Benchmarking Habituality and Idiosyncrasies – A Perspective From Beating Analyst Forecasts

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This study aims to find idiosyncrasies of firms that habitually beat analysts' forecasts by big margins. From the perspectives of earnings smoothing, capital structure, and earnings management, I find that these firms are in greater need for external financing, guide analyst forecasts downward more frequently, have more assets in collateral form, and are less unique and profitable than firms that habitually meet/marginally beat analysts' forecasts. This study contributes to the earnings management literature by finding some idiosyncrasies of those firms that consistently beat analysts' forecasts by big margins. These idiosyncrasies are also helpful to investors who plan to invest strategically.

Keywords: benchmark, habituality, idiosyncrasies

INTRODUCTION

Meeting/marginally beating analyst forecasts (*MBE*) is regarded as a proxy for earnings management (Cheng and Warfield 2005). CEO equity incentives to earnings management have been thoroughly examined in prior accounting literature. Even the smoothing hypothesis has been empirically tested and supported that firms prefer consistent meeting/marginally beating analyst forecasts. However, the characteristics for those firms that habitually beat analyst forecasts by a big margin have not been explored.

This study explores the idiosyncrasies of firms that habitually beat analyst forecasts by a big margin. Healy and Wahlen (1999) comment on existing literature related to earnings management, and summarize related incentives into several major categories: capital market motives, contractual motives, and regulatory motives. This study follows that pattern and explores the idiosyncrasies in those categories for firms that habitually beat analyst forecasts by a big margin.

Using yearly data from 1987 to 2011, I identify habitual firms, on the basis of frequency, that habitually meet/marginally beat analyst forecasts and those that habitually beat analyst forecasts by big margins. This study adopts the model from Bartov (1993), and expands it to include some other elements from related studies that contribute to the model. First, univariate analyses are used to avoid the violations of assumptions associated with multivariate analyses. Second, multivariate regression is used to substantiate the results from the univariate analyses. Additional robustness tests are used to validate the results.

The results indicate that these firms are in greater need for external financing, guide analyst forecasts downward more frequently, have more assets in collateral form, and are less unique and profitable than firms that habitually meet/marginally beat analysts' forecasts. This study contributes to the literature

related to earnings management. Specifically, it suggests some idiosyncrasies of those firms that habitually beat analyst forecasts by a big margin, helping investors and analysts with their investment choices and strategies.

BACKGROUND AND HYPOTHESES

Background

Benchmark is a standard, a point of reference for measurement of performance. Benchmarks are set to induce higher levels of effort. However, the extensive use of earnings management in managers' benchmarking behavior has blurred the original intent of the benchmarks. Managers' earnings benchmarks include avoiding losses, avoiding earnings decreases, and meeting/beating analysts' forecasts.

Meeting/beating analysts' forecasts is an important benchmark, and it is customarily used as a proxy for earnings management. Prior accounting literature documents some incentives of earnings management. For instance, Healy and Wahlen (1999) review earnings management literature and summarize the following incentives for earnings management: capital market motivations, contracting motivations, and regulatory motivations. Bartov (1993) documents that firms strategically time asset sales to smooth earnings and maintain in compliance with the debt-equity ratio requirement from debt covenants. The analyses are conducted in the context of earnings smoothing and debt/equity ratio. Cheng and Warfield (2005) conduct a thorough study and find that earnings management (proxied by meeting/marginally beating analysts' forecasts) is positively associated with CEO equity incentives. Specifically, they find that CEOs with high equity incentives (stock option grants, unexercisable options, exercisable options, restricted stock grants, and stock ownership) are more likely to meet or just marginally beat analysts' forecasts.

Meeting and closely beating analysts' earnings forecasts and consistency have become a trend in recent years, and it seems that managers and analysts are playing games in which they both want to be winners. Brown (2001) conducts a temporal analysis and find that firms prefer to report "a little bit of good news" over time. Sankaraguruswamy and Sweeney (2005) develop a model in which managers and analysts have a symbiotic relationship. Managers have incentives to adopt a package that generates earnings surprises they want at minimum costs. An analyst might try to make smaller forecast errors by "seeing through" managers' intentions, but over time these games might weaken or destroy the symbiotic relationship, damaging both sides.

Consistency in meeting/beating analysts' forecasts seems to be more important than accuracy. Kross et al. (2011) find that firms with more consistent pattern of meeting/beating analysts' forecasts provide more frequent and pessimistic management earnings forecasts. Hilary and Hsu (2013) find that more consistent analysts have greater ability to move stock prices. They also imply that more consistent analysts are "less likely to be demoted to less prestigious brokerage houses, and are more likely to become All Stars."

Existing literature documents some equity incentives of firms that consistently meet/marginally beat analysts' forecasts. Cheng and Warfield (2005) document that firms that meet/just beat analysts' forecasts tend to smooth earnings by avoiding significant positive earnings surprises. However, their study is not focused on documenting the idiosyncrasies of firms that constantly beat analysts' forecasts by big margins. Therefore, the need to document these idiosyncrasies of those firms warrants some empirical research.

Hypotheses

Prior accounting literature documents an earnings smoothing incentive for managers to manipulate earnings. Bartov (1993) predicts and finds that firms strategically time asset sales to smooth earnings. Specifically, he finds that income from asset sales is negatively associated with changes in earnings. Cheng and Warfield (2005) document CEO equity incentives to manage earnings. They also state that for earnings smoothing to be a valid point, managers will avoid large positive earnings surprises. Hence, if a

firm consistently beat analysts' forecasts by a big margin, the earnings smoothing hypothesis will not be supported for these firms. Therefore, my first two hypotheses are stated as follows (in an alternative form):

Hypothesis 1a. *Compared to firms that consistently meet/marginally beat analysts' forecasts (HMBE), firms that habitually beat analysts' forecasts by a big margin (HBEAT) do not smooth earnings.*

Hypothesis 1b. *Compared to the managers of HMBE, managers of HBEAT are not sensitive to stock-based compensation.*

Bowen et al. (2002) state that *CASH BURN* is a good measure of the need/pressure to seek external financing. *HBEAT* firms are likely to impress the market by significant beats, signaling the need for external financing. Hence, I have the following hypothesis:

Hypothesis 1c. *Compared to HMBE firms, HBEAT firms are more pressured to have external financing.*

Matsumoto (2002) finds some incentives for managers to use management downward forecast guidance as the means to *MBE*. Kross et al. (2011) find that firms with more consistent patterns of meeting/beating analysts' forecasts provide more frequent and pessimistic management earnings forecasts. Hilary and Hsu (2013) find that more consistent analysts have greater ability to move stock prices. They also imply that more consistent analysts are "less likely to be demoted to less prestigious brokerage houses, and are more likely to become All Stars." *HBEAT* firms beat analysts' forecasts by big margins, and I predict that they achieve this goal by applying more downward forecast guidance. Therefore, I have the following hypothesis:

Hypothesis 1d. *Compared to HMBE, HBEAT firms guide analysts' forecasts downward to a greater extent.*

Contractual motivations for earnings management state that firms need to stay in compliance with the debt covenants to avoid higher cost of capital. Bartov (1993) predicts and finds that income from asset sales is positively associated with debt/equity ratio. Titman and Wessels (1988) find some determinants of firms' capital structure. First, they find that collateral values of assets are positively associated with the debt/equity ratio, since highly leveraged firms with collaterals can use the borrowings on specified projects, they are closely monitored by lenders, and have favorable lending terms. If firms consistently beats analysts' forecasts by a big margin, they are likely to have a more stringent debt covenant. Staying in strict compliance is preferred. Therefore, I have the following hypothesis:

Hypothesis 2a*. Compared to HMBE firms, HBEAT firms are more intensive in CALLATERAL assets.*

Titman and Wessels (1988) also reason that *UNIQUENESS* of a firm is negatively associated with the debt/equity ratio because of the higher costs in case of bankruptcy suffered by customers, workers, and suppliers. Bartov (1993) concludes that income smoothing with asset sales is positively related to debt/equity ratio. Therefore, *HBEAT* firms are likely to be less unique than *HMBE*, therefore, I have the following hypothesis:

Hypothesis 2b*. Compared to HMBE firms, HBEAT firms are less UNIQUE.*

Titman and Wessels (1988) reason that equity-controlled firms tend to invest sub-optimally, but have more investment choices in growing industries than more leveraged firms. Therefore, growth should be negatively associated with debt/equity ratio. Since Bartov (1993) finds that earnings smoothing is positively associated the debt/equity ratio, I hypothesize that

Hypothesis 2c. *Compared to HMBE firms, HBEAT firms are lower in growth rate.*

Pecking order theory popularized by Myers and Majluf (1984) states that internal financing is preferred to external financing. Based on this argument, Titman and Wessels (1988) reason that if a firm has been profitable, it will use more internal financing. Therefore, it is not subject to debt/equity ratio restriction. Since I have predicted that *HBEAT* firms are more pressured to seek external financing, the following hypothesis is derived:

Hypothesis 2d*. HBEAT firms are likely to be less profitable than HMBE firms.*

Both anecdotal and empirical evidences support the fact that managers use accrual earnings management (*DA* in this study) and real earnings management (*REM* in this study) for benchmarking purposes (Graham et al. 2005; Roychowdhury 2006; Gunny 2010). *HBEAT* firms habitually beat analysts' forecasts by big margins. It is likely that they are real performers. Therefore, I have the following hypothesis:

Hypothesis 2e. *HBEAT firms use less REM and DA than HMBE firms.*

Consistent with Titman and Wessels (1988) and Bartov (1993), if the debt/equity hypothesis stays valid, *HBEAT* firms are likely to be more restricted by this ratio and are prone to avoid violating the debt covenant. Therefore, I have the following hypothesis:

Hypothesis 2f. *HBEAT firms are more sensitive to leverage than HMBE firms.*

METHOD

Benchmarking: Meeting/Beating Analyst Forecasts

Following prior literature (Roychowdhury 2006; Bhojraj et al. 2009), I identify firms that meet/marginally beat by one cent analysts' forecast as *MBE*. Since existing literature does not have a definite answer as to what frequency should be considered as habitual, I choose a frequency of 50 percent of times in the immediate prior history that a firm meets/beats analysts' forecasts to result in reasonable observations. Based on this frequency I identify those firms as *HMBE* that in the immediate prior history meet/marginally beat analysts' forecasts. With the same frequency, I identify firms as *HBEAT* that habitually beat analysts' forecast by a big margin (greater than one cent).

Identification of Idiosyncrasies of *HBEAT*

Following prior literature (Bartov 1993; Cheng and Warfield 2005), I use the following regression to identify the idiosyncrasies of *HBEAT*:

$$HBEAT_t = \beta_0 + \beta_1 \Delta EARN_t + \beta_2 BURN_t + \beta_3 DOWN_t + \beta_4 COLLATERAL_t + \beta_5 UNIQUE_t + \beta_6 GROWTH_t + \beta_7 PROFIT_{t-1} + \beta_8 REM_t + \beta_9 DA + \beta_{10} LEV_t + \varepsilon_t \quad (1)$$

Bartov (1993) predicts and tests the fact that managers strategically time asset sales to smooth earnings and avoid violating debt covenants. He predicts a negative relation between the income from asset sales and the change in earnings ($\Delta EARN$), substantiating the smoothing hypothesis. I adapt the regression from that study and use *HBEAT* as the dependent variable. Bartov (1993) finds a significant negative coefficient for $\Delta EARN$. Since *HBEAT* are firms that habitually beat analysts' forecasts by big margins, it is reasonable to predict that the smoothing hypothesis in Bartov (1993)'s study does not exist. In fact, it should be positively associated with *HBEAT*. Therefore, I predict a positive sign for $\Delta EARN$.

Bowen et al. (2002) conduct a study on internet firms and find that growing firms exhibit some evidence of seeking external financing. They use the cash *BURN* as a proxy for this need and pressure. If

a firm constantly beat analysts' forecasts by big margin, it is probably sending a signal to the capital market that it needs to seek external financing. Therefore, I use *BURN* as the need/pressure for *HBEAT* firms to seek external financing and predict a positive relation.

Matsumoto (2002) identifies some incentives for managers to use management's downward forecast guidance as the means to *MBE*. Following Bhojraj et al. (2009), I use the difference as a downward forecast guidance measure (*DOWN*) between the forecast made 45 to 60 days before year-end earnings announcement and the most recent earnings announcement immediately prior to the year-end earnings announcement. If the difference is positive, then *DOWN* takes the value of one; otherwise, it equals to zero. Kross et al. (2011) find that firms with more consistent patterns of meeting/beating analysts' forecasts provide more frequent and pessimistic management earnings forecasts. Hilary and Hsu (2013) find that more consistent analysts have greater ability to move stock prices. They also imply that more consistent analysts are "less likely to be demoted to less prestigious brokerage houses, and are more likely to become All Stars." *HBEAT* firms beat analysts' forecasts by big margins, and I predict that they achieve this goal by applying more downward forecast guidance. Therefore, I predict a positive relation between *HBEAT* and *DOWN*.

Titman and Wessles (1988) reason that firms with more collateralized assets are more sensitive to leverage. They use the ratio as proxy for *COLLATERL* between the sum of inventory and gross property, plant, and equipment and total assets. I predict a positive sign for this measure. They also predict that if a firm is more *UNIQUE* than others, it prefers not to have a high leverage ratio since it will incur more liquidation costs. Therefore, I predict a negative sign for this measure. Following Titman and Wessels (1988), I use the ratio as proxy for *UNIQUE* between research and development expense and net sales.

GROWTH and *PROFIT* are also important idiosyncrasies of *HBEAT*. According to Titman and Wessels (1988), agency cost is likely to be higher for equity-intensive firms, since they tend to invest sub-optimally. In other words, the agency cost is lower for growing firms if they are debt-intensive. Therefore, I predict a positive sign for *GROWTH*. I measure this variable with the percentage change in total assets. They also predict that asymmetric information or transaction costs dictate that retained earnings are preferable to debt in investment choices. Therefore, the more profitable firms use less debt in their capital structure. Since *HBEAT* firms are likely to be profitable firms, I predict that immediately prior history of *PROFIT* is negatively associated with leverage. Therefore, I predict a negative sign for this variable. I take the ratio as prior *PROFIT* between the lagged income from continuing operations to lagged net sales.

Following prior literature, I use Jones (1991) model for estimation of *DA*.

$$TA_t/A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \alpha_2 (\Delta S_t/A_{t-1}) + \alpha_3 (PPE_t/A_{t-1}) + \varepsilon_t \quad (2)$$

where

TA_t = total accruals at year t, calculated as the difference between income before the extraordinary items (COMPUSTAT data #18) and cash flow from the operating activities (CFO) (data #308);
A_{t-1} = the total assets at year t-1(data #6);
ΔS_t = the change in sales at year t (data #12);
PPE_t = the gross property, plant, and equipment at year t (data #7);
α_1, α_2, α_3 = firm specific parameters, and
ε_t = the residual of the equation, and also the discretionary accrual (*DA*).

Following Roychowdhury (2006), I use the following models to estimate three *REM* measures.

$$CFO_t/A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \alpha_2 (S_t/A_{t-1}) + \varepsilon_t \quad (3)$$

$$PROD_t/A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \alpha_2 (S_t/A_{t-1}) + \alpha_3 (\Delta S_t/A_{t-1}) + \alpha_4 (\Delta S_{t-1}/A_{t-1}) + \varepsilon_t \quad (4)$$

$$DISEXP_t/A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \alpha_2 (S_{t-1}/A_{t-1}) + \varepsilon_t \quad (5)$$

where

CFO_t = cash flow from operations at year t (data #308);
$PROD_t$ = the sum of cost of goods sold (data#41) and the change in inventories (data #3) at year t;
$DISEXP_t$ = the discretionary expense, the sum of advertising expense (data #45), research development expense (data #46), and selling and general administrative expense (data #189);
S_t = total sales at year t (data #12);
ΔS_t = change in total sales at year t;
ΔS_{t-1} = change in total sales at year t-1;
$\alpha_1, \alpha_2, \alpha_3, \alpha_4$ = firm specific parameters, and
ε_t = the residual of the equations, and also the real earnings management measures.

Following Gunny (2010), I estimate the income for asset sales using the following equation:

$$GOAS_t/A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \beta_1 MKTV_t + \beta_2 TQt + \beta_3 (IntFnd_t/A_{t-1}) + \beta_4 (ASale_t/A_{t-1}) + \beta_5 (InvSale_t/A_{t-1}) + \varepsilon_t \quad (6)$$

where:

GOAS = gain/loss on asset sales [Data 213 * (-1) to make the interpretation straightforward since the gain is coded negative in Compustat];
A = total assets;
MKTV = market value of asset (natural log);
TQ = Tobin's Q;
IntFnd = internal funds;
ASale = asset sales (long-lived assets), and
InvSale = investment sales (long-lived).

Discretionary accruals (*DA*) are the residuals from Equation (2). There are four individual *REM* measures. The residuals from equations (3) to (6) the individual measures. To interpret straightforwardly, I change the signs of the residuals for Equations (3), (5) and (6), by multiplying -1, so that the higher the value, the more extent in applying *REM*. I also generate an integrate measure of *REM* by summing up all four individual measures. Since *HBEAT* firms beat analysts' forecasts by big margins, I predict negative signs for both *DA* and *REM*.

Bartov (1993) predicts and finds a positive relation between income from asset sales and leverage. To control for the total effect of leverage, I add *LEV* in the model. It is calculated as the ratio between the sum of short-term and long-term debt and the beginning balance of total assets. I predict a positive sign for this variable.

Sample

I collect the data from two sources. According to Bhojraj et al. (2009) "yearly data make more sense than quarterly data in the analysis of earnings management since majority of accruals adjustments occur in the fourth quarter, and quarterly reporting of R&D and advertising expense is sparse". In addition, since *CFO* data were not available from COMPUSTAT before 1987, I, therefore, collect yearly financial data for the period of 1987-2011 for this study from COMPUSTAT. The Institutional Brokers' Estimate System (I/B/E/S) database provides with the information I need for analysts' forecasts' and actual earnings' data.

One major concern about applying *REM* to meet/beat analysts' forecasts is that *REM* has to be taken before the fiscal year-ends, and analysts' forecasts change as they become closer to the actual earnings announcements. Bhojraj et al. (2009) provide for the solution to this potential problem. They conduct a study of firms' marginally exceeding analysts' forecasts by one cent. To avoid the potential problem of not capturing the effect of *REM* in meeting/beating analysts' forecasts, they treat as managers' targets analysts' forecasts forty-five to sixty days before the fiscal year-ends. The argument is that this forecast

will be close to the final consensus forecasts before the earnings announcements, and the forty-five to sixty days will provide the managers with the opportunity to resort to some real activities to achieve the reporting goal. Therefore, I collect the one-year ahead consensus analysts' forecasts that are forty-five to sixty days before the fiscal year-end, the actual earnings per share (*EPS*), and the most recent consensus analysts' forecasts immediately prior to the earnings announcements. The forecasts that are forty-five to sixty days before the fiscal year-end are treated as the targets for managers to manage earnings. I take the difference between the actual *EPS* and the forecasts that are forty-five to sixty days before the fiscal year-ends as the earnings surprise figure.

The COMPUSTAT North America database provides for the other financial data needed for the analyses of this study. Following Roychowdhury (2006), I reduce standard industrial classification (SIC) codes to the first two digits. I delete the utilities industries (SIC codes between 44 and 50) and the banks and financial institutions (SIC codes between 60 and 70) because their financial statements tend to be very different from those of other firms.

I also require at least 15 observations for each industry-year group. After imposing this restriction, I have total observations of 135,973 for the Fama-MacBeth estimation process, covering 1,082 industry-year group.

The next step is to identify the habitual observations. To get a reasonable number of observations, I use a frequency of at least 50 percent in identifying my groups of interests. For *HMBE* groups, they are the observations that have met/closely beaten analysts' forecasts based on the immediate prior meeting/beating history. The base starting evaluation period is 1987 – 1993, inclusive. For instance, based on the meeting/beating history for these seven years, if a firm meets or beats analysts' forecasts by one cent for at least 4 times, it will be identified as a *HMBE* in the next year, 1994, in this case. For later years, the similar procedure applies until the end of the study period of 2011. The similar procedure follows for the identification of *HBEAT*. After these steps, for the period of 1994 to 2011, inclusive, I have a total number of observations of *HBEAT* 1,452 covering 303 firms, and *HMBE* of 1,848, covering 430 firms.

EMPIRICAL EVIDENCE

Descriptive Statistics

Table 1 exhibits the yearly distribution of total observations for both *HBEAT* and *HMBE* groups. As noticed, when time passes and longer histories are used, fewer observations are generated for both groups. For instance, in 1993, there are 201 firms identified as *HBEAT* and 172 for *HMBE*, and in year 2010, the numbers are 36 and 48, respectively.

TABLE 1
YEARLY DISTRIBUTION OF OBSERVATIONS

HBEAT				*HMBE*			
YEAR	Obs.	%	Cumu.	YEAR	Obs.	%	Cumu.
1993	201	0.138	0.138	1993	172	0.093	0.093
1994	116	0.080	0.218	1994	125	0.068	0.161
1995	163	0.112	0.331	1995	160	0.087	0.247
1996	103	0.071	0.402	1996	125	0.068	0.315
1997	135	0.093	0.494	1997	143	0.077	0.392
1998	71	0.049	0.543	1998	115	0.062	0.455
1999	87	0.060	0.603	1999	127	0.069	0.523
2000	53	0.037	0.640	2000	103	0.056	0.579
2001	65	0.045	0.685	2001	120	0.065	0.644
2002	45	0.031	0.716	2002	87	0.047	0.691
2003	67	0.046	0.762	2003	67	0.036	0.727
2004	49	0.034	0.795	2004	83	0.045	0.772
2005	62	0.043	0.838	2005	89	0.048	0.820
2006	45	0.031	0.869	2006	74	0.040	0.860
2007	59	0.041	0.910	2007	75	0.041	0.901
2008	39	0.027	0.937	2008	66	0.036	0.937
2009	56	0.039	0.975	2009	69	0.037	0.974
2010	36	0.025	1.000	2010	48	0.026	1.000
Total	1452			Total	1848		

Table 2 shows the distribution of observations by industries. The bold-faced numbers are those observations that only show either in *HBEAT* or *HMBE*. For example, for *SIC* 24, there are 19 observations for *HBEAT*, but there are no observations for *HMBE*. If SIC codes between 20 and 39 are classified as *MANUFACTURING*, then majority of the observations are in this industry.

TABLE 2
SIC DISTRIBUTION OF OBSERVATIONS

HBEAT				*HMBE*			
SIC	Obs.	%	Cumu.	SIC	Obs.	%	Cumu.
10	8	0.006	0.006	10	1	0.001	0.001
13	71	0.049	0.054	13	9	0.005	0.005
14	13	0.009	0.063	14	1	0.001	0.006
15	12	0.008	0.072	15	4	0.002	0.008
16	9	0.006	0.078	16	18	0.010	0.018
20	31	0.021	0.099	20	164	0.089	0.107
22	16	0.011	0.110	22	1	0.001	0.107
23	35	0.024	0.134	23	18	0.010	0.117
24	**19**	**0.013**	**0.147**	**24**			
25	18	0.012	0.160	25	28	0.015	0.132
26	71	0.049	0.209	26	4	0.002	0.134
27	78	0.054	0.262	27	13	0.007	0.141
28	95	0.065	0.328	28	252	0.136	0.278
29	27	0.019	0.346	29	6	0.003	0.281
30	17	0.012	0.358	30	23	0.012	0.293
31	4	0.003	0.361	31	5	0.003	0.296
32	38	0.026	0.387	32	2	0.001	0.297
33	64	0.044	0.431	33	26	0.014	0.311
34	61	0.042	0.473	34	7	0.004	0.315
35	166	0.114	0.587	35	166	0.090	0.405
36	144	0.099	0.687	36	207	0.112	0.517
37	92	0.063	0.750	37	101	0.055	0.571
38	100	0.069	0.819	38	180	0.097	0.669
39	17	0.012	0.831	39	11	0.006	0.675
51	31	0.021	0.852	51	25	0.014	0.688
52				**52**	**18**	**0.010**	**0.698**
53	1	0.001	0.853	53	22	0.012	0.710
54	45	0.031	0.884	54	5	0.003	0.713
56	24	0.017	0.900	56	20	0.011	0.723
57	15	0.010	0.910	57	13	0.007	0.730
58	4	0.003	0.913	58	108	0.058	0.789
59	26	0.018	0.931	59	34	0.018	0.807
70	**1**	**0.001**	**0.932**	**70**			
72				**72**	**21**	**0.0114**	**0.8187**
73	62	0.0427	0.9745	73	248	0.1342	0.9529
75				**75**	**12**	**0.0065**	**0.9594**
78	7	0.0048	0.9793	78	1	0.0005	0.9599
79	18	0.0124	0.9917	79	19	0.0103	0.9702
80	1	0.0007	0.9924	80	39	0.0211	0.9913
87	11	0.0076	1.0000	87	16	0.0087	1.0000
Total	1452			Total	1848		

Table 3 shows the descriptive statistics. The average value of total assets is $6,436 million, and the average sales is $6,445 million. The *ΔEARN* mean is 0.0873 (8.73%), indicating the average *HBEAT* and *HMBE* firms are growing firms.

TABLE 3
DESCRIPTIVE STATISTICS

Variable	N	Mean	Median	Std Dev	Lower Quartile	Upper Quartile
AT	3300	6435.92	1493.31	14708.02	493.94	4563.59
SALE	3300	6445.28	1473.37	13902.51	536.13	5159.81
ΔEARN	3180	0.0873	0.1100	0.9684	-0.0400	0.2733
STKCOMP	3180	0.0851	0.0765	0.0548	0.0481	0.1129
BURN	3286	6.3734	1.3986	32.2457	0.5569	4.3885
DOWN	3202	0.2564	0.0000	0.4367	0.0000	1.0000
COLLATERAL	3300	0.6964	0.6705	0.3620	0.4212	0.9347
UNIQUE	3299	0.0454	0.0136	0.0717	0.0000	0.0589
GROWTH	3300	0.1394	0.0845	0.2869	0.0126	0.1895
PROFIT	3300	0.0713	0.0646	0.1098	0.0330	0.1117
REM_CFO	3300	-0.1518	-0.1026	1.3504	-0.2570	0.0058
REM_DISEXP	3300	0.4706	0.2540	25.7304	-0.0680	0.9894
REM_PROD	3300	-0.0534	-0.0567	0.8019	-0.2190	0.0977
REM_GOAS	2232	-0.0009	-0.0006	0.0385	-0.0032	0.0023
REM	2232	0.2757	0.1257	28.8736	-0.2970	0.8658
DA	3300	0.0704	0.0232	2.0541	-0.0532	0.1496
LEV	3284	0.2268	0.2067	0.2043	0.0668	0.3265

Note: *AT* is total assets; *SALE* is net sales; *ΔEARN* is change in earnings, calculated as the difference between current year earnings per share (EPS) and prior year's EPS; *BURN* is the ratio between cash flow from operations and total cash and short-term investment; *DOWN* is an indicator variable that is equal to one if the difference is positive between the forecast that is 45 to 60 days before the year-end earnings announcement and the forecast just before the year-end earnings announcement, otherwise, it is equal to zero; *COLLATERAL* is ratio between the sum of inventory and PPE and total assets; *UNIQUE* is the ratio between research and development expense and the sales; *GROWTH* is calculated as percentage change in total assets; *PROFIT* is calculated as the ratio between income from continuing operations and sales; *REM_CFO* is the measure for real earnings management (*REM*) from cash flow from operation; *REM_DISEXP* is the *REM* measure for discretionary expenses; *REM_PROD* is the *REM* measure for production cost; *REM_GOAS* is the REM measure for income from asset sales; *REM* is the integrate measure of *REM*, the sum of the four mentioned above; *DA* is the discretionary accruals; and *LEV* is ratio between short-term and long-term debt to total assets.

The mean value for *DOWN* is 0.2564, suggesting over a quarter of the total observations experience downward forecast guidance. The value of *COLLATERAL* is 0.6964, meaning that about 70 percent of a firm's assets are in the forms of inventory and property, plant, and equipment. The *UNIQUE* value is 0.0454, suggesting that not even five percent of sales is used in research and development for these firms. The value of *GROWTH* is 0.1394, consistent with the value on *ΔEARN,* indicating all firms are growing firms. For *REM* measures, it seems that these firms cut much discretionary expense (*REM_DISEXP* = 0.4706). The value of *DA* is 0.0704, indicating most firms use income increasing discretionary accruals. There is about 23 percent of capital of the firms financed by debt.

Table 4 compares the two groups of the total observations. Both parametric (*t*-test) and non-parametric (Wilcoxon rank sums mean test) are used. Both tests show that *HBEAT* firms are smaller than *HMBE* firms (from *AT* and *SALE*). It seems that *HBEAT* generates more cash flows from operations (*BURN*).

TABLE 4
COMPARISON: *HBEAT* VS. *HMBE*

	t-test				Wilcoxon Rank Sums Mean Test			
Variables	*HBEAT*	*HMBE*	DIFF	Signif.	*HBEAT*	*HMBE*	DIFF	Signif.
AT	5887.7	6866.7	-979.00	*	1507.49	1762.87	-255.38	***
SALE	6452.4	6439.7	12.70		1548.68	1730.50	-181.82	***
ΔEARN	0.0543	0.1117	-0.0574	*	1604.85	1579.89	24.96	
STKCOMP	0.0776	0.0904	-0.0128	***	429.14	511.09	-81.95	***
BURN	8.5672	4.6664	3.9008	***	1656.84	1633.12	23.72	
DOWN	0.3575	0.1810	0.1765	***	0.5679	0.4493	0.1186	***
COLLATERAL	0.8346	0.5878	0.2468	***	2014.95	1364.14	650.81	***
UNIQUE	0.0299	0.0575	-0.0276	***	1431.26	1821.75	-390.49	***
GROWTH	0.1044	0.1670	-0.0626	***	1443.22	1813.37	-370.15	***
PROFIT	0.0428	0.0938	-0.0510	***	1228.14	1935.22	-707.08	***
REM_CFO	-0.0702	-0.2159	0.1457	***	1857.71	1487.69	370.02	***
REM_DISEXP	0.2752	0.6241	-0.3489		1527.99	1746.75	-218.76	***
REM_PROD	-0.0074	-0.0896	0.0822	***	1895.85	1457.72	438.13	***
REM_GOAS	-0.0004	-0.0012	0.0008		1107.36	1123.35	-15.99	
REM	0.5319	0.0838	0.4481		1108.18	1122.73	-14.55	
DA	0.0864	0.0578	0.0286		1604.19	1686.88	-82.69	***
LEV	0.2483	0.2099	0.0384	***	1754.79	1554.59	200.20	***

Statistical significances of levels at least at 0.10, 0.05, and 0.01 are represented by *, **, and ***, respectively. *AT* is total assets; *SALE* is net sales; *ΔEARN* is change in earnings, calculated as the difference between current year earnings per share (EPS) and prior year's EPS; *BURN* is the ratio between cash flow from operations and total cash and short-term investment; *DOWN* is an indicator variable that is equal to one if the difference is positive between the forecast that is 45 to 60 days before the year-end earnings announcement and the forecast just before the year-end earnings announcement, otherwise, it is equal to zero; *COLLATERAL* is ratio between the sum of inventory and PPE and total assets; *UNIQUE* is the ratio between research and development expense and the sales; *GROWTH* is calculated as percentage change in total assets; *PROFIT* is calculated as the ratio between income from continuing operations and sales; *REM_CFO* is the measure for real earnings management (*REM*) from cash flow from operation; *REM_DISEXP* is the *REM* measure for discretionary expenses; *REM_PROD* is the *REM* measure for production cost; *REM_GOAS* is the REM measure for income from asset sales; *REM* is the integrate measure of *REM*, the sum of the four mentioned above; *DA* is the discretionary accruals; and *LEV* is ratio between short-term and long-term debt to total assets.

Interestingly, it seems that *HBEAT* firms more frequently guide analysts' forecasts downward (*DOWN*). *HBEAT* firms' assets are more in *COLLATERAL* form. The results also suggest that *HBEAT* firms spend less on research and development (*UNIQUE*), are growing slower (*GROWTH*), and less profitable (*PROFIT*) than *HMBE* firms. It seems that both *HBEAT* and *HMBE* use income-decreasing *REM* instead of income-increasing *REM* techniques since three of the four individual measures (*REM_CFO, REM_PROD, and REM_GOAS*) are negative. However, it seems that both cut discretionary expense to a great extent to boost earnings since *REM_DISEXP* is positive, and it seems that *HBEAT* firms cut more than *HMBE* firms. In aggregate, they are not different since *REM* difference is not significant in either measure. The results on *DA* are mixed. The more robust result shows that *HMBE*

firms use more income-increasing discretionary accruals. The results of *LEV* are consistent, indicating that *HBEAT* firms are more leveraged than *HMBE* firms.

Table 5 shows the correlation coefficients among variables used in the regression. The coefficients are, in general, consistent with the results from Table 4 and the predictions. For instance, the correlation between *HBEAT* and *BURN* is 0.06 and significant, indicating *HBEAT* firms are in greater need or pressure of external financing than are *HMBE* firms.

TABLE 5
PEARSON CORRELATIONS

	HBEAT	*ΔEARN*	*BURN*	*DOWN*	*COLLATERAL*	*UNIQUE*	*GROWTH*	*PROFIT*	*REM*	*DA*
ΔEARN	**-0.029**									
BURN	**0.060**	**0.030**								
DOWN	**0.200**	**-0.119**	-0.016							
COLLATERAL	**0.338**	**-0.033**	**0.131**	**0.141**						
UNIQUE	**-0.191**	-0.017	**-0.090**	**-0.062**	**-0.364**					
GROWTH	**-0.108**	**0.088**	-0.021	**-0.055**	**-0.171**	**0.097**				
PROFIT	**-0.231**	0.029	0.014	**-0.064**	**-0.169**	**0.061**	**0.148**			
REM	0.008	-0.021	-0.018	0.015	-0.006	0.030	0.000	-0.024		
DA	0.007	0.010	-0.007	0.005	**0.036**	-0.001	-0.010	-0.011	-0.013	
LEV	**0.093**	**-0.049**	**0.081**	**0.068**	**0.166**	**-0.205**	**0.356**	**-0.063**	-0.016	0.001

Note: The bold-faced values represent statistical significances at least at 0.10 level. *HBEAT* is an indicator variable that is equal to 1 if it has beaten the analysts' forecasts by more than one cent in the immediate prior years for at least 50 percent of the times; *ΔEARN* is change in earnings, calculated as the difference between current year earnings per share (EPS) and prior year's EPS; *BURN* is the ratio between cash flow from operations and total cash and short-term investment; *DOWN* is an indicator variable that is equal to one if the difference is positive between the forecast that is 45 to 60 days before the year-end earnings announcement and the forecast just before the year-end earnings announcement, otherwise, it is equal to zero; *COLLATERAL* is ratio between the sum of inventory and PPE and total assets; *UNIQUE* is the ratio between research and development expense and the sales; *GROWTH* is calculated as percentage change in total assets; *PROFIT* is calculated as the ratio between income from continuing operations and sales; *REM* is the integrate measure of *REM*, the sum of the four mentioned above; *DA* is the discretionary accruals; and *LEV* is ratio between short-term and long-term debt to total assets.

Regression Results

Table 6 presents the OLS regression results for the idiosyncrasies of the *HBEAT* firms. The sign of *ΔEARN* is positive as predicted, but it is not significant, failing to support the hypotheses that *HBEAT* firms do not smooth earnings (*H1a*) and are not sensitive to stock-based compensation (*H1b*). The sign and significance on *BURN* is positive and significant at 0.10 level, indicating that *HBEAT* firms show greater need/pressure for external financing than *HMBE* firms, supporting the hypothesis *H1c*. The sign and significance of *DOWN* are expected, positive and significant, supporting the hypothesis *H1d* that *HBEAT* firms use more frequent analyst downward forecast guidance than *HMBE* firms.

TABLE 6
RESULTS FOR DETERMINANTS OF *HBEAT* – OLS

$$HBEAT_t = \beta_0 + \beta_1 \Delta EARN_t + \beta_2 BURN_t + \beta_3 DOWN_t + \beta_4 COLLATERAL_t + \beta_5 UNIQUE_t + \beta_6 GROWTH_t + \beta_7 PROFIT_{t-1} + \beta_8 REM_t + \beta_9 DA + \beta_{10} LEV_t + \varepsilon_t \quad (1)$$

	Predicted Signs	Estimate		VIF
Intercept		0.1893	***	0.000
		6.16		
ΔEARN	+	0.0050		1.034
		0.44		
BURN	+	0.0004	*	1.037
		1.67		
DOWN	+	0.1607	***	1.035
		7.14		
COLLATERAL	+	0.3566	***	1.328
		11.43		
UNIQUE	-	-0.4270	***	1.228
		(3.07)		
GROWTH	-	-0.0582		1.274
		(1.51)		
PROFIT	-	-0.6676	***	1.087
		(7.37)		
REM	-	0.0001		1.003
		0.39		
DA	-	0.0026		1.003
		0.52		
LEV	+	0.0669		1.267
		1.26		
SIC		Included		
YEAR		Included		
No. of Obs.	2,139	R-Square		0.1764

Statistical significances of levels at least at 0.10, 0.05, and 0.01 are represented by *, **, and ***, respectively.

The sign and significance of *COLLATERAL* are also as expected, positive and significant, suggesting the *HBEAT* firms are more intensive in collateral items for loans, supporting the hypothesis *H2a*. The sign and significance of *UNIQUE* are as expected, negative and significant, indicating the *HBEAT* firms are less unique than *HMBE* firms, supporting the hypothesis *H2b*. The sign on *GROWTH* is what I expected. However, it is not significant at any level, failing to support the hypothesis *H2c*, i.e., there are no difference between the two kinds of firms with regard to *GROWTH*. The sign and significance of *PROFIT* are negative and significant as expected, supporting the hypothesis *H2d* that *HBEAT* firms are less profitable than *HMBE* firms. The signs and significances of *REM* and *DA* are opposite to what I expected. However, they are not significant, indicating that there are no differences between *HBEAT* and *HMBE* firms in their application of *REM* and *DA* techniques of earnings management, failing to support *H2e*. The sign on *LEV* is positive as I expected, but it is not significant, indicating that there is no difference between *HBEAT* and *HMBE* firms in their leverage, failing to support *H2f*.

Additional Analyses

One concern with the model is the collinearity of all independent variables. Table 6, in the last column, displays the variance inflation factors (*VIF*). The values are well below the threshold of 10 for any concerns, indicating there is no necessary need to consider the collinearity problems.

Table 7 shows the results from using robust standard errors suggested by Petersen (2009). The results are very similar to what I have shown before, supporting the conclusions from the main OLS regression.

TABLE 7
RESULTS FOR DETERMINATNS OF *HBEAT* – PETERSEN (2009)

$$HBEAT_t = \beta_0 + \beta_1 \Delta EARN_t + \beta_2 BURN_t + \beta_3 DOWN_t + \beta_4 COLLATERAL_t + \beta_5 UNIQUE_t + \beta_6 GROWTH_t + \beta_7 PROFIT_{t-1} + \beta_8 REM_t + \beta_9 DA + \beta_{10} LEV_t + \varepsilon_t \quad (1)$$

Parameter	Predicted Signs	Estimate	
Intercept		0.1893	***
		6.23	
ΔEARN	+	0.0050	
		0.38	
BURN	+	0.0004	**
		2.30	
DOWN	+	0.1607	***
		6.84	
COLLATERAL	+	0.3566	***
		10.91	
UNIQUE	-	-0.4270	***
		(3.03)	
GROWTH	-	-0.0582	
		(1.63)	
PROFIT	-	-0.6676	***
		(5.36)	
REM	-	0.0001	
		0.47	
DA	-	0.0026	
		0.66	
LEV	+	0.0668	
		1.34	
Obs. 2,139	R-Square	0.1764	

Statistical significances of levels at least at 0.10, 0.05, and 0.01 are represented by *, **, and ***, respectively.

Zang (2012) identifies suspect firms by using various cutoffs. To avoid the same problems, I identify HMBE firms by including firms that beat analysts' forecasts by up to three cents, and HBEAT firms as those beating analysts' forecasts by five cents or more. The results are qualitatively similar. Following prior literature, I use scaled earnings surprise as the measure of meeting/beating analysts' forecasts. The results are qualitatively similar. In addition, to avoid the bias due to the survivorship problem, I use the rolling windows of seven years to select *HMBE* and *HBEAT*, the results are qualitatively as well.

SUMMARY AND CONCLUSIONS

This paper attempts to identify some idiosyncrasies of firms that habitually beat analysts' forecasts by big margins. I plan to approach this task from different perspectives: earnings smoothing, capital structure, and earnings management. The results are not conclusive, but most predictions are achieved as expected. Specifically, *HBEAT* firms are in greater need for external financing; they more frequently guide analyst forecasts downward; they have more assets in collateral forms; and they are less unique and profitable than *HMBE* firms.

This study contributes to earnings management literature by identifying some idiosyncrasies of those firms that habitually beat analysts' forecasts by big margins. Meeting/beating analysts' forecasts has been studied extensively in the existing literature. However, the idiosyncrasies of those firms have not been explored yet. This study attempts and fills a gap by finding some idiosyncrasies. This study can also help investors with their investment options. The idiosyncrasies related to the *HBEAT* firms can help investors choose the appropriate firms that they wish to invest in or avoid.

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