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Rhetorical impression management in the letter to shareholders and institutional setting: A metadiscourse perspective.

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1. Introduction

We investigate rhetorical impression management (IM) in the letter to shareholders (LtS) using linguistic style properties of the narrative and how these tend to co-occur. The rhetorical perspective that we apply, builds on metadiscourse, a rhetorical domain that tends to regulate the interpersonal and communicative function of language (Crismore, 1989)[1]. Metadiscursive devices are instruments by which message content is made coherent, intelligible and persuasive to a particular audience (Hyland, 2005). The linguistic style features that we investigate, are typically interactional and go beyond the thematic and propositional content of the text (Hyland and Tse, 2004). They moderate the expressiveness of the narrative and tend to guide the audience on how to understand, assess and respond to its topical content. Our primary objective is to elaborate and substantiate replicable archival-based measures of rhetorical IM traits based on composite style features of the text. As linguistic style markers are likely to be used interdependently, we use factor analysis to establish co-occurrence patterns among key style variables. This approach allows to take into account pragmatic interdependencies of individual style features. In addition, we qualify the rhetorical relevance and pragmatic meaning of the documented composite profiles by relating them to narrative features and company-specific determinants of IM behaviour that have been documented in prior research on accounting narratives. Where style features of accounting narratives have been used in prior (quantitative) archival research (*e.g.*, Cho *et al.*, 2010; Li, 2010; Merkl-Davies *et al.*, 2011), they are mainly examined in a stand-alone mode or intermingled with topical content features without much attention to how they tend to empirically co-occur to establish rhetorical structures through which rational, affective or confidence-sustaining appeals

materialize.

A second objective is to investigate the institutional and organizational relevance of the verbal mechanisms that we elaborate, by examining how a company's institutional context affects incentives and constraints for rhetorical IM. We do so by investigating how country-level institutional differences between US and UK companies affect rhetorical style profiles.

Our results document three dominant style profiles: an emphatic acclaiming orientation, a more cautious plausibility-based framing position and a logic-based rationalizing orientation. Although all three rhetorical profiles capitalize on style features that underpin the persuasiveness and interpersonal effect of the message, they represent distinct self-presentational logics and hold different drivers. The first two profiles are pragmatically qualified as respectively assertive (prospective) and defensive (retrospective) verbal behaviour, while the third, cognition-based pattern is primarily driven by higher information asymmetry due to more intangible business models. Where the assertive profile stresses agency, involvement, purposiveness and certainty to create meaning for the audience, the defensive pattern is more conjectural and indicative of uncertainty, using hypothetical language and providing for plausibility and retrospective coherence, rather than directness and certainty to make things meaningful. The cognition-based dimension stresses causal transparency and may operate both in a retrospective and prospective mode.

Our findings document that company-specific financial determinants only marginally affect the prevalence of the dominant rhetorical profiles. The rhetorical mechanisms tend to be decoupled from financial performance framing, which has been the focus of prior IM research in accounting. Our results suggest that they superimpose a sense-giving layer beyond financial performance talk, with the latter covering on average less than one fourth of the content of the LtSs in our sample. In this respect the rhetorical IM devices that we document are clearly different from IM features documented in prior empirical accounting research. Interestingly, the three rhetorical coping

mechanisms differently affect the overall readability of the narrative. Where the assertive and defensive rhetorical patterns increase the readability of the text and, thus, its persuasive potential due to more easy accessibility of the key messages, the cognitive rhetorical pattern adds meaning and transparency by providing causal knowledge, but at the detriment of readability measures that have been commonly used in prior narrative accounting research. This finding may affect inferences from prior narrative research that looks into the ‘obfuscation’ hypothesis with regard to the readability of accounting narratives (Clatworthy and Jones, 2001; Curtis, 1998; Li, 2008) and points to the need to clearly distinguish reading ease, understandability and causal knowledge building.

After controlling for company-specific financial determinants of narrative content, all three composite profiles show to be significantly more intense in US than in UK companies, suggesting that incentives for rhetorical IM are significantly stronger in US companies. These tendencies are, however, attenuated (for the assertive and cognitive profile) or strengthened (for the defensive profile) by potential institutional scrutiny issues in the US setting.

Overall, our findings add to the literature on IM in narrative corporate reporting in different ways. First, we build replicable composite linguistic style patterns, elaborating their IM propensity and clearly distinguishing style features from content properties. While prior empirical research using linguistic features usually relies on single-dimension linguistic characteristics, such as the ‘tone’ of the text or the use of personal pronouns, we investigate how different style features co-occur. We document the prominence of the profiles and investigate correlates and determinants of their use. Moreover, our findings show that they operate in a highly decoupled mode from financial commentary and in that sense complement more direct performance-related IM mechanisms. The assertive and defensive rhetorical mechanisms are clearly distinct from the logic-based rationalizing style, and, thus, complementary to self-presentational attribution

behaviour that has been documented in prior narrative accounting research (*e.g.*, Aerts, 2005; Clatworthy & Jones, 2006; Hooghiemstra, 2003). The plausibility-based defensive style is also intrinsically different from other defensive biases that have been documented in prior research. The divergent readability effect of the defensive rhetorical pattern and of the cognitive rhetorical style reveal new critical inferences to take into account when investigating the narrative obfuscation hypothesis based on readability metrics. Moreover, our research describes cautious plausibility-based rhetorical framing as a defensive alternative to obfuscatory language use, but with clearly different readability consequences. Our findings thus offer new insights to prior findings on the range of IM devices in corporate narratives and their underlying rationales. They enhance our understanding of the repertoire, diversity and multidimensional nature of IM in those narratives.

We also contribute to the literature by documenting empirical evidence of how incentives and constraints for rhetorical IM in the LtS relate to differences in internal and external corporate governance arrangements that are common in a company's institutional environment. By investigating rhetorical style of the LtS in a cross-country setting, we provide additional support for studies that elaborate on how country-level institutional differences tend to affect narrative reporting (Aerts and Tarca, 2010; Beattie and McInnes, 2006). We show how differences in style profiles relate to more finer-grained institutional contingencies than broad cultural differences. In this respect we also add to the literature of how institutional scrutiny and litigation-related concerns may impact disclosure behaviour (Francis *et al.*, 1994; Rogers *et al.*, 2011). We expect this to be of interest to preparers, investors and regulators.

In the remainder of the paper, we first develop the theoretical background of our study. Next, we introduce the research design, describe and analyze our data, and present our research results. In the final section we discuss our results and conclude.

2. Theoretical framework and development of research questions

The LtS, although not mandated, is a prominent part of the annual report. As the letter is personalized and signed [2], it is taken to represent top management's construal of the most prominent corporate events and achievements, their context and embedded beliefs and values. By providing both the content of corporate outcomes and events and the appropriate cues for evaluating them, the LtS is a key sense-giving instrument (Conaway and Wardrope, 2010), capable of provoking interpretive and affective reactions that go beyond a mere factual overview of the company's performance and progress (Amernic *et al.*, 2010; Yuthas *et al.*, 2002). A striking observation is the varying mix of themes and the sometimes relative paucity of financial information in the LtS (Conaway and Wardrope, 2010), offering considerable leeway to elaborate issues of priority, agency, blame, control and responsibility. In this regard, several mechanisms have been identified to affect audience perception through selectivity and bias of the narrative's content (*e.g.*, Leung *et al.*, 2015; Merkl-Davies and Brennan, 2011).

Although prior IM research on accounting narratives heavily relies on their thematic and propositional content, other linguistic devices exist that are helpful in organizing and evaluating propositional content in such a way that readers are guided and directed to how they should understand, appraise and respond to the information presented (Crismore *et al.*, 1993). The use of such interactional linguistic devices is reflected in characteristics of text structure which go beyond thematic and propositional content and signal the communicator's stance to the message. Applied linguistics tends to differentiate in this regard style words from content words. Style words reflect the 'how' of communication, whereas content words establish the 'what' of the message (Tausczik and Pennebaker, 2010). Style words indicate mechanisms by which meaning is conveyed to the audience and add a sense-giving layer to content words. Hyland (1998) refers to these linguistic

devices as metadiscourse and connects these elements with rhetorical mechanisms through which rational, credible and affective appeals materialize that support the persuasiveness of the message. This perspective resonates with Goffman's (1959) arguments on the importance of 'face' in IM, which largely depends on communicative devices to control audience reactions to communicated content (Solomon *et al.*, 2013) [3].

2.1 Interactional linguistic devices and their interplay

Several scholars (*e.g.*, Crawford Camiciottoli, 2010; Dragsted, 2014; Hyland, 1998, 2005) have used linguistic style features to investigate rhetorical language in corporate reports. The style features that they study, are part of an array of metadiscourse markers that enable a writer to connect with the audience by expressing the author's stance and engaging with the reader (Gillaerts and Van de Velde, 2013). They are argued to be highly instrumental to materialize the rational ('logos'), credible ('ethos') and affective ('pathos') appeals that are core to the classical Aristotelian concept of rhetorical communication. These appeals represent three distinct, but often intersecting and inseparable dimensions of constructing persuasive messages. Studying corporate annual reports, Hyland (1998, 2005) documents how metadiscursive markers help the author to interact with the audience and contribute to such appeals.

Interactional linguistic markers go beyond matter-of-fact reporting and reflect purposive editorializing, guiding the audience towards a preferred mindset. Editorializing reveals knowledge, beliefs and attitudes as embedded in cognitive processes and affective appraisals of the communicator. In line with prior research on metadiscursive mechanisms (*e.g.*, Crismore *et al.*, 1993; Hyland, 2005), we focus on the use of causal language and other cognitive devices (engagement markers, directive language, hedges and boosters), self-references and attitude markers as metadiscursive devices. We select these stylistic devices as they have been studied in

prior corporate disclosure research (*e.g.*, Clatworthy and Jones, 2006; Crawford Camiciottoli, 2010; Merkl-Davies *et al.*, 2011; Thomas, 1997; Zhang and Aerts, 2015) and have been shown to hold IM relevance in a financial reporting context.

Causal language (*e.g.*, ‘therefore’, ‘as a result of’, ‘affect’) is instrumental to establish logico-semantic relations between propositional content and, thus, appeals to the reader’s sense of rationality (Hyland, 1998). By linking ideas and arguments it presents the message in an inferential frame (*logos*) and tends to guide the reader’s interpretation of content in a direction preferred by the communicator (Palmieri *et al.*, 2015). This may be done in both a retrospective and prospective mode. Prior corporate reporting research documents that causation markers and causal connectors are strategically used by companies to support claims and draw conclusions (Hyland, 2005) and to persuasively respond to accountability predicaments (Ciani and Kaplan, 2010; Zhang and Aerts, 2015).

Persuasive messages also depend on cognitive mechanisms and personalisation efforts that create an interpersonal context for sustaining an image of a credible and considerate communicator (Hyland, 1998). Engagement markers, directive language, hedges, boosters (or certainty expressions) and self-mentions are important in this respect. They tend to mark and signal the presence of an authoritative, capable and honest communicator (Leibbrand, 2015). This is realized by referring to insight processes suggestive of learning and understanding and that engage the reader (*e.g.*, ‘inform’, ‘consider’, ‘know’), the use of obligation modals (*e.g.*, ‘ought’, ‘must’, ‘should’) that direct how one should behave or think, hedges (or tentative/cautious language such as ‘probably’, ‘perhaps’, ‘guess’ and ‘might’) that create distance from the content and signal that the propositional information is only presented tentatively, and expressions of certainty (like ‘certainly’, ‘definite’, ‘obvious’) that signal the communicator’s assurance and conviction in the propositional content. Comparing the content of LtSs and MD&A reports, Hyland (1998, 2005) reveals significantly more use of these

cognitive markers in LtSs than in management commentary, pointing to the distinctive rhetorical nature of both documents and the stronger IM propensity of the former. Tentative words or hedges may be especially important in this regard, as they make things fuzzier and, in doing so, increase interpretational variety and flexibility and decrease the risk of commenting inaccurately on organizational performance. The aforementioned cognitive mechanisms are usually linked to the element of credible appeal ('ethos'), although a specific linguistic style feature may in practice support more than one rhetorical strategy. Insight language may be used to build a trust relationship with the reader, but may equally support a rationalizing stance or a more affective engagement with the reader. Such interdependencies may also apply to the use of self-references. Self-references through the use of personal pronouns, make a message more affective and personal. It explicitly connects the communicator with the message and increases the personal identification with message content. By blurring the line between different stakeholders, it fosters affinity, builds corporate identity and resonates better with the audience (Wang *et al.*, 2012). Hyland (1998) and Wang *et al.* (2012) reveal extensive use of personal pronouns, especially of the first-person pronouns like 'I', 'we', 'our', in the LtS of US companies. Thomas (1997) demonstrates a positive association between company performance and the use of the pronoun 'we'. Clatworthy and Jones (2006) show that profitable companies are significantly more likely to use personal pronouns than unprofitable companies. Yuthas *et al.* (2002) show that companies with negative earnings surprises use less self-references, suggesting that in a negative performance environment companies focus more on groups and events outside the company. Taken together, these authors generally argue that the use of personal pronouns and related self-referencing allows the company to acclaim and internalize positive outcomes. By contrast, omitting personal pronouns in case of bad performance tends to disconnect the messenger from the message.

Attitude makers (affective qualifiers) are a direct way to incorporate affective appeal in the

message. They reflect the communicator's personal evaluation of what is being reported and determine the tone of the message. It allows the communicator's presence and assessment to be felt. The tone of a message is a function of both content and word choice. A more positive tone can be achieved by selectively focusing on positive content and by describing events and outcomes in a positive way (Henry, 2008). Most prior research on tone in corporate narratives has stressed content-based selectivity and search for positive news. From a linguistic style perspective, we stress, however, the use of affective qualifiers (positive and negative emotion words) instead of content-based tone measures. Positive and negative emotion words capture words with positive (*e.g.* 'pride', 'bright', 'confident') and negative connotation (*e.g.*, 'blame', 'unpleasant', 'sad') respectively, independent of the nature of the content discussed (*e.g.*, good versus bad performance news). Prior corporate reporting research has also implicitly used this type of tone analysis (*e.g.*, Davis *et al.*, 2012). A positive tone allows companies to focus on leaving an optimistic impression and to signal potential for improvement and progress. The combination of positive attitude markers and personal pronouns is assumed to underpin the rhetorical power of pathos (Leibbrand, 2015).

Given the fragmented evidence in corporate reporting research of the rhetorical use of style markers, we will explore rhetorical IM in LtSs using the aforementioned linguistic style features in a more holistic way by investigating how they co-occur in the LtS [4]. In practice, linguistic style features are usually not used in isolation, but are combined to arrive at a convenient stance (Gillaerts and Van de Velde, 2013). Expressions of affect, evidentiality and hedging are often practiced in an interrelated way whereby one linguistic characteristic may serve pragmatic functions for another characteristic (Precht, 2000; Leibbrand, 2015). It is the interplay of style features that may significantly affect the strength of rhetorical appeals. Therefore, it is useful to investigate style markers in an integrated way in order to identify common stylistic patterns. Factor analysis has been used frequently in discourse analysis in order to identify discourse structure (Biber *et al.*, 2007;

Pennebaker and King, 1999). We will use it to analyze co-occurrence of stylistic markers in order to identify dominant style patterns.

Rhetoric may serve proactive as well as reactive perception management (Bolino *et al.*, 2008; Brennan and Merkl-Davies, 2014). Proactive IM aims at establishing a positive message and identity for an audience, most likely through verbal statements of accomplishments, abilities, plans and agency. It is not merely initiated as a reaction to situational demands. Reactive IM is mainly defensive and it is typically initiated as a response to an accountability predicament or to a controversial situation in which negative and undesirable qualities may be attributed to the company.

Our first research question (RQ1) rests on the rhetorical potential of non-content text features as documented in the literature on metadiscourse and in prior research on accounting narratives. RQ1 aims to extract empirical metrics of the most salient rhetorical IM patterns based on composite measures of style markers (also referred to in this study as rhetorical profiles). We have no *a priori* expectations regarding the nature of the dominant rhetorical profiles in the LtS, although we expect that both retroactive and proactive IM tendencies will be corroborated, depending on firm-specific incentives and constraints for IM. Which type of rhetorical IM is more prevalent in LtSs is, however, an empirical question. We will further qualify the IM features of the composite measures by (1) interpretation of nature and loadings of factor components, (2) correlational analyses of the composite measures with complementary text features, and (3) multivariate analyses of the documented rhetorical profiles. In the next section we will elaborate our second research question (RQ2) into two hypotheses on the expected impact of country-level institutional differences on the prominence of the style-based rhetorical profiles.

2.2 Country-level institutional differences and rhetorical IM

Although the UK and the US have highly similar institutional and capital market characteristics, there remain salient differences in their respective corporate governance arrangements that may differently affect rhetorical IM in these countries (Beattie and Jones, 1997). Marked differences exist in prominence of private shareholders and shareholder engagement, in nature of institutional investor involvement, in CEO power, CEO compensation, institutional monitoring and securities litigation (Aguilera *et al.*, 2006; Copland, 2011; Mallin *et al.*, 2005). We argue that these country-level institutional differences, in the aggregate, are likely to promote more intense rhetorical IM in the LtS of US than of UK companies, while constraining assertive types of rhetorical IM more in the US than in the UK. Appendix I provides an overview of key differences in corporate governance arrangements between the US and the UK and how they are expected to affect rhetorical IM. Regulation-related impact on impression management is expected to be highly endogenous with the corporate governance arrangements discussed and would be captured by the institutional monitoring and litigation risk differences between the UK and the US.

IM scholars commonly identify the goal-relevance of impressions and the value of desired outcomes as primary factors affecting IM motivation (Bolino *et al.*, 2008; Leary and Kowalski, 1990; Westphal and Graebner, 2010). Desired outcomes of IM can be interpersonal (such as sustaining an image of a competent and trustworthy agent) and material (such as support for lucrative compensation arrangements). Goal-relevance of impressions will depend on the primary target audience. In this regard, the LtS is generally seen as especially influential towards private investors (Bartlett and Chandler, 1997; Hooghiemstra, 2010; McInnes *et al.*, 2007) and related IM will be more relevant when private investors constitute a larger part of a company's investing public. Higher prominence of private investors would heighten the relevance of desired impressions as it increases the publicity of reporting behaviour and the probability that the messages conveyed will attract more attention and that more people will learn about it and be affected by it (Leary and

Kowalski, 1990). In this regard, US share ownership tends to be generally less engaged and more dispersed than its UK counterpart, with private investors being more prominent. Another factor affecting the goal-relevance of IM involves the type of interaction (such as the frequency of contact and the nature of potential feedback) one expects to have with the target audience (Leary and Kowalski, 1990). The more short-term outlook of investors in US listed companies makes that US companies are more frequently confronted with shareholders who want to influence corporate management both directly through shareholder activism, and indirectly, by voicing further arguments for government regulation (Copland, 2011). The attitude and behaviour of active private investors and shareholder value oriented institutional investors may heighten awareness for and salience of external impressions and hold considerable incentives for IM.

The value of desired outcomes is a second primary antecedent of impression motivation (Leary and Kowalski, 1990). Country differences in CEO power and CEO compensation may be important in this respect, as sustaining leadership identity and impressions of managerial competence may be crucial in justifying power and pecuniary differentials. A striking difference in institutional arrangements between UK and US companies resides in the issue of CEO duality. The predominance of a dual leadership structure in which the roles of the CEO and the Chairman of the Board are split, tends to considerably constrain CEO power in the UK compared to the US. Dedman (2002) shows that after the implementation in the UK of the recommendations of the Cadbury Committee in 1992, companies' governance practices effectively reduced the agency cost of managerial entrenchment, enhanced board oversight with respect to financial reporting and top executive discipline and improved effective monitoring of executive action. In the US, the majority of the CEOs is also the Chairman of the Board, leading to more concentration of power in the *persona* of the CEO and inhibiting effective monitoring from outside the corporate hierarchy. Davidson *et al.* (2004) find that CEOs in a dual role were more likely to manage impressions,

arguing that they have more direct power to control impressions when releasing information and that they are confronted with stronger performance expectations. Together with stronger performance expectations, perceptions of power concentration will increase the need to justify such valued interpersonal outcome by nourishing an image of charismatic leadership, managerial competence and trustworthiness (Fanelli *et al.*, 2009; Gardner and Avolio, 1998). Relatedly, concentrated power will also increase the publicity and salience of CEO behaviour and, thus, the goal-relevance of IM.

Consistent with greater CEO power in the US, CEO pay and share-based compensation are also much higher in the US than in the UK (Canyon and Murphy, 2000), increasing the material value of desired outcomes. The prevalence of share-based compensation holds direct incentives to promote an environment capable of sustaining a high share price, at least in the short run. IM in performance reporting is generally considered to be highly instrumental in this regard (Hooghiemstra, 2010; Merkl-Davies and Brennan, 2010).

Taken together, we expect that these country-level institutional differences in external and internal governance systems, affecting both the goal-relevance and potential benefits of impressions, hold stronger incentives for rhetorical IM in US companies than in UK companies. So, we hypothesize:

H1: Rhetorical impression management tendencies in the letter to shareholders will be stronger in US companies than in UK companies.

2.3 Credibility concerns and institutional scrutiny

Credibility concerns may affect the type and intensity of rhetorical coping devices. Prior research suggests that credibility concerns with regard to accounting narratives are related to the plausibility of the message and that their impact tends to be strengthened by institutional scrutiny forces (Aerts

and Tarca, 2010; Mercer, 2004; Rogers *et al.*, 2011; Shaw *et al.*, 2003). Message credibility will depend to a large extent on the degree to which the message resonates with the audience's background expectations, which may largely depend on prior evidence of company-specific performance. In this regard, IM in accounting narratives has been shown to be particularly sensitive to the relative stability of the company's performance history (Aerts, 2005; Salancik and Meindl, 1984). High volatility of past performance and, thus, a less stable performance track record suggests lack of managerial control (Salancik and Meindl, 1984). This may undermine the credibility of self-promotional types of rhetorical IM and strengthen the need for a more defensive rhetorical strategy (Aerts, 2005; Hooghiemstra, 2003; Mercer, 2004).

Credibility concerns may become especially important when institutional scrutiny forces are strong. Litigation risk, for example, tends to constrain self-promotional behaviour and overt acclaiming rhetorical strategies, while encouraging more defensive rhetorical postures. Litigation risk brings companies to write longer reports, offer more extensive elaboration to shield them from litigation when reporting poor performance and manage disclosure tone (Bloomfield, 2008; Francis *et al.*, 1994; Rogers *et al.*, 2011). Nelson and Pritchard (2007) find that companies facing higher litigation risk use longer cautionary disclosures. Institutional scrutiny affects properties of explanatory behaviour as well. It tends to attenuate self-serving causal disclosures and feeds a preference for formal language explanations of performance outcomes and explanation patterns that are litigation-proof (Aerts *et al.*, 2013).

The impact of credibility concerns on voluntary disclosure and management commentary may be significantly different in the US and the UK institutional environment due to differences in expected regulatory and litigation costs of disclosure (Aerts and Tarca, 2010). The US represents a much more litigious environment with stronger regulatory and investor monitoring than the UK (Aguilera *et al.*, 2006). Graham *et al.*, (2005) show that litigation concerns with regard to financial

disclosure rank high in the US, whereas in the UK disclosure-related risk of lawsuits are reported to be of much less or low importance (Beattie and Smith, 2012). Overall, these considerations bring us to expect that in the US, where disclosure-related litigation risk is significantly higher than in the UK, the impact of litigation concerns on the rhetorical style of the LtS is stronger than in UK companies. Moreover, given that issues of message credibility will be more easily detected and exposed in a high scrutiny environment (Graham *et al.*, 2005), we expect that the effect of performance history on rhetorical behaviour will be stronger for US companies than for UK companies. So, we hypothesize:

H2: Credibility issues (litigation risk and message credibility) will more strongly affect rhetorical impression management tendencies in the letter to shareholders of US companies than of UK companies.

3. Data and method

3.1 Sample selection

Our sample covers 100 US and 100 UK companies from four broad industries categories (Food, Retail, Pharmacy and High tech) over a five year period. We use a restrictive industry-based sample selection procedure in order to control for industry effects on narrative content, but allow variance with regard to the importance of intangibles, which has been shown to provide strong incentives for voluntary disclosure and to affect explanatory disclosures and related IM to a considerable extent (Aerts and Tarca, 2010; Lev and Zarowin, 1999; Tasker, 1998). We use SIC codes to select and identify the four industry groups for our sample: two low intangible-intensive industries (Food – SIC 20 and Retail – SIC 52 to 59) and two high intangible-intensive industry groups (Hitech - SIC 35/73/36/38/48 and Pharma – SIC 283). The selection of the high tech group is consistent with prior

literature (e.g., Bushee *et al.*, 2003). The Compustat Global database comprises 2,091 US companies and 367 UK companies for the selected industries for which at least six years of data were available up to 2010. We ranked the companies in each country and industry group according to size (total assets at the end of fiscal year 2009) and divided each section into quartiles. In each quartile, we randomly selected six to seven companies. Following this procedure, we obtain a sample of 50 (100) companies in each industry group (country). US companies are, on average, larger than UK companies. We decided not to size-match the sample between countries in order to representatively cover the whole industry population in each country. Company size is, however, controlled for in the multivariate data analyses.

3.2 Data collection

We download the annual reports of fiscal years 2006 to 2010 in pdf-format from the company website. After deleting photographs, graphs, charts, logos and tables, forms of address (such as ‘Dear shareholders’) and greetings (e.g., ‘Yours faithfully’), file name references and text continuation indicators, the LtS is converted into computer readable text format. Headlines are retained in the final text file. Due to missing letters, our final sample of LtSs comprises 498 company-year observations from the USA and 479 from the UK[5]. We use the Compustat Global database to collect the financial variables over the sample period.

3.3 Text analysis

We collect linguistic style data using automated text analysis procedures. We use *Linguistic Inquiry and Word Count* (LIWC), an automated text analysis program developed by psychologists to examine affective, cognitive, and structural linguistic components of written discourse. LIWC is a probabilistic device that analyzes samples of text on a word-by-word basis and calculates the

number of words that match pre-defined word categories. This program has been extensively tested in numerous social psychology studies (Tausczik & Pennebaker, 2010) and has also been used in a corporate reporting context (Merkl-Davies *et al.*, 2010).

We use the following LIWC linguistic style categories: Positive/negative emotion words and net affective tone ('positive' and 'negative emotion' words, as attitude markers; using the relative occurrence of both sets of emotion words, a net tone measure is calculated), Causal reasoning ('causation' measures the relative presence of causal connectors, such as 'cause', 'effect', 'hence'), Cognitive marking mechanisms ('insight', 'discrepancy', 'tentative', 'inhibition', 'exclusion' and 'certainty' are used as proxies for use of respectively engagement markers and directive language, linguistic hedging, inhibition and exclusion words and boosters), Personalization ('personal pronouns' is used as a proxy for personalization and related self-referencing). Besides these linguistic style features, we will use additional LIWC and accounting research-based content measures (including readability indicators) to contextualize the use of style profiles (see Results section).

The use of word-based text analysis programs (like LIWC) has been criticised for their analytical rigidity and for missing contextual subtleties (*e.g.*, Kangas, 2014; Murphy, 2013). Our research design, however, counterbalances some of the shortcomings, while capitalizing on the possibility offered by these procedures to expand our data set and allow for multivariate statistical methods. First, our selection of word categories is driven by metadiscourse arguments and are largely content-independent. Second, the word categories are used as inputs to factor analysis techniques to derive empirical text constructs that are used as our test variables. This makes our rhetorical constructs less dependent on how a specific program structures texts. Third, the automated text analysis procedures allow us to enlarge sample size and use statistical methods which enable us to control for the interplay of many influencing factors. The multivariate

techniques that we use in our empirical models (see below) enable a more rigorous firm-level contextualization of the stylistic patterns than would be possible using qualitative methods. Moreover, we use several non-LIWC word lists to test the robustness of our results.

3.4 Empirical models

We use multivariate empirical models to investigate firm-specific correlates of the rhetorical IM profiles that are identified in response to RQ1 and to examine the hypotheses with regard to the impact of country-level institutional setting on rhetorical IM (RQ2). The following basic empirical models are used:

Rhetorical IM variable = f [US country dummy, Performance volatility, Litigation risk, (Performance volatility x US country dummy, Litigation risk x US country dummy), Profitability level variables, Sales growth, Change in profitability variables, Company size, Financial risk, Discontinuing operations, Cross-listing, Year dummies]

In some analyses we add an intangible-intensive industry indicator, when this materially affects the power of the empirical model. We use pooled time series regression with year dummies to test the empirical models. The UK is the omitted country variable. We use a hierarchical procedure to separately test the significance of the country variable and its interactive effects. In most narrative disclosures, there is significant inertia of narrative content over time. We address the issue of serial correlation between observations (observations coming from the same company) using several alternative procedures to adjust standard errors for correlation within a (company-level) cluster. We use Newey-West (with panel data correction – estimating correlations between lagged residuals in the same cluster) and Rogers (clustered) standard errors to test significance levels.

We define performance volatility as instability of past financial performance over time. It is measured as the company-specific variation coefficient (the standard deviation divided by the

absolute mean) of the company's net sales margin over a period of 5 years preceding the letter date. The sales return margin captures operating risk to a large extent. We follow Francis et al. (1994) to measure *ex ante* securities litigation risk and use their classification details of litigious industries (four-digit SIC codes) to apply an indicator variable for companies with higher expected securities litigation risk[6]. An industry-based indicator variable has been commonly used in prior research to proxy for securities litigation risk (*e.g.*, Beatty et al., 2008; Brown and Tucker, 2011), as the proxy is simple, readily available and attractive from a cost-benefit perspective (Kim and Skinner, 2011). Moreover, Kim and Skinner (2011) extensively test the construct validity of the litigious industry indicator variable of Francis et al. (1994) in a more recent sample and corroborate that litigation in their litigation-sensitive industry companies is generally consistently higher than those in other industries. In litigation prediction models, the variable shows to be economically and statistically significant[7].

Profitability level, profitability change and company growth proxy for the demand and supply of performance justification. We use a continuous variable (ROA) and an indicator variable (Loss company) to control for profitability level. ROA is measured as earnings before interest and taxes divided by total assets. The loss company indicator variable takes the value of one if the company suffers a net loss (negative net earnings) and zero otherwise. We control for change in profitability using two variables: a signed relative change in net income measure and an earnings per share surprise measure (calculated as the absolute change in basic earnings per share). These variables take into account directional and absolute performance change effects. We also include change in sales scaled by total assets to control for company growth and merger and acquisition activity. In line with the control for acquisition activity, we also include an indicator variable for discontinuing operations, as discontinuation decisions may significantly affect one-time items and performance commentary (Li, 2008).

Previous studies find that company size is significantly associated with amount and quality of voluntary disclosure (*e.g.*, Alsaeed, 2006). Company size is measured as the natural logarithm of the company's total assets. Higher perceived risk may affect incentives for IM (Aerts, 2005; Leary and Kowalski, 1990; Li, 2010). We use both a long-term and a short-term financial risk proxy. We measure financial leverage as long-term debt divided by total assets and short-term liquidity risk as current assets divided by current liabilities. Prior research shows that cross-listing increases the level and quality of disclosure, especially if a company is cross-listed on a foreign market that is more regulated than the domestic market. Therefore, we expect that SEC foreign registrants will experience disclosure pressures (including narrative disclosure demands) and reporting incentives similar to US companies. We use an indicator variable of one if a UK company is cross-listed in the US. Finally, we include year indicator variables for each fiscal year in the sample (with 2009 being the omitted year indicator).

4. Results

4.1 Sample descriptives

Table 1 presents descriptives of the main linguistic style variables referred to in this study. Both full sample descriptives and descriptives by country are presented. Table 1 also includes the results of univariate t-tests on the country means. In general, UK LtSs are significantly longer than US letters: US letters count on average 1,219 words, while UK letters contain on average 1,789 words[8]. The difference in word count does, however, not affect the measurement of the other linguistic variables, as these are scaled by the number of words of the LtS. All relative linguistic characteristics (except inhibition words) are significantly different between US and UK LtSs and they are all (except for negative emotion words) significantly more present in US letters than in UK letters.

[Insert Table 1 about here]

Table 2 presents full sample and country-level descriptives of the independent variables used in our analyses. The US companies in our sample are, on average, significantly larger than the UK companies. The UK companies exhibit, on average, a more volatile performance history. More US companies are related to a higher litigation risk industry. Thirteen percent of the UK companies have an additional US listing. Around one third of the sample relates to loss companies and seventeen percent of the sample companies report discontinued operations.

[Insert Table 2 about here]

4.2 Factor analysis

We use factor analysis to reveal co-occurrence patterns among linguistic style markers and to create a parsimonious set of rhetorical indicators. Factor analysis has been frequently used to identify salient linguistic structures in written discourse (*e.g.*, Biber *et al.*, 2007; Precht, 2000). We employ principal components factor analysis with varimax orthogonal rotation in order to empirically identify dominant uncorrelated style profiles. Table 3 shows the linguistic variables and their respective factor loadings which result from the factor analysis model with the highest cumulative explained variance. The factor analysis inputs include the main linguistic properties which have been theorized to be important from a rhetorical style perspective. As shown in Table 3, we identify three uncorrelated factors with eigenvalues greater than 1.0 which cumulatively explain 61 per cent of the overall variance [9]. The factors group the stylistic characteristics that tend to occur together in the LtS and provide the structure for identifying the main rhetorical profiles in our sample [10]. Using a cut-off of .20 for factor identification purposes, we label these factors as follows: an *Emphatic assertiveness* profile (factor one), a *Cautious sense-giving* profile (factor two) and a *Rational appeal* profile (factor three).

[Insert Table 3 about here]

The *Emphatic assertiveness* factor (factor one) reflects a linguistic style pattern based on high net positive tone, extensive self-referencing through the use of personal pronouns and strong use of emphatic certainty expressions. Self-references indicate personal identification and create affinity. The strong correlation of net positive emotion language and personalization markers is consistent with a self-serving tendency to acclaim and internalize positive events and achievements. The configuration of these features tends to project an image of authority, personal agency and control, and commitment to the views expressed.

Factor two (*Cautious sense-giving*) is basically defensive (negative net tone) with high use of cognitive uncertainty and attitude markers (hedges, directive language and insight markers), without boosters. These features indicate considerable cognitive effort and cognitive complexity, but a lower level of commitment to facts and assertions. They tend to project an image of a modest, trustworthy and cautious steward of the company (Hyland, 1998). Tentative and cautious expressions may be directed at accommodating reader responses to more negatively oriented news by projecting an aura of credibility gained by openness and tolerance for ambiguity. Being accompanied by significant insight providing language, they simultaneously convey an impression of honesty and openness (Hyland, 1998). They are, however, not very helpful in establishing the authority of the communicator, as, for example the use of hedges communicates signals lack of confidence of the communicator in his statements. They create a distance from the message and avoid direct responsibility for it.

Factor three (*Rational appeal*) loads strongly positive on causal language, supported by insight markers, while avoiding directive language (obligation modals such as ‘should’, ‘ought’ or ‘need’). It is indifferent on the use of positive/negative emotion words. The configuration of features projects an image of a logic-based, somewhat detached rationalizing communicator.

4.3 Validating rhetorical style profiles with content-based measures

In order to validate scope and meaning of the three composite profiles, Table 4 presents correlations of the extracted profiles with other, content-specific linguistic measures. ‘Achieve’ (LIWC) covers words indicating achievement-related concerns (‘acquire’, ‘control’, ‘strength’, ‘closure’) and proxies for the author’s achievement motivation (Bender *et al.*, 2012). They tend to affirm entities and achievements, describe affective states, attractive qualities and goals, and suggest change, activity and purposefulness. This general content variable is complemented by financial disclosure-related content categories: ‘oper_loss’, ‘oper_prof’, ‘oper_tot’, ‘resources’, ‘agents’, ‘future’, ‘litigious’ and ‘uncertainty’, using word lists developed by Henry (2006) and Loughran and McDonald (2011). We include the LIWC word lists ‘Auxiliary’ verbs (‘have’, ‘do’, ‘are’, ‘become’) as indicators of the use of passive voice (*cfr.* Tausczik and Pennebaker, 2010), ‘exclusive’ and ‘inhibition’ as indicators of critical thinking in terms of identifying inhibition and making distinctions (exclusion words, such as ‘but’, ‘without’, ‘exclude’) and ‘past tense’ to investigate a focus on the past.

[Insert Table 4 about here]

Interestingly, the rhetorical style composites are significantly and negatively correlated with financial performance content variables (‘oper_tot’ - indicating the relative importance of discussion of financial performance items) and with financial position issues (‘resources’), suggesting that rhetorical talk largely substitutes for matter-of-fact discussion of financial statement topics. The only exception are the comments on elements like expenses and losses (‘oper_loss’), which are positively related to the *Cautious sense-giving* profile (factor 2), evidencing the more reactive and defensive nature of this type of rhetorical posture. Overall, the *Cautious sense-giving* dimension is more conjectural and less concrete than the two other rhetorical dimensions. It uses language that is more hypothetical (tentative language), oriented to the past and indicative of

uncertainty; it provides for plausibility and coherence, rather than accuracy and certainty to make things meaningful. Factor 2 is also associated with more passive voice ('auxiliary'), suggesting a less committed reasoning position with more distance between the author and the message content (Sydserff and Weetman, 2002; Clatworthy and Jones, 2006). On the other hand, the *Emphatic assertiveness* profile is strongly correlated with linguistic content referring to achievement-related issues and to the presence and role of economic agents (relational issues). It uses more future-oriented words and less passive voice. This profile represents a proactive rhetorical stance, akin to what Amernic *et al.* (2010) refer to as 'transformational leadership' talk. The third rhetorical profile (*Rational appeal*) reflects a somewhat emotionally detached cognitive orientation. It also promotes references to achievement issues, but without a focus on relational inferences (no correlation with references to agents). This reporting style is more preoccupied with explaining current issues and contextual topics in an *ad hoc* fashion without much affective or conjectural language. Although its content could be mainly constructed in a retrospective mode (negative correlation with 'future'), the information revealed may be used prospectively and affect expectations of how things will evolve in the future.

Overall, these correlational analyses largely confirm the initial typifications and interpretations of the rhetorical style composites resulting from the parsimonious factor analysis model. They do, however, suggest that rhetorical style IM tends to develop in a somewhat decoupled mode from financial disclosure talk and that the three dominant rhetorical profiles are likely to be driven by different motives and to embody quite different self-presentational logics. Moreover, the first two factors are negatively related with the FOG-index, indicating higher text readability when these rhetorical style patterns are prevalent. This is consistent with the rhetorical intent of the style patterns: they can only be persuasive and effective in changing impressions to the extent that they are accessible and understandable by the main audience of the LtS. On the other hand, the

logic-based rhetorical style is positively related with the FOG-index: more intense use of cognitive IM tends to make the letter less readable, but not necessarily less understandable, as this rhetorical pattern is mainly adding causal transparency.

4.4 Multivariate analyses

Table 5 (Panels A and B) shows the results of regression models of the three composite rhetorical profiles. For each rhetorical profile we show four models to test the country effect and its interaction with performance volatility and litigation risk. The first four models in Table 5 (Panel A) relate to the *Emphatic assertiveness* profile. Model 1 (Table 5 – Panel A) shows that US LtSs exhibit on average significantly more emphatic assertiveness (composite of higher net positive affect, more boosters and more personal pronouns) than UK letters. The country effect significantly increases model fit (the R-square change of adding the country variable is large and highly significant). It also shows that companies with a more volatile performance history use marginally less rhetorical assertiveness, which is consistent with our expectation that company credibility affects the verbal stance of the CEO. Model 2 adds the interactive effect of performance volatility and country. The results of Model 2 show that the negative effect of performance volatility is essentially driven by US companies, implying that message credibility is a bigger concern in an institutional environment with stronger scrutiny pressures. Model 3 examines the interaction effect of litigation risk and country. The results support our expectation that litigation risk with regard to IM is a bigger concern for US companies than for UK companies. US companies in a litigation-sensitive industry use significantly less emphatic assertiveness language in their LtS: the coefficient of the interaction term overcompensates the main effect of the litigious industry indicator. Adding the interaction term in Model 2 and Model 3 significantly increases model fit over the model with only the US country variable (Model 1). Models 1 to 4 in Table 5 (Panel A)

also show that larger companies use more assertive IM and that UK companies cross-listed in a US market tend to copy the assertive rhetorical posture of their US counterparts and use more *Emphatic assertiveness*, suggesting that the incentives for assertive IM in the US context are also likely to motivate cross-listed UK companies. Interestingly, financial performance measures are nearly all (except ‘loss company’) insignificant. Fiscal year (including the financial crisis period) does not seem to affect assertive IM propensity.

[Insert Table 5 about here]

Models 5 to 8 of Table 5 (Panel A) present similar analyses for the *Cautious sense-giving* profile. The models show that US LtSs use, on average, more *Cautious sense-giving* than UK letters, but the country main effect is less strong than for *Emphatic assertiveness*. Given the more self-protective, conjectural and ambiguous language of the *Cautious sense-giving* profile, the defensive profile responds differently to credibility concerns. Credibility concerns even tend to promote (at the margin) defensive rhetorical IM in US companies as such verbal behaviour accommodates persuasive self-protection. This effect is somewhat stronger for the litigation risk interaction, with *Cautious sense-giving* being significantly more prominent in US companies in a litigation-sensitive industry. UK companies cross-listed in the US also use marginally more defensive rhetorical IM than UK companies which are not cross-listed. Whereas *Emphatic assertiveness* increases in company size, the *Cautious sense-giving* models indicate that larger companies tend to show less defensive IM. This is consistent with Aerts (2005) who finds that larger companies use more enhancements and entitlements, but less defensive explanatory statements in their management commentary.

Table 5 (Panel B) shows models for the *Rational appeal* profile that replicate the former regression analyses, but also includes additional models with an extra control for intangible-intensity. Given the sample restrictions on industry (in order to control for variability in

linguistic text characteristics across industries, the sample was restricted to four broad industry sectors - Food, Retail, Pharmacy and High tech), additional regression analyses (not tabulated) were performed to check whether industry membership affected rhetorical profiles over the litigious industry indicator variable. Especially companies with high prominence of intangibles may have considerable incentives to provide voluntary information on their business models and business dynamics (Tasker, 1998; Lev and Zarowin, 1999). We included an industry dummy variable for each of the four broad sample industries in the regression models (not tabulated) for the three rhetorical profiles. The first two rhetorical profiles were not significantly affected by the industry dummies, but the *Rational appeal* profile was. This indicates that the logic-based explanatory profile is much more industry-specific with industry-based incentives for rationalizing IM which go beyond factors captured by industry-based litigation sensitivity. To take this into account and increase the power of our tests, Table 5 (Panel B) also shows models including an indicator variable for intangible-intensive industry in the logic-based rational appeal models (Models 5 to 8). The indicator variable takes a value of one if the company belongs to one of the high-intangibles industries (Pharma and High tech) and zero otherwise. Including the intangible-intensive industry indicator increases the adjusted R-squared of the regression models by more than ten percent. As expected, the *Rational appeal* profile is significantly stronger for companies belonging to industries where intangibles are more pervasive, probably because those companies suffer from higher information asymmetry and have more explaining to do on their business models. This also explains why this profile is negatively related with readability (FOG-index). Adding causal inferences and related explanations tends to lead to longer sentences and more complex textual relationships and negatively affects readability as captured by the classic readability formulae. It is a logical consequence of the underlying rationale for cognitive IM, but hints to the inherent tension between readability ease, understandability and comprehension, different concepts which are hardly

distinguished in obfuscation research. If causal disclosures are used to increase causal transparency when underlying business models are less straightforward, this will probably lead to lower readability as captured by the classic readability indices, but it would be hard to argue that such disclosures are purposefully used to obscure the message.

All *Rational appeal* models show a significant negative effect of financial leverage and a significant negative main effect of litigation risk, indicating the potentially more costly nature of causal disclosures in a high scrutiny environment (Aerts *et al.*, 2013). Consistent with expectations, the results show significantly more use of causal reasoning by US companies (all models in both specifications), a negative impact of the interaction effect of performance volatility and country (Model 6) [11] and a stronger significant negative effect of the interaction between litigation risk and country (Model 7). The significance and sign of the interaction terms are consistent with our expectations that message credibility and potential litigation risk of causal disclosures are a bigger concern in an institutional environment with higher expected scrutiny.

Several (untabulated) robustness tests [12] were performed by including the content-based text variables ('achieve' and 'operational (total)'), the FOG-index and text length as additional controls, but our main findings showed to be robust to such alternative model specifications. As previously mentioned, some UK companies only publish a Chairman's statement without a CEO letter.

Although prior research on the letter to shareholders does not systematically differentiate between these letter types, it may be a concern. We replicated the regression tests with only the CEO letters (eliminating the UK Chairman's statement in 137 (company-year) cases from the full sample). The results (untabulated) show that the main findings remain qualitatively unaffected by this procedure.

5. Discussion and conclusion

The primary objective of this study is the identification and qualification of salient (and replicable)

style-related IM profiles in the LtS. Our results document three dominant dimensions of rhetorical coping behaviour based on linguistic style features: an acclaiming or assertive stance, a defensive framing position and a more detached, logic-based cognitive IM orientation. These IM mechanisms reflect different self-presentational logics, but all three capitalize on style features that support the persuasiveness of the message. They extend beyond the elaboration of financial accountability issues and even tend to substitute for financial commentary to a significant extent. In that, they operate quite differently from the IM mechanisms that have previously been documented in LtS research and that primarily focus on purposeful packaging and framing of financial performance news (such as performance attribution biases, focus on and positioning of positive news, selective choice of benchmarking metrics). The rhetorical style patterns bring the focus of discussion to (non-financial) achievement-related domains where the potential for persuasive self-enhancement is higher (Solomon *et al.*, 2013) or to cautious retrospective framing of contextual factors and risks, projecting an image of a committed and trustworthy steward, while implicitly creating distance between the company and the message. The cautious sense-giving style mainly capitalizes on plausibility and contingency instead of on accuracy, directness and certainty to create meaning for the audience. The logic-based rationalizing style, while allowing for achievement-oriented causal framing, is especially responsive to information needs in a context where information asymmetry is higher due to more intangible business models.

In general, we evidence a significant country effect on the intensity of rhetorical IM. Although the three rhetorical patterns are common in both countries, the average intensity of their use differs significantly. The LtS of US companies seem much more prone to using metadiscourse devices than their UK counterparts. This is consistent with our expectation that incentives for rhetorical IM are, on average, stronger in the US than in the UK. The more important constraints on rhetorical IM seem to reside in the effect of expected institutional scrutiny costs. In a high scrutiny environment,

credibility concerns seem to significantly constrain the use of an assertive and a cognitive IM style. To the extent that the track record of the company indicates lack of managerial control in the past, strong assertive behaviour and providing convincing causal explanations may be problematic (Aerts and Tarca, 2010; Salancik and Meindl, 1984). Our results suggest that higher (expected) scrutiny in the US institutional setting significantly strengthens the effect of such credibility concerns on the assertive verbal posture of the LtS and on the use of cognitive IM. The rhetorical stance of *Cautious sense-giving* shows to be of another order, however. It represents, in essence, reactive behaviour that seems to accommodate potential credibility-threatening evidence (hard evidence of an unstable performance past) by building interpersonal meaning and credibility through linguistic features that focus on plausibility rather than certainty and project an image of a modest, concerned and cautious steward.

Moreover, in the US, companies in high-litigation risk industries score significantly less on the potentially costly assertive and cognitive IM profiles, and significantly higher on defensive IM that is, by the nature of the language used, more litigation-proof. While higher litigation risk tends to reduce the prominence of assertive and logic-based rhetorical devices in US companies, it has the effect of promoting a defensive IM style which allows for more ambiguity and diminishes the possibility of counter-argument and, as such, is less vulnerable to litigation than the two other rhetorical profiles. Overall, our results are consistent with prior findings indicating that disclosure-related legal risk is not perceived as important in the UK setting (Beattie and Smith, 2012).

Our study adds to the literature on corporate narrative reporting in several respects. First, we extend the literature on IM in accounting narratives by elaborating holistic measures of the linguistic style characteristics of text, linking them with IM motives and exploring how they relate to financial performance issues. We specifically distinguish linguistic style features from content

properties that have been the primary focus of prior IM research. Our results reveal that rhetorical IM operates in a somewhat decoupled mode from financial performance commentary and in that sense complements other, more direct performance-related IM mechanisms. In this regard, our results extend the repertoire of documented IM tactics that are used in narrative disclosures, thus enhancing our understanding of the multidimensional nature of IM in accounting narratives.

Second, we extend the literature on the relevance of linguistic properties in accounting narratives by investigating the determinants of the composite profiles and the incidence of country-level institutional incentives and constraints on their use. Prior empirical research on linguistic features of accounting narratives generally relies on single-dimension characteristics, such as the affective ‘tone’ of the text, and largely ignores that rhetorical speech uses different linguistic features that tend to co-occur depending on a chosen communication style. We exemplify rhetorical style profiles in which separate linguistic features are integrated to compose distinct IM mechanisms. As empirical proxies for rhetorical behaviour they may also complement more qualitative rhetorical perspectives on corporate reporting (*e.g.*, Brennan and Merkl-Davies, 2014; Jameson, 2000). Importantly, the rhetorical profiles differently affect the overall readability of the narrative. This finding offers additional insights for readability-related accounting research.

A third area of contribution relates to providing empirical evidence of how the institutional environment affects incentives and constraints for rhetorical IM in the LtS. We add to prior international comparative studies of narrative reports (Aerts and Tarca, 2010; Beattie and McInnes, 2006) by examining rhetorical style of the LtS in a cross-country setting. Earlier research has documented international and cultural differences in performance attributions and management commentary (Hooghiemstra, 2008, 2010). We show detailed differences in rhetorical postures which tend to vary with country-level differences in institutional context which are more finer-grained than broad cultural differences. Finally, we also add to studies on the impact of

litigation-related incentives for and constraints on disclosure behaviour (Kim and Skinner, 2011; Rogers *et al.*, 2011).

Our study is subject to limitations common in narrative corporate reporting research. The automated text analysis procedures have advantages in objectifying the coding of the narrative features, but may overlook deeper meaning-related issues which are better processed using detailed manual coding schemes or more qualitative discourse analysis. Moreover, it would be interesting to investigate in future research how the holistic measures of rhetorical style that we develop in this paper, relate to more finer-grained qualitative constructs of rhetorical style. By restricting our focus to text only, we also exclude the impact of visual rhetoric on our analysis. Investigating the interplay of visual and verbal rhetoric may lead to fruitful future research.

Our research perspective does not elaborate on economic consequences of rhetorical IM in the LTSS. Implicitly, the incentives for more rhetorical style management and its institutional constraints may subsume expectations that CEO rhetorical behaviour has a minimal level of value relevance (necessary to be persuasive in a longitudinal reporting context) and potential to signal private information that goes beyond historical financial performance. Such consequential issues could be fruitfully addressed in future research. Another limitation of the study is that our argument on institutional differences between the UK and the US are based on aggregate, country-level assumptions. Given our largely exploratory setting to investigate rhetorical impression management and its drivers, we were not able to prioritize on individual institutional setting dimensions as incentives for rhetorical IM. Future research may fruitfully investigate how CEO-related variables and company-specific shareholding characteristics affect the documented IM tendencies.

Finally, our research design does not allow to fully disentangle cultural from institutional differences. Culture-based linguistic differences between our sample countries may still affect our outcomes, but our results suggest that these should not be exaggerated. If culture would be a main

determinant, we would expect separate profiles for culture-based groups, but in our sample context-based profiles tend to dominate. The cautious sense-giving factor, for example, incorporates language characteristics which, separately, would be more common in plain British English than in American English (for example use of insight language (think, know, consider, *etc.*) and of modals verbs (might, could, *etc.*)), but overall the second factor scores significantly higher for US than for UK companies. The strong effect of institutional constraints on rhetorical IM in US letters also indicates that language use is to a significant extent responsive to variation in institutional constraints and context, which weakens the case of a strong cultural component in our research.

Notes

1. Rhetorical analysis within the context of corporate reporting uses different approaches to study how language and other symbolic forms (such as graphs, photos and drawings) are used to establish persuasive interpersonal meaning (Jameson, 2000). In this paper, we restrict our rhetorical perspective to verbal discourse at a metadiscursive level. This obviously limits the rhetorical scope of our analysis.
2. We refer to the CEO as the author of the LtS, although in some UK cases the letter is signed by the Chairman of the Board. Although the authorship of the LtS may well be a team effort, it is the CEO who signs and authorizes the letter and, ultimately, takes responsibility for its content.
3. Its relevance for the LtS is indicated by Wang *et al.* (2012) who show that the LtS scores highest on language (vocabulary) variety or lexical density, the use of positive words and the use of first personal pronouns, and relatively strong on the use of fuzzy words (as a kind of hedging tactic). These characteristics are seen as highly instrumental in establishing or changing perceptions.
4. From a methodological perspective, we elaborate only the aforementioned text markers as they

led to a factor model of style characteristics with the highest explained variance. Additional style markers (that were initially investigated as inputs for a factor model, but were dropped during factor analysis procedures, such as inhibition and exclusion words, passive voice indicators and temporal indicators) and more content-related text properties, will be used for validation and interpretation purposes (see the results section).

5. All 498 US letters are CEO letters, signed by the company's CEO. In the UK, some companies publish a CEO letter as well as a Chairman's statement and some publish only a Chairman's statement. In the former case, we only select the CEO letter, in the latter we retain the Chairman's statement.

6. Francis *et al.* (1994) document a range of industries with high litigation risk, including biotechnology (SIC codes 2833-2836 and 8731-8734), computers (SIC codes 3570-3577 and 7370-7374), electronics (SIC codes 3600-3674), and retailing (SIC codes 5200-5961).

7. Kim and Skinner (2011) also show that predictive ability increases when the litigation risk indicator variable is augmented with company size, growth and return volatility, but not really when a number of other variables are added, such as corporate governance variables, financing indicators or insider trades. As we control for company size, sales growth and performance volatility, these augmentation effects are taken into account in our empirical models.

8. Amernic *et al.* (2010), investigating LtSs of the 100 largest companies in the Financial Times Stock Exchange (FTSE) according to market capitalization and of the top 100 companies in the annual Fortune 500 listing of the largest US companies according to annual revenues, show for 2006 an average length of 1,722 words for UK companies and of 2,160 words for US companies.

9. We initially included several more stylistic variables as inputs to the factor analysis, but finally selected a factor analysis configuration that resulted in a model with the highest explained variance.

This procedure normally leads to a set of factors with, in the aggregate, the strongest empirical

power. In the paper we mention additional stylistic variables which were initially considered as input variables. The initially selected variables are the main stance-related categories documented in LIWC.

10. When we execute the aforementioned factor analyses by country, the resulting factors are consistent with the factors configured on the full sample. One main difference relates to the use of insight language which loads more heavily on the *Rational appeal* factor and less on the *Cautious sensegiving* factor.

11. In general, the significance of the interaction effect of performance volatility and country on the *Rational appeal* profile is the least robust to alternative model specifications.

12. Article length prevent us from further elaborating on the robustness tests, but details are available from the authors on request.

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Appendix I:

Key differences in corporate governance arrangements between US and UK and how they are expected to affect rhetorical impression management

	US	UK	Impact on rhetorical impression management through
Private investor prominence	+	-	Incentives for IM
Engaged institutional ownership	-	+	Incentives for IM
CEO power (CEO duality)	+	-	Incentives for IM
CEO compensation	+	-	Incentives for IM
Institutional and investor monitoring	+	-	Credibility concerns as moderator of IM
Securities litigation risk	+	-	Credibility concerns as moderator of IM

Table 1: Descriptives of single linguistic style variables

Variables	Total N=977				USA N=498				UK N=479				Country difference
	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max	t-value
Word count	1498	1048	97	10318	1219	679	151	4835	1789	1265	97	10318	***(-8.82)
Positive emotion words (%)	4.06	1.13	1.04	8.16	4.40	1.12	1.04	7.80	3.70	1.02	1.19	8.16	*** (10.12)
Negative emotion words (%)	0.72	0.46	0.00	5.14	0.68	0.48	0.00	5.14	0.77	0.42	0.00	2.78	***(-3.11)
Net (positive) emotion words (%)	3.34	1.29	-1.51	7.59	3.72	1.29	-1.51	7.51	2.94	1.16	-0.28	7.59	*** (10.01)
Personal pronouns (%)	5.27	2.39	0.00	11.83	6.69	1.87	1.80	11.83	3.79	1.93	0.00	9.54	*** (23.88)
Causation words (%)	2.49	0.82	0.50	5.69	2.53	0.84	0.50	5.69	2.44	0.80	0.90	5.39	*(1.79)
Insight words (%)	1.28	0.52	0.00	3.91	1.36	0.55	0.21	3.62	1.19	0.47	0.00	3.91	*** (5.24)
Discrepancy words (%)	0.50	0.31	0.00	2.19	0.53	0.33	0.00	2.19	0.48	0.28	0.00	1.93	** (2.58)
Tentative words (%)	0.74	0.43	0.00	3.96	0.80	0.48	0.00	3.96	0.67	0.36	0.00	3.52	*** (4.73)
Certainty words (%)	0.95	0.43	0.00	4.15	1.04	0.46	0.00	4.15	0.86	0.38	0.00	2.36	*** (6.71)
Inhibition words (%)	0.50	0.37	0.00	3.47	0.49	0.39	0.00	3.47	0.52	0.35	0.00	2.65	(-1.61)
Exclusive words (%)	0.49	0.36	0.00	2.48	0.55	0.41	0.00	2.48	0.44	0.30	0.00	1.71	*** (4.80)

Note: Linguistic variables as defined and measured by LIWC; *, **, *** Significant at the 10, 5, 1 per cent level; two-tailed t-test

Table 2: Descriptives of independent variables

Variables	Total N=977		USA N=498		UK N=479		Country difference
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	t-value
ROA	0.00	0.23	-0.01	0.24	0.00	0.21	(-0.39)
Loss company	0.33	0.47	0.31	0.46	0.35	0.48	(-1.11)
Sales growth	0.10	0.21	0.11	0.21	0.10	0.22	(0.64)
Net income increase	0.09	1.23	0.09	1.16	0.09	1.29	(0.01)
Company size	5.14	2.34	5.56	2.24	4.71	2.36	*** (5.83)

Financial leverage	0.12	0.15	0.12	0.15	0.13	0.15	(-0.93)
Performance volatility	0.32	0.54	0.26	0.45	0.39	0.62	***(-3.81)
Litigious industry	0.55	0.50	0.58	0.49	0.52	0.50	*(1.90)
Cross-listed company	0.06	0.25	0.00	0.00	0.13	0.34	***(-8.68)
EPS increase (abs. value)	1.02	1.49	0.95	1.45	1.10	1.53	(-1.64)
Liquidity	2.51	2.07	2.74	1.99	2.26	2.13	***(-3.66)
Discontinued operations	0.17	0.37	0.17	0.38	0.16	0.37	(0.59)

Note: *, **, *** Significant at the 10, 5, 1 per cent level; two-tailed t-test

Table 3: Factor analysis on linguistic style variables

Factor loadings (orthogonal varimax)

Variable	Factor1	Factor2	Factor3
Insight words	0.05	0.59	0.29
Causation words	-0.02	-0.03	0.96
Discrepancy words	0.18	0.68	-0.12
Tentative words	-0.10	0.78	-0.07
Certainty words	0.62	0.19	0.01
Personal pronouns	0.80	0.18	-0.05
Net positive emotion words	0.81	-0.22	0.00

Table 4: Pairwise correlation matrix of linguistic style and content-based variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Emphatic assertiveness																
1. (F1)	1															
Cautious sense-giving																
2. (F2)	-0.002	1														
3. Rational appeal (F3)	-0.007	0.035	1													
4. Achieve	***0.457	***-0.096	***0.382	1												
5. Operational profit	-0.041	***-0.212	**0.080	0.007	1											
6. Operational loss	***-0.212	**0.080	***-0.088	***-0.087	***0.305	1										
7. Operational (total)	***-0.111	***-0.146	***-0.098	-0.026	***0.937	***0.618	1									
8. Resources	***-0.107	*-0.057	***-0.125	***-0.097	***0.271	***0.295	***0.332	1								
9. Agents	***0.186	-0.008	-0.006	**0.078	***-0.093	-0.033	***-0.089	**0.067	1							
10. Future	***0.193	***-0.143	***-0.137	***0.168	***0.204	-0.008	***0.166	0.048	-0.002	1						
											***-0.10					
11. Litigious	***-0.184	0.021	-0.034	***-0.150	***-0.097	0.025	**0.071	-0.010	-0.017	9	1					
12. Uncertainty	**0.067	***0.362	-0.048	**0.076	***-0.092	-0.028	***-0.086	0.004	*-0.057	0.045	0.053	1				
													***-0.16			
13. Auxiliary	***-0.163	***0.269	-0.042	***-0.181	**0.072	***0.167	0.002	-0.025	-0.052	3	**0.072	-0.017	1			
														***-0.13		
14. Past	***-0.248	**0.065	*-0.058	***-0.267	***0.231	***0.264	***0.288	***0.182	0.007	5	0.028	*-0.057	***0.392	1		
										0.08	*-0.23					
15. Exclusive	0.011	***0.542	*-0.054	***-0.147	-0.039	*0.061	-0.010	-0.043	1	2	0.009	***0.177	***0.288	***0.105	1	
										0.07	*-0.15					
16. Inhibition	***-0.151	***0.130	***0.101	-0.002	***-0.245	-0.008	***-0.205	*-0.054	7	4	***0.209	*0.057	0.043	**0.065	**0.067	1
															***-0.29	
17. FOG	***-0.262	***-0.177	***0.140	*0.055	***-0.116	-0.027	***-0.105	0.041	-0.044	*0.053	***0.094	*0.063	***-0.292	***-0.174	8	***0.17

Note: *, **, *** Significant at the 10, 5, 1 per cent level

Table 5: Regression models on rhetorical style profiles

Panel A	Factor 1 Emphatic assertiveness								Factor 2 Cautious sense-giving							
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7		Model 8	
	Coef.	(t-value)	Coef.	(t-value)	Coef.	(t-value)	Coef.	(t-value)	Coef.	(t-value)	Coef.	(t-value)	Coef.	(t-value)	Coef.	(t-value)
Number of obs=976																
Constant	***-0.65	(-6.14)	***-0.67	(-6.24)	***-0.71	(-6.64)	***-0.72	(-6.63)	-0.02	(-0.19)	-0.02	(-0.13)	0.02	(0.16)	0.02	(0.17)
ROA	0.05	(1.17)	0.00	(0.09)	0.05	(1.00)	0.01	(0.11)	0.03	(0.52)	0.05	(0.84)	0.03	(0.60)	0.05	(0.83)
Loss company	***-0.29	(-3.96)	***-0.26	(-3.43)	***-0.29	(-3.95)	***-0.26	(-3.49)	***0.21	(2.67)	**0.19	(2.44)	***0.20	(2.64)	**0.19	(2.46)
Sales growth	0.01	(0.35)	0.01	(0.49)	0.01	(0.52)	0.01	(0.61)	-0.02	(-0.59)	-0.02	(-0.62)	-0.02	(-0.67)	-0.02	(-0.68)
Net income increase	-0.00	(-1.52)	-0.00	(-1.24)	-0.00	(-1.55)	-0.00	(-1.29)	0.00	(0.60)	0.00	(0.47)	0.00	(0.62)	0.00	(0.51)
Company size	***0.06	(3.55)	***0.05	(3.18)	***0.05	(3.43)	***0.05	(3.13)	**0.04	(-2.07)	*-0.03	(-1.91)	*-0.03	(-1.92)	*-0.03	(-1.82)
Financial leverage	*0.25	(1.80)	**0.32	(2.29)	0.22	(1.65)	**0.28	(2.08)	0.04	(0.29)	0.01	(0.05)	0.06	(0.47)	0.03	(0.27)
Performance volatility#	*-0.01	(-1.50)	-0.00	(-0.55)	**0.01	(-1.59)	-0.01	(-0.71)	0.00	(0.06)	-0.00	(-0.20)	0.00	(0.06)	-0.00	(-0.13)
Litigious industry#	0.02	(0.27)	0.03	(0.58)	**0.18	(2.27)	**0.17	(2.09)	0.03	(0.53)	0.02	(0.41)	-0.08	(-1.00)	-0.07	(-0.93)
Cross-listed company	**0.26	(2.14)	**0.29	(2.44)	**0.28	(2.37)	***0.31	(2.59)	*0.22	(1.78)	*0.21	(1.65)	*0.21	(1.68)	*0.20	(1.59)
EPS increase (abs. value)	0.00	(1.37)	0.00	(1.31)	0.00	(1.32)	0.00	(1.28)	0.00	(1.57)	*0.00	(1.65)	*0.00	(1.71)	*0.00	(1.76)
Liquidity	***-0.02	(-3.13)	***-0.02	(-2.82)	***-0.03	(-3.34)	***-0.02	(-3.01)	-0.00	(-0.62)	-0.01	(-0.68)	-0.00	(-0.46)	-0.00	(-0.53)
Discontinued operations	-0.07	(-1.07)	-0.07	(-1.07)	-0.07	(-1.04)	-0.07	(-1.04)	0.02	(0.29)	0.02	(0.29)	0.02	(0.26)	0.02	(0.26)
Year 2006	-0.03	(-0.33)	-0.03	(-0.44)	-0.02	(-0.33)	-0.03	(-0.42)	*-0.15	(-1.75)	*-0.15	(-1.70)	*-0.15	(-1.75)	*-0.15	(-1.72)
Year 2007	0.07	(1.01)	0.06	(0.88)	0.07	(1.01)	0.07	(0.90)	-0.13	(-1.57)	-0.12	(-1.52)	-0.13	(-1.57)	-0.12	(-1.54)
Year 2008	-0.00	(-0.00)	-0.01	(-0.17)	-0.00	(-0.01)	-0.01	(-0.15)	-0.09	(-1.25)	-0.09	(-1.19)	-0.09	(-1.24)	-0.09	(-1.20)
Year 2010	0.00	(0.01)	-0.00	(0.03)	0.00	(0.03)	-0.00	(0.01)	**0.18	(-2.41)	**0.18	(-2.40)	**0.18	(-2.42)	**0.18	(-2.41)
USA country variable#	***0.89	(13.37)	***0.99	(13.51)	***1.08	(12.67)	***1.13	(12.82)	***0.36	(5.64)	***0.32	(4.50)	***0.24	(2.69)	***0.22	(2.42)
Performance volatility X USA#			***-0.33	(-3.20)			***-0.29	(-2.71)			*0.14	(1.31)			0.10	(0.96)
Litigious industry X USA#					***-0.34	(-3.03)	***-0.28	(-2.46)					**0.22	(1.84)	*0.20	(1.62)
F-value	***31.29		***29.79		***31.12		***29.46		***4.13		***4.03		***3.93		***3.82	
Adj R ²	0.367		0.376		0.374		0.380		0.052		0.053		0.055		0.055	
Change in R ² on country	***0.185								***0.038							
Change in R ² on interaction terms			***0.010		***0.008		***0.015				0.002		**0.004		*0.005	

Note: *, **, *** Significant at the 10, 5, 1 per cent level;

#one-tailed test for performance volatility, litigious industry and country variables; two-tailed test for others

Panel B	Factor 3 Rational appeal								Factor 3 Rational appeal (including Intangible-intensive industry control)							
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7		Model 8	
	Coef.	(t-value)	Coef.	(t-value)	Coef.	(t-value)	Coef.	(t-value)	Coef.	(t-value)	Coef.	(t-value)	Coef.	(t-value)	Coef.	(t-value)
Number of obs=976																
Constant	0.10	(0.77)	0.09	(0.69)	0.03	(0.23)	0.03	(0.22)	**-0.26	(-2.20)	**-0.28	(-2.40)	***-0.35	(-2.93)	***-0.36	(-3.01)
ROA	-0.10	(-1.30)	-0.13	(-1.53)	-0.11	(-1.38)	-0.13	(-1.54)	-0.05	(-0.67)	-0.09	(-1.14)	-0.05	(-0.78)	-0.08	(-1.14)
Loss company	**0.20	(2.27)	**0.22	(2.44)	**0.20	(2.32)	**0.22	(2.43)	0.06	(0.68)	0.08	(1.00)	0.06	(0.69)	0.08	(0.93)
Sales growth	**0.06	(2.09)	**0.06	(2.27)	**0.06	(2.08)	**0.06	(2.20)	**0.05	(2.26)	**0.05	(2.43)	**0.05	(2.28)	**0.05	(2.44)
Net income increase	0.00	(0.22)	0.00	(0.38)	0.00	(0.22)	0.00	(0.33)	-0.00	(-0.62)	-0.00	(-0.40)	-0.00	(-0.60)	-0.00	(-0.44)
Company size	0.01	(0.35)	0.00	(0.19)	0.00	(0.18)	0.00	(0.08)	*0.03	(1.80)	0.03	(1.56)	0.03	(1.61)	0.02	(1.45)
Financial leverage	***-0.48	(-3.08)	***-0.45	(-2.79)	***-0.52	(-3.15)	***-0.49	(-2.93)	***-0.38	(-2.66)	**-0.32	(-2.22)	***-0.42	(-2.84)	**-0.37	(-2.47)
Performance volatility#	0.01	(0.79)	0.02	(1.12)	0.01	(0.80)	0.01	(1.02)	0.01	(0.57)	0.02	(1.06)	0.01	(0.57)	0.01	(0.94)
Litigious industry#	***-0.36	(-5.35)	***-0.35	(-5.19)	**0.20	(-2.12)	**0.20	(-2.18)	***-0.38	(-6.04)	***-0.36	(-5.82)	**0.17	(-2.10)	**0.18	(-2.22)
Cross-listed company	0.03	(0.24)	0.05	(0.39)	0.06	(0.41)	0.07	(0.50)	-0.06	(-0.56)	-0.04	(-0.30)	-0.04	(-0.32)	-0.02	(-0.14)
EPS increase (abs. value)	-0.00	(-0.57)	-0.00	(-0.63)	-0.00	(-0.72)	-0.00	(-0.75)	-0.00	(-0.02)	-0.00	(-0.09)	-0.00	(-0.17)	-0.00	(-0.21)
Liquidity	0.01	(1.12)	0.01	(1.17)	0.01	(0.92)	0.01	(0.97)	-0.00	(-0.32)	-0.00	(-0.23)	-0.01	(-0.58)	-0.00	(-0.48)
Discontinued operations	***-0.24	(-2.98)	***-0.24	(-2.97)	***-0.24	(-2.97)	***-0.24	(-2.96)	**0.19	(-2.42)	**0.18	(-2.38)	**0.18	(-2.36)	**0.18	(-2.34)
Intangible-intensive industry									***0.66	(9.68)	***0.67	(9.85)	***0.67	(9.86)	***0.68	(9.96)
Year 2006	0.04	(0.45)	0.04	(0.41)	0.04	(0.46)	0.04	(0.43)	0.05	(0.53)	0.04	(0.46)	0.05	(0.54)	0.04	(0.49)
Year 2007	-0.01	(-0.10)	-0.01	(-0.15)	-0.01	(-0.10)	-0.01	(-0.14)	-0.01	(-0.08)	-0.01	(-0.18)	-0.01	(-0.08)	-0.01	(-0.16)

Year 2008	-0.09 (-1.18)	-0.10 (-1.26)	-0.09 (-1.19)	-0.10 (-1.25)	-0.09 (-1.17)	-0.09 (-1.29)	-0.09 (-1.18)	-0.09 (-1.28)
Year 2010	-0.10 (-1.31)	-0.10 (-1.32)	-0.10 (-1.30)	-0.10 (-1.31)	-0.10 (-1.39)	-0.10 (-1.42)	-0.10 (-1.38)	-0.10 (-1.41)
USA country variable#	**0.17 (2.28)	***0.22 (2.71)	***0.36 (3.65)	***0.38 (3.82)	**0.13 (1.90)	***0.21 (2.83)	***0.37 (3.82)	***0.40 (4.16)
Performance volatility X USA#		*-0.18 (-1.54)		-0.13 (-1.06)		***-0.28 (-2.38)		**_-0.22 (-1.84)
Litigious industry X USA#			***-0.34 (-2.57)	**_-0.31 (-2.31)			***-0.41 (-3.39)	***-0.37 (-2.97)
F-value	***4.67	***4.45	***4.87	***4.62	***12.18	***11.77	***12.15	***11.66
Adj R ²	0.074	0.075	0.081	0.081	0.175	0.181	0.187	0.190
Change in R ² on country	***0.007				**0.004			
Change in R ² on interaction terms		*0.003	***0.008	***0.010		***0.007	***0.013	***0.016

Note: *, **, *** Significant at the 10, 5, 1 per cent level;

#one-tailed test for performance volatility, litigious industry and country variables; two-tailed test for others