Chapter 3
Measuring the Tone of Accounting and Financial Narrative

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ABSTRACT
Research in accounting and finance has measured the tone of financial narrative using word frequency counts based mainly on four different wordlists: 1) a wordlist developed in Henry’s (2006, 2008) analysis of earnings announcements (Henry Wordlist); 2) a wordlist developed in Loughran and McDonald’s (2011) analysis of 10-K filings (LM Wordlist); 3) a wordlist from DICTION (DICTION Wordlist) software developed by Roderick Hart; and 4) a wordlist from the General Inquirer program (GI Wordlist) developed by social psychologist Philip Stone. This chapter examines alternative measures of the tone of narrative in earnings press releases based on these word lists, explores the statistical relations among the alternative measures, and tests whether those relations vary depending on aspects of the earnings news being announced and other factors.

INTRODUCTION
In studies of accounting and financial-related narrative, researchers typically create measures of the tone of the narrative as a percentage of words in the narrative that are either positive or negative. A fundamental choice in the creation of these measures is the list of words that are included in the positive and negative word lists. This chapter first describes alternative types of word lists and provides some examples of disclosures that can cause measurement error when researchers rely on general word lists to evaluate tone of financial disclosure. Next, the chapter reviews accounting
and financial research that has used alternative word lists to develop measures of tone, along with the main results of that research. We then turn to the questions of how closely associated the alternative measures are, and whether variations in the associations depend on aspects of the underlying news and/or characteristics of the company making the announcement.

**FINANCIAL DISCLOSURE AND TONE**

Research employing measures of the tone of accounting and financial narrative has used word frequency counts based mainly on four different wordlists: 1) a wordlist developed in Henry’s (2006, 2008) analysis of earnings announcements (Henry wordlist); 2) a wordlist developed in Loughran and McDonald’s (2011) analysis of 10-K filings (LM wordlist); 3) a wordlist from DICTION (DICTION wordlist) software developed by communications expert Roderick Hart; and 4) a wordlist from the General Inquirer program (GI wordlist) developed by social psychologist Philip Stone.

Of these four wordlists used in prior research, two were developed within the domain of financial disclosure (the Henry and LM lists), and two were developed for broader contexts (the DICTION and GI wordlist). As with most domains of discourse, words used in financial disclosure can have domain-specific meanings, which give rise to measurement error when general wordlists are applied to such contexts. For example, the word “Asset” refers to items on a company’s balance sheet that are resources deemed to have some future economic benefit. The word is not expressive of a company’s sentiment but nonetheless is contained in the GI list of positive words. Similarly, the word “Division” is virtually always used in reference to a company’s subsidiary and not, for example, sentiment about relationships or economic events within the firm.

To illustrate the problem of non-domain-specific word lists, in an earnings press release issued by Pier 1 Imports on December 13, 2012 (Figure 1 presents a brief excerpt), the following words are among those identified by the GI wordlist as being positive: “shares”, “share”, “profit”, “paid”, “outstanding”, “interest”, “consistent”, “company”, “common”, “board”, “allow”, “adjustment”, “actual”, “accrued”, “accordance”, “accepted”.

In the context of financial disclosure and particularly earnings announcements, all of these words are descriptive of financial data or entities but do not convey either a positive or negative tone. In contrast, applying the Henry “Positive” wordlist to the same Pier 1 Imports press release, gener-

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**Figure 1. Excerpt from earnings press release issued by Pier 1 Imports on December 13, 2012**

"Third Quarter Financial Highlights"
- Comparable store sales increased 7.9% versus last year’s increase of 7.0%; three-year cumulative comparable store sales increase of 25.1%
- Gross profit as a percentage of sales up 70 basis points to 43.9%
- Operating income increased 18%; operating margin expanded to 9.1%
- Earnings per share of $0.22 (GAAP) and $0.25 (non-GAAP) versus $0.21 last year (see reconciliation below of earnings per share to adjusted non-GAAP earnings per share)

“Our third quarter results represent the 13th consecutive period of growth in comp store sales and earnings per share,” stated Alex W. Smith, President and Chief Executive Officer. “Our team continues to execute well, bringing the Pier 1 Imports customer a highly differentiated assortment of merchandise that keeps her coming back to both our stores and website. This marks the Company’s first full quarter of e-Commerce sales and we’re pleased with the initial results, as the level of both new and existing customer visits indicates the long-term opportunity is significant. Indeed, we saw very strong traffic at both our stores and Pier1.com during the period, and trends have remained robust thus far in the holiday selling season.”