Value Relevance of Internal Earnings Relative to Annual Bonus Targets

by

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ABSTRACT

Prior studies examine how the use of earnings for valuation purposes is related to the use of earnings in contracting. I extend this literature by examining the value relevance of internal earnings relative to targets, a performance measure widely used in annual bonus contracts. Internal earnings relative to targets could be value relevant because they reflect board's private information or the quality of firm's management control systems. However, any internal performance measure could also be manipulated by the board or management, which would undermine its reliability and relevance to capital market participants. Using hand-collected data on internal earnings and annual bonus targets in Chief Executive Officer (CEO) cash bonus plans, I find that internal earnings relative to targets strongly predict annual stock returns. This effect is incremental to that of Generally Accepted Accounting Principles (GAAP) and street earnings surprises, as well as management earnings guidance surprises. Moreover, this effect is stronger for firms with more detailed disclosure about compensation contracts and with better governance. Buttressing the stock return results, I further show that internal earnings relative to targets predict future cash flows. This evidence suggests that the value of internal earnings relative to targets extends beyond its traditional role in contracting.

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INTRODUCTION

Accounting earnings are used in both contracting and valuation. Bushman, Engel, and Smith (2006) examine whether the contracting and valuation uses of earnings are related and challenge the widely held view that information useful for firm valuation is different from information useful for management evaluation (Lambert, 2001; Paul, 1992; Gjesdal, 1981). More recent studies examine whether and how boards adjust GAAP earnings for contracting purposes. The literature generally finds that firms adjust earnings to enhance its usefulness in contracting (Curtis, Li, and Patrick, 2020; Yoon, Urcan, and Jang, 2020; Na, Zhang, and Zhang, 2020; Kim and Shin, 2019), which is consistent with the view that GAAP earnings serve different purposes than earnings used internally for performance evaluation and compensation purposes. Given that compensation contracts are typically based on performance relative to targets (Matejka, 2018; Merchant and Manzoni, 1989), an alternative approach to examining whether the contracting and valuation uses of earnings are related is by testing whether internal earnings relative to targets—hereafter, internal performance—are useful for valuation purposes.[1]

There is extensive literature on the valuation use of earnings as well as literature on the use of earnings in contracting. Ball and Brown (1968) find that GAAP earnings are associated with abnormal returns, which establishes the usefulness of accounting earnings

[1] I define *internal earnings relative to targets* (also referred to as *internal performance*) as the difference between actual performance and annual bonus targets, both of which are reported in proxy statements as part of the discussion of CEO annual bonus contracts. This contrasts with most prior studies focusing on actual performance and disregarding targets. In what follows, I also refer to actual performance reported in proxy statements as *internal earnings*. Prior literature uses various alternative terms such as 'adjusted earnings' (Curtis, Li, and Patrick, 2020), 'accounting numbers used in compensation contracts', 'compensation performance measures' (Yoon, Urcan and Jang, 2020), 'compensation earnings (Na, Zhang, and Zhang, 2020), 'performance measures used in compensation contracts', 'non GAAP earnings for contracting' (Kim and Shin, 2019), or 'non-GAAP EPS in proxy statements' (Black, Black, Christensen, and Gee, 2020).

for firm valuation purposes. Subsequent literature examines specific earnings properties, such as value relevance, persistence, and conservatism, and their usefulness to investors (Dechow, 1994; Sloan, 1996; Basu, 1997). The contracting literature examines how properties of different performance measures facilitate incentive provision. The key desirable properties for contracting purposes are informativeness about managerial effort and congruence between the interests of managers and shareholders (Feltham and Xie, 1994; Banker and Datar, 1989; Holmstrom 1982, 1879).[2] It follows that, at least in theory, GAAP earnings and internal measures of earnings serve different purposes and have different desirable properties. However, this does not preclude the possibility that GAAP earnings may be useful for contracting purposes—the topic of prior literature—or that internal earnings performance is informative to equity investors—the topic of this paper.

Several recent empirical studies examine how boards make adjustments to GAAP to make internal earnings more useful for contracting purposes. Yoon, Urcan, and Jang (2020) find that such adjustments are value relevant. Curtis, Li, and Patrick (2020) show that adjustments are more pronounced when GAAP earnings are less informative but also when managerial opportunism is more likely. Na, Zhang, and Zhang (2020) find that adjusted internal earnings are less conservative but more persistent than GAAP earnings. This suggests that unadjusted GAAP earnings are of limited usefulness for contracting purposes but also that internal adjustments for contracting purposes are potentially useful to investors.

[2] *Informativeness* refers to the extent to which a performance measure provides incremental information about managerial effort (Holmstrom, 1982, 1979). *Congruence* refers to the extent to which a performance measure increases incentive alignment between managers and shareholders (Feltham and Xie, 1994).

While these prior studies examine adjustments to how internal earnings are measured, no prior study examines whether internal earnings *relative to targets* are value relevant. Yet, for performance evaluation purposes, boards must not only define internal earnings but also set targets that trigger incentive awards. Both compensation choices should be guided by informativeness, congruence, and other contracting considerations, rather than by the preferences of capital market participants, which leaves open the question whether they are value relevant.

Although internal earnings and targets for firms listed in the U.S. must be disclosed in proxy statements, it is up to the board of directors to determine how internal earnings are defined and targets calibrated.[3] The resulting room for discretion may increase informativeness and congruence of internal performance and consequently improve the efficiency of incentive contracts (Kim and Shin, 2019; Hoppe and Moers 2011; Gibbs, Merchant, Van der Stede, and Vargus, 2004). However, the lack of regulation and oversight could undermine the usefulness of internal performance to capital market participants.

To empirically examine value relevance of internal performance, I use manually collected data on internal earnings and targets in CEO annual bonus plans as disclosed in proxy statements. Specifically, I examine whether internal earnings relative to targets provide incrementally useful information beyond other earnings measures used for external reporting purposes. First, I find a significantly positive association between internal earnings relative to targets and annual abnormal stock returns. This association remains

[3] Since 2006, the SEC has required S&P 500 firms to disclose their executive compensation in the Compensation Discussion and Analysis (CD&A) section of proxy statements. The disclosure includes (but is not limited to) performance measures, targeted performance set at the beginning of the year, and achieved performance evaluated at the end of the year. (https://www.sec.gov/corpfin/non-gaap-financial-measures)

significant even after controlling for GAAP earnings and street earnings, which suggests that internal earnings relative to targets contain value relevant information beyond traditional sources of earnings relied upon by equity market participants.

Next, I provide evidence on cross-sectional variation in this association. I expect internal earnings relative to targets to be more relevant when proxy statement disclosures about compensation contracts are more detailed. Regulation requires internal earnings and targets to be disclosed in the proxy statements but leaves firms with a large amount of discretion in how they disclose the details of their incentive contracts. Some firms disclose only the minimum amount of information about targets and actual performance to comply with the regulation, while other firms provide more detailed information about their incentive contracts. When provided with detailed disclosures, capital market participants can process the information not only with lower cost but also with greater trust (Lang and Lundholm, 1993; Brown, Hillegeist, and Lo, 2004), which should increase the value relevance of internal performance information. Consistent with this prediction, I find that internal performance is more relevant when incentive contracts are more detailed, as proxied for by the disclosure of multiple performance measures and multiple levels of targeted performance.

I expect internal performance information to be less value relevant when CEOs are more entrenched. As an oversight mechanism to prevent managerial opportunism and manipulation, boards of directors should make compensation choices that align managerial and shareholder interests. However, this oversight role may be weakened when CEOs hold more power and use it in negotiation with the board (Hermalin and Weisbach, 1998;

Bebchuk, Fried, and Walker, 2002). If entrenched CEOs have greater influence on how boards and compensation committees define internal earnings or calibrate targets, then internal performance information should be less value relevant. Consistent with this prediction, I find that the association between internal performance and abnormal returns is weaker when the CEO is more entrenched.

Additionally, I provide evidence on why internal performance information is value relevant. If markets are efficient, firm value should be explained by idiosyncratic risk and future cash flows (Kothari, 2001). Internal performance may contain information about idiosyncratic risks because firms that consistently exceed their own performance targets may have superior planning and budgetary control practices and could therefore be viewed as less risky (Van der Stede, 2000; Merchant and Manzoni, 1989). Internal performance may also better isolate persistent shocks to performance and thus be informative about future cash flows. For example, prior studies find that meeting a target leads to higher subsequent targets as well as a higher likelihood of meeting the increased targets (Indjejikian and Nanda 2002, Indjejikian, Matějka, Merchant, Van der Stede, 2014). Consistent with this prediction, I find that internal earnings relative to targets are positively associated with future cash flows.

Combined, my findings contribute to the literature on the relation between earnings used for external reporting purposes and internal measures of earnings used for incentive contracting. Prior studies examine how GAAP earnings are adjusted for contracting purposes (Yoon, Urcan, and Jang, 2020; Curtis, Li, and Patrick, 2020). In contrast, I examine whether internal earnings relative to targets are relevant to capital market

participants. My findings are consistent with those of Bushman, Engel, and Smith (2006) and suggest that the contracting and valuation uses of earnings are related.

My findings also emphasize the importance of performance targets as an internal benchmark in measuring earnings performance. Prior research examines the informational content of earnings surprises defined as the difference between earnings and external benchmarks such as analyst forecasts (Brown and Sivakumar, 2003; Bartov, Givoly, and, Hayn, 2002; Kasznik and McNichols, 2002; Lopez and Rees, 2001). Consistent with these studies, I find that internal earnings relative to targets provide a useful benchmark when investors assess firm value.

Finally, my findings also contribute to prior work on the economic consequences of the regulation mandating expanded executive compensation disclosures since 2006 (Gipper, 2021; Jung, Kim, Ryu, and Shin, 2021; Robinson, Xue, and Yu, 2011). This additional disclosure was expected to reduce excessive executive pay through improved shareholder monitoring. However, Gipper (2021) provides evidence suggesting that an unintended negative consequence of the regulation was to limit boards' discretion and flexibility in evaluating managerial performance, which lead to higher compensation. My findings can be interpreted as evidence of a positive unintended consequence—the expanded disclosure provides external market participants with additional value relevant information.

LITERATURE

Value relevance of earnings

Early literature finds that accounting earnings are value relevant due to their ability to predict future cash flows, and inform about idiosyncratic risks, and discount rate (Kothari, 2001; Holthausen and Watts, 2001; Barth, Beaver, and Landsman, 2001; Ohlson, 1999; Ball and Brown, 1968). Prior studies examined value relevance of various earnings measures and their components by testing earnings' association with stock prices. For example, they suggest that accruals improve earnings—as a measure of firm performance—given the tradeoff between relevance and reliability (Dechow, 1994; Biddle, Bowen, and Wallace, 1997). Accounting earnings that contain accruals may provide a better summary measure of firm performance because, despite the concerns that they may reduce the reliability of accounting earnings, accruals address some of the matching and timing issues of cash flows.

More recently, there is a debate about the usefulness of non-GAAP earnings (e.g., street earnings and pro-forma earnings). Whereas GAAP earnings are defined by regulatory guidelines, non-GAAP earnings include various adjustments for non-recurring or transitory items at the provider's discretion. Amir, Harris, and Venuti (1993) provide some evidence that the reconciliation items of non-GAAP earnings are value relevant. Bradshaw and Sloan (2002) report an increase in the use of and emphasis on non-GAAP earnings (e.g., street earnings). Brown and Shivakumar (2003) test value relevance of non-GAAP earnings provided by managers (e.g., pro-forma earnings, operating earnings) and analysts (e.g., street earnings, IBES earnings). They find that non-GAAP earnings provided by both managers and analysts are useful beyond GAAP earnings but also that street earnings are more value relevant than non-GAAP earnings provided by managers.

Similarly, Barth, Gow, and Taylor (2012) show that pro-forma earnings provided by managers are highly opportunistic, while street earnings are highly predictive of future earnings.

In summary, prior studies suggest that, although earnings are value relevant, the use of non-GAAP earnings entails a tradeoff between value relevance and reliability. This tradeoff is particularly pronounced for internal performance measures because boards have great discretion, not only on how to define internal earnings, but also on how to set targets. In this paper, I study whether this makes internal performance measures more or less value relevant. Next, I discuss a stream of literature addressing this question by examining the choice of internal earnings used in compensation contracts.

Contracting use of earnings

Incentive contracts are designed to motivate managerial effort and filter out random shocks to performance, which creates demand for informative and congruent performance measures (Feltham and Xie, 1994; Holmström, 1982; Banker and Datar, 1989). In theory, these properties are different from valuation role of earnings for investors (Lambert, 2001; Paul, 1992; Gjesdal, 1981). Na, Zhang, and Zhang (2020) empirically find that internal earnings are less conservative than GAAP earnings because, unlike GAAP earnings, internal earnings should not reflect events that are out of management's control. Likewise, Black, Black, Christensen, and Gee (2020) find that contracting demands drive the use of non-GAAP earnings in compensation contracts and capital market demands drive the use of non-GAAP earnings in earnings announcements, which suggests that firms make separate choices on what is relevant for contracting and what is relevant for valuation.

Nevertheless, Bushman, Engel, and Smith (2006) show that the valuation and contracting roles of earnings are closely related in that there is positive association between the usefulness of earnings in contracting and the usefulness of earnings in explaining stock prices. Relatedly, Kothari, Ramanna, and Skinner (2010) and Lambert (2010) discuss the relative importance of the valuation role versus the contracting role of earnings. Therefore, despite extensive prior work on the contracting and valuation roles of earnings, it is still unclear how they are economically connected.

A recent stream of work shows that earnings used in compensation contracts, which I refer to as internal earnings, are typically not the same as GAAP earnings (Dechow, Huson, and Sloan, 1994; Black, Black, Christensen, and Gee, 2017; Kim and Shin, 2019; Yoon, Urcan, and Jang, 2020).[4] Dechow, Huson, and Sloan (1994) show that restructuring charges as defined by GAAP are excluded from managerial performance evaluation, which encourages executives to take on value-enhancing projects that incur large upfront expenses. Yoon, Urcan, and Jang (2020) find that GAAP adjustments are not necessarily income increasing. They can protect managers from macroeconomic shocks and alleviate managerial myopia, which can make internal earnings more informative and congruent for contracting. Although Yoon, Urcan, and Jang (2020) find no evidence of managerial opportunism in GAAP adjustments, Curtis, Li, and Patrick (2020) find that adjustments incorporated in internal earnings reflect not only efficient contracting but also managerial opportunism. Specifically, they find that boards make adjustments when earnings are more volatile or when management has less control over firm operations, which is consistent

[4] Yoon, Urcan, and Jang (2020) find that only 5.08% of their sample reports the same internal earnings and GAAP earnings.

with efficient contracting. At the same time, adjustments are also more likely when the CEO serves as a chairman of the board, which provides some evidence consistent with managerial opportunism.

Combined, boards generally make adjustments to GAAP earnings when defining internal earnings in compensation contracts. Such adjustments can increase efficiency of incentive contracts, but also potentially compromise value relevance of internal earnings. The same trade off also affects internal earnings relative to targets because both internal earnings definitions and targets are determined at board discretion. In the next section, I further discuss the use of internal earnings relative to targets.

Internal earnings relative to targets

Compensation awards are typically based on internal earnings relative to targets rather the absolute level of earnings achieved (Merchant and Manzoni, 1989; Murphy, 2000). Boards set internal performance targets by incorporating information about the future from past performance, peer performance, and market expectations. Thus, internal earnings relative to targets may better reflect managerial effort because it filters out persistent or predictable shocks that are out of managerial control (Kwon, Choi, Kim, and Shin, 2018; Bol and Lill, 2015; Indjejikian, Matejka, Merchant, and Van der Stede, 2014). Moreover, the choice of performance targets allows the board to easily increase or reduce expected compensation if the labor market and CEO alternative employment opportunities fluctuate (Matejka, 2018; Casas-Arce, Indjejikian, and Matejka, 2017; Matejka and Roy, 2017; Laffont and Martimort, 2002).

Although evaluating internal earnings relative to targets is useful for contracting, I am aware of no prior study examining whether it is also value relevant. In what follows, I present my hypotheses.

Hypotheses

As discussed above, boards have a lot of discretion when making compensation choices. Such discretionary choices may reflect self-serving objectives of entrenched managers (Doyle, Jennings, and Soliman, 2013; Barth, Gow, and Taylor, 2012) because they are neither audited nor regulated by the SEC (Rapoport 2014). The complete lack of oversight could make internal earnings relative to targets largely irrelevant for valuation purposes.

Nevertheless, board discretion in making compensation choices could also improve the value relevance of internal performance in several ways. First, internal earnings relative to target reflect boards' expectations of performance and thus their private information about current and future performance. Second, internal earnings relative to targets may reflect management control quality. Firms that have more accurate planning and budgeting systems are more likely to achieve internal targets. In contrast, not meeting internal targets may signal weak control practices, poor management quality, and a greater risk of CEO turnover (Van der Stede, 2000; Merchant and Manzoni, 1989). Third, internal targets may be useful for investors as another performance benchmark that allows assess change in market value and thus lowers their information-processing costs (Burgstahler and Dichev, 1997; DeGeorge, Patel, and Zeckhauser, 1999; Jiang 2008).

Thus, although it is still an open question whether internal earnings relative to targets are useful in both contracting and valuation, I rely on the above arguments to predict the following.

H1: Internal earnings relative to targets are value relevant.

I also expect that internal earnings relative to targets are more relevant when compensation contract disclosure is more detailed. Regulation requires firms to disclose internal performance measures, targets, and achieved performance, but firms vary in how they are disclosed. Some firms disclose only the bare minimum to comply with the regulation, while others provide detailed information on various financial and nonfinancial measures of performance as well as multiple levels of targeted performance (often referred to as thresholds, targets, and maximums, Merchant et al. 2018). Provided with more detailed information about contracting choices and actual performance on multiple dimensions, capital market participants are more likely to process, understand, and trust this additional information. Therefore, I predict the following hypothesis.

H2: Internal earnings relative to targets are more value relevant when compensation contract disclosures are more detailed.

Next, I predict that internal earnings relative to targets are less relevant when CEOs are more entrenched. When making highly consequential CEO compensation choices, the board's oversight tasks are particularly challenging when the CEO is on the compensation committee or owns more stock (Jensen and Meckling, 1976; Stulz, 1988; Bebchuk and Fried, 2004; Grinstein and Hribar, 2004). Powerful entrenched CEOs may unduly influence compensation choices by negotiating themselves easier targets and favorable adjustments

to internal earnings definitions. In such cases, internal performance would primarily reflect CEO self-serving choices and be less useful for the market participants. Therefore, I hypothesize that internal earnings relative to targets are less value relevant when boards are less likely to set efficient incentive contracts.

H3: Internal earnings relative to targets are less value relevant when CEOs are more entrenched.

RESEARCH DESIGN

Source of data on internal performance

Since 2007, firms are required to disclose a detailed description of executive compensation contracts in their proxy statements (the Compensation Discussion and Analysis section of Form DEF14A). Boards make numerous incentive design choices for the purposes of evaluating executives and determining their compensation. In particular, annual bonus contracts specify which performance measures (e.g., earnings per share, sales, operating income, cash flows, customer satisfaction, etc.) are used. They also specify the targeted level of performance that triggers bonus awards. Compensation contracts may rely on one target or multiple targets, such as the threshold and maximum that define a target performance range. Specifically, the threshold represents the performance level that triggers the minimum bonus payment and the maximum represents the performance level beyond which bonus awards are capped and no longer increase in performance. Finally, boards also decide on the length of performance evaluation period (e.g., annual, quarterly) and whether performance is evaluated at the corporate level or division level. I include examples of annual bonus contract disclosures from proxy statements in Appendix 1.

Timeline of earnings information releases

Earnings information is released at different times over the course of a fiscal year, as summarized in Figure 1. GAAP earnings and other financial statement items are released in 10K disclosures and street earnings are released on earnings announcement dates, both typically within 3 months of fiscal year end. Internal earnings and corresponding earnings targets are released in the proxy statements, typically filed about a month after earnings announcement. Internal earnings reflect actual performance during the fiscal year that just ended and targets reflect performance expectations for the same period.

Variable Measurement

Internal earnings (*Internal*) are the actual level of fiscal-year earnings as reported in proxy statements as a part of the performance and compensation discussion. Annual bonus target (*Target*) is the predetermined level of performance (typically set at the beginning of the fiscal year) that triggers a bonus payout equal to 100% of the bonus potential. Both *Internal* and *Target* are measured as return on sales, i.e., transformed to measure profit levels and scaled by sales.[5] For example, if the targeted and actual performance are specified as earnings per share (EPS), then they are multiplied by the number of common shares outstanding and divided by sales. Internal earnings relative to targets (*Internal_perf*) are the difference between *Internal* and *Target*.

I define two measures of externally reported earnings. GAAP earnings (*Gaap*) are actual EPS from Compustat, rescaled as return on sales. Street earnings (*Street*) are actual EPS from IBES rescaled as return on sales. As a benchmark for *Gaap* and *Street,* I use

[5] I find consistent results when I use earnings measures alternatively rescaled as earnings per share.

rescaled analyst forecast consensus (*Analyst consensus*). *Gaap_perf* is the difference between *Gaap* and *Analyst consensus*. *Street_perf* is the difference between *Street* and *Analyst consensus*.

To measure contemporaneous abnormal returns, I follow Daniel, Grinblatt, Titan, and Wermers (1997) and adjust annual stock returns for size, book to market, and momentum (*DGTW Ret*). I obtain qualitatively similar results when using size-adjusted returns, market-adjusted returns, and raw returns instead of *DGTW Ret*.

I follow prior literature to define control variables (Kang and Zhao, 2010; Black, Black, Christensen, and Gee, 2022). Specifically, I include management guidance (*Mffirm*), analyst following (*Afn*), standard deviation of ROA to control for firm risk (*Stdroa*), book to market ratio (*Bm*), loss firm indicator (*Loss*), and sales growth (*Salesgrowth*). *Mffirms* is an indicator variable that equals one if the firm provides earnings guidance, and zero otherwise. *Afn* is number of analysts following the firm. *Stdroa* is standard deviation of ROA over the past 5 years. *Bm* is measured as stock price multiplied by number of common shares, scaled by equity. *Loss* is an indicator variable that equals one if the firms reports EPS below zero, and zero otherwise. *Salesgrowth* is measured as the difference between current sales and previous sales, scaled by total assets.

I use the following as moderating variables to test Hypotheses 2 and 3. As proxies for credibility or comprehensiveness of incentive contract disclosures, I use (i) *Number of metrics*, i.e., the number of performance measures used in annual bonus contracts (e.g., EPS, EBIT, sales, profits, cash flows etc.) and (ii) *Target range availability*, an indicator variable that equals one if the contracts specify threshold and/or maximum targets (in

addition to specifying the *Target*). As proxies for CEO entrenchment, I use (i) *CEO Comp Committee*, an indicator variable that equals one if CEO is on the compensation committee and (ii) *CEO Ownership*, the percentage of shares owned by CEO.

My last hypothesis on the predictive ability of internal performance on future cash flows requires *Cash flows*, defined as cash flows scaled by sales.

See Appendix 2 for exact definitions of all the variables. All continuous variables are winsorized at 1% level.

Research design

To test the value relevance of different earnings measures, I follow prior research (Dechow, 1994; Biddle, Bowen, and Wallace, 1997; Kothari, 2001) and estimate the following model:[6]

$$DGTW\ Ret_{i,t} = \alpha_0 + \alpha_1 * Internal\_perf_{i,t} + \alpha_2 * Mffirm_{i,t} + \alpha_3 * Afn_{i,t} + \alpha_4 * Stdroa_{i,t} + \alpha_5 * Bm_{i,t} + \alpha_6 * Loss_{i,t} + \alpha_7 * Salesgrowth_{i,t} + Year\ FE + \varepsilon_{i,t} \quad (1)$$

where *DGTW Ret* is contemporaneous abnormal returns adjusted for size, book to market, and momentum, and *Internal_perf* is the difference between internal earnings and the earnings target. If internal earnings relative to targets are value relevant, I expect to find $\alpha_1 > 0$. Standard errors are two-way clustered based on firm and year.

Sample

[6] According to Kothari (2001), fundamental analysis can be based on event studies or association studies. Event studies are appropriate when measuring the reflection (and arrival) of some news in a timely manner. Association studies are suited for testing of various performance measures without making causal inference. My paper examines how internal earnings measure reflects information that is relevant to firm performance and valuation. Therefore, I use an association test based on prior research studying the value relevance of earnings (Dechow, 1994; Biddle, Bowen, and Wallace, 1997).

Table 1 describes the sample selection process. I start from Incentive Lab data on U.S. public firms between 2006 and 2017. I manually collect data on targeted and actual earnings performance (e.g., *Targets* and *Internal earnings*) in CEO annual bonus plans that are disclosed in proxy statements. I restrict my sample to bonus plan targets that are defined for a fiscal year (annual bonus plan) and at the corporate level. If firms use more than one earnings measure in their bonus plans, I include the one that is closest to earnings per share (EPS).[7] This reduces my sample to 6,304 firm-year observations with 1,130 unique firms. I exclude 1,220 observations with missing data on either internal earnings or targets, which reduces my sample to 4,700 firm-year observations consisting of 952 firms. I use Compustat, IBES, and CRSP as additional data sources. I exclude 850 observations with missing stock return data required to calculate annual abnormal returns. Lastly, I remove observations that have missing COMPUSTAT (369 firm year observations) or IBES data (370 firm year observations) necessary to calculate other control variables and other earnings variables. The final sample includes 3,111 observations on 698 firms.

EMPIRICAL RESULTS

Descriptive evidence

Table 2 presents descriptive statistics for the main variables used in my analyses. According to Panel 1 of Table 2, the mean of actual internal earnings performance (*Internal*) is 15.5% and the mean performance target (*Target)* is 15.0% in terms of return on sales. This suggests that, on average, internal earnings are slightly above the target. The

[7] Firms often use alternative definitions of earnings per share such as operating earnings per share, profit per share, net cash flow per share, net income per share, etc.

mean of GAAP earnings (*Gaap)* represents a return on sales of 7.0%, and the mean of street earnings (*Street)* 9.5%. Similarly, street earnings relative to analyst consensus (*Street_perf*, mean = -0.002) are, on average, more favorable than GAAP earnings relative to analyst consensus (*Gaap_perf*, mean = -0.020). This is consistent with prior findings that non-GAAP earnings can be used opportunistically to increase GAAP earnings (Doyle, Jennings, and Soliman, 2013; Barth, Gow, and Taylor, 2012). Similarly, while internal earnings relative to targets (*Internal_perf*) are on average positive, *Gaap_perf* and *Street_perf* are on average negative, which implies that it is easier for CEOs to meet their internal targets rather than capital market expectations. Lastly, annual bonus contracts include on average about 2 measures and up to 5 measures (*Number of metrics*). About 75 percent of the contracts specify target ranges that consists of threshold and/or maximum in addition to targets (*Target range availability*). Panel 2 of Table 2 provides the comparison on earnings news using GAAP earnings, street earnings, and internal earnings. I find that 38% of the sample reports that they met analyst consensus using GAAP earnings, 57%, using street earnings, and 60%, using internal earnings (i.e., Good news). This is also consistent with prior studies on non-GAAP earnings being more opportunistic or favorable.

Table 3 presents correlations among the main variables. As predicted, annual abnormal returns (*DGTW Ret*) are positively correlated with *Internal_perf*. In addition to the internal performance, both *Gaap_perf* and *Street_perf* are also positively correlated with *DGTW Ret*. Among different earnings measures, *DGTW_Ret* is most correlated with *Street_perf*, followed by *Internal_perf*. Moreover, *Internal_perf* is correlated with both *GAAP_perf* and *Street_perf*, but with *Street_perf* to the greater extent. Interestingly,

Internal_ perf is positively correlated with firm risk as measured by *Stdroa*, consistent with prior literature suggesting that boards set more attainable targets when firms are exposed to greater uncertainty (Bol, Keune, Matsumura, and Shin 2010).

Next, I conduct multivariate analyses to further investigate the relation between abnormal returns and internal earnings relative to targets.

Test of H1 - Contemporaneous return tests

As discussed earlier, I use model (1) to test for the value relevance of internal earnings relative to targets. In addition to the internal performance, I estimate model (1) with external earnings measures (e.g., GAAP earnings and street earnings) separately. Then, I test value relevance of internal performance controlling for those external earnings to examine whether internal earnings relative to targets contain relevant information incremental to other earnings information used for external reporting.

Table 4 presents the results of separately estimating model (1) for GAAP earnings (*Gaap_perf*), street earnings (*Street_perf*), and internal earnings performance (*Internal_perf*). I find significant associations between *DGTW Ret* and *Internal_ perf* ($p < 0.001$). Specifically, one standard deviation in *Internal_perf* increases abnormal returns by 6.8%. This is consistent with H1 predicting that internal earnings relative to targets are value relevant. Other than internal earnings performance, I also find that *DGTW Ret* is significantly associated with *Gaap_ perf* ($p < 0.001$) and *Street_ perf* ($p < 0.001$). Among the three earnings measures (*Gaap_perf, Street_perf*, and *Internal_perf*), *Street_perf* has the strongest explanatory power as measured by the R-squared, followed by *Internal_perf*.[8]

[8] The difference in the adjusted R-squared between model (1) estimation using *Street_perf* and using *Internal_perf* is significant at $p < 0.001$.

Next, Table 5 examines whether internal earnings relative to targets are incrementally useful in predicting abnormal returns after controlling for one or both of the other earnings measures. In Table 5, I modify model (1) by adding either one or both of *Gaap_perf* and *Street_perf* and re-estimate the modified model (1). In Table 5, I continue to find significant associations between *DGTW Ret* and *Internal_ perf* ($p < 0.001$, in all columns). Controlling for both *Gaap_perf* and *Street_perf* in column (3), one standard deviation in *Internal_perf* is associated with 4.2% increases in abnormal returns. This suggests that internal earnings relative to targets provide value relevant information beyond the content provided by the other earnings measures for external reporting purposes. In terms of explanatory power, the estimated model in column (3), which includes all three earnings measures, *Gaap_perf*, *Street_perf*, and *Internal_perf*, explains 9.3 percent of total variation in abnormal returns. When I estimate the same model after excluding *Internal_perf*, the explanatory power of the model drops to 7.8 percent. This, again, shows that internal performance helps predict abnormal returns.

In summary, the evidence in Tables 4 and 5 supports H1 and suggests that internal earnings relative to targets contain useful information that is incremental to other external earnings information available to capital market participants.

Test of H2 and H3 – Cross-sectional variation

Next, I examine cross-sectional variation in the main finding discussed above. I modify model (1) by interacting internal earnings relative to targets (*Internal_sur*) with moderating variables (e.g., incentive contract disclosures, CEO entrenchment) for each analysis. I include street earnings (*Street_sur*) to control for external earnings information.

H2 predicts that internal earnings relative to targets will be more value relevant when incentive contract disclosures are more detailed and thus more credible to capital market participants. I use two proxies for detailed incentive contract disclosures: (i) *Number of metrics,* i.e., the number of performance measures used in annual bonus contracts, and (ii) *Target range availability,* an indicator variable for contracts that specify threshold and/or maximum targets.

Table 6 presents results suggesting that the value relevance of internal earnings relative to internal targets is affected by the detail in incentive contract disclosures. Specifically, column (1) shows a significantly positive interaction between *Target range availability* and *Internal_ perf* (p = 0.024), implying that internal earnings relative to targets are more value relevant when proxy statement disclosures include not only *Target* but also the threshold or maximum targets. The results in column (1) also show that when *Target range availability* = 0 internal earnings relative to targets are not significantly associated with abnormal returns. This supports my prediction that having more detailed contracting disclosure enhances the usefulness of the contracting information. Column (2) shows a significantly positive interaction between *Number of metrics* and *Internal_ perf* (*p* = 0.052), implying that internal earnings relative to targets are more value relevant when the contracts include more performance measures. For example, one standard deviation in internal performance increases abnormal returns by 3.1% if *Number of metrics* = 1. Including one additional measure (*Number of metrics* = 2), increases this marginal effect to 4.9%. Combined, my findings in Table 6 are consistent with H2 predicting that internal

earnings relative to targets are more relevant when compensation contract disclosures are more detailed and thus also more credible.

H3 predicts that internal earnings relative to targets are less value relevant when CEOs are more entrenched and the oversight role of boards is weaker. I use two measures of CEO entrenchment: (i) *CEOmem*, an indicator variable that equals one if CEO is on the compensation committee and (ii) *CEOown*, the percentage of shares owned by CEO.

Table 7 examines whether internal earnings relative to targets are less relevant in firms with more entrenched CEOs. I find a significantly negative coefficient on the interaction of *CEOmem* and *Internal_ perf* (p = 0.077) in column (1). Moreover, the marginal effect of *Internal_perf* when *CEOmem* = 1 (coefficient: 1.434 - 1.185 = 0.249) is not significantly different from zero, which suggests that internal performance measures are not value relevant when CEO is part of compensation committee. In column (2), I find a significantly negative coefficient on the interaction term between *CEOown* and *Internal_ perf* (p = 0.062). This implies that internal earnings relative to targets are less relevant when CEOs hold more ownership and thus more power. For example, one standard deviation in internal performance increases abnormal returns by 3.9% if *CEOown* is at the sample average value. Increasing CEO ownership one standard deviation above the average, increases this marginal effect to 4.8%. Combined, my findings in Table 7 are consistent with H3 and suggest that internal earnings relative to targets are less value relevant when CEOs are more entrenched and have more power over compensation choices.

ROBUSTNESS CHECKS

Future cash flows

I test if internal performance contains information about future cash flows. If markets are efficient, then internal performance can only be value relevant if it contains information about future cash flows or about idiosyncratic firm risk (Kothari, 2001). Exceeding an internal earnings target is often associated with an increase in subsequent targets as well as a greater chance of meeting the increased targets (Indjejikian and Matejka 2006; Indjejikian and Nanda, 2002; Leon and Rock 2002), all of which implies good news about the future cash flows.

In order to provide some evidence on why capital market participants may find internal earnings relative to targets useful, I estimate the following model.

$$Cash\ flows_{i,t+1} = \beta_0 + \beta_1 * Internel\_perf_{i,t} + \beta_2 * Cash\ flows_{i,t} + \beta_3 * mffirm_{i,t} + \beta_4 * afn_{i,t} + \beta_5 * stdroa_{i,t} + \beta_6 * bm_{i,t} + \beta_7 * loss_{i,t} + \beta_8 * salesgrowth_{i,t} + Year\ FE + \varepsilon_{i,t} \quad (2)$$

where the dependent variable, $Cash\ flows_{i,t+1}$, is cash flows (scaled by sales) in the subsequent year. In addition to other control variables, I include current-year cash flows. I expect to find $\beta_1 > 0$ if internal earnings relative to targets contain information about future cash flows.

Table 8 presents my findings. Column (1) tests whether *Internal_perf* is significantly associated with future cash flows. In column (2) and (3), I estimate the same model controlling for one of the external earnings measures (*Gaap_perf* and *Street_perf*, respectively), and in column (4), controlling for both of them. In column (1), I find that *Internal_perf* is positively associated with future cash flows ($p < 0.001$). Specifically, one standard deviation increase in *Internal_perf* increases future cash flows as a percentage of

sales by 0.4%. When controlling for external earnings information in columns (2) and (3), the predictive ability of internal performance is only slightly weaker, even though the association between *Internal_perf* and future cash flows is not significant at conventional levels (p = 0.112) in column (3). I do find that *Internal_perf* (p = 0.088) is significantly associated with future cash flows when controlling for both *Gaap_perf* and *Street_perf* in column (4).[9] Based on the results in column (4), one standard deviation increase in *Internal_perf* is again associated with a 0.4% increase in future cash flows. Therefore, I conclude that internal earnings relative to targets are informative about future cash flows.

Firm characteristics

I also examine how firm characteristics affect value relevance of internal earnings relative to targets. Internal performance may be more value relevant in firms for which the demand for additional information is greater. Column (1) of Table 9 shows that internal earnings relative to targets are more relevant when firms have larger portion of intangible assets. Column (2) of Table 9 shows that internal earnings relative to targets are also more value relevant for smaller firms.

Distinguishing internal earnings from management guidance

Next, I examine whether the internal performance information disclosed in proxy statements is distinctive from that of management guidance. Although internal earnings and management guidance may be related, they are used for different purposes. Whereas, management guidance is provided to help capital market participants better predict future

[9] I do not find significant associations between external earnings relative to analyst consensus (e.g., *GAAP_perf* and *street_perf*) and future cash flows. However, when I release the restriction on the sample that requires observations to have internal performance measures available, I find significant associations between future cash flows and GAAP earnings (*GAAP*).

firm performance, internal earnings relative to targets is used by boards to determine executive compensation. Column (2) of Table 10 shows that internal earnings relative to targets are value relevant beyond the information contained in management guidance. Specifically, I find significant association between *DGTW Ret* and *Internal_ perf* ($p < 0.001$), controlling for *Guidance_perf* (measured as the difference between earnings guidance and internal targets).

Short window tests

Similar to many prior studies, I use contemporaneous annual returns to test for the value relevance of earnings (Dechow, 1994; Biddle, Bowen, and Wallace, 1997). Alternatively, some studies use short window abnormal returns around earnings information releases to test whether investors find the disclosed information useful (Collins and DeAngel, 1990; Badertscher, Hribar, and Jenkins, 2011). I perform short window tests using three-day, five-day, and 33-day windows around proxy statement filing dates but find no consistent evidence of investors reacting to internal earnings relative to targets (untabulated).

Alternative definitions of abnormal returns

The main tests in Table 4 and 5 use DGTW annual returns as a benchmark for firm valuation. As an alternative, I use raw returns, market adjusted returns, and size adjusted returns instead of abnormal returns and re-estimate model (1). I find results consistent with my main findings—internal earnings relative to targets are positively associated with alternative measures of contemporaneous annual returns (untabulated).

CONCLUSION

Several prior studies examine the relation between the valuation and contracting use of earnings. I extend this literature by examining whether internal earnings relative to targets as disclosed in proxy statements are value relevant. When designing compensation contracts boards use internal measures of earnings that are informative and goal congruent, which means that value relevance of the internal measures is not necessarily their primary consideration. Moreover, internal measures are not regulated and, until recently, not even disclosed, which makes them more susceptible to managerial manipulation. Therefore, although efficient contracting is important to investors, it not necessarily obvious whether internal earnings relative to targets are also value relevant.

I find that internal earnings relative to targets are value relevant and provide useful information beyond other earnings measures such as GAAP earnings and street earnings. This provides new empirical evidence that the contracting and valuation use of earnings are economically connected. My findings imply that internal earnings relative to targets contain unique information about current and future performance that is not available from other external reporting sources. In addition, my findings suggest that more detailed incentive contract disclosures help capital market participants process internal information and that internal earnings relative to targets are more value relevant when the CEO has less power over compensation choices.

These findings contribute to prior literature on the use of performance targets. Although it is well-understood that target setting is an essential corporate governance task and corporate boards invest great amount of time to calibrate internal targets (Merchant, Stringer, and Shantapriyan, 2018; Merchant and Manzoni, 1989), my study is the first to

show that internal earnings relative to annual bonus targets contain information that is useful to capital market participants. This is consistent with the notion that internal earnings relative to targets are informative about the future since they are internally used for management evaluation and management turnover decisions. Furthermore, annual bonus targets may provide a useful benchmark that helps market participants evaluate firm performance and assess changes in market value.

Finally, I acknowledge that my findings are also subject to some limitations. First, given the high cost of hand collecting data on internal earnings and targets, my analyses are based on relatively small sample. Although this reduces the power of my tests, it does not necessarily introduce biases. Second, firms that do not disclose enough information or do not use earnings measures in their compensation contracts drop out of my sample, which may limit generalizability of my findings.

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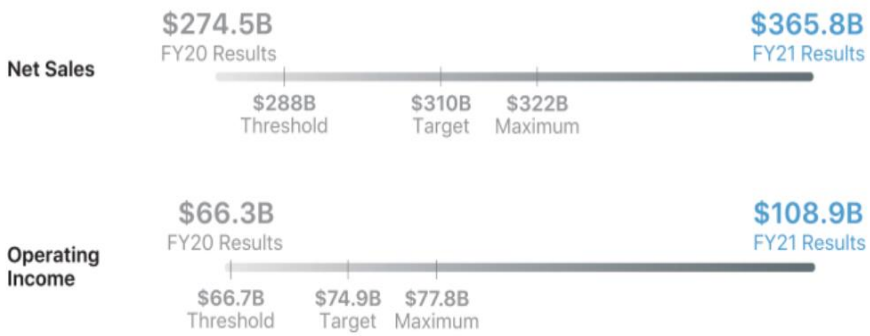
APPENDIX A

ANNUAL BONBUS CONTRACT EXAMPLES

Panel 1. Apple 2021 (DEF 14A, 'Annual cash incentive')[10]

2021 Financial Performance Goals and Results



For 2021 we reported net sales of $365.8 billion and operating income of $108.9 billion, representing a year-over-year increase of 33% and 64%, respectively. These results significantly exceeded the maximum goals for each of the financial performance measures.

Panel 2. Pfizer 2021 (DEF 14A, 'Annual Incentive Award / Global Performance Plan (GPP)')[11]

2021 FINANCIAL OBJECTIVES (FOR ANNUAL INCENTIVE PURPOSES)

The following table outlines a comparison of 2020 Results with 2021 Threshold, Target and Results.

Weighting	Financial Objectives (For Annual Incentive Purposes)	2020 Results[1] ($)	2021 Threshold[2] ($)	2021 Target[2] ($)	2021 Results[2] ($)
40%	Total Revenue[3]	50.0 billion	56.4 billion	60.3 billion	81.2 billion
40%	Adjusted Diluted EPS[4]	2.97	2.92	3.14	4.43
20%	Cash Flow from Operations[5]	14.5 billion	10.1 billion	13.6 billion	32.6 billion

(1) The 2020 amounts are adjusted to reflect the financial results of Upjohn Business, Pfizer's former global, primarily off-patent branded and generics business, (Upjohn) and Meridian Medical Technologies, Inc. (Meridian Medical).
(2) 2021 Threshold, Target, and Results for Annual Incentive Purposes presented on a consistent basis including Meridian Medical results.
(3) Total Revenue for annual incentive purposes is based on budgeted foreign exchange (FX) rates assumed in each respective year and excludes certain non-recurring items. Therefore, 2021 and 2020 results differ from U.S. GAAP revenues of $81.3 billion and $41.6 billion, respectively.
(4) Adjusted Diluted EPS for annual incentive purposes is based on budgeted FX rates assumed in each year and excludes certain non-recurring items. See "*Financial Measures*" for a comparison of U.S. GAAP diluted EPS and non-GAAP Adjusted Diluted EPS for annual incentive purposes. See "Non-GAAP Financial Measure (Adjusted Income) – Certain Significant Items" in Management's Discussion and Analysis in the 2021 Annual Report on Form 10-K for information about significant substantive and/or unusual items that are evaluated on an individual basis.
(5) 2020 Results exclude certain discretionary timing items for compensation purposes (non-GAAP amounts).

NOTE: See "*Financial Measures*" for a comparison of 2021 and 2020 U.S. GAAP revenues and U.S. GAAP diluted EPS and non-GAAP total revenue and non-GAAP Adjusted Diluted EPS for annual incentive purposes, respectively. Adjusted Diluted EPS is defined as U.S. GAAP Diluted EPS excluding purchase accounting for acquisitions, acquisition-related items, discontinued operations and certain significant items. Non-GAAP total revenue and non-GAAP Adjusted Diluted EPS for annual incentive purposes are not, and should not, be viewed as substitutes for U.S. GAAP revenues and U.S. GAAP diluted EPS, respectively.

[10] https://www.sec.gov/Archives/edgar/data/320193/000119312522003583/d222670ddef14a.htm#tx222670_14

[11] https://www.sec.gov/Archives/edgar/data/78003/000007800322000038/proxywc22.htm#i174446c200cf4468b8d9a7113999d0f2_151

Panel 3. Starbucks 2021 (DEF 14A, 'Annual incentive bonus plan')[12]

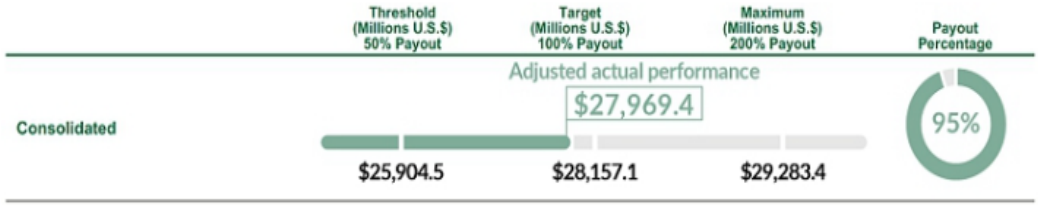
EXECUTIVE COMPENSATION

Financial Performance Goals

Adjusted Net Revenue

For the NEOs, 40% of the financial performance goals, which accounts for 50% of the overall Annual Incentive Bonus Plan payout, is based on a consolidated adjusted net revenue goal. The payout for each component ranges from 0% to 200%. The threshold, target, and maximum criteria and actual results for adjusted net revenue for fiscal 2021 were as follows:

ADJUSTED NET REVENUE(1)

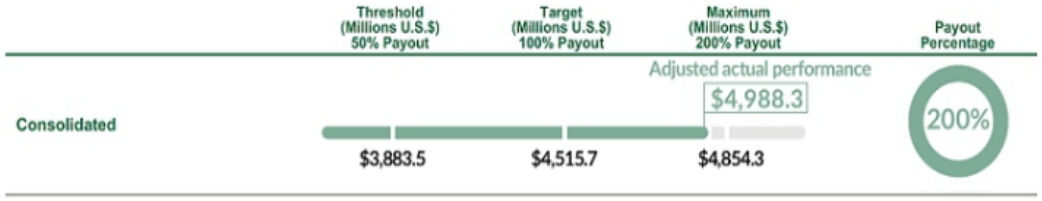


(1) The performance measures under the Annual Incentive Bonus Plan that were approved at the beginning of the performance period provided for certain non-GAAP adjustments so that the performance measures would more consistently reflect underlying business operations than the comparable GAAP measures. The fiscal 2021 consolidated net revenue result excludes foreign currency fluctuations and the 53rd week.

Adjusted Operating Income

For the NEOs, 60% of the financial performance goals, which accounts for 50% of the overall Annual Incentive Bonus Plan payout, is based on a consolidated adjusted operating income goal. In fiscal 2021, consolidated adjusted operating income equaled the total of all business units' operating income less total unallocated corporate expenses. The threshold, target, and maximum criteria and actual results for fiscal 2021 adjusted operating income for fiscal 2021 were as follows:

ADJUSTED OPERATING INCOME(1)



(1) The performance measures under the Annual Incentive Bonus Plan that were approved at the beginning of the performance period provided for certain non-GAAP adjustments so that the performance measures would more consistently reflect underlying business operations than the comparable GAAP measures. The fiscal 2021 consolidated operating income result excludes foreign currency fluctuations and the 53rd week.

[12] https://www.sec.gov/Archives/edgar/data/829224/000120677422000270/sbux3974881-def14a.htm#d397488a031

APPENDIX B

VARIABLE DEFINITION

Variable	Definition
Main variables	
Internal	Actual earnings performance as reported in annual bonus plans / sales
Target	Targeted performance as reported in annual bonus plans / sales
Internal_perf	(Actual earnings – internal targets) / sales
Gaap	(GAAP EPS * number of shares) / sales
Gaap_ perf	(GAAP EPS –Analyst forecast consensus) * number of shares / sales
Street	(Street earnings * number of shares) / sales
Street_ perf	(Street earnings –Analyst forecast consensus) * number of shares / sales
DGTW Ret	Annual abnormal returns adjusted for size, book-to-market, and momentum
Cash flows	(Operating income before depreciation – interest and related expense – income taxes – dividends) / sales
Control variables	
Loss	Indicator variable that equals 1 if EPS <0, and 0 otherwise
Mffirm	Indicator variable that equals 1 if the firm issued earnings guidance during the fiscal year, and 0 otherwise
Bm	(Stock price*number of common shares) / equity
Salesgrowth	(Current sales - sales of previous year) / total assets
Stdroa	Standard deviation of ROA over past 5 years
Afn	Number of analysts following the firm
Cross sectional analysis	
Number of metrics	Number of metrics included in bonus contracts to evaluate CEO's performance
Target range Availability	Indicator variable that equals 1 if threshold and/or maximum targets are available, in addition to the 'targets', from the bonus contract disclosure
Ceomem	Indicator variable that equals one if CEO is part of compensation committee
Ceoown	Percentage of shares owned by CEO
Additional analysis	
Complexity	Intangible assets / total assets
Size	Natural logarithm of total assets at the beginning of the year
Guidance_ perf	(earnings guidance - internal targets) / sales

FIGURE 1.

Timeline of Earnings Information Releases

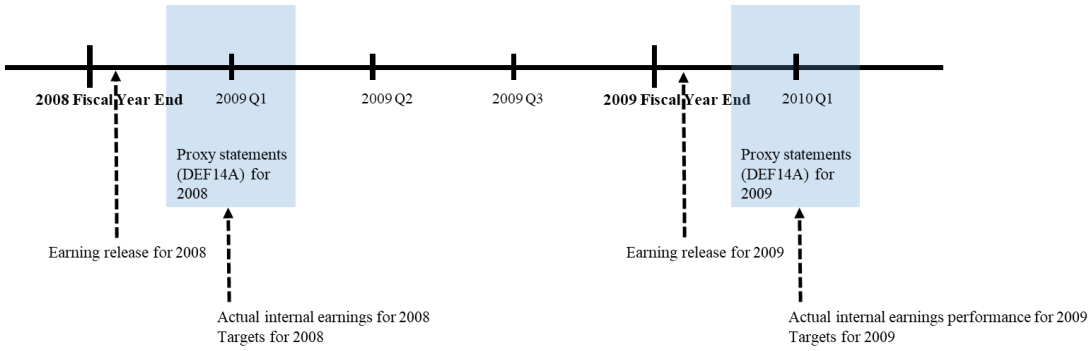


TABLE 1. Sample Selection

		Firm-year observations
Sample of S&P 500 firms (2006-2017) with annual bonus plan data manually collected		6,304
(-)	Observations without either actual or target performance data	1,220
(-)	Observations that are not earnings measure	384
Observations with actual and target performance data available		4,700
(-)	Observations without DGTW abnormal returns	850
(-)	Observations without COMPUSTAT items	369
(-)	Observations without IBES items	370
Sample		3,111

TABLE 2. Descriptive Statistics

Panel 1. Summary statistics

	Sd	Min	p25	Mean	Median	p75	Max
Gaap	0.099	-0.448	0.035	0.078	0.071	0.121	0.403
Street	0.081	-0.173	0.042	0.096	0.079	0.134	0.412
Analyst consensus	0.076	-0.103	0.043	0.096	0.079	0.133	0.408
Targets	0.106	0.002	0.065	0.137	0.111	0.182	0.831
Internal	0.109	-0.016	0.065	0.139	0.111	0.185	0.854
Gaap_ perf	0.091	-0.634	-0.030	-0.020	-0.005	0.007	0.258
Street_ perf	0.029	-0.189	-0.005	-0.001	0.001	0.007	0.138
Internal_ perf	0.030	-0.133	-0.005	0.002	0.002	0.010	0.148
DGTW Ret	0.284	-0.653	-0.147	0.023	0.008	0.175	1.137
Mffirm	0.500	0.000	0.000	0.493	0.000	1.000	1.000
Loss	0.303	0.000	0.000	0.103	0.000	0.000	1.000
Bm	3.987	0.100	1.575	3.587	2.435	4.001	32.323
Salesgrowth	0.137	-0.549	-0.006	0.041	0.029	0.094	0.518
Stdroa	0.047	0.001	0.009	0.035	0.019	0.038	0.301
Afn	12.551	0.000	0.000	10.539	5.000	20.000	48.000
Cashflow	0.086	-0.204	0.067	0.120	0.107	0.160	0.426
Size	1.387	5.632	7.846	8.848	8.733	9.729	12.358
Complex	0.256	0.000	0.050	0.271	0.207	0.424	1.329
Number of metrics	0.808	1.000	1.000	1.736	2.000	2.000	5.000
Target range availability	0.401	0.000	1.000	0.799	1.000	1.000	1.000
Ceomem	0.281	0.000	0.000	0.087	0.000	0.000	1.000
Ceoown	2.322	0.000	0.054	0.780	0.168	0.413	16.813

Panel 2. Good news/Bad news

	Good news	Bad news
Gaap_ perf	38%	62%
Street_ perf	57%	43%
Internal_ perf	60%	40%

The number of observations for all variables is 3,111, See Appendix 2 for all variable definitions.

TABLE 3. Pearson Correlations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Gaap_perf													
(2) Street_ perf	**0.507**												
	0.000												
(3) Internal_ perf	**0.256**	**0.439**											
	0.000	0.000											
(4) DGTW Ret	**0.196**	**0.285**	**0.245**										
	0.000	0.000	0.000										
(5) Mffirm	**0.030**	**0.045**	0.011	0.015									
	0.023	0.001	0.429	0.282									
(6) Loss	**-0.487**	**-0.279**	**-0.179**	**-0.134**	**-0.052**								
	0.000	0.000	0.000	0.000	0.000								
(7) Bm	**0.029**	0.003	0.022	0.012	**0.033**	**-0.068**							
	0.033	0.850	0.116	0.416	0.010	0.000							
(8) Salesgrowth	**0.043**	-0.006	-0.021	-0.008	**0.033**	**-0.108**	**0.129**						
	0.002	0.666	0.129	0.604	0.010	0.000	0.000						
(9) Stdroa	**-0.087**	**-0.026**	**0.055**	0.008	**-0.039**	**0.202**	**0.026**	-0.008					
	0.000	0.063	0.000	0.610	0.004	0.000	0.057	0.553					
(10) Afn	-0.010	**0.039**	**0.049**	0.011	**0.773**	**-0.055**	**0.053**	**0.049**	**-0.025**				
	0.463	0.003	0.000	0.449	0.000	0.000	0.000	0.000	0.058				
(11) *Number of metrics*	**-0.091**	0.019	-0.007	0.018	-0.016	-0.008	**0.080**	**-0.033**	0.020	-0.018			
	0.000	0.238	0.656	0.227	0.290	0.602	0.000	0.034	0.207	0.227			
(12) *Target range availability*	0.017	0.010	**-0.074**	0.006	-0.022	-0.003	**-0.065**	-0.018	**-0.043**	**-0.052**	**-0.028**		
	0.282	0.543	0.000	0.709	0.147	0.850	0.000	0.243	0.009	0.001	0.069		
(13) *Ceomem*	0.026	-0.014	0.002	-0.015	**0.051**	0.017	**-0.042**	-0.022	**-0.038**	0.002	-0.014	**-0.053**	

	0.143	0.446	0.900	0.379	0.004	0.334	0.018	0.218	0.038	0.899	0.441	0.003	
(14) *Ceoown*	-0.005	-0.006	0.015	0.011	**-0.049**	0.001	0.004	**0.061**	-0.019	-0.024	**-0.039**	-0.011	-0.008
	0.763	0.733	0.361	0.465	0.002	0.951	0.783	0.000	0.249	0.121	0.012	0.494	0.667

Bold denotes significance at the p=.10 level (two-tailed test). All continuous variables are winsorized at the top and bottom 1% of their distributions.

TABLE 4. Annual Abnormal Returns

DGTW Ret are annual abnormal returns adjusted for size, book-to-market, and momentum. *Gaap_ perf* is GAAP EPS minus analyst forecast consensus, multiplied by number of common shares outstanding and then scaled by sales. *Street_ perf* is street earnings minus analyst forecast consensus, multiplied by number of common shares outstanding and then scaled by sales. *Internal_ perf* is actual earnings minus internal targets, scaled by sales. *Loss* equals 1 if EPS <0, and 0 otherwise. *Mffirm* equals 1 if the firm issued earnings guidance during the fiscal year, and 0 otherwise. *Bm* is market value of the firm divided by book value. *Salesgrowth* is current sales minus sales of previous year, scaled by total assets. *Stdroa* is standard deviation of ROA over past 5 years. *Afn* is the number of analysts following the firm. Standard errors in parentheses are two-way clustered at firm and year level. *Year fixed effects* are included. Detailed definitions of remaining variables are in Appendix 2. *, **, and *** denotes significance at the 10%, 5% and 1% level, respectively.

DV:	*DGTW Ret*		
	(1)	(2)	(3)
Internal_ perf	2.060***		
	(0.235)		
Gaap_perf		0.498***	
		(0.076)	
Street_ perf			2.510***
			(0.251)
Mffirm	0.019	0.002	0.005
	(0.015)	(0.015)	(0.015)
Loss	-0.095***	-0.068**	-0.068**
	(0.022)	(0.024)	(0.022)
Bm	-0.002	-0.002	-0.001
	(0.001)	(0.001)	(0.001)
Salesgrowth	-0.056	-0.067	-0.052
	(0.048)	(0.049)	(0.048)
Stdroa	0.119	0.209	0.188
	(0.131)	(0.132)	(0.125)
Afn	-0.001	-0.000	-0.001
	(0.001)	(0.001)	(0.001)
Year FE	Y	Y	Y
N	3,111	3,111	3,111
Adjusted R2	0.062	0.037	0.076

TABLE 5. Annual Abnormal Return: Incremental information

DGTW Ret are annual abnormal returns adjusted for size, book-to-market, and momentum. *Gaap_ perf* is GAAP EPS minus analyst forecast consensus, multiplied by number of common shares outstanding and then scaled by sales. *Street_ perf* is street earnings minus analyst forecast consensus, multiplied by number of common shares outstanding and then scaled by sales. *Internal_ perf* is actual earnings minus internal targets, scaled by sales. *Loss* equals 1 if EPS <0, and 0 otherwise. *Mffirm* equals 1 if the firm issued earnings guidance during the fiscal year, and 0 otherwise. *Bm* is market value of the firm divided by book value. *Salesgrowth* is current sales minus sales of previous year, scaled by total assets. *Stdroa* is standard deviation of ROA over past 5 years. *Afn* is the number of analysts following the firm. Standard errors in parentheses are two-way clustered at firm and year level. *Year fixed effects* are included. Detailed definitions of remaining variables are in Appendix 2. *, **, and *** denotes significance at the 10%, 5% and 1% level, respectively.

DV:	*DGTW Ret*		
	(1)	(2)	(3)
Internal_ perf	1.855***	1.309***	1.295***
	(0.233)	(0.240)	(0.240)
Gaap_ perf	0.361***		0.152
	(0.077)		(0.084)
Street_ perf		1.930***	1.745***
		(0.265)	(0.284)
Mffirm	0.014	0.013	0.011
	(0.015)	(0.015)	(0.015)
Loss	-0.051*	-0.058**	-0.043
	(0.024)	(0.022)	(0.024)
Bm	-0.002	-0.002	-0.002
	(0.001)	(0.001)	(0.001)
Salesgrowth	-0.059	-0.049	-0.051
	(0.048)	(0.047)	(0.047)
Stdroa	0.097	0.116	0.107
	(0.129)	(0.124)	(0.124)
Afn	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)
Year FE	Y	Y	Y
N	3,111	3,111	3,111
Adjusted R2	0.072	0.091	0.092

TABLE 6. Annual Incentive Contract Disclosure

DGTW Ret are annual abnormal returns adjusted for size, book-to-market, and momentum. *Internal_ perf* is actual earnings minus internal targets, scaled by sales. *Street_ perf* is street earnings minus analyst forecast consensus, multiplied by number of common shares outstanding and then scaled by sales. *Target range availability* is an indicator variable that equals one if the firm discloses threshold and/or maximum targets in addition to the targets, and zero otherwise. *Number of metrics* is the number of metrics that are included in the bonus contracts. *Mffirm* equals 1 if the firm issued earnings guidance during the fiscal year, and 0 otherwise. *Loss* equals 1 if EPS <0, and 0 otherwise. *Bm* is market value of the firm divided by book value. *Salesgrowth* is current sales minus sales of previous year, scaled by total assets. *Stdroa* is standard deviation of ROA over past 5 years. *Afn* is the number of analysts following the firm. Standard errors in parentheses are two-way clustered at firm and year level. *Year fixed effects* are included. Detailed definitions of remaining variables are in Appendix 2. *, **, and *** denotes significance at the 10%, 5% and 1% level, respectively.

DV:	*DGTW Ret*	
Contracting:	*Target range availability*	*Number of metrics*
	(1)	(2)
Internal_ perf	0.764*	0.326
	(0.400)	(0.538)
Contracting	0.022	0.009
	(0.012)	(0.006)
Contracting Internal_ perf*	0.840*	0.613*
	(0.502)	(0.305)
Street_ perf	1.361**	2.156***
	(0.429)	(0.613)
Contracting Street_ perf*	0.685	-0.147
	(0.531)	(0.330)
Mffirm	0.012	0.013
	(0.015)	(0.015)
Loss	-0.056*	-0.056*
	(0.023)	(0.022)
Bm	-0.001	-0.002
	(0.001)	(0.001)
Salesgrowth	-0.050	-0.050
	(0.047)	(0.047)
Stdroa	0.147	0.115
	(0.124)	(0.125)
Afn	-0.001	-0.001
	(0.001)	(0.001)
Year FE	Y	Y
N	3,111	3,111
Adjusted R2	0.095	0.092

TABLE 7. CEO Entrenchment

DGTW Ret are annual abnormal returns adjusted for size, book-to-market, and momentum. *Internal_ perf* is actual earnings minus internal targets, scaled by sales. *Street_ perf* is street earnings minus analyst forecast consensus, multiplied by number of common shares outstanding and then scaled by sales. *Ceomem* is an indicator variable that equals one if CEO is part of compensation committee. *Ceoown* is the percentage of shares owned by CEO. *Mffirm* equals 1 if the firm issued earnings guidance during the fiscal year, and 0 otherwise. *Loss* equals 1 if EPS <0, and 0 otherwise. *Bm* is market value of the firm divided by book value. *Salesgrowth* is current sales minus sales of previous year, scaled by total assets. *Stdroa* is standard deviation of ROA over past 5 years. *Afn* is the number of analysts following the firm. Standard errors in parentheses are two-way clustered at firm and year level. *Year fixed effects* are included. Detailed definitions of remaining variables are in Appendix 2. *, **, and *** denotes significance at the 10%, 5% and 1% level, respectively.

DV:	*DGTW Ret*	
Entrenchment:	*Ceomem*	*Ceoown*
	(1)	(2)
Internal_ perf	1.371***	1.329***
	(0.253)	(0.279)
Entrenchment	-0.017	0.003
	(0.023)	(0.002)
*Entrenchment * Internal_ perf*	-1.084*	-0.120*
	(0.655)	(0.064)
Street_ perf	1.872***	1.876***
	(0.276)	(0.308)
*Entrenchment * Street_ perf*	0.897	0.120
	(0.741)	(0.101)
Mffirm	0.013	0.016
	(0.015)	(0.015)
Loss	-0.058**	-0.056*
	(0.022)	(0.024)
Bm	-0.002	-0.002
	(0.001)	(0.001)
Salesgrowth	-0.051	-0.063
	(0.047)	(0.048)
Stdroa	0.113	0.067
	(0.125)	(0.129)
Afn	-0.001	-0.001
	(0.001)	(0.001)
Year FE	Y	Y
N	3,111	2,904
Adjusted R2	0.091	0.086

TABLE 8. Future Cash Flow

Cash Flows is (Operating income before depreciation – interest and related expense – income taxes – dividends), scaled by sales. *Gaap_ perf* is GAAP EPS minus analyst forecast consensus, multiplied by number of common shares outstanding and then scaled by sales. *Street_ perf* is street earnings minus analyst forecast consensus, multiplied by number of common shares outstanding and then scaled by sales. *Internal_ perf* is actual earnings minus internal targets, scaled by sales. *Mffirm* equals 1 if the firm issued earnings guidance during the fiscal year, and 0 otherwise. *Loss* equals 1 if EPS <0, and 0 otherwise. *Bm* is market value of the firm divided by book value. *Salesgrowth* is current sales minus sales of previous year, scaled by total assets. *Stdroa* is standard deviation of ROA over past 5 years. *Afn* is the number of analysts following the firm. Standard errors in parentheses are two-way clustered at firm and year level. *Year fixed effects* are included. Detailed definitions of remaining variables are in Appendix 2. *, **, and *** denotes significance at the 10%, 5% and 1% level, respectively.

DV:	Cash Flow (t+1)			
	(1)	(2)	(3)	(4)
Internal_ perf	0.128*	0.161*	0.123	0.136*
	(0.067)	(0.073)	(0.078)	(0.080)
Gaap_ perf		-0.041		-0.050
		(0.032)		(0.031)
Street_ perf			0.012	0.077
			(0.100)	(0.097)
Cash Flow	0.765***	0.763***	0.765***	0.760***
	(0.026)	(0.026)	(0.026)	(0.026)
Mffirm	-0.009*	-0.008*	-0.009*	-0.008*
	(0.004)	(0.004)	(0.004)	(0.004)
Loss	-0.000	-0.005	-0.000	-0.005
	(0.005)	(0.005)	(0.005)	(0.005)
Bm	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Salesgrowth	-0.022**	-0.021**	-0.022**	-0.021**
	(0.007)	(0.007)	(0.007)	(0.007)
Stdroa	-0.006	-0.006	-0.006	-0.005
	(0.046)	(0.046)	(0.045)	(0.045)
Afn	0.000*	0.000*	0.000*	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)
Year FE	Y	Y	Y	Y
N	2,592	2,592	2,592	2,592
Adjusted R2	0.610	0.611	0.610	0.612

TABLE 9. Firm Characteristics

DGTW Ret are annual abnormal returns adjusted for size, book-to-market, and momentum. *Internal_ perf* is actual earnings minus internal targets, scaled by sales. *Street_ perf* is street earnings minus analyst forecast consensus, multiplied by number of common shares outstanding and then scaled by sales. *Operational complexity* is intangible assets divided by total assets. *Size* is natural logarithm of total assets at the beginning of the year. *Mffirm* equals 1 if the firm issued earnings guidance during the fiscal year, and 0 otherwise. *Loss* equals 1 if EPS <0, and 0 otherwise. *Bm* is market value of the firm divided by book value. *Salesgrowth* is current sales minus sales of previous year, scaled by total assets. *Stdroa* is standard deviation of ROA over past 5 years. *Afn* is the number of analysts following the firm. Standard errors in parentheses are two-way clustered at firm and year level. *Year fixed effects* are included. Detailed definitions of remaining variables are in Appendix 2. *, **, and *** denotes significance at the 10%, 5% and 1% level, respectively.

DV:	*DGTW Ret*	
Firm:	*Operational complexity*	*Size*
	(1)	(2)
Internal_ perf	0.991**	4.428**
	(0.329)	(1.438)
Firm	0.031	-0.012**
	(0.019)	(0.004)
*Firm * Internal_ perf*	2.041**	-0.362**
	(0.999)	(0.162)
Street_ perf	2.142***	3.042*
	(0.356)	(1.286)
*Firm * Street_ perf*	-1.006	-0.133
	(0.925)	(0.146)
Mffirm	0.012	-0.001
	(0.015)	(0.016)
Loss	-0.055*	-0.064**
	(0.023)	(0.023)
Bm	-0.002	-0.002
	(0.001)	(0.001)
Salesgrowth	-0.048	-0.058
	(0.047)	(0.047)
Stdroa	0.079	0.048
	(0.126)	(0.128)
Afn	-0.001	-0.000
	(0.001)	(0.001)
Year FE	Y	Y
N	3,064	3,111
Adjusted R2	0.095	0.097

TABLE 10. Management Guidance as an Alternative

DGTW Ret are annual abnormal returns adjusted for size, book-to-market, and momentum. *Internal_perf* is actual earnings minus internal targets, scaled by sales. *Guidance_ perf* is earnings guidance minus internal targets, scaled by sales. *Mffirm* equals 1 if the firm issued earnings guidance during the fiscal year, and 0 otherwise. *Loss* equals 1 if EPS <0, and 0 otherwise. *Bm* is market value of the firm divided by book value. *Salesgrowth* is current sales minus sales of previous year, scaled by total assets. *Stdroa* is standard deviation of ROA over past 5 years. *Afn* is the number of analysts following the firm. Standard errors in parentheses are two-way clustered at firm and year level. *Year fixed effects* are included. Detailed definitions of remaining variables are in Appendix 2. *, **, and *** denotes significance at the 10%, 5% and 1% level, respectively.

DV:	*DGTW Ret*	
	(1)	(2)
Internal_ perf		2.865***
		(0.711)
Guidance_ perf	2.313***	1.152**
	(0.354)	(0.418)
Loss	-0.118**	-0.049
	(0.043)	(0.043)
Bm	-0.002	-0.002
	(0.001)	(0.001)
Salesgrowth	0.111	0.108
	(0.081)	(0.081)
Stdroa	0.180	0.398
	(0.287)	(0.263)
Afn	-0.003**	-0.003*
	(0.001)	(0.001)
Year FE	Y	Y
N	1,106	857
Adjusted R2	0.070	0.101