Lazy Prices

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- Chen, Huaizhi, Lauren Cohen, Umit Gurun, Dong Lou, and Christopher J. Malloy. "IQ from IP: Simplifying Search in Portfolio Choice." Journal of Financial Economics 138, no. 1 (October 2020): 118–137.
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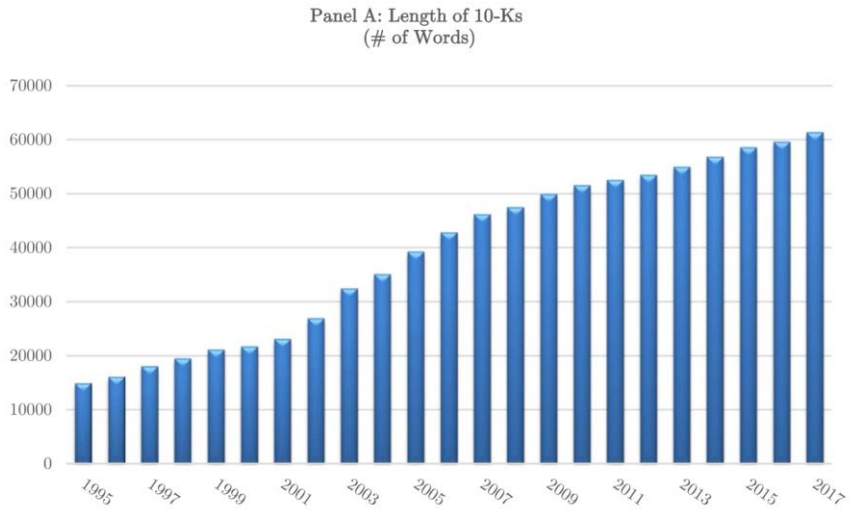
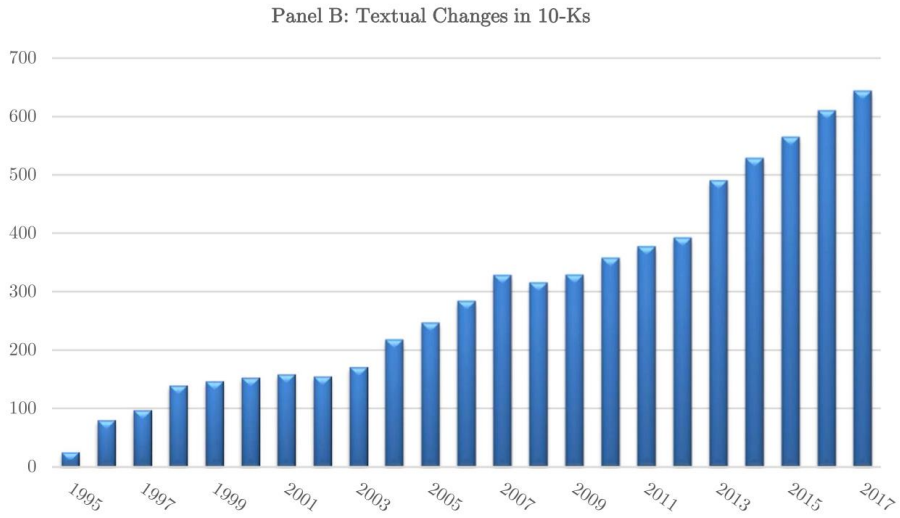
Abstract

- Using the complete history of regular quarterly and annual filings by U.S. corporations, we show that changes to the language and construction of financial reports have strong implications for firms' future returns and operations.
- A portfolio that shorts "changers"and buys "nonchangers" earns up to 188 basis points per month in alpha (over 22% per year) in the future.
- Moreover, changes to 10-Ks predict future earnings, profitability,future news announcements, and even future firm-level bankruptcies.
- Unlike typical underreaction patterns, we find no announcement effect, suggesting that investors are inattentive to these simple changes across the universe of public firms.

I. Background

Information production and dissemination have seen a substantial decrease in cost over the past three decades.With this decrease in cost, the amount of information being produced has increased, making the search and processing problem more complex.





I. Background

Prior literature documents that while at one time investors responded contemporaneously to financial statement releases that contained large changes,today, this announcement effect is less pronounced (Brown and Tucker (2011),Feldman et al. (2010)). This literature thus concludes that changes to 10-K documents have become less informative over time.

While we replicate this fact, that is, while we find no significant announcement effect associated with changes to regular filings, we show that 10-Ks contain rich information, but investors are initially missing a large part of their information.

I.Background

02/23/2010: Baxter filed its 2009 10-K financial report with the SEC
https://www.sec.gov/Archives/edgar/data/10456/000095012310015380/0000950123-10-015380-index.htm

04/23/2010: *The New York Times "F.D.A. Steps Up Oversight of Infusion Pumps"*
http://www.nytimes.com/2010/04/24/business/24pump.html

> "Federal regulators say they are moving to tighten their oversight of medical devices, including one of the most ubiquitous and problematic pieces of medical equipment — automated pumps that intravenously deliver drugs, food and other solutions to patients."
>
> "The biggest makers of infusion pumps include Baxter Healthcare of Deerfield, Ill.; Hospira of Lake Forest, Ill.; and CareFusion of San Diego."
>
> "Dr. Shuren said he expected that the new requirements would initially slow down the rate of the agency's approval for new pumps that manufacturers are seeking to market."

05/04/2010: *The New York Times "F.D.A. Deal Leads to Recall of Infusion Pumps"*
http://www.nytimes.com/2010/05/04/business/04baxter.html

> "Baxter International is recalling its Colleague infusion pumps from the American market under an agreement with federal regulators that sought to fix problems like battery failures and software errors."
>
> "Baxter expects to record a pretax charge of $400 million to $600 million in the first quarter related to the recall, the company said Monday in a statement. The company isn't otherwise revising its 2010 forecast."

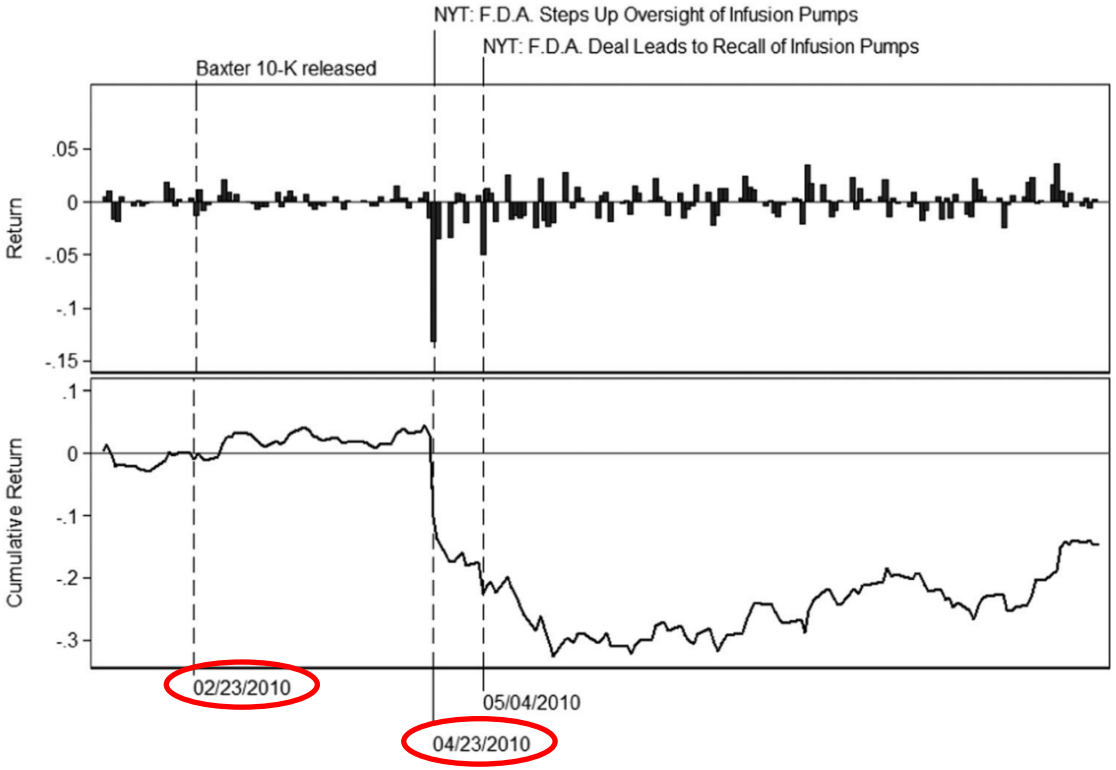
Figure 2. Main events and news articles regarding Baxter's recall of Colleague Pumps in 2010. (Color figure can be viewed at wileyonlinelibrary.com)

Baxter International Inc.

A bioscience and medical products firm, founded in 1931. The firm trades on the NYSE (ticker: BAX), and is a member of the S&P 500. The company's annual reports (10-Ks) historically had been similar over time, but something changed in 2009 when its year-over-year similarity score dropped.

Baxter Colleague 3 CX Infusion Pump

I.Background



Word counts	2007 10-K	2008 10-K	2009 10-K
FDA	33	28	48
Recall	16	20	30
Colleague Pump	29	28	79

截图(Alt + A)

Figure 4. Important keywords. This table reports the count of keywords that are related to events related to the recall of Baxtrer's Colleague pumps in 2010.

1.Baxter changed the passage "It is possible that additional charges related to COLLEAGUE may be required in future periods" [2008] to "It is possible that substantial additional charges, including significant asset impairments, related to COLLEAGUE may be required in future periods" [2009].

2.Baxter also added the following to their 2009 10-K: "The sales and marketing of our products and our relationships with healthcare providers are under increasing scrutiny by federal, state and foreign government agencies.The FDA, the OIG, the Department of Justice (DOJ) and the Federal Trade Commission have each increased their enforcement efforts . . ."

I.Background

- Circling back, would being attentive to the changes in Baxter's 10-K have made a difference to investors in the company?

- Reading and reacting to these negative changes by shorting Baxter at any point in the two months leading up to the New York Times article would have allowed an investor to capture over 30% in returns in the month following the news release.

II. Data and Summary Statistics

10-K and 10-Q filings

- SEC's EDGAR website(1995 to 2014)
- focus on the textual content of the document, remove all tables,HTML tags, graphics,etc.

monthly stock returns

- Center for Research in Security Prices (CRSP)

firms' book value of equity and earnings per share

- Compustat

analyst data

- the Institutional Brokers Estimate System (I/B/E/S)

sentiment category identifiers

- Loughran and McDonald's (2011) Master Dictionary

similarities between 10-Q and 10-K filings

(i) cosine similarity

- D_A: We expect demand to increase.
- D_B: We expect worldwide demand to increase.
- D_C: We expect weakness in sales.

It is easy to see that D_A is very similar to D_B and that D_A is more similar to D_B than it is to D_C. The cosine similarity of D_A and D_B is computed as follows: the union $T(D_A, D_B)$ is

$$T(D_A, D_B) = [\text{we, expect, worldwide, demand, to, increase}],$$

and term frequency vectors of D_A and D_B are

$$D_A^{TF} = [1,\ 1,\ 0,\ 1,\ 1,\ 1] \text{ and } D_B^{TF} = [1,\ 1,\ 1,\ 1,\ 1,\ 1],$$

and hence cosine similarity score of D_A and D_B is

$$Sim\_Cosine(D_A, D_B) = \frac{(1\times 1+1\times 1+0\times 1+1\times 1+1\times 1+1\times 1)}{\left(\sqrt{1^2+1^2+1^2+1^2+1^2}\right)\times\left(\sqrt{1^2+1^2+1^2+1^2+1^2+1^2}\right)} = 0.91.$$

$$Sim\_Cosine(D_A, D_C) = \frac{(1\times 1+1\times 1+1\times 0+1\times 0+1\times 0+0\times 1+0\times 1+0\times 1)}{\left(\sqrt{1^2+1^2+1^2+1^2+1^2}\right)\times\left(\sqrt{1^2+1^2+1^2+1^2+1^2}\right)} = 0.40.$$

Clearly, D_A is more similar to D_B than to D_C and the cosine similarity measures capture this difference in similarity.

(ii) Jaccard similarity（交集比并集）

$$Sim\_Jaccard(D_A, D_B) = \frac{|\{\text{we, expect, demand, to, increase}\}|}{|\{\text{we, expect, worldwide, demand, to, increase}\}|} = \frac{5}{6} = 0.83.$$

$$Sim\_Jaccard(D_A, D_C) = \frac{|\{\text{we, expect}\}|}{|\{\text{we, expect, demand, to, increase, weakness, in, sales}\}|} = \frac{2}{8} = 0.25.$$

(iii)Sim_MinEdit（最小操作数）

The third similarity measure we employ, *Sim_MinEdit*, is computed by counting the smallest number of operations required to transform one document into the other. Again using D_A, D_B, and D_C as above, transforming D_A to D_B only requires adding the word "worldwide," while transforming D_A to D_C requires deleting the three words "demand," "to," and "increase," and adding the three words "weakness," "in," and "sales."

(iv)Sim_Simple（文档比较方法）

document. To do so, we count the number of words in those changes, additions, and deletions and normalize the total count by the average size of the old document D_1 and the new document D_2 :

$$c = [\text{additions} + \text{deletions} + \text{changes}] / [(Size\ D_1 + Size\ D_2)/2].$$

To obtain a similarity measure that has values between [0, 1], where one means that the two documents are identical, as with the prior three similarity measures we then normalize by scaling c to compute *Sim_Simple* as:

$$Sim\_Simple = [c_{\max} - c] / c_{\max}.$$

Table I_Summary Statistics for Firms'10-Ks and 10-Qs

Panel A: Summary Statistics of Document Charateristics

normalized by Size of Change

	Count	Mean	*SD*	1%	50%	99%
Document Size—10-K	86,965	44,508.81	36,479	7,573	35,787	180,388
Document Size—10-Q	258,271	15,805.9	20,542.78	1,327	10,674	97,521
Sentiment of Change	345,639	0.07736	0.0179074	0	0.000146	0.003503
Uncertainty of Change	345,639	0.0005234	0.0110212	0	0.0001286	0.0026464
Litigiousness of Change	345,639	0.0009594	0.016019	0	0.0000668	0.0051982
Change CEO	345,639	0.0556158	0.2291785	0	0	1
Change CFO	345,639	0.0242542	0.1538377	0	0	1

Panel B: Summary Statistics of Similarity Measures **[0,1]**

	Count	Mean	*SD*	~~1%~~	50%	~~99%~~
Sim_Cosine	327,130	0.8721032	0.1910398	0.1367042	0.947125	0.9951641
Sim_Jaccard	327,130	0.3948525	0.190596	0.0364943	0.4108108	0.765858
Sim_MinEdit	327,130	0.3763384	0.1714118	0.0516403	0.3927964	0.7649283
Sim_Simple	327,130	0.1464663	0.0927251	0.0427717	0.1171773	0.4283921

Panel C: Correlation

	Sim_Cosine	*Sim_Jaccard*	*Sim_MinEdit*	*Sim_Simple*
Sim_Cosine	1.0000			
Sim_Jaccard	0.6049	1.0000		
Sim_MinEdit	0.5031	0.7921	1.0000	
Sim_Simple	0.2076	0.4815	0.5834	1.0000

III. The Implications of Changes in Reporting Behavior

A.Calendar-Time Portfolio Returns

Table II_Main Results——Calendar-Time Portfolio Returns

Panel A: Equally Weighted

	Sim_Cosine						*Sim_Jaccard*					
	Q1	Q2	Q3	Q4	Q5	Q5 – Q1	Q1	Q2	Q3	Q4	Q5	Q5 – Q
Excess return	0.63*	0.72*	0.72**	0.85**	0.92***	0.31***	0.59	0.67*	0.69*	0.82**	0.98***	0.38**
	(1.68)	(1.96)	(2.11)	(2.59)	(2.80)	(3.13)	(1.48)	(1.74)	(1.89)	(2.35)	(3.01)	(2.65)
Three-factor alpha	−0.15**	−0.08	−0.05	0.09	0.18***	0.34***	−0.16**	−0.10	−0.06	0.08	0.28***	0.44**
	(−2.19)	(−1.10)	(−0.72)	(1.21)	(2.66)	(4.45)	(−1.99)	(−1.22)	(−0.81)	(1.05)	(3.47)	(4.56)
Five-factor alpha	−0.12*	−0.05	−0.04	0.10	0.21***	0.32***	−0.14*	−0.07	−0.06	0.09	0.28***	0.42**
	(−1.75)	(−0.74)	(−0.53)	(1.29)	(3.28)	(4.21)	(−1.84)	(−0.93)	(−0.86)	(1.19)	(3.57)	(4.31)
	Sim_MinEdit						*Sim_Simple*					
	Q1	Q2	Q3	Q4	Q5	Q5 – Q1	Q1	Q2	Q3	Q4	Q5	Q5 – Q
Excess return	0.61	0.66*	0.70*	0.86**	0.99***	0.36***	0.72*	0.79**	0.82**	0.90***	0.90***	0.18
	(1.60)	(1.78)	(1.94)	(2.58)	(3.36)	(2.69)	(1.87)	(2.12)	(2.34)	(2.73)	(3.04)	(1.20)
Three-factor alpha	−0.19**	−0.14*	−0.10	0.10	0.30***	0.48***	−0.08	−0.02	0.03	0.14**	0.20**	0.28**
	(−2.56)	(−1.91)	(−1.52)	(1.37)	(4.00)	(5.96)	(−1.09)	(−0.21)	(0.38)	(2.01)	(2.57)	(3.22)
Five-factor alpha	−0.15**	−0.11	−0.08	0.12*	0.30***	0.45***	−0.06	0.03	0.04	0.16**	0.21***	0.27**
	(−2.14)	(−1.59)	(−1.31)	(1.70)	(4.11)	(5.46)	(−0.89)	(0.37)	(0.63)	(2.30)	(2.68)	(3.01)

根据前一月所有股票相似度指标分布计算五分位数；在10-K或10-Q报告公布后的一个月，股票进入五分位投资组合；投资组合持有期为3个月。

TableII—**Continued**

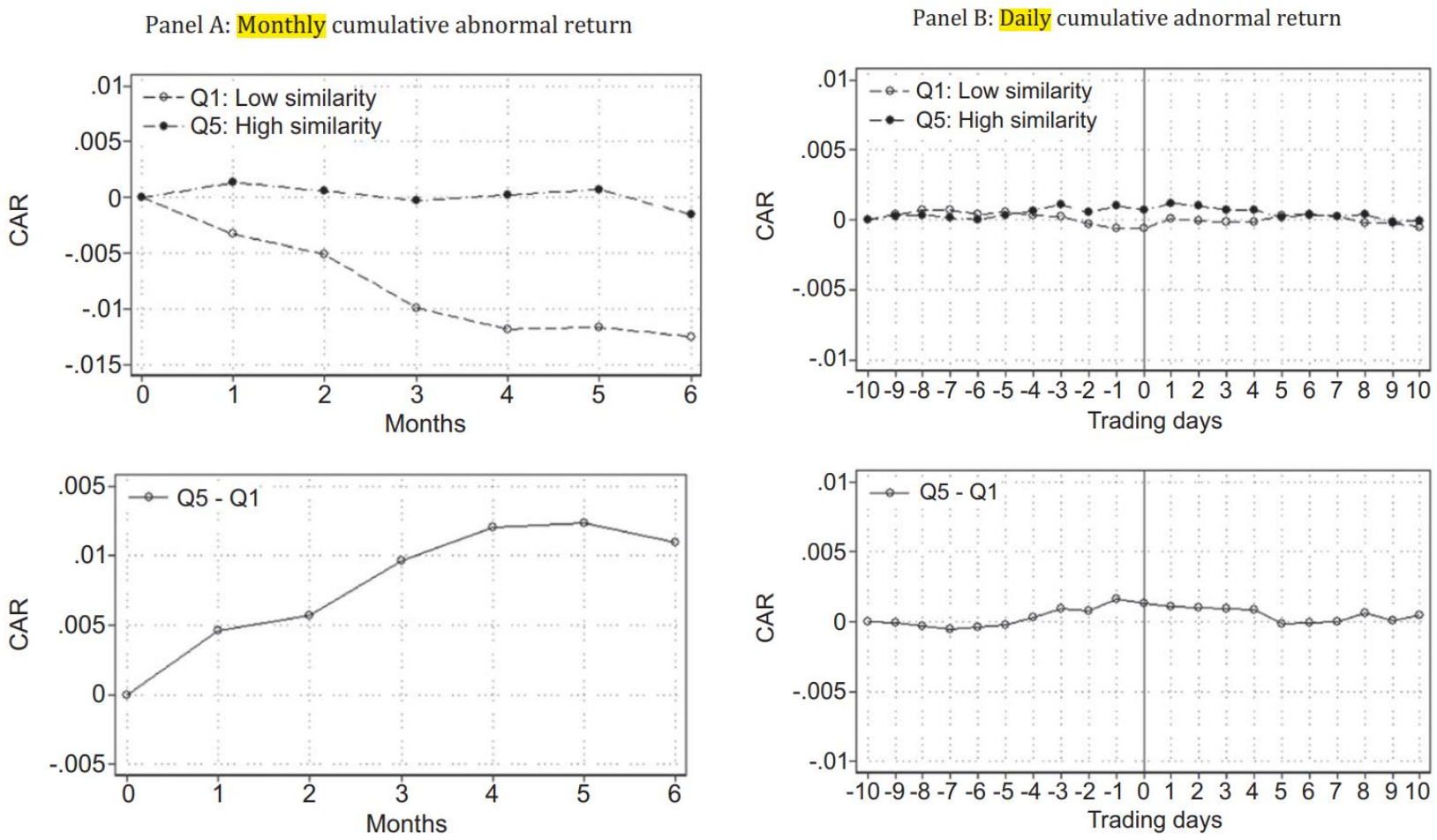
Table II—*Continued*

Panel B: Value Weighted

	Sim_Cosine						*Sim_Jaccard*					
	Q1	Q2	Q3	Q4	Q5	Q5 – Q1	Q1	Q2	Q3	Q4	Q5	Q5 – Q1
Excess return	0.43	0.47	0.55*	0.73**	0.78**	0.34**	0.23	0.32	0.48	0.61*	0.79**	0.56***
	(1.32)	(1.45)	(1.74)	(2.35)	(2.40)	(2.53)	(0.64)	(0.88)	(1.33)	(1.84)	(2.47)	(3.75)
Three-factor alpha	−0.15*	−0.15*	−0.04	0.10	0.20*	0.35***	−0.32***	−0.21	−0.09	0.07	0.23**	0.54***
	(−1.84)	(−1.79)	(−0.49)	(1.17)	(1.97)	(2.63)	(−2.97)	(−1.30)	(−0.73)	(0.60)	(2.01)	(4.08)
Five-factor alpha	−0.12	−0.19**	−0.06	0.12	0.23**	0.34**	−0.23**	−0.17	−0.07	0.13	0.23**	0.46***
	(−1.38)	(−2.13)	(−0.64)	(1.36)	(2.23)	(2.53)	(−2.20)	(−1.04)	(−0.59)	(1.18)	(2.11)	(3.44)
	Sim_MinEdit						*Sim_Simple*					
	Q1	Q2	Q3	Q4	Q5	Q5 – Q1	Q1	Q2	Q3	Q4	Q5	Q5 – Q1
Excess return	0.42	0.45	0.62*	0.76**	0.83***	0.39**	0.24	0.61*	0.77**	0.78**	0.74**	0.50***
	(1.25)	(1.38)	(1.88)	(2.42)	(2.92)	(2.31)	(0.69)	(1.88)	(2.45)	(2.53)	(2.48)	(2.69)
Three-factor alpha	−0.18**	−0.16*	−0.01	0.17*	0.28**	0.46***	−0.39***	0.02	0.18*	0.19*	0.19	0.58***
	(−2.29)	(−1.91)	(−0.14)	(1.74)	(2.49)	(3.06)	(−3.89)	(0.18)	(1.87)	(1.88)	(1.45)	(3.59)
Five-factor alpha	−0.17**	−0.14*	0.00	0.17*	0.21*	0.37**	−0.36***	0.05	0.18*	0.18*	0.15	0.51***
	(−2.02)	(−1.67)	(0.04)	(1.78)	(1.84)	(2.45)	(−3.49)	(0.66)	(1.78)	(1.71)	(1.15)	(3.14)

This finding indicates that firms that make significant changes to their disclosures in a given year experience lower future returns.

Figure 7. **Event time returns**



公司对年报或季报进行重大改变的决定包含的信息对公司价值产生了长期的影响，这种影响不是在报告发布时产生的，而是通过价格披露逐渐积累的。

B. Characteristics of Quintile Portfolios

Table III_Characteristics of Quintile Portfolios

	Q1	Q2	Q3	Q4	Q5
Market Value of Equity	3,507,587	3,219,430	2,829,955	2,504,717	2,464,603
Monthly Turnover	0.0663	0.0850	0.0804	0.0867	0.0706
Shorting Fees (bps)	71.6958	80.6361	92.0500	87.0690	73.5453
Sentiment of Changes	0.0016	0.0008	0.0006	0.0005	0.0004

There is little evidence that the short side contains an unusual set of firms on average.We do not believe that limits to arbitrage contribute signifificantly to the return regularities observed.

C. Fama-MacBeth Regressions

Table IV _Main Results—Fama-MacBeth Regressions

	Ret											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Sim_Cosine	0.45***	0.31**	0.37**									
	(2.65)	(2.51)	(2.18)									
Sim_Jaccard				0.82***	0.66***	0.59***						
				(3.26)	(3.82)	(3.41)						
Sim_MinEdit							0.54**	0.41***	0.29**			
							(2.54)	(2.78)	(2.00)			
Sim_Simple										0.04**	0.03**	0.03**
										(2.10)	(2.25)	(2.11)
Size		0.00	0.00		0.01	0.01		0.01	0.01		0.01	0.00
		(0.11)	(0.05)		(0.25)	(0.11)		(0.26)	(0.10)		(0.24)	(0.05)
log(BM)		0.17*	0.16*		0.17*	0.16*		0.17*	0.16*		0.17*	0.16*
		(1.89)	(1.71)		(1.88)	(1.70)		(1.90)	(1.72)		(1.87)	(1.70)
Ret(−1,0)		−0.03***	−0.02***		−0.03***	−0.02***		−0.03***	−0.02***		−0.03***	−0.02***
		(−3.93)	(−3.68)		(−3.97)	(−3.70)		(−3.97)	(−3.69)		(−3.99)	(−3.71)
Ret(−12,−1)		0.64**	0.36		0.64**	0.36		0.64**	0.36		0.64**	0.37
		(2.34)	(1.25)		(2.34)	(1.25)		(2.34)	(1.24)		(2.35)	(1.29)
SUE			0.07***			0.07***			0.07***			0.07***
			(6.56)			(6.54)			(6.56)			(6.60)
Cons	0.58	0.58	0.67	0.64	0.46	0.69	0.76**	0.57	0.84	−0.02	−0.02	−0.01
	(1.45)	(0.67)	(0.57)	(1.64)	(0.52)	(0.58)	(1.98)	(0.64)	(0.71)	(−1.31)	(−1.02)	(−0.71)
R^2	0.00	0.04	0.05	0.00	0.04	0.05	0.00	0.04	0.05	0.00	0.04	0.05
N	713,451	713,451	496,084	713,451	713,451	496,084	713,451	713,451	496,084	713,680	713,680	495,931

IV. Mechanism

A. Explaining Changes in Reporting Behavior

Table V **Potential Mechanism**

			Sim_Simple		
	(1)	(2)	(3)	(4)	(5)
Sentiment of Change	−2.49***				
	(−37.83)				
Uncertainty of Change		−3.57***			
		(−34.15)			
Litigiousness of Change			−0.12**		
			(−2.11)		
Change CEO				−0.01***	
				(−7.10)	
Change CFO					−0.01***
					(−5.75)
Cons	0.18***	0.19***	0.18***	0.18***	0.18***
	(28.52)	(17.40)	(17.25)	(17.31)	(17.29)
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes
R^2	0.06	0.07	0.07	0.07	0.06
N	338,138	338,138	338,138	338,138	338,138

表明报告变化与公司的运营或前景的重大变化有关

Table VI Fama-MacBeth Regressions, **Controlling for Sentiment and Document Size**

	Ret		
	(1)	(2)	(3)
Sim_Jaccard	0.57***	0.58***	0.58***
	(3.45)	(3.78)	(3.82)
Sentiment of Change is Positive	0.19***	0.21***	0.21***
	(3.85)	(4.21)	(4.33)
Log(Document Size)		0.01	0.03
		(0.65)	(1.40)
Δ *Log(Document Size)*			−0.41**
			(−2.30)
Size	0.00	0.00	−0.00
	(0.10)	(0.07)	(−0.01)
log(BM)	0.17	0.16	0.16
	(1.64)	(1.5858)	(1.5471)
Ret(−1,0)	−0.03***	−0.03***	−0.03***
	(−4.15)	(−4.19)	(−4.20)
Ret(−12, −1)	0.74***	0.74***	0.74***
	(2.71)	(2.70)	(2.69)
Cons	0.55	0.41	0.25
	(0.60)	(0.48)	(0.30)
R^2	0.0437	0.0445	0.0448
N	713,451	713,451	713,451

B. Isolating Key Sections of Reports

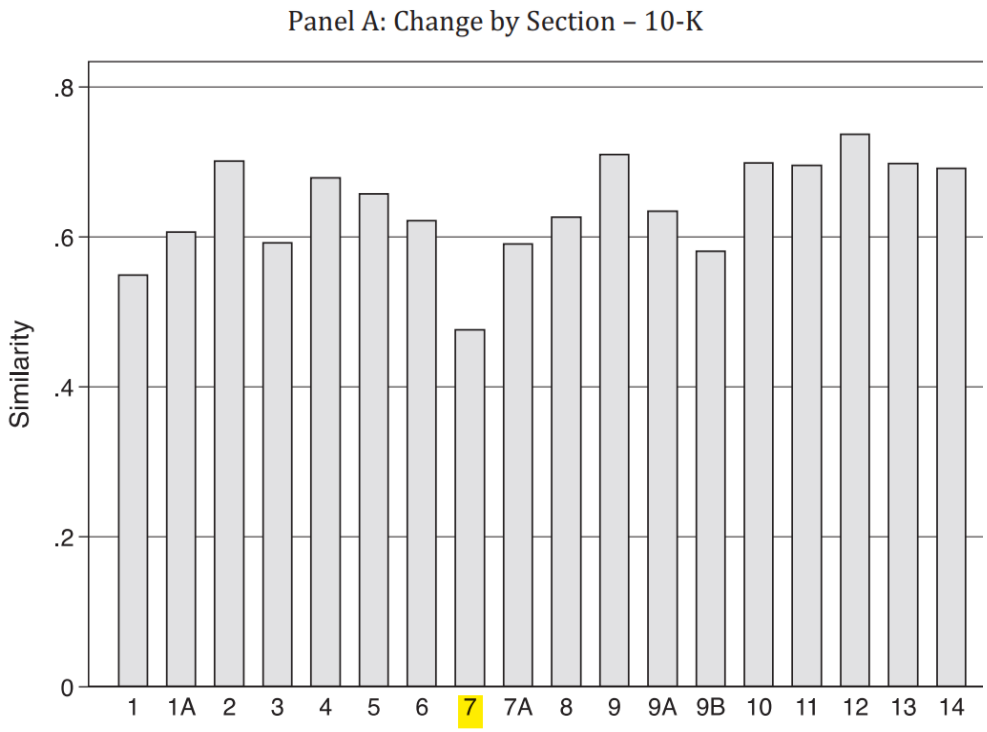
Form 10-K	
Item 1	Business
Item 1A	Risk Factors
Item 2	Properties
Item 3	Legal Proceedings
Item 4	Mine Safety Disclosures
Item 5	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities
Item 6	Selected Financial Data
Item 7	Management's Discussion and Analysis of Financial Condition and Results of Operations
Item 7A	Quantitative and Qualitative Disclosures About Market Risk
Item 8	Financial Statements and Supplementary Data
Item 9	Changes in and Disagreements With Accountants on Accounting and Financial Disclosure
Item 9A	Controls and Procedures
Item 9B	Other Information
Item 10	Directors, Executive Officers and Corporate Governance
Item 11	Executive Compensation
Item 12	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters
Item 13	Certain Relationships and Related Transactions, and Director Independence
Item 14	Principal Accounting Fees and Services

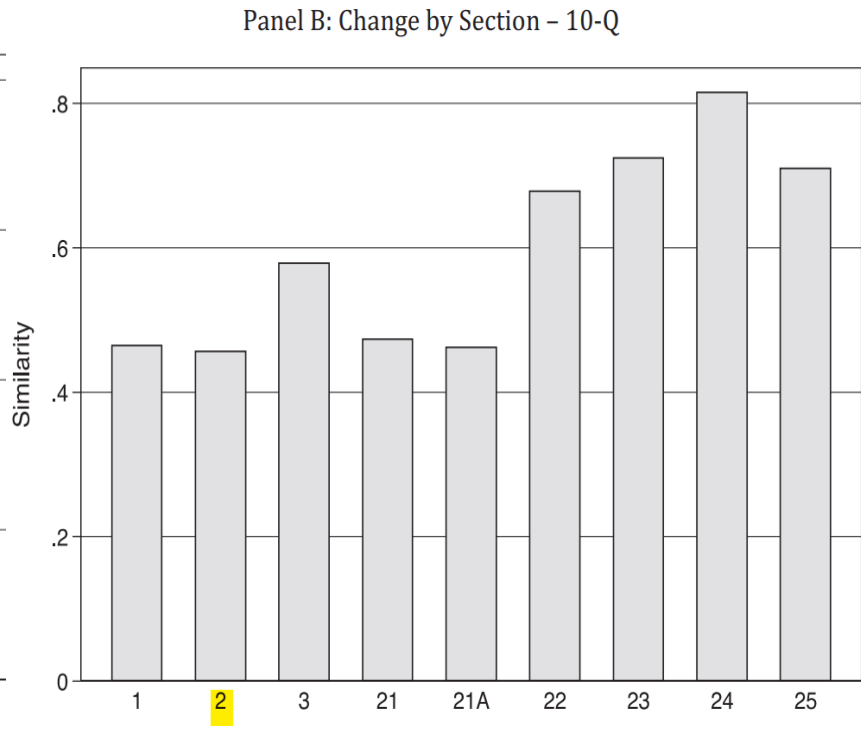
Form 10-Q	
Item 1	Financial Statements
Item 2	Management's Discussion and Analysis of Financial Condition and Results of Operations
Item 3	Quantitative and Qualitative Disclosures About Market Risk
Item 4	Controls and Procedures
Item 21	Legal Proceedings
Item 21A	Risk Factors
Item 22	Unregistered Sales of Equity Securities and Use of Proceeds
Item 23	Defaults Upon Senior Securities
Item 24	Mine Safety Disclosures
Item 25	Other Information

Figure 6. Section definitions in 10-Ks and 10-Qs.

Figure 8. Change by section

（the average Jaccard similarity for different sections）





C. Return Predictability of Key Sections of Reports

Table VII **Portfolio Sorts—By Document Section**

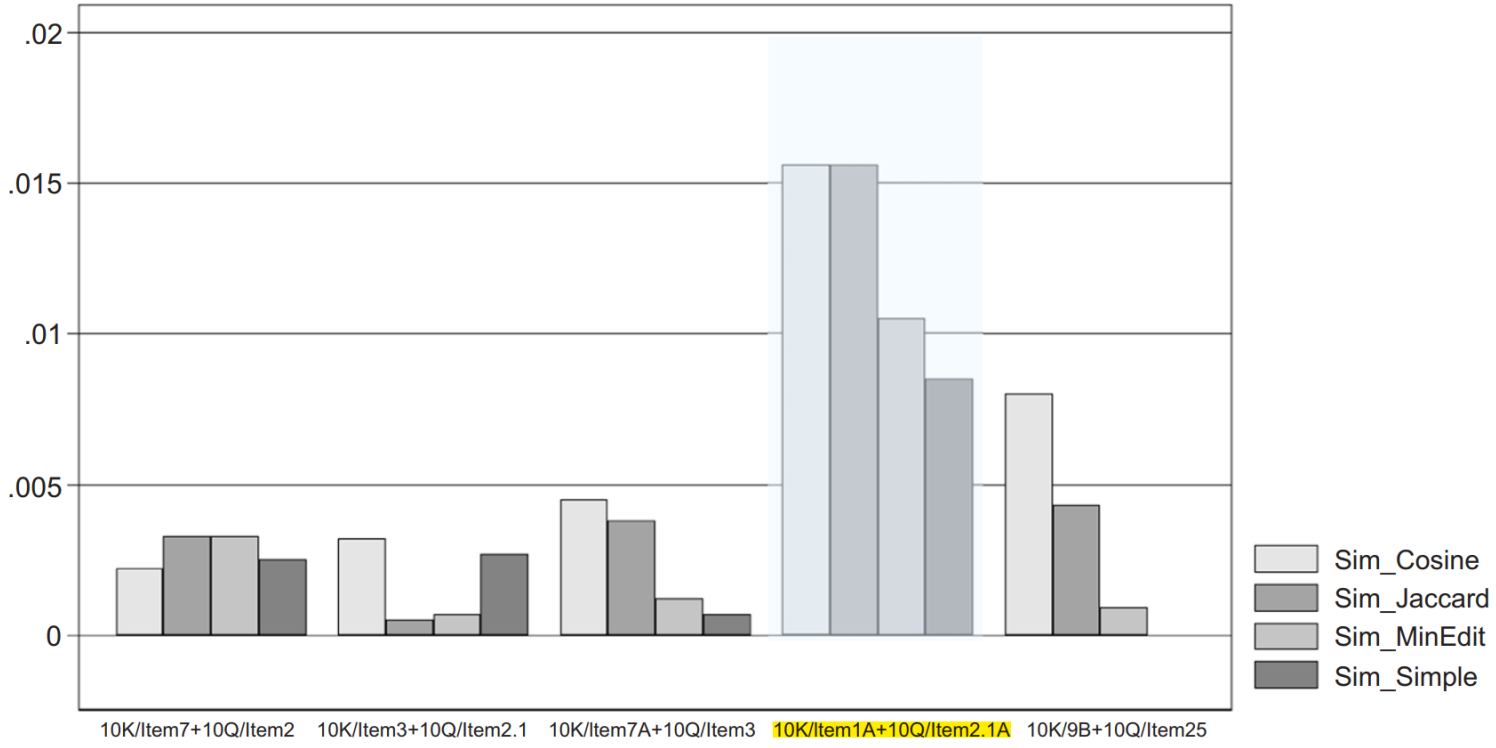
Panel A: Equally Weighted

	Sim_Cosine			*Sim_Jaccard*		
	Excess Return	Three-Factor Alpha	Five-Factor Alpha	Excess Return	Three-Factor Alpha	Five-Factor Alpha
Management's Discussion and Analysis	0.13	0.11*	0.12*	0.21**	0.22***	0.20***
	(1.57)	(1.66)	(1.68)	(2.51)	(3.15)	(2.81)
Legal Proceedings	0.36**	0.37***	0.33***	0.28	0.30**	0.25*
	(2.24)	(3.09)	(2.70)	(1.57)	(2.36)	(1.93)
Quant. and Qual. Disclosures about Market Risk	0.69***	0.68***	0.68***	0.20**	0.21***	0.19***
	(2.75)	(2.69)	(2.65)	(2.37)	(2.96)	(2.60)
Risk Factors	1.14	1.18	1.18	1.43**	1.44**	1.88***
	(1.61)	(1.63)	(1.64)	(2.13)	(2.45)	(2.76)
Other Information	0.20	0.27	0.36*	0.31*	0.37**	0.40**
	(1.08)	(1.47)	(1.92)	(1.78)	(2.19)	(2.30)

(*Continued*)

These results suggest that changes to some sections may be quite subtle and difficult for the market to detect, even though they may have large implications for future returns.

Figure 9. Five-factor alphas for portfolio sort, by important common sections for 10-Ks and 10-Qs.



再次突出了年报中风险因素部分变化的收益可预测性。

D. Interacting with Investor Attention

Table VIII——Interacting with Investor Attention

This table reports results of Fama-MacBeth cross-sectional regressions of individual firm-level stock returns on our similarity measures and interactions of the similarity measures with *IPAccessMultipleYear*. *Return*, the dependent variable, is multiplied by 100. *IPAccessMultipleYear* is a proxy for firms with investors who do check the changes in 10-Ks/10-Qs and is given as the number of unique IP addresses that access both the current 10-K/10-Q and previous year's 10-K/10-Q for the same firm normalized by the total number of unique IP addresses that access the current 10-K/10-Q. We download EDGAR traffic log file from the SEC and remove robot requests as in Loughran and McDonald (2017). *t*-Statistics are reported below the estimates. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

	Dependent Variable: Return							
	Sim_Cosine		*Sim_Jaccard*		*Sim_MinEdit*		*Sim_Simple*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Similarity	0.44**	0.42**	0.78***	0.84***	0.65***	0.73***	0.06**	0.06**
	(2.56)	(2.37)	(2.90)	(3.08)	(2.70)	(2.94)	(2.13)	(2.30)
IPAccessMultipleYear × *Similarity*		−0.27		−0.84**		−0.79*		−0.10**
		(−0.65)		(−2.08)		(−1.73)		(−2.05)
IPAccessMultipleYear		0.11		0.15		0.11		0.08**
		(0.31)		(0.86)		(0.50)		(2.05)
Cons	0.52	0.54	0.59	0.57	0.65	0.63	−0.04	−0.04*
	(1.16)	(1.20)	(1.36)	(1.31)	(1.50)	(1.44)	(−1.53)	(−1.70)
R^2	0.0006	0.0014	0.0016	0.0024	0.0017	0.0025	0.0019	0.0027
N	547,918	547,918	547,918	547,918	547,918	547,918	548,912	548,912

结果表明，当投资者对年度公司公告文件的关注更大时，本文的可预测性结果就会有所减弱。

Table IX——Explicitly Comparative Statements

Panel A: Alphas across Firms Making (Not Making) Explicit Comparison Statements in Year-over-Year Documents

Explicit Comparative Statements	Five-Factor Alpha, Jaccard Similarity					
	Q1	Q2	Q3	Q4	Q5	Q 5 – Q1
Yes	0.22	−0.24	−0.06	0.22	0.31	0.09
	(1.04)	(−0.84)	(−0.29)	(1.11)	(1.54)	(0.34)
	Q1	Q2	Q3	Q4	Q5	Q 5 – Q1
No	−0.36***	−0.07	−0.07	0.06	0.17	0.53***
	(−3.39)	(−0.57)	(−0.59)	(0.55)	(1.57)	(3.51)

Panel B: Example Phrases Captured in 10-Ks and 10-Qs

Group A	+	Group B
Sales		Last year
EBITDA		Prior year
ROA		Previous year
Operating income		Increase
Net income		Decrease
Earnings		Compared to
Dividends		Compared with
Revenue		

Table IA.VIII Short-Run Announcement Effects by Attention Category

Compare with last year		cret1radj	cret2radj	cret3radj	cret4radj	cret5radj	cret6radj	cret30radj
No	Q1	-0.02	-0.02	-0.02	-0.07	-0.06	-0.00	-0.27**
		(-0.57)	(-0.58)	(-0.42)	(-1.23)	(-1.03)	(-0.07)	(-1.99)
		cret1radj	cret2radj	cret3radj	cret4radj	cret5radj	cret6radj	cret30radj
Yes	Q1	-0.08*	-0.15***	-0.19***	-0.17**	-0.15**	-0.07	-0.14
		(-1.90)	(-2.78)	(-3.03)	(-2.41)	(-2.00)	(-0.87)	(-0.86)

报告变更的短期公告收益在那些投资者从SEC服务器中多年下载报告的公司中更显著。对这些公司来说，与报告变化相关的即时公告的影响将更加明显，因为投资者(和价格)会对这些变化迅速作出反应。

E. Real Effects

	Oibdpq/L1atq				*Niq/L1atq*				*Saleq/L1atq*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Sim_Cosine	0.50*				0.48				0.01*			
	(1.96)				(1.44)				(1.95)			
Sim_Jaccard		0.68***				0.89***				0.01***		
		(10.68)				(10.48)				(7.83)		
Sim_MinEdit			0.65***				0.75***				0.02***	
			(12.48)				(10.89)				(14.48)	
Sim_Simple				0.51***				0.71***				0.01***
				(7.80)				(8.41)				(6.85)
Cons	−0.01***	−0.40***	−0.01***	−0.02***	−0.04***	−0.04***	−0.04***	−0.04***	0.21***	0.22***	0.22***	0.19***
	(−4.71)	(−3.05)	(−8.59)	(−6.33)	(−11.17)	(−24.07)	(−23.57)	(−12.76)	(27.33)	(51.47)	(53.73)	(27.67)
Month FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.0585	0.0116	0.2858	0.0558	0.0581	0.0549	0.2859	0.0588	0.0596	0.0563	0.287	0.2864
N	284,151	284,151	284,151	325,717	295,031	295,031	295,031	338,477	295,031	295,031	295,031	338,476

结果表明，本文发现收益效应与公司业绩的根本变化有关。

F. Other Sorts and Tests of the Mechanism

➢ 分组检验：低情绪组、高不确定性组、高诉讼组更显著

		Sim_Jaccard					
		Q1	Q2	Q3	Q4	Q5	Q5 - Q1
	Low	-0.45***	-0.44***	-0.24	0.23	0.09	0.54**
Sentiment		(-2.79)	(-3.16)	(-1.24)	(1.62)	(0.69)	(2.41)
	High	0.08	0.04	0.13	0.22	0.15	0.11
		(0.63)	(0.27)	(0.78)	(1.53)	(1.27)	(0.61)
	Low	-0.23*	-0.34**	0.20	0.25*	0.20	0.44**
Uncertainty		(-1.66)	(-2.04)	(1.24)	(1.86)	(1.47)	(2.42)
	High	-0.54***	-0.10	0.00	0.08	0.13	0.72***
		(-3.11)	(-0.72)	(0.02)	(0.59)	(1.16)	(3.51)
	Low	-0.29**	-0.42***	0.13	0.11	0.16	0.47**
Litigiousness		(-1.99)	(-2.65)	(0.77)	(0.83)	(1.05)	(2.18)
	High	-0.48***	-0.11	0.06	0.24**	0.2	0.71***
		(-2.76)	(-0.75)	(0.32)	(2.05)	(1.57)	(3.29)

F. Other Sorts and Tests of the Mechanism

- 检验文本相似度是否与公司生命周期有关。

Panel A	
	Sim_Jaccard
	(1)
Depreciation Rate	-0.00**
	(-2.41)
Sales Growth	0.00**
	(2.32)
Capital Expenditures	0.00
	(1.02)
Age	-0.01***
	(-14.47)
Constant	0.42***
	(213.82)
R^2	0.001
N	233511

折旧率、公司年龄与相似度负相关，表明公司越成熟，对财务报告更改更多。

F. Other Sorts and Tests of the Mechanism

- 剔除特殊事件的影响：并购、法律变更、停止运营/缩减规模、战略联盟和破产事件。——不受特殊事件影响
- 检测报告更改是否能够预测公司其他类型变化，例如未来新闻发布、投资者行为变化以及公司重大事件。——报告变化可以在一定程度上预测公司的未来(坏)消息

G. Additional Robustness Checks

	Ret			
	(1)	(2)	(3)	(4)
Sim_Cosine	0.38***			
	(3.19)			
Sim_Jaccard		0.55***		
		(4.20)		
Sim_MinEdit			0.35***	
			(3.06)	
Sim_Simple				3.18**
				(2.39)
Ret(−1,0)	−2.98***	−3.00***	−3.01***	−2.95***
	(−5.77)	(−5.81)	(−5.83)	(−5.58)
Ret(−3,−1)	0.00	−0.01	0.00	−0.05
	(−0.01)	(−0.01)	(−0.01)	(−0.11)
Ret(−6,−1)	(0.06)	(0.05)	−0.05	0.01
	(0.17)	(0.16)	(0.15)	(0.03)
Ret(−12,−1)	0.57**	0.57**	0.56**	0.59**
	(2.41)	(2.40)	(2.40)	−2.48
Size	0.00	0.01	0.01	−0.01
	(0.03)	(0.14)	(0.16)	(−0.19)
log(*BM*)	0.12**	0.13**	0.13**	0.12*
	(2.02)	(2.06)	(2.07)	(1.90)
Invest	−0.26	−0.24	−0.25	−0.23
	(−0.81)	(−0.75)	(−0.77)	(−0.69)
GrossProfit	0.33*	0.32*	0.32*	0.3
	(1.88)	(1.84)	(1.82)	(1.63)
Accrual	−0.98***	−0.98***	−0.98***	−1.07***
	(−4.16)	(−4.18)	(−4.17)	(−4.62)
FreeCashFlow	0.84**	0.80**	0.81**	0.86**
	(2.31)	(2.22)	(2.25)	(2.33)
SUE	0.11***	0.11***	0.11***	0.11***
	(5.53)	(5.55)	(5.57)	(4.88)
Cons	0.55	0.53	0.60	−2.06
	(0.71)	(0.68)	(0.78)	(−1.26)
R^2	0.0649	0.0651	0.0651	0.0674
N	630,081	630,081	630,081	569,180

1.检测本文的收益预测因子是否为已知收益预测因子的重新组合（No）；
2.检测本文的结果是否集中于某些特定行业（No）。

Conclusion

- Annual information releases have changed dramatically over time.(longer and more complex).Investors are inattentive to the valuable information in these simple changes.
- We find that simple changes in reports are a powerful and robust indicator of future firm performance.A portfolio that shorts “changers” and buys “nonchangers” in annual and quarterly financial reports earns 30 to 50 basis points per month over the following year.The returns continue to accrue out to 18 months and do not reverse, which suggests that these return movements are not overreactions, but instead reflect true, fundamental changes to firms are gradually incorporated into asset prices only over the 12 to 18 months after the reporting change.
- hold for the entire universe of publicly traded firms,large firms, as well as inexpensive to short firms.
- Moreover, unlike other traditional drift regularities (e.g., return momentum,industry momentum, Post Earnings Announcement Drift (PEAD)), these document changes are not accompanied by significant announcement returns,and hence are inconsistent with a standard underreaction story (as there is no initial reaction).
- Instead, they are consistent with a setting in which investors are inattentive to the rich information, which, as a result, impounded into prices only with a significant delay.