Managers' cultural background and disclosure attributes

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Abstract

We examine how a manager's ethnic cultural background affects their communication with investors. Using a sample of earnings conference call transcripts with 24,901 executives from 42 countries, we find that managers from ethnic groups that have a more individualistic culture use a more optimistic tone and exhibit greater self-reference in their disclosure narratives. Managers' ethnic culture has a lasting effect on their narratives, an effect that persists even for executives whose work experience later exposes them to different ethnic cultures. The effect of ethnic heritage is observed in dialogues that reflect real time interactions (i.e., Q&As) and less pronounced in the scripted, less spontaneous portion of the calls (i.e., management discussion). The capital market responds positively to an optimistic tone, but only analysts who share managers' ethnic background adjust their earnings forecasts for the cultural component of managerial tone. The findings suggest that managers' ethnic backgrounds have a significant effect on how they communicate with the capital market and how the market responds to the disclosure event.

Keywords: Disclosure tone, Cross-country culture, Individualism, Conference calls, Ethnic group

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1. Introduction

A growing literature demonstrates that culture has an impact on a wide range of economic activities (Guiso et al. 2006; Alesina and Giuliano 2015). This literature argues that shared values and preferences impact the way that people respond to economic incentives and the institutions that make up an economic system. Despite the apparent pervasive nature of culture, the accounting literature has just begun to develop an understanding of its impact on accounting information or capital market activities. In this study, we examine how executives' cultural background, based on their ethnic heritage, affects the ways they communicate with the capital market, and how the market responds to managers' disclosures.

We use insights developed from a long line of research in cultural psychology to examine how the communication styles of individuals vary by ethnic group. In particular, we focus on cultural characteristics associated with the extent to which an ethnic group is characterized as having an individualistic or collectivist culture. The individualism vs. collectivism cleavage is based on the extent to which individuals derive value from having an independent self-construct, as opposed to being strongly integrated into a cohesive group. This cultural dimension is considered the single most fruitful dimension in cross-cultural psychology (Heine 2008, 2010; Gorodnichenko and Roland 2012) and has been shown to correlate with individuals' preferences for their own achievement and recognition, in contrast to harmony and cooperation with others (Kitayama et al. 1997).

We hypothesize that individuals from cultures that are more individualistic disclose information in a more optimistic and self-referencing manner. The prediction is based on the psychology literature findings that in independent cultures (typically Western), there is a greater demand to influence individuals through displays of optimism and self-confidence. Consequently,

studies find that people from individualistic cultures seek to maximize positive and minimize negative affect more than do people from collectivistic cultures (Sims et al. 2015). In addition, self-attributions are more prevalent in cultures where independence is highly valued (Hallahan et al. 1997; Heine et al. 1999).

Conference calls present a unique disclosure event as they include both a scripted, prerehearsed portion (management discussion) at the beginning of most calls followed by the more extemporaneous Q&A section at the end. Prior research argues that conference calls provide relevant information to investors because much of their information is disclosed interactively, which allows for more extemporaneous disclosures that address the specific concerns of those participating in the calls (Matsumoto et al. 2011; Lee 2016). Further, studies show that cultural attributes are more likely to be reflected when the disclosure is more extemporaneous (Gluszek and Dovidio 2010). We predict that ethnic cultural backgrounds have a greater impact during the Q&A than the management discussions.

We apply content analysis to executives' disclosure narratives during English-language earnings conference calls to capture the executives' level of optimism and self-esteem. In particular, we examine two disclosure attributes measured at the individual manager level: tone and self-reference. Disclosure tone directly captures the level of optimism (Loughran and McDonald 2011). Self-reference is the extent to which individuals implicate the self during information releases, measured as the prevalence of singular first personal pronouns during the calls. We use self-reference to capture idiocentrism—the psychological manifestation of individualism (Gamble and Gamble 2012; Triandis 2001). That is, idiocentrism is the expression of interest in oneself rather than in others or the ways of others. It is the modal profile of individualistic cultures (Triandis et al. 1985). It stands in contrast with allocentrism, which is the

psychological manifestation and modal profile of collectivism. Idiocentrics tend to exhibit greater self-enhancement.[1] We use these measures as empirical constructs of our predictions of optimism and self-enhancement. Based on prior studies that show that individuals from more individualistic cultures tend to be more optimistic and have greater self-enhancement, we expect managers from a more individualistic ethnic background to speak in more positive tone and with greater self-reference.[2]

We identify executives' ethnic groups based on their surnames in the conference call transcripts. We match each surname to an ethnic group using the ethnicity-name matching technique developed by Kerr (2008). The matching algorithm uses the name databases of two marketing companies, Melissa Data Corporation and List Services Direct, Inc., which developed them for use in direct-mail advertisements. The technique classifies each name into nine distinct ethnic groups: Anglo-Saxon, Chinese, European, Hispanic, Indian, Japanese, Korean, Russian/Slavic, and Vietnamese.[3] After identifying the ethnic background of each executive, we assign an individualism score, which varies by each ethnic group based on data from Hofstede (2001). We use that measure to examine the impact of culture on conference call disclosure attributes.

[1] Research also suggests a positive association between individualism/idiocentrism and self-esteem (Oyserman et al. 2002). A closer look indicates that the difference stems from collectivist individuals' greater modesty or their lower inclination to evaluate themselves positively (Cai et al. 2007). Self-reference is often assumed to be a symptom of various behavior traits such as narcissism (Chatterjee and Hambrick 2007) or overconfidence (Eshraghi 2014). We note, however, that supportive evidence for the link between self-reference and the behavioral traits mentioned above is often mixed (Carey et al. 2015).

[2] Nonetheless, in an increasingly global economy, capital and labor market forces may dilute the effect of top-level executives' cultural roots on their communication with an international audience. This, among other reasons, forms the basis for our null hypothesis.

[3] The matching procedure utilizes all of the name assignments in the database and assigns a probability distribution for each name, giving first priority to surnames. While other data vendors provide similar services, the advantage of the database provided by these companies is in their identification of Asian ethnicities, especially Chinese, Indian, Japanese, Korean, Russian/Slavic, and Vietnamese names (Kerr 2008). See Appendix A and Kerr (2008) for more details on the matching process. As a robustness check, we use an alternative name assignment algorithm based on census data and find similar results throughout.

We find that managers from individualistic cultures are likely to use a more positive tone and greater self-reference during the Q&As.[4] We use the Q&A portion of the calls to focus on real time, spontaneous, and unscripted communication. The findings hold after controlling for contemporaneous fundamentals (including the earnings news) and other country-level factors that may affect information environments and disclosure quality in different countries and for manager characteristics such as age and gender.

Our main specification is a manager-level regression of disclosure attributes on managers' individualism based on their ethnic backgrounds. The regressions control for executive, conference call, firm, and country characteristics. As alternatives, we include firm fixed effects and use only within-firm variation in managers' ethnicity, primarily driven by ethnic diversity in the management team.[5] Our findings also continue to hold when we limit our sample to executives from companies based in a single country (the U.S.) Hence, our results are not driven by differences in country-level institutions.

Next, we turn to the persistence of managers' inherited cultural influence on their disclosure. We find that the cultural traits that executives inherit from their ethnic groups are long lived. We examine executives who are later exposed to different cultures through cross-cultural work experience or education. While we find that these executives express themselves in a way that is less reflective of their inherited individualism than their non-exposed peers, the impact of the inherited culture remains at a significant level. Also, the effects persist regardless of whether

[4] The Q&A portion of the calls is less likely to be scripted than the management discussions and therefore is more likely to reflect the preferences of the speaking manager rather than the firm (e.g., legal counsel or the IR department).
[5] We also document significant effects using a changes analysis. By using the changes in the ethnic mix of the management team from one call to another, we are able to better control for unobserved firm-level factors that drive the observed association.

the firm is releasing positive or negative news, suggesting that disclosure incentives do not mitigate the effect of culture.[6,7]

We compare the Q&A portion of the calls and the management discussion (MD) section to examine whether the cultural effects of managers' disclosure vary by whether the disclosure is extemporaneous. The MD sections of the calls are often referred to as "prepared remarks" and frequently created by a team, which includes the manager and communication specialist (Lee 2016). Further, they are generally read off a script or even prerecorded. The less spontaneous nature of the MDs section allows us to compare the scripted, preplanned introductory remarks in the MDs to the more spontaneous discussion during the Q&As. Consistent with cultural attributes being reflected in more interactive extemporaneous disclosures, we find that the Q&A section more strongly reflects the speakers' ethnic origins than does the MD section. In fact, in the MD section of the call, we find evidence of firms/managers overcompensating for their cultural attributes, perhaps in an attempt to overcome the impact of cultural preferences.[8]

Having established that culture affects how managers speak, we examine whether cultural differences between managers and market participants affect capital market responses. If investors appreciate the cultural dimension of a manager's disclosure, they may give more weight to the positive tone of a collectivist manager as opposed to an individualistic manager. We find no evidence of the capital market making such distinctions, on average. Positive tone leads to upward

[6] For example, it is possible that managers may have more incentive to self-reference when they are communicating good news than bad news (Kimbrough and Wang 2014).

[7] Having shown this "first moment" impact, we examine the impact that the diversity of cultural backgrounds creates in the variation in the firm's overall tone. That is, we examine whether the standard deviation of tone across individuals is greater when there is greater ethnic diversity on the management team. We find evidence consistent with diversity in cultural increasing variance in communication within an individual conference call (untabulated). This suggests that firms with a more diverse management group may send a less consistent message during the call.

[8] Overcompensating for one's own cultural inclination is similar to hypercorrection (Labov 1972), which refers to non-native speakers aggressively correcting themselves to sound more like native speakers (Wells 1982). The intervention may also be a purposeful attempt to mitigate any ethnically driven communication differences across executive members.

revisions in analysts' forecasts, yet with very similar magnitudes for both collectivist and individualistic managers. Also, executives' positive tone leads to higher intra-day returns following the calls, irrespective of the managers' cultural background.

However, it is possible that members of the same cultural background are more able to understand the nuances in the communications of others from their culture. We cannot observe investors' cultural background, but we can use analysts to examine this possibility. Using analysts to consider the ethnic background of the audience, we find a more informed consideration of the speaker's cultural background. Same-culture analysts revise their forecasts more strongly in response to the positive tone of collectivist managers than they do to that of individualistic managers. When the cultural background of managers and analysts are not matched, we find no evidence of analysts revising their forecasts as a function of the managers' cultural background. We also find that this adjustment is borne out in future fundamentals, which we proxy for using three-month stock returns after the forecast. Revisions made by analysts who share the managers' cultural background are more predictive of future returns. When analysts and managers are culturally aligned, a one standard deviation in forecast revision is associated with a 1.08% higher quarterly return than when their cultural backgrounds are not aligned. We interpret these results as analysts who are culturally aligned with managers being better able to decode the managers' disclosure tone. However, it appears the market does not fully appreciate this advantage, as indicated earlier in our test of contemporaneous returns following the calls.

Our paper contributes to the literature by examining the importance of individual managers' ethnic cultural backgrounds on the disclosure provided by executives. Prior studies show how a firm's cultural environment can shape corporate reporting (Han et al. 2010; Hope 2003; Liu 2016; Kanagaretnam et al. 2013). In contrast to prior studies, which focus on firm-level

reporting outcomes, our study documents the effect on executive-level disclosure and provides evidence of a persistent cultural effect even for managers operating in different cultural environments. Further, by showing that the impact is greater in extemporaneous disclosures, our study highlights the need to separately consider the impact on different components of disclosure. For example, we may not see a large impact on formal written communication, such as earnings announcements, but we would expect a large impact on informal personal interactions such as the Q&As studied here, the importance of which is increasingly being shown (Bushee et al. 2011; Soltes 2014).

Second, our research also contributes to the literature on how CEO characteristics affect firm policies. Bertrand and Schoar (2003) were the first to show the existence of CEO fixed effects in corporate outcomes, and Davis et al. (2015) subsequently document a manager-specific component to disclosure tone and its value relevance. Other papers have looked at the specific traits of individuals and how they affect corporate policy (Malmendier et al. 2011; Pan et al. 2015). We add to this literature by showing that managers' cultural backgrounds, by shaping their values and preferences in the early stages of their lives, affect corporate disclosure policy. In contrast to prior studies that show that work experience shapes managers' preference (e.g., Dittmar and Duchin, 2015), we show that the role of inherited cultural background is long lasting and persists even when individuals are later exposed to different cultures.

Third, our paper informs the literature on how cultural individualism affects the financial market. Studies find that countries with more individualistic cultures exhibit greater returns to momentum trading (Chui et al. 2010) and lower price co-movement (Eun et al. 2015). Our study adds to this literature by identifying a mechanism through which individualism affects the capital market — corporate disclosure. In contrast to other studies that focus on financial information (Liu

2016; Han et al. 2010), we focus on linguistic features. We show that the ethnic heritage of executives who are directly involved in the communication process has an impact on disclosure attributes, especially in their extemporaneous dialogues. Also, we highlight the interactive nature of corporate disclosure and show how cultural alignment of the audience and speaker can elicit a more informed capital market response. These findings extend our understanding of culture and show how it can manifest itself differently in various contexts, e.g., by disclosure venue and investor base.

Finally, our study provides some insight on the economic magnitude of potential market (mis)understanding due to cultural differences. We show that analysts who are culturally aligned with managers are better able to decode the implications of the managers' cultural background. On the other hand, analysts struggle with interpreting communications from managers outside their culture and the capital market does not fully appreciate these struggles. This results in forecasts that fail to fully reflect the implications of managers' cultural background, which leads to predictable stock returns. Our results indicate that cultural alignment can facilitate the communication process (Gass and Varonis 1984).

2. Hypothesis development

2.1. Culture and financial reporting

Prior literature on international differences in corporate financial reporting has extensively documented the role of country-level institutions in shaping firms' accounting choices (Leuz and Wysocki 2016). A small subset of that literature suggests that culture plays a distinct role in explaining firm-level accounting differences across countries. Han et al. (2010) and Kanagaretnam et al. (2013) examine the association between country-level individualism and uncertainty avoidance (two of Hofstede's cultural dimensions) and firm-level reporting behavior. Han et al.

(2010) find that companies located in countries with greater individualism (uncertainty avoidance) exhibit lower (greater) accounting discretion, as proxied by absolute discretionary accruals, while Kanagaretnam et al. (2013) document a similar pattern with banks and accounting conservatism.

The studies mentioned above perform cross-country firm-level analyses. They attribute variation in earnings attributes across firms to country-level variation in culture, thereby treating all firms and managers within a country homogenously in terms of cultural background. Liu (2016) goes one step further by tracing the cultural background of U.S. corporate insiders based on their ancestry, as inferred from their names. Liu then links executives and directors to attitudes towards corruption in their country of origin, and finds that firms whose insiders are more open to corruption engage in more earnings management, among other outcomes. Liu's focus remains on corporate culture and outcome variables that are measured at the firm level. Furthermore, attitudes towards corruption may be shaped by a variety of cultural and institutional constructs.

2.2 Inherited culture and disclosure attributes

A recent literature in accounting and finance examines the linguistic properties of corporate financial disclosures. One of the most studied dimensions is disclosure tone, i.e., the relative use of words that are considered positive versus those that are negative. While the positive association between disclosure tone and contemporaneous measures of economic performance is an empirical regularity (Feldman et al. 2010; Price et al. 2012; Huang et al. 2014), little is known about the broader determinants of tone. Davis et al. (2015) offer evidence that an executive's own preferences have a significant effect on disclosure tone. They document a significant manager-specific component to tone in U.S. firms' earnings conference calls and further show that a manager's tone is more positive when the manager is involved in a charitable organization and less positive if the manager is a former investment bankers or was born during a recession. While

these results offer clues about which speakers' characteristics can shape disclosure tone, the question remains open about where these managerial characteristics come from. Also, it remains unknown whether the styles of the individuals represent characteristics that a person inherits or whether they are situational.

In this paper, we examine how the cultural backgrounds of individual managers—based on their ethnic heritage—affect their disclosure narrative. The cultural psychology literature has long shown that the individualism vs. collectivism dimension has a strong effect on how individuals communicate and interact with others (Markus and Kitayama 1991). Individualism refers to the degree to which people focus on their internal attributes, such as their own abilities, to differentiate themselves from others (Hofstede 2001). Studies find that cultures with strong individualism tend to have an independent rather than an interdependent self-construct (Chui et al. 2010). In individualistic cultures, individuals tend to view themselves as "an autonomous, independent person" (Markus and Kitayama (1991, p. 226)), while in collectivistic cultures, individuals view themselves "not as separate from the social context but as more connected and less differentiated from others" (Markus and Kitayama (1991, p. 227)).

The psychological manifestation of individualism is idiocentrism – the expression of interest in oneself rather than in others or the ways of others (Triandis et al. 1985). Idiocentrism is to individualism what allocentrism is to collectivism. That is, each is the modal profile of its cultural equivalent in terms of personality. Idiocentrism is positively associated with self-enhancement (Cai et al. 2007) and an emphasis on achievement (Triandis et al. 1985).

Prior studies also find a positive link between individualism and optimism. Triandis (1995) argues that individualism is positively associated with levels of self-esteem and feelings of well-being. While individuals from Western cultures exhibit optimism bias (Taylor and Brown 1988),

those from Eastern cultures exhibit greater self-criticism (Markus and Kitayama 1991; Kitayama et al. 1997). Similarly, Heine et al. (1999) find that people in individualistic cultures, such as the United States, tend to believe that their abilities are above average. In contrast, people in collectivist cultures are concerned with behaving appropriately and adapting to different social situations. They tend to have high self-monitoring and adjust their behavior to what is expected in their social environment (Biais et al. 2005).

Hence, insofar as optimistic and idiocentric predispositions translate into an individual's choice of words, it follows that individuals from more individualistic (and thus more optimistic) cultures are more likely to express themselves in a positive and self-referencing tone.[9] In spite of the evidence in the cross-cultural psychology literature, sources of tension underlie this prediction. For one, the individuals we examine are the C-suite executives of multinational corporations. Those individuals differ from the general population (including subjects in most psychology and linguistic experiments) along a variety of cognitive and personality traits (Adams et al. 2014; Palaiou and Furnham 2014; Kaplan and Sorensen 2016). Nevertheless, on balance, we formulate our first hypothesis directionally:

H1: Managers with an ethnic background from a more individualistic culture exhibit a more positive and self-referencing tone, controlling for the underlying earnings news.

[9] Many of the managers included in our study are non-native speakers of English. Thus, underlying our prediction is the assumption that cultural differences, as captured by tone and other similar linguistic patterns, are reflected in the disclosures, even if the speakers are not using their mother tongue (Brochet et al. 2016). This assumption can be violated if cultural differences are lost in translation. For example, English learners can be influenced by instructors and/or materials that reflect Anglo-Saxon individualism/optimism. Alternatively, a culture's tendency towards greater individualism/optimism may only be captured by the domestic language: for example, languages in individualistic cultures are less likely to allow for pronoun drop than those in collectivist cultures (Kashima and Kashima 1998). That said, prior cross-cultural psychology research documents that individualism does not vary with cross-languages differences in single or multiple second- and first-person pronouns (Kashima and Kashima 1998). Hence, there is no reason why language should explain any association between individualism and self-reference.
We also note that the hypothesized association between individualism/idiocentrism and the use of "I" is far from tautological. While prior research shows that cultural individualism is positively associated with the use of singular first-person pronouns (Na and Choi 2009; Uz 2014), a statement like "I am honest" is idiocentric, whereas a statement like "I am considered an honest person" is allocentric (Bochner 1994).

We posit that ethnic background plays a role in the degree to which an individual inherits a more individualistic or collectivist cultural background, primarily through their upbringing. Furthermore, we argue that inherited cultural heritage will have a lasting effect on the individual. In other words, cultural heritage will have a persistent effect on the individual that withstands the situational forces and other experiences the individual is exposed to after birth. We test this conjecture by examining the strength of the effect of ethnic heritage for a subsample of managers who later receive exposure to other cultures through work experience. For such executives, it is possible that they are 'made' to speak in a way that is more consistent with a different ethnic group. Furthermore, top executives of large international corporations are likely amenable to making such changes. For example, if an American-born CEO works at a Japanese company, the influence of his/her colleagues and work environment might induce him/her to speak in ways that are more consistent with Japanese culture. Hence, executives later exposed to cultures that are different from their ethnic inheritance may be affected by the behavioral traits of the new culture.

If individuals' values inherited through their cultural background are difficult to alter, inherited cultures will have a lasting effect on individuals' disclosure. However, if the acquired culture can be learned through continuous exposure to the point of dominating the inherited culture, the effect of the inherited culture may be muted. In our second hypothesis, we test the relative strength of inherited ethnic culture for those who have vs. those who have not been exposed to a different ethnic culture later in their career.

H2: For managers with greater exposure to ethnic cultures that are different from their own, the effect of the inherited ethnic background on disclosure attributes will be weaker.

Next, we examine whether the effect of ethnic backgrounds on disclosure outcomes varies by disclosure venue. While the effect of ethnic culture may be long lasting for an individual, there

could be forces that can "undo" the cultural component of their disclosure tone. Because conference calls are important events that provide relevant information to investors, other institutional forces may affect how managers speak. Therefore, if people involved with disclosures (legal departments, investor relations groups) are fully aware of the cultural differences, it is likely that they adjust for those differences to conform to some global norm to change outsiders' perceptions. We exploit the dual nature of earnings conference calls and test for the different effects of culture for more vs. less extemporaneous disclosure venues.

We consider the Q&A section, which is highly interactive, to be more extemporaneous and the MD section to be more scripted and less extemporaneous. We predict that individual managers' cultural attributes are reflected more in the Q&A section than in the MD section, where other firm-level efforts are more likely to shape managers' disclosure tone. Hence, managers may show no evidence of a disclosure style consistent with their ethnic backgrounds, and may even show signs of overcompensation for their cultural attributes. This is consistent, albeit indirectly, with Lundholm et al. (2014), who document that among firms cross-listed in the U.S., those headquartered in non-English-speaking countries file disclosures in plainer English.

H3: The effect of ethnic background on disclosure attributes will be stronger when the communication is more extemporaneous (i.e., Q&As) than less extemporaneous (i.e., management discussions).

2.3. Capital market consequences of disclosure tone and its cultural component

Setting culture aside, the literature has examined the association between our disclosure attributes of interest and measures of economic performance. The positive association between the tone of earnings announcements and the short-window stock returns around those announcements is a well-documented empirical regularity in the U.S. (Henry 2008; Davis et al. 2015; Demers and

Vega 2014; Huang et al. 2014).[10] This suggests that disclosure tone is incrementally informative about firm performance beyond the earnings surprise. Another strand of the literature examines the capital market implications of individualism.[11] It follows from these two largely independent literatures that the capital market implications of disclosures are likely to vary along cross-country cultural differences.

We examine whether cultural differences affect the capital market responses. If the capital market does not adjust for the cultural component of the disclosure, then optimism (i.e., positive tone) may elicit similar belief revision regardless of the executive's level of individualism. However, if investors consider executives' cultural background and appreciate the tendency of an individualistic executive to speak more optimistically, they may give less weight to an individualistic executive's positive tone than to that of a collectivist. We test whether the capital market makes a distinction based on an executive's background. In particular, we examine whether positive tone leads to upward revision in analysts' forecasts following the call, and more importantly, whether the response is stronger for executives from a collectivist rather than an individualistic cultural background.

H4: If capital market participants recognize the cultural effect on managerial tone, the capital market will react less strongly to the positive tone of individualistic managers than to that of collectivist managers.

[10] While the literature examines the decisions of overconfident investors, we are not aware of any studies that examine the stock market implications of managers' self-referential disclosures. Therefore, we limit our capital market predictions tests to tone as the disclosure attribute of interest and provide evidence using self-references for completeness.

[11] Using individualism as a proxy for overconfidence and self-attribution bias, Chui et al. (2010) find a positive association between country-level individualism and (i) trading volume, (ii) volatility, and (iii) momentum profits. They conclude that their results are likely consistent with a behavioral explanation for cross-country variation in momentum profits. Eun et al. (2015) document higher firm-specific stock return variation in individualistic countries, which they attribute to analytical thinking styles and less herding in such countries. Lastly, Pevzner et al. (2015) document a positive association between unsigned market reactions to earnings announcements—as measured by abnormal trading volume and return variance—and country-level individualism.

Lastly, we test whether the capital market has a better understanding of cultural tone when the cultural backgrounds of the listener and speaker are matched (i.e., in intra-cultural interaction). The prediction is based on studies that suggest that cultural alignment is an important component in the communication process (Gass and Varonis 1984; Scollon and Scollon 1995; Li 1999). Because the communication process involves two parties—a source that sends the message and a receiver that receives it—the alignment of cultural backgrounds facilitates the communication process and leads to less misunderstanding (Gass and Varonis 1984).[12] We expect listeners who share managers' ethnic background to better decode the cultural component of managerial tone.

We use analysts and their forecast revisions to evaluate the differential responses to inter- vs. intra-cultural interactions. There are at least two advantages to using analysts and their forecast revisions. First, we can assign an ethnicity to analysts using the same method as the one we apply to managers. Second, the individual's beliefs are observable through earnings forecast revisions. Also, we believe the results can be generalized to the capital market because analysts participate in conference calls on behalf of investors and are known to be an important information intermediary. We predict that analysts' forecast revisions will respond more to the cultural component of tone (i.e., there will be a stronger revision to the positive tone of a collectivist than an individualistic executive) when the interaction is intra-cultural (i.e., when the cultural background of analysts and executives are matched) as opposed to inter-cultural.

3. Sample and empirical measures

3.1. Sample selection and classification of managers by their ethnic groups

[12] Scollon and Scollon (1995) summed up twenty years of research on inter-cultural communication concluding that "most miscommunication doesn't arise through mispronunciations or through poor uses of grammar . . . rather lies in differences in patterns of discourse" (p. 12).

Our primary data source for conference call transcripts is Thomson StreetEvents. Additionally, we obtain from Factset the transcripts of calls held by East Asian firms that do not subscribe to StreetEvents. We include only English-language conference calls. This results in a cross-country sample of calls from 5,321 unique firms domiciled in 42 different countries.

Table 1 shows the details of the sample selection process for the earnings conference calls. We include all call transcripts between 2002 and 2012, subject to some minimal constraints. We require the calls to occur within the three days around an earnings announcement and we drop calls from countries with fewer than 30 observations during our sample period. We drop calls with a length in the bottom 5% of our sample, as measured by the total number of words. This ensures that our measures are based on dialogues with sufficient text. We drop calls that use translators because the tone of the original message may get lost during the translation process. Finally, we require firms to have financial data: total assets (WC02999), net income (WC01706), common equity (WC03501), and total debt (WC03255) from Worldscope and daily price (RI), volume (VO), and market value (MV) data from Datastream. Our final sample consists of 57,740 conference calls held by 5,021 unique firms.

The unit of observation in our main tests is a manager-conference call. Conference call transcripts in StreetEvents and Factset identify call participants every time they speak. Using all corporate managers (primarily CEOs and CFOs, but also COOs, CMOs, IROs, etc.) who speak during the Q&A portion of our sample calls, our sample includes a total of 129,787 manager-conference call observations with 24,901 unique individuals.

To assign each individual to their most likely ethnic group, we collect the managers' first and last names directly from the conference call transcripts. We then map the names into ethnic

groups using the ethnicity-name matching technique developed by Kerr (2008).[13] The matching process exploits the fact that people with particular first names and surnames are likely to be of a certain ethnicity. The matching process uses both first names and surnames, although it gives priority to surnames.[14] The underlying pool of ethnic names is based on the database of two marketing companies that developed it for use in direct-mail advertisements.[15] The technique classifies each name into nine distinct ethnic groups: Anglo-Saxon, Chinese, European, Hispanic, Indian, Japanese, Korean, Russian/Slavic, and Vietnamese. Appendix A discusses how we applied the matching process to the conference call sample in greater detail.

Table 2, Panel A shows the distribution of the managers in our sample by ethnic group. Two thirds (= 16,831/24,901) of the managers in our sample are classified in the Anglo-Saxon ethnic group. Western Europe (EUR), Hispanic (HIS), and Indian/South Asian (IND) are the next largest ethnic groups. Anglo-Saxon managers make up a large portion of our sample because (i) a majority (111,071/129,787=85.6%, based on the first column of Panel B) of the firms in our sample are located in Anglo-Saxon countries (i.e., Australia, Canada, New Zealand, the U.K., and the U.S.) and (ii) firms tend to hire local managers whose ethnic background matches that of the region where the firm is located (78% for Anglo-Saxons, 74% for the full sample).

Table 2, Panel B shows the distribution of managers' ethnic group within each of the firms' ethnic regions. The table is structured so that each row (i.e., each firm's ethnic region) adds up to 100%. The high percentage in the diagonal of the matrix indicates that most firms hire managers within their own ethnic region. The figures range from 48% (for EUR) to 78% (for ENG),

[13] Alternatively, managers' nationality can be used to identify their ethnic group. However, information on nationality is missing for a large portion (more than 70%) of our sample. Also, nationality can later be altered for naturalized managers, adding measurement error to the capture of cultural influence.

[14] Thus, when a surname either did not match or matched several ethnicities, the assignment came through the first name.

[15] The first was developed by the Melissa Data Corporation, the second by List Services Direct, Inc.

suggesting that most firms tend to hire managers with an ethnic background that matches the firm's. However, there is still substantial variation in managers' ethnic groups (i.e., the off-diagonals). For example, for firms domiciled in Anglo-Saxon countries (i.e., Australia, Canada, New Zealand, the U.K., and the U.S.), 78% of their managers are Anglo-Saxon, 13% are European, and 3% are Hispanic. We compare on and off-diagonal observations to test our second and third hypotheses, and to check the robustness of our results in a single-country setting (the U.S.)

Table 2, Panel C shows the distribution of managers' ethnic groups by years. The number of managers shows a steady increase from 2002 to 2012. The dominance of Anglo-Saxon managers is more pronounced in the earlier years (i.e., 81% in 2002) but shows a steady decrease throughout our sample period (i.e., 69% in 2012). Representation of other non-Anglo-Saxon ethnic groups, especially Hispanic (HIS), Indian/South Asian (IND), and Chinese (CHN), shows a steady increase throughout our sample period.

3.2. Measures of individualism

We measure the degree of individualism stemming from our sample managers' cultural ethnicity using Hofstede's (2001) individualism index. The index comes from a cross-country survey of employee values conducted between 1967 and 1973. The subjects of this survey were approximately 88,000 IBM employees in 72 countries. The individualism index was calculated from the country mean scores on 14 questions about the employees' attitudes toward their work

and private lives.[16, 17] Hofstede's measure has been validated, and used extensively in prior studies, including Chui et al. (2010) in the finance literature; Schultz et al. (1993) and Kachelmeier and Shehata (1997) in the accounting literature; and Franke et al. (1991), Yeh and Lawrence (1995), and Weber et al. (1996) in the economics literature.

Hofstede's measure is a country-level variable. However, each of the seven ethnic groups we obtain from Melinda's classification scheme spans several countries. We therefore aggregate the individualism index to map into each ethnic group, using the average of the individualism index of all countries that belong to the ethnic group in question. We weigh the measure by the number of firms in each country (using our conference call sample). For example, to calculate the individualism index of the Anglo-Saxon ethnic group, we average the individualism index of all countries where Anglo-Saxon is the dominant ethnicity (i.e., Australia, Canada, New Zealand, the U.K., and the U.S.), weighted by the number of firms in each country. The countries included in each ethnic group are from Kerr (2008) and can be found in Table 2. We scale the individualism measure by 100 and present the measure in percentage terms.

Table 2 shows the individualism measure for each ethnic group. The ethnic group with the highest individualism measure is Anglo-Saxon, followed by European. Groups with a lower individualism measure are South Korean and Chinese. Japan scores highest on individualism

[16] Factor analysis was used to analyze the country mean scores on 14 work-goal questions and two factors were produced. The individualism index is constructed from the scores based on the first factor, which is highly correlated with 6 out of 14 work questions. The six questions are as follows: Do you: have considerable freedom to adapt your own approach to the job; (ii) have challenging work to do, work from which you can get a personal sense of accomplishment; (iii) have a job which leaves you sufficient time for your personal or family life; (iv) have training opportunities; (v) have good physical working conditions; and (vi) fully use your skills and abilities on the job. (Hofstede 2001, p.256).

[17] Holfstede's measures were based on a survey of IBM employees, which may not be representative of cross-cultural differences found outside of IBM. Several studies administer the questionnaire in other settings, using members of government and business leaders (Hoppe 1990), employees (Shane 1995), and consumers (De Mooij 2003). All these studies were able to replicate Hofstede's individualism measures.

among the East Asian countries.[18] Overall, the ranking is consistent with findings in the psychology literature (Chang 2001).

3.3. Measures of disclosure attributes

We use two measures of disclosure attributes, which we expect to vary with managers' cultural background. All measures are at the manager-call level. To construct the measures, we use all of each manager's answers during the Q&A session of a given conference call. The first measure is tone, which we determine following prior literature. Using the dictionary from Loughran and McDonald (2011), we count positive and negative words separately for each participant. We label the difference between positive and negative terms scaled by the sum of positive and negative words as *Tone*. Second, we count the number of times a manager uses singular first-person pronouns ("I", "me", "my", "mine", "myself"), scaled by the total words spoken by the manager (*Self-Reference*).[19]

Table 3, Panel A reports descriptive statistics for the two disclosure attributes. The mean and median *Tone_Q&A* indicate that, on average, managers use more positive than negative words. This is consistent with studies based on U.S. data (Davis et al. 2015). Additionally, we report descriptive statistics for the disclosure attributes measured during the MD portion of the conference calls (also measured at the individual executive level). We later use those measures for

[18] Hofstede (2001) explains that while "Japanese society shows many of the characteristics of a collectivistic society: such as putting harmony of group and people have a strong sense of shame for losing face, it is not as collectivistic as most of her Asian neighbors. [The Japanese] are more private and reserved than most other Asians." (http://geert-hofstede.com/japan.html)

[19] The construct differs from self-attribution, which refers to attributing only *favorable* performance to internal causes and poor performance to external causes (Li 2012; Kimbrough and Wang 2014). We consider managers' tendency to use singular first-person pronouns in all situations regardless of whether or not the news is favorable. In other words, the tendency to use singular pronouns does not need to be self-serving. Gow et al. (2016) also count singular and plural first-person pronouns in earnings conference calls, and refer to them collectively as self-reference. We only focus on singular pronouns, as the plural reflects greater collectivism.

comparison, since the effect of culture should be weaker—if not muted—during the scripted management discussions.

Going back to Table 2, Panel A, which reports the mean disclosure attributes separately by ethnicity, some patterns emerge. Tone tends to be more positive for ethnicities that are considered more individualistic. Since those descriptive statistics do not take into account other factors such as differences in the underlying news, we design regression tests to examine our hypotheses in the next section.

4. Empirical tests and results

4.1 Disclosure attributes and individualism: Manager-level analysis

We start out by examining whether cultural background (i.e., individualism) based on a manager's ethnicity affects disclosure attributes. More specifically, we test whether managers from more individualistic ethnic groups use a more optimistic tone and more singular first-person pronouns in their disclosure narratives (hypothesis 1). We use the following regression model with managers indexed as *m*, firms as *i*, and call quarters as *t*:

$$\begin{aligned} &Disclosure\ attributes_{m,i,t} \\ &= \alpha_0 + \beta_1\, Individualism_m + \sum \beta_j\, Manager\ control_{j,m,t} + \sum \beta_k\, Conference\ call\ control_{k,i,t} \\ &\quad + \sum \beta_l\, Firm\ control_{l,i,t} + \sum \beta_n\, Country\ control_{n,i,t} + Industry\ FE + Year\ FE + \varepsilon_{m,i,t.} \end{aligned} \quad (1)$$

The unit of analysis is manager (*m*) in calls of firm *i* in quarter *t*. The dependent variables are the two disclosure attributes discussed earlier in section 3.3, measured at the individual manager level.

$Individualism_m$ is the individualism index of manager *m*. As discussed in section 3.2., the measure varies by ethnic group and takes higher values for groups with a more individualistic culture. β_1 is our main variable of interest; it captures the effect of a manager's individualism on his/her disclosure attributes. The individualism measure is identified based on the manager's

ethnicity rather than the ethnic region where the firm is domiciled. This is because the behavioral attributes we examine are fundamentally an innate individual-level construct.

We control for managerial characteristics that are known to affect disclosure policies (Davis et al. 2015). We include the executive's gender, age, and educational background (*Degree*). We also include an indicator for CEOs (Li et al. 2014). Data on managerial characteristics are obtained from BoardEx by matching each individual-firm pair using first and last names.[20] We also control for executive characteristics that Davis et al. (2015) have found to be associated with the tone of conference calls: a law degree (JD); an MBA; early career experience during a recession; prior work experience in investment banking, consulting or auditing; and involvement in a charitable organization. Additionally, we control for other properties of managers' speech that are potentially correlated with their ethnic background and our disclosure attributes of interest. We use two measures of linguistic opacity, the *Fog Index* and *Grammar Errors*, which Brochet et al. (2016) find to be associated with the language distance between managers' country of origin and English. Not all managers in the sample are native English speakers and their choice of words in terms of tone or self-referencing may be a manifestation of their language barriers.

We include various conference-call- and firm-level determinants of the level of transparency in the disclosure narratives. The count of total words (*Words*) and the number of analysts participating in the call (*Participation*) proxy for the amount of information released and the level of interest in the marketplace for the call, respectively. Firm size (*Size*), profitability (*ROA*), Tobin's Q (*Q*), and *Leverage* proxy for various dimensions of business complexity, whereas the number of analysts covering the firm in I/B/E/S (*Log Analysts*) accounts for differences in the information environment driven by the demand side. The disclosure tone may

[20] For firms outside the U.S., the availability of such information in BoardEx is limited. We therefore supplement the BoardEx data with internet searches (e.g., LinkedIn).

also change with the properties of reported earnings and anticipated economic news. We control for the underlying earnings news using earnings surprise (*ESUR*), measured as the difference between the actual annual EPS minus the most recent mean analyst forecast (if available, a seasonal random walk model otherwise) scaled by price. We use decile ranks and rescale them to range from 0 to 1. We also include a loss dummy (*D_loss*) for firm-quarters with negative earnings and the stock returns during the fiscal year (*Ret_fye*). We also control for any fiscal year end effect using an indicator for calls held in the fourth quarter (*year_end*).

Finally, we include various cultural, economic, and institutional country-level determinants that may affect managers' disclosure attributes. We include other dimensions of culture (*Uncertainty avoidance* from Hofstede (2001) and *Lack of trust*, from World Value Surveys) that have been shown to affect corporate policies (Pan et al. 2015).[21] We include financial development measures using the log of equity market capitalization (*Market Cap*) and the annual changes in the market index (*Market Return*). We include price synchronicity (*Synchronicity*) and *Zero Returns* to account for the transparency and liquidity of the information environment and the rule of law index (*Law*) to control for the quality of institutions. All country-level controls are adjusted to reflect the individual's ethnic region using the method discussed in section 3.2. Alternatively, we restrict our sample to the U.S., thereby excluding country-level variables from the regression. We include year and industry fixed effects to account for unobserved factors that may affect disclosure attributes over time and across industries. Detailed definitions of each variable are provided in Appendix B.

Table 3 presents descriptive statistics for the variables included in the study. The results from Panel B indicate that 6% of the managers in our sample are female and 10% have a post-graduate education. The average age is 52.77. The call and firm characteristics indicate that our sample

[21] Our results are robust to including masculinity and language future time reference as additional cultural measures (untabulated).

consists of large firms with significant participation by managers (a mean of 1,041 words spoken by call/manager) and analysts (median of 7 (=$e^{1.95}$) participants per call). We next present the estimated coefficients from our regression model in equation (1). We estimate the model using ordinary least squares (OLS) and cluster the standard errors by firm and by year. Table 4 presents the results.

Table 4, columns 1 and 2 show that a manager's individualism is positively associated with *Tone_Q&A* and *Self-Reference_Q&A*. The estimated coefficient on *Individualism* is positive and significant, 0.077 (t-stat=3.793) using *Tone_Q&A* in column 1. The results indicate that a one standard deviation increase in individualism (=0.20, Table 3, Panel B) is associated with a 0.015 higher *Tone_Q&A*. To gauge the magnitude of this effect, we compare it to other previously documented determinants of tone. The effect of culture is similar to that of being involved in a charitable organization (=0.024) and it is of the same magnitude as a one standard deviation increase in earnings surprise (0.015, based on a coefficient of 0.048 and a standard deviation of 0.32, from Table 3, Panel B). With our second disclosure attribute, *Self-reference_Q&A*, as the dependent variable in column 2, we also find a positive and significant coefficient of 0.195 (t-stat=4.791).

Other manager characteristics exhibit significant associations with the disclosure attributes we examine. CEOs tend to speak more positively and to use more singular first-person pronouns, on average. Female managers use less optimistic language and are less self-referential, consistent with women exhibiting less self-esteem than men, especially in Western countries (Bleidorn et al. 2016). Older managers use a more pessimistic tone, but also more singular first-person pronouns. Other variables, such as prior experience in investment banking and involvement in a charitable organization also explain tone in a way that is consistent with Davis et al. (2015). Managers from larger firms use more pessimistic language but also more singular first-person pronouns. As

expected, managers use a more optimistic tone when stock returns are higher and when they report profits and positive earnings surprises.

In columns 3 and 4, we restrict the sample to conference calls held by U.S. firms in order to minimize the possibility that our results could be driven by unobserved country characteristics. All control variables—except country characteristics—are included. We find patterns consistent with the cross-country sample: Managers of U.S. firms who are from a relatively more individualistic ethnic background exhibit a more positive tone (column 3) and more self-reference (column 4), and the coefficients of interest are statistically significant at the 0.01 level. Overall, the primary takeaway from Table 4 is that cultural background based on an individual's ethnicity affects the disclosure attributes after controlling for other determinants of country-, firm-, and manager-level characteristics.

4.2. Persistence of the effect of cultural individualism on disclosure attributes: Cross-cultural experience

Next, we examine individuals who are exposed to cultures outside their inherited ethnic region. If inherited ethnic culture is long lasting, executives' disclosure attributes will continue to show patterns consistent with their inherited cultural background, even if the individual has been exposed to different cultural environments. If the culture acquired through subsequent organizational practices dominates the individual's inherited ethnic culture, the disclosure attributes of individuals with cross-cultural experience may no longer show the influences of the manager's inherited ethnic culture. Our hypothesis is that managers exposed to different cultures express themselves in a way that is in-between those two scenarios. That is, their ethnic culture influences their disclosure attributes, but less so if they are subsequently exposed to a different culture (H2).

To test this hypothesis, we separate our sample between local managers and those with cross-cultural experience. Managers are classified as local if their ethnicity matches that of the dominant ethnicity in the country where their firm is headquartered (i.e., if they are on the diagonal in Table 2, Panel A), and cross-cultural (i.e., off the diagonal) otherwise. In both samples, β_1 is the coefficient of interest. The β_1 coefficients in the local manager sample form a baseline estimate of the effect of ethnic culture. Our interest is twofold: First, is β_1 positive and significant in the cross-cultural sample? That would suggest managers' inherited individualism continues to affect their disclosure, even if they are exposed to organizational cultures outside of their cultural upbringing. Second, according to H2, we expect β_1 to be significantly greater in the local than in the cross-cultural sample.

Table 5, Panel A shows the estimated coefficients for the full sample, 74% of which consists of local managers. For both local and cross-cultural managers, the coefficient on *Individualism* is positive and significant when the dependent variable is *Tone_Q&A* (columns 1 and 2). However, the effect for local managers (=0.210) is significantly larger than it is for cross-cultural ones (=0.084), as per the F-test (p=0.095). Hence, while managers' inherited cultural individualism still matters in shaping their disclosure tone once they are exposed to a different culture, the effect is partly muted, consistent with H2. Similar to *Tone_Q&A*, *Self-Reference_Q&A* is positively and significantly associated with *Individualism* in both samples (0.386 for local managers, 0.197 for cross-cultural managers), but with no significant difference between the two (p=0.229 for the F-test). Hence, a mixed picture emerges from Table 5, Panel A. Judging solely from the coefficients on the disclosure attributes in the cross-cultural sample, managers' inherited cultural background persists in shaping their disclosure attributes. The comparison with local managers indicates that the effect is partly muted when managers are exposed to a different culture,

but it is only significant for tone. This result suggests that while inherited culture has a lasting effect, neither inherited nor acquired culture "dominates" the other per se.

To maintain the approach used in Table 4, we also report results based on the U.S. sample in Table 5, Panel B. However, we can only report the cross-cultural results, since there is no within-country variation in *Individualism* for local managers. Consistent with the full sample, we find a positive and significant association between the inherited cultural background in terms of individualism of cross-cultural (i.e., non-Anglo-Saxon) managers who work for U.S. firms and their disclosure tone and self-reference. Overall, the results in Table 5 indicate that the effect of inherited culture on disclosure attributes persists for managers who work for firms located in regions where another culture dominates, but the effect on tone is partly diluted.[22]

4.3. Management discussion (MD) portions of the calls

The analysis thus far is based on managers' answers to analysts' questions during conference calls. As discussed in H3, we expect the level of spontaneity of those extemporaneous disclosures to reveal the effect of culture on managers' word choices. In contrast, the likely more scripted (and perhaps even created by a group of individuals other than the speaker) MD portion of the call should exhibit less (or no) variation due to managers' individual culture. We test H3 by estimating Model (1) based on managers' speech during the MDs. For completeness, we also test whether the overall effect of culture persists or is muted once we combine the MD and Q&A.

Table 6 reports the results. In Panel A, the sample includes all countries. For each disclosure attribute, we report two regression results: The Q&A (identical to Table 4) and the MD. For

[22] Managers can also be exposed to different cultures through their education. In untabulated analysis, we examine the effect of inherited versus acquired culture on managers' disclosure for managers who studied at a university/institution located in a country where the dominant culture differs from that of their ethnicity, and 'local' otherwise. We find that managers with a cross-cultural educational background exhibit a weaker association between their inherited culture and disclosure patterns. This suggests either that managers who self-select into studying abroad are less influenced by their home culture to begin with or that exposure to a different culture in an academic environment has some mitigating effect on the cultural dimension of disclosure choices.

Tone_MD, the coefficient on *Individualism* is negative and significant (= -0.068, t-stat=-3.895) during the MD. This is in sharp contrast to the positive coefficient (=0.077, t-stat=3.793) in the Q&A, suggesting that managers go against their cultural background (or are coached to do so) in the prepared MD.[23] For *Self-reference_MD*, the coefficient on *Individualism* is positive but not significant (= 0.0005, t-stat=0.016) in column 4, which again contrasts with the significant, positive coefficient on individualism during the Q&As in column 3. We find no evidence that managers from a more individualistic culture self-refer more during the MD. Table 6 shows that these cultural effects manifest themselves only during the Q&As.[24]

In Panel B, we also run the analysis for U.S. firms only. Several noteworthy results emerge. First, in column 2, the coefficient on *Individualism* for *Tone_MD* remains negative. Hence, the result in Panel A is not solely due to firms/managers from a collectivist culture injecting a more positive tone in their management discussions. The results hold even within a single country-level institutional environment. In other words, our findings cannot be explained by other cross-country differences (e.g., litigation risk) that may differentially affect disclosure outcomes (Rogers et al. 2011). Second, in column 4, the coefficient on *Individualism* is positive and significant, suggesting that U.S. managers are also more likely to self-refer during MDs. Altogether, the results in Table 6 indicate that during MDs, managers do not express themselves in a way that reflects their cultural individualism, consistent with H3. The contrasting results between the Q&As and prepared remarks suggest that managers and/or firms are not entirely passive vis-à-vis the effect of culture on word choice.

[23] This is not to say that individualism has no bearing on a call's tone and therefore no capital market consequences. In a regression on tone of stock returns around conference calls, we find that tone is significant for both the MD and Q&A, suggesting that they have incremental explanatory power over each other (not tabulated).

[24] When we combine the MD and the Q&As (not tabulated), the cultural influence of self-referencing persists even after the MD is taken into account, as indicated by the significant coefficient on *Individualism* (=0.064, t-stat=2.091).

4.5. Consequences of disclosure attributes from executives' cultural background

Analyst revision

Having established that disclosure attributes vary with managers' cultural backgrounds, we next examine how the capital market responds to the disclosure patterns of managers from different cultural backgrounds. Our main capital market tests use sell-side analysts as the primary consumers of those disclosures. We use analysts because we can directly observe the response of individual analysts using the forecast revision. We can compare the responses of analysts who share the same ethnic background (i.e., intra-cultural) to those who are from a different background (i.e., inter-cultural). We assign ethnicity to each analyst using the same technique that we employ for managers. We then test whether cultural alignment between the speaker and the receiver leads to a different market reaction to the manager's disclosure.

We use the following regression model to test analysts' reaction to the calls:

$$\begin{aligned} Revision_{a,i,t} = {} & \alpha_0 + \beta_1 Disclosure\ attribute_{i,t} + \beta_2 Disclosure\ attribute_{i,t} \times Low\ Individualism \\ & + \alpha_1 Low\ Individualism + \sum \beta_j\ Conference\ call\ control_{j,i,t} + \sum \beta_k\ Firm\ control_{k,i,t} \\ & + Country\ FE + Industry\ FE + Year\ FE + \varepsilon_{a,i,t}. \end{aligned} \quad (3)$$

Subscripts *a*, *i*, and *t* indicate analysts, firms, and quarters, respectively. The unit of analysis is an analyst-conference call. We collect analyst information from I/B/E/S and define *Revision* as the difference between their first EPS forecast revision after the call minus the last EPS forecast before the call for the following fiscal period, scaled by stock price measured at the end of the corresponding fiscal period. We only keep analysts whose last name we can identify and assign to an ethnic group and limit the revisions to those issued within 10 days after the call.[25] *Low individualism* is an indicator variable that equals one when the mean manager individualism is below the country median individualism (i.e., 69), zero otherwise.

[25] Since I/B/E/S no longer provides a translation file for the forecast sample, our sample is largely constrained by whether analysts issue a recommendation, as the recommendation sample includes the analyst's last name.

Our main predictions are as follows. First, irrespective of culture, we expect a positive β_1 when tone is the disclosure attribute. The more optimistic a call's tone, the higher the signed analyst forecast revision (Bochkay et al. 2017). Second, we vary the cultural make-up of the firm's management team, and test whether analysts adjust their forecasts for the cultural component of tone (and self-reference). Our focus is on the interaction term between *Tone* and *Low Individualism*, where a positive β_2 coefficient indicates that analysts give more weight to managers' optimistic word choice when the managers are from a collectivist culture, consistent with H4. Similarly, analysts will respond less strongly to the optimism of managers from an individualistic culture. Finally, we test whether H4 holds more strongly for intra- than inter-cultural analysts. We expect analysts to adjust for the cultural component of tone (i.e., a higher β_2 coefficient), increasingly so when there is cultural alignment between the analyst and managers. We split the sample between analyst-firm pairs where the analyst's ethnicity is the same as that of the management team's (i.e., intra-cultural) versus those where they differ (i.e., inter-cultural) and run equation (3) separately.[26]

Table 7 reports the results for our analysis of analysts' EPS forecast revisions. We examine the baseline effect of tone in column 1. As expected, the coefficient is positive and significant. The more optimistic the call's tone, the more positive the EPS forecast revisions following it. In column 2, we interact tone with an indicator for management teams with low individualism (i.e., below 69, which is the country sample median). On average, we fail to find evidence that analysts consider the cultural component of tone. The coefficient on the interaction term is not significant,

[26] Note that analysts' forecasts are issued at the firm level (i.e., they do not vary by individual executives within a firm). When the executive team has a diverse ethnic background, it is difficult to classify analysts into intra-cultural vs. inter-cultural pairs. For firms with an ethnically diverse executive team, we consider all analysts to be in the inter-cultural subgroup.

suggesting that the average analyst does not treat a manager's tone differently based on the manager's cultural background.

In columns 3 and 4, we split the sample between observations where the analyst has the same cultural ethnicity as the management team (column 3) vs. a different ethnicity (column 4). In both columns, the coefficient on tone is positive and significant. That is, regardless of whether they share the manager's cultural background, analysts revise their EPS forecasts more positively when the managers use a more positive tone, on average. The main difference between the two subsamples comes from the interaction between tone and low individualism. In column 3, the coefficient on *Tone*Low Individualism* is positive and significant (as, by extension, is the sum of the coefficients on *Tone* and *Tone*Low Individualism*), suggesting that when analysts share the managers' cultural background, they respond more strongly to the tone of a collectivist than an individualistic managerial team. In contrast, when analysts are from a different cultural background, we find no evidence that they revise their forecasts in response to the managers' cultural background. The coefficient on *Tone*Low Individualism* is negative and insignificant in column 4. The results in Table 7, Panel A indicate that when the speaker and listener share the same cultural background, the collectivist analyst responds more strongly to the tone of collectivist managers than the individualistic analyst does to individualistic managers. We interpret this as analysts who share managers' collectivist background recognizing the cultural effect of tone and recognizing the collectivist managers' propensity to use a more subdued tone.

Table 7, Panel B reports regression results for the same test as Panel A, except that tone is replaced by self-reference. Unlike tone, which prior literature has shown to be associated with firm performance (Henry and Leone 2016), the association between self-reference and firm

performance is more ambiguous.[27] We find that more self-reference elicits less positive forecast revisions, suggesting that analysts view it as a negative signal, on average.

Given our earlier findings that managers from more collectivist cultures are less self-referential, it is possible that analysts will discount self-referencing less when the managers are from a collectivist cultural background. In column 2, we interact self-reference with the low individualism indicator. Similar to our earlier findings using *tone*, we fail to find evidence that analysts consider the cultural component of self-reference on average, since the coefficient on the interaction term is not significant (=-0.0003, t-stat=-0.7595).

In column 3, when the analysts and managers share the same cultural background, we find evidence of the analysts revising their forecast positively in response to self-referencing by collectivist managers relative to that by individualistic managers. The coefficient on *Self-reference*Low Individualism* is positive and significant (=0.0011, t-stat=1.6588). In contrast, when analysts are from a different cultural background than the manager, there is no evidence that the analysts consider the cultural component of self-reference. The coefficient on the interaction term *Self-reference*Low Individualism* is negative and significant (=-0.0009, t-stat=-2.0057), indicating that inter-cultural analysts respond even more negatively to self-reference when the manager is from a collectivist culture. Collectively, the results in Table 7 suggest that only analysts with the same cultural background as the managers consider the cultural component of tone and self-reference: collectivist analysts recognize that collectivist managers are more likely to use less

[27] If self-reference is symptomatic of overconfidence, then market participants may perceive it negatively. This would be consistent with Eshraghi (2014), who finds that greater self-reference by mutual fund managers is associated with lower subsequent fund performance. Alternatively, Chatterjee and Hambrick (2007) use self-reference as a proxy for narcissism, and document more risk-taking and fluctuation in performance by narcissistic CEOs, but not necessarily underperformance. Finally, more granular evidence from Gow et al. (2016) suggests that self-reference is relatively more successful at explaining CEO extraversion, one of the big five personality traits (Goldberg 1993). Gow et al. (2016) find that extraverted CEOs' firms have lower future ROA – another reason to predict a negative association between self-reference and firm performance. We note, however, that self-reference is often assumed to be a symptom of the behavioral traits mentioned above without supporting evidence (Carey et al. 2015).

optimistic language and to be less self-referential, and they adjust their own earnings forecasts accordingly.

Next, we test whether the revisions of inter-cultural analysts are more informative. Our interpretation of the findings in Table 7 is that intra-cultural analysts' revisions are more informed. That is, by recognizing that a collectivist manager tends to use less optimistic and self-referential language, intra-cultural analysts are able to make more informed revisions. However, it is possible that such cultural adjustment does not necessarily reflect value relevant information.[28] We test whether revisions are indeed informative when analysts share the manager's cultural background, measured using long term stock returns.

More specifically, we use the following regression model:

$$\begin{aligned} Returns_{i,t} = {} & \alpha_0 + \beta_1 Revision_{a,i,t} + \beta_2 Revision_{a,i,t} \times Intra\text{-}cultural + \alpha_1 Intra\text{-}cultural \\ & + \sum \beta_j Conference\ call\ control_{j,i,t} + \sum \beta_k Firm\ control_{k,i,t} \\ & + \sum \beta_l Country\ control_{l,i,t} + Industry\ FE + Year\ FE + \varepsilon_{a,i,t.} \end{aligned} \quad (4)$$

The dependent variable is the future buy-and-hold returns measured over a 90-day period starting immediately (2 days) after the conference call. We choose returns over accounting-based measures of fundamentals such as ROA due to concerns regarding cross-country differences in accounting, including but not limited to reporting frequency. *Intra-cultural* is an indicator that takes a value of one for revisions made by analysts who have the same ethnicity as firm's executives, zero otherwise. Other dependent variables and controls are the same as in equation (3).

Table 8 reports the estimated results. We find that analyst EPS forecast revisions are informative and predict future returns, i.e., a positive β_1 on average. In column 1, the baseline result indicates that, on average, analysts' EPS forecast revisions are informative about future fundamentals (= 0.85 t-stat=7.21). More importantly, we find the revisions of analysts who share

[28] For example, intra-cultural analysts may be overreacting to a collectivist manager's positive tone by giving it too much credence.

the manager's cultural background to be more informative of future fundamentals (β_2>0). In column 2, the interaction with *Intra-cultural* is positive and significant, suggesting that revisions made by analysts who have the same background as the manager are more informative. Hence, it appears that forecast revisions convey information about future fundamentals and more so if there is cultural alignment. The coefficient of 0.66 on *Revision*Intra-cultural* indicates that a one standard deviation in forecast revision (=1.64, Table 3) is associated with a 1.08% incremental quarterly return when analysts and managers are culturally aligned.[29]

We next examine contemporaneous returns at the time the revision is issued. Prior studies find a robust positive relation between prices and forecast revisions (Frankel, Kothari, and Weber 2006). Our earlier finding that revisions (at least those made by intra-cultural analysts) predict future returns points to the possibility that the market's response at the time of the revision may be incomplete (Gleason and Lee 2003). We estimate the model in equation 4 using contemporaneous returns as the dependent variable. We use a 3-day returns window, starting one day before and ending one day after the forecast issuance.

Columns 3 and 4 present the estimated results. Consistent with prior studies, we find a strong positive market response to forecast revisions (= 0.330 t-stat=10.32 in column 3). However, we do not find evidence of the market responding more strongly to the revision of analysts with the same cultural background. The interaction with *Intra-cultural* is negative and insignificant, suggesting that the market does not differentiate between the revisions of intra-cultural and inter-cultural analysts, which leads to a predictable price drift for intra-cultural analysts' revision. Our main takeaway from Tables 7 and 8 is that analysts who share managers' cultural background are

[29] We note that in addition to the disclosure attributes examined in the study, other reasons (e.g., private communication) may contribute to the higher predictive ability of intra-cultural analysts.

an important conduit for processing the implications of the managers' disclosure attributes on firm value, but the capital market fails to incorporate this information in a timely fashion.[30]

5. Additional tests

5.1 Measurement error

We perform several robustness tests to further mitigate concerns related to measurement errors in our ethnicity measure. Despite its wide usage, the name matching technique used to assign ethnicity to individuals has several sources of measurement errors. In this section, we address this concern by controlling for various measurement issues or using alternative measurement methods.

The ethnicity-name matching algorithm yields a probability distribution of matching ethnic groups based on the manager's first and surnames (with priority to surnames). However, it is possible that two managers with the same surname can be matched to different ethnic origins. This occurs when the surname is not matched (or was matched with several ethnicities) and the assignment came through the first name.[31] To address the possibility that those may be erroneous matches, we create a variable based on the number of ethnicities that a given surname can be matched with in our sample (*# of Ethnicities*). We include this variable and its interaction with *Individualism* in our tests. Table 9, Panel A reports the results (control variables are included but not tabulated). We find that our main results remain qualitatively unaffected by the inclusion of *# of Ethnicities* and its interaction with *Individualism*.

[30] In additional tests (untabulated), we examine the capital market response to each disclosure attribute. Using intra-day returns, we find that the market reacts positively to the MD (Q&A) tone during the MD (Q&A), and to the tone of both over the entire call. However, we do not find a different response to tone based on the executives' cultural background. Interestingly, we also find a positive association between self-reference and returns during the Q&A. However, once we take the entire call into account, we find that this association holds significantly only for collectivist managers, which is consistent with intra-cultural analysts' forecast revisions.

[31] Last names that match with more than one ethnic origin are less than 10% of our sample.

The second measurement error may arise from mapping the individualism measure, which is constructed at the country level, into each ethnic group. We do so by aggregating country-level measures of individualism to an ethnic group. We address concerns about the aggregation process by using an alternative and more granular classification of ethnic groups (31 ethnic groups).[32] Panel B reports the results and shows that our findings are robust to this alternative classification.

Next, we examine whether our findings hold once we use an alternative measure of individualism attributable to genetic transmission. Following prior economic studies on individualism, we use differences in blood type prevalence across ethnicities as a proxy for a genetic-based mechanism of cultural transmission (Gorodnichenko and Roland 2010, 2011). These studies argue that because blood type is a neutral genetic marker, i.e., one that has no effect on individuals' other attributes, it can satisfy the exclusion restriction. [33] Subsequent studies, however, challenge the validity of this instrument because genetic composition may be correlated with variables other than ethnic culture, which may affect the outcome variable (Giuliano et al. 2013). We also note that this is a difficult—if not impossible—claim to ascertain. If individuals inherit traits genetically and culturally from their parents in ways that are highly correlated, then the impact of culture on disclosure is not distinguishable from that of genes. Hence, our two stage tests may be more conservatively interpreted as being based on blood type as an alternative measure of individualism to that in Hofstede (2001).

Following this literature, we create a measure of individualism that can be explained by the variation in blood type differences across ethnic groups. More specifically, we construct a

[32] The algorithm assigns last names to an ethnicity based on the most common country of origin for each last name using census data, which includes the individual and the father's country of origin. (Liu 2016).

[33] Gorodnichenko and Roland (2010) argue that because blood type is a "neutral" genetic marker, it is unlikely to be correlated with other economic outcomes. However, they acknowledge that there could be channels other than individualism through which genetic distance can be indirectly related to economic outcomes (such as long-run growth).

measure of *Blood Type Distance*, the Euclidian distance between the blood type mix of an ethnic group and that of Anglo-Saxons, the most individualistic ethnicity in our sample. We obtain ethnic-level blood type data from Cavalli-Sforza et al. (1994).[34] We re-run our main analysis by replacing *Individualism* with its predicted value from the first stage. Table 9, Panel C, reports the results. In terms of sign, magnitude, and statistical significance, the coefficients on *Predicted Individualism* are consistent with the OLS results. That is, executives with a higher predicted individualism attributable to their ethnicity's blood type use a more optimistic tone and greater self-reference. This suggests that our findings hold when we use only the genetically transmitted component of culture.

Finally, measurement error can also occur with female managers who change their name after marriage and whose spouse is of a different ethnicity. To address this issue, we re-run our tests without female managers. Table 9, Panel D reports the results (control variables are included but not tabulated). Our results are robust to this exclusion.

5.2. Alternative specifications

We show that our findings are robust to different specifications. One potential concern with manager-level analyses is the possibility that unobserved firm-level factors drive the observed association between manager characteristics and the outcome of interest. We supplement our tests using firm fixed effects and a change instead of a level specification.

Under the firm fixed effect specification, the coefficient on *Individualism* will capture within-firm (but across-manager) variation in disclosure attributes due to managers' cultural background. The results are tabulated in Table 10, Panel A. In terms of sign and statistical

[34] In our first stage model, the coefficient on *Blood Type Distance* is negative and significant, indicating that ethnicities with a blood type mix that is more distant from that of the Anglo-Saxon population exhibit less individualism. Furthermore, with an R^2 of 80%, the first stage estimates (untabulated) indicates that our measure of a genetic-based mechanism for cultural transition is strongly correlated with *individualism*.

significance, the coefficients on *Individualism* remain generally robust to the inclusion of firm fixed effects. In terms of magnitude, the coefficients are generally smaller than in Table 4 Nevertheless, the results indicate that within a given firm, managers from a more individualistic ethnic background use a more optimistic tone and self-reference more than those from a more collectivist background.

Next, we estimate a change specification. We take within-firm first differences (compared to the previous call) in all variables of interest (disclosure attributes and individualism of the management team) and controls that also vary over time. *ΔIndividualism* will vary if the ethnic mix of executives who speak during the calls change from one call to another. The results are tabulated in Table 10, Panel B. The coefficient on *ΔIndividualism* is positive and significant: when the management team is ethnically more individualistic than in the firm's previous call, the tone is significantly more positive and there is greater self-reference.

Finally, we test whether the effect of culture on disclosure attributes persists across good and bad news partitions. An underlying assumption in our hypothesis is that the effect of individualism on a manager's disclosure attributes stems from inherited cultural traits. If so, we would expect the effect to persist even if the manager is exposed to situational forces that could lead him/her to deviate from this cultural norm. However, it is possible that managers' disclosure incentives vary depending on whether they communicate good or bad news, especially when it comes to self-attribution (Kimbrough and Wang 2014). We repeat our earlier analysis in Table 4 by looking at positive and negative earnings surprises separately. Earnings surprise is defined as the difference between the actual annual EPS minus the most recent mean analyst forecast, if available, a seasonal random walk model otherwise.

Table 10, Panel C reports the results. Across all partitions, the coefficients are consistent with the full sample results. That is, *Individualism* is positively associated with *Tone* and *Self-Reference*, regardless of whether the earnings news is positive or negative.[35] Furthermore, the coefficients are all statistically significant, and the F-tests indicate that we cannot reject the null of coefficient equality across the good and bad news partitions. Hence, the effect of cultural individualism on disclosure attributes holds regardless of the underlying news, suggesting a persistent phenomenon.

6. Conclusion

We examine the effect of managers' cultural background on their disclosure narrative in the context of earnings conference calls. Using managers' ethnicity to infer their cultural upbringing, we test whether executives from a more individualistic (as opposed to collectivist) background speak in a more optimistic and self-confident manner during conference calls. Our sample consists of English-language conference calls held by firms from around the world.

Our primary finding is that managers from a more individualistic background use a more positive tone and more singular first-person pronouns relative to managers from a collectivist ethnicity. The results are specific to the Q&A portion of the conference calls, where individual managers' cultural roots are more likely to have an effect. In contrast, the cultural effect of inherited individualism is largely absent from the less extemporaneous MD part of the call, and is even reversed in the case of tone. While we find that the inherited culture of managers who are exposed to another culture through work or education has a somewhat weaker effect on their

[35] One could argue that individualistic managers should be *less* likely to use self-referencing language when earnings news is bad. However, our results do not support the view that self-referencing language is necessarily self-serving. Rather, the cultural dimension of self-reference appears to be an unconditional tendency to talk more in the first person.

disclosure tone, our tests otherwise indicate that the effect of culture on disclosure optimism and self-reference is sticky, including across partitions on positive and negative earnings news.

Lastly, we provide some evidence on the capital market effects of disclosure attributes in a cross-country setting. We find that analysts revise their earnings forecasts upwards in response to a more positive conference call tone, but not more so for collectivist managers. However, we find that when analysts and managers share the same ethnicity, the analysts respond more strongly to managers' tone. This is especially true for collectivist analysts and managers. Furthermore, earnings forecast revisions by intra-cultural analysts (i.e., those who have the same background as managers) exhibit a stronger association with quarterly stock returns, which suggests that their forecasts are more informative. Despite the greater information, the market does not react to this information fully at the time of the forecasts. Collectively, our capital market results suggest that intra-cultural analysts are an important conduit for the cultural component of managers' tone being reflected into stock prices.

Our results speak to the role culture plays in shaping corporate disclosure narratives. We add to and bring together several strands of literature that examine (a) the textual content of corporate disclosures and its capital market consequences and (b) the role of culture in explaining capital market outcomes. We also innovate beyond prior literature by using managers' ethnic background and a cross-country earnings conference call sample to perform our empirical tests. Our findings should prove useful to academic and practitioner audiences who wish to better understand cross-cultural patterns in corporate disclosures and their implications for the capital market. Other cultural dimensions besides individualism are likely to affect managers' disclosures and other reporting outcomes besides tone and self-reference are likely to reflect cultural influence. For example, how cultural backgrounds affect the tendency to withhold bad news or to make more

conservative accounting choices may be interesting questions for future research. We believe there is much to be gained from further studies of the intersection between culture and financial reporting.

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Appendix A: Ethnicity-name matching

We map executive names into each ethnic group using the ethnicity-name matching technique developed by Kerr (2008). The matching process exploits the fact that people with particular first names and surnames are likely to be of a certain ethnicity. The underlying pool of ethnic names is based on the database of two marketing companies, Melissa Data Corporation and List Services Direct, Inc., that developed the database for use in direct-mail advertisements. While other data vendors provide similar services, the advantage of the database provided by these companies is in their identification of Asian ethnicities, especially Chinese, Indian, Japanese, Korean, Russian/Slavic, and Vietnamese names (Kerr 2008).

We obtain the executives' first and last names from the conference call transcripts. The matching procedure utilizes all of the name assignments in the database and assigns a probability distribution of each name, giving first priority to last names. [36] If a last name is assigned to all ethnic groups with a zero probability (or equal probabilities among multiple ethnicities), the algorithm then uses the first name to generate the match. The match rate following this procedure was at 96%, which is comparable to the match rate found in other studies (Foley and Kerr 2013).[37]

The technique classifies each name into nine distinct ethnic groups: Anglo-Saxon, Chinese, European, Hispanic/Filipino, Indian, Japanese, Korean, Russian/Slavic, and Vietnamese. When applied to the conference call sample, no executives matched to the Vietnamese ethnic group. Thus, our analysis includes eight distinct groups. Table A1 shows the top five surnames of executives in each ethnic group.

Table A1 Top five surnames of managers speaking during conference calls, by ethnic group

Managers' ethnic group	Chinese	Anglo-Saxon	European	Indian/ South Asian	Hispanic/Filipino	Japanese	Korean	Russian/Slavic
Top 1	Chen	Smith	Schwartz	Shah	Garcia	Tanaka	Kim	Kaminski
2	Wang	Johnson	Schmidt	Patel	Lopez	Suzuki	Park	Brodsky
3	Wong	Miller	Weiss	Singh	Sanchez	Kato	Choi	Lasky
4	Chan	Brown	Meyer	Kumar	Fernandez	Santo	Cho	Khaykin
Top 5	Li	Jones	Wagner	Gupta	Perez	Takahashi	Jung	Radinsky

[36] See Kerr (2008) for more details on the matching process.

[37] The list obtained from Kerr (2010) excludes Jewish names (the most prominent examples being Cohen, Katz, etc.), due to difficulties in classifying the individuals. For this reason, we exclude firms domiciled in Israel from our conference call sample.

Appendix B: Variable definitions

Panel A: Definitions of the variables

Category	Variable name	Empirical measure & data source
Dependent Variables	*Tone_Q&A(MD)*	The number of times the manager uses "positive" words minus the number of times the manager uses "negative" words scaled by the total number of "positive" plus "negative" words during the Q&A (MD).
	Self-Reference_Q&A (MD)	The number of times the manager uses singular first-person pronouns ("I", "me", "mine", "my", "myself") during the Q&A (MD) scaled by the total number of words.
	CAR	Market–model-adjusted returns. For intra-day CAR we estimate the start and end times of portions of the call using the methodology described in Matsumoto et al. (2011).
	Future returns	Cumulative market-model-adjusted returns from days t+1 to t+90, where t is the day of the conference call.
	Revisions	The difference between the most recent forecast after the conference call and the last forecast before the call scaled by the price at the end of the fiscal period. We limit the sample to revisions made less than 10 days after the conference call.
Manager (Analysts) characteristics	*CEO*	Indicator equal to 1 if the manager is a chief executive officer, 0 otherwise.
	Gender	Indicator equal to 1 if the manager is female, 0 otherwise.
	Age	Age of the manager.
	Degree	Indicator equal to 1 if the manager has a graduate degree, 0 otherwise.
	JD_m	Indicator equal to 1 if the manager has a juris doctorate degree, (otherwise.
	MBA_m	Indicator equal to 1 if the manager has an MBA, 0 otherwise.
	Investment $Bank_m$	Indicator equal to 1 if the manager worked in an investment bank, 0 otherwise.
	$Consultant_m$	Indicator equal to 1 if the manager worked as a consultant, 0 otherwise.
	$Auditor_m$	Indicator equal to 1 if the manager worked as an auditor, 0 otherwise.
	$Recession_m$	Indicator equal to 1 if the manager enters the labor force during a recession year. The year of entering the labor force is based on the year of birth plus 22 years.
	$Charity_m$	Indicator equal to 1 if the manager is involved in an outside organization, 0 otherwise.
	Grammar $Error_{m,t}$	Standardized composite measure of speech patterns in management's answers during conference call Q&A, based on (i) the number of grammar errors flagged by MS Word, (ii) the use of the passive voice, and (iii) abnormal use of the article "the," measured by the deviation from its use in U.S. conference calls.
	$Fog_{m,t}$	Fog= (words per sentence + percentage of complex words) *0.4

	Intra-cultural	Indicator equal to 1 if the forecast is issued by an analyst who shares the ethnic background of the firm's executive team, 0 otherwise. When an analyst is following a firm with an ethnically diverse executive team, we consider the analyst as having a different ethnic background, therefore the value is 0.
Firm characteristics	*Log words*	Log of one plus the number of words in the Q&A section.
	Log participants	Log of one plus the number of non-corporate participants on the call.
	Size	Log market value of equity measured in U.S. dollars.
	Q	Log market value of assets over the book value of assets.
	Leverage	Total debt over the book value of assets.
	ROA	Net income before extraordinary items over the total value of assets.
	ESUR	Difference between the actual annual EPS minus the most recent mean analyst forecast, if available, otherwise a seasonal random walk model scaled by price. We use decile ranks scaled to range between zero and one.
	Log analysts	Log of the number of analysts covering the firm.
	D_loss	Indicator variable equal to 1 for firms reporting negative earnings.
	Year_end	Indicator variable equal to 1 for conference calls corresponding to the fourth fiscal quarter, 0 otherwise.
	Ret_fye	Prior fiscal year return.
Country characteristics	*Individualism*	Average of Hofstede's country-level individualism index by ethnicity. The measure is retrieved from http://geert-hofstede.com/countries.html.
	Lack of trust	Skepticism index from the World Values Survey. The measure is retrieved from http://www.worldvaluessurvey.org/
	Uncertainty avoidance	Hofstede's country-level Uncertainty Avoidance Index retrieved from http://geert-hofstede.com/countries.html.
	Market cap	Equity market capitalization of the country's global Datastream Index.
	Market return	Annual change in the Datastream global market index.
	Synchronicity	National average firm-level measure of synchronicity following Morck et al. (2000). *Synchronicity* $=\log(R^2/(1-R^2)$, where R^2 is obtained from the yearly market model regression of daily returns.
	Zero returns	Yearly country average firm-level percentage of daily zero returns.
	Law	Rule of law as per La Porta et al. (1998).

Table 1 Sample selection

	# of conference calls (i.e., firm-quarters)	# of individuals per calls (i.e., manager-quarter)
Number of conference call transcripts 2002-2012	332,038	1,008,503
Less: Analyst calls, etc.	110,135	249,216
Less: Missing identifiers, Years	142,387	515,762
	79,516	243,525
Less: Incomplete financials, returns	15,523	36,630
Less: Missing country's ethnicity (Israel)	719	1,924
Less: Countries with fewer than 30 observations	73	240
	63,201	204,731
Less: Missing manager information (i.e., ethnicity, linguistic measures) and short conference calls	5,432	74,871
Less: Translated calls	29	73
Total number of observations	**57,740**	**129,787**

Table 2 Descriptive statistics of managers' cultural background based on ethnicity

Panel A: Distribution of the ethnic group of managers

Managers' cultural background	Var	Individualism measure(×100)	# of managers	% of managers with ethnic cultural background identical to	Mean disclosure attributes	
					Tone	Self-reference
Anglo-Saxon	ENG	89.51	16,831	77%	0.159	1.552
European	EUR	65.76	4,156	48%	0.088	1.500
Japanese	JAP	46.00	175	44%	0.076	1.381
Indian/South Asian	IND	42.16	754	67%	0.108	1.493
Russian/Slavic	RUS	39.00	428	53%	0.089	1.328
Hispanic	HIS	33.16	1,523	69%	0.091	1.322
Chinese	CHN	20.41	899	64%	0.087	1.291
South Korean	KOR	18.00	135	77%	-0.003	1.518
Total			24,901	74%	0.139	1.519

Panel B: Distribution of the ethnic group of managers, by their firm's region

Firm's region\ Managers' ethnic group	# of m-quarters	ENG	EUR	JAP	IND	RUS	HIS	CHN	KOR	Total
U.S., UK, Australia, New Zealand, Canada	111,071	**78%**	13%	0%	2%	1%	3%	3%	0%	100%
Europe	13,682	36%	**48%**	0%	1%	2%	11%	1%	0%	100%
Japan	391	37%	6%	**44%**	2%	2%	3%	4%	2%	100%
India, Bangladesh, and Pakistan	932	22%	4%	0%	67%	2%	3%	1%	0%	100%
Russia/Slavic	288	44%	2%	0%	0%	**53%**	0%	0%	0%	100%
Hispanic Nations	2,409	18%	11%	0%	0%	1%	**69%**	0%	0%	100%
China, Hong Kong, Singapore, and Taiwan	852	21%	3%	1%	6%	0%	4%	**64%**	2%	100%
South Korea	162	3%	0%	0%	0%	4%	1%	14%	**77%**	100%

Table 2 (Continued)

Panel C Distribution of the ethnic group of managers, by year

Call- year \ Managers' ethnic group	ENG	EUR	JAP	IND	RUS	HIS	CHN	KOR	Total # of managers
2002	81.1%	14.1%	0.0%	0.0%	0.0%	3.3%	1.5%	0.0%	2,534
2003	77.5%	13.3%	0.5%	2.5%	0.0%	4.4%	1.6%	0.2%	5,837
2004	73.5%	15.3%	0.4%	2.7%	1.7%	4.8%	1.4%	0.3%	8,644
2005	72.9%	16.2%	0.5%	2.1%	1.8%	4.5%	1.8%	0.2%	8,444
2006	72.2%	16.8%	0.6%	2.1%	1.5%	4.4%	2.1%	0.3%	9,586
2007	70.5%	17.2%	1.0%	2.1%	1.5%	4.4%	3.0%	0.3%	10,914
2008	70.4%	18.1%	0.7%	2.0%	1.5%	4.4%	2.8%	0.2%	12,813
2009	69.1%	17.2%	0.6%	2.3%	1.4%	5.1%	4.0%	0.2%	13,547
2010	69.3%	16.7%	0.6%	2.4%	1.7%	5.4%	3.6%	0.4%	15,989
2011	70.8%	15.8%	0.5%	3.2%	1.5%	5.1%	2.6%	0.4%	19,787
2012	68.9%	15.3%	0.4%	4.0%	1.7%	6.2%	3.1%	0.4%	21,692

Notes: This table describes our sample. Unless otherwise noted, the unit of observation is a manager-conference call pair. Managers are assigned to one of eight ethnicities (a ninth ethnicity, Vietnamese, had no matches in our sample) in keeping with Kerr (2008) and based on a database from Melissa Data Corp. and List Services Direct Inc. See Appendix A and Kerr (2008) for more details. Panel A reports the statistical means for our main variables of interest. We obtain the individualism measure from Hofstede (2001). Since Hofstede's data is at the country level, we convert individualism to an ethnicity-level measure using the average of the individualism index of all countries that belong to the ethnic group in question. We weight the measure by the number of firms in each country (using our conference call sample). See Appendix B for detailed definitions of the disclosure attributes Tone and Self-Reference. In Panel B, the countries included in each firm's regions are as follows: Europe includes Austria, Belgium, Denmark, Finland, France, Germany, Italy, Luxembourg, Netherlands, Norway, Poland, Sweden, and Switzerland. Hispanic nations include Argentina, Belize, Brazil, Chile, Columbia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Philippines, Portugal, Spain, Uruguay, and Venezuela. Russia includes Russia and all former Soviet Union countries. Panel C reports the sample breakdown by year and ethnicity.

Table 3 Descriptive statistics

Panel A: Descriptive statistics of disclosure attributes

Variable	N	Mean	ST Dev	P10	P25	P50	P75	P90
Tone_Q&A	129,787	0.14	0.52	-0.60	-0.14	0.20	0.50	0.80
Self-reference_Q&A	129,787	1.52	0.96	0.35	0.86	1.42	2.05	2.76
Tone_MD	105,311	0.26	0.42	-0.33	0.00	0.31	0.57	0.75
Self-reference_MD	105,311	0.66	0.61	0.15	0.29	0.51	0.85	1.32

Panel B: Descriptive statistics of the capital market variables and other call characteristics

	N	Mean	ST Dev	P10	P25	P50	P75	P90
Capital market reaction								
CAR(%)	18,006	0.02	7.05	-7.82	-3.27	-0.02	3.39	7.89
Revision (%)	20,409	-0.31	1.64	-1.29	-0.33	-0.05	0.12	0.46
Future Returns (%)	10,602	-0.88	18.30	-21.84	-10.41	-0.97	7.74	18.68
$Individualism_m$	129,78	0.78	0.20	0.42	0.66	0.90	0.90	0.90
$Gender_m$	78,506	0.06	0.24	0.00	0.00	0.00	0.00	0.00
$Age_{m,t}$	75,886	52.77	8.00	42.41	47.35	52.62	58.13	62.83
CEO_m	129,78	0.48	0.50	0.00	0.00	0.00	1.00	
$Degree_m$	27,583	0.10	0.29	0.00	0.00	0.00	0.00	0.00
JD_m	27,583	0.00	0.04	0.00	0.00	0.00	0.00	0.00
MBA_m	27,583	0.03	0.18	0.00	0.00	0.00	0.00	0.00
Investment $Bank_m$	75,886	0.00	0.03	0.00	0.00	0.00	0.00	0.00
$Consultant_m$	75,886	0.01	0.10	0.00	0.00	0.00	0.00	0.00
$Auditor_m$	75,886	0.01	0.07	0.00	0.00	0.00	0.00	0.00
$Recession_m$	75,886	0.59	0.49	0.00	0.00	1.00	1.00	1.00
$Charity_m$	75,886	0.39	0.49	0.00	0.00	0.00	1.00	1.00
$Fog_{m,t}$	129,78	11.49	2.53	8.67	10.01	11.38	12.84	14.39
Grammar $Errors_{m,t}$	129,78	0.00	1.00	-0.82	-0.58	-0.18	0.27	0.90
$Words_{i,t}$	129,78	1,041.1	1,043.9	112.00	283.00	700.00	1,465.0	2,450.0
$Participants_{i,t}$	129,78	1.86	0.53	1.10	1.61	1.95	2.20	2.48
$Size_{i,t}$	129,78	13.45	1.93	11.04	12.25	13.41	14.64	16.05
$Q_{i,t}$	129,78	1.79	1.33	0.93	1.05	1.32	1.97	3.22
$Leverage_{i,t}$	129,78	0.23	0.38	0.00	0.04	0.18	0.35	0.53
$ROA_{i,t}$	129,78	-0.01	0.19	-0.15	0.00	0.03	0.07	0.12
$ESUR_{i,t}$	129,78	0.49	0.32	0.00	0.22	0.56	0.78	1.00
Log $analysts_{i,t}$	129,78	1.40	0.95	0.00	0.69	1.61	2.08	2.56
$D\_loss_{i,t}$	129,78	0.34	0.47	0.00	0.00	0.00	1.00	1.00
$Year\_end_{i,t}$	129,78	0.25	0.43	0.00	0.00	0.00	1.00	1.00
$Ret\_fye_{i,t}$	129,78	0.19	0.69	-0.48	-0.19	0.09	0.38	0.84
Lack of $trust_{c(m)}$	129,78	0.39	0.05	0.36	0.37	0.37	0.38	0.42
Uncertainty avoidance $_{c(m),}$	129,78	51.18	11.28	46.27	46.27	46.27	46.27	63.18
Market $cap_{c,t}$	129,78	9.28	6.09	0.52	1.42	11.55	14.40	16.34
Market $return_{c,t}$	129,78	0.08	0.20	-0.28	0.01	0.14	0.17	0.28
$Synchronicity_{c,t}$	129,78	0.10	0.04	0.05	0.07	0.09	0.13	0.17

Zero returns$_{c,t}$	129,78	0.39	0.06	0.34	0.35	0.37	0.40	0.48
Law$_{c}$	129,78	9.69	1.23	9.23	10.00	10.00	10.00	10.00

Notes: This table reports descriptive statistics for the variables in our regression analyses. See Appendix B for detailed variable definitions.

Table 4 Effect of managers' ethnic background on disclosure attributes

Variables	*Cross country sample*		*U.S. firms only*	
	(1) Tone_Q&A $_{i,m,t}$	(2) Self-reference_Q&A $_{i,m,t}$	(3) Tone_Q&A $_{i,m,t}$	(4) Self-reference_Q&A $_{i,m,t}$
	Coeff (t-stat)	*Coeff (t-stat)*	*Coeff (t-stat)*	*Coeff (t-stat)*
Manager-call characteristics				
Individualism$_m$	0.077***	0.195***	0.050**	0.201***
	(3.793)	(4.791)	(2.326)	(4.305)
CEO$_m$	0.139***	0.199***	0.142***	0.181***
	(29.383)	(17.769)	(22.992)	(15.316)
Gender$_m$†	-0.035**	-0.017	-0.018	-0.054
	(-2.062)	(-0.450)	(-0.964)	(-1.152)
Age$_{m,t}$	-0.001***	0.005***	-0.001***	0.005***
	(-2.864)	(5.256)	(-3.059)	(4.795)
Degree$_m$†	-0.031	-0.090**	-0.003	-0.178***
	(-1.550)	(-2.233)	(-0.147)	(-3.225)
JD$_m$	-0.175***	0.037	-0.285***	-0.157
	(-2.886)	(0.221)	(-8.216)	(-1.588)
MBA$_m$	0.043**	0.160*	0.047	0.286**
	(2.171)	(1.648)	(1.591)	(2.103)
Investment Bank$_m$	-0.124*	-0.008	-0.111*	-0.002
	(-1.954)	(-0.071)	(-1.720)	(-0.014)
Consultant$_m$	-0.010	0.044	-0.001	0.058
	(-0.515)	(1.185)	(-0.039)	(1.329)
Auditor$_m$	0.001	-0.038	0.003	-0.022
	(0.051)	(-1.143)	(0.120)	(-0.649)
Recession$_m$	0.001	0.015	0.008	0.013
	(0.185)	(0.985)	(1.586)	(0.782)
Charity$_m$	0.024***	0.026**	0.017***	0.032**
	(5.329)	(2.129)	(3.636)	(2.337)
Grammar Error$_{m,t}$	-0.035***	-0.036***	-0.035***	-0.022***
	(-7.011)	(-5.333)	(-7.801)	(-3.526)
Fog$_{m,t}$	0.030***	-0.054***	0.026***	-0.057***
	(14.435)	(-26.782)	(11.921)	(-20.536)
Firm call characteristics				
Log Words$_{i,t}$	-0.013**	0.047***	-0.013***	0.052***
	(-2.011)	(3.787)	(-2.747)	(3.405)
Log Participants$_{i,t}$	0.017***	0.009	0.015**	-0.029
	(2.611)	(0.552)	(2.249)	(-1.538)
Size$_{i,t}$	-0.009***	0.009*	-0.008**	0.018***
	(-4.142)	(1.946)	(-2.394)	(2.966)
Q$_{i,t}$	0.001	-0.001	-0.001	0.000
	(0.545)	(-0.216)	(-0.465)	(0.071)
Leverage$_{i,t}$	-0.010	-0.003	-0.047***	-0.002
	(-1.624)	(-0.340)	(-3.039)	(-0.095)
ROA$_{i,t}$	0.015	-0.039	-0.016	-0.065*
	(0.844)	(-1.502)	(-1.031)	(-1.829)
ESUR$_{i,t}$	0.048***	-0.001	0.063***	0.002
	(8.787)	(-0.071)	(12.208)	(0.146)
Log Analysts$_{i,t}$	0.001	-0.004	0.010*	0.008

	(0.336)	(-0.527)	(1.690)	(0.678)
$D\_loss_{i,t}$	-0.030***	-0.014	-0.042***	-0.011
	(-5.058)	(-1.197)	(-6.051)	(-0.726)
$Year\_end_{i,t}$	-0.001	-0.006	-0.008*	-0.008
	(-0.143)	(-1.435)	(-1.848)	(-1.308)
$Ret\_fye_{i,t}$	0.011***	-0.030***	0.011***	-0.035***
	(3.582)	(-4.725)	(3.088)	(-5.759)
Country characteristics				
Lack of $trust_{c(m),t}$	0.305**	-0.250	-0.001	-0.115
	(2.468)	(-0.939)	(-0.009)	(-0.307)
Uncertainty $avoidance_{c(m),t}$	-0.001*	0.001	0.001	0.001
	(-1.835)	(0.806)	(1.057)	(1.238)
Market $cap_{c(i),t}$	0.006***	-0.002	0.010***	0.011***
	(8.188)	(-1.168)	(11.821)	(3.088)
Market $return_{c(i),t}$	-0.059*	0.023	-0.056**	0.032**
	(-1.908)	(1.433)	(-2.398)	(2.516)
$Synchronicity_{c(i),t}$	-0.532***	-0.108	-0.153***	0.500*
	(-4.538)	(-0.541)	(-3.976)	(1.86)
Zero $returns_{c(i),t}$	0.281***	0.059	-0.131	0.399
	(3.698)	(0.547)	(-1.193)	(1.57.)
$Law_{c(i),t}$	0.001	0.018***		
	(0.420)	(3.683)		
# of observations	129,787	129,787	88,116	88,116
R-squared	0.0895	0.0465	0.0766	0.0452
Cluster	Firm-Year	Firm-Year	Firm, year	Firm, year
Year FE	Yes	Yes	Yes	Yes
Ind FE	Yes	Yes	Yes	Yes

Notes: This table presents the coefficient estimates from the OLS regressions of disclosure attributes on various country-, firm-, and conference-call-level characteristics. Columns 1 and 2 include observations from all the countries in our sample. Columns 3 and 4 restrict the sample to only those firms headquartered in the U.S. The unit of analysis is an individual manager (*m*) in an earnings conference call-quarter (*i,t*). All variables are defined in Appendix B. T-statistics are reported in parentheses below the regression coefficients. We cluster standards errors at the firm and year levels. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. † denotes variables where we include an interaction term with the underlying variable and an indicator for missing observations in the regression model.

Table 5 The effect of ethnic background for managers with cross-cultural experience

Panel A: Cross-country sample

	(1) Tone_Q&A $_{i,m,t}$		(2) Self-reference_Q&A $_{i,m,t}$	
	Local	Cross cultural experience	Local	Cross cultural experience
Variables	*Coeff (t-stat)*	*Coeff (t-stat)*	*Coeff (t-stat)*	*Coeff (t-stat)*
Manager-call characteristics				
Individualism$_m$	0.210***	0.084**	0.386***	0.197***
	(3.168)	(2.169)	(2.818)	(3.403)
	F test		F test	
	P value = 0.0952		P value =0.2295	
CEO$_m$	0.137***	0.143***	0.197***	0.205***
	(23.565)	(21.120)	(15.732)	(11.031)
Gender$_m$†	-0.048**	0.004	-0.001	-0.060
	(-2.205)	(0.163)	(-0.028)	(-0.995)
Age$_{m,t}$	-0.001	-0.001**	0.005***	0.007***
	(-1.601)	(-2.049)	(4.322)	(3.709)
Degree$_m$†	-0.039	-0.033**	-0.019	-0.169***
	(-1.214)	(-2.070)	(-0.342)	(-2.653)
JD$_m$	-0.137**	-0.238***	-0.044	0.661***
	(-2.268)	(-4.901)	(-0.261)	(6.732)
MBA$_m$	0.082**	0.005	0.209	0.162*
	(2.499)	(0.127)	(1.392)	(1.717)
Investment Bank$_m$	-0.139**	-0.086	-0.112	0.226
	(-2.255)	(-0.774)	(-0.807)	(0.953)
Consultant$_m$	0.004	-0.054**	0.019	0.125
	(0.204)	(-2.128)	(0.547)	(1.535)
Auditor$_m$	-0.007	0.039	-0.093**	0.137
	(-0.353)	(0.694)	(-2.253)	(1.644)
Recession$_m$	0.003	-0.005	0.033*	-0.035
	(0.645)	(-0.381)	(1.831)	(-1.233)
Charity$_m$	0.021***	0.022**	0.032**	-0.005
	(4.018)	(2.573)	(2.266)	(-0.187)
Fog$_{m,t}$	0.029***	0.033***	-0.052***	-0.060***
	(12.280)	(17.321)	(-24.759)	(-16.205)
Grammar error$_{i,t}$	-0.032***	-0.042***	-0.030***	-0.047***
	(-6.685)	(-7.573)	(-4.465)	(-6.619)
Log Words$_{i,t}$	-0.010	-0.021**	0.046***	0.056***
	(-1.596)	(-2.191)	(3.591)	(2.603)
Log Participants$_{i,t}$	0.011*	0.028**	0.009	-0.004
	(1.908)	(2.429)	(0.494)	(-0.145)
Size$_{i,t}$	-0.005**	-0.013***	0.016***	-0.002
	(-2.117)	(-4.354)	(3.161)	(-0.373)
Q$_{i,t}$	0.001	-0.000	-0.004	0.007
	(0.377)	(-0.027)	(-0.813)	(1.123)
Leverage$_{i,t}$	-0.024***	0.001	-0.010	0.004
	(-2.977)	(0.246)	(-0.644)	(0.464)
ROA$_{i,t}$	0.001	0.035	-0.031	-0.068
	(0.085)	(1.281)	(-1.016)	(-1.222)
ESUR$_{i,t}$	0.052***	0.036***	0.004	-0.013
	(11.284)	(3.927)	(0.292)	(-0.562)
Log analysts$_{i,t}$	-0.000	0.005	-0.010	0.006
	(-0.117)	(0.534)	(-1.009)	(0.479)

$D\_loss_{i,t}$	-0.035***	-0.021**	-0.009	-0.029*
	(-5.491)	(-2.198)	(-0.673)	(-1.675)
$Year\_end_{i,t}$	-0.001	-0.002	-0.005	-0.012
	(-0.199)	(-0.470)	(-0.896)	(-0.841)
$Ret\_fye_{i,t}$	0.010***	0.015***	-0.033***	-0.021*
	(2.953)	(4.896)	(-5.232)	(-1.953)
Lack of $trust_{c(m),t}$	1.588***	-0.002	0.025	-0.262
	(3.433)	(-0.011)	(0.043)	(-0.769)
Uncertainty $avoidance_{c(m),t}$	-0.007***	0.001	-0.003	0.001
	(-4.390)	(1.218)	(-1.391)	(0.661)
Market $cap_{c(i),t}$	0.004***	0.006***	-0.005***	-0.001
	(4.015)	(6.013)	(-2.942)	(-0.388)
Market $return_{c(i),t}$	-0.041	-0.050**	0.076***	-0.013
	(-1.032)	(-1.997)	(4.776)	(-0.299)
$Synchronicity_{c(i),t}$	-0.459***	-0.241	0.241*	-0.192
	(-4.457)	(-1.386)	(1.771)	(-0.538)
Zero $returns_{c(i),t}$	0.139	0.217**	-0.044	-0.153
	(1.269)	(2.515)	(-0.302)	(-0.800)
$Law_{c(i),t}$	-0.001	-0.000	0.014*	0.011
	(-0.198)	(-0.004)	(1.730)	(1.341)
# of observations	95,925	33,862	95,925	33,862
R-square	0.0886	0.1020	0.0457	0.0554
Cluster	Firm, year	Firm, year	Firm, year	Firm, year
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes

Panel B: Only U.S. firms

	(1) $Tone\_Q\&A_{i,m,t}$	(2) $Self\text{-}reference\_Q\&A_{i,m,t}$
$Individualism_m$	0.114**	0.220**
	(2.405)	(2.428)
Observations	19,720	19,720
R-squared	0.0894	0.0606
Cluster	Firm, year	Firm, year
Firm-level controls in Panel A	Yes	Yes
Year FE	Yes	Yes
Industry FE	Yes	Yes
Controls	Yes	Yes
Sample	US	US

Notes: This table presents the coefficient estimates from the OLS regressions of disclosure attributes on various country-, firm-, and conference-call-level characteristics, separately for observations where the manager is of the dominant ethnicity in the country where the firm is headquartered (local) and where the manager is from a different ethnicity as the dominant local one (cross-cultural). Panel A includes observations from all the countries in our sample. Panel B restricts the sample to only those firms headquartered in the U.S. There, only cross-cultural observations are reported, because there is no variation in *Individualism* among local managers. The unit of analysis is an individual manager (*m*) in an earnings conference call-quarter (*i,t*). All variables are defined in Appendix B. T-statistics are reported in parentheses below the regression coefficients. We cluster standards errors at the firm and year levels. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. † denotes variables where we include an interaction term with the underlying variable and an indicator for missing observations in the regression model.

Table 6 Effect of managers' ethnic background for management discussion vs Q&A portion of the calls

Panel A: Cross-country sample

Variables	$Tone_{i,m,t}$		$Self\text{-}reference_{i,m,t}$	
	(1) Q&A	(2) Management discussion	(3) Q&A	(4) Management discussion
	Coeff (t-stat)	*Coeff (t-stat)*	*Coeff (t-stat)*	*Coeff (t-stat)*
$Individualism_m$	0.077***	-0.068***	0.195***	0.0005
	(3.793)	(-3.895)	(4.791)	(0.016)
	F-test p-value=0.0001		F-test p-value=0.0002	
CEO_m	0.139***	0.254***	0.199***	0.190***
	(29.383)	(28.767)	(17.769)	(17.570)
$Age_{m,t}$	-0.035**	-0.009	-0.017	0.019
	(-2.062)	(-0.519)	(-0.450)	(0.869)
$Gender_m$	-0.001***	-0.001***	0.005***	0.005***
	(-2.864)	(-2.721)	(5.256)	(6.697)
$Degree_m$	-0.031	0.016	-0.090**	0.059
	(-1.550)	(0.551)	(-2.233)	(0.930)
# of observations	129,787	108,858	129,787	108,858
R-square	0.0895	0.1656	0.0465	0.0685
Cluster	Firm, year	Firm-Year	Firm, year	Firm-Year
Controls in Table 4	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes

Panel B: Only U.S. firms

Variables	$Tone_{i,m,t}$		$Self\text{-}reference_{i,m,t}$	
	(1) Q&A	(2) Management discussion	(3) Q&A	(4) Management discussion
	Coeff (t-stat)	*Coeff (t-stat)*	*Coeff (t-stat)*	*Coeff (t-stat)*
$Individualism_m$	0.050**	-0.070***	0.201***	0.079***
	(2.326)	(-3.258)	(4.305)	(2.600)
	F-test p-value=0.0002		F-test p-value=0.0480	
CEO_m	0.142***	0.276***	0.181***	0.220***
	(22.992)	(25.932)	(15.316)	(19.850)
$Age_{m,t}$	-0.018	0.001	-0.054	0.007
	(-0.964)	(0.071)	(-1.152)	(0.354)
$Gender_m$	-0.001***	-0.002***	0.005***	0.005***
	(-3.059)	(-3.821)	(4.795)	(5.438)
$Degree_m$	-0.003	0.060**	-0.178***	-0.080*
	(-0.147)	(2.107)	(-3.225)	(-1.826)
# of observations	88,116	75,960	88,116	75,960
R-square	0.0766	0.1932	0.0452	0.0787

Cluster	Firm,Year	Firm,Year	Firm,Year	Firm,Year
Controls in Table 4	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes

Notes: This table presents the coefficient estimates from the OLS regressions of disclosure attributes on various country-, firm-, and conference-call-level characteristics. Panel A includes observations from all the countries in our sample. Panel B restricts the sample to only those firms headquartered in the U.S. The unit of analysis is an individual manager (*m*) in an earnings conference call-quarter (*i*,*t*). All variables are defined in Appendix B. T-statistics are reported in parentheses below the regression coefficients. We cluster standards errors at the firm and year levels. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. † denotes variables where we include an interaction term with the underlying variable and an indicator for missing observations in the regression model.

Table 7 Analysts' response to disclosure attributes: By analysts' own cultural background

Panel A: Tone

VARIABLES	(1) Revision	(2) Revision	(3) Revision	(4) Revision
			Analysts with the *same* cultural background	Analysts with a *different* cultural background
Tone_Q&A$_{i,t}$	0.002***	0.001*	0.002*	0.002
	(3.086)	(1.915)	(1.907)	(1.324)
Tone_Q&A $_{i,t}$		0.001	0.005***	-0.001
× Low individualism		(1.453)	(3.337)	(-0.587)
			P-value of F-test: 0.0428	
Low individualism		0.000	-0.000	0.001
		(0.592)	(-0.035)	(0.750)
Observations	20,409	20,409	9,843	10,566
R-squared	0.0389	0.0391	0.0433	0.0462
Cluster	Firm-Year	Firm-Year	Firm-Year	Firm-Year
Year FE	Yes	Yes	Yes	Yes
Ind FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes

Panel B: Self-reference

VARIABLES	(1) Revision	(2) Revision	(3) Revision	(4) Revision
			Analysts with the *same* cultural background	Analysts with a *different* cultural background
Self-reference$_{i,t}$	-0.0003***	-0.0001	-0.0006*	0.0002
	(-2.7253)	(-1.1073)	(-1.8966)	(1.1102)
Self-reference $_{i,t}$		-0.0003	0.0011*	-0.0009**
× Low individualism		(-0.7595)	(1.6588)	(-2.0057)
			P-value of F-test: 0.0495	
Low individualism		0.0009	-0.0011	0.0018**
		(1.3558)	(-0.4228)	(2.0447)
Observations	20,409	20,409	9,843	10,566
R-squared	0.0383	0.0384	0.0418	0.0460
Cluster	Firm-Year	Firm-Year	Firm-Year	Firm-Year
Year FE	Yes	Yes	Yes	Yes
Ind FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes

Notes: This table presents the coefficient estimates from the OLS regressions of analysts' revision on country-, firm-, and conference-call-level characteristics. Low individualism is an indicator variable that equals one when the mean manager individualism is above the country median individualism and zero otherwise. Same cultural background is defined as one if the analyst has the same ethnicity as the entire management team. The unit of analysis is an individual analyst in an earnings conference call-quarter (i,t). All variables are defined in Appendix B. T-statistics are reported in parentheses below the regression coefficients. We cluster standards errors at the firm and year levels. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Table 8 Informativeness of analyst revisions: By analysts' own cultural background

	(1)	(2)	(3)	(4)
VARIABLES	Future_returns	Future_returns	CAR	CAR
Revision $_{i,t}$	0.85***	0.57***	0.330***	0.329***
	(7.21)	(6.81)	(10.320)	(6.138)
Revision $_{i,t}$		0.66*		-0.001
× Intra-cultural		(1.78)		(-0.012)
Intra-cultural		-0.00		0.002**
		(-0.42)		(2.069)
Observations	10,602	10,602	18,006	18,006
R-squared	0.0327	0.0335	0.0521	0.0523
Cluster	Firm-Year	Firm-Year	Firm-Year	Firm-Year
Year FE	Yes	Yes	Yes	Yes
Ind FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes

Notes: This table presents the coefficient estimates from the OLS regressions of future returns and contemporaneous returns on analysts' revisions and country-, firm-, and conference-call-level characteristics. Columns 1 and 2 use future returns measured over a 90-day window starting 2 days after the call. Columns 3 and 4 use concurrent returns using a three-day returns window around the revision. Same ethnicity (i.e., intra-cultural) is defined as one if the analyst has the same ethnicity as the entire management team. The unit of analysis is an individual analyst in an earnings conference call-quarter (i,t). All variables are defined in Appendix B. T-statistics are reported in parentheses below the regression coefficients. We cluster standards errors at the firm and year levels. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Table 9 Measurement error in ethnicity

Panel A: Correcting for measurement error from the name matching algorithm: Excluding executives with last names that match with more than one ethnicity

	(1) Tone_Q&A$_{i,m,t}$	(2) Self-reference_Q&A $_{i,m,t}$
Individualism$_m$	0.080***	0.198***
	(4.303)	(4.832)
Observations	120,071	120,071
R-squared	0.0897	0.0463
Cluster	Firm, year	Firm, year
Controls Table 4	Yes	Yes
Year FE	Yes	Yes
Industry FE	Yes	Yes

Panel B Granular classification of executive's ethnicity

	(1) Tone_Q&A$_{i,m,t}$	(2) Self-reference_Q&A$_{i\ m,t}$
Individualism_census$_m$	0.042**	0.189***
	(2.252)	(4.283)
Observations	99,583	99,583
R-squared	0.0821	0.0446
Cluster	Firm, year	Firm, year
Controls Table 4	Yes	Yes
Year FE	Yes	Yes
Industry FE	Yes	Yes

Panel C: An alternative measure of individualism

	(1) Tone_Q&A$_{i,m,t}$	(2) Self-reference_Q&A$_{i,m,t}$
Predicted individualism$_m$	0.079***	0.162***
	(4.006)	(3.220)
# of observations	129,787	129,787
R-squared	0.0895	0.0465
Cluster	Firm, year	Firm, year
Controls in Table4	Yes	Yes
Year FE	Yes	Yes
Industry FE	Yes	Yes

Panel D Excluding female executives

	(1) Tone_Q&A$_{i,m,t}$	(2) Self-reference_Q&A$_{i\ m,t}$
Individualism$_m$	0.084***	0.197***
	(4.192)	(4.619)
Observations	125,000	125,000
R-squared	0.0862	0.0464
Cluster	Firm, year	Firm, year
Controls Table 4	Yes	Yes
Year FE	Yes	Yes
Industry FE	Yes	Yes

Notes: Panel A presents the results where we separately control for managers whose name matches with more than one ethnicity. Panel B presents the results using an alternative name matching database from the U.S. census data (Liu 2016). The algorithm assigns last names to 31 different ethnicities based on the most common country of origin for each last name using census data. Panel C presents the results for the second stage of the two stage least square regression where the Euclidean distance of the proportion of blood types A and B by ethnicity is used as an additional explanatory variable of individualism in the first stage regression. Panel D present results excluding female executives. In all panels, the unit of analysis is an individual manager (*m*) in an earnings conference call-quarter (*i*,*t*). All variables are defined in Appendix B. T-statistics are reported in parentheses below the regression coefficients. We cluster standards errors at the firm and year levels. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Table 10 Additional analysis

Panel A: Including firm fixed effects

	(1) Tone_Q&A$_{i,m,t}$	(2) Self-reference_Q&A$_{i,m,t}$
Individualism$_m$	0.043**	0.060***
	(2.985)	(3.191)
Observations	129,787	129,787
R-squared	0.1906	0.2074
Cluster	Year	Year
Controls in Panel A	Yes	Yes
Year FE	Yes	Yes
Firm FE	Yes	Yes

Panel B: Change specification

	(1) Tone_Q&A$_{i,m,t}$	(2) Self-reference_Q&A$_{i,m,t}$
Individualism$_i$	0.0008***	0.0003*
	(2.9634)	(1.8593)
# of observations	48,932	48,932
R-squared	0.0185	0.0299
Cluster	Firm, year	Firm, year
Controls in Table4	Yes	Yes
Year FE	Yes	Yes
Industry FE	Yes	Yes

Panel C: Times of positive vs. negative earnings surprises

	(1) Tone_Q&A$_{i,m,t}$		(2) Self-reference_Q&A$_{i,m,t}$	
	Positive	Negative	Positive	Negative
Individualism$_m$	0.066***	0.089***	0.210***	0.173***
	(2.823)	(4.190)	(4.421)	(4.047)
	F test		F test	
	P value =0.368		P value = 0.458	
# of observations	69,504	60,283	69,504	60,283
R-square	0.0947	0.0856	0.0461	0.0487
Cluster	Firm, year	Firm, year	Firm, year	Firm, year
Controls in Table 4	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes

Notes: Panel A presents the coefficient estimates from the OLS regressions of disclosure attributes on various country-, firm-, and conference-call-level characteristics and includes firm fixed effects. Panel B presents the coefficient estimates from the OLS regressions of disclosure attributes on various country-, firm-, and conference-call-level characteristics using a change specification for all variables. Panel C presents the coefficient estimates from the OLS regressions of disclosure attributes separately for observations with positive and negative earnings surprises. Earnings surprise is defined as the difference between the actual annual EPS minus the most recent mean analyst forecast, if available, otherwise a seasonal random walk model. In Panels A and C, the unit of analysis is an individual manager (*m*) in an earnings conference call-quarter (*i*,*t*). In Panel B, the unit of analysis is an earnings conference call-quarter (*i*,*t*). All variables are defined in Appendix B. T-statistics are reported in parentheses below the regression coefficients. We cluster standards errors at the firm and year levels. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.