

Book Reviews

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Stephen A. Zeff, Rice University, continues as the book review editor for the January, March, and May issues of the journal.

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WILLIAM J. MAYEW and MOHAN VENKATACHALAM, *Speech Analysis in Financial Markets, Foundations and Trends® in Accounting* (Hanover, MA: now Publishers Inc., 2013, ISBN 978-1-60198-652-8, Vol. 7, No. 2, pp. ix, 60).

Mayew and Venkatachalam's monograph (hereafter, MV) reviews the budding literature examining the information content of nonverbal vocal communication. The monograph defines nonverbal vocal communication as "the communication process that is distinct from verbal usage," which "includes facial expressions, gestures, postures, body movements, vocal tone" among other features (p. 2). The monograph focuses on features of the vocal tone portion of nonverbal communication.

While the objective of my review is to critically assess MV, not to review the literature *per se*, I ultimately do a bit of both. My overarching assessment of the monograph is that it provides *the* critical starting point for any researcher interested in investigating nonverbal communication in finance and accounting. The monograph is thorough (conditional on a focus of nonverbal vocal communication within the accounting and finance literatures, with a specific focus on vocal tone) and is clearly written. It includes citations to, and a very useful discussion of, both the linguistics and human behavior literatures, allowing readers who are even relatively ignorant of this area, admittedly including me, an expedient foray into the literature. While the initial results of the literature are certainly intriguing, I agree with MV that this research is in an "embryonic state" (p. 47). Causal interpretations and the relative economic importance of the statistical results need to be assessed, and I also agree with the authors that theoretical frameworks need to more rigorously motivate the research. Collectively, though, MV describes a research area with potentially exciting research possibilities, and the monograph provides an excellent starting line.

MV contains five chapters, with Chapters 2 and 3 containing the overwhelming majority of the substantive content. Chapter 2 sets the stage for the monograph by describing the elements of nonverbal research analysis. The authors describe two elements that are required for empirical nonverbal vocal research: a recording of speech, and a method to encode the speech. MV highlights various possibilities for both elements. A laboratory setting (providing a high-fidelity recording) and an intensively trained human judge may provide ideal circumstances, but the authors argue that corporate finance provides a novel setting, in the form of earnings conference calls, to study how humans' nonverbal communication is related to capital allocation in the economy. Corporate earnings conference calls are high-stakes events, occurring relatively frequently, and catalogued by data providers. While alternative settings may exist to study executives—such as analyst days

and annual meetings—the interaction between analysts and managers (and between managers within the firm) provided during earnings conference calls provides a sufficiently high-quality recording to researchers in a relatively inexpensive format. With the minor exception of the statement on page 9, which states a common misperception that “every major corporation in America” offers a quarterly conference call, the authors describe this setting well and provide ample motivation for studying conference calls.¹

After introducing the reader to the prerequisites of nonverbal vocal communication research in Chapter 2, the authors present and discuss extant empirical research in Chapter 3. Over half of the content of the monograph resides in this chapter. Framed mostly around the authors’ own research, they discuss three themes that have been examined in nonverbal vocal research: market reaction to executive vocal tone, deception prediction, and managerial trait assessment. I will discuss each.

The authors articulate that tests of market reaction to managers’ nonverbal cues require three factors: (1) the presence of nonverbal cues that are informative about either the discount rate or a firm’s future cash flows (which are orthogonal to the text and numbers presented by the manager); (2) a process to measure the nonverbal cues; and (3) the ability of the market to recognize the cues and impound them into price (i.e., low frictions to receiving the message or trading on it). If one of the necessary conditions does not exist—e.g., managers are not sending information in their vocal cues, or analysts are not able to interpret it, or researchers cannot measure the cues effectively—then the null hypothesis of no relation between managers’ nonverbal vocal cues and the market reaction is credible. The authors then discuss the results of [Mayew and Venkatachalam \(2012a\)](#), which finds that a manager’s positive (negative) affective state as measured from vocal cues using LVA software is positively (negatively) associated with the firm’s abnormal returns around the conference call date. Moreover, they extend and reinforce the results of [Mayew and Venkatachalam \(2012a\)](#) by replicating the results with a more recent sample of conference calls and find very similar results.

The monograph does a thorough job of describing the main result of [Mayew and Venkatachalam \(2012a\)](#), and the replication results are a useful reinforcement; however, the monograph is certainly not a substitute for reading the research paper itself (given the length of the original research paper, this is understandable). The monograph omits discussion of long-term return results and analyst reaction results, which are included in the original paper. Moreover, the monograph does not go much beyond discussing the statistical relation between CAR and measured managerial affect. For example, it does not provide much discussion about *why* this relation may exist. What is the news that the affect is revealing—cash flow or discount news? Is the market reacting in the right direction, or is the market temporarily misled by the manager’s affect? The authors also do not provide the reader with much interpretation of the economic magnitude of the relation. For example, Table 2 in MV shows that the coefficient on PAFF (the measure of the manager’s positive affect in his or her vocal cues) is 0.1690. Using the standard deviation from Table 1 of 0.0373, I calculate that a one standard deviation increase in PAFF results in an increase in CAR of only about 0.6 percent, or about 5 percent of one standard deviation of CAR. In comparison, a one standard deviation in POSWORDS (the number of positive words spoken by the manager) results in a 1.4 percent increase in CAR, or about 12 percent of one standard deviation. These results suggest that *what* is said has a stronger relation than *how* it is said. Of course, this could simply indicate that measurement of managerial affect is still in its infancy, with much more noise than the measurement of what is said. Regardless, discussion of the economic meaning would be helpful to the reader throughout the monograph.

Regarding the measurement of the manager’s affect, the authors do a commendable job throughout highlighting weaknesses in the measures and reinforcing the idea that causal interpretations are limited. However, the monograph does not reference an informative exchange of unpublished work and blog posts between the authors and Francisco Lacerda, a linguistic academic, which occurred subsequent to the publication of [Mayew and Venkatachalam \(2012a\)](#).² Because the monograph includes the concerns of [Lacerda](#)

¹ Of course, the definition of “major corporation” is arbitrary, but in recent research with Pete Lisowsky, we use confidential IRS tax returns and find that there are three times as many privately held than publicly held U.S. firms with more than \$100 million in revenues, suggesting that, in fact, most major corporations in the U.S. do not host quarterly conference calls, because they are privately held ([Lisowsky and Minnis 2013](#)).

² Note that the omission of this exchange could have been a result of publication timelines for the monograph rather than an editorial choice. The exchange that I am referring to includes [Lacerda \(2012\)](#) and [Mayew and Venkatachalam \(2012b\)](#). Further responses are located at: <http://stockholmuniversitophonetics.com>.

(2009)—wherein Lacerda asserts that the LVA software is essentially useless and does little more than generate noise—the omission of the subsequent exchange between the authors and Lacerda is not a serious gap; however, the exchange is informative, and future researchers in this area will likely want to be aware of both the concerns of Lacerda and the authors' response.

After discussing the market reaction results, the authors allocate relatively less discussion to research investigating whether managerial vocal cues can be used to predict deception. The main thrust of this discussion relates to [Hobson, Mayew, and Venkatachalam \(2012\)](#), who find that using vocal dissonance markers in financial restatement prediction models enhances predictive ability. The authors also highlight the validation exercise of [Hobson et al. \(2012\)](#), which includes a controlled laboratory setting. Given the validity concerns of the LVA software mentioned above, this is an important element of this research.

The final and most extensive section in MV discusses research investigating whether vocal cues are informative about managerial traits. In contrast to managerial affect and dissonance used in the previous two streams of research discussed, the vocal heterogeneity used in the managerial trait research stream is essentially the depth of the voice. According to the authors, the essence of the findings to date is that male CEOs with deeper voices lead larger companies, are paid more (but not after controlling for firm size), and are more likely to receive the “Best CEOs in America” award. The authors provide a helpful discussion of both the sociology and biology relating to these findings and are quick to point out multiple weaknesses, issues, and possibilities for future research in this area.

One issue in particular that MV highlights is whether a deep voice, *per se*, is a trait of importance or whether it is just a marker for an underlying omitted trait. For example, deeper voices in males are caused, in part, by genetics and higher levels of testosterone during adolescence. Could these factors also have an impact on other traits that affect leadership ability? The authors are well aware of these issues and discuss them throughout the monograph; however, this section is also the one in which I have the most notes in the margin of my copy of the monograph. Most of these notes relate to unanswered questions or alternative explanations for current findings. For instance, much of the focus on the monograph appears to be a demand side story—males with deeper voices have traits that boards appreciate and thus promote. However, there is likely also a supply side story that is discussed much less: males with deeper voices could seek CEO roles in larger firms more aggressively. Another example from the monograph that I think requires further scrutiny is the speculation that, because education level does little to mediate the relation between voice pitch and firm size, voice pitch may be “a better proxy for cognitive ability than educational achievement” (p. 33). The authors are quick to suggest that this is an area for future research. This section contains much speculation relating the basic finding between voice pitch and firm size, which certainly requires much additional research, motivated by both economic and biologic theory.

The authors conclude the monograph in Chapters 4 and 5 by summarizing the challenges with research investigating the informativeness of nonverbal vocal communication and calling for more research along three dimensions: empirical measurement of nonverbal cues, disentanglement of the underlying causal factors, and development of better theoretical frameworks for interpreting the results. I wholeheartedly agree with each of these three points, particularly the latter two, and the authors provide an excellent starting point for future research.

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