

The Dating Game

Decrypting the Signals in Earnings Report Dates

Author

Temí Oyeniya, CFA
312-233-7151
toyeniya@spglobal.com

With earnings season around the corner, we explore the possibility of investors using the timing of a company's earnings release date to identify firms likely to report better than expected or disappointing results. The Securities & Exchange Commission (SEC) requires public entities to file financial statements within a specified time window¹, though companies have discretion as to when they report within the window. Many companies choose to report on a pre-determined cycle, for example, announcing second calendar-quarter results each year on the second Tuesday of July. The first part of this report focuses on companies that deviate from a historical reporting pattern. What does an advancement or delay of an earnings report date typically say about a company's fundamentals, and should investors take notice of this event? The second part of this report examines a related topic – the market's reaction to companies that postpone a previously scheduled (announced) earnings release date.

- Investors should take note when companies deviate from a historical reporting pattern. **“Advancers” (companies that advance their earnings report date by at least 6 days) are likely to report improving year-year on sales, better earnings surprises, and more positive conference call sentiment readings² than their industry group peers and “delayers” (companies that delay their earnings report date by at least 6 days).** We also document that delayers report worse readings on these same metrics when compared to peers - [Table 5](#).
- Due to their higher quality fundamentals, advancers outperform delayers with results much stronger within smaller capitalization stocks. **Advancers outperform delayers by over 7%³ on an annualized basis (Russell 3000). However, long-short return rises to 8.80% (Russell 2000) and falls to 2.21% (Russell 1000).** Small capitalization entities are more likely to deviate from a reporting pattern, and the strategy is beneficial to a small cap core, value or growth investment style ([Table 2](#)).
- The advance/delay signal can be used to enhance the performance of a multi-factor stock selection strategy. **The annualized return to stocks identified as buy candidates⁴ and tagged as advancers is 10.77%, compared to 6.29% for buy candidates tagged as delayers,** with the difference in return significant at the 5% level ([Table 6](#)).
- **Companies that postpone a previously announced earnings release date underperform the broad market by 2.44% in the 3 days surrounding the announcement. These companies are also likely to report deteriorating fundamentals,** with earnings per share down by about 16% compared to the same period a year ago ([Table 8](#)).

¹ See [Appendix A](#) for company filing deadlines as mandated by the U.S Securities & Exchange Commission.

² See [Appendix C](#) for full description as to how conference call sentiment is calculated.

³ Long-short excess return is the equal weighted return of all advancers minus the equal-weighted return of all delayers. Excess returns were calculated after controlling for market, value, size and momentum risk factors.

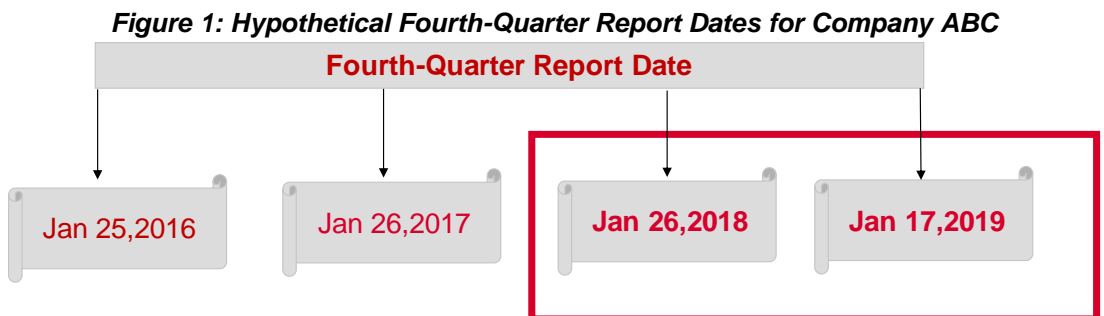
⁴ Buy candidates were identified using S&P Global Market Intelligence's Growth Benchmark Model.

1. Introduction

Prior academic literature document that firms with negative earnings surprises tend to delay their earnings announcements, while those with good news tend to report early⁵. In his paper, So (2014), found that “advancers” (companies that reported early), outperformed “delayers” (those that reported late)⁶, by over 250 basis points (bps) over a 1-month horizon. About 60% of the 250 bps was realized in the three-day window surrounding the firm’s earnings report date. He also documented that advancers subsequently reported larger values on return on asset (ROA) and more positive earnings surprises when compared to delayers.

So (2014) identified advancers and delayers by taking the difference between the report date (confirmed by the company) and a forecasted filing date⁷. In contrast, we used the difference between a firm’s confirmed report date, and the date the entity reported same quarter earnings the prior year.

Consider company ABC that reports its fourth quarter financial results as depicted in Figure 1. ABC delayed its Q4 2017 by 1 day (Jan 26, 2017 compared to January 25, 2016), while its reporting schedule was unchanged in Q4 2018 (Jan 26, 2018 compared to Jan 26, 2017). However, the company advanced its Q4 2019 filings by 9 days compared to Q4 2018.



Source: S&P Global Market Intelligence Quantamental Research. Hypothetical data as at 01/31/2019.

We used the same binning rule employed by So (2014), to group firms along the advance/delay spectrum (Figure 2). The advancers (delayers) bin holds observations where the difference in year-on-year report dates is at least +6 (-6) business days⁸. Bins 2 and bin 4 hold entities that advance or delay between [+3,+5] and [-5,-3] business days respectively. Bin 3 contains entities whose report dates are little changed from the prior year [-2,+2]. Our focus is on bins 1 and 5, as these are the bins where companies were aggressive in either advancing or delaying a report date.

All returns in this report are equal-weighted, winsorized to 3-standard deviations, and adjusted for market, size, value and momentum risk factors (Fama-French four-factor or “FF4” adjusted return). Fundamental variables are also winsorized to 3-standard deviations. Our back-test starts in April 1987 and ends in January 2019.

⁵ Penman (1984), Chambers and Penman (1984), Bagnoli, Kross, and Watts (2002).

⁶ Even though a company may delay its report date compared to the prior year, the firm could still file within the mandated SEC deadline (Appendix A). However, there are instances where the delay could result in the company missing a filing deadline. In such instances the company will have to file a form 12-b 25 with the SEC to indicate a late filing (see [Late to File - The Costs of Delayed 10-Q and 10-K Company Filings](#)). On average, about 8% of delayers end up filing form 12-b 25 (Jan 1994 – Feb 2019).

⁷ The forecasted and confirmed dates used in the research were obtained from a data vendor outlined in the research paper

⁸ We do not use date difference values over +15 or -15 business days to control for outliers and data errors.

Figure 2: Year on Year Difference in Company Report Dates (Measured in Business Days)

Bin	Year-on-Year Difference in Report Dates
Bin 1 (Advancers)	> 5
2	[+3,+5]
3	[-2,+2]
4	[-5,-3]
Bin 5 (Delayers)	< -5

Source: S&P Global Market Intelligence Quantamental Research. Data as at 01/31/2019

2. Strategy Performance

We would like to make two general comments before we discuss back-test results in Table 1. A key input in computing T-stats is standard deviation, and the large number of stocks in bin 3 (Table 1) leads to the monthly FF4 adjusted returns of this bin having a very low standard deviation compared to bins 1 and 5. This low standard deviation is what is primarily driving the statistically significant return of bin 3. In addition, the average number of stocks across all five bins is 2,500, about 500 less than the number of securities in the Russell 3000, the benchmark used to calculate FF4 adjusted returns. The difference in count is because of several reasons, including missing report dates or data values required to calculate FF4 adjusted return, and extreme data values/outliers excluded from the analysis.

Table 1: Strategy Performance in the Russell 3000 (April 1987 – January 2019)

Return distribution is generally in expected direction	Bin	Average Bin Size	Annualized Active Return	Annualized Information Ratio (Active Return)	Hit Rate (Active Return)	Annualized Long-Short Return (Bin 1 - Bin 5)	Annualized Information Ratio (Long-Short Return)	Hit Rate (Long-Short Return)
		Bin 1 (Advancers)	135	3.59%***	0.87	60%***	7.07%***	1.20
	Bin 2	213	1.21%**	0.40	58%***			
	Bin 3	1630	1.35%***	1.15	60%***			
	Bin 4	343	-0.96%**	-0.45	46%			
	Bin 5 (Delayers)	113	-3.49%***	-0.81	40%***			

*** statistically significant at 1% level; ** statistically significant at 5% level; * statistically significant at 10% level.
 Source: S&P Global Market Intelligence Quantamental Research. For all exhibits, all returns and indices are unmanaged, statistical composites and their returns do not include payment of any sales charges or fees an investor would pay to purchase the securities they represent. Such costs would lower performance. It is not possible to invest directly in an index. Past performance is not a guarantee of future results. Data as at 01/31/2019.

The key takeaways from the strategy’s back-test results (Table 1) are as follows:

- Advancers (delayers) outperform (underperform) the Russell 3000 by almost 360 (350) basis points on an annualized basis, with a long-short strategy generating over 700 basis points. All returns are significant at the 1% level.

- The active return hit rate⁹ of bin 1 (60%) and bin 5 (40%) suggests that the overall performance of both bins is not being driven by extreme results in a small subset of the test period.
- The return distribution across the five bins is mostly in the expected direction, with performance strongest (weakest) in bin 1 (bin 5).

Overall, our results confirm previous academic findings that advancers outperform delayers. We explore the relationship between performance and company fundamentals in the economic intuition section.

2.1. Performance by Investment Style

Penman (1984) found the advance/delay strategy to be most effective for small cap stocks; Livnat and Zhang (2014) reported that advancers are typically small growth firms. We document the strategy's performance in large/small cap and value/growth style categories in Table 2. The strategy is effective across all small cap investment style categories (core, value and growth), but weak in the large cap universe (Russell 1000).

Table 2: Style Performance Summary: April 1987 – January 2019

Universe	Bin Group	Average Bin Size	Annualized Active Return	Annualized Information Ratio (Active Return)	Hit Rate (Active Return)	Annualized Long-Short Return (Bin 1 - Bin 5)	Annualized Information Ratio (Long-Short Return)	Hit Rate (Long-Short Return)
Russell 1000	Bin 1 (Advancers)	36	0.39%	0.07	52%	2.21%	0.25	53%
	Bin 5 (Delayers)	30	-1.82%	-0.28	49%			
Russell 2000	Bin 1 (Advancers)	98	4.81%***	0.96	61%***	8.80%***	1.20	64%***
	Bin 5 (Delayers)	84	-3.99%***	-0.74	39%***			
Russell 2000 Value	Bin 1 (Advancers)	67	4.79%***	0.84	59%***	9.64%***	1.13	63%***
	Bin 5 (Delayers)	61	-4.85%***	-0.78	40%***			
Russell 2000 Growth	Bin 1 (Advancers)	64	5.04%***	0.80	57%***	7.80%***	0.72	59%***
	Bin 5 (Delayers)	51	-2.77%***	0.72	46%			

*** statistically significant at 1% level; ** statistically significant at 5% level; * statistically significant at 10% level.

Source: S&P Global Market Intelligence Quantamental Research. For all exhibits, all returns and indices are unmanaged, statistical composites and their returns do not include payment of any sales charges or fees an investor would pay to purchase the securities they represent. Such costs would lower performance. It is not possible to invest directly in an index. Past performance is not a guarantee of future results. Data as at 01/31/2019.

It is worth noting that there are fewer stocks in bins 1 and 5 in the Russell 1000 compared to the Russell 2000, from an absolute (66 vs 182) and percentage basis (6.6% vs 9.1%)¹⁰. Large cap entities are more likely to announce multiple future earnings release dates on the same day, and these published dates tend to be close to those of the prior year. For example, Ford announced earnings release dates for Q4 (2018), Q1, Q2, Q3 and Q4 2019 on November 13, 2018. These earnings release dates were unchanged from the prior year^{11,12}

⁹ Hit Rate is the count of monthly positive long-only active returns divided by the count of the entire monthly history.

¹⁰ See Appendix E for historical time series count for bin 1 and bin 5.

¹¹ <https://media.ford.com/content/fordmedia/fna/us/en/news/2018/11/13/ford-motor-company-announces-2019-earnings-dates.html>

¹² <https://www.businesswire.com/news/home/20171208005488/en/Ford-Motor-Company-Announces-2018-Earnings-Dates>

Given the strength of the signal in small caps, we will use the Russell 2000 as the test universe for this strategy going forward,

2.2. Varying Bin Boundaries and Size Bifurcation

The results displayed in Table 2 are based on a static binning method (Figure 2). How sensitive is performance to varying bin boundaries, and will changing the binning rule lead to vastly different performance results? We modify bin boundaries by moving the original boundaries by -1/+1 business day (Figure 3).

Figure 3: Varying Bin Boundaries: Year on Year Difference in Company Report Dates (Measured in Business Days)

Bins	Strategy B	Original	Strategy F
1	> 4	> 5	> 6
2	[+2,+4]	[+3,+5]	[+4,+6]
3	[-3,+1]	[-2,+2]	[-1,+3]
4	[-6,-4]	[-5,-3]	[-4,-2]
5	< -6	< -5	< -4

Source: S&P Global Market Intelligence Quantamental Research. Data as at 01/31/2019

The results to moving the boundaries by -1 business day (strategy B) and +1 business day (strategy F), are displayed in Table 3.

Table 3: Strategy Performance in Russell 2000: Varying Bin Boundaries (April 1987 – January 2019)

Strategy	Bin Group	Average Bin Size	Annualized Active Return	Annualized Information Ratio (Active Return)	Hit Rate (Active Return)	Annualized Long-Short Return (Bin 1 - Bin 5)	Annualized Information Ratio (Long-Short Return)	Hit Rate (Long-Short Return)
Strategy B	Bin 1 (Advancers)	132	4.30%***	1.01	61%***	8.95%***	1.11	63%***
	Bin 5 (Delayers)	64	-4.65%***	-0.69	42%***			
Original	Bin 1 (Advancers)	98	4.81%***	0.96	61%***	8.80%***	1.20	62%***
	Bin 5 (Delayers)	84	-3.99%***	-0.74	39%***			
Strategy F	Bin 1 (Advancers)	61	5.04%***	0.76	57%**	8.60%***	1.04	64%***
	Bin 5 (Delayers)	120	-3.57%***	-0.78	39%***			

*** statistically significant at 1% level; ** statistically significant at 5% level; * statistically significant at 10% level.

Source: S&P Global Market Intelligence Quantamental Research. For all exhibits, all returns and indices are unmanaged, statistical composites and their returns do not include payment of any sales charges or fees an investor would pay to purchase the securities they represent. Such costs would lower performance. It is not possible to invest directly in an index. Past performance is not a guarantee of future results. Data as at 01/31/2019.

The long-short return of the original strategy is 8.80%, in line with that of Strategy B (8.95%) and strategy F (8.60%). The long-only return of both strategies B and F are also similar in magnitude to that of the original strategy and significant at the 1% level.

Next, we divide the Russell 2000 into two by market capitalization and examine performance of the strategy in both halves (Table 4). While performance is stronger in the smallest 1000 stocks, the long-only active return (3.11%), long-short return (6.44%) and long-short hit rate (57%) in the largest 1000 stocks of the Russell 2000 by market capitalization are all statistically significant at either the 1%, or the 5% level.

**Table 4: Strategy Performance in Russell 2000:
Market Capitalization Bifurcation (April 1987: January 2019)**

Strategy	Bin Group	Average Bin Size	Annualized Active Return	Annualized Information Ratio (Active Return)	Hit Rate (Active Return)	Annualized Long-Short Return (Bin 1 - Bin 5)	Annualized Information Ratio (Long-Short Return)	Hit Rate (Long-Short Return)
Largest 1000 Stocks	Bin 1 (Advancers)	51	3.11%***	0.53	54%	6.44%***	0.66	57%**
	Bin 5 (Delayers)	37	-3.33%***	-0.42	43%***			
Smallest 1000 Stocks	Bin 1 (Advancers)	46	6.62%***	0.86	62%***	11.07%***	1.01	63%***
	Bin 5 (Delayers)	46	-4.45%***	-0.56	45%*			

*** statistically significant at 1% level; ** statistically significant at 5% level; * statistically significant at 10% level.
Source: S&P Global Market Intelligence Quantamental Research. For all exhibits, all returns and indices are unmanaged, statistical composites and their returns do not include payment of any sales charges or fees an investor would pay to purchase the securities they represent. Such costs would lower performance. It is not possible to invest directly in an index. Past performance is not a guarantee of future results. Data as at 01/31/2019.

3. Economic Intuition

Academic literature on advancers and delayers postulate that firms advance report dates because they are eager to report good news to the market, while entities delay because they want to postpone reporting bad news. Kothari, Shy and Wysocki (2008) proposed that “career concerns” might lead managers to withhold bad news, in the hope that subsequent corporate events would give executives the opportunity to “bury” the bad news. If this is the case, we expect advancers (delayers) to report improving (deteriorating) fundamentals. We compared five fundamental characteristics including earnings call sentiment of advancers and delayers to their industry group peers¹³ (Table 5) – see [Appendix C](#). for full description of the metrics.

Table 5: Fundamental Characteristics and Earnings Call Sentiment of Advancers/Delayers vs Peers: Russell 2000 (April 1987 – January 2019)

Metric		Median Advancers or Delayers Less Median Industry Group	Median Advancers Less Median Delayers
1-Year Sales Growth	Advancers	1.08%***	4.26%***
	Delayers	-3.32%***	
1-Year Change in Gross Profitability	Advancers	0.16%***	0.40%***
	Delayers	-0.24%***	
Earnings Surprise ⁺	Advancers	1.89%***	4.74%***
	Delayers	-2.68%***	
Percent Positive Words (posWrds) [^]	Advancers	0.03%***	0.05%**
	Delayers	-0.03%***	
Percent Negative Words (negWrds) [^]	Advancers	-0.01%***	-0.11%***
	Delayers	0.09%***	

⁺Earnings surprise data starts in 2010 while [^]posWrds/negWrds data starts in 2010 and ends in 2017
*** statistically significant at 1% level; ** statistically significant at 5% level; * statistically significant at 10% level.
Source: S&P Global Market Intelligence Quantamental Research. Data as at 01/31/2019.

¹³ Industry group was determined using the 4-digit Global Industry Classification Standard (GICS).

Advancers usually report better metrics than peers do, across all the five characteristics we considered. For example, the median 1-year sales growth for advancers is larger than that of peers and delayers by 1.08% and 4.26% respectively, and these differences are significant at the 1% level. Conversely, delayers report worse sales growth numbers when benchmarked to their industry group peers; the median 1-year sales growth for delayers is smaller than that of peers by 3.32% (significant at the 1% level). Advancers announce bigger earnings surprises and better 1-year change in gross profitability ratios compared to industry group peers and delayers.

We calculated the tone of earnings call transcripts using the approach detailed in our paper published last year - [Alpha Unscripted: The Message within the Message in Earnings Calls](#). Percent positive (negative) words is the total number of positive (negative) words in a transcript relative to the total number of words in the transcript. Higher (lower) ratios for posWrds (negWrds) are therefore preferred.

Corporate managers who advance their earnings report dates are more likely to use words that are positive, and fewer words that are negative compared to their peers and delayers. The median tone positivity (negativity) for advancers is larger (smaller) than that of delayers, with both differences statistically significant.

4. Boosting the Performance of a Stock Selection Multi-Factor Strategy

A possible alternative to implementing a long-only or long-short advance/delay strategy would be to use the advance/delay signal to boost the performance of an existing stock selection strategy. We used S&P Global Market Intelligence's Growth Benchmark Model ("GBM") described in our 2011 paper ([US Stock Selection Models Introduction](#)) as the stock selection model for this analysis. In addition, we modify the bins of the advance/delay strategy (Figure 2) as follows, to ensure that we have sufficient number of stocks in each cell for this analysis:

- Bins 1 and 2 merged to represent advancers (tertile 1).
- Bin 3 remains as is (tertile 2).
- Bins 4 and 5 merged to represent delayers (tertile 3).

We now have three bins for the advance/delay strategy. Next, we rank stocks based on GBM into five buckets (quintiles). The result of the independent sort of the advance/delay tertiles and GBM quintiles is displayed in Table 6.

Table 6: Active Return of Independent Sort Based on Advance/Delay Signal and Growth Model Scores (Russell 2000 Growth – April 1987 to January 2019)

	Growth Model Quintiles					BUY - SELL
	Quintile 1 (BUY)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (SELL)	
Tertile 1 (Advancers)	10.77%***	5.24%***	1.67%	0.50%	-4.69%***	15.46%***
Tertile 2	7.63%***	4.82%***	2.12%***	-0.21%	-4.66%***	12.29%***
Tertile 3 (Delayers)	6.29%***	0.00%	1.85%	-1.39%	-7.50%***	13.79%***
Advancers - Delayers	4.48%**	5.24%***	-0.18%	1.89%	2.81%	

*** statistically significant at 1% level; ** statistically significant at 5% level; * statistically significant at 10% level.

Source: S&P Global Market Intelligence Quantamental Research. For all exhibits, all returns and indices are unmanaged, statistical composites and their returns do not include payment of any sales charges or fees an investor would pay to purchase the securities they represent. Such costs would lower performance. It is not possible to invest directly in an index. Past performance is not a guarantee of future results. Data as at 01/31/2019.

The advance/delay signal helps to identify stocks within the most attractive growth model quintiles (quintiles 1 and 2) that are likely to outperform. The annualized active return to stocks that are ranked in quintile 1 by the growth model and advance (delay) their earnings report release date is 10.77% (6.29%), yielding a return difference of 4.48% (statistically significant at the 5% level). Similarly, the difference in active return between advancers/delayers ranked in quintile 2 is 5.24% (significant at the 1% level)¹⁴.

The difference in return between advancers/delayers is in the expected direction for stocks ranked in quintile 5 (2.81%), but it is not statistically significant. A long-short strategy based on buying stocks in the top-leftmost cell (10.77%) and shorting stocks in the bottom-rightmost cell (-7.50), yields an annualized return of 18.27%, significant at the 1% level.

5. Moving a Previously Scheduled Earnings Release Date

Companies do not typically postpone a previously confirmed earnings report date, but events subsequent to the confirmation of the report date may force the company to reschedule. For example, several companies canceled previously scheduled earnings reports on the 29th and 30th of October 2012, as U.S financial markets were closed due to the impact of Hurricane Sandy. However, most companies postpone because of firm specific issues, such as issues with internal reporting systems, identification of fraud perpetuated by employees, and the firm's external auditors requiring more time to complete the audit process.

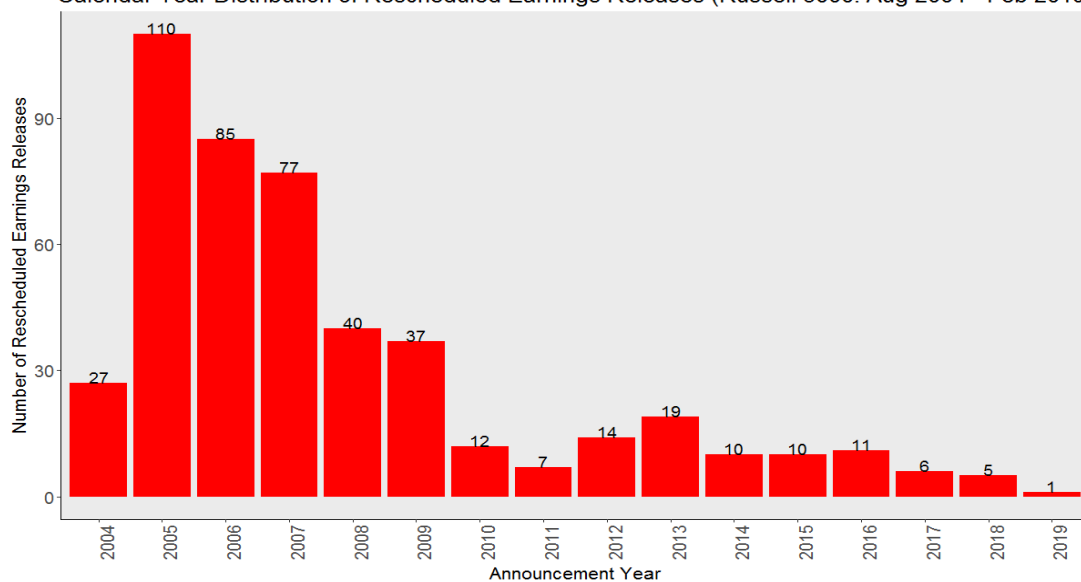
This section of the report examines the returns surrounding the date a company announces it is going to move a previously scheduled earnings release call *to a later date*. **The data used for this analysis come from the S&P Global Market Intelligence Key Developments database** (key development type "61" for *delayed earnings announcements*).

There are 471 observations over the entire sample period, indicating that companies are averse to postponing a previously announced earnings report dates (Figure 4). The number of observations has been on a steady decline, perhaps an indication of improved corporate governance practices, and a better understanding of the repercussions of postponing an earnings release date by corporate managers.

¹⁴ See [Appendix D](#) for the average cell count of this interaction strategy.

Figure 4: Distribution of Rescheduled Earnings Release Dates

Calendar Year Distribution of Rescheduled Earnings Releases (Russell 3000: Aug 2004 - Feb 2019)



Source: S&P Global Market Intelligence Quantamental Research. Data as at 03/31/2019

6. Abnormal Returns Around Postponed Earnings Releases

We report the returns surrounding the announcement of a postponed earnings release in Table 7, where the event date is the day of the announcement. The three main takeaways from the table are:

- Abnormal returns prior to the event are small (-0.23%) and not significant, indicating little or no information leakage prior to the announcement.
- The price impact is significant around the announcement date, with a realized cumulative abnormal return of -2.44%, two days before and one day after the event date (32% hit rate).
- Firms that reschedule continue to underperform the broader market over the short term with 1-month and 3-month abnormal returns of -2.41% and -3.79% respectively.

Table 7: Abnormal Returns Surrounding the Announcement of a Rescheduled Earnings Release (Russell 3000 – August 2004 to February 2019)

Return Horizon	Average	Hit Rate
6 Days Before, to 1 Day Prior to Event Day [t-6, t-1]	-0.23%	49%
2 Days Before, to 1 Day After Event Day [t-2, t+1]	-2.44%***	32%***
1-month After Event Day [t+1, t+23]	-2.41%***	40%***
3-months After Event Day [t+1, t+69]	-3.79%***	40%***

*** statistically significant at 1% level; ** statistically significant at 5% level; * statistically significant at 10% level.

Source: S&P Global Market Intelligence Quantamental Research. For all exhibits, all returns and indices are unmanaged, statistical composites and their returns do not include payment of any sales charges or fees an investor would pay to purchase the securities they represent. Such costs would lower performance. It is not possible to invest directly in an index. Past performance is not a guarantee of future results. Data as at 03/31/2019.

7. Fundamental Characteristics of Companies that Postpone

Companies that postpone a previously announced earnings release are smaller than their industry group peers and exhibit worse fundamental characteristics (Table 8). The median market capitalization of companies that reschedule is \$509 million, compared to the industry group median of \$977 million.

Investors should brace themselves for disappointing results from firms that reschedule earnings releases. Firm's that reschedule report 1-year sales growth that is about half of peers (4.88% vs 9.70%), with the difference (-4.82%), significant at the 1% level. investors should also expect a large drop in earnings per share growth – the median 1-year eps growth reported by rescheduling firms is -16.41%, almost 25% below what their industry group peers report.

Table 8: Fundamental Characteristics of Companies that Reschedule Earnings Releases vs Industry Group Peers: Russell 3000 (August 2004 – January 2019)

Metric	Median Value of Companies that Reschedule	Company Median Less Industry Group Median
Market Capitalization	\$509M	-468***
1-Year Sales Growth	4.88%	-4.82%***
1-Year Change in Gross Profitability	-0.15%	-0.16%***
1-Year EPS Growth	-16.41%	-24.89%***

*** statistically significant at 1% level; ** statistically significant at 5% level; * statistically significant at 10% level.
Source: S&P Global Market Intelligence Quantamental Research. Sample size: 219 observations. Data as at 03/31/2019.

8. Data

The data sets used in this research include the following:

Fundamental Data

S&P Capital IQ Premium Financials and Compustat® North America packages were the sources of fundamental data and report dates for this study and both are point-in-time databases¹⁵.

Earnings Call Sentiment

The transcripts data is a new addition to S&P Global Market Intelligence's Xpressfeed™ product suite. The historical coverage in the Russell 3000 universe starts in calendar Q1 2008. The key features of the transcript dataset includes:

- Segmentations of earnings calls by sections (e.g., prepared remarks section vs. Q&A section).
- Segmentation by speaker types (e.g., managers, sell-side analysts etc).
- Segmentation by professionals (e.g., Tim Cook, CEO of Apple Inc.) where the individual professional identifiers serve as a unique key that connects the transcripts data set with the S&PGMI's Professionals and Estimates data sets.

¹⁵ A point-in-time database eliminates any look-ahead bias in backtests

Analyst Estimate Data

S&P Global Estimates data is a comprehensive, standardized database of global, real-time financial forecasting measures on upgrades/downgrades, target price revisions, market-moving news or significant developments for public companies worldwide, and estimates based on the projections, models, analysis, and research of analysts, brokers, and the companies themselves. Estimates are sourced from research reports, research contributors, and news releases. Both consensus and detail data is available for company financial estimates, target prices, and recommendations.

Key Developments Data

The data used in [Section 5](#) of this study is from the key developments (key dev) database. We used key dev type "61" (delayed earnings announcements) to determine the date a company announced it was moving a previously scheduled report date backwards.

S&P Global Market Intelligence currently collects over 160+ key dev types, using multiple global, regional and local sources, including press releases, regulatory filings and company websites. Coverage is global and includes both publicly listed and private companies.

Stock Selection Models

The U.S Growth Benchmark Model ("GBM") is one of eight country/regional stock selection models offered by S&P Global Market Intelligence. GBM identifies companies with a consistent track record of earnings growth, as well as emerging growth candidates. The model scores are based on seven subcomponents: Earnings Momentum, Historical Growth, Liquidity & Leverage, Price Momentum, Value, Quality, and Capital Efficiency.

9. Conclusion

Companies that advance their earnings release date outperform firms that delay by over 700 basis points on an annualized basis. We document the effect to be stronger for small caps (880 basis points) than for large caps (221 basis points). We found the advance/delay strategy to be effective across all small cap investment styles.

Advancers report better 1-year sales growth and more positive earnings surprise metrics compared to their industry group peers and delayers. Corporate executives at firms that advance also tend to use more (less) positive (negative) words compared to delayers on earnings conference calls. With earnings season around the corner, investors should consider using the advance/delay signal as a potential flag for companies that may report superior fundamental performance and/or surprise on the upside/downside. **Readers interested in identifying advancers and delayers in the upcoming earnings season can do so by comparing confirmed report dates in S&P Global Market Intelligence's Future Events database to the earnings report date a year ago.**

Finally, corporates that postpone a previously announced earnings report date are most likely going to report bad news. Our back tests showed a cumulative abnormal return of negative 2.44% in the three-day window surrounding the announcement date, coupled with a 16% fall in earnings per share compared to the prior year report.

Appendix A: SEC Filing Deadlines for Forms 10-Q and 10-K

Type of Filer	Market Cap Range	10-Q Filing Deadline	10-K Filing Deadline
Non-Accelerated Filers	Less than \$75M	45 Days	90 Days
Accelerated Filers	\$75 - \$700M	45 Days	75 Days
Large Accelerated Filers	>=\$700M	40 Days	60 Days

Source: U.S Securities & Exchange Commission, S&P Global Market Intelligence Quantamental Research. Data as at 03/31/2019.

Appendix B: Loughran & McDonald

There are many ways to define sentiment. We use a bag-of-words approach where the sentiment word lists are from the Loughran and McDonald (2011) financial dictionary. Their dictionary has become the de facto financial dictionary for NLP analysis due to its **accessibility**, its **comprehensiveness**, its **financial-specific context**, its **lack of dependency on the transitory nature of its words** and, lastly and perhaps most importantly, its **unambiguous and singularly connoted words**. Details below.

- **Accessibility** – their word lists are readily accessible because they are freely posted online.
- **Comprehensiveness** – the dictionary is comprehensive such that it is difficult for managers to game the system (i.e., circumvent certain words that have empirically been shown to lead to future stock underperformance) because they start with every conceivable English word with all inflections of a word, totaling 80,000+ distinct words in the master word list.
- **Financial-specific context** - they filter their initial master word list down to their sentiment word lists by examining 10-K filings between 1994 and 2008 inclusively.
- **Permanence of words** - their master and sentiment word lists are less transitory because they start with the most comprehensive list of English words possible and, more importantly, the master word list doesn't rely on transitory terms such as iphone.
- **Unambiguous and Singularly Connoted Words** - they arrive at their sentiment word lists containing unambiguous and singularly connoted words by looking at the most frequently occurring words in the 10-Ks from the master word list. From there, they went word-by-word and assessed each of the word's meaning in a business context. At the end of their process, the words that ended up in their word lists are less ambiguous in their meaning with singular connotation.

Their three most important lists of words for our use cases are the master word list, positive and negative sentiment word lists with distinct word counts of 80,000+, 350+ and 2300+.

respectively. Examples of positive words are able, abundance, acclaimed, accomplish and so forth. Examples of negative words are abandon, abdicate, aberrant, abetting and so forth.

Appendix C: Definition of Fundamental and Earnings Call Sentiment Metrics

Factor	Definition
1-Year Sales Growth	The year-on-year percentage difference in sales per share
1-Year Change in Gross Profitability	The year-on-year difference in gross profitability (GP), where GP is calculated as revenue minus goods sold, divided by total assets.
Earnings Surprise	Actual earnings per share divided by consensus estimate
Percent Positive Words	The number of positive words in an earnings transcript divided by the total number of words in the transcript. Positive words are defined using the Loughran McDonald dictionary
Percent Negative Words	The number of negative words in an earnings transcript divided by the total number of words in the transcript. Negative words are defined using the Loughran McDonald dictionary

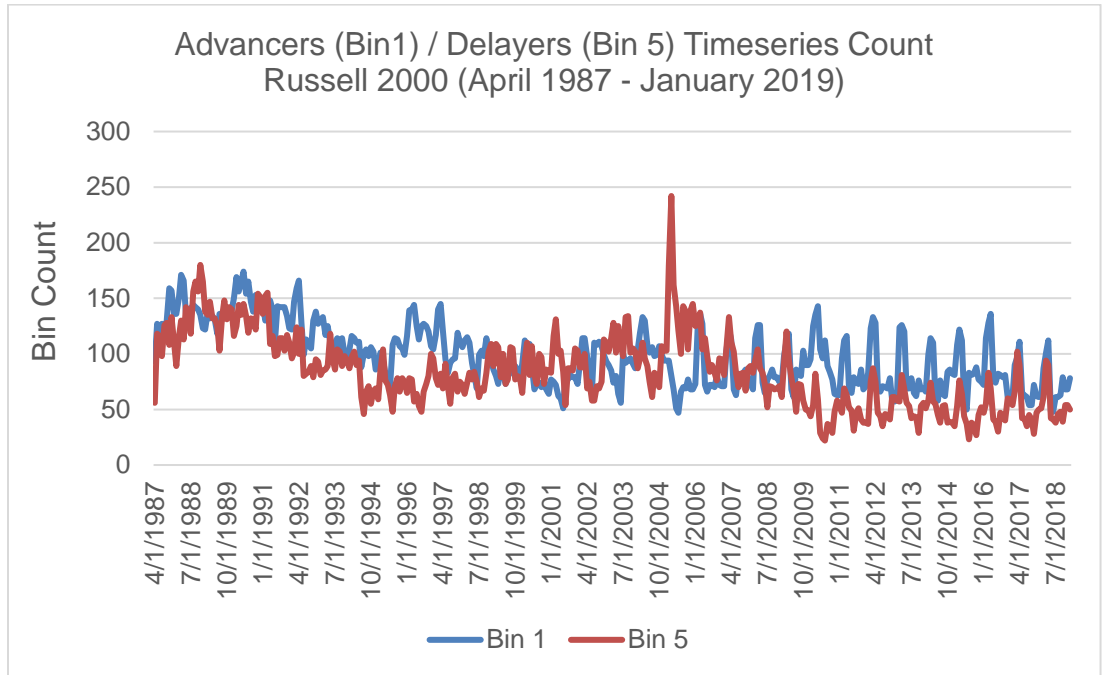
Source: S&P Global Market Intelligence Quantamental Research. Data as at 01/31//2019.

Appendix D: Average Number of Stocks in Each Cell (Russell 2000 Growth Universe – April 1987 – January 2019)

	Growth Model Quintiles				
	Quintile 1 (BUY)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (SELL)
Tertile 1 (Advancers)	33	30	30	29	26
Tertile 2	122	124	120	114	97
Tertile 3 (Delayers)	31	34	36	37	40

Source: S&P Global Market Intelligence Quantamental Research. Data as at 01/31//2019

Appendix E: Time Series Count for Bin 1 and Bin 5 (Russell 2000 Universe – April 1987 – January 2019)



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Our Recent Research

May 2019: Bridges for Sale: Finding Value in Sell-Side Estimates, Recommendations, and Target Prices

This report looks at the informativeness of analyst recommendation revisions, target price revisions, and estimate dispersion, primarily within the post-2002 regulatory environment, and finds significant results in all three areas:

- Investors should focus on shifts in consensus recommendations, as the recommendation level by itself often reflects pro-management and high-growth biases.
- Target prices, labeled by some practitioners as “fiction” likewise provide insight into changing analyst attitudes. The six-month change in target price gap (the spread between target and market price) produces statistically significant results globally.
- Analyst estimate dispersion acts as an indicator of corporate quality – high quality companies have more stable revenue and income streams that are more amenable to forecasting

February 2019: U.S Stock Selection Model Performance Review

U.S. stock returns faced headwinds due to the uncertainty around monetary and fiscal policies in 2018. At this time last year, we reported 15 months of consecutive positive returns for the S&P 500 (Dec 2016 to Jan 2017) which tied the previous 1959 record for longest winning streak for the index. Shortly thereafter, we saw the streak break when February yielded a return of -3.69%. Four of twelve months (Feb, Mar, Oct, and Dec) in 2018 saw S&P 500 declines, which pushed cumulative index returns down 7.18% on the year. The primary manifestation of this uncertainty was geopolitical events including the mid-term elections, trade tariffs, and a government shutdown that stretched into 2019 to become the longest shutdown in history.

February 2019: International Small Cap Investing: Unlocking Alpha Opportunities in an Underutilized Asset Class

Institutional investors typically overlook or underweight small cap equities in global mandates for a number of reasons, including a higher risk level (relative to large caps), a lack of operational history, liquidity, and information/data gaps which make it challenging to make informed investment decisions. However, investors who are willing to embrace the risk in small cap investing also stand to reap the benefits of allocating to this asset class – potentially earning higher risk-adjusted performance and portfolio diversification. In this report, we examine international small cap performance across various themes and provide actionable insights for both fundamental and quantitative investors, by identifying key drivers of small cap stock performance.

January 2019: Value and Momentum: Everywhere, But Not All the Time

“Momentum” and “Value” strategies have had well-documented return premia in multiple geographies and asset classes. Average monthly returns to momentum are larger than

average returns to value, caveated by large pullbacks (“crashes”) in the momentum portfolio. Practitioners often include both approaches in their investment strategy.

- Dynamically weighting value and momentum strategies by a function of the trailing volatility in the momentum portfolio produces a superior information ratio (IR), total return, and lower maximum drawdown compared to a naïve equal weighting.
- Results are consistent in six regions (U.S., Europe, Asia Ex-Japan, Japan, Latin America, and Emerging Markets) and in multiple robustness checks. We maintain dollar neutrality and persistent leverage of 1.0 in all specifications.
- Monte Carlo simulation supports the conclusion that the shift of tail density from left- to right-tail drives the performance improvements. That is, large drawdowns are avoided.

November 2018: Forging Stronger Links: Using Supply Chain Data in the Investing Process

Supply chain data can greatly enrich the investment process. Many of the insights gleaned from the supply chain can extend beyond what may be immediately obvious to investors. This report leverages the Panjiva content set, focused on global maritime shipping, to draw out seven major investment use cases. Working examples are provided from previously published research, including links to underlying reports, for each instance.

- Lower latency, higher frequency and finer granularity vs. financial data
- Detection of anomalous activity
- Risk event impact assessment
- Automated channel checks
- Industry deep dives
- Capital markets activities
- Thematic trading candidate identification

September 2018: Their Sentiment Exactly: Sentiment Signal Diversity Creates Alpha Opportunity

Investors sometimes view sentiment signals as interchangeable: one indicator is the same as the next. Our research shows that this is far from the case.

- Companies where management is both positive/optimistic and fact-focused outperform historically.
- Hedge fund sentiment confirms and complements management sentiment.
- Market sentiment surrounding earnings calls amplifies the effectiveness of earnings transcript-based signals.
- Analyst sentiment, as reflected in target price/recommendation changes, adds an important voice to ownership-based signals.

September 2018: Natural Language Processing – Part II: Stock Selection: Alpha Unscripted: The Message within the Message in Earnings Calls

- Sentiment-based signals: Firms whose executives and analysts exhibited the highest positivity in sentiment during earnings calls outperformed their counterparts.
- Behavioral-based signals: Firms whose executives provided the most transparency by using the simplest language and by presenting results with numbers outperformed their respective counterparts.

- Positive language from the unscripted responses by the executives during the Q&A drove the overall predictability of the positive sentiment signal.
- The sentiment of CEOs has historically been more important than the sentiment of other executives.
- The aggregate sentiment of analysts historically enhanced the predictability of the 3-month FY1 EPS analyst revision signal.

July 2018: A Case of ‘Wag the Dog’? - ETFs and Stock-Level Liquidity

- We present an ETF price impact model, which posits single-day impact of up to 370 bps / day on an individual security and up to 250 bps / day on the index itself. Analyses indicate the effect is transitory and reverses over a period of 3-5 trading days.
- The Feb 2018 market correction was accompanied by a \$25B outflow of assets from ticker SPY, the SSGA S&P 500 Trust ETF. Modeling suggests that as much as one-third of the pullback was due to price pressure from ETF trading and that securities more sensitive to ETF flow underperformed.
- Sensitivity to ETF flow is used to build a risk model, which generates improved performance in a historical optimization. We offer a method for estimating ETF sensitivity for funds, using the S&P Global Ownership dataset.

June 2018: The (Gross Profitability) Trend is Your Friend

Trend strategies based on changes in stock price or earnings are widely used by investors. In this report, we examine the performance of a trend strategy derived from gross profitability (“GP”). Gross profitability trend (“GPtrend”), was proposed by Akbas et al. who argued that the trajectory of a firm’s profitability is just as important as the level (GP). We define GPtrend as the year-on-year difference in either quarterly or trailing twelve month GP, where GP is calculated as revenue minus cost of goods sold, divided by total assets. Our back-tests confirm that GPtrend has historically been an effective stock selection signal globally, with the added benefit of low to moderate correlation with commonly used investment strategies.

May 2018: Buying the Dip: Did Your Portfolio Holding Go on Sale?

March 2018: In the Money: What Really Motivates Executive Performance?

February 2018: The Art of the (no) Deal: Identifying the Drivers of Canceled M&A Deals

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