 'consistent', etc.).

When results are compared to a hypothesis in Step 1, there is usually a reference to the hypothesis. While explicit mention of the hypothesis may be found (e.g., 'Hypothesis 1', 'Hypothesis 2', etc.), writers may also imply a reference to the research hypotheses by using noun phrases denoting premise (e.g. 'the primary idea behind the paper', 'our view that capital allocation through credit is distorted under financial repression', etc.). For the purpose of cohesion, *locative adjuncts* (e.g., 'the five hypotheses outlined at the end of Section 3', 'the hypotheses in Section 2', etc.) are sometimes used to point readers to the location where the hypotheses are first presented in the research article.

3.2. Step 2: Indicating limitations of the research

Writers may indicate the limitations of their studies in Step 2 by acknowledging selected shortcomings associated with data collection or analysis procedures. Specialist Informants A and C have noted that economics researchers do highlight or acknowledge limitations of their own studies candidly but this generally occurs in the concluding section to demonstrate the writers' awareness of the importance to improve on the research design in future research. This means that an acknowledgement of research weaknesses in later sections is actually a communicative strategy employed by writers to pave the way for a recommendation of future research. Three communicative strategies are

recurrently used by writers in Step 2 to highlight research shortcomings. These strategies are (i) identifying shortcomings in the study, (ii) providing reasons for the limitations of the study, and (iii) highlighting strengths in relation to existing limitations.

Table 1. Frequency of constituent steps in 'evaluating the study'.

No. of Research Article	Step 1: Comparing findings with a hypothesis	Step 2: Indicating limitations of the research	Step 3: Indicating significance of the research	Total (Steps 1-3)
RA1	0	3	0	3
RA2	0	0	2	2
RA3	1	4	1	6
RA4	0	2	0	2
RA5	0	1	1	2
RA6	0	3	0	3
RA7	0	1	0	1
RA8	0	0	2	2
RA9	0	3	2	5
RA10	0	0	1	1
RA11	0	1	2	3
RA12	0	0	0	0
RA13	0	1	2	3
RA14	0	0	1	1
RA15	0	0	0	0
RA16	0	0	0	0
RA17	0	0	0	0
RA18	0	0	1	1
RA19	1	1	0	2
RA20	2	1	0	3
RA21	0	0	0	0
RA22	2	1	0	3
RA23	0	0	1	1
RA24	0	0	0	0
RA25	0	1	1	2
RA26	0	0	1	1
RA27	0	0	1	1
RA28	0	1	1	2
RA29	0	2	0	2
RA30	0	1	1	2
RA31	0	0	0	0
RA32	0	0	1	1
RA33	0	0	0	0
RA34	0	0	0	0
RA35	1	2	0	3
RA36	0	0	0	0
RA37	0	0	0	0
RA38	1	0	0	1
RA39	1	0	0	1
RA40	0	0	1	1
Total no. of occurrences	9	22	23	61
No. of RAs containing the step	7	17	18	29
Percentage (%) of RAs containing the step(s)	17.5	42.5	45.0	72.5

Presenting research question(s) or research hypotheses (in earlier segments)	Comparing findings with hypotheses (in the self-evaluation move)
As such, we <u>conjecture</u> that VCs preplanning acquisition exits negotiate for stronger control rights in anticipation of a need to force the entrepreneur to acquiesce to an acquisition. A VC may not inform the entrepreneur about a preplanned acquisition if there is concern that the entrepreneur is reluctant to agree with the acquisition. Rather, the VC might indicate to the entrepreneur that the control rights are required by the VC for other reasons unrelated to exits... (RA3: 1214)	Overall, therefore, the univariate comparison tests in Table 5 (alongside the correlation matrix in Table 4) <u>are quite supportive of the hypotheses in Section 2.</u> (RA3: 1224)
Our discussion above can be summarized by five testable implications. <u>Hypothesis 1.</u> The exports of industries where goods are more homogeneous should be invoiced in narrower groups of currencies, or even a single one. The exact choice of currency reflects considerations such as low transaction costs. By contrast, invoicing in industries with highly differentiated goods is likely to be spread across the various currencies. <u>Hypothesis 2.</u> The share of invoicing in the currency of the destination country should be higher for larger countries. Large countries' currencies can also dominate the invoicing of exports to other markets when exporters are constrained to invoice all their exports in the same currency... (RA20: 182-183)	Overall, our econometric analysis <u>provides perspective on the strength of the five hypotheses outlined at the end of Section 3</u> for the cases of the dollar and the euro. We find evidence that homogeneous goods are more likely to be invoiced in a vehicle currency, which in this case is the dollar (<u>Hypothesis 1</u>); that country size matters with exports from relatively small to relatively large countries more likely to be invoiced in the destination currency (<u>Hypothesis 2</u>) and less likely to be invoiced in the exporter's currency (<u>Hypothesis 3</u>). Hedging considerations played only a marginal role (<u>Hypothesis 4</u>), as did transaction costs (<u>Hypothesis 5</u>). (RA20: 191)
In addition to testing the relationship between tariff levels and evasion, we <u>ask what kind of products</u> are more likely to be subject to evasion. We consider Rauch's (1999) definition of differentiated products and <u>argue that</u> for such products it may be easier to conceal their true value. (RA22: 209)	The results, reported in Table 4, <u>support our hypothesis that the positive relationship between the tariff rate and trade evasion is stronger for differentiated products.</u> (RA22: 214)
We <u>argue that</u> if economic policies are determined by the constitutional arrangements we might expect countries with different constitutional arrangements to react differently to exogenously determined income shocks. (RA35: 228)	Our results <u>support the primary idea behind the paper</u> , which is that the well-documented systematic effects of constitutions on different measures of economic policy may also extend to growth promoting policies. (RA35: 236)
If financial liberalization is efficiency enhancing, this variation should be lower when markets—rather than governments—determine the allocation of credit. <u>The hypothesis is that</u> when government controls are reduced or removed, credit is reallocated from firms with low expected returns to firms with higher expected returns, raising expected returns for the former and reducing them for the latter. (RA38: 270)	This is <u>consistent with our view that capital allocation through credit is distorted under financial repression</u> , and that credit booms without sufficient liberalization may harm an economy. (RA38: 278)

Fig. 1. Shifts from research questions and hypotheses to evaluations of the research in economics research articles.

3.2.1. Identifying shortcomings in the study

An identification of research limitations (towards the end of the research article) constitutes the writers' acknowledgement of the shortcomings of their studies after research results have been reported. These limitations are often presented either as (i) domains of analysis the writers were unable to conduct in their studies, or (ii) some possibly overlooked aspects or potential deficiency in the results. Table 2 provides some examples of this sub-step. Writers acknowledge that the limitations of their research are due to specific domains of analysis which they are unable to perform using negative verb phrases denoting inability (e.g., 'unable to empirically distinguish', 'unable to rule out', 'cannot say', etc.). An alternative way in which writers highlight limitations of their studies is by highlighting some deficiency in their results by using noun phrases indicating the possibility that their results require further validation (e.g., 'biased and inconsistent results', 'residuals', etc.) or verb phrases indicating likelihood of bias (e.g., 'may be', 'actually reflecting', 'did not distinguish', 'do not distinguish', etc.).

It should be noted that when writers highlight shortcomings in their studies, they generally explain the shortcomings or furnish reasons for the acceptance of their results despite their research weaknesses. Pertinent reasons are normally linked with strengths of the study or the scope of the writers' research. These sub-steps are explained in the ensuing sections.

Table 2. Communicative strategies for identifying deficiencies in the study.

Communicative strategy	Instance of indicating limitations of the research
Showing domains of analysis that the writer was unable to perform	Regardless, as discussed we were <u>unable to empirically distinguish</u> between these two themes due to an inability to obtain details from the investors as to when the preplanned exit strategy was revealed to the entrepreneur (the vast majority of the VCs did not want to disclose this information). Further empirical work might shed more light on this issue if and where new data can be obtained. (RA3: 1237) Nevertheless, we are <u>unable to rule out</u> possible correlations between the response of capital stock to the treatment and unobserved characteristics such as unmeasured ability or demand shocks. (RA9: 1350) Unfortunately, we <u>cannot say much more</u> on the channels, since the usual control variables exhibit very small within variation. In addition, some of the controls are contaminated by measurement error, which is magnified in (first or mean) differences. (RA29: 1535)
Showing some overlooked aspects or potential deficiency in the results	Thus, <u>the results presented below are conservative</u> in the sense that alternative specifications tend to give more significant results. (RA1: 1171) The fact that the migration stock in (2) basically consists of the previous migration flows and having migration stock on the right hand side may imply that the least squared estimators are subject to simultaneous equation bias, see Alvarez-Plata et al. (2003). In the presence of unobserved country-specific effects in the error term, the lagged migration stock variable will be correlated with the error term. This leads to <u>biased and inconsistent results, especially in short panels</u> . (RA1: 1169, 1171) Robustness is of course a major issue in this type of regression analysis, particularly with so few data points. <u>An important possibility</u> is that the explanatory variable is <u>actually reflecting</u> the effect of some other variables with which it is correlated. These indicators of child labor are essentially <u>residuals</u> and hence do not distinguish between the effects of child labor laws and other factors omitted from the regression that may also influence child labor. (RA4: 1300) It should also be stressed that we <u>did not distinguish</u> between different types of autocracy (e.g. left or right wing dictatorships; personalistic versus bureaucratic regimes) and democracy (presidential or parliamentary). Furthermore the gains from political liberalisation <u>may be</u> larger if they are accompanied by economic reforms or occur in countries that already have in place well-functioning institutions...(RA29: 1547)

3.2.2. Providing reasons for the limitations of the study

Given that different forms of limitations presented may be seen as weaknesses of a study, writers often provide explanations for the limitations to enhance acceptability of their results. The explanations offered are often centred around deficiencies in the data, sample or difficulties in carrying out the data analysis procedures. When limitations are highlighted, however, writers often provide explanations for those limitations. Table 3 shows that writers relate problems in their data in two key areas. The first pertains to insufficient data (e.g., ‘micro data have not been available for the analyses’, ‘we do not have enough post-reform observations’, ‘due to data limitations’, etc.) and the second focuses on the inability of the data to explain certain phenomena (e.g., ‘Our data do not allow us to...’, ‘the line of separation ...is not always crystal-clear’, etc.). Apart from foregrounding shortcomings in a set of data, writers also relate problems in their data analysis procedures as a reason for limitations in their studies. Difficulties in the data analysis procedures are highlighted using adjectives denoting difficulties (e.g., ‘hard’, ‘impossible’, etc.) and infinitive clauses describing idealistic data analysis procedures (e.g., ‘to measure precisely’, ‘to test empirically all of the ways in which empire impacted trade’).

3.2.3. Highlighting acceptable strengths in relation to existing limitations

When writers provide reasons for the limitations in their studies by acknowledging shortcomings or difficulties in analysing the data, they are persuading their readers to accept the overall validity of their research. Figure 2 illustrates how economics writers present this communicative function. Figure 2 shows that a prominent strategy used by writers has to do with how they depict their results as applicable for the purpose of their research and useful in making contributions to the accumulation of knowledge. A strategy that writers use has to do with highlighting the limitations of their findings in such a way that it does not significantly affect the attainment of the objectives of the research, and this is normally framed with reference to the scope or role of the research. Immediately after stating the limitations of a study, writers generally support the limitation with a sub-step that foregrounds an acceptable strength of their studies.

This strategy usually engages the use of noun phrases or verb phrases denoting function or scope (e.g., ‘a building block’, ‘the scope of this paper’, ‘are mainly interested in’, etc.). By reminding readers of the main function

of the research, writers imply that the limitations of their studies may not have irredeemable effect on the overall purpose of their research.

Table 3. Communicative strategies in explaining limitations of the study.

Communicative strategy	Instance of indicating limitations of the results
Showing some deficiencies in the data	We emphasise again that we study “country based selection effects” as <u>micro data have not been available for the analyses</u> . The results might to some extent reflect that due to data availability, migration flows in the present approach are based on aggregate measures, i.e. no distinction can be made between the three main flows of migrants, being job- or study-related people... (RA1: 1180-1181)
	<u>One caveat</u> to this optimistic conclusion is that <u>our sample includes only</u> individuals who ran an enterprise at the time of the baseline sample. Entry may be prevented not by a requirement to invest a large amount of capital, but by the possibility of an initial period of very low profitability. <u>Our data do not allow us to</u> examine this possibility. (RA9: 1370)
	Although the current analysis sheds light on a diverse set of business strategies and policies against counterfeiting, there may be others that are not explored here <u>due to data limitations</u> . (RA13: 1608)
Showing some difficulties in carrying out the data analysis procedures	Although this is in line with the pro-development evidence given so far, we need to note <u>some important caveats</u> : first, there are some <u>endogeneity concerns</u> , since richer countries implemented larger reforms (like Chile or Portugal) while poorer nations only ‘partially’ liberalised their polity (like Bangladesh or Zambia). Second, most ‘partial’ reforms occurred in the 1990s. Consequently <u>we do not have enough post-reform observations</u> . Third, given the conceptual challenges in defining democracy, <u>the line of separation between ‘full’ and ‘partial’ democratisations is not always crystal-clear</u> . (RA29: 1544-1545)
	Of course, our inference is conditional on the ability of our measure to capture the transaction costs in foreign-exchange market, which <u>can be hard to measure precisely</u> . (RA20: 189)
	<u>It may be impossible to test empirically</u> all of the ways in which empire impacted trade. (RA25: 1827)
	The industry-region-year interactions control for industry-region shocks but within-region shocks may be correlated with the price of energy and bias the results. <u>It would not be possible to estimate</u> β_2 with industry-state-year interactions, but I can assess the possible magnitude of the bias by comparing the results in column 1 with a model that includes industry-year interactions. (RA28: 2001)

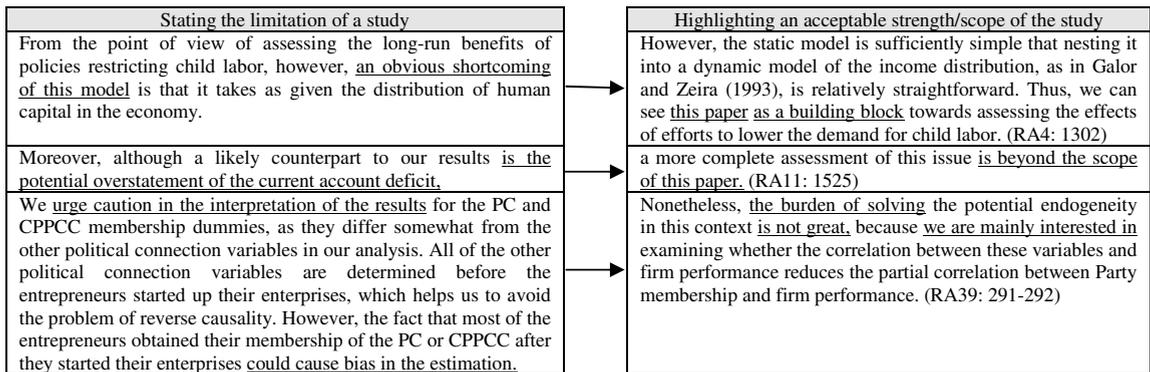


Fig. 2. Shifts to ‘highlighting an acceptable strength or scope of the study’ after a limitation has been acknowledged

3.3. Step 3: Indicating significance of the research

Having considered Step 2 (i.e., ‘indicating limitations of the research’), we may now perceive the extent to which it is important for writers to handle potential objections to any limitations which they choose to acknowledge in their research article. This may be a strategy on the part of the writers to boost the acceptability of their results. Another way in which writers augment the acceptability of their results is through highlighting the significance of the findings in Step 3, which is a relatively direct way of saying that the findings are of considerable value and they contribute to knowledge construction in the field, compared to the earlier step (Step 2) which provides counter-claims to limitations for the same purpose.

It is in this step that significance of research results are highlighted in relation to either the academic world or to the real-world. Two communicative strategies are often utilised by writers to this end, and they involve (i) indicating a gap-filling role of the results, and (ii) pointing out some contributions to existing knowledge. When writers indicate a gap-filling role of the results, they are essentially claiming that their research findings have helped to provide answers to some topic area(s) to which others have not supplied any information before. Nevertheless, sometimes there is considerable existing knowledge in a field and writers need to merely show how their new findings actually add to the available knowledge in economics. Such additions to knowledge are also presented as significant because the writers' research findings could provide additional support to a topic, or provoke further thoughts about an on-going debate. Table 4 shows instances of these strategies.

Table 4. Communicative functions involved in indicating the significance of the findings.

Communicative function	Instance of indicating significance of the findings
Indicating a gap-filling role of the results	In our view, this is <u>an important finding</u> since few, if any, existing empirical studies in this literature incorporate lagged dispersion, which may have <u>significant implications</u> for the results. (RA2: 1199)
	To my knowledge, <u>this study is the first attempt to combine theory and empirics</u> to unveil the economics of counterfeits. (RA13: 1606)
	This correlation <u>had not been established previously</u> , and so is interesting in its own right. (RA30: 1781)
Indicating some contribution to existing knowledge	These results <u>add to growing evidence</u> that the provision and framing of information may be an important tool that policy makers can use when choice is introduced to increase efficiency in public goods markets (Choi, Laibson, and Madrian 2006; McFadden 2006; Winter et al. 2006; Hastings and Tejeda-Ashton 2008; Kling et al. 2008). (RA10: 1413)
	We have focused on this industry in particular because it offers a good setting to empirically identify the causes and effects of interest, and therefore <u>to add to the still sparse empirical literature</u> on the threat of entry. (RA14: 1632)
	The implications of these findings for the theoretical literature are potentially relevant. The importance of international knowledge flows <u>provides support for a number of models</u> that allow comparative advantage to be determined endogenously and to display mobility over time. (RA18: 164)
	An emerging literature building on Rauch's (1999) paper has demonstrated some unique characteristics of trade in differentiated products. This paper <u>contributes to the literature</u> on differentiated products by postulating that such products may be subject to <u>greater tariff evasion...</u> (RA22: 221)
	The channels that we have identified nevertheless account for a significant amount of the cross-sectional variation in empire and <u>help to shed additional light on</u> the 'empire effect' reported earlier in the article. (RA25: 1827)
	Besides its immediate implications for the forecast of the borrowing cost (and, as a result, the fiscal sustainability) of emerging economies, this finding <u>contributes to the debate</u> about the nature of emerging market stability, specifically on the degree of exogeneity in the determination of the highly volatile borrowing costs faced by emerging economies – a major source of financial distress in the recent past. (RA26: 1934)

Table 4 exemplifies the strategies used by economics researchers to highlight the significance of their studies. Writers may use adjectives denoting importance to pre-modify noun phrases (e.g., 'an important finding, significant implications') that highlight the value of their work. This is done as they indicate the gap-filling role of their study via determiners which show scarcity in existing literature or other determiners that show that the writers' work is the first in the research area (e.g., 'few... existing empirical studies in this literature incorporate lagged dispersion', 'this study is the first attempt to combine theory and empirics', etc.). Even when the writers' study does not constitute the first to be conducted in the field, significance is highlighted with reference to some contribution to existing knowledge. Such significance is indicated via verb phrases denoting contribution (e.g., 'add, 'provides, 'contributes', 'help', etc.). Overall, it can be said that Step 3 is used by writers to foreground the overall strength of their studies and to provide answers to gaps which are indicated in an earlier introductory section, thus highlighting the role of the study in contributing to the knowledge pool.

4. Conclusion and pedagogical implications

This investigation has shown that the three constituent steps of 'evaluating the study' in economics RAs are all optional as each of them appears with less than 50% frequency in the corpus. Nevertheless, it is interesting to note that in 72.5% (29/40) of the RAs, at least one of the steps of self-evaluation of the study can be identified. This suggests that 'evaluating the study' is, by and large, a principal or quasi-obligatory move in economics research reports. We therefore propose that self-evaluation of the research being reported is a major communicative move after writers have presented their research results. Step 1 (i.e., 'comparing findings with a hypothesis') resembles the communicative categories proposed by Brett (1994) and Lim (2005) as it evaluates whether research results support

initially reported hypotheses. Step 2 (i.e., ‘indicating limitations of the research’) and Step 3 (i.e., ‘indicating significance of the research’) are comparable to the communicative categories proposed by Yang and Allison (2003) for ‘evaluating the study’.

More precisely, Step 1 (i.e., ‘comparing findings with a hypothesis’) does not appear to be used extensively in economics journal papers. Our specialist informants attributed the low incidence of Step 1 to economics writers’ greater tendency to state their research objectives rather than to use hypotheses to guide their investigations. This explains the relative lower frequency of Step 1 since this step is commonly used to tie findings directly to earlier sections of the RA. The existence of Step 2, which occurs in 42.5% of the economics RAs, indicates that economics writers are not averse to highlighting their own research shortcomings. Nonetheless, they often strategically downplay the effects of the limitations that they have acknowledged by highlighting an acceptable strength of their studies or by reminding readers of the reasonable scope of their research. In addition, our specialist informants have indicated that an identification of research limitations is a communicative strategy which writers use to pave the way for a recommendation of future research. Finally, among the three steps of the move ‘evaluating the study’, Step 3 (i.e., ‘indicating significance of the research’) appears most frequently, thus suggesting that economics writers have a greater propensity to foreground their contributions to the discourse community. Overall, the rhetorical and linguistic strategies identified in this study may be recommended for the teaching of English for Specific Purposes (ESP) targeted at economics majors. It is important for instructors to ascertain the linguistic resources required to achieve the communicative intentions of writers in evaluating their own studies. Highlighting the most prevalent lexico-grammatical structures employed in this principal move may therefore help instructors to familiarise novice writers with the useful language resources needed to present research reports in this established discipline.

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