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In times of crisis: a corpus approach to the
construction of the global financial crisis in
annual reports

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Abstract

Although both academics and policy-makers still debate its exact causes and the extent of its consequences, the ongoing financial crisis is doubtlessly the most distinctive economic event of the late 2000s. But despite the importance of such large-scale economic phenomena, there has been little research on their discursive construction. This paper presents some empirical data to show how the crisis is identified and its boundaries construed in corporate communication, seeking to understand how economic actors selectively shape public perceptions of critical events by routinely emphasising the role of certain agents and stakeholders while ignoring others. Terms for the crisis, their collocates and their discourse preferences are

drawn from a 1'500'000-word ad-hoc corpus of annual reports

Keywords: annual reports, corporate social responsibility, corpus linguistics, crisis communication, discourse analysis, financial crisis

1 Introduction

In the fall of 2005, a six-year-long uninterrupted hike in US housing prices abruptly came to a stop, causing sales to decline and real estate inventories to build up. By early 2007, lenders specialising in subprime mortgages began to fall, declaring significant losses or filing for bankruptcy. Foreclosures on such mortgages soared, and the price of securities backed with them diminished accordingly. As financial institutions rushed for liquidity, the credit market experienced a sharp contraction, and by 2008 marked falls in stock markets, international trade and the price of financial assets led to the collapse of major banking institutions, massive government intervention in the economy and the announcement of a global crisis (Fратиanni & Marchionne, 2009). Economic stimulus packages and bail-outs were implemented in all major world economies, and the G-20 summit of November 2008 has been compared to the Bretton Woods Conference that gave rise to the post-war international monetary system (Ocampo, 2009).

While there is little doubt that these cascading problems jointly constitute the most significant economic event of the late 2000s, affecting households and economies throughout the world, the connections between them —as well as the adequate policy responses— are far from self-evident and still remain a matter of debate between experts. Perceiving and labelling them as a *crisis* is a prime example of the social construction of economic phenomena, in which

values, theoretical models and tacit beliefs about the nature of the economy are mobilised to interpret and shape the ‘brute facts’ of foreclosure rates, stock market indices and bankruptcy filings.

This does not mean that crises are not ‘real’ —as some naïve interpretations of constructionism might take it— but rather that their nature and boundaries are intersubjectively determined, for the most part by linguistic means; and, therefore, that the language used to talk about these phenomena is crucial in making meaning about it. From a pragmatic point of view, even more important is that the reasons for the crisis and the urgency, scope and agency of possible solutions are so constructed as well, and different discursive frames (Fillmore, 1982; Goffman, 1974)¹ can have major effects in public understanding and policy decisions.

In this paper, I use corpus linguistic techniques to investigate how the global financial crisis is discursively constructed in a corpus of 50 financial and corporate social responsibility reports, as regards both its purely economic aspects and the broader context of sustainable development. While corporations are not directly in charge of public policy, they are the main economic actors in capitalist economies. Not only their prestige and importance ensures that their views on the economy exert an important influence over public opinion (Gandy, Jr., 1992; Newell & Paterson, 1998), but they also devote significant attention to lobbying for their causes in various forums, and retain public relations specialists to maximise their impact. Previous research has shown that corporate reporting devotes significant space to contextual economic factors in order to explain and justify yearly results (Crant & Bateman, 1993; Hyland, 1998; Merkl-Davies & Koller, forthcoming), and reports covering the crisis years can be expected

to feature extensive discussion of the crisis and its implications for business activity, offering a privileged point of entry to the managerial perception and construction of critical events.

The remainder of this paper is structured as follows. Section 2 provides a brief introduction to the growing field of crisis communication. In Section 3, I discuss the usefulness of corpus linguistics for this kind of research, and the specific methods and materials employed are described in Section 4. Section 5 presents the lexical items used to describe the crisis in the corpus, and a quantitative summary of their collocates is given in Section 6. Section 7 refines it by means of qualitative analysis. Finally, some concluding remarks are offered in Section 8.

2 Crisis and discourse

Although crisis communication has been a field of rapid growth within the business literature over the past 15 years, it has remained largely silent about the topic of nation- or worldwide crises. Historically linked to public relations, its initial goal was exploring avenues for managing stockholder impressions of institutions facing public concern, especially the containment and shaping of media reporting. Sparked by incidents such as the Three Mile Island nuclear meltdown (Murray, 1981) or the 1982 Tylenol tampering (Benson, 1988), the subdiscipline has focused on reputational crises, and for the most part remained firmly wedded to this inevitably firm-centred perspective², even as the seminal work of Coombs & Holladay (1996, 2010) led to more systematic models of threats to corporate public reputation and of the means to contain them. Schultz

& Raupp (2010) have pointed out that the ‘fundamental structural differences’ between the private and the public sphere make these models of little worth when exploring crisis sense-making in broader terms.

Other foci of analysis —such as presidential rhetoric in the construction of international crises (Cherwitz & Zagacki, 1986; Kuypers, 1997)— have been similarly restricted, and there has been little systematic exploration of the discursive construction of crises affecting society as a whole, whether political or economic (but see Jessop, 2009, 346). Research on the linguistic resources that may be mobilised for such a purpose remains fragmentary, whether regarding the role of the media (e.g., White, 2000, 2004) or direct communication from economic and political actors (Schultz & Raupp, 2010). Such an omission seems specially surprising, given that crises belong conspicuously to the core topics of mediated communication. They constitute large-scale, usually unexpected, negative events requiring the involvement of political and social leaders, and potentially affecting the public at large, all of them features that have been robustly identified as commanding widespread attention (Fowler, 1991; van Dijk, 1988). Public discourse on crises is important as well because of their intrinsically mediate character. The considerable interpretive work that goes into defining the nature and boundaries of critical events is at least partially constrained by how they are construed and given meaning in their discursive presentation. Furthermore, since crises *ex hypothesi* demand measures to contain and correct their impact, their discursive construction can have a strongly constitutive effect on public policy (van Dijk, 1993), selectively legitimating certain courses of action on the basis of the implicit bias of the construal.

3 Corpora in discourse analysis

A comprehensive examination of the discursive construction of crises in contemporary society lies obviously beyond the remit of this paper, not only because of the diverse structure of the genres that this construction may involve—from hard news to electoral programmes to religious homilies to academic discussion—but also because the relevant discursive patterns draw heavily on world knowledge and contextual features. This makes them unsuitable for purely automated approaches, and requires labour-intensive manual annotation and analysis (Bednarek, 2009). Consequently, most discourse analytic enquiries tend to focus on small sets of texts, and to select their methodology opportunistically in the light of the textual features evident on close reading. While enabling highly sophisticated and rich interpretation, this poses considerable problems of replicability, generalisability and representativeness, and makes an incremental approach to the problem all the more difficult because of variations in methods and materials.

However, a potential solution to this conundrum is illustrated by the growing body of research employing corpus linguistic methods, where information technology is used to allow the identification of routine patterns of lexical and contextual distribution over large volumes of data (Conrad, 2002; Koller & Mautner, 2004; Mautner, 2005). These techniques have been profitably used to analyse the construction of social categories in political and media discourse, such as the distribution of the ideologically loaded terms **ethnic**³, **racial** and **tribal** in the press (Krishnamurthy, 1996); the construction of the **elderly** in specific thematic roles (Mautner, 2007); and typical patterns in discussing **risk** among laypeople and professionals, sometimes strikingly different from the portrayal

envisaged by risk sociology (Hamilton, Adolphs, & Nerlich, 2007).

While it remains true that ‘there is no analytic routine through which a text can be run, with a critical description issuing automatically at the end’ (Fowler & Kress, 1979, 179), computer-assisted methods for treating large corpora can offer the researcher a more focused approach to texts, by highlighting lexical and grammatical regularities —such as significant co-occurrence of terms, preference for certain grammatical categories or evaluative prosodies, or variations in labelling—, as well as by displaying systematic patterns from which qualitative enquiry can proceed (Mautner, 2007).

4 A corpus approach to crisis

Such an approach is especially fruitful when distinctive lexis is involved, and **crisis** and its synonyms offer a clear starting point. To investigate the contribution of corporate actors to the public construal of the financial crisis, annual reports —being ‘the most publicized and visible document produced by publicly owned companies’ (Henriques & Sadorsky, 1999, 91)— were chosen as the empirical material. They possess the requisite uniformity in communicative function (Sinclair, 2005, 1), are the main voice for corporate beliefs about the role of the organisation in society, its mediate and immediate goals, its obligations and its interlocutors (Fiol, 1989, 278), and over the past decades have conspicuously incorporated sustainability and responsibility concerns, addressing society as a whole rather than stockholders alone.

As no ready-made corpora of annual reports are available, one was specifically designed for this study. To avoid factoring national variations in legal

requirements and practices, the decision was made to focus on a single country. Financial, CSR and environmental reports for 2008 were collected from the 75 largest Swedish companies, identified as those (a) traded in the Stockholm Stock Exchange; or (b) owned by the Swedish state. Since not all the selected firms had issued reports, the final corpus consisted of 50 documents totalling 1'541'783 tokens.

The documents were digitally converted to raw text, retaining all tables and charts but ignoring pictorial and layout data, and hand-checked for conversion errors before loading in the corpus analysis toolkit AntConc (Anthony, 2005)⁴. Due to the nature of the analysis, no part-of-speech or other tagging was necessary. The software generates word lists, keyword-in-context concordances and collocation lists, as well as calculating statistical significance measures for collocates, of which the mutual information (MI) score⁵ is most relevant to the paper's purposes. By using a reference corpus, it also becomes possible to determine which words show statistically significant differences in frequency, thus providing a robust method for identifying keywords.

5 Selecting lexical items

As a starting point, a set of terms that shared a similar semantic space with CRISIS was compiled—synonyms, near-synonyms, meronyms and hyponyms. Usual thesauri have limited usefulness for this purpose, as the cut-off level of similarity for determining inclusion varies widely and is often arbitrary. The corpus-based FrameNet lexical database (Fillmore & Baker, 2010), for example, includes CRISIS as part of two semantic frames: *catastrophe*, broadly defined as

Term	Part of speech
apocalypse	noun
befall	verb
betide	verb
calamitous	adjective
calamity	noun
casualty	noun
cataclysm	noun
catastrophe	noun
catastrophic	adjective
debacle	noun
disaster	noun
disastrous	adjective
incident	noun
mischance	noun
misfortune	noun
mishap	noun
suffer	verb
tragedy	noun

Table 1: Terms semantically related to CRISIS, according to FRAMENET

‘an Undesirable_Event which affects the Undergoer negatively’, and *hostile encounter*, an ‘encounter between opposing forces (Side_1 and Side_2, collectively conceptualisable as Sides) over a disputed Issue and/or in order to reach a specific Purpose’, only the first of which is relevant to this paper. The list of lexical units denoting this frame is given in Table 1.

The hand-designed lexical database WordNet (Fellbaum, 1998), in turn, offers two entries, defined respectively as ‘an unstable situation of extreme danger or difficulty’ and ‘a crucial stage or turning point in the course of something’. The lexical entries linked to them are listed in table 2. However, most of these terms are either far broader (*incident*) or narrower (*Dunkirk*) than usually suggested by the phrase *financial crisis*, and many of them were not attested in the corpus. A further list of nouns was compiled from the terms in the corpus that shared phraseological patterns or statistically significant lexical collocates with CRISIS. Somewhat surprisingly, only one of the above terms

Term (1 st entry)	Semantic relation
Dunkirk	synonym
exigency	synonym
juncture	synonym
critical point	synonym
crossroad	synonym
depression	synonym
slump	synonym
criticality	hyponym
flashpoint	hyponym
Term (2 nd entry)	Semantic relation
emergency	synonym
exigency	synonym
pinch	synonym

Table 2: Terms semantically related to CRISIS, according to WORDNET

Lemma	Freq. (absolute)	Freq. (‰)	Freq. (‰) in BNC
CRISIS	165	0.10701	0.06430
DOWNTURN	95	0.06161	0.00279
RECESSION	34	0.02205	0.03880
SLOWDOWN	33	0.02140	0.00146
SLUMP	3	0.00194	0.00579
TURBULENCE	24	0.01556	0.00417
TURMOIL	15	0.00972	0.00530

Table 3: Terms for the crisis in the corpus

(**slump**) appeared, and that with almost negligible frequency⁶.

The final set of seven nouns assembled by this process consisted of CRISIS, DOWNTURN, RECESSION, SLOWDOWN, SLUMP, TURBULENCE and TURMOIL. Notably, all attested synonyms of CRISIS are originally metaphoric, and —with the exception of RECESSION, so predominantly used in its economic sense to have obscured the spatial aspects of its etymon— visibly retain the reference to their source domain (cf. Koller & Farrelly, 2010). Frequencies for these terms, both absolute and per mille, are given in Table 3⁷, together with comparative data from the British National Corpus⁸.

Concordances were prepared for each of these lemmata, a total of 369 occurrences. Each of these was hand-tagged for typical patterns of usage, both

in terms of grammatical relations and broader semantic context. Additionally, lists of the main collocates of these items, ranked both by raw frequency of co-occurrence and by their Mutual Information score, were generated using AntConc.

6 Quantitative results

All items under investigation appear with considerable more frequency in the ad-hoc corpus than in the non-specific BNC ($\chi^2 = 1189.938$, $p < 0.0001$), showing the importance of the topic within these texts. A comparison of the rank of lemmata within each corpus (crisis > downturn > recession > slowdown > turbulence > turmoil > slump, vs crisis > recession > slump > turbulence > turmoil > downturn > slowdown) suggests that DOWNTURN and SLOWDOWN are favoured with unusual frequency by the writers of these reports, while SLUMP is especially infrequent. This is, again, likely due to the specific topic of the reports, since the favoured terms are those most closely associated with economic and financial phenomena, while SLUMP shows a much broader range of usage.

Besides the benefit of providing accurate empirical measures of the frequency of terms in particular contexts, corpus analysis also allows a synthetic view of other items that tend to co-occur with them—‘the company they keep’, as Firth (1951) famously put it— and the effect co-occurrence has on interpretation. Hoey (2005) has convincingly argued that a, largely unconscious, record of the semantic and pragmatic environment in which terms tend to appear features prominently in the interpretive process, and that readers are primed to expect a similar environment whenever they re-encounter the term. Table 4 shows

Node	Main lexical collocates
CRISIS	<i>financial, global, management, economic, affected, incident, climate, hit, downturn, current, year, business, new, market, result, manage, industry, impacted, impact, finance, economy, demand, communications, times, support</i>
DOWNTURN	<i>economic, global, financial, economy, current, market, crisis, result, demand, severe, world, affected, year, sustained, markets, lower, impact, affect, strong, industry, hit, construction, combined, business</i>
RECESSION	<i>global, market, year, position, crisis</i>
SLOWDOWN	<i>economic, global, economy, quarter, market, turmoil, real, fourth, demand, began</i>
TURBULENCE	<i>financial, market, markets, interest</i>
TURMOIL	<i>financial, global, economic, slowdown, markets, current</i>

Table 4: Main lexical collocates for crisis-denoting terms in the corpus

the top lexical collocates for 6 of the selected terms, ranked by joint frequency. The limited occurrence of **SLUMP** prevents calculation of collocates with any statistical significance, and it was thus ignored. Function words as well as proper names were excluded, as is usual in corpus-based discourse research, and a minimum MI-score of 3 was established as a cut-off point for excluding chance associations⁹.

The shared collocates clearly show the semantic overlap between terms. Most items in the set are linked to economics and the market —a rather significant feature on its own, given that the texts in the corpus were specifically chosen from those reporting on corporate social and environmental responsibility. Only **CRISIS** is frequently enough associated with environmental phenomena —the **climate crisis**— to show it in its collocational patterns, and although several processes and participants related to crises are identifiable in the list, none of them specifically convey social concerns. **Business**, **industry** —especially **construction**—, **MARKET** and **demand** are the main entities discussed, all of them very generic terms that give few clues as to the specific nature of this

crisis. Verbal collocates also show a markedly high level of abstraction, with none of the three most frequent verbs (IMPACT, AFFECT, HIT) conveying any semantic information beyond that of ‘exerting a (negative) impact’. Although the severity of the event is sharply underscored in a variety of dimensions — physical (**world, global**), temporal (**sustained**) and intensity (**severe**)— no concrete processes or actors are immediately apparent.

The profile resulting from this quantitative analysis shows the crisis to be strongly associated with abstract, macroeconomic aggregates, and only much more weakly with its subsequent social influence or with other stakeholders, who for the most part do not appear in the text. A second association relates talk about the crisis to abstract material processes, with no instances of concrete description apparent. While these patterns are interesting on their own, their main value for corpus-aided discourse analysis lies in identifying points of entry for further exploration. In the following section, this evidence is refined by examining these lemmata in their immediate textual environment by means of concordances.

7 Qualitative analysis

The quantitative evidence in the preceding section showed that the crisis is discussed quite often in these texts, but not in a way that could clearly delineate features other than its importance and negativity. However, this form of analysis forcibly decontextualises lexical items, and sheds very little light on the specific role they may be playing in the texts. A qualitative analysis of the relevant concordances, on the other hand, can provide a more precise collocational profile

by revealing the concrete grammatical patterns in which these associations are realised, as well as pointing to other terms from these domains that contribute to the prosody while not being statistically significant enough to appear on their own. Due to space limitations, a full list of instances cannot be provided, but Concordance 1 presents a random sample of 40 occurrences of the lemmata under investigation.

1	at an accelerating pace as a result of the global financial downturn	and low levels of investment activity. Outokumpu's stainless
2	downturn. A challenge during 2008. During 2008 the financial crisis	affected economies worldwide. Business cycles are a reality
3	shed factory in Hungary. As a result of the global economic downturn	, the business area decided on capacity reductions during the
4	flow of liquid funds. In a sustained and/or severe economic downturn	financial institutions who hold our cash and other short-term
5	important decline in demand as a result of the ingredient in recession	and the competitiveness global financial crisis, we have been
6	in decades credit became a scarce resource. As the financial crisis	unfolded many financial institutions were forced to retreat
7	the crisis has developed into a global financial crisis and a recession	with a duration that is hard to foresee. Rising unemployment
8	exists. The Baltics are a growing market, although the economic slowdown	in the fall and winter of 2008 has made the fight for customers
9	a very hard test in 2008 as a result of the worst financial crisis	in several decades. Länsförsäkringar is very gratified
10	declining results are mainly a result of the global financial turmoil	and the weaker economic climate. SCA's hygiene business is
11	average effect built in: a solution to the ongoing financial crisis	can give us some valuable space to solve the climate crisis
12	re sourced internally. As a result of the global financial downturn	and low demand for stainless steel, raw material prices decreased
13	production levels. A widespread financial crisis and economic downturn	such as the current, affects the Group negatively both in the
14	decline in market conditions resulting from the financial crisis	and the global downturn in the business cycle. In September
15	at all, in the event of a severe and/or sustained economic downturn	. A particular risk relates to the Group's pension obligations
16	instead of an economic boom to a financial crisis and a cyclical downturn	- in no time flat. Despite turbulent surroundings, as a company
17	advantage that Posten was able to enter the current economic downturn	with a strong financial position and an action program in
18	investments designated for hedge accounting is due to the sharp downturn	in interest rates during the last quarter of 2008, as the price
19	and. We initiated adjustments to prepare for an anticipated downturn	in the economy. Then the financial crisis hit
20	, the affluent world is now cast adrift in a long period of recession	and slow growth. It is high time for us to construct a more
21	Review on page 42. Adverse impact of a sustained economic downturn	A variety of significant risks may arise from a sustained
22	moderate level, particularly against the backdrop of the economic slowdown	. There is no lack of challenges ahead. The global financial
23	Länsförsäkringar Alliance remained stable during the financial crisis	. The capital situation is favourable and the company strengthened
24	Our customers and suppliers have also been hard hit by the crisis	, but to different degrees depending on the region and industry
25	the long run. WE HAVE ALWAYS SEEN OPPORTUNITIES For some a downturn	in the economy is a problem but for others it also full of
26	for the Group, and 95 left through divestments. The financial crisis	has caused Atlas Copco to adjust its workforce to the current
27	one. Like most companies, Stena was hard hit by the financial crisis	and was forced to lay off employees. This is extremely unusual
28	primary suppliers, which were severely impacted by the financial crisis	. Necessary adjustments required the shutdown of the smelter
29	is to survive. Government and capital In times of severe crisis	, growth depends on effective cooperation between the private
30	was exceptionally strong and most major economies went into recession	. Central banks and governments were forced to implement policies
31	ed its capital and financial strength despite the financial crisis	. During a year in which global stock markets fell by between
32	going to the new conditions and raising its market shares, The crisis	has affected everyone Consolidated revenue has fallen sharply
33	however, we have stood strong and been able to benefit from turbulence	in our operating environment. How have you handled the crisis
34	in a firm despite the downturn and the impact of the financial crisis	on the industry. Scandinavian Airlines International Index
35	Scania was both eventful and challenging due to the financial crisis	that gradually reduced demand for kitchens. The altered market
36	in key interest rates and stimulation packages to dampen the recession	. The USD, which had weakened over several years, reached a
37	strong investment and production levels. A widespread financial crisis	and economic downturn such as the current, affects the Group
38	President and CEO Stockholm, February 2, 2009 The severe recession	in the global economy that we saw during early 2009 will persist
39	stronger and harder than we are by the current global financial crisis	. Despite all the challenges, we are positive about the
40	them in their tracks are well-nigh unlimited. The financial crisis	threatens the economic system by which we flourish; the climate

Concordance 1: Random sample of the concordance for selected lemmata ($n = 369$)

Close scrutiny of the concordance output suggests several interesting patterns of semantic prosody and semantic preference. A large proportion of the nouns (above 70%) occurring in the vicinity of the selected terms describe economic systems and phenomena in terms that detach them from the concrete

agents involved (**investment activity**, **business cycles**, **growing market**, **operating environment**), many of them nominalisations. If self-references to the issuing company are excluded, the figure climbs to about 85%.

This suggests that—even though annual reports, especially those devoted to environmental and CSR issues, are supposed to be prepared for the benefit of stakeholders—discussions of the crisis in this context tend to centre around general, abstract models of causal relations in economics, rather than around the concrete impact the situation may have on specific human and institutional agents. There are 34 mentions of **customers**, 14 mentions of **suppliers**, 7 of **employees** (plus two of **personnel** and two of **workforce**) and a mere five each of **society** and **government**—far less than the 96 references to **markets**, the 59 to **economy** or the 53 to **demand**, the most frequent noun forms in this environment.

7.1 Construing crises

This contrasts with the fact that an overwhelming majority of references specifically deal with the present situation and not with crises in general, as can be seen from the high preference for the definite article, as well as from frequent co-occurrence with the adjective **current** (and, to a lesser extent, **ongoing**). Only 12 of the 369 instances, presented in Concordance 2, can be interpreted as general statements about the causes, consequences and requirements of crisis situations.

A summary analysis of the expanded context for these concordances shows general discussion of crises to focus on two topics:

Effects Crises create risk by affecting both gross revenue and net profitability

1 omers' investment and production levels. A widespread financial crisis and economic downturn such as the current, affects the Group ne
2 political circumstances, such as natural disasters, an economic crisis , a shift in power or an embargo. Saab manages political risks t
3 us. Our business acumen has proved to be invaluable in times of crisis . Competence development improves business Trends, new legis
4 problems, all I can say is that, whether we are in a financial crisis or a flourishing economy, they have not gone away. At SAS, sust
5 : * Analysis must be performed of all risks that may lead to a crisis . * Business continuity plans shall be in place if the risk is
6 f significant risks may arise from a sustained global economic downturn including those referred to here. Additional pressure from gove
7 ble flow of liquid funds. In a sustained and/or severe economic downturn financial institutions who hold our cash and other short-term d
8 , or at all, in the event of a severe and/or sustained economic downturn . A particular risk relates to the Group's pension obligations,
9 g in the long run. WE HAVE ALWAYS SEEN OPPORTUNITIES For some a downturn in the economy is a problem but for others it also full of oppo
10 areas, means that we are well placed to be less affected by any downturn in global demand. However, the extent of the decline in demand
11 a slightly different role in different economic scenarios. In a recession , they reaffirm our value proposition. Customer value and value
12 private wholesalers to privately owned pharmacies. An economic slowdown may impact the ability of some of these customers to continue t

Concordance 2: Concordance for general references to crises ($n = 12$)

for the company, its customers, its suppliers and its financial providers.

At the same time, this allows well-prepared economic actors to seize the opportunity to expand.

Remedies It is possible and necessary to prepare for crises and react to them, offsetting their effects by reductions in working capital and, especially, the workforce.

While the lack of mention of the causes of crises may be explained by the above being general discussions that cannot contemplate all possible alternatives, it is interesting to note that no such restraint is exercised in suggesting solutions. In line with hegemonic managerial theories, but decrying the social commitment that companies claim to endorse elsewhere in these reports (Lischinsky, 2010, 2011, forthcoming), the orthodox tool-kit of divestment and lay-offs is implicitly assumed to be universally useful —no matter what the causes of uncertainty and reduction in trade volumes may be— and touted as a proof of good business sense:

- (1) The fiscal year 2008/2009 was very tough. Like most companies, Stena was hard hit by the financial crisis and was forced to lay off employees.
 “This is extremely unusual for the Stena Metall Group,” says Per-Martin

Schedwin. “Layoffs always mean tough but necessary decisions. I feel we handled it in a positive way that created a sense of calm for the employees who are still with us. Our business acumen has proved to be invaluable in times of crisis.”

7.2 Stakeholders in the crisis

This impression is borne by an examination of the complete concordance, where all mentions of personnel relating to the crisis are made in the context of justifying workforce reductions, even when an unambiguously positive assessment of employees’ role is presented. Lay-offs are described as **forced**, recalling the rhetorical claim that ‘there is no alternative’ often associated with neoliberal economic discourse (Fairclough, 2000):

- (2) The global financial crisis impacted both Outokumpu and our personnel. Unfortunately, workforce reductions could not be avoided. [...] As the poor demand for stainless steel continued, however, in February 2009 we were forced to announce a series of further actions.

The role of political bodies is similarly limited in this portrayal of the crisis. The few instances of GOVERNMENT in this context centre around the stimulus packages and financial securities that central banks and national executives were, again, **forced** to implement, with no mention of their role as regulators of the financial and economic system. Discussions of SOCIETY, in turn, either present it as the undergoer of financial and environmental troubles, or routinely state the company’s commitment to ‘contribute as an actor in society’, without any explanation of what this might entail in a crisis situation.

7.3 Causes and consequences

While a significant proportion of mentions of the crisis (around 60%, taking the paragraph as the unit for analysis) include at least some detail about its mechanisms of propagation and the way in which they led to the reporting company being affected, the texts in the corpus seem much less willing to comment on its causes. The suggestion that the slowdown in the real economy is a more or less direct consequence of financial instability is pervasive, even if seldom explicit; lines 5, 7 or 10 in Concordance 1 exemplify the usual way in which such an attribution is presented, through a coordinated noun phrase that does not attempt to explain the relation between those phenomena. Some more detailed formulations can be found in reports with a heavier financial content, as in the example below:

- (3) In autumn the economic decline increased. Tighter credit availability, high interest rates on loans and significantly falling asset prices culminated in a financial crisis that from mid-October severely threatened global financial stability. The fear of inflation that pervaded the first half-year rapidly changed to a fear of deflation. In the final quarter of the year the decline in the world economy was exceptionally strong and most major economies went into recession.

An analysis of the expanded concordance shows 50 mentions of **demand**, 34 of **price** and 7 of **credit** as being the mediating factors in the impact, as illustrated in Concordance 3.

1 affects the demand for security solutions. 4 THE IMPACT OF a recession is not entirely negative for the security industry. To maintain
2 sidered indefinite. 60 Impairment losses: The global economic slowdown has reduced demand for real estate, including land for new cons
3 Stena Metall's recycling operations were affected early in the crisis . During the spring and summer of 2008 demand was high and comm
4 ds are sourced internally. As a result of the global financial downturn and low demand for stainless steel, raw material prices decline
5 e slightly. The factor behind the lower demand is the economic downturn and the lower level of building activity throughout Europe. In
6 had an immediate impact on the airline industry. The financial crisis , combined with an incipient downturn, hit demand hard in both
7 members and to build markets for the raw milk they supply. The turbulence relating to the increase in demand for raw milk in 2007 acceler
8 strengthen our customer offering. As a result of the financial crisis , demand in Nobia's markets gradually declined during the year.
9 targets. Although Outokumpu's financial position in facing the turmoil is strong, the dramatic slowdown in stainless steel demand forc
10 the first three quarters of 2008 but with the global financial crisis accelerating during the fall, demand fell sharply towards the e
11 uipment in the sawmill. In terms of market demand, the current downturn is the heaviest in several decades and nobody believes in a rec
12 -time highs. In September the world was jolted by the financial crisis , affecting demand for, and the prices of, non-ferrous metals.
13 EK 1,188m (4,475). * Operating income was adversely effected by downturn in demand and cost-saving activities. . Charge of SEK 1.0 billi
14 an important decline in demand as a result of the ingredient in recession and the competitiveness global financial crisis, we have been r
15 areas, means that we are well placed to be less affected by any downturn in global demand. However, the extent of the decline in demand
16 arket, and since we are receiving less material than before the crisis we have reached a balance between supply and demand. Stena Meta
17 e lower profit is a result of the financial crisis and economic downturn that has contributed to lower demand and declining prices. Retu
18 ent 2008 The latter part of 2008 was dominated by the financial crisis and uncertainty, which reduced demand for kitchens at the end o
19 er performance in 2008 is was due primarily to the sharp, rapid downturn in demand during the year. Ongoing cost reductions In light of
20 g 8% (7) of orders received, was not unaffected by the global slowdown in the fourth quarter, but a demand held up better than in othe
21 h increased its market share in the major markets. The economic slowdown is expected to continue to adversely impact demand in 2009. Own
22 inancial position in facing the turmoil is strong, the dramatic slowdown in stainless steel demand forced us to adjust. We postponed the
23 line industry. The financial crisis, combined with an incipient downturn , hit demand hard in both the business and leisure segments. Th
24 ling at USD 70 a barrel. Falling prices were caused by the huge slowdown in the global economy, which resulted in lower demand. Inventor
25 me time as demand slowed, due to retail price increases and the downturn in the economy. The milk price for members fell by about 15 per
26 nd demand continues to rise for organic and local products. The recession that began in 2008 again drew more attention to discount altern
27 ned sharply in the fourth quarter, as a result of the financial crisis and falling metal prices. Product development, driven by custome
28 ng the fall of 2008 for the most important grades. The economic crisis had an immediate impact on demand, while the supply of recover
29 of Nobia was both eventful and challenging due to the financial crisis that gradually reduced demand for kitchens. The altered market
30 ogether to find the right solutions in a year when the economic crisis disrupted the normal pricing mechanisms. WEEE operations in Norw
31 ressure on producers in other countries. The prevailing finance crisis , high energy consumption and declining demand are however hast
32 t of changing demand in certain paper segments and the economic downturn . Unbalance in the market brought large inventory increases in
33 w The latter half of 2008 was dominated by the global financial crisis and uncertainty, which also reduced demand for kitchens. Conseq
34 vn timber. Profit The lower profit is a result of the financial crisis and economic downturn that has contributed to lower demand and
35 zed. During the period demand was very weak due to the economic crisis . Volumes are now around 40 percent lower than in the spring of

Concordance 3: Concordance for causal explanations of the crisis

However, attempts to go beyond this rather transparent relation are extremely scarce. Only three reports engage the topic of the underlying causes of the financial crisis at any length, and, tellingly, they show no uniformity in their assessment. One of them, a forestry cooperative highly sensitive to variations in the construction sector, follows the now standard view that problems in the US housing market triggered the crisis:

- (4) The US housing crisis has developed into a global financial crisis and a recession with a duration that is hard to foresee. Rising unemployment and lower GNP growth not only reduce private consumption but also investment willingness in the business sector. Construction and print media advertising are also affected.

This cursory explanation does not provide any insight on the mechanisms by which the crisis became generalised and global, nor on the underlying causes of the failure in the housing market. All factors seem entirely exogenous to the business world. The excerpt below, on the other hand, offers a brief yet broader view of the functioning of the financial markets, where the involvement of a number of different agents is portrayed. However, government institutions are present only through their measures of last resort, and no mention is made of their regulatory role. Business, in turn, is absent from the text, and only appears implicitly as a customer of the capital market.

- (5) At the end of the third quarter of 2008, the financial turmoil that began in the capital market in 2007 entered an extremely turbulent phase. A crisis of confidence arose, which led to a substantial weakening of the function of the capital market, resulting in a liquidity shortage. As a result of the massive support measures implemented by various national governments and central banks, this financial turbulence subsided toward the end of the year.

Only one company goes beyond surface phenomena to provide an explanation (partly reproduced in the excerpt below) as part of a three-page long introduction to their report. Interestingly, the company is an important defence contractor, and much of the explanation is devoted to highlighting the main features of the highly internationalised ‘New World Order’ it envisions, based on increasing recourse to supra-national policy institutions and the willing abandonment of national self-sufficiency.

- (6) The financial crisis in 2008 has clearly shown what can happen when one of the global transaction systems fails. It has an immediate, dramatic effect on the volume of transactions. In the long run, it creates not only bankruptcies and unemployment but also the risk of protectionism and new national conflicts and battles over resources and assets. The financial crisis is the first real setback for the new flow-centered society.

The extensive historical overview offered does not, however, make any mention of the banking and financial systems. It is argued that ‘there are players in the geopolitical arena that exploit both systems [the Westphalian and Dumbarton Oaks designs, AL] at the same time to achieve their strategic objectives’, but their nature is not even hinted at in the text, and careful close reading would be needed to recover them from elsewhere in the 148-page report. All in all, no suggestion is made anywhere in the texts that regulation of the capital markets may help solve the crisis or improve the sustainability of the system, although this is less than surprising given the conspicuous absence of discussions of sustainability in the context of the crisis.

8 Concluding remarks

The main concern of this paper lay with exploring how the causes, outcomes and possible remedies of the crisis are portrayed in financial and annual sustainability reports, and especially how were references to the crisis used as part of the overall aim of persuading stock- and stakeholders of the adequacy of managerial choices. While a comprehensive assessment would require extensive research to factor in national variations in genre structure and regulatory requirements,

the data presented here provide a first point of entry, and suggest that non-financial outcomes still occupy a largely peripheral position within these reports. While the usefulness and appeal of crisis-centred explanations as justifications of financial performance has been reliably proved, such explanations are only scarcely present when it comes to social and environmental indicators.

The business-oriented quality of crisis discussions in these reports can be traced back to its collocational and prosodic profile. Typical collocates are drawn from the domains of economics and finance, and are semantically related to profit, turnover and the market. Other stakeholders —such as employees, government and local communities— play a peripheral role, if any, and are clearly subordinate to the economic goal of maximising dividends. This marginal character is compounded by a marked tendency towards abstract formulations that obscure the concrete communities and institutions with which the company interacts.

A narrow focus is also evident in discussions of remedies, where lay-offs are assumed to be a natural response to crisis situations, and no space is allotted to presenting the view of employees. This is not based on specific analyses of the causes and mechanisms of the critical juncture, which are largely absent from the texts. So are discussions of its impact on sustainability practices. Although (measurable) commitment to sustainability seems to motivate crisis-related explanations in a minority of reports, these are negligible in terms of the overall volume of text, and remain marginal within the genre.

Our analysis is, however, partial, and more research would be needed to approach a globally accurate picture. The data under consideration are limited to reports issued under the Swedish regulatory framework in 2009, and provide

no hints as to diachronic trends, the effect of different regulations and national cultures, or the rhetorical design of other genres of business environmental discourse, such as the environmental awareness booklets discussed by Skulstad (2005). Comparative research —examining differences in lexis and prosody between texts of different sources— would be needed as well to provide a definitive profile of the construal of crises in business discourse, and its influence on other genres and agents cannot be clearly grasped without ethnographic inquiry on the context of production and use of such texts. However, the evidence presented here provides a useful example of the support that corpus methods can bring to discourse analysis.

Notes

¹Despite the important theoretical differences between the sociological and psychological, and the linguistic understanding of frames, both notions point broadly to the same phenomenon, i.e., the fact that the world-knowledge associated with lexical items is crucial to the subsequent interpretation of discourse. Cf. Telles Ribeiro & Hoyle (2009).

²Other fields of research that formerly employed the label ‘crisis communication’, such as the role of the media and international venues in the buildup of international conflicts, or professional intervention in health crises, never became sufficiently established to contest the majority use.

³In this paper, small capitals are used to present query expressions used in the concordancing software, while specific word forms are rendered in fixed pitch. A string like CRISIS, thus, covers the word forms **crisis** and **crises**. Angle brackets (<>) indicate placeholders for expressions, such as grammatical categories, that were manually evaluated by the analyst.

⁴The raw data and tables are available upon request from the author.

⁵More properly termed Pointwise Mutual Information, MI is normally understood in corpus research as the amount of information that the occurrence of a term contributes towards determining the occurrence of another. Manning & Schutze (1999, 178–183) point out that,

since MI is sensitive to the overall frequencies of terms, it provides inaccurate estimates for sparse data. To avoid this, the usual practice of ignoring items with $f < 5$ has been followed, even if it is less precise than using a modified formula, as no currently available software supports these corrections.

⁶CATASTROPHE, DISASTER, INCIDENT, CROSSROAD and DEPRESSION appear in the corpus, but manual examination shows that no instances of these terms refer to the economic crisis or comparable phenomena.

⁷These exclude instances where the terms were not found to refer to the economic and financial situation.

⁸On the basis of the lexical and spelling choices prevalent in the reports, they were judged more similar to Commonwealth than American English, and the BNC selected for comparative purposes. Further analysis using data from the Corpus of Contemporary American English, not reported in detail here, shows that the phenomena discussed in the paper are not likely to be due to dialectal variation.

⁹Using t-scores instead does not significantly alter the findings, and they were ignored for the paper's purposes.

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