

Long-Term Earnings Forecasts, Managerial Distortion, and Stock Returns

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Presentation at ABFER

May 2023

Mispricing and Biased Expectation

- Stock market anomalies relate mispricing to investor behavioral biases.
 - E.g. expectation error – investors over-extrapolate past earnings and mis-value firms
- La Porta (1996) – Analysts’ expectations of *long-term earnings growth (LTG)* predicts future stock returns
- Bordalo, Gennaioli, La Porta and Shleifer (**BGLS**) (2019)
 - Analysts and investors overreact to high past earnings growth (“kernel of truth” property)
 - have diagnostic expectations (after good news, overinflate expectations of the tail due to representative expectations)
- In the data, high LTG stocks
 - Have high past growth which slows down.
 - High past returns and low future long-term returns

Stock Mispricing and Managerial Distortion

- “Demand-based” vs “supply-based” explanation for mispricing
- Managers engage in earnings distortion to boost stock prices (both high and low LTG firms)
 - Bergstresser and Phillipon (2006)
 - Chen, Cohen and Lou (2016)
- No persistent long-term earnings growth
 - Chan, Karceski and Lakonishok (2003)
 - Boost in prices for high LTG will revert in the long run
 - Boost in prices for low LTG doesn't have the same effect
- Prediction1: High LTG firms with manipulated earnings have low future returns

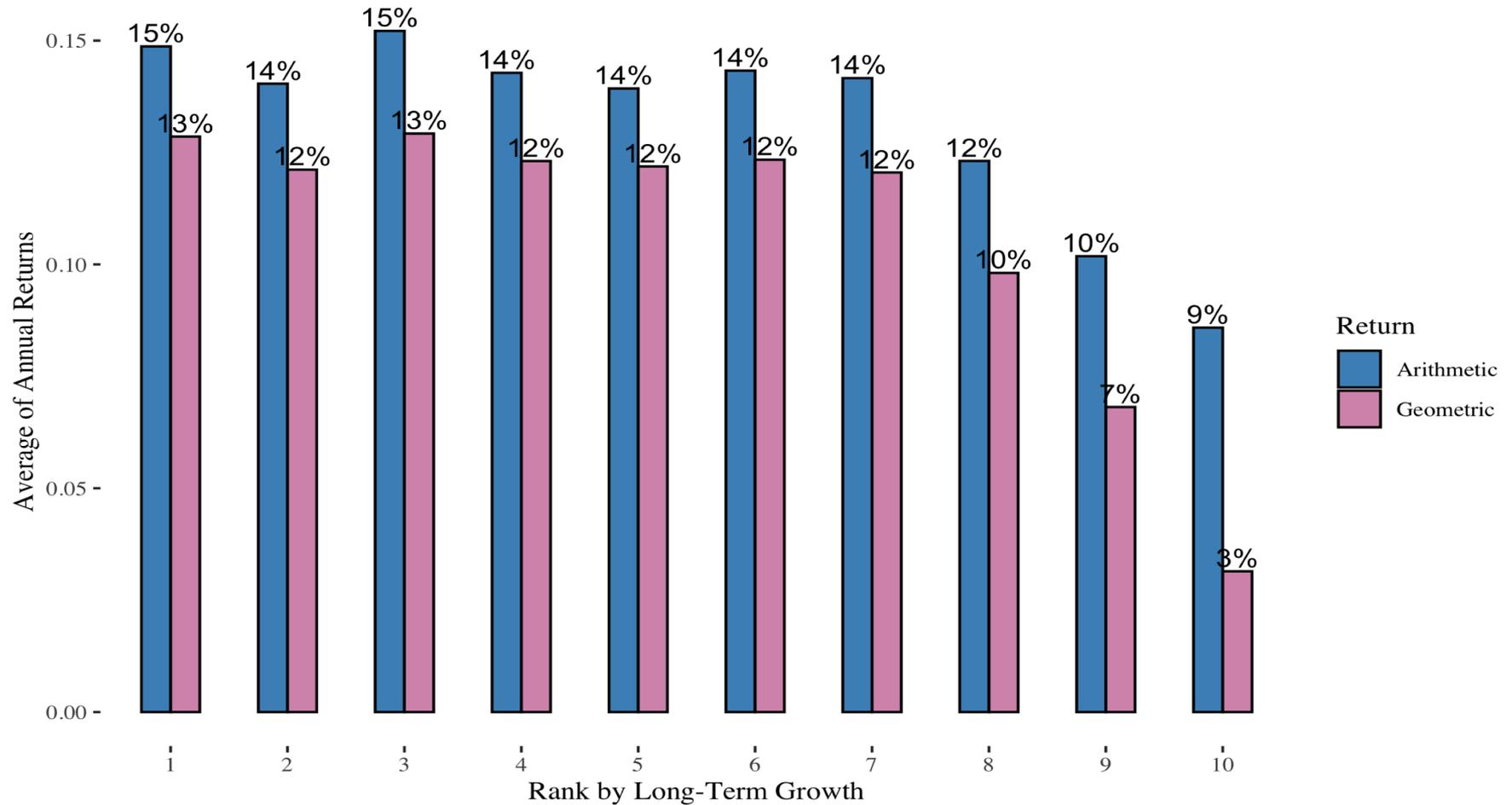
Implications for Long-term earnings predictability

- Prediction2: High LTG firms may not have bigger forecast errors
- Expectation Error : extrapolation leads to bigger forecast error; forecast dispersion
- Managerial Distortion : unclear
 - Separating analysts from investors
 - Unrelated to earnings forecastability if analysts do'not fall for it

Setting

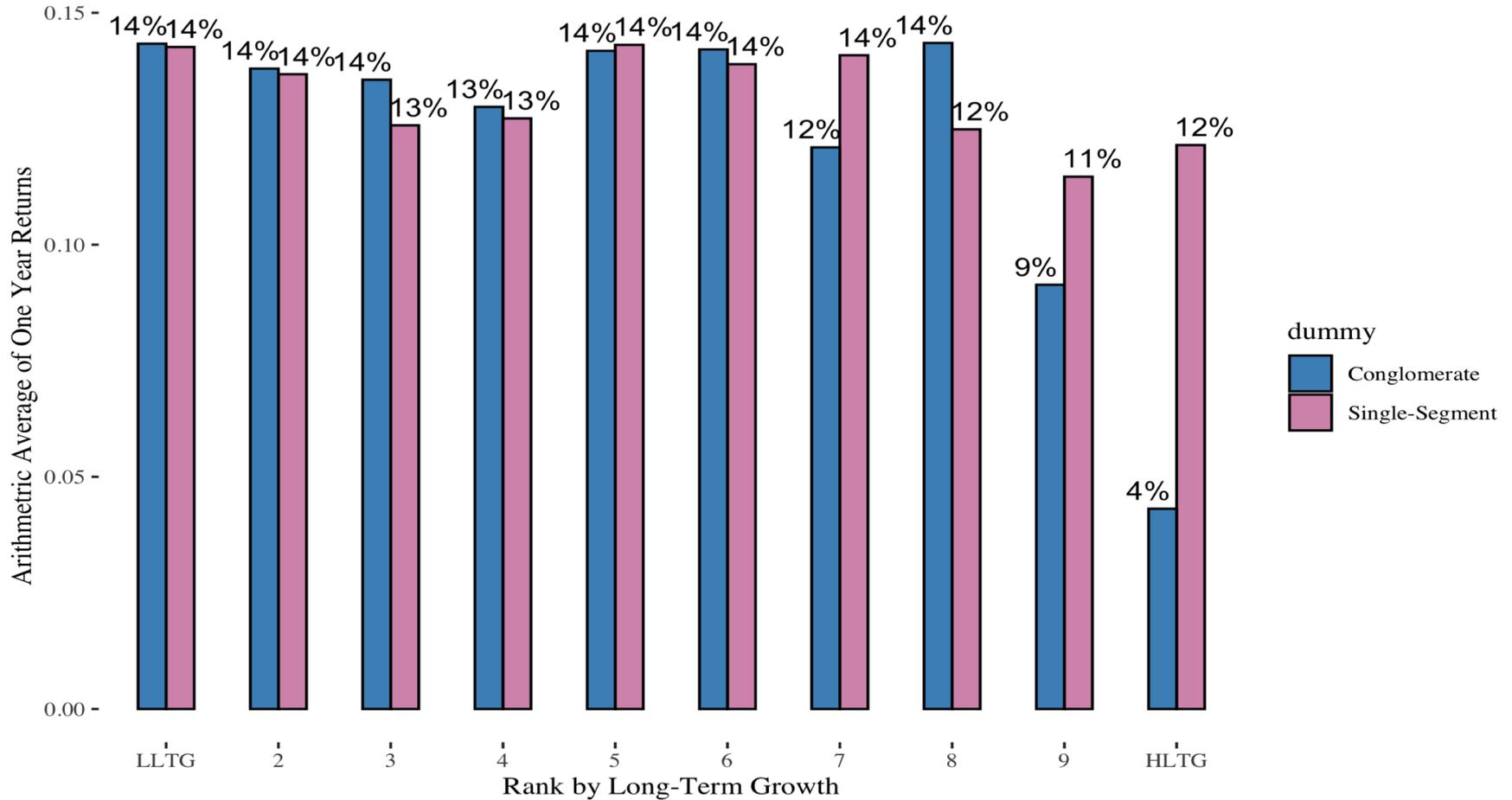
- All US common stocks in CRSP : 1982-2019
- Two groups of firms
 - Single-segment firms & Conglomerates : operate in > 1 segment
 - Easier to distort earnings
 - Smaller earnings volatility

Stock Return Predictability and Earnings Growth



- BGLS (2019): Deciles sorted on LTG
- Sample Period: 1982 to 2019

Returns Predictability: Conglomerates vs Single-segment firms



- Annual return on High minus Low LTG decile:
 - Single segments = -2% (t=0.42)
 - Conglomerate = -10% (t=3.62)

Constructing Pseudo-Conglomerates

- Cohen and Lou (2012)
 1. For each conglomerate, we construct a matched pseudo-conglomerate as the segment-sales weighted average of the industry portfolios which are compiled from single segment firms.

	A	B	
Sales	0.4	0.6	
Return	R_A	R_B	$R = 0.4 * R_A + 0.6 * R_B$

2. Unconditionally, returns on conglomerates and pseudo-conglomerates are similar

Conglomerate Dummy	Raw Returns	FF5+Mom	Q-factor	Mispricing
Conglomerates	0.64*** (3.175)	-0.068 (-1.566)	-0.071 (-1.585)	-0.06 (-1.156)
Pseudo-Conglomerates	0.676*** (2.813)	0.007 (0.154)	0.006 (0.122)	0.008 (0.15)
Conglomerates Minus Pseudo-Conglomerates	-0.035 (-0.449)	-0.075 (-1.549)	-0.077 (-1.449)	-0.068 (-1.312)

Earning Growth and Returns: Conglomerates vs Pseudo

Long-Term Growth Rate (LTG)	Conglomerate Dummy	Raw Returns	FF5+Mom	Q-factor	Mispricing
High Growth Firms	Conglomerates	0.183 (0.606)	-0.647*** (-4.682)	-0.611*** (-4.638)	-0.583*** (-4.126)
	Pseudo-Conglomerates	0.453 (1.363)	0.015 (0.11)	0.068 (0.413)	0.012 (0.073)
	Conglomerates Minus Pseudo-Conglomerates	-0.27 (-1.402)	-0.662*** (-3.603)	-0.679*** (-3.36)	-0.595*** (-2.747)
Low Growth Firms	Conglomerates	1.093*** (4.844)	0.076 (0.746)	0.092 (0.834)	0.193 (1.392)
	Pseudo-Conglomerates	0.87*** (3.845)	0.055 (0.375)	0.058 (0.358)	0.229 (1.387)
	Conglomerates Minus Pseudo-Conglomerates	0.223 (1.401)	0.021 (0.133)	0.034 (0.22)	-0.036 (-0.207)
High Growth Minus Low Growth	Conglomerates	-0.91*** (-4.889)	-0.723*** (-4.961)	-0.703*** (-4.788)	-0.776*** (-5.024)
	Pseudo-Conglomerates	-0.417 (-1.431)	-0.04 (-0.195)	0.009 (0.036)	-0.217 (-0.892)

Annual alpha = -8.7%

Robust: Calender-time portfolio vs Annual FM Regressions; Sub-periods

Managerial Distortion

- Conglomerates provide a setting where managers have the ability to distort earnings across segments
 - Relative to pseudo-conglomerates
 - leading to higher current prices and low long-term returns
- Evidence of distortion of cash flows across segments in conglomerates
 - Harbaugh, Maxwell and Shue (2017)
 - Chen, Cohen and Lou (2016)

Measuring Managerial Distortion

- First measure of distortion in conglomerates follows Harbaugh, Maxwell, and Shue (2017).
- Intuition: News is more convincing when it is more consistent.
- Managers will re-allocate *costs* across segments to achieve
 - a. more consistent earnings across segments when the firm is doing well
 - b. less consistent earnings across segments when firm is doing badly.

Segment-level earnings Firm-level earning	Consistent	Inconsistent
Good	Distortion	No distortion
Bad	No distortion	Distortion

Alternative Measures of Managerial Distortions (CCL)

Distortion based on industry window dressing by conglomerates

- Chen, Cohen, and Lou (2016)
- At the margin, managers of conglomerates manipulate sales across segments so that their primary industry (biggest % of sales) is most favorable (has higher industry valuations)

Risk-Adjusted Returns: Conglomerates and Distortion (HMS)

- Conglomerates sorted by LTG and Distortion.

LTG	Strategic Manipulation	Raw Returns	FF5+Mom	Q-factor	Mispricing
High	Distorted	0.291 (0.918)	-0.704*** (-3.455)	-0.623*** (-3.177)	-0.753*** (-3.078)
	Not Distorted	0.478 (1.377)	-0.264 (-1.463)	-0.158 (-0.839)	-0.164 (-0.759)
	Distorted Minus Not Distorted	-0.187 (-0.788)	-0.44 (-1.586)	-0.465* (-1.684)	-0.589** (-1.812)
Low	Distorted	1.125*** (4.329)	0.088 (0.618)	0.085 (0.586)	0.279 (1.698)
	Not Distorted	0.871*** (3.388)	-0.137 (-1.003)	-0.096 (-0.577)	0.025 (0.137)
	Distorted Minus Not Distorted	0.253 (1.524)	0.224 (1.326)	0.182 (1.053)	0.255 (1.33)

annualised alpha (FF5+MOM) of **-8.1%**

Underperformance of High LTG Conglomerates comes from Conglomerates with Distortion.

Risk-Adjusted Returns: Conglomerates and Distortion (CCL)

- Conglomerates sorted by LTG and Distortion Based Sales Management (Chen, Cohen and Lou (2016)).

LTG	Sales Manipulation	Raw Returns	FF5+Mo m	Q-factor	Mispricing
High	Distorted	0.044 (0.11)	-0.767** (-2.236)	-0.795** (-2.129)	-0.748** (-2.272)
	Not Distorted	0.714 (2.05)	-0.028 (-0.081)	0.05 (0.128)	0.212 (0.552)
	Distorted Minus Not Distorted	-0.702 (-1.554)	-0.771 (-1.458)	-0.889* (-1.672)	-1.016* (-1.823)
Low	Distorted	0.991 (2.629)	0.126 (0.472)	0.111 (0.378)	0.153 (0.512)
	Not Distorted	0.909 (2.863)	0.093 (0.52)	0.087 (0.447)	0.262 (1.215)
	Distorted Minus Not Distorted	0.077 (0.228)	0.05 (0.155)	0.033 (0.114)	-0.094 (-0.256)

annualised alpha (FF5+MOM) of **-9.6%**

Managerial Incentives

Incentive to distort cash flows for short-term price gains

- Bergstresser and Philippon (2006) – cash flow manipulation is more pronounced when CEO total compensation is tied to value of stock
- sensitivity of CEO compensation to stock prices
 - Core and Guay (2002); Coles, Daniel, and Naveen (2006)
- Delta = sensitivity of CEO wealth to stock prices
- Vega = sensitivity of CEO wealth to stock return volatility

Alternative Measure of Distortion: Delta & Vega

Conglomerates sorted by LTG and Incentive to Manipulate –Coles, Daniel, and Naveen (2006)). Delta & Vega.

LTG	Delta	Raw Returns	FF5+Mo m	Q-factor	Mispricing	
	High	0.13 (0.357)	-0.793*** (-4.014)	-0.718*** (-3.804)	-0.716*** (-3.585)	
High	Low	0.461 (1.277)	-0.296 (-1.347)	-0.231 (-0.988)	0.083 (-0.355)	
	High Minus Low	-0.331 (-1.484)	-0.497*** (-2.187)	-0.487* (-1.893)	-0.633** (-2.318)	
	High	1.168*** (4.091)	0.194 (1.257)	0.24 (1.393)	0.435** (2.122)	annualised alpha = -9.9%
Low	Low	1.008*** (3.811)	0.129 (0.794)	0.188 (1.014)	0.274 (1.257)	
	High Minus Low	0.16 (1.266)	0.065 (0.47)	0.052 (0.376)	0.161 (1.162)	
LTG	Vega	Raw Returns	FF5+Mo m	Q-factor	Mispricing	
	High	0.077 (0.209)	-0.852*** (-4.188)	-0.773*** (-4.014)	-0.734*** (-3.655)	
High	Low	0.621* (1.726)	-0.415* (-1.73)	-0.286 (-1.166)	-0.28 (-1.029)	
	High Minus Low	-0.543*** (-2.582)	-0.436** (-2.031)	-0.486** (-2.169)	-0.454* (-1.791)	
	High	1.136*** (4.214)	0.178 (1.208)	0.228 (1.447)	0.37** (1.964)	annualised alpha = -10.7%
Low	Low	1.108*** (4.178)	0.245 (1.49)	0.302 (1.586)	0.434** (1.995)	
	High Minus Low	0.028 (0.224)	-0.068 (-0.545)	-0.074 (-0.596)	-0.064 (-0.502)	

Limits of Arbitrage

- Short-selling cost = actual/expected stock borrowing costs
- Drechsler and Drechsler (2014) and Atmaz and Basak (2019)

Panel A: One-Year Returns Based on Expected Shorting Fees for High Growth Conglomerates						
Strategic Manipulation	Expected Shorting Fee	Raw Returns	FF5+Mom	Q-factor	Mispricing	
Distorted	High	-0.101 (-0.145)	-0.965*** (-2.637)	-0.955*** (-2.52)	-0.92*** (-2.601)	annualised alpha = -11.0%
	Low	0.501 (0.723)	-0.533 (-1.391)	-0.393 (-1.095)	0.405 (-1.165)	
	High Minus Low	-0.603*** (-2.721)	-0.432* (-1.71)	-0.562** (-2.397)	-0.515* (-1.849)	
Panel B: One-Year Returns Based on Actual Shorting Fees for High Growth Conglomerates						
Strategic Manipulation	Actual Shorting Fee	Raw Returns	FF5+Mom	Q-factor	Mispricing	
Distorted	High	0.414 (0.818)	-0.75** (-2.278)	-0.818** (-2.432)	-0.835** (-2.096)	annualised alpha = -8.3%
	Low	1.115** (2.32)	-0.125 (-0.439)	-0.124 (-0.426)	0.262 (-0.828)	
	High Minus Low	-0.701*** (-2.812)	-0.625** (-1.978)	-0.694** (-2.19)	-0.573 (-1.313)	

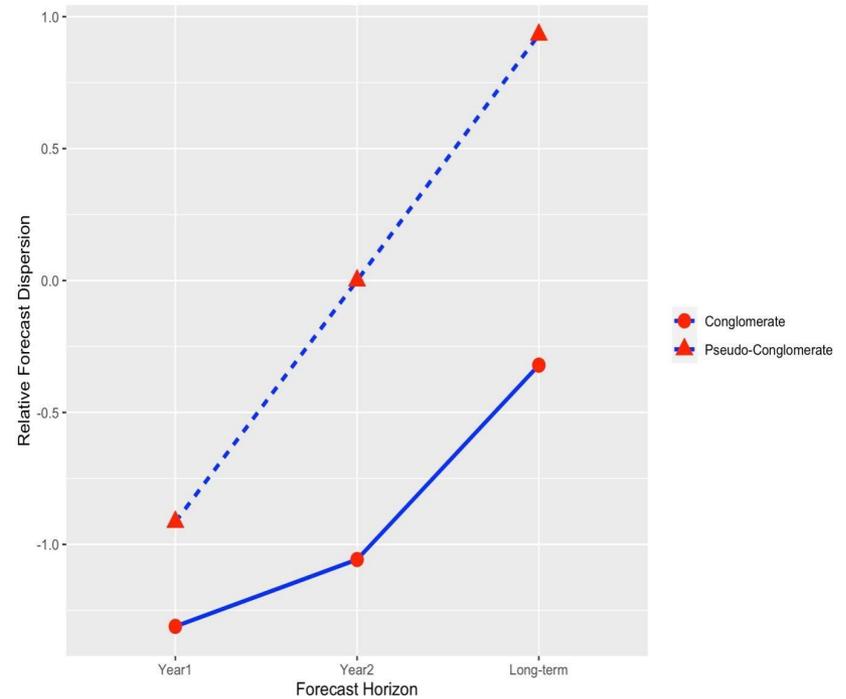
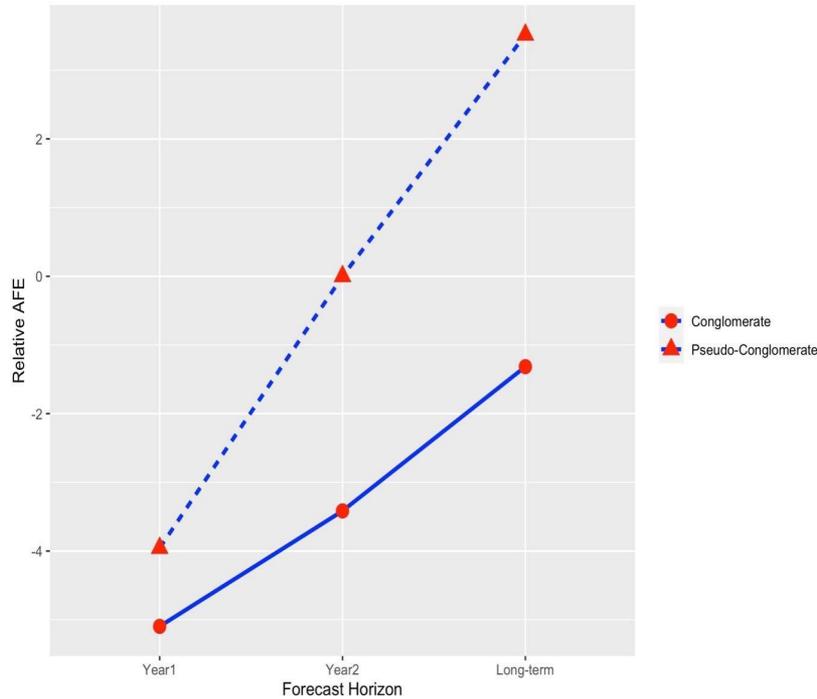
- Low returns on high growth conglomerates with distortion is stronger when shorting is risky

Separating Channels: Long-Term Earnings Predictability

- Expectation Error: bigger forecast errors
- Managerial distortion: no change in earnings predictability if analysts don't fall for it.

Relative AFE/FD Across Horizons: Conglomerates vs Pseudo

$$AFE/FD_{i,t,f} = \beta_1 \text{Conglomerate}_{i,t} * 1\text{Year} + \beta_2 \text{Conglomerate}_{i,t} * \text{LT_Dummy} + \beta_3 Z_{i,t} + X_i + Y_{n,t} + \varepsilon_{i,t}$$



- Conglomerates have smaller AFE and FD relative to Pseudo, especially in the long-term

Earnings Predictability and Forecast Revisions

- Coibion and Gorodnichenko (2015) regressions
- $$\left(\frac{EPS_{i,t+n}}{EPS_{i,t}}\right)^{\frac{1}{n}} - LTG_{i,t} = \alpha + \beta_1 Conglm_{i,t} + \beta_2 (LTG_{i,t} - LTG_{i,t-1}) + \beta_3 Conglm_{i,t} * (LTG_{i,t} - LTG_{i,t-1}) + Year_{n,t} + \varepsilon_{i,t},$$
- Negative β_2 indicates overreaction in forecast revision.

Dependent Variable:	$(EPS_{t+3}/EPS_t)^{1/3} - LTG_t$	$(EPS_{t+4}/EPS_t)^{1/4} - LTG_t$	$(EPS_{t+5}/EPS_t)^{1/5} - LTG_t$
Revision	-0.482*** (0.109)	-0.688*** (0.075)	-0.610*** (0.071)
Conglomerate	0.118*** (0.009)	0.160*** (0.006)	0.167*** (0.006)
Revision*Conglomerate	0.236** (0.118)	0.283*** (0.080)	0.200*** (0.076)
Year Fixed Effects	Yes	Yes	Yes
Observations	28,418	25,830	23,655
Adjusted R ²	0.095	0.219	0.274

- $\beta_3 > 0$ suggests smaller overreaction for conglomerates
- Conglomerates (incl. high growth) have less biased earnings forecasts

Earnings Predictability: Managerial Distortion

Dependent Variable:	AFE (1)	Forecast Dispersion (2)
Strategic Manipulation	0.191 (0.279)	-0.024 (0.052)
Size	-3.568*** (0.670)	-1.294*** (0.177)
Firm Age	0.134*** (0.039)	0.052*** (0.017)
Analyst Coverage	0.151** (0.067)	0.070*** (0.023)
BM	2.718*** (0.490)	0.506*** (0.138)
Firm Fixed effects	Yes	Yes
Industry*Fiscal Year Fixed effects	Yes	Yes
Double Clustering by Industry and Fiscal Year	Yes	Yes
Observations	6,992	7,330
Adjusted R ²	0.659	0.628

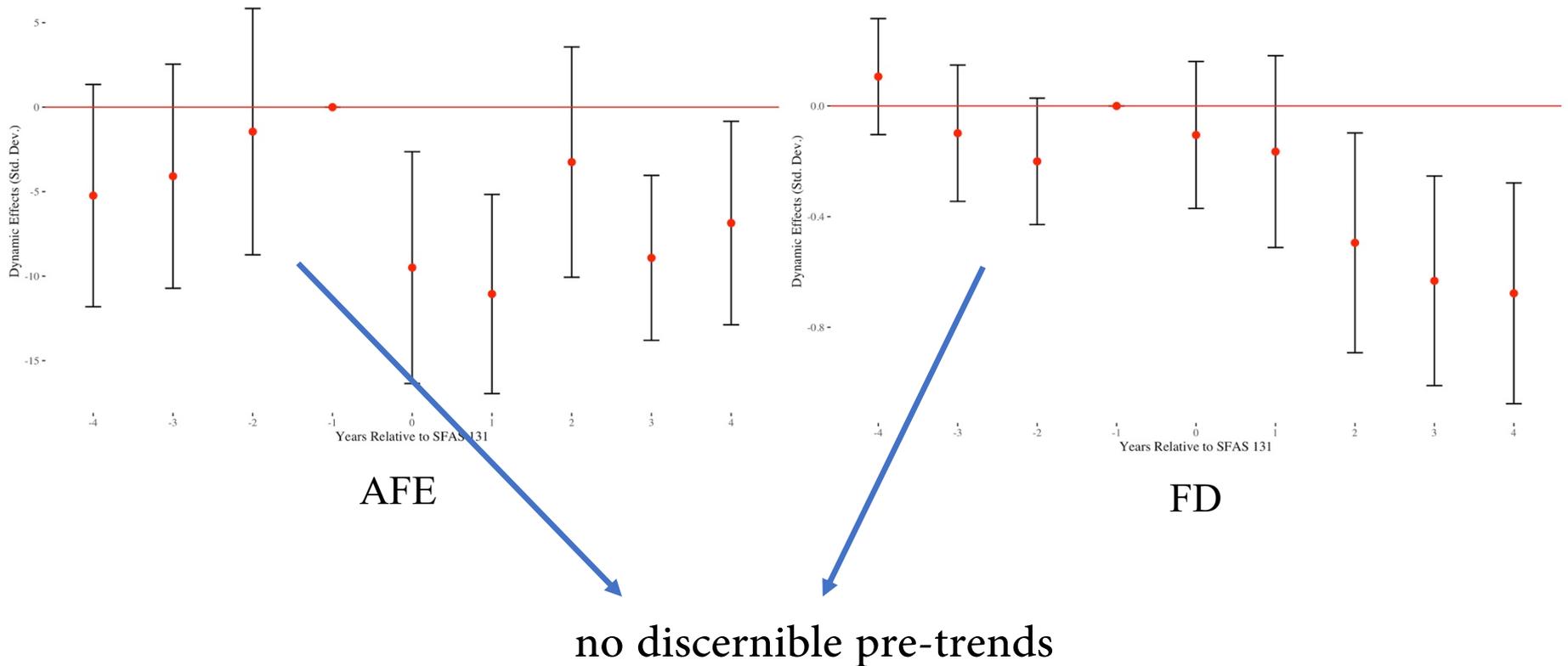
- Managerial distortion does not affect analysts earnings forecasts.

Evidence from SFAS 131: DiD Analysis

- Implemented in 1997, SFAS 131 improves the transparency of capital allocations across segments (e.g. Berger and Hann (2003), Ettredge, Kwon, Smith, and Zarowin (2005), Cho (2015)).
- Cho (2015) : Using 10-K filings from EDGAR, a firm is defined as a forced adopter of SFAS 131 if
 1. its segments reported under SFAS 14 are different from those restated under SFAS 131 and
 2. the restated segments under SFAS 131 reveal additional operations in industries that were not disclosed under SFAS 14.
- Main Finding:
- Conglomerates that were forced adopters and distorted earnings exhibit lower earnings forecast error and forecast dispersion in post-SFAS 131.

SFAS 131: Dynamic Effects and Parallel Trends

$$Y_{i,t} = \beta_1 \sum_{s=-4, s \neq -1}^4 Ex - Ante Distortion_i * D_{s(i,t)} + \beta_2 Control_{i,t} + Firm_i + Year_t + \varepsilon_{i,t}$$



Treated Firms: Conglomerates that are forced adopters and distort earnings ex-ante
Control Firms: Conglomerates that are forced adopters but did not distort earnings

Mutual Funds' Reaction to Manipulation

Dependent Variable: Sample:	ΔMF Ownership		ΔActive MF Ownership	
	All Firms (1)	Conglomerate s (2)	All Firms (3)	Conglomerat es (4)
ΔHighLTG*Conglomerate	1.11*** (0.153)		1.10*** (0.148)	
ΔHighLTG Manipulation	*	5.68*** (0.380)		5.56*** (0.377)
ΔHighLTG Manipulation	0.031 (0.063)	0.032 (0.107)	0.045 (0.061)	0.056 (0.103)
Conglomerate		0.024 (0.023)		0.021 (0.021)
Stock Return	-0.022*** (0.006)		-0.022*** (0.006)	
Size	0.131** (0.046)	0.308*** (0.089)	0.120** (0.043)	0.315*** (0.091)
BM	0.012 (0.026)	0.006 (0.046)	0.019 (0.022)	0.025 (0.043)
	-0.030 (0.018)	0.004 (0.022)	-0.026 (0.017)	0.011 (0.018)
Firm Fixed effects	Yes	Yes	Yes	Yes
Year Quarter Fixed effects	Yes	Yes	Yes	Yes
Clustering by Firm&Time	Yes	Yes	Yes	Yes
Observations	251,157	53,566	251,157	53,566
Adjusted R ²	0.104	0.130	0.084	0.106

➤ Mutual funds increase holdings on High-LTG conglomerates with manipulation

Mutual Fund Performance and Distortion

- Fund's *active* investment weight in high LTG conglomerates with distortion = HGCD;
Sorts funds by exposure to HGCD

Panel B: Returns on funds sorted by their Active Investment Weights in High-Growth Conglomerates with Strategic Manipulation of Earnings (HGCD)

High-Growth Conglomerates Distorted (HGCD)	Raw Returns	Carhart	FF5+Mom	Ferson-Schadt	Objective Adjusted
Low	0.566* (1.845)	-0.022 (-0.328)	-0.021 (-0.299)	-0.03 (-0.505)	-0.037 (-0.773)
2	0.58* (1.872)	-0.02 (-0.245)	-0.071 (-0.896)	-0.085 (-1.154)	-0.041 (-0.997)
3	0.555* (1.688)	-0.058 (-0.74)	-0.07 (-0.889)	-0.07 (-0.887)	-0.008 (-0.164)
4	0.504 (1.642)	-0.065 (-0.699)	-0.162* (-1.721)	-0.155* (-1.79)	-0.019 (-0.5)
High	0.325 (1.014)	-0.222** (-2.315)	-0.321*** (-3.029)	-0.317*** (-3.126)	-0.138*** (-2.867)
High Minus Low	-0.241** (-2.182)	-0.199*** (-2.46)	-0.299*** (-3.353)	-0.287*** (-3.05)	-0.101 (-1.422)

- Sorting Funds by exposure to High Growth Conglomerates without distortion

High Minus Low	-0.126 (-1.464)	-0.06 (-1.129)	-0.09 (-1.591)	-0.103* (-1.66)	-0.058 (-1.311)
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Conclusion

- We study the link between long-term forecasts of earnings growth and future stock returns.
- Strong negative returns for conglomerates with high LTG and managerial distortion
- Not explained purely by investor extrapolation of earnings
 - Analysts forecasts are more accurate, improve with SFAS 131 disclosures
 - Smaller forecast dispersions
 - Forecast revisions reflect less overconfidence in forecasts
- Mutual funds load more on high LTG conglomerates with managerial distortion.
- Managerial distortion and earnings growth have a joint effect on asset prices

Thank you

Forecast Revisions & High-Growth Conglomerate Returns

- Do analyst forecast revisions contain information about mispricing?

Panel A: One-Year Returns Based on Forecast Revision for High Growth Conglomerates					
Strategic Manipulation	Forecast Revision	Raw Returns	FF5+Mom	Q-factor	Mispricing
Distorted	Downward	0.044 (0.119)	-0.925*** (-2.808)	-0.847*** (-2.547)	-1.143*** (-3.37)
	Upward	0.854*** (2.505)	-0.347 (-1.172)	-0.284 (-0.843)	-0.317 (-1.114)
Not Distorted	Downward	1.096*** (2.563)	0.167 (0.498)	0.31 (0.921)	0.033 (0.095)
	Upward	0.836* (1.723)	-0.361 (-0.805)	-0.049 (-0.109)	-0.277 (-0.495)

- Lower returns predicted for conglomerates with high-growth and distortion when analysts revise forecasts downwards (less optimistic)

Sentiment & High-Growth Conglomerate Returns

- Investor sentiment = event sentiment score from Ravenpack
(negative or positive)

Panel B: One-Year Returns Based on Change in Sentiment for High Growth Conglomerates					
Strategic Manipulation	Change in Sentiment	Raw Returns	FF5+Mom	Q-factor	Mispricing
Distorted	Negative	0.326 (0.573)	-0.535 (-1.227)	-0.336 (-0.798)	-0.762* (-1.749)
	Positive	-0.077 (-0.143)	-1.03*** (-2.741)	-0.839** (-2.231)	-1.027** (-2.321)
Not Distorted	Negative	0.323 (0.501)	0.052 (0.103)	0.331 (0.509)	0.75 (1.049)
	Positive	0.062 (0.091)	-0.596 (-1.128)	-0.206 (-0.33)	0.003 (0.004)

- High-growth conglomerates with managerial distortion yield low stock returns when change investor sentiment is *positive*
- Investor sentiment drives mispricing more than analysts optimistic forecast revisions

Measuring Managerial Distortion (HMS)

- Consider segment i of firm j in year t , scaled segment earnings $e_{i,j,t} = \frac{sales_{i,j,t} - cost_{i,j,t}}{assets_{i,j,t}}$.
- Consistency means smaller standard deviation of segment news: $std_{j,t} = \log(std(e_{i,j,t}))$.
- Use industry level data to predict earnings consistency in the absence of cost allocation distortions
 - the ratio of average costs to average sales of all standalones in the same industry $\gamma_{n,t} = \frac{\overline{costs}_{j,t}}{\overline{sales}_{j,t}}$;

the predicted segment earning is

$$e_{i,j,t}^{\hat{}} = \frac{1}{assets_{i,j,t}} \left(sales_{i,j,t} - \frac{\gamma_{n(i),t} * sales_{i,j,t}}{\sum_i \gamma_{n(i),t} * sales_{i,j,t}} Costs_{j,t} \right)$$

- $m_{j,t}$ is defined as firm with *Distortion* if
- $Earn_{j,t} > Earn_{j,t}^{Ind}$ and $std_{j,t} < \widehat{std}_{j,t}$ (good state + consistent) or
- $Earn_{j,t} < Earn_{j,t}^{Ind}$ and $std_{j,t} > \widehat{std}_{j,t}$ (bad state + inconsistent)

Earnings Predictability: Conglomerates vs Pseudo

- Absolute forecast error (AFE) and forecast dispersion (FD)

Forecast Horizon	Absolute Forecast Error (AFE)						Dif (a-b)	t-stat
	Conglomerate			Pseudo-Conglomerate				
	Mean (a)	Median	SD	Mean (b)	Median	SD		
1	1.11	0.94	0.50	3.41	3.01	1.46	-2.30	(-8.43 ^{***})
2	2.79	2.47	1.18	7.42	6.95	2.92	-4.63	(-9.64 ^{***})
3-5	4.32	3.76	1.88	9.89	9.34	4.76	-5.56	(-6.05 ^{***})

Forecast Horizon	Growth Rate	Absolute Forecast Error (AFE)			
		Conglomerate	Pseudo-Conglomerate	Dif	t-stat
1	High	4.04	4.08	-0.04	(-0.07)
	Median	1.18	3.21	-2.03	(-5.87 ^{***})
	Low	0.70	2.87	-2.17	(-3 ^{***})
2	High	7.52	9.23	-1.71	(-2.29 ^{**})
	Median	2.82	7.14	-4.32	(-10.11 ^{***})
	Low	2.08	6.18	-4.10	(-3.77 ^{***})
3-5	High	9.07	12.85	-3.79	(-3.13 ^{***})
	Median	3.39	9.85	-6.45	(-5.85 ^{***})
	Low	3.85	7.66	-3.81	(-4.86 ^{***})

- Conglomerates have lower forecast error and forecast dispersion – *more predictable*
- Holds across forecast horizon (esp. long-term) and growth groups

Earnings Predictability: Conglomerates vs Pseudo

Dependent variable: Sample	AFE				FD			
	1Year (1)	2Year (2)	3-5Years (3)	ALL (4)	1Year (5)	2Year (6)	3-5Years (7)	ALL (8)
3-5Years_Dummy				5.533*** (0.742)				1.470*** (0.275)
Conglomerate	-1.519*** (0.486)	-2.581*** (0.654)	-3.343*** (1.056)	-1.654*** (0.492)	-0.400** (0.161)	-0.616*** (0.204)	-0.840** (0.376)	-0.368** (0.159)
3-5Years_Dummy*Conglomerate				-3.010*** (0.588)				-0.774*** (0.258)
Size	-0.525*** (0.164)	-1.161*** (0.166)	-0.982*** (0.222)	-0.914*** (0.147)	-0.250*** (0.045)	-0.298*** (0.037)	-0.238*** (0.060)	-0.290*** (0.039)
Firm Age	0.002 (0.006)	0.010 (0.010)	0.028 (0.016)	0.010 (0.008)	0.001 (0.002)	0.002 (0.003)	0.005 (0.006)	0.002 (0.003)
Analyst Coverage	-0.003 (0.011)	0.021 (0.016)	0.100* (0.055)	0.026** (0.011)	0.006* (0.003)	0.014*** (0.005)	0.044* (0.023)	0.018*** (0.003)
Book-Market	0.671** (0.305)	2.050*** (0.493)	3.969*** (0.751)	1.928*** (0.388)	0.415*** (0.104)	0.773*** (0.146)	1.064*** (0.163)	0.697*** (0.115)
Firm Fixed effects	Yes							
Industry*Fiscal Year Fixed effects	Yes							
Double Clustering by Industry and Fiscal Year	Yes							
Observations	30,375	30,346	14,986	75,707	30,375	30,346	14,986	75,707
Adjusted R ²	0.442	0.514	0.533	0.440	0.442	0.535	0.550	0.445

Evidence from SFAS 131: Average Treatment Effects

$$Y_{i,t} = \beta_1 Ex - Ante Distortion_{i,t} * Post_{i,t} + \beta_2 Post_{i,t} + \gamma Control_{i,t} + Firm_i + Year_{n,t} + \varepsilon_{i,t}$$

Dependent Variable	AFE (3)	FD (4)
Post	-4.403 (4.211)	-1.765** (0.740)
Ex-Ante Distortion*Post	-5.009** (2.501)	-1.151* (0.625)
Size	-0.342 (0.744)	-0.016 (0.259)
Firm Age	-0.064* (0.035)	-0.026** (0.013)
Analyst Coverage	-0.070 (0.260)	-0.049 (0.095)
BM	-0.070 (1.113)	0.520 (0.740)
Firm Fixed effects	Yes	Yes
Fiscal Year Fixed effects	Yes	Yes
Clustering by Firm	Yes	Yes
Observations	452	452
R ²	0.504	0.537
Adjusted R ²	0.360	0.403

After SFAS 131, AFE and FD decreased by 72% and 52% (relative to the ex-ante sample mean).

Mutual Funds' Reaction to Manipulation

➤ $\Delta w_{i,t} =$

$$\beta_1 \text{Manipulation}_{i,t} + \beta_2 \Delta \text{HighLTG}_{i,t} + \beta_3 \Delta \text{HighLTG}_{i,t} * \text{Manipulation}_{i,t} + \gamma \text{Control}_{i,t} + \text{Firm}_i + \text{YearQuarter}_t + \varepsilon_{i,t}$$

- $\Delta w_{i,t}$ = change in mutual fund ownership (%) over quarter t (raw or active)
 - $\Delta \text{HighLTG} = 1$ if stock moves to high growth
 - $\text{Manipulation} = 1$ if the conglomerate engages in manipulation
- Do mutual funds change their holdings on High-growth conglomerates with managerial distortion ?

FM Regressions: (Contemporaneous Returns)

Dependent Variable: Sample Selection	Current 1-Year Alpha	
	All Firms (1)	Conglomerates (2)
$\Delta\text{HighLTG}*\text{Conglomerate}$	0.137*** (0.042)	
$\Delta\text{HighLTG}*\text{Manipulation}$		0.174** (0.081)
$\Delta\text{HighLTG}$	0.020*** (0.006)	0.054 (0.038)
Manipulation		-0.023* (0.014)
Conglomerate	-0.020*** (0.007)	
Lag Stock Return	0.009** (0.004)	0.081*** (0.023)
Size	-0.080*** (0.011)	-0.187*** (0.022)
BM	-0.168*** (0.011)	-0.321*** (0.030)
Firm Fixed effects	Yes	Yes
Year Quarter Fixed effects	Yes	Yes
Clustering by Firm and Year Quarter	Yes	Yes
Observations	33,553	6,778
Adjusted R ²	0.131	0.299

Fama-Macbeth Regressions (Conglomerates)

Dependent Variable	One-year Alpha		Two-year Alpha	
	(1)	(2)	(3)	(4)
High Growth	-0.063*** (0.021)	0.001 (0.022)	-0.098** (0.038)	0.001 (0.063)
Distortion		-0.012 (0.013)		-0.012 (0.022)
High Growth* Distortion		-0.072* (0.041)		-0.150** (0.073)
Size	-0.022** (0.011)	- 0.022** (0.010)	-0.045** (0.018)	-0.049** (0.019)
Firm Age	0.000 (0.000)	0.000 (0.000)	0.000 (0.001)	0.000 (0.001)
Analyst Coverage	0.003 (0.002)	0.003 (0.002)	0.006* (0.003)	0.007** (0.003)
BM	0.006 (0.014)	0.003 (0.015)	0.009 (0.025)	-0.000 (0.028)
Constant	0.122 (0.075)	0.108 (0.067)	0.252** (0.109)	0.266** (0.114)
Observations	11,761	7,243	11,180	6,988
R-squared	0.037	0.069	0.043	0.079
F	3.210	1.658	3.395	2.313

Fama-Macbeth Regressions for Return Predictability

Dependent Variable	One-year Alpha			Two-year Alpha		
	(1)	(2)	(3)	(4)	(5)	(6)
High Growth	-0.063*** (0.021)	0.001 (0.022)	-0.041** (0.020)	-0.098** (0.038)	0.001 (0.063)	-0.079** (0.039)
Distortion		-0.012 (0.013)			-0.012 (0.022)	
High Growth* Distortion		-0.072* (0.041)			-0.150** (0.073)	
Down&Manipulation			0.004 (0.012)			-0.004 (0.022)
High Growth* Down& Distortion			-0.070** (0.029)			-0.149*** (0.031)
Size	-0.022** (0.011)	- 0.022** (0.010)	-0.021** (0.010)	-0.045** (0.018)	-0.049** (0.019)	-0.046** (0.017)
Firm Age	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)
Analyst Coverage	0.003 (0.002)	0.003 (0.002)	0.003 (0.002)	0.006* (0.003)	0.007** (0.003)	0.006** (0.003)
BM	0.006 (0.014)	0.003 (0.015)	0.006 (0.012)	0.009 (0.025)	-0.000 (0.028)	0.011 (0.023)
Constant	0.122 (0.075)	0.108 (0.067)	0.115 (0.071)	0.252** (0.109)	0.266** (0.114)	0.263** (0.107)
Observations	11,761	7,243	9,371	11,180	6,988	8,962
R-squared	0.037	0.069	0.047	0.043	0.079	0.050
F	3.210	1.658	2.409	3.395	2.313	5.657