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Editor's Feature

What's in a Name?
Understanding the Language of the Credit Crunch

Abstract: This study makes a number of observations about the way in which the current crisis in particular, but economic crises more generally, are reported upon by the media. Considering terminology used to describe the financial crisis of 2007/2008 by employing a dataset of 956 articles from *The Economist*, we study what terms are used, why, and how they evolve. We consider how the frequency of negative emotional terms and the frequency of negative economic terms increase from the period of no-crisis to the period of the crisis. Increasing incidence lowers levels of consumer confidence. We predict that as the crisis evolves the nature of the terminology used to describe it will change, and that the present crisis will receive a special name, like the "Great Depression" of the 1930s. We explore a number of possibilities, and conclude that the preferred name will be the "Credit Crunch."

Keywords: content analysis, business and economic cycles, recession, depression

JEL Classification Codes: A1, E6, G00, Z00

How was the crisis of 2007/2008 reported in the media, and how is it likely to be referred to in the future? What terms are used, why, and how has the use of these terms evolved over time? To investigate these sorts of questions we employ a content analysis methodology that looks at the frequency of a number of key terms in *The Economist* magazine that are used to describe the crisis and its lead up,. Although causality is difficult to establish, we have reason to believe that the role of the media is not a neutral one.

We suggest that the frequency of negative terms used by *The Economist* will increase from the period of no-crisis to the period of the crisis peak. We employ a broad data set, which considers the period from January 2000 to December 2008 to illustrate this, and we track two categories of terms. First, we consider the frequency of "general negative sentiment" terms (as, for example, words like "pressures," "panic," and "anxiety"), and second, we consider "negative economic terms" (such as "slowdown," "downturn" and "credit crisis"). We suspect that as the crisis evolves and as it moves through the various stages of its lifecycle, the terminology used to describe it will change. We predict that it will develop, for example, from being a simple "mortgage (or housing) crisis" in the beginning – when the wider community was unsure of the extent of the problem – to being a "liquidity (or currency) crisis," and then – as the full extent of the crises ramifications on the global economy are realized – it becomes an overall "financial (or economic) crisis."

We predict that the use of these crisis-related terms will peak when causes of the crisis have become clear, and when the consensus opinion is that these are starting to be addressed. After this point, we suggest that the "crisis-proper" will be seen to be over, and that the terminology will change as the economy slips into a "downturn" and then a "recession." We will use a second more focused data set that considers the period from January 2006 to December 2008 to illustrate this evolution in the terminology of the crisis.

Considering how significant this crisis appears to be, we suspect that the terminology will evolve to the point that the current crisis will receive a special name, much like the "Great Depression" of the 1930s or the "Asian Crisis" of the late 1990s. We predict that "Credit Crunch" will be the preferred term, and by looking at a sample of the period from January 2008 to December 2008 we will illustrate why this is likely to be the case.

Finally, we suspect that the increasing frequency with which *The Economist* refers to the crisis and, to this end, employs negative emotional terms in general, will predict lower levels of consumer confidence and spending. We will end our discussion by describing this relation with some basic econometric estimations.

The paper is organized in the usual way. Section two investigates the relation between the media and the macro economy with a brief overview of some of the most recent literature. The third section introduces the data and profiles the methodology we employ. Section four discusses findings of our investigation and their implications, and the final section summarizes the key findings and implications and concludes the discussion.

The Media and The Economy

Recent developments in the real business cycle literature have shown that models with "non-fundamental" demand shocks and indeterminate equilibria can match observed patterns in macroeconomic data relatively well (see e.g., Farmer and Guo 1994; Benhabib and Farmer 1999; Benhabib and Wen 2004). Consistent with these finding, Carroll, Fuhrer and Wilcox (1994) show that after controlling for the fundamental determinants of spending, non-fundamental determinants, such as consumer sentiment, have a significant role in predicting future spending. Matsuaka and Sborbone (1995) estimate, in fact, that non-fundamental shifts in consumer sentiment may explain as much as 13-26% of output fluctuations, and Oh and Waldman (1990) demonstrate that the "false announcement" of key indicators and statistics affects business sentiment, and can explain more than 20% of the fluctuations in growth in industrial production at a quarterly frequency.[1] Chauvet and Guo (2003) find that changes in consumer outlook, such as the adoption of overly bearish attitudes may in fact have played a non-trivial role in driving many of the most prominent recessions of recent times (such as the recessions of 1969-70, 1973-75, and 1981-82).

Starr (2008) suggests that the concept of non-fundamental fluctuations in consumer sentiment capture intangible psychological factors, which vary over time and have independent causal effects on the consumers' willingness to spend, and suggests that the media has a key role in shaping this. She suggests this is especially true of economic news, as the media is the publics' primary source of information on the macroeconomic climate (Blinder and Krueger 2004).

Cognizant of this fact, an increasing number of studies are beginning to look at the role of the media's influence on consumer sentiment with many interesting results. Doms and Morin (2004), for example recently considered the coverage of economic news in *The Economist* magazine and find that "bad news" has a significant and negative effect on consumer sentiment. Salyer and Sheffin (1998) find that "belief shocks" have incremental predictive power for macroeconomic time series, and Starr (2008) finds that the incidence of "news shock effect" strongly predicts short term fluctuations in consumer spending patterns and positively effects longer term patterns.

According to Doms and Morin (2004), consumer sentiment can be affected by the media through three channels. Firstly, the media disseminates information on economic statistics and measures, and publishes expert opinions on the interpretation of these. Secondly, consumers receive a signal about the economy through the tone and volume of economic reporting and, according to Sims (2003), tone and volume have a greater effect on sentiment than economic information. Stein (1975), Kurtz (1990) and Weinstein (2002) each argue, however, that the tone and volume of the media is likely to be negatively skewed in its representations of economic news, because as Burns (2002) and Harrington (1989) demonstrate, only the most dramatic economic news gets covered. Because of this, perceived and actual economic conditions can be misaligned by the media, and relatively mild downturns can be overblown; real-world spending may be depressed and the onset of a recovery may be significantly delayed (Kurtz 1990; Blanchard 1993). In this respect, the role of the media and its impact on the economy is not neutral, although economists believe that it tends to neutrality in the long-run (Coyne and Leeson 2004; Sen 1999).

Finally, it is suggested that the media influences consumer sentiment by affecting the likelihood that consumers will update their expectations (Doms and Morin 2004). Carroll, Fuhrer and Wilcox (1994) suggest that the greater the volume of news coverage the more likely expectations will be updated because, as Moscarini (2004) and Reis (2003) explain, the ease with which information about the economy can be gathered is lower when news coverage is high. Akerloff, Dickens and Perry (2000) and Gabaix et al. (2003) suggest too, however, that consumers may be more likely to read articles with dramatically negative economic headlines because consumers are more likely to think that the information in the article may be of relevance to their own financial futures.

A considerable amount of work has explored the question of how people actually interact with the media. In an early review, Adorno and Horkheimer (1997 [1944]), for example, suggest that the popular press dulled minds, and inculcate the work and consumption values needed for capitalist growth (cf. Herman and Chomsky 1988). Later work has criticized this view (Kellner 1995; Storey 1996; Dolfsma 2004), however, and has suggested that readers ''decode'' messages in ways that are relevant to them (Hall 1980).

With specialty media, however, such as with the UK based weekly magazine, *The Economist*, readers often share basic premises about "codes" (Hall 1980), so much so that messages "encoded" by the "text producers" may often correspond directly to what is "decoded" by the readers (Starr 2004). Because *The Economist* is not a popular press, but rather a high-end business publication, it is suggested that it is unlikely to play into the "information anxiety" that afflicts many of the most influential people whose work revolves around the knowledge economy, business and politics. According to its circulation statistics, practically all of *The Economist*'s readers have a university degree (over half have a post-graduate degree), about one-half have an annual income of $100,000 or more, and the overwhelming majority (91%) are male. The world in which they live is portrayed as being a rapidly changing place, with a deluge of new information flows permitted by new technologies. *The Economist* sells itself as providing an impartial filter for this flow (Starr 2004). Because of this, *The Economist* is seen to be an important and highly influential publication, and the language it uses to describe events can be of critical importance. Consequently, we use *The Economist,* and study the language it employs, in an effort to better understand the nature and evolution of the current crisis.

Data and Methodology

Sample. To address our central research questions we look at the incidence of some specific crisis and crisis-related words appearing in *The Economist* magazine and track the changes in the frequency of their usages over time. We believe *The Economist* is an appropriate resource for such an end because it is widely held to be an objective and credible source of news and information.[2] It has operated since September 1843 and has a circulation of 1.3 million copies per issue.[3] Because it is aimed at "the educated layperson,"[4] we suspect that it will be more likely that *The Economist* will utilize the kind of financial and economic terminology that we are interested in, in the correct and appropriate way.

We create two complimentary and partially overlapping databases of articles published in *The Economist* over the period from January 2000 to December 2008. The first, the "quarterly" database, includes the terms used in the first edition of the first month of each quarter for each of the 36 quarters during the period. As *The Economist* is published on a weekly basis, the quarterly database includes one of every twelve published issues. The second database, the "monthly" database, is somewhat more detailed. The monthly database includes terms used in the first edition of the first month for each of the 36 months in the period from January 2006 to December 2008, and so includes one of every four published magazines. Between them, twelve of the magazines in the "quarterly" database overlap with the "monthly" and appear in both databases.

As an international magazine, *The Economist* reports on stories from all around the globe. For our purposes, however, this international dimension creates "noise," as other international discussions, and other "crises" will be considered by the magazine, that are not of relevance. Furthermore, and because the crisis evolved at different rates in different countries, there may be time-lagged effects in comparing the "crisis" in, for instance, the UK and the United States. To minimize both of these effects we consider only articles written about the United States, or about the "Americentrist" discussion of the economic and financial world. We therefore refine our two datasets to include only the *The Economist*'s sections on the "United States" and "Finance and Economics." As there are 10 to 15 of these articles in every edition, we produce a dataset of 956 articles.

Coding for Keywords. Unix software was used to build the two data sets, and was used to analyze the frequencies of the keywords appearing therein. Unix can be used to count the words used in a text file, and from the output that it produced we then manually isolated and grouped three types of keywords.

The first type of words we isolated – that is, the Type I words identified in Table 1 – are "general economics and business terms," such as "market(s)," "banks(s)," "capital" and "credit." These we identify for reasons of robustness checking because, if the data is relatively homogenous over time, the frequencies of these words should not change significantly over time. By contrast, the second type of words, more specifically the "negative economics and business terms," should demonstrate more substantial variance over time. In the Type II group we include words such as "recession," "slowdown," "subprime" and "downturn." These words should be clearly counter-cyclical: their usages should decrease in good economic times and increase in bad economic times. We expect the same is true of the third group, the Type III words. This group includes more "general negative emotional terms." In this category we include words like "pressure," "anxiety," "worry" and "scared," but also emotive references, such as references to the Great Depression of the 1930s. The full list of all the keywords isolated and identified by this study are presented in Table 1.

Results

Our central purpose in this paper is to use *The Economist* to understand the terminology used to describe the recent economic troubles, and to understand why, and how these terms have evolved over time. In attempting to achieve this goal we explore a number of observations of increasing specificity.

Negative Terms over Time. Using a standard content analysis procedure, we first produce a frequency list of all the words utilized in the quarterly database.[5] To guarantee that the frequencies we produced here would be directly comparable, we

Table 1. Types of Words Identified in the Study

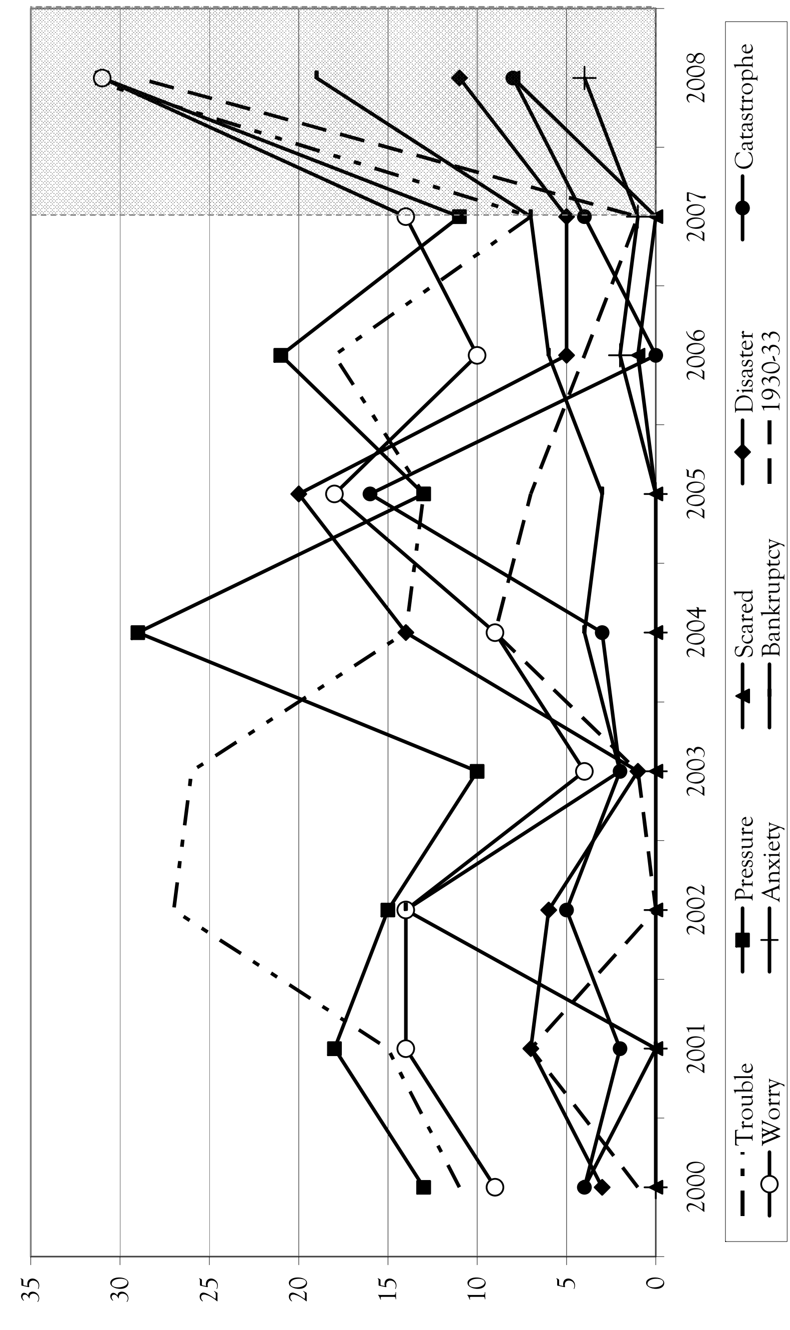
Type I General Economics and Business Terms	Type II Negative Economics and Business Terms	Type III General Negative Emotional Terms
Credit	Crunch	Trouble
Inflation	Recession	Pressure
Bank	Crisis Terms*	Scared
Market	Downturn	Disaster
Borrowing	Collapse	Catastrophe
Bankruptcy	Slowdown	Worry
Foreclosure	Liquidity	Anxiety
Finance	Subprime	Bankruptcy
Corporate	Mortgage	Foreclosure
Spending	Credit Crunch	1930-33
Capital		
Trade		
Interest Rate		
Housing Market		

* 'Crisis term' is an aggregate of crisis related bigrams appearing in the database. It includes all references to the economic, financial, liquidity, mortgage, subprime, credit, housing, banking, systematic, currency, property, debt and/or petrol-price crises. These terms are disaggregated and discussed separately in the second, 'monthly' database.

took efforts to ensure that none of the years contained considerably more or less articles or words. Then, we manually isolated a number of negative emotional/ emotive terms – Type III terms identified in Table 1 – to study the changes in their usages over time. Figure 1 isolates nine of these and plots their frequencies over the period from January 2000 to December 2008.

The results from this are quite striking. From Figure 1 we see that pre-2007 there is no clear picture in the usage of these terms. In mid-2002, presumably in the wake of the 9/11 downturn and the bursting of the internet bubble, terms like "trouble" and "bankruptcy" were frequently used but, surprisingly, terms like "scared" and "anxiety" were not. It was not until mid-2003 that terms like "pressure" started to rise in their usage to subside later, and it was mid-2005 that saw a peak in the use of words like "disaster," "catastrophe" and "worry." With the obvious exception of the potentially emotive word "bankruptcy," which had been rising in frequency since mid-2003, the incidence of these negative terms broadly declined after 2005, until at least

Figure 1. Frequencies of Negative Emotional Terms: January 2000 – December 2008



mid-2007.[6] Starting in early 2007, however, the use of all these negative terms increased quite remarkably, and the number of emotive references to other major crises, such as the Great Depression of the 1930s, also began to skyrocket. It is interesting too to see that the angle of the change in the frequencies of these negative terms is approximately the same from this point in mid-2007. This implies that the ratio of their usages stays the same, and suggests that the tendency is so steady and distinct that it does not affect the frequency of normal occurrence; words with lower frequency are still lower than words with higher frequency, but both increase/ decrease with the same speed.

From Figure 1 we find clear evidence that the frequency of negative Type III terms increases from the period of no-crisis to the period of the crisis. Figure 1 seems to suggest, however, that it was not until mid-2007 that *The Economist* really realized the full extent of the "crises." The frequency of Type III terms increased at this point as the economy weakened and the long-run outlook worsened.

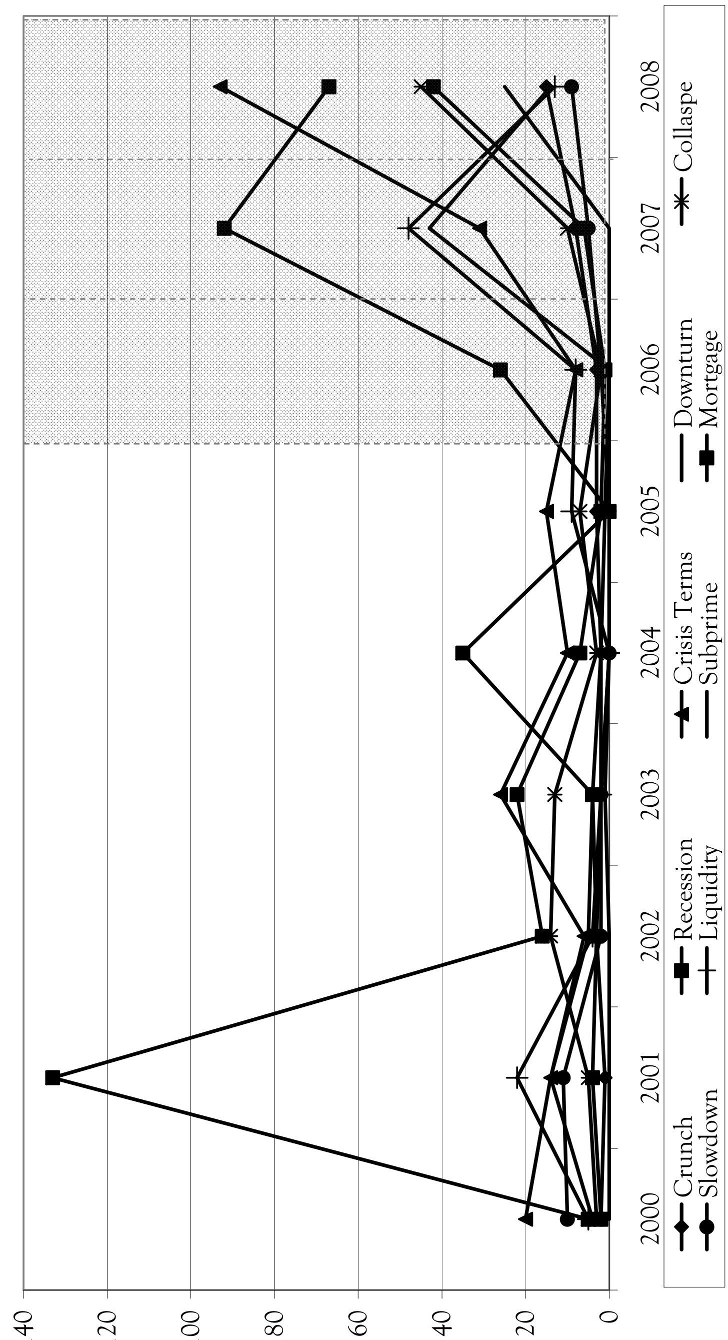
Negative Economic Terms. Next, using the same methodology, we extracted a subset of the most frequently used "negative general economic and business terms" (i.e., the Type II terms) from the frequency list. Most of the terms we identify are individual words – for example "economic," "crunch," "downturn" – but we also allow for more complex bigrams (or pairs of words) – such as "credit crisis" and "credit crunch." Figure 2 isolates nine of these, and again plots the frequencies over time.

From this we can again make a number of interesting observations. Firstly, we see that there appears to be a "linguistic business cycle." Words like "collapse," "downturn" and "recession" are quite clearly cyclical, as they are often used in 2001, and then hardly employed again until the rise of the current crisis in 2006. Words like "crunch," "foreclosure" and "subprime" were rarely used before 2008, whereas more general terms (not illustrated) like "credit," "crisis," "bank" and "finance" remain relatively constant over the period. This latter finding, while interesting in itself, also implies that our data is indeed both homogenous and robust.

Secondly, we see that, with the exception of "mortgages," the crisis-proper does not appear to have begun until mid-2006. Before 2006, and with the obvious exception of talks about the 2001 recession, the incidence of negative economic terms remains relatively low. After mid-2007, however, the term "sub-prime (mortgages)" made a dramatic entry into *The Economist*'s lexicon, and the incidence of "liquidity" and other crisis-related discussions begin to rise with this.[7] It is interesting too to see again that the angle of their change is approximately the same, which again implies that the ratio of their use stays the same.

Finally, we see that the "mortgage," "subprime mortgage" and "liquidity" discussions all peak around the same time in mid-2007, and then decline quite steeply, and that there was a dramatic rise in the use of more general negative economic terms, such as "recession," "downturn" and "slowdown." It is the usage of the crisis-related terms that have the most striking trajectory. Here again we find evidence that mid-2007 was the point at which the wider effects of the crisis started to become apparent, and that it was at this time that the story moved from being a mere

Figure 2. Negative Economics Terms: January 2000 – December 2008



housing or subprime crisis that affected a few, to a much wider economic and financial crisis that affected the many. Mid-2007 was, it appears, the point at which *The Economist*, and by proxy a wider (policy and business) community, started to really understand the greater significance of the current economic troubles, and started to give this crisis its fair dues.

Crisis-Related Terms. Because the increasing frequency of crisis-related words in Figure 2 is so pronounced, we next investigated the development of these terms and their usage with the more detailed monthly database. We suspect that, just as *The Economist*'s usage of the more general negative terms evolves over time, the types of terminology it employs to describe the crisis itself will also evolve as we move through the various stages of its lifecycle and as the nature of a crisis becomes increasingly clear.

From Table 2 we can clearly see that the use of crisis terms has increased year-by-year (from 34 in 2006 to 114 in 2008), and that there is an evolution in the types of terms used. In 2006, the "crisis" was primarily a housing and mortgage crisis, although there also appears to have been some concern that a currency crisis would develop. This would explain the relatively high number of references to the Asian (currency) Crisis in 2006, and the fear of this that lingered well into 2007. With more information, however, it seems that the "mortgage" crisis moved from being a general mortgage crisis to being, more specifically, a "subprime" mortgage crisis. The "subprime" mortgage market, while not new (Mayer, Pence and Sherlund 2009), was virtually unknown before this time, and the term was unfamiliar to a wider audience. The level of risk it brought, however, gave rise to the fear of a more general "credit" crisis and, as a result, the discussion of a more general "banking" and "financial" crisis, which began in 2006 and continued in 2007.

As the extent of the crisis became clearer, the terminology employed by *The Economist* changed in 2007. There are more references, for example, to the "liquidity (or currency) crisis," than to an overall "financial (or economic) crisis." In 2008, the nature of the crisis seems even more apparent again. The frequency of references to the petrol-price crisis, the currency crisis and the Asian crisis, or, to the more general mortgage crisis all decline, whereas the number of references to the financial, credit and banking crisis demonstrate near exponential growth. In 2008, the consensus opinion appears to be that the core of the problem lay in finance and banking, and *The Economist*'s increasingly specific terminology reflects this.

To this end, it is interesting to note that *The Economist* chooses not to adopt the term "economic crisis" to describe the events of 2008. The term "economic crisis," although more dramatic, would be more sweeping and less accurate, and the trend in 2008 is toward increasingly precise and increasingly specific terminology. The number of references to the subprime mortgage category, for example, increases significantly in 2008, as this once largely unknown term slowly entered the public vocabulary, and became both familiar and commonplace. The language also gets increasingly serious. It is interesting to see, for example, that, together with the use of particular words, the references to previous crises and depressions increase quite drastically over the 2006 to 2008 period. As was illustrated in Figure 1, references to the Great Depression

Table 2. Crisis Terms: January 2006 to December 2008

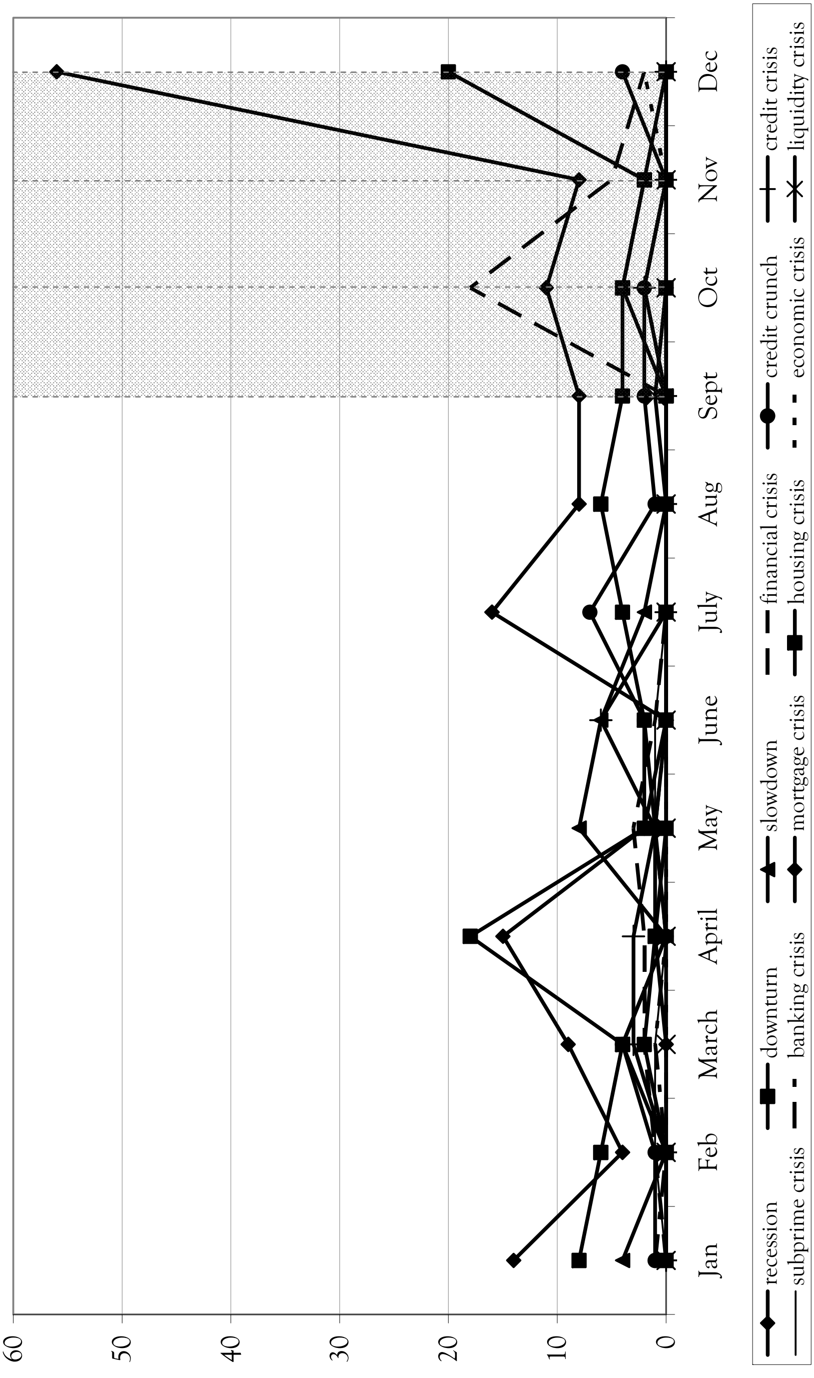
	2006	2007	2008
Total 'Crisis' References	34	72	114
Crisis Terms with Increasing Usages			
Financial Crisis	6	6	76
Credit Crisis	0	8	24
Subprime/Subprime Mortgage Crisis	0	10	22
Housing/Property/Affordability Crisis	4	2	12
Banking Crisis	2	2	8
Economic Crisis	1	0	2
Crisis Terms with Static or Declining Usages			
Mortgage Crisis	7	7	0
Currency Crisis	3	2	0
Petrol-price Crisis	2	0	0
Debt/Loan Crisis	2	4	0
Liquidity Crisis	0	2	2
Other/Specific Crisis References			
Asian-Crisis	5	5	2
Great Depression	4	1	29

increased from 1 in 2007 to 29 in 2008. Because the Great Depression was of such tremendous significance, the suggestion here again, is that as 2008 progressed, more and more weight was given to the significance of this crisis.

Looking at January to December 2008 more closely, we clearly see an evolution of the terminology used to describe the crisis. Figure 3 documents the frequencies of a number of crisis and crisis related terms, and plots them over the period from January 2008 to December 2008. With this we see that the use of the crisis terms appears to peak in October 2008. References to the subprime market, to the financial crisis and the credit crisis all drop away in November 2008, and from this point it is more general post-crisis terms that dominate as the discussion moves from causes to consequences. References to the "recession" and to the "downturn" rise quickly in November and takeover the discussion in December.

Naming the Crisis. Considering how significant this crisis appears to be, we suspect that it will receive a special name, like both the "Great Depression" of the 1930s, and the "Asian Crisis" of the late 1990s. Given the frequency with which they are referred to, it is both necessary and convenient for the media to have a shorthand description of the events. However, as we saw in Table 2 there are a number of

Figure 3. Crisis Terms: January 2008 to December 2008



contending characterizations for this crisis. We suspect that there will be a convergence to one of these over time, and we use the "monthly" dataset to analyze the changing frequencies of these possibilities.

The eventual name of the crisis must be general enough to be understandable, it must be specific enough to refer to the nature of the problem at hand, and still distinct enough to really stand out. In predicting a name we would prefer a "full" term, as opposed to "partial description." The reason we use words like "slowdown" and "recession" in trying to find a name for the current economic crisis, is that they are descriptive. The "slowdown" could refer to the result of the crisis rather than to the crisis proper, and as a result is more of an "aftermath" description, or the description of a specific part of the later stages of the crisis, rather than a "real" crisis name. We recognize, of course, that there is always a chance that the current crisis will be named or come to be known as "the great recession," but believe that that is unlikely.

An inspection of Table 2 would seem to suggest that we should opt for term "financial crisis" as the preferred name, because its frequency is highest in 2008. In looking at the monthly breakdown of 2008, however, in Figure 2 (made clearer by Figure 4) it appears that we should expect the term "credit crunch" to be used as a final characterization of the crisis. While the number of references to the banking and financial crisis peaked in October 2008, it declined immediately afterwards. References to the "credit crisis" declined drastically after June 2008, and, as a result, we find it unlikely that any of these terms will come to describe the crisis in the long term. By December 2008, the term the "credit crunch" is the only term still rising in frequency, and it is this term, we suggest that is the most likely name that will be employed in future.

Relative to its competitors, the term the "credit crunch" appears to be a relatively "playful" term, and its adoption in November/December 2008 suggests a possible change in tone. It seems that the crisis-proper is over and the global economy is moving into the post-crisis stage as it considers the cause, effects and consequences. This is again illustrated by the sharp decline of the use of words involving "crisis," and a sharp increase in the use of words to describe the aftermath such as "recession," "downturn," and "slowdown."

Beyond the Economist. We suspect that as the frequency of these negative terms increases, the levels of consumer confidence may be negatively impacted in an observable way. A measure of consumer confidence – the degree of optimism that consumers feel about the state of the economy and their personal financial situation – is given in the Consumer Confidence Index (CCI), and published monthly on the basis of a survey of 5,000 U.S. households.[8] Using both the monthly and quarterly datasets we consider the impact of terms used in *The Economist* (plus their aggregates and lagged effects) on consumer confidence in the period from January 2001 to December 2008 with the quarterly data, and then with the monthly dataset we consider their effects in the period from January to December 2008. The results of this investigation are summarized in Table 3.[9]

Figure 4. Naming the Crisis: July 2008 to December 2008

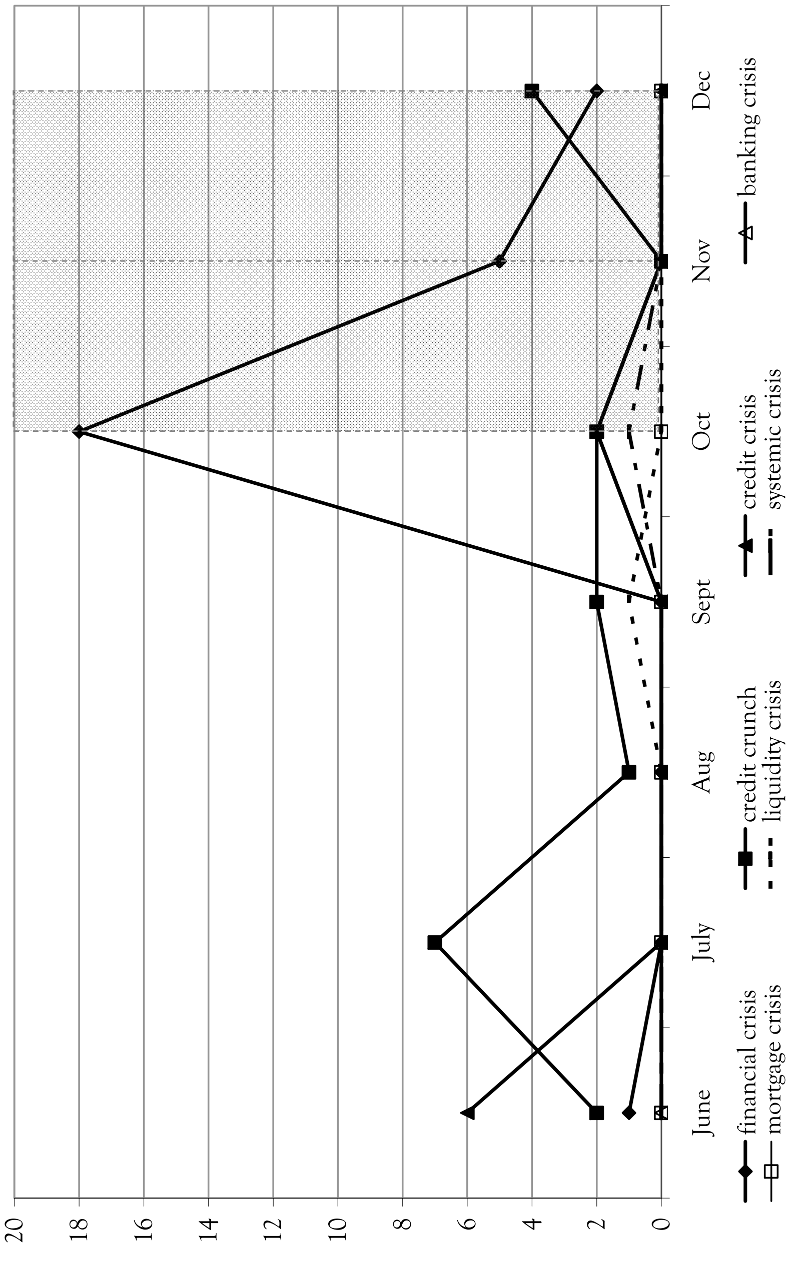


Table 3. Impact on Consumer Confidence

		January 2000 – December 2008 (Quarterly)	January 2008 – December 2008 (Monthly)	R^2
Negative Sentiment Models				
I	Aggregate of 8 emotional terms (anxiety, worry, catastrophe, disaster, scared, pressure, trouble, collapse)	-0.3300 [-0.27]		0.23
II	Aggregate of 'anxiety', 'scared', 'worry'	-0.6262 [-0.56]		0.16
Negative Economic Term Models				
III	Slowdown	-7.6163* [-1.73]		058
IV			0.089 [0.06]	0.06
V	Downturn	-2.6333* [-1.62]		0.47
V			-0.024 [-0.04]	0.12
VI	Recession	-0.1242 [-0.42]		0.04
VII			-0.30 [-1.46]	0.24
VIII	Aggregate of all 3	-0.935* [-1.92]		0.56
IX			-0.18 [-0.98]	0.20
Crisis Terms Models				
X	Systematic		-19.71*** [-3.35]	0.79
XI	Liquidity		6.14 [0.63]	0.43
XII	Economic		-8.09* [-1.72]	0.27
XIII	Housing		8.45* [1.74]	0.45
XIV	Mortgage		10.53 [1.00]	0.16
XV	Banking		-4.90 [-0.88]	0.22
XVI	Subprime		6.38 [0.89]	0.37
XVII	Credit		0.92 [0.47]	0.045
XVIII	Financial		-1.19 *[-3.56]	0.80
XIX	Aggregate of all 9		-0.92** [-2.24]	0.59
Credit Crunch Models				
XX	Credit Crunch Term	-4.7515*** [-5.09]		0.98
XXI			0.2481 [0.13]	0.17

For each model, the data for the frequency of a term used in the current month as well as in the month and the two months prior are included; the beta for the current month is presented. The signs and significance levels of the lagged variables are broadly similar to those of the current month as presented in this table. Full details for these analyses are available upon request from the authors.

* $p<0.2$, ** $p<0.1$, *** $p<0.05$, **** $p< 0.01$. T-values in parentheses.

In looking at only the negative emotional terms we surprisingly find no significant results. Even when we refine this to include only the strongest emotions, we fail to find anything of interest. We find some significance, albeit it mild, when we look at *The Economist*'s use of words like "recession" and "downturn." The increased usage of these by the magazine, it seems, does predict business cycles, at least over the period from January 2000 to December 2008. This may suggest the existence of some media power – either in being able to make correct predictions or in actually independently affecting the economy. There is stronger evidence of this when we look at the effects of crisis related words in the magazine. Increased usage of terms such as "systematic," "economic," "housing" and "financial" crises predict significant decreases in the consumer confidence index. Taken together, the nine crisis terms have a strongly significant and negative effect on consumer confidence. This, again, may evidence the effects of media influence on the consuming public.

Finally, in looking at the effects of the actual names we believe might end up being used to characterize the crisis on consumer confidence, we again see quite some significance. The increased usage of the term the "credit crunch" appears, for example, to significantly impact consumer confidence for the longer period of 2000 to 2008. This finding will reflect the severity of the events related to the current crisis in comparison to the previous years. For the year 2008 only, using monthly data, however, no such relation can be found. The models X to XIX, looking at the monthly data, indicates that consumer confidence was most severely affected when *The Economist* used terms such as "systematic," "economic" or "financial crisis." The public seemed to have responded to the alarming nature of the reporting in *The Economist*.

Concluding Remarks

This short paper has found evidence of a linguistic business cycle. Using data of terms used in *The Economist* magazine over the period from 2000 to 2008. We show that particularly as an economy suffers, negative emotional as well as negative economic terms are increasingly used. The exact way to describe the crisis, since its start in mid-2006, has changed over time as its true nature became apparent. Toward the end of 2008 the terms used to describe the economic situation changed from a focus on analyzing the causes to one of assessing the consequences, hence the decrease in the use of "crisis" terms and the increase of terms such as "recession." Considering that a term to characterize a crisis such as the current one should be appealing to a general public as well as be accurate in its description, we suggest that the term "credit crunch" will be this term. It is the only term that was increasingly used in the final months of 2008. To indicate that all of this is not "mere" rhetoric, we present evidence of the relation between the use of terms in the media and consumer confidence. Some of the most specific terms, indeed, negatively impact consumer confidence substantially. What is more, as the use of such terms one or two months earlier affect consumer confidence in any specific month, a magazine such as *The Economist* does not seem neutral in its effect on the economy. The exact nature of the role of the media in general and *The Economist* in particular is difficult to establish, but what can be said is that they play a major role in informing the public about extant economic circumstances. While the media may not manufacture consent on how economic agents are to behave, it does offer strong cues about how they should decode economic messages.

Notes

1. That is, data on leading indicators which are subsequently revised.
2. See, e.g., http://www.guardian.co.uk/uk/2000/dec/08/monarchy.comment.
3. http://www.npr.org/templates/story/story.php?storyId=5250996.
4. http://printmediakit.economist.com/Reader_reviews.40.0.html.
5. Content analysis is a methodology used in the social sciences for studying the content of communication. According to Babbie (2003), it is "the study of recorded human communications, such as books, websites, paintings and laws." It is a "technique for making inferences by objectively and systematically identifying specified characteristics of messages" (Holsti 1969).
6. Most likely in relation to the change in U.S. bankruptcy law in 2005 (cf Dolfsma and McMaster 2007).
7. Mayer, Pence and Sherlund (2009) document a spike in the number of Subprime and Alt-A mortgages originated in 2004-2006, with a sharp decline in 2007.
8. http://www.conference-board.org/.
9. The consumer confidence index (CCI) is constructed from a sample of the general population, whereas *The Economist* magazine is a high-end specialist publication, with a professional readership. A causal relation from one to the other is difficult to establish, of course, but is a problem for regression analyses in general. The results presented find support in the literature, and intuitively they, with the inclusion of a time lag, make sense. What is more, reports in the UK based yet globally operating *The Economist* are disseminated to the wider public by a (local) press, which uses it as an input. Business and political leaders use *The Economist* as a premier source of and filter for complex information, will lead by example and transmit (negative) sentiment and analysis of the state of the economy to the wider public through their actions.

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