

Real Earnings Management in Sales, the Interaction with Finance and Appearance in Financial Reports

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Comments and Suggestions Welcome !

Abstract

We conduct a comprehensive survey of sales leaders to determine the specific nature of real earnings management behaviors in the sales function. We find that sales leaders are more likely to be asked to manage expenses over revenues. Requests to do so come from CEOs and CFOs more frequently than from COOs and Board Members. The linkage between earnings management in the sales and finance functions is strong. Earnings management requests are closely related to: (i) the finance department's involvement in strategy development; (ii) the level of earnings management the finance department engages in; and, perhaps consequently, (iii) the level of conflict between the sales and finance departments. Results also suggest that members of the sales anticipate interference from their colleagues later in the fiscal year and therefore change behaviors earlier in the same year to mitigate the impact, especially in relation to client related expenditures. Finally, comparisons with financial ratios show that firms most suspected of earnings management have higher payables, but lower gross margins consistent with a "channel stuffing" or end-of-year "push" strategy and worse stock market performance over both historical and subsequent periods.

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1 Introduction

Finance and sales organizations are responsible for developing relationships with different stakeholders of the firm. Finance is charged with developing financial plans and setting and meeting shareholders' expectations. Sales is responsible for developing customer relationships and delivering business results. Although the health of the firm depends on these functions being able to work together, their different missions lead, inevitably, to tension, as finance seeks to maintain stock prices by consistently meeting shareholders' expectations and sales tries to develop a consistent pipeline of business by creating long-term value for strategic customers.

The purpose of this study is to explore the role of the sales organization in helping the firm manage its earnings. Specifically, we study the following questions: (1) When the sales organization is asked to boost earnings in the short term, what types of actions does it take? For example, does it attempt to increase revenues or does it attempt to cut expenses? (2) Who makes such requests to the sales organization to manage earnings in this manner? (3) How do sales leaders change behavior if they anticipate that finance will intervene towards the end of the fiscal year? (4) How are such behaviors associated with reported financial ratios and stock price performance?

Although prior research explores the prevalence of earnings management in its multiple forms, the majority of work in the field employs large sample, empirical studies with aggregated proxies for the level of earnings management, such as Discretionary Accruals as a measure of "accounting manipulation" or Abnormal Cash Flow from Operations as a measure of "real earnings management."¹ More recently, research on real earnings management has sought to explore individual or real actions that are taken in specific contexts.² However, little research has focused on who within the firm is responsible for the real

¹ See Schipper (1989), Healy and Wahlen (1999), Gunny (2005, 2010), Roychowdhury (2006), Cohen and Zarowin (2010), Cohen et al. (2011), Kothari, Mizik and Roychowdhury (2012), and Zang (2012) for examples.

² See Baber, Fairfield, and Haggard (1991), Bartov (1993), Mizik and Jacobsen (2007), Cohen, Mashruwala and Zach (2009), and Chapman and Steenburgh (2011) for examples.

earnings management behavior and the mechanisms through which it is actually implemented within the firm.³

Although we consider that many of the actions studied here are undertaken to manage reported earnings, we are cautious not to over claim that all expense reduction or revenue increasing actions seen here are undertaken solely for such a purpose. Although we consider the value destructive nature of the actions themselves in our later tests, many such actions may be due to constraints being imposed on the sales teams due to lack of cash flow or other resources within the firm. In spite of this potential concern, we propose it is of critical importance to understand both of these aspects if researchers wish to validate the large sample measures and proxies that are used in the literature to represent real earnings management of different types. Furthermore, such analysis will allow managers and directors to improve internal control systems and incentives structures should they wish to enhance or reduce such behaviors.

To achieve our objective, we survey a total of 1,637 sales leaders from a distribution list that includes current or prospective members of the Strategic Account Management Association (SAMA), a membership community that caters to sales professionals involved in strategic account programs. Our survey includes a range of questions related to real earnings management activities in sales organizations.

Surveys have been used in this field before with Bruns and Merchant (1990), Graham, Harvey and Rajgopal (2005), and Dichev et al. (2012) each using surveys to answer research questions related to real earnings management behaviors that would be nearly impossible to address using available empirical datasets. These prior studies have sent surveys primarily to chief executive and financial officers, asking questions related to the targets to which they aim to manage earnings. In contrast, our survey is addressed to sales leaders, a group who we predict may be asked by others in the firm to implement the real earnings management actions hypothesized in other research.

Our results show that sales forces are asked to manage expenses more frequently than revenues, with reductions in “employee-facing”/internal expenses being more common than reductions in

³ Exceptions include the CFO survey prepared by Graham, Harvey and Rajgopal (2005), that shows that CFOs admit to sacrificing long-term value, and Chapman and Steenburgh (2011), that shows that senior managers force brand managers to trade promotions when the firm needs to make earnings targets.

“client-facing” expenses. CEOs and CFOs request earnings management actions more often than the Board of Directors or COOs. When considering the relation between the sales and finance departments, higher levels of real earnings management requests were seen for firms where: sales leaders perceived higher levels of (legal) accounting earnings management by their finance colleagues; the finance function was more involved in strategy development; and where conflict was higher between the two departments.

Our results contribute directly to the recent research of Dichev, Graham, and Rajgopal (2012), who also consider the effects of earnings management on earnings quality. Indeed, similar to our aim, these authors wish to understand whether a manager’s character and a firm’s culture allow for, and perhaps even encourage, earnings management behaviors. Further, our study is consistent with Dichev et al.’s concerns in that we, too, investigate the interaction between different departments in the earnings management process and consider inter-departmental conflict a variable of interest. The ethos of both papers strongly supports future research that aims to detect opportunistic earnings management through emphasizing the “human element” in addition to fundamental analyses of financial statements.

When considering the relative magnitude of their ability to manipulate reported performance compared to their colleagues in finance, our results show that sales leaders believe they have greater leverage. Seventy-three percent of respondents estimated that for any increase that their company’s strategic account teams could achieve using expense-reduction or revenue-increasing techniques, their finance function could only achieve an equivalent amount or less using legal accounting techniques. This response shines light on the notion that the effects of real earnings management may be far more pronounced within organizations than previously documented. To put the magnitude of this result in context, one sales leader that we interviewed (we estimate there are at least twenty at a similar level within each sample firm) stated that she could ask at least five sales managers to each deliver \$10 million in a week if short-term performance needed to be boosted. Note that we are careful here to ensure that we asked questions about “legal accounting techniques,” as opposed to potentially fraudulent behaviors, to reduce the risk of social desirability bias.

Against this backdrop of, what appears to be a highly prevalent set of actions, when able to anticipate interference from above, sales leaders admit they change behaviors earlier in the year – for example, by accelerating client focused meetings and entertainment.

Our survey is slightly different from some of those that have been used in prior research in that we collected the company identity of our respondents. This information permits us to compare our survey measures to reported financial ratios, at least for the publicly-listed members in our sample. Results of this analysis show that firms with higher real earnings management have lower gross margins and higher receivables, consistent with a “channel stuffing” or end-of-year “push” strategy where the firm cuts prices, but are unable to collect receivables before year-end. Similarly, firms with higher real earnings management in our sample have higher payables consistent with the practice of actively managing cash flows by stretching payment terms as part of the real earnings management process. Finally, consistent with Graham, Harvey and Rajgopal’s (2005) suggestion that managers are willing to manipulate real activities to meet targets, even though the manipulation potentially reduces firm value, firms with higher real earnings management in our sample underperformed their peers in terms of their market capitalization over both one- and five-year time horizons prior to the survey as well as over the 12 month period subsequent to the survey.

2 Method

2.1 Survey Delivery and Design

In April 2012, we distributed an online survey to sales leaders who were either current or prospective members of the Strategic Account Management Association (SAMA). We encouraged participation with the promise of a summary report for those who completed the survey and a raffle for a tablet PC.

A total of 1,638 individuals from 537 companies based in 39 different countries opened the survey and provided at least partial responses. Of these, 668 individuals, representing 275 companies, completed the survey, taking a median time of 38 minutes to do so. This response rate amounted to approximately 8%

of those emailed initially, that is comparable to that of recent senior management level surveys on earnings management (e.g., Graham et al. 2005). Additionally, this response rate is 125% greater than that of SAMA's most recent annual survey on the current trends and practices in strategic accounts, suggesting that earnings management in the sales force is of significant interest to SAMA's membership.

Prior to sending the survey to the target audience, we conducted qualitative interviews with a number of senior sales managers and undertook detailed telephone debriefings with each to ensure that the questions were clearly understood. Job titles of these interviewees include Vice President of Strategic Accounts and Director of Global Business Development. It was during this trial survey period that a clear difference emerged between the prevalence of revenue and expense management behaviors. The original questionnaire was enhanced accordingly to focus on this item.

As can be seen from Table 1 that presents the distribution of our sample companies in terms of size (by revenue and number of employees) as well as industry, there is significant cross-sectional variation in our sample which is slightly biased towards larger companies than Compustat slight overrepresentation of manufacturing industries. Considering the individuals who responded, almost two-thirds worked for publicly listed entities representing 39 different countries. The average age of our survey's respondents is 48 years old. 80% have top management experience, with the average respondent having eight years of service in the C-Suite.

2.2 Survey Question Structure

The survey consisted of questions that were split into four main categories. Most questions offered a 5-point Likert scale from very unlikely (1) to very likely (5). Where considered appropriate, a text question was added at the end of a block of questions to permit respondents to consider "other action or party" as well as an opportunity to provide a brief discussion of their responses. Respondents were asked the questions in fixed order.

Section one posed questions asking respondents to consider a hypothetical situation in which their sales force needed to boost performance to meet Wall Street expectations or some other earnings target and

how likely it would be that they would be asked to take certain actions as well as the expected magnitude of the earnings response to such actions. These questions considered a range of actions strategic and non-strategic account managers might take covering both expense and revenue management items as well as the likelihood of different individuals making the earnings management request.

Section two asked the sales leaders to respond regarding the finance function of the firm. These covered topics such as the involvement of finance in the sales strategy development, the level of earnings management that the finance function could achieve legally using accounting flexibility, and the perceived level of conflict between the sales and finance functions.

Section three considered a range of questions regarding the compensation and incentive structures in place within the firm and some additional questions considering how sales leaders might change their behaviors early in a fiscal year if they were able to anticipate external requests for earnings management later in the year.

Section four asked for basic demographic information from respondents about themselves and their employers.

2.3 Additional Data Used

For each respondent in the survey, we are able to identify the respondent's company. Using this information we are able to merge responses for the publicly listed companies in our sample with data from Compustat and CRSP. We are then able to identify how certain characteristics of reported financial information are related to levels of real earnings management behaviors observed in sales leaders' responses. In particular, we are able to consider whether the behaviors observed are consistent with specific types of earnings management that have been widely alleged in prior literature. For example, we predict that relative to others in the same industry:

- i) Firms involved in Over-Production are expected to have higher inventory relative to annual cost of goods sold;
- ii) Firms involved in "price cutting" are expected to have lower gross margins;

- iii) Firms involved in “channel stuffing” or end-of-year “Push” should have higher accounts receivable relative to annual sales as customers are less likely to have paid for these items at the year-end;
- iv) Firms involved in managing cash flows are expected to have higher accounts payable relative to cost of goods sold as they stretch out their own payment terms;

Further, we are able to compare levels of real earnings management to recent changes in market capitalization. We predict that short-term changes in behavior to meet accounting targets are actually value destructive. Provided markets are able to understand this, we also expect firms engaged in more real earnings management to underperform relative to their peers.

3 Which actions are taken, how large is the economic effect and who is calling the shots?

The first group of questions requested survey participants to consider a hypothetical situation in which their sales force needed to boost performance to meet Wall Street expectations or some other earnings target and then asked how likely it would be that they would be asked to take certain actions and the expected magnitude of the earnings response to such actions. These questions considered a range of expense and revenue management items that key and non-key account managers might take as well as the likelihood of different individuals making the request.

Summary responses to these questions are shown in Table 2. The first panel (Table 2a) has the highest coefficients, suggesting that sales leaders are most likely to be asked to reduce expenses in relation to internal meetings and entertainment expenses involving firm employees only. This is further evidenced by the test results presented at the bottom of the table showing that the frequency of requests to manage expense items exceeds the frequency of revenue management actions. These results are important to researchers in that much prior research has been focused on revenue management actions but it appears that sales managers are more likely to be asked to manage their expenses in the first instance to reach an earnings target.

To give the numbers greater clarity, we also report the percentage of respondents who ranked each

response a high or very high (four or five) on the five point scale. For example, the mean result of 4.5 for non-key account managers reducing entertainment expenses resulted from a score of 4 or 5 on the five-point scale from 90% of respondents. By contrast, coefficients for the externally/customer focused equivalent actions suggest these are the actions that sales leaders are least likely to be asked to take.

Where respondents presented low likelihood of earnings management cost reductions we asked them to explain reasons and received comments in two broad categories: i) to insulate customers from the behavior; and ii) that expenses were already tightly managed. For example, “A customer should never be shown that the “Company” is cutting costs” and “Strategic activity with key customers overrides most expense reduction measures.”

In response to questions regarding the potential magnitude of these impacts (not tabulated), respondents estimated the effects to be an economically meaningful value of approximately 5% of quarterly earnings, being slightly greater for key-account managers. Although this appears to be a high figure, anecdotal evidence supports the potential for a meaningful effect given that one sales manager, when interviewed as part of the survey pilot testing, responded that if she was asked to deliver additional sales, she would call 10 sales managers of which, she estimated, five could each deliver \$10million of additional sales within one week.

When considering the revenue management actions, the most likely is a request to accelerate an anticipated price increase as compared to all of the other actions. Interestingly, price reductions prior to a year-end (to boost sales volumes) appear to have a low likelihood in contrast to the findings of Chapman (2012). This difference may reflect the longer-term key-account nature of the customer relationships given the sample selection of survey participants is biased to those sales leaders with strategic account relationships but also may be related to the broad product mix of companies surveyed. For example, Chapman (2012) is focused on durable products, in contrast here, we suggest that pushing less durable products into the channel would be a less favorable proposition. Reasons given by respondents for low likelihood of revenue management again fell into two categories: the first relating to the difficulty of implementing change at short notice for a short term gain; and the second being a setting where respondents

almost sounded offended that they might be asked to do such a thing. For example, two quotes received were “We don’t buy revenues, we earn them” and “We would not rock the boat in a high profile account.”

It is also apparent from the right hand column of Table 2 that real earnings management requests are more frequently received by non-key account managers than by key-account managers (negative and significant t-test coefficient on all variables) suggesting a lower willingness of firms to undertake revenue management actions with their largest and most strategic customers, a fact confirmed in subsequent unstructured interviews of sales leaders from within the survey candidate pool.

We are cautious in our interpretation of these results not to label all the actions to which our survey respondents admit as being earnings management as the term is commonly used in academic literature. Although the actions appear to fall within the definition of Earnings Management proposed by Schipper (1989)⁴ as the strategic use of managerial discretion in influencing the earnings figure reported to external audiences, it is almost impossible to argue that they would be considered fraudulent.⁵ This is particularly apparent when considering an action taken and reported accurately (with no additional discretion in the accounting) where it is clear that no accounting fraud could occur. We therefore look to the definition proposed by Roychowdhury (2006) for real activities manipulation as being those managerial actions that deviate from normal business practices, undertaken with the primary objective of meeting certain earnings thresholds. However, even here, a request from the finance department to reduce expenditure may simply be the result of a cash flow constraint within the organization.

Although this may be true, on occasion, for expense management activities, it is harder to argue that value is not being destroyed with respect to the revenue management activities considered here. To consider this, we investigate the value destructive nature of such behaviors which appear not to be fully internalized by investors. We also take comfort from results of prior research⁶ that shows the majority (over

⁴ Also used by Degeorge, Patel and Zeckhauser (1999)

⁵ i.e. taken to mislead some stakeholder or influence contractual outcomes, Dechow and Skinner (2000) based upon the National Association of Certified Fraud Examiners 1993, 12

⁶ Graham, Harvey and Rajgopal (2005)

80%) of managers indicate a willingness to sacrifice long-term value to smooth earnings as strong evidence that such behaviors are in fact highly prevalent among companies today.

We now move to a set of questions that refer to the likelihood that key individuals within the firm are requesting the earnings management behaviors. Results of these questions are shown in Table 4 and perhaps unsurprisingly show the Chief Executive Officer to be most likely to request sales leaders to change their behavior to meet an earnings or other target. The CEO is followed by the Chief Financial Officer with requests least likely to come from either the Chief Operating Officer or Board of Directors. As far as we are aware, this is the first academic research that sheds light on the channel through which earnings management behaviors are pushed through an organization. These conclusions are supportive of Klein's (2002) conclusions that board structures may need to be more independent of the CEO to be more effective at monitoring the corporate financial accounting process but extend it to the realm of real earnings management.

4 Hypothesis Development.

Having identified the specific types of earnings management being requested of sales leaders, we now consider a series of factors that may be related to the overall level of earnings management requests. Our objective here is to seek potential causal factors, so that, if desired, these might be directly addressed by those seeking to change the level of real earnings management being undertaken. Although prior theoretical literature in this regard is sparse, we develop and test a series of hypotheses discussed below.

4.1 Relationship between Real Earnings Management Actions across Public and Private Companies

Burgstahler et al. (2006) consider how capital market pressures influence companies' earnings management behaviors. Specifically, they find that private companies in Europe exhibit a greater amount of earnings management than their public company counterparts using four different measures of earnings management (tendency to avoid small losses, magnitude of total accruals, smoothness of earnings relative

to cash flows, and the correlation of accruals to cash flows.) Assuming that our sample companies use real earnings management actions in a similar manner to the accounting earnings management considered by Burgstahler et al. (2006) we therefore propose the following hypothesis:

H1 Frequency of Real Earnings Management will be lower among publicly listed companies

4.2 Relationship between Real Earnings Management Actions across Companies Located in the United States and elsewhere in the world.

Among all the countries studied by Leuz et al. (2003) find that public firms from the United States have the lowest aggregate measure of earnings management using similar earnings management proxies to those considered by Burgstahler et al. (2006). Assuming that our sample companies use real earnings management actions in a similar manner to the accounting earnings management considered by Leuz et al. (2003) we propose the following hypothesis:

H2 Frequency of Real Earnings Management will be lower among US based companies compared to those from other countries.

4.3 Relationship between Real Earnings Management Actions by Sales Leaders and the Finance Department.

In discussions with sales leaders both before and after the survey, it became apparent that the relationship between the sales and finance functions varies across the different companies surveyed here. At one extreme, the two functions are highly segregated with little informal interaction. At the other, the finance function is embedded into the sales teams allowing for frequent dialogue and information exchange.

We propose that a close interaction between the two teams would allow for a higher frequency of earnings management requests as such requests could be accurately targeted due to improved communication and information flow leading to the following hypotheses:

H3 Frequency of Real Earnings Management will be higher when the finance function is more actively involved with sales strategy development.

Our variable of interest here is a measure of the level of involvement of the finance function in the strategy development of the company including, among other items, setting expense management strategies and account manager incentives.⁷ Given the responses to the previous questions as to who within the organization is requesting the real earnings management activities, we are interested here to understand if greater involvement of the finance function within the sales organization is associated with a greater level of real earnings management.

We further suggest that requests for earnings management will also be associated with increased internal conflict between the two corporate functions within the firm as sales leaders generally prefer to be allowed to sell with limited interference from other departments. This leads to the following hypothesis:
H4 Frequency of Real Earnings Management will be associated with higher levels of conflict between the sales and finance teams.

Our variable of interest in this section measures the level of conflict arising between the sales and finance functions perceived by respondents. We propose that conflict may arise between sales and finance due to performance not meeting expectations that might then be associated with additional requests for action changes to boost performance. It is also possible that the conflict arises ex-post as a result of the requests from finance to change behaviors. Unfortunately our research design prevents us from determining the direction of causality.

Our next hypothesis is motivated by the idea presented in Zang (2012) that real and accounting earnings management activities may be substitutes. However, our tests are potentially confounded by two arguments drawn from the broad sociology literature on cheating that suggests: i) those who observe their peers cheating are more likely to do so; and ii) those who cheat bias upwards their opinion of the likelihood

⁷ Although the question in the survey has a high score for Sales having responsibility, our empirical tests have the score reversed so that a high score represents high responsibility for the Finance department in setting these items.

that others are also cheating.⁸ This prior literature presents challenges from a research design standpoint in differentiating between the competing stories. However, we propose our fifth hypothesis:

H5 Frequency of Real Earnings Management in sales will be associated with higher levels of earnings management (as estimated by sales leaders) within the finance function.

Our variable of interest here is a measure of the amount of earnings management being implemented by the finance department.

In an attempt to differentiate between the two sociology based arguments (seeing others cheating encourages individuals to cheat and cheaters bias their estimates of the level of cheating that others engage in), we also asked respondents to estimate, for each dollar increase in reported performance that their company's strategic account teams could achieve using expense reduction / revenue increasing techniques, how many dollars their finance function could achieve using legal accounting techniques. The distribution of responses is shown in Table 5a. Results show that 73% of survey respondents estimated this figure to be no greater than one. We interpret this to mean that sales leaders consider their finance team can (legally) deliver no more in terms of reported performance than the sales teams perhaps reducing the likelihood of the biased estimation argument being responsible for our results.

4.4 Relationship between Real Earnings Management Actions by Sales Leaders and their Incentives Finance Department.

Prior literature has documented that levels of earnings management behaviors are likely to be associated with the strength of the incentives offered to managers to meet certain targets. This leads directly to our final hypothesis:

H6 Frequency of Real Earnings Management will be associated with higher levels of incentive provided to the Sales Leaders.

⁸ Sources include Smith et al (1972), Haines et al (1986)

Our variable of interest is a measure of the level of incentives faced by the sales teams. In developing this measure, we considered various different incentive mechanisms and report results associated with cash flow based incentives. Results of tests for different incentive types (unreported) show a positive but non-significant relationship between the different incentive structures and our measure of real earnings management. This lack of result for other incentive mechanisms is consistent with Armstrong et al. (2010) who do not find a positive link between incentives and accounting irregularities, but may also be due to the fact that a sales manager having incentives to manage reported earnings (as opposed to cash flows) needs no additional to do so.

5 Research Methodology

In order to use the data from the responses to each of our questions regarding the different types of earnings management actions for additional empirical analysis, we seek to consolidate responses from each group of questions using a simple average of the responses.⁹ To validate this approach, we first test whether the questions posed are internally consistent and are measuring comparable constructs. To do so, we calculate Cronbach's Alpha¹⁰ for each of the different groups of responses, initially combining questions into four groups by revenue and expense management and by key-account and non-key-account manager and then finally combining responses to all questions. The results of which are shown in Table 3. In each case, the Alpha is sufficiently high to ensure that our approach is "acceptable" to "good" with the final calculation across all 28 questions (seven expense management and seven revenue management for both key and non-key account managers) giving an Alpha of 0.86.

Having obtained our average measure of earnings management, we regress this on our variables of interest. Given that we have multiple responses from individuals working at the same firm, we adjust the

⁹ Use of Principal Component Analysis techniques does not change the conclusions of our analysis.

¹⁰ $\alpha = \frac{K}{K-1} \left(\frac{\sum_{i=1}^K \sigma_{Y_i}^2}{\sigma_X^2} \right)$ where K is the number of components, σ_X^2 is the variance of the observed total test scores, and $\sigma_{Y_i}^2$ is the variance of component I for the current sample. A score ≥ 0.7 is considered acceptable and ≥ 0.8 is considered good.

standard errors to account for potential lack of independence of observations within a company. Our estimation builds to the following estimation:

$$EM_i = \beta_0 + \beta_1 Public_i + \beta_2 US_i + \beta_3 FSD_i + \beta_4 ConSF_i + \beta_5 EMF_i + \beta_6 CFI_i + \sum \gamma_j Ind_i + \varepsilon_i$$

Where, for each respondent i : EM is the our measure of average real earnings management, $Public$ is a dummy variable if the firm's stock is listed on a major stock exchange,¹¹ US is a dummy variable that equals one if the firm is based in the USA and zero otherwise, FSD is the level of involvement of the finance department in the strategy development of the sales function, $ConSF$ is the level of conflict between the sales and finance function, EMF is the amount of earnings management being implemented by the finance department (discussed further below), CFI is a dummy variable that equals one if the sales manager receives a cash flow based incentive. Additional industry fixed effects are included representing the following industry classifications: Retail/Wholesale; Mining/Construction; Tech (Software/Biotech), Communications/Media; Bank/Finance/Insurance; Manufacturing; Consulting/Service; Public Utility; and Transportation/Energy.

To obtain the EMF variable, we asked the sales leaders to consider a setting in which the finance team had some discretion in how they report performance using legal accounting techniques (e.g. timing write-offs, changing depreciation assumptions) and then asked respondents to comment on how much they agreed (or disagreed) with statements that their finance department used of a lot of variables to manage earnings on a quarterly basis, the level of discretion used by finance and the number of levers that the finance team could pull when reporting earnings. A summary of responses (on a 7 point scale) is shown in Table 5b. Although we are cautious to draw strong conclusions in this regard, it is interesting to note that even though the majority of sales leaders surveyed acknowledged that they were asked to change behaviors to meet targets, the responses to each of the three questions regarding their perception of the level of

¹¹ In reviewing the responses provided by survey participants, we noted several response errors to our question regarding the public/private status of companies primarily relating to public sector entities being considered as public firms. We therefore manually amended responses to ensure that only those firms that are publicly listed were correctly defined as "public".

earnings management by their peers in the finance department were such that the mean score was significantly less than 4 (the neutral-response).

As above, we prepare an average measure of the responses to each of the three parts of the question and show correlations of this average earnings management by finance variable with its three components in Table 5c. To validate this approach and to ensure the internal consistency of our measure we again calculate Cronbach's Alpha. The Alpha of the responses to these questions is greater than 0.9 suggesting the simple average is a consistent measure of the construct.

Having estimated our model using single variables of interest, we interacted the USA and Public Company dummy variables with each of the other four independent variables of interest to ascertain if any of the results varied by company location and listed status. Most of these model specifications produced non-significant results on the interaction terms consistent with our main results being consistent and independent. The exceptions to this are reported in Table 6 and discussed as part of our results section below

We also split the aggregate measure of real earnings management into its two components, Revenue and Expense Management and find subtly different results than our overall main test which are further discussed below. Where appropriate, we then go back to the individual questions and seek to determine which of the specific earnings management activities are most strongly associated with our variables of interest.

6 Results of Hypothesis Testing

Results of our analysis are presented in Table 6. In the first five columns of the table, we present various specifications to highlight the consistency of our primary results when considering incremental inclusion of variables. In Column 6, we have included two additional interaction terms (USA * EMF and Public * ConSF) to investigate if other our variables of interest are consistent when considering sub-samples of our respondent population. Finally in Columns 7 and 8, we consider split the Earnings Management Variable into its two components, Revenue Management Actions and Expense Management

Actions. The following discussion is therefore focused on columns 5-8 of the table. For each result discussed, we further investigate which specific questions from the survey are primarily responsible for the levels of significance observed. These results are presented in summary format in Table 7.

Our first result that has not, to our knowledge, been studied or found elsewhere, is the relatively *higher* level of real earnings management in publicly-listed companies as compared to their private counterparts. This allows us to reject Hypotheses *H1* and is evidenced by the positive coefficient on the Public Company dummy variable in columns 1-5 of Table 6. As discussed above, we propose this may imply firms are substituting earnings management behaviors (more real earnings management and less accounting earnings management in public companies) perhaps due to the greater risk of detection of accounting manipulation in public companies with greater external scrutiny / analyst coverage.

Consideration of the Public variable its interaction with our Sales/Finance conflict variable in Columns 6-8 of Table 6 suggests that this effect is more strongly associated in companies with higher levels of conflict between the sales and finance functions and is focused on revenue management actions. As shown in Table 7, a more detailed analysis suggests this result is being driven most strongly by variations in responses to revenue management question number 6, namely the increase in end-of-period sales in exchange for a reduction in price.

Our second result is demonstrated by the negative and significant coefficient on the USA Dummy variable in Column 5 which is in support of Hypothesis *H2* allowing us to conclude that that sales managers in US companies receive fewer requests to implement real earnings management actions than their counterparts in non-US firms.

The positive coefficient on the USA * EMF variable, the interaction with our conflict variable of interest, in Column 6 suggests that the difference between US and Non-US firms with regard to real earnings management is reduced for firms with high levels of conflict between Sales and Finance. However, the coefficients on these variables in Columns 7 and 8 indicate that the international variation is primarily in respect of expense management items. As shown in Table 7, a more detailed analysis suggests the differences between US and Non-US firms in this regard is being driven by variations in responses to

expense management questions numbers 1, 6 and 7, namely the reduction in travel expenses for internal meetings, reduction in headcount and the choice to lease or rent instead of purchasing new assets.

When asked to provide an explanation of how the finance function interferes with the strategic account management process, clear statements emerged in our text based questions regarding management of both earnings and cash flows. Examples included “Finance imposes a halt on travel spend, halts training, limits trade show participation, and requests focus on accounts receivable and cash flow,” “We are asked to halt travel spend (as early as Q3)”, “Finance scrutinizes customer receivables, chases bad debts, and puts customers on credit stops, etc.” The interference can cause us to accept short-term business that we struggle with long term.”

Interestingly, several of these responses referenced the frequency of these requests. For example “Every fourth quarter, we can expect a letter from our finance area asking us to curb spending through the end of the year.” “Restricting travel is the biggest and most consistent request from Finance.” This leads us directly to our later set of tests regarding how managers will change behaviors in anticipation of requests for real earnings management in the fourth quarter.

Hypothesis *H3* that the frequency of Real Earnings Management will be higher when the finance function is more actively involved with the sales strategy development is also supported with the positive and significant coefficient on *FSD* (Finance Active in Strategy Development).

Columns 7 and 8 suggest this result is even stronger when considering expense management requests, perhaps since the finance department would presumably know where expenses might be more economically cut given a greater involvement in strategy development.

As shown in Table 7, a more detailed analysis suggests this result is being driven by variations in responses to expense management questions numbers 3 and 4, namely the reduction in travel and entertainment expenses involving customers, consistent with sales leaders only receiving requests to reduce these expense items when finance is heavily involved in the process.

Hypothesis *H4* is perhaps the most strongly supported hypothesis in the paper that the frequency of real earnings management requests are strongly associated with increased conflict between the sales and

finance functions as evidenced by the positive and significant coefficient on *ConSF* our conflict variable of interest and its interaction with the public company dummy variable. Columns 6, 7 and 8 of Table 6 imply this result is even stronger among publicly listed companies, especially for revenue based actions but is also present for expense management actions.

As shown in Table 7, a more detailed analysis suggests this result is being driven most strongly by variations in responses to revenue management question number 6, namely the increase in end-of-period sales in exchange for a reduction in price and to a lesser extent by other actions taken to change prices, shipping and payment terms in non-key accounts. On the expense management side, the most significant cause of conflict appears to be reductions in head count.

Results considering the coefficient on the level of earnings management by the finance department as perceived by the sales leaders (Column 5 of Table 6) also support Hypothesis *H5* that the frequency of real earnings management in sales will be associated with higher levels of earnings management (as estimated by sales leaders) within the finance function. However, the interaction with the US Dummy variable in Column 6 suggests that this relation is only present overall in US firms (this last result being applicable only to expense management activities (Column 8)). As shown in Table 7, a more detailed analysis suggests the revenue management results are being driven most strongly by variations in responses to revenue management question number 4, namely changes in payment terms and, to a lesser extent, by actions taken to change shipping schedules and returns/allowances. Similarly, the expense management results are being driven by variations in responses to expense management questions numbers 1 and 2 being the reduction of travel and entertainment expenses for internal meetings and employees.

Results are also supportive of our final hypothesis that the frequency of real earnings management requests will be higher when sales leaders have strong cash flow incentives as evidence by the positive and significant coefficient on the Cash Flow Incentives variable in Table 6. Column 7 of the table implies that this is primarily due to revenue based earnings management activities. As shown in Table 7, a more detailed analysis suggests this result is driven most strongly by variations in responses to each of the revenue

management question numbered 1-4, namely the acceleration of anticipated price increases, changes in year-end shipping schedules and terms as well as changes in payment terms.

7 Anticipatory Actions

During a discussion with a marketing executive at a major dairy conglomerate several years ago when studying the possibility that firms would increase promotional activities ahead of the fiscal year end, the authors heard the following anecdote. “We cannot increase promotions at the year-end because our customers will not stock-pile our products due to the relatively short shelf lives. If the CFO wants to boost earnings, he tries to reduce marketing spend. Every year he comes by in the middle of the fourth quarter and tells us to stop all marketing activities. Over time, we [the sales team] learned to expect this – we prepay for all our advertising earlier in the year so that the CFO can’t mess with our longer term goals.”

Although some respondents provided text answers that suggest they are actively trying to engage finance in the planning process over the full year to “escalate field reality by inviting members of the finance team to participate in client meetings,” it is clear that sales managers have an ability to anticipate earnings management requests late in the year. Our final category of questions was therefore designed to obtain a measure of how managers changed their behavior early in the year (by front-loading travel, meetings, entertainment, marketing and production). As above, we take an average of the response scores to each of these questions to develop a measure of how much managers change behavior in anticipation of earnings management actions (“AEMA”) by their superiors that measures how much managers adjust their behaviors in anticipation of earnings management requests. As with our other compound variables, we check the internal consistency of our simple averaging approach using Cronbach’s Alpha. The Alpha of the responses to these questions equals 0.83, again suggesting the simple average is a consistent measure of the construct. Although not reported here, the lowest response related to changing production schedules. It is clear from the level of responses to this question that such activities are highly unlikely to be determined by the sales team.

We then regress our AEMA measure on the level of real earnings management (and the revenue

and expense management) and other variables of interest from the prior analysis building to the following estimation:

$$AEMA_i = \beta_0 + \beta_1 EM_i + \beta_2 Public_i + \beta_3 US_i + \beta_4 FSD_i + \beta_5 ConSF_i + \beta_6 EMF_i + \beta_7 CFI_i + \sum \gamma_j Ind_i + \varepsilon_i$$

Where, for each respondent i : $AEMA$ is our measure of the level of anticipatory actions, EM is the our measure of average real earnings, revenue, or expense management as appropriate, $Public$ is a dummy variable if the firm's stock is listed on a major stock exchange, US is a dummy variable that equals one if the firm is based in the USA and zero otherwise, FSD is the level of involvement of the finance department in the strategy development of the sales function, $ConSF$ is the level of conflict between the sales and finance function, EMF is the amount of earnings management being implemented by the finance department, and CFI is a dummy variable that equals one if the sales manager receives a cash flow based incentive.

Additional industry fixed effect are included representing the following industry classifications:

Retail/Wholesale; Mining/ Construction; Tech (Software/Biotech), Communications/Media;

Bank/Finance/Insurance; Manufacturing; Consulting/Service; Public Utility; and Transportation/Energy.

Results of our analysis are shown in Table 8. Consistent with the anecdote discussed above, sales leaders change their behavior in anticipation of earnings management requests. These results are consistent for requests for revenue management but lose significance when considering expense management and adding other controls suggesting that sales leaders are less willing to undermine cost reduction exercises.

Perhaps more surprising here is that, in addition to the relation with the earnings management variables, there is a clear positive relation between sales leaders admitting to changing their behavior in anticipation of earnings management requests: i) when finance manages earnings; ii) when finance is more active in the strategy development process; and iii) when there is greater conflict between sales and finance. The significance of the positive coefficient on the US dummy is also noteworthy with sales managers at US firms appearing to act with more autonomy (and perhaps against the wishes of their finance colleagues) in anticipation of earnings management requests than their international counterparts. Digging deeper into

the data, the three main components here which determine the results (unreported) are the acceleration of customer (as opposed to internal) meetings and entertainment and the acquisition of assets.

8 Does Real Earnings Management Behavior appear in Financial Ratios

In this section, we are not seeking to offer an absolute test of real earnings management behavior but rather to test how the real earnings management impacts the reported financial information of the firm. To do this, we utilize our ability to identify the firms for which our survey respondents work and, for those which are listed, compare our measure of real earnings management to key financial ratios and stock price performance. In contrast to the approach used by Roychowdhury (2006), we consider the accounting numbers to be the result of the earnings generating process as opposed to be the influencing factors thereof and using Seemingly Unrelated Regression Techniques to estimate the coefficients of interest. We therefore estimate the following across each of six variables of interest:

$$VOI_{ij} = \beta_{0j} + \beta_{1j}EM_i + \beta_{2j}US_i + \beta_{3j}TA_i + \beta_{4j}BTM_i + \sum \gamma_{jk} Ind_i + \varepsilon_i$$

where for each respondent i : VOI_{i1} is the ratio of Inventory to Cost of Goods Sold, VOI_{i2} is the ratio of Accounts Receivable to Sales, VOI_{i3} is the ratio of Accounts Payable to Cost of Goods Sold, VOI_{i4} is the Gross Margin of the firm, VOI_{i5} is the one year change in market capitalization of the firm prior to the survey, VOI_{i6} is the five year compound annual growth rate in market capitalization of the firm, EM is the our measure of average real earnings management, and US is a dummy variable that equals one if the firm is based in the USA and zero otherwise. We include additional controls for TA : the total assets of the firm, BTM : the book to market ratio of the firm, and Ind : industry fixed effects as above. We scale by Cost of Goods Sold and Sales to homogenize these variables across different firms within the same industry.

We choose these financial ratios to allow tests of the following predictions:

- i) Our measure of real earnings management will be positively associated with the level of the inventory / cost of goods sold ratio which would be true if firms were over producing. This would corroborate Thomas and Zhang's (2002) finding that the negative relation

between accruals and future abnormal returns documented by Sloan (1996) is due mainly to inventory changes in a real earnings management setting;

- ii) Our measure of real earnings management will be positively associated with the level of the accounts receivable / sales ratio if firms are engaging in “channel stuffing” or end-of-year “push” but are not collecting receivables prior to the year-end;
- iii) Our measure of real earnings management will be positively associated with the levels of the payables/cost of goods sold ratio if firms are stretching payment terms as part of the earnings management process; and
- iv) Our measure of real earnings management will be negatively associated with the level of the gross margin if price cuts are associated with the earnings management process.
- v) Our measure of real earnings management will be associated with negative historical price performance if the earnings management is repeated and value destructive (as measured over both a one and five year timeframe). This would be consistent with Graham, Harvey and Rajgopal’s (2005) suggestion that managers are willing to manipulate real activities to meet targets, even though the manipulation potentially reduces firm value and may provide us with an estimate of the magnitude of the value destruction observed.

Our results are presented in Table 9 do not provide evidence of either overproduction or “channel stuffing” activities. However, the significant coefficients on the our measure of real earnings management in each of Columns 3- 6 is supportive of the hypotheses that real earnings management is associated with stretching payment terms, lower gross margins and negative historical stock performance.

This negative relation between the historical stock performance and real earnings management is indicative that these behaviors may indeed be value destructive to the firm. This, of course, raises the question as to whether they are accurately internalized by the market. We therefore estimate the following regression to consider whether our measure of real earnings management is associated with firm stock price performance for the year following our survey:

$$PriceChange_i = \beta_0 + \beta_1 EM_i + \beta_2 US_i + \beta_3 FSD_i + \beta_4 ConSF_i + \beta_5 EMF_i + \beta_6 CFI_i + \beta_7 TA_i + \beta_8 BTM_i \\ + \sum_{j=1}^6 \delta_j VOI_{ij} + \sum \gamma_j Ind_i + \varepsilon_i$$

Where, for each respondent i : *Price Change* is the change in the market capitalization of the firm over the 12 month period following the survey, *EM* is the our measure of average real earnings management, *US* is a dummy variable that equals one if the firm is based in the USA and zero otherwise, *FSD* is the level of involvement of the finance department in the strategy development of the sales function, *ConSF* is the level of conflict between the sales and finance function, *EMF* is the amount of earnings management being implemented by the finance department (discussed further below), *CFI* is a dummy variable that equals one if the sales manager receives a cash flow based incentive, *TA* is the most recently reported end-of-year Total Assets of the Firm; *BTM* is the most recently reported end of year book value of equity divided by the market capitalization of the firm, VOI_{i1} is the ratio of Inventory to Cost of Goods Sold, VOI_{i2} is the ratio of Accounts Receivable to Sales, VOI_{i3} is the ratio of Accounts Payable to Cost of Goods Sold, VOI_{i4} is the Gross Margin of the firm, VOI_{i5} is the one year change in market capitalization of the firm prior to the survey, and VOI_{i6} is the five year compound annual growth rate in market capitalization of the firm. Additional industry fixed effects are included representing the following industry classifications: Retail/Wholesale; Mining/Construction; Tech (Software/ Biotech), Communications/Media; Bank/Finance/Insurance; Manufacturing; Consulting/Service; Public Utility; and Transportation/Energy.

As can be seen from Table 10, in spite of the lower number of observations, the coefficient on our measure of real earnings management is strongly associated with the subsequent stock price performance, even when controlling for the determinants of our real earnings management measure discussed above, suggesting that the real earnings management behaviors that we are measuring are not fully anticipated by the stock price at the time of the survey.

9 Summary and Conclusions

In this paper, we conduct a comprehensive survey of sales leaders to determine the specific nature of real earnings management behaviors in the sales function. We find that sales leaders are more likely to be asked to manage expenses over revenues with such requests most likely to come from CEOs and CFOs as opposed to COOs and Board Members. The linkage between earnings management in the sales and finance functions is strong. The frequency of requests to manage earnings is closely related to; (i) the finance department's involvement in strategy development; (ii) the level of earnings management the finance department engages in; and (iii) the level of conflict between the sales and finance departments. Nevertheless, our results suggest that requests to the sales leaders to manage earnings may not be fully effective, as managers, especially in the US, change their behavior early in the fiscal year in anticipation of the earnings management requests.

Comparison of our real earnings management measures to reported financial ratios show firms with higher real earnings management have lower gross margins and higher receivables consistent with a "channel stuffing" or end-of-year "push" strategy where the firm cuts prices but is unable to collect receivables before the year end. Similarly firms with higher real earnings management have higher payables consistent with these firms actively managing their cash flows by stretching payment terms as part of the real earnings management process. Finally, firms with higher real earnings management in our sample have underperformed their peers in terms of their market capitalization over both a one and five year time horizon. This final result suggests that real earnings management is not simply a one-time item but may well be a consistent, and value destroying, behavior pattern within firms.

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Table 1a – Annual Revenues of Companies in Sample

Annual Revenue Range (million)	Frequency	Percent
<\$100	46	8.26%
\$100-499	57	10.23%
\$500-999	46	8.26%
\$1,000-4,999	116	20.83%
>\$5,000	292	52.42%

Table 1b – Number of Employees of Companies in Sample

Number of Employees	Frequency	Percent
<100	23	4.06%
100-499	31	5.47%
500-999	22	3.88%
1,000-2,499	41	7.23%
2,500-4,999	69	12.17%
5,000-9,999	63	11.11%
>10,000	318	56.08%

Table 1c – Industry of Companies in Sample

Industry	Frequency	Percent
Retail/Wholesale	29	4.77%
Mining/Construction	15	2.47%
Tech (Software/Biotech)	78	12.83%
Communications/Media	10	1.64%
Bank/Finance/Insurance	18	2.96%
Manufacturing	171	28.13%
Consulting/Service	58	9.54%
Public Utility	4	0.66%
Transportation/Energy	67	11.02%
Other	158	25.99%

Table 2a – Response Coefficients for Specific Expense Management Actions

Action	Key A/C Managers	Non-Key A/C Managers	Difference
Q1 Reduce travel expenses for internal meetings % High or Very High	3.74 66%	4.36 87%	-0.38 ^{***} (18.77)
Q2 Reduce entertainment expenses involving employees only - % High or Very High	4.23 78%	4.50 90%	-0.27 ^{***} (9.90)
Q3 Reduce travel expenses for customer meetings % High or Very High	2.39 47%	3.08 62%	-0.69 ^{***} (19.70)
Q4 Reduce entertainment expenses involving customers - % High or Very High	2.89 52%	3.52 69%	-0.63 ^{***} (18.81)
Q5 Reduce discretionary marketing expenses % High or Very High	3.45 59%	3.78 73%	-0.33 ^{***} (11.87)
Q6 Reduce headcount % High or Very High	2.77 50%	3.35 67%	-0.58 ^{***} (16.09)
Q7 Lease or rent new assets instead of acquiring them outright - % High or Very High	3.16 53%	3.26 63%	-0.10 ^{***} (7.60)
Arithmetic Average	3.10	3.56	-0.46 ^{***} (22.01)

Table 2b – Response Coefficients for Specific Revenue Management Actions

Action	Key A/C Managers	Non-Key A/C Managers	Difference
Q1 Accelerate an anticipated price increase % High or Very High	3.45 70%	3.62 79%	-0.17 ^{***} (6.41)
Q2 Change year-end shipment schedules % High or Very High	3.01 61%	3.15 70%	-0.14 ^{***} (5.05)
Q3 Change shipping terms % High or Very High	2.68 57%	2.79 66%	-0.11 ^{***} (3.74)
Q4 Change payment terms % High or Very High	2.94 62%	3.12 71%	-0.18 ^{***} (4.69)
Q5 Change returns/allowance terms % High or Very High	2.59 56%	2.70 65%	-0.11 ^{***} (4.18)
Q6 Increase end-of period sales in exchange for a reduction in price - % High or Very High	2.89 61%	3.08 71%	-0.19 ^{***} (5.06)
Q7 Move business forward (from next quarter to this quarter) - % High or Very High	3.22 66%	3.31 75%	-0.09 ^{***} (2.87)
Arithmetic Average	2.96	3.11	-0.15 ^{***} (6.45)

Arithmetic Average for all Questions Revenue and Expense Management	3.05	3.38	-0.33 ^{***} (19.02)
Test of Average Expense Management = Average Revenue Management	0.14 ^{***} (4.62)	0.45 ^{***} (12.68)	

+ $p < 0.20$, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. t-statistic of difference shown in parentheses.

Table 3a – Correlation of Key Account Manager Expense Management Variables

	Average	Q1	Q2	Q3	Q4	Q5	Q6
Q1	0.6506						
Q2	0.5944	0.5104					
Q3	0.7044	0.4479	0.2761				
Q4	0.6920	0.3569	0.3881	0.6058			
Q5	0.6617	0.3629	0.3692	0.3851	0.4408		
Q6	0.6357	0.2652	0.2253	0.366	0.3201	0.3241	
Q7	0.4147	0.077	0.1208	0.0648	0.0767	0.1509	0.2486
Alpha	0.75						

Table 3b – Correlation of Non-Key Account Manager Expense Management Variables

	Average	Q1	Q2	Q3	Q4	Q5	Q6
Q1	0.5811						
Q2	0.5712	0.4876					
Q3	0.6368	0.3208	0.2354				
Q4	0.6700	0.3137	0.3481	0.6015			
Q5	0.6216	0.3205	0.3355	0.2908	0.3610		
Q6	0.6462	0.2587	0.2726	0.2611	0.2901	0.3304	
Q7	0.4549	0.1128	0.1152	0.0563	0.0834	0.1536	0.2504
Alpha	0.71						

Table 3c – Correlation of Key Account Manager Revenue Management Variables

	Average	Q1	Q2	Q3	Q4	Q5	Q6
Q1	0.5269						
Q2	0.7008	0.3366					
Q3	0.7549	0.3137	0.5160				
Q4	0.7181	0.2872	0.3235	0.5836			
Q5	0.7131	0.2783	0.3285	0.574	0.5814		
Q6	0.6612	0.1141	0.3706	0.3337	0.3253	0.3838	
Q7	0.6407	0.1497	0.4192	0.2777	0.2954	0.2756	0.5567
Alpha	0.80						

Table 3d – Correlation of Non-Key Account Manager Revenue Management Variables

	Average	Q1	Q2	Q3	Q4	Q5	Q6
Q1	0.5319						
Q2	0.7110	0.3305					
Q3	0.7433	0.3044	0.5314				
Q4	0.7424	0.3057	0.3578	0.5971			
Q5	0.7190	0.2876	0.3746	0.5917	0.5955		
Q6	0.6559	0.1365	0.3657	0.2895	0.3586	0.3497	
Q7	0.6170	0.1254	0.3818	0.2436	0.3166	0.2498	0.5535
Alpha	0.80						

Cronbach's Alpha of all variables representing all 28 questions here (seven each on revenue and expense management for Key-Account and Non-Key Account managers) = 0.86

Where: Q1 – Q7 refer to each question in Table 2 for expense and revenue management actions as appropriate. The Average is the arithmetic mean response for an individual across the seven questions. Alpha is defined as Cronbach's Alpha is a measure of internal consistency of the measures used to form the scale. It is defined as $\alpha = \frac{K}{K-1} \left(\frac{\sum_{i=1}^K \sigma_{Y_i}^2}{\sigma_X^2} \right)$ where K is the number of components, σ_X^2 is the variance of the observed total test scores, and $\sigma_{Y_i}^2$ is the variance of component I for the current sample. A score ≥ 0.7 is considered acceptable and ≥ 0.8 is considered good.

Table 4 – Who is more likely to be Requesting the Earnings Management

	Base Coefficient	Compare to BoD	Compare to CEO	Compare to COO	Compare to CFO
Board of Directors	3.47				
CEO	4.15	0.68 ^{***} (16.4)			
COO	3.85	0.38 ^{***} (7.82)	-0.30 ^{***} (9.09)		
CFO	4.03	0.56 ^{***} (12.16)	-0.12 ^{***} (3.57)	0.18 ^{**} (5.63)	
Other	3.73	0.26 ^{***} (4.33)	-0.42 ^{***} (3.05)	-0.12 (0.59)	-0.30 (0.95)

+ $p < 0.20$, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. t-statistic of difference shown in parentheses.

Table 5a – Relative Magnitude of Effect for Finance Department’s Earnings Management

Based on your best estimate, for each dollar increase in reported performance that you company’s Strategic Account Teams can achieve using expense reduction / revenue increasing techniques, how many increased dollars can your finance function achieve using legal accounting techniques?

	Number of Respondents	Percentage
Zero	60	20.3%
0.01 – 0.20	90	30.4%
0.21 – 0.99	37	12.5%
1.00	31	10.5%
1.01 – 5.00	30	10.1%
>5.0	48	16.2%
	296	100.0%

Table 5b – Perceived Earnings Management by Finance Department

Action	Raw Score (/7)
Arithmetic Average	3.72
Q1 : Our Finance division uses a lot of variables (e.g. hedging, depreciation rates) to legally manage earnings at the end of a quarter.	3.82
Q2 : Our Finance team uses a lot of the discretion made available to them by accounting principles when they report earnings	3.75
Q3 : Our finance team has a lot of levers to pull when our company reports earnings.	3.58

Table 5c – Correlation of Response Coefficients for Finance Department Earnings Management

	Average	Q1	Q2
Q1	0.8803		
Q2	0.9283	0.7229	
Q3	0.9001	0.6545	0.7913

Cronbach's Alpha of the responses to these three questions = 0.94. Cronbach's Alpha is a measure of internal consistency of the measures used to form the scale. It is defined as $\alpha = \frac{K}{K-1} \left(\frac{\sum_{i=1}^K \sigma_{Y_i}^2}{\sigma_X^2} \right)$ where K is the number of components, σ_X^2 is the variance of the observed total test scores, and $\sigma_{Y_i}^2$ is the variance of component I for the current sample. A score ≥ 0.7 is considered acceptable and ≥ 0.8 is considered good.

Table 6 - Real Earnings Management in Relation to Finance Actions and Conflict

Earnings Management	(1) Earnings b/t	(2) Earnings b/t	(3) Earnings b/t	(4) Earnings b/t	(5) Earnings b/t	(6) Earnings b/t	(7) REV b/t	(8) EXP b/t
Public Company	0.158*** (3.10)	0.127** (2.41)	0.117** (2.27)	0.130** (2.58)	0.131*** (2.62)	-0.106 (-0.97)	-0.297+ (-1.62)	0.080 (0.62)
USA	-0.111** (-2.40)	-0.068+ (-1.53)	-0.068+ (-1.45)	-0.062+ (-1.43)	-0.064+ (-1.52)	-0.298** (-2.42)	-0.194 (-0.99)	-0.414*** (2.84)
Finance Active in Strategy Dev.			0.061*** (3.44)	0.045*** (2.70)	0.042*** (2.69)	0.040*** (2.53)	0.039+ (1.47)	0.041** (2.06)
Sales & Finance Conflict				0.112*** (6.74)	0.107*** (6.51)	0.046+ (1.48)	0.061 (1.21)	0.041+ (1.29)
Average E.M. by Finance		0.091*** (4.92)	0.086*** (4.76)	0.060*** (3.49)	0.064*** (3.76)	0.025 (0.96)	0.083** (1.99)	-0.032 (1.28)
Cash Flow Incentives					0.095** (2.19)	0.095** (2.23)	0.230*** (3.32)	-0.022 (-0.40)
USA * Avg E.M. Finance						0.061* (1.95)	0.031 (0.64)	0.095*** (2.76)
Public * Sales & Fin. Conflict						0.086** (2.43)	0.113** (1.98)	0.049 (1.21)
Industry Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	604	583	571	567	545	545	545	545
Adjusted R ²	0.025	0.084	0.107	0.182	0.185	0.202	0.152	0.102

+ $p < 0.20$, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$ t-statistics shown in parentheses with Huber-White standard errors adjusted allowing for lack of independence between observations from respondents at the same company.

Where, for each respondent: Real Earnings Management is our measure of real earnings management as described in Section 5; Average Earnings Management by Finance is the amount of earnings management being implemented by the finance department; Finance Active in Strategy Development is the level of involvement of the finance department in the strategy development of the sales function; Conflict between Sales and Finance is the level of conflict between the sales and finance function; Cash Flow Incentives is a dummy variable that equals one if the sales manager receives a cash flow based incentive and zero otherwise; USA is a dummy variable that equals one if the firm is based in the USA and zero otherwise; and Public is a dummy variable if the firm's stock is listed on a major stock exchange. Additional industry fixed effects are included representing the following industry classifications: Retail/Wholesale; Mining/Construction; Tech (Software/Biotech), Communications/Media; Bank/Finance/Insurance; Manufacturing; Consulting/Service; Public Utility; and Transportation/Energy.

Table 7 – Summary of Primary Explanatory Components

	H1 – Public	H2 - USA	H3 – Finance Involved	H4 – Conflict with Finance	H5 – Finance Managing Earnings	H6 – Cash Flow Incentives
EXPENSE						
Internal Travel		X			X	
Internal Entertainment					X	
External Travel			X			
External Entertainment			X			
Marketing Spend						
Headcount		X		X		
Lease Assets		X				
REVENUE						
Accelerate Price Increase						X
Shipment Schedule					x	X
Shipping Terms				x		X
Payment Terms				x	X	X
Returns / Allowances					x	
Reduce Prices	X			X		
Move Business Forward						

X – Main determinant of result
 X – Lesser determinant of result

This table shows the primary determinants, by individual survey question, of the results presented in Table 6 for each of the hypotheses being tested.

Table 8 - Anticipatory Actions Ahead of Real Earnings Management

Dep. Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
AEMA	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9
	b/t	b/t	b/t	b/t	b/t	b/t	b/t	b/t	b/t
Real Earnings Management	0.426*** (5.05)	0.453*** (5.17)	0.366*** (3.88)						
Revenue Management				0.291*** (4.96)	0.300*** (4.65)	0.261*** (3.60)			
Expense Management							0.145* (1.97)	0.148* (1.91)	0.099 (1.26)
Public Company		-0.061 (-0.50)	-0.038 (-0.30)		0.003 (0.02)	-0.003 (-0.03)		0.005 (0.04)	0.022 (0.17)
USA		0.187** (2.03)	0.210** (2.24)		0.205** (2.22)	0.226** (2.41)		0.185* (1.92)	0.202** (2.12)
Finance Active in Strat. Dev.			0.073** (2.08)			0.075** (2.20)			0.066* (1.83)
Sales & Fin. Conflict			0.123** (2.56)			0.128*** (2.64)			0.148*** (2.97)
Average E.M. Finance			0.078** (2.31)			0.075** (2.21)			0.094** (2.56)
Cash Flow Incentives			-0.017 (-0.18)			-0.060 (-0.63)			0.022 (0.22)
Industry Controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Observations	353	286	266	352	285	266	2353	286	266
Adjusted R^2	0.066	0.097	0.151	0.074	0.100	0.159	0.009	0.026	0.109

+ $p < 0.20$, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$ t-statistics shown in parentheses with Huber-White standard errors adjusted allowing for lack of independence between observations from respondents at the same company.

AEMA is a measure of the how sales leaders change their behavior earlier in the year in anticipation of earnings management actions in the fourth quarter discussed in Section 7; Real Earnings, Revenue and Expense Management are measures of earnings management, as described in Section 5; Average Earnings Management by Finance is the amount of earnings management being implemented by the finance department; Finance Active in Strategy Development is the level of involvement of the finance department in the strategy development of the sales function; Conflict between Sales and Finance is the level of conflict between the sales and finance function; Cash Flow Incentives is a dummy variable that equals one if the sales manager receives a cash flow based incentive and zero otherwise; USA is a dummy variable that equals one if the firm is based in the USA and zero otherwise; and Public is a dummy variable if the firm's stock is listed on a major stock exchange. Industry fixed effects are also included.

Table 9 - Corporate Financial Ratios in Relation to Earnings Management (Seemingly Unrelated)

	(1) Inventory /COGS	(2) Receivables /Sales	(3) Payables /COGS	(4) Gross Margin	(5) 1 Yr Δ M.Cap	(6) 5 Yr Δ M.Cap
Real Earnings Management	-0.048 (-1.00)	0.031 ⁺ (1.30)	0.057 ^{**} (2.00)	-0.042 ^{**} (-2.09)	-0.070 ^{**} (-1.97)	-0.040 ^{***} (-2.60)
USA	0.001 (0.01)	-0.066 ^{**} (-2.39)	-0.095 ^{***} (-2.81)	-0.040 [*] (-1.68)	-0.062 ⁺ (-1.48)	-0.020 (-1.10)
Total Assets	0.000 ⁺ (1.39)	-0.000 (-1.19)	0.000 ^{***} (5.28)	0.000 ^{***} (4.05)	-0.000 ^{***} (-6.20)	-0.000 ^{**} (-2.34)
Book to Market	-0.165 ^{**} (-2.17)	0.012 (0.32)	-0.037 (-0.81)	-0.049 ⁺ (-1.51)	0.138 ^{**} (2.44)	0.042 [*] (1.70)
Industry Controls	Yes	Yes	Yes	Yes	Yes	Yes
Obs	174	174	174	174	174	174
RMSE	0.320	0.158	0.191	0.136	0.238	0.103
"R ² "	0.170	0.256	0.267	0.227	0.306	0.250

+ $p < 0.20$, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$ t-statistics shown in parentheses with Huber-White standard errors adjusted allowing for lack of independence between observations from respondents at the same company.

Where, for each respondent: Inventory is the end of year reported inventory level, COGS is the annual Cost of Goods Sold, Receivables is the end-of-year Accounts Receivable; Sales is the Annual Sales; Payables is the end-of-year Accounts Payable; Gross Margin is (Sales – Cost of Goods Sold)/ Sales; 1Yr Δ M. Cap is the change in market capitalization over the last 12 months, 5Yr Δ M. Cap is the Compound annual growth rate in market capitalization over the last five years; Real Earnings Management is our measure of real earnings management as described in Section 5; USA is a dummy variable that equals one if the firm is based in the USA and zero otherwise; Total Assets are the most recently reported end-of-year Total Assets of the Firm; Book to Market is the most recently reported end of year book value of equity divided by the market capitalization of the firm. Additional industry fixed effects are included representing the following industry classifications: Retail/Wholesale; Mining/Construction; Tech (Software/Biotech), Communications/Media; Bank/Finance/Insurance; Manufacturing; Consulting/Service; Public Utility; and Transportation/Energy.

Table 10 – Subsequent Change in Market Capitalization

	Subsequent Change in Mkt Cap.
Real Earnings Management	-0.117** (-2.65)
USA	0.032 (0.64)
Total Assets	-0.000+ (-1.58)
Book to Market	-0.353+ (-1.55)
1 Yr Δ M.Cap	-0.064 (-0.50)
5 Yr Δ M.Cap	-0.313 (-0.49)
Inventory / COGS (Days)	0.082 (0.81)
Receivables / Sales (Days)	-0.149 (-0.90)
Payables / COGS (Days)	0.165 (0.97)
Finance Active in Strat. Dev.	0.000 (0.00)
Sales & Fin. Conflict	0.033* (1.93)
Average E.M. Finance	0.004 (0.31)
Cash Flow Incentives	-0.021 (-0.38)
Observations	127
Adjusted R^2	0.239

+ $p < 0.20$, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. t-statistics shown in parentheses with Huber-White standard errors adjusted allowing for lack of independence between observations from respondents at the same company.

Where, for each respondent: Real Earnings Management is our measure of real earnings management as described in Section 5; USA is a dummy variable that equals one if the firm is based in the USA and zero otherwise; Total Assets are the most recently reported end-of-year Total Assets of the Firm; Book to Market is the most recently reported end of year book value of equity divided by the market capitalization of the firm. 1Yr Δ M. Cap is the change in market capitalization over the last 12 months, 5Yr Δ M. Cap is the Compound annual growth rate in market capitalization over the last five years; Inventory is the end of year

reported inventory level, COGS is the annual Cost of Goods Sold, Receivables is the end-of-year Accounts Receivable; Sales is the Annual Sales; Payables is the end-of-year Accounts Payable; Gross Margin is $(\text{Sales} - \text{Cost of Goods Sold}) / \text{Sales}$; Finance Active in Strategy Development is the level of involvement of the finance department in the strategy development of the sales function; Conflict between Sales and Finance is the level of conflict between the sales and finance function; Average Earnings Management by Finance is the amount of earnings management being implemented by the finance department; Cash Flow Incentives is a dummy variable that equals one if the sales manager receives a cash flow based incentive and zero otherwise. Additional industry fixed effects are included representing the following industry classifications: Retail/Wholesale; Mining/Construction; Tech (Software/Biotech), Communications/Media; Bank/Finance/Insurance; Manufacturing; Consulting/Service; Public Utility; and Transportation/Energy.