

Walk Ups versus Walk Downs

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Management Earnings Forecasts & the Walk-down Hypothesis:

Management Earnings Forecasts (MEFs):

- Provide valuable information about firms' prospects.
 - Many studies, going back at least to Foster (1973), have shown these forecasts affect stock prices.
- Recent work has emphasized the conditional nature of the value of these forecasts.
 - For example, the impact of managerial guidance on stock prices may be related to the:
 - Complexity of the earnings process (Hutton, 2005);
 - Good versus bad news nature of the announcement (Kothari, Shu and Wysocki, 2009);
 - Credibility of the forecast (Ng, Tuna and Verdi, 2008; Hutton and Stocken, 2010);
 - Mode of disclosure (Hutton, Miller and Skinner, 2003;)
 - Quality of corporate governance (Ajinka, Bhojraj and Sengupta, 2005; Karamanou and Vafeas, 2005).
- Walk downs, management forecasts that are below consensus analyst expectations, elicit far greater stock price responses than "walk ups", forecasts that exceed the analyst consensus.

While this pattern testifies to the greater credibility of walk downs, walk ups and walk downs actually exhibit almost no difference in bias, making the substantial differences in the market receptions to them puzzling.

Management Earnings Forecasts & the Walk-down Hypothesis:

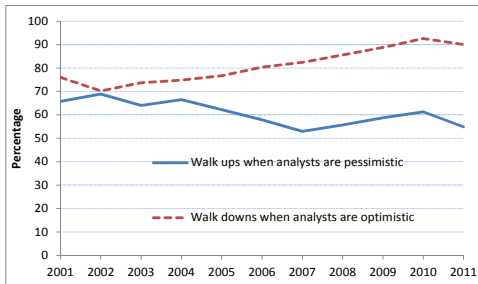
The Walk-down Hypothesis:

- At heart a prediction about conservatism, asserting MEFs are more likely to be issued when firms wish to correct overly optimistic analyst expectations about the firm's prospects.
 - This may be due both to an aversion to litigation risk as well as to a belief that the stock price will suffer if the firm cannot meet or beat consensus expectations—firms wish to limit analysts expectations to levels that provide a margin of safety.
- Most often, the hypothesis is posed as a desire to aggressively walk down analyst expectations when they are optimistic so as to avoid large negative surprises at the earnings announcement date. But conservatism can just as well entail less aggressively acting to correct analyst expectations when they are pessimistic.
- It implies firms will be more apt to issue a walk down in the face of analyst optimism than they are to issue a walk up in the face of analyst pessimism.
- The walk-down hypothesis is fundamentally about differing propensities to correct analyst optimism or pessimism.

Management Earnings Forecasts & the Walk-down Hypothesis:

Figure 2

Likelihood of walk ups and walk downs conditional on analyst optimism or pessimism.



Management Earnings Forecasts & the Walk-down Hypothesis:

Walk-down Hypothesis, continued:

- But the hypothesis does not necessarily imply that *conditional* on issuing a forecast, walk-up MEFs should be differently biased than walk downs.
- Skinner (1994) notes, “if the company has disclosed information [good or bad], that disclosure must, under Rule 10b-5, be complete and accurate.”
- Similarly, “meet or beat” considerations presumably govern any MEF once it is issued, whether it is a walk up or a walk down, leaving no obvious reason for them to exhibit systematically different biases.
- As Soffer, Thiagarajan, and Walther (2000) put it, “managers attempt to create a positive or neutral earnings announcement surprise, regardless of the sign of the total [preannouncement] news (p. 14).”

Forecast accuracy and the market response to MEFs:

Bias:

- To date, there actually has been little work focusing on the comparative accuracy of walk ups and walk downs, and to the extent this question has been asked, little evidence of meaningfully different bias has been uncovered.
 - In our sample, as with Rogers and Stocken (2005) and McNichols (1989), differences in bias are trivial.
- But these results raise a difficult question: If both walk ups and walk downs are not differentially biased, then why is the market reaction to them so different?
- Many papers have demonstrated that stock prices respond more dramatically to walk downs than to walk ups (Skinner, 1994; Soffer, Thiagarajan, and Walther, 2000; Hutton, Miller and Skinner, 2003; Ng, Tuna, and Verdi, 2008; Kothari, Shu and Wysocki, 2009).
 - The reasonable conclusion is that this differential response must reflect some difference in the credibility of the MEF.
- But because walk ups and walk downs do not exhibit meaningfully different levels of bias, the source of that credibility gap must be more subtle than systematic misrepresentations.

Uncertainty:

- We compare the properties of walk-up and walk-down MEFs, and find walk-up MEFs are far noisier predictors of earnings than walk downs, exhibiting roughly triple the mean square error.
- Moreover, while walk-down MEFs become substantially more accurate as they get closer to the actual earnings release date, walk ups show far less improvement in precision.
- We therefore treat the uncertainty surrounding an MEF as a new, and potentially important, component of credibility.

Forecast accuracy and the market response to MEFs:

The market reaction to MEFs:

- After establishing differences in forecast accuracy, we reconsider the stock market reaction to MEFs.
- We reconfirm the relatively muted response to good- versus bad-news MEFs, and suggest the market sees past nominal forecasts to a more nuanced appreciation of the information content of the announcement.
 - We present evidence that much of the source of the discrepancy in market response in fact is not a response to bias, but rather reflects rational investors will trim noisy forecasts back toward the unconditional mean, and noisier forecasts will be trimmed to a greater degree than more reliable ones, implying the market response to noisier walk ups should be attenuated relative to walk downs.
- Hence we demonstrate the difference in the response of stock prices to MEFs is consistent with the difference in their precision.

The guidance sample:

Data sources:

- 19,676 quarterly firm observations spanning 2001:Q1 - 2011:Q4
- Management earnings forecasts: First Call Historical Company Issued Guidelines.
- Analyst survey estimates & actual earnings announcement data: I/B/E/S.
- Company financials: CRSP/COMPUSTAT Merged Databases (quarterly and annual fundamentals).
- Daily stock returns: CRSP.
- Daily market & industry index returns, and Fama-French-Carhart factors: Fama-French data library.

Variable construction:

MEF:

If the management earnings forecast is given as a range rather than a point estimate, we set MEF as the mid-point of the range.

RANGE:

The difference between the high and low end of the forecast range.

$$\text{MEF News: } NEWS = \frac{MEF - \text{Survey median}}{\text{Lagged stock price}}$$

$$\text{Forecast Error: } FE = \frac{EPS - MEF}{\text{Lagged stock price}}$$

$$\text{Analyst Optimism: } OPTIMISM = \frac{\text{Survey median} - EPS}{\text{Lagged stock price}}$$

Analyst Dispersion:

Difference between the highest and lowest forecast of EPS in the most recent analyst survey, normalized by lagged stock price.

Sample Characteristics:

Table 1: Summary Statistics

A. Full sample; N = 111,059	Mean	Median	Std dev	25%ile	75%ile	N
Assets (\$ millions)	5,943.3	1,001.7	16,314.9	293.3	3,485.4	111,059
<i>OPTIMISM</i> of analysts	0.0016	-0.0002	0.0187	-0.0022	0.0017	111,059
<i>DISPERSION</i> of analysts	0.0058	0.0019	0.0278	0.0004	0.0050	111,059
<hr/>						
B. Guidance sample; N = 19,676	Mean	Median	Std dev	25%ile	75%ile	N
Assets (\$ millions)	5,420.0	1,192.0	13,482.6	433.7	4,164.2	19,676
<i>OPTIMISM</i> of analysts	0.0002	-0.0001	0.0058	-0.0017	0.0017	19,676
<i>DISPERSION</i> of analysts	0.0032	0.0018	0.0046	0.0008	0.0038	19,676
Walk-up dummy	0.3887	0	0.4875	0	1	19,676
Walk-down dummy	0.4915	0	0.4999	0	1	19,676
<i>NEWS</i>	0.0001	0.0000	0.0060	-0.0018	0.0018	19,676
<i>+NEWS</i>	0.0048	0.0033	0.0048	0.0011	0.0071	7,649
<i>-NEWS</i>	-0.0037	-0.0019	0.0047	-0.0045	-0.0008	9,671
Forecast Error, <i>FE</i>	-0.0003	0.0004	0.0048	-0.0013	0.0016	19,676
<i>RANGE</i> of MEF	0.0340	0.020	0.0388	0.01	0.05	19,676

Sample Characteristics:

Table 2: Correlations.

Guidance sample; N = 19,676

	ln(Assets)	OPTIMISM	DISPERSION	NEWS	Walk-up dummy	RANGE	Forecast Error
ln(Assets)	1						
OPTIMISM	-0.0397	1					
DISPERSION	-0.0176	0.0438	1				
NEWS	0.0653	-0.6737	-0.2031	1			
Walk-up dummy	0.0051	-0.4098	-0.0866	0.6339	1		
RANGE	0.1370	0.0345	0.1675	-0.0010	0.0191	1	
Forecast Error	-0.0341	-0.3648	0.2027	-0.4422	-0.3013	-0.0407	1

Forecast accuracy:

Table 4: EPS as a function of MEF.

A. Walk downs	Dependent variable: EPS			
	(1)	(2)	(3)	(4)
MEF	0.983 ^{***}	0.981 ^{***}	0.978 ^{***}	0.977 ^{***}
Standard error	(0.005)	(0.005)	(0.007)	(0.007)
t-stat (H_0 : slope = 1)	3.400	3.800	3.143	3.286
Intercept	0.001 ^{***}	—	—	—
t-stat (H_0 : intercept = 0)	13.350			
Year fixed effects	N	Y	N	Y
Firm fixed effects	N	N	Y	Y
R-square	0.938	0.940	0.956	0.957
N	9,671	9,671	9,671	9,671

H_0 : [slope = 1, intercept = 0]: $F(2, 1582) = 138.2085$ $p = 0.0000$

B. Walk Ups	Dependent variable: EPS			
	(1)	(2)	(3)	(4)
MEF	0.938 ^{***}	0.919 ^{***}	0.910 ^{***}	0.876 ^{***}
Standard error	(0.013)	(0.013)	(0.014)	(0.015)
t-stat (H_0 : slope = 1)	4.769	6.231	6.429	8.267
Intercept	-0.001 ^{***}	—	—	—
t-stat (H_0 : intercept = 0)	-5.790			
Year fixed effects	N	Y	N	Y
Firm fixed effects	N	N	Y	Y
R-square	0.781	0.803	0.921	0.932
N	7,649	7,649	7,649	7,649

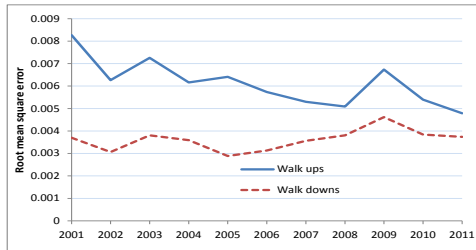
H_0 : [slope = 1, intercept = 0]: $F(2, 1317) = 52.02$, $p = 0.0000$

*** significant at better than 1% level

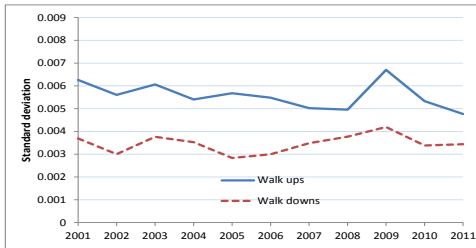
Forecast accuracy:

Figure 3: MEFs as predictors of ultimate EPS.

A. Root mean square error



B. Standard deviation



Forecast accuracy:

Table 5: Prediction accuracy of MEFs as a function of time until earnings announcement date.

A. Root mean square error

Quintile EPS-MEF: Days	Walk ups	Walk downs	Ratio: Walk-up/Walk down
1 [Low]	0.00605	0.00251	2.41
2	0.00643	0.00355	1.81
3	0.00600	0.00385	1.56
4	0.00660	0.00395	1.67
5 [High]	0.00661	0.00404	1.64

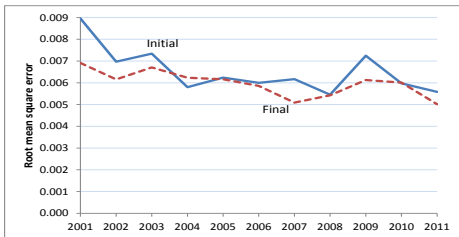
B. Standard deviation

Quintile EPS-MEF: Days	Walk ups	Walk downs	Ratio: Walk-up/Walk down
1 [Low]	0.005419	0.002445	2.22
2	0.005887	0.003449	1.71
3	0.005812	0.003711	1.57
4	0.006366	0.003871	1.64
5 [High]	0.006237	0.004037	1.54

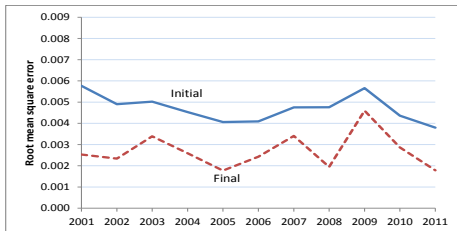
Forecast accuracy:

Figure 4: Prediction accuracy of initial versus final MEFs.

A. Walk ups (N = 1,177)



B. Walk downs (N = 1,292)



Market reaction to earnings:

Table 6: Cumulative abnormal return at the earnings announcement date as a function of earnings surprise; walk ups versus walk downs.

A. Walk downs

	CAR in earnings announcement window			
	(1)	(2)	(3)	(4)
<i>FE</i>	4.209***	4.334***	4.607***	4.792***
Standard error	0.319	0.324	0.357	0.360
Intercept	-0.005***	—	—	—
Standard error	0.001			
Year fixed effects	N	Y	N	Y
Firm fixed effects	N	N	Y	Y
R-square	0.033	0.037	0.234	0.240
N	9,671	9,671	9,671	9,671

B. Walk ups

	CAR in earnings announcement window			
	(1)	(2)	(3)	(4)
<i>FE</i>	0.440**	0.581***	1.602***	2.039***
Standard error	0.185	0.200	0.326	0.337
Intercept	0.011**	—	—	—
Standard error	0.001			
Year fixed effects	N	Y	N	Y
Firm fixed effects	N	N	Y	Y
R-square	0.001	0.004	0.206	0.211
N	7,649	7,649	7,649	7,649

** Significant at 5% level

***Significant at 1% level

Market reaction to earnings:

Optimal extraction of signal from noise:

- We can devise a formal test that these regression results are due at least in part to noise in the MEF by considering a simple model.

Suppose that the process underlying the formation of MEFs is given by:

$$MEF_t = a_0 + a_1 * EPS_t + \eta_t$$

- Outsiders can't observe EPS_t until after the fact, but can collect data and estimate the model. If the forecasts are unbiased, then $a_0 = 0$ and $a_1 = 1$.

An investor will thus observe the current MEF and attempt to extract from it the best forecast of EPS:

$$EPS_t = \beta_0 + \beta_1 * MEF_t + \varepsilon_t$$

- Calling b_i the estimator of β_i we have: $b_1 = \frac{COV(MEF, EPS)}{VAR(MEF)} = \frac{a_1 VAR(EPS)}{a_1^2 VAR(EPS) + VAR(\eta)}$
- If the MEF is nearly unbiased, then $a_1 \approx 1$, implying that $b_1 < 1$, the necessary attenuation of the MEF.
- The greater the noise in the MEF, the lower is b_1 , implying the forecast will be more aggressively trimmed back toward a_0 (zero for an unbiased manager), analogous to the classic errors-in-variables problem.

Market reaction to earnings:

Testing attenuation bias:

- Call EPS_t^* the market's expectation of EPS_t .
The market forms EPS_t^* from the management's forecast as $EPS_t^* = b_0 + b_1 MEF_t$.
- The abnormal return at the earnings announcement date is determined by the earnings surprise:

$$CAR_t = \gamma_0 + \gamma_1 (EPS_t - EPS_t^*) + \varepsilon_t,$$

or,

$$CAR_t = \gamma_0 + \gamma_1 [EPS_t - (b_0 + b_1 MEF_t)] + \varepsilon_t$$

Therefore:

$$CAR_t = (\gamma_0 - \gamma_1 b_0) + \gamma_1 EPS_t - \gamma_1 b_1 MEF_t + \varepsilon_t$$

or,

$$CAR_t = (\gamma_0 - \gamma_1 b_0) + \gamma_1 (EPS_t - MEF_t) + \gamma_1 (1 - b_1) MEF_t + \varepsilon_t$$

- This is the standard regression of CAR on FE but with an extra term added. The extra term equals 0 if $b_1 = 1$, but is positive if $b_1 < 1$, where $b_1 < 1$ if there is a significant value of $\text{Var}(\eta)$.
- The significance of the coefficient on the last term thus provides a test of whether the noise in the MEF is sufficient to affect the market's reaction to an earnings announcement.

Market reaction to earnings:

Table 7: CAR in earnings announcement window as a function of earnings surprise and MEF.

A. Regression	5-Day CAR (earnings announcement window)			
	(1)	(2)	(3)	(4)
<i>FE</i>	1.687***	1.855***	2.732***	3.253***
Standard error	(0.178)	(0.188)	(0.226)	(0.227)
<i>MEF</i>	0.186***	0.207***	0.037	0.134
Standard error	(0.069)	(0.068)	(0.083)	(0.082)
<i>MEF</i> × Walk-Up dummy	0.413***	0.422***	0.289***	0.267***
Standard error	(0.085)	(0.086)	(0.088)	(0.087)
Intercept	−0.000	—	—	—
Standard error	(0.001)			
Year fixed effects	N	Y	N	Y
Firm fixed effects	N	N	Y	Y
R-square	0.012	0.015	0.147	0.154
N	19,676	19,676	19,676	19,676
B. Implied value of b_1				
Walk downs ^a	0.890	0.888	0.986	0.959
Walk ups ^b	0.645	0.661	0.881	0.877

^a Implied value = $1 - \frac{\text{coefficient on MEF}}{\text{coefficient on FE}}$

^b Implied value = $1 - \frac{\text{coefficient on MEF} + \text{coefficient on MEF} \times \text{Walk-up Dummy}}{\text{coefficient on FE}}$

*** Significant at better than a 1% level.

Market reaction to earnings:

Table 8

Cumulative abnormal return surrounding a management earnings forecast as a function of *NEWS* contained in the MEF.

A. Walk downs

CAR in the MEF announcement window				
	(1)	(2)	(3)	(4)
<i>NEWS</i>	4.279***	4.454***	4.383***	4.620***
Standard error	0.221	0.225	0.303	0.312
Intercept	−0.015	—	—	—
Standard error	0.001			
Year fixed effects	N	Y	N	Y
Firm fixed effects	N	N	Y	Y
R-square	0.054	0.059	0.254	0.256
N	9,671	9,671	9,671	9,671

B. Walk ups

CAR in the MEF announcement window				
	(1)	(2)	(3)	(4)
<i>NEWS</i>	0.391*	0.693***	2.203***	2.714***
Standard error	0.216	0.221	0.299	0.297
Intercept	0.026***	—	—	—
Standard error	0.002			
Year fixed effects	N	Y	N	Y
Firm fixed effects	N	N	Y	Y
R-square	0.001	0.013	0.251	0.261
N	7,649	7,649	7,649	7,649

* significant at 10% level

** significant at 5% level

*** significant at 1% level

- Walk up and walk down management earnings forecasts are received very differently by the market.
- Walk downs generate far greater stock price reactions than walk ups.
- Like other researchers, we attribute this difference to differing levels of credibility.
- But we find that neither walk ups nor walk downs exhibit meaningful amounts of bias, and therefore we look for other aspects of credibility to explain this pattern.
- We focus on the uncertainty surrounding earnings forecasts, and find that walk ups are far noisier than walk downs.
- Walk ups show much greater dispersion relative to final earnings, and, unlike walk downs, show little tendency to become more accurate as they get closer to the final earnings announcement date.
- We show that an investor who seeks to extract a signal of the firm's earnings prospects from these noisy forecasts will rationally choose to trim the MEF.
- We estimate that while walk down announcements may warrant trimming of around 10%, the greater noise surrounding walk ups calls for more extreme trimming, by as much as one-third.
- These findings help to explain the comparatively muted market reaction to walk-up announcements.