Filing, Fast and Slow:
Reporting Lag and Stock Returns

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We study the impact of Reporting Lag, the time it takes a firm to file its annual or quarterly reports, on future stock returns. Firms that report faster command a significant premium compared to slower-filing firms. We investigate the determinants of Reporting Lag and find that firm and document characteristics play a key role. Shorter Reporting Lags are associated with more positive earnings surprises, better firm efficiency, a higher similarity between subsequent reports and more positive sentiment compared to the previous report. We also find evidence that a longer Reporting Lag can signal that management delays dissemination of negative news.

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Timely and proper disclosure of information by publicly traded corporates is a crucial input for asset pricing and the well-functioning of financial markets. Quarterly and annual financial reports are an important form of information disclosure enabling market participants to evaluate different investment opportunities and assess the way their capital has been employed. This importance is well recognized, not only in academia, but also by practitioners and regulators. Financial market regulators such as the SEC have decreed strict requirements for the content and deadlines of these financial reports.

There exists a large body of research on the relation between the timing of corporate information disclosure and stock returns, in particular on the timing of earnings announcements and on the timing of the filing of reports (see e.g., Chambers and Penman (1984), Givoly and Palmon (1982), Kross and Schroeder (1984), Ball and Kothari (1991), Griffin (2003)). There is also evidence that investors underreact to new information when it is reported, and that this information only slowly gets absorbed into the market (see e.g., You and Zhang (2009), Bartov and Konchitchki (2017) and Cohen et al. (2020)). An important factor that drives the slow absorption of information is the sheer size of the information being disclosed. A more complicated or involved effort is required to adequately process and digest large amounts of non-numeric information.

In this paper, we focus on the timing of the regular annual and quarterly reporting cycle, and the subsequent impact on future stock returns. Specifically, we study the effect of the length of the Reporting Lag, defined as the number of days between the end of the reporting period and the filing date of the corresponding 10-K and 10-Q reports. A strategy that buys stocks of firms with shorter Reporting Lags and sells stocks of late-filing firms, produces economically and statistically significant risk-adjusted returns. We use firm-level cross-sectional Fama-MacBeth regressions to control for additional variables and corroborate this result.

We analyze the determinants of the length of the Reporting Lag to understand its predictive power for relative stock returns. In addition to firm characteristics documented in prior research, we contribute to this strand of literature by relating Reporting Lag to document characteristics, i.e., the similarity and the change in sentiment between consecutive reports of the same firm. For this purpose we use natural language processing (NLP) to distill several measures from the filings. To

the best of our knowledge, our research is the first to investigate the relation between reporting timeliness and the content of the report.

We analyze to what extent the timing of reporting can be explained by firm-level variables.[1] First, general characteristics of the firm, such as firm efficiency, size and profitability, are likely to help in explaining the timeliness of financial reporting (see e.g., Abernathy et al. (2018), Jaggi and Tsui (1999), Ettredge et al. (2006), Krishnan and Yang (2009)). Competence in the type of processes that are required to produce the reports directly impacts the timeliness of filings and late filings are associated with weak internal controls (see e.g., Impink et al. (2012) and Bryant-Kutcher et al. (2007)). Following Frijns et al. (2012), we use a measure for firm efficiency constructed by Demerjian et al. (2012) to quantify the capability of a company to effectively transform input to output. We find that the length of the Reporting Lag is negatively related to firm efficiency, profitability and size.

It is well established that earlier disclosures are associated with more positive information (see e.g., Begley and Fischer (1998), Haw et al. (2000), Kothari et al. (2009) and Goldstein and Wu (2015)). This can be inferred from stock market reactions or from earnings surprises: earlier (later) disclosures typically correspond to more positive (negative) abnormal returns around reporting dates and more positive (negative) earnings surprises. The majority of this literature is event orientated and focuses on the stock market impact in a short period around the announcement or reporting event itself. We investigate the relation between Reporting Lag and earnings surprises and indeed find that firms with a positive surprise tend to report earlier.

Second, we study the impact of document characteristics, retrieved from the actual content of the specific report, on the timeliness of filing. Prior studies mainly use textual information from corporate disclosures to analyze firm behavior related to earnings quality, financial policies, and stock performance.[2] Cohen et al. (2020) document that changes in reporting practices predict negative future returns because the large majority of these changes is associated with negative

[1] See Abernathy et al. (2017) and Habib et al. (2019) for an overview.
[2] See Li (2011) and Loughran and McDonald (2016) for an overview.

changes in sentiment. In this paper we focus on financial reporting timeliness, i.e., Reporting Lag, as a driver of future stock returns.

We find that the length of the Reporting Lag is driven by the amount of changes compared to the previous quarterly 10-Q or annual 10-K filing. More processing time is required to prepare a report when it differs more from the previous one. This motivation is analogous to the study of Cohen et al. (2020) who find that firms typically tend to repeat the information of their previously filed report and that larger incongruence between reports negatively impacts stock returns.

Taking into account that the timeliness of reporting is related to earnings surprises and that large changes to reports are associated with bad news, we also measure the sentiment expressed in the reports. We find that longer Reporting Lags are associated with higher dissimilarity and more negative sentiment compared to the previous report.

In addition to firm and document characteristics playing an important role, we recognize that the timeliness of reporting is ultimately at the discretion of corporate management. A longer Reporting Lag may also be the result of a, possibly deliberate, delay by the management of the disclosure of bad news (see Kothari et al. (2009)). We find novel evidence supporting this assertion.

First, we use the content of specific reports to separate filings with more newsworthy content from those that are relatively similar compared to the previous report. We find that both the highest and the lowest subsequent stock returns are realized by firms with dissimilar filings. The highest returns are realized by firms with newsworthy reports that file early whereas the lowest returns come from firms that file late newsworthy reports. This observation suggests that management is both deliberately advancing positive information and delaying negative information. This effect increases with the amount of new content in the document.

Second, we propose that a longer Reporting Lag can be interpreted as a signal that management, at the time of filing of the report, is not fully disclosing all available negative information on future operations. Beyond the content of the report, management typically has more information on the direction of business developments. If management possesses negative insights and it is not required to fully disclose this information at the time of filing its report, it can choose not to do so in the hope that offsetting positive news will surface during the next period. The same motivations

that prompt management to delay negative information are at play when opting not to disclose negative information beyond what is regulatory required. We find that Reporting Lag itself contains information on the future financial health of a firm as measured by well-established financial ratios. As such, a longer Reporting Lag indeed indicates that on average negative news is expected to be revealed in future filings.

Equipped with a better understanding of the determinants of Reporting Lag and the importance of managerial discretion in deciding on the time of filing, we can explain the observed predictive power of Reporting Lag on future stock returns. A longer Reporting Lag is related to smaller, less profitable and less efficient firms that report more negative unexpected earnings, and is associated with less similar reports that have a more negative tone. In addition, a longer Reporting Lag can be interpreted as a signal that management is not fully disclosing all negative information at the time of filing.

A related strand of literature focuses on the impact of whether or not a company is successful in meeting its reporting deadlines, i.e., whether its Reporting Lag is smaller or larger than the regulatory deadline (see e.g., Alford et al. (1994), and more recently Bartov and Konchitchki (2017)). A longer Reporting Lag is associated with negative abnormal returns, both around the event of late filing, as well as in the subsequent period.[3] A clear rationale for the relation between non-timely filing and negative abnormal returns is that late filings could potentially lead to severe consequences such as deregistration by the SEC, delisting from the exchange, limitations to raising new capital, and activation of bond covenants.

We perform several robustness checks on the main results. Reporting Lag remains a significant driver of stock returns after restricting our sample to those firms that report in a timely manner. This rules out that our conclusions are driven by the non-timely reporting effects documented in earlier literature. In this respect our research is complementary to Bartov and Konchitchki (2017), who focus on the binary information of whether or not firms succeed in meeting their reporting

[3] A firm is required to file a Non-Timely form (NT-form) if the company does not manage to meet its reporting deadline. This form has to be filed within one day after the original deadline, needs to present the reason for late filing, and should indicate whether the firm expects to be able to file within a default grace period: Fifteen days for annual reports and five days for quarterly reports.

deadlines. Our approach can be applied to the entire cross-section of stocks, whereas the percentage of firms that do not meet their reporting deadlines is rather small.

Results for different subsamples based on market capitalization are provided to ensure the results are not driven by filing misclassification errors, small market capitalization stocks and illiquidity. We perform an out-of-sample analysis and find that the main conclusions on Reporting Lag as a driver of stock returns apply to European markets as well. The results remain robust when we control for sectors, which means they are not driven by particular reporting practices that may differ across sectors. This also implies that the implications of our results can be applied to the broad cross section of stocks.

Our research has several practical implications. First of all, we demonstrate that Reporting Lag is a significant predictor of stock returns up to one year in the future, and as such can be used as a meaningful indicator to select faster reporting stocks that can be expected to command a higher return. Alternatively, this signal can be used in a negative screening to identify such stocks in the portfolio. We establish a simple trading strategy based on the length of the Reporting Lag that generates robust positive returns. The slow decay of the Reporting Lag signal implies that limited turnover, and therefore transaction costs, would be required to implement and maintain desired portfolio exposures to such factor.

Second, Reporting Lag can be used as a flag for financial analysts, who can modify their forecasts based on the length of the Reporting Lag. In particular, we show that a longer Reporting Lag may indicate that a firm is deliberately delaying the dissemination of negative information, including negative information that pertains to the future operating results of the firm. A longer Reporting Lag should therefore prompt analysts to further scrutinize the lagging firms.

1. Data & Methodology

The data used in the empirical analysis consists of 10-K and 10-Q filings retrieved from the SEC's Electronic Data Gathering, Analysis, and Retrieval (EDGAR) website.[4] We separate the 10-K and 10-Q filings into two different datasets since their informational content and filing deadlines differ. In addition, annual reports require more disclosure and have to be externally audited while quarterly reports only need internal auditing. For these reasons, annual filings tend to be lengthier and in general require more processing time.

We obtain historical returns, prices and market capitalization data from Datastream. To calculate earnings surprises we use data from the Institutional Brokers Estimate System (I/B/E/S). Balance sheet data from the Refinitiv Thomson Reuters Fundamentals database is obtained to construct well-known risk factors. Since EDGAR only contains US listed companies, the Refinitiv Thomson Reuters Fundamentals database is also used to collect reporting time data for European stocks. For the risk-free rate, the Fama-French (market, size, value) and momentum factors, the online data library of Kenneth French is used.[5]

The firm efficiency and managerial ability scores are sourced from the online dataset of Demerjian et al. (2012)[6], who use data envelopment analysis (DEA) to construct a measure of firm efficiency. They solve an optimization problem to construct a total firm efficiency measure. In this optimization firm revenue is the output variable with input variables being Cost of Goods Sold, Selling and Administrative Expenses, Net PP&E, Net Operating Leases, Net Research and Development, Purchased Goodwill, and Other Intangible Assets.[7] The resulting total efficiency score can be attributed to firm-specific characteristics and Managerial Ability, i.e., how efficiently managers use available firm resources.

[4] The raw 10-K and 10-Q filings are obtained in the form of composite submission text files that are embedded with different other types of files. These file types include PDFs, XLS, XBRL tables, exhibits, graphs, etc. To extract meta data an HTML parser is used. Relevant meta data include information such as filing type, the filing date and the corresponding fiscal date. In addition, we also obtain Non-Timely 10-K and 10-Q filings from the EDGAR database.
[5] See link: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html
[6] See link: http://faculty.washington.edu/pdemerj/data.html
[7] Financial services firms are excluded due to their unique asset structure and earnings generating processes. Utilities firms are excluded as well due to the regulation of the output price.

Following Chambers and Penman (1984), we calculate the Reporting Lag (RL) for stock *i* at time *t* as the difference in calendar days between the end date of the fiscal period and the actual filing date of the corresponding reports,

$$RL_{i,t} = FilingDate_{i,t} - FiscalDate_{i,t}. \quad (1)$$

We use EDGAR's "Filed as of Date" as $FilingDate$ and "Period of Report" (end of the fiscal quarter or year) as $FiscalDate$ to calculate the Reporting Lag using Equation (1).[8]

We construct similarity and sentiment measures from the textual content of the annual and quarterly reports using natural language processing (NLP). We remove punctuation characters and numerical text from these filings to focus on the textual content and convert upper case characters to lower case. We purge English stop words using the Loughran and McDonald (2011) Stopwords Dictionary. For annual reports, we compare the report to that of the previous year; For quarterly reports, we use the report from the corresponding quarter in the previous year.

To measure the similarity between two filings F_1 and F_2 of a firm, we calculate the cosine similarity (see e.g., Hanley and Hoberg (2012) and Cohen et al. (2020)),

$$Cosine\ Similarity = \frac{\sum_{j=1}^{n} F_{1j}F_{2j}}{\sqrt{\sum_{j}^{n} F_{1j}^2}\sqrt{\sum_{j}^{n} F_{2j}^2}}, \quad (2)$$

where word *j* is counted F_{1j} times in the first filing and F_{2j} times in the second filing. The cosine similarity ranges from 0 to 1. A value of 0 implies that the two documents do not have any words in common. A cosine similarity value of 1 indicates perfect similarity in terms of word frequency for every word in the filings. To reduce skewness, we adjust the cosine similarity measure using a natural logarithm transformation,

$$Document\ Similarity\ = -log(1 - \ Cosine\ Similarity). \quad (3)$$

The change in sentiment is measured by calculating the difference between the number of positive (*NPos*) words and the number of negative words (*NNeg*), based on the sentiment lexicon from the

[8] See, e.g., https://www.sec.gov/Archives/edgar/data/320193/000032019319000066/0000320193-19-000066.txt

Loughran and McDonald (2011) Master Dictionary.[9] We normalize by the total word count (*NTotal)* in each filing,

$$Change\ Sentiment = \frac{NPos_1 - NNeg_1}{NTotal_1} - \frac{NPos_2 - NNeg_2}{NTotal_2}. \quad (4)$$

The total number of words in a filing does not include stop words but it does contain "neutral" words that are not identified as either positive or negative. Table A.2 in Appendix A presents the summary statistics for the 10-K and 10-Q filings samples.

In order to avoid spurious results from changes in regulatory filing deadlines and mitigate liquidity concerns, we focus on large accelerated filers, i.e., stocks with a public float of at least $700 million, over the 2007-2018 sample period.[10] Following Impink et al. (2012) and Bartov and Konchitchki (2017), we use total market capitalization to classify filing types.[11] For annual filings, we remove a stock from the sample if it does not file another annual report within a year. For quarterly filings we do this if the firm does not file another quarterly report within six months. The six months threshold period takes into account that often no quarterly report is filed in the same quarter as the annual report. In addition, we exclude stocks with a share price less than $1. The data is winsorized at 1% and 99% cut-offs to ensure our results are not driven by extreme values. The final data set is based on a monthly sampling frequency and contains 214,745 10-K filing observations and 215,602 10-Q observations. On average we have 1,494 large accelerated filers per month over the 2007-2018 period. The distributions of annual and quarterly reports throughout the year are plotted in Figures 1 and 2 in Appendix A.

[INSERT Table 1 HERE]

[9] See link: https://sraf.nd.edu/textual-analysis/resources/#LM%20Sentiment%20Word%20Lists

[10] As a result of the Sarbanes-Oxley Act (SOX) Section 404, the SEC shortened the statutory filing deadlines for registered companies. Large accelerated filers with fiscal ending date on or after 15 December 2006 are required to file annual reports within 60 days and quarterly reports within 40 days after period end. Accelerated filers (i.e., stocks with a public float between $75 million and $700 million) with fiscal ending date on or after 15 December 2003, have a 75-days reporting deadline for annual reports and 40-day reporting deadline for quarterly reports.

[11] Bartov and Konchitchki (2017) validate the use of market value of equity by calculating the correlation between company filing status in the Audit Analytics database and their classification. Their results are positive, high and statistically significant at the 1 percent level.

Panels A and B in Table 1 summarize the sample size and distribution of the Reporting Lag over time.[12] The third column in Table 1 indicates the number of observations of filing a Non-Timely (NT) report which happens when the company does not file a 10-K or 10-Q report before the regulatory deadline. As shown in Table 1 Panel A, the average annual Reporting Lag decreases from around 60 days in 2007 to 54 days in 2018. Similarly, the average quarterly Reporting Lag over this period decreases from about 36 days to 34 days. About half the firms file their reports within only a few days of the deadline. We report summary statistics for the independent variables in Tables A.1 and A.2 in Appendix A.

2. Results

We analyze the impact of Reporting Lag on future stock returns in two distinct manners. First we analyze the return characteristics of portfolios sorted on Reporting Lag. Next we perform Fama-MacBeth cross-sectional regressions to analyze the relation between Reporting Lag and individual stock returns while controlling for several additional variables.

2.1 Portfolio returns

At the end of every month we construct equal-weighted quintile portfolios based on the reporting lag of the annual 10-K and quarterly 10-Q filings. If a stock's filing is updated on the EDGAR website in month *t,* its updated reporting lag is reflected in the portfolio held in month *t+1*. We report risk-adjusted quintile portfolio returns (alphas) for the Capital Asset Pricing Model (CAPM), Fama-French (1993) 3-factor model and the Carhart (1997) 4-factor model.

Table 2 summarizes the results of the 10-K and 10-Q equal-weighted quintile portfolio returns for large accelerated filers (i.e., stocks with a public float above $700 million). The quintile 1 (Q1) portfolio consists of stocks with the longest Reporting Lag, i.e., the firms with the longest period

[12] We require that all the companies should at least file one previous 10-K/Q report and the fiscal ending date of their filings should be on or after 15 December 2006.

between fiscal period end and the actual filing date. The quintile 5 (Q5) portfolio consists of early filers, stocks of companies that took the least time to file their reports.

[INSERT Table 2 HERE]

The top quintile Reporting Lag portfolio constructed using 10-K filings earns a CAPM-adjusted return of 15 basis points per month, whereas the firms in the bottom quintile have an average return of -21 basis points. The return spread between the top and bottom quintile portfolio translates to a statistically significant monthly CAPM alpha of 36 basis points per month (t=2.9). Replacing the CAPM by the Fama-French 3-factor model (market, size and value) and the Carhart 4-factor model (FF-3 and momentum), we find that the Q5-Q1 spreads remain largely unaffected at 34 bps (t=3.1) and 36 bps (t=3.4), respectively.

Panel B of Table 2 summarizes the results of the equal-weighted 10-Q quintile portfolio returns. The risk-adjusted returns generated using quarterly 10-Q filings are similar to the 10-K results. Reporting Lag portfolios sorted on 10-Q filings have risk-adjusted Q5-Q1 return spreads up to 40 bps per month and t-statistics above 4 using the CAPM, Fama-French 3-factor model and the Carhart 4-factor model. The statistically significant return spreads are driven both by the long and the short Reporting Lag portfolios. Late filers earn negative risk-adjusted excess returns whereas early filers outperform the market substantially. A company that files 10-Qs late, on average underperforms slightly more than a firm that files late annual 10-K reports. This result confirms the findings of Bartov and Konchitchki (2017): late 10-Q filings signal more serious underlying problems than late 10-K filings. Quarterly reports are less onerous to produce, they are shorter, contain less information and do not require external auditing.

In Table A.4 of Appendix A we provide similar results for value-weighted portfolios sorted by Reporting Lag. Similar to equal-weighted portfolio results, the Q5-Q1 risk-adjusted return spreads are statistically significant in the context of the CAPM, Fama-French 3-factor model and the Carhart 4-factor model. We conclude that Reporting Lag generates a significant return premium that cannot be explained by widely accepted risk factors.

We split the sample based on the newsworthiness of the document being filed in order to better isolate intentional late or early filing practices. The information on the actual reports being filed

provides us with a novel demonstration that management is exercising its discretion in setting the time of filing their annual and quarterly reports. We proxy the amount of news in a report using the similarity compared to the preceding report. Reports that contain substantial deviations, and are therefore less similar, are deemed more newsworthy. We form quintile portfolios based on the length of Reporting Lag for both high and low similarity filings. The corresponding portfolio returns are summarized in Table 3.

[INSERT Table 3 HERE]

The results in Table 3 show that the Reporting Lag return spread is substantially magnified for low similarity reports. The monthly return difference between dissimilar early and dissimilar late 10-K filings (54 bps) is more than twice the spread between similar early and similar late 10-K filings (21 bps). We find comparable results for quarterly 10-Q filings: the return spread between dissimilar 10-Q filings that are filed early or late (46 bps) is substantially larger than the spread for 10-Q filings that resemble the previous report (29 bps).

Moreover, both the most positive and the most negative returns are found in newsworthy, i.e., low-similarity filings: the positive returns correspond to the early filers, the negative returns to the late filers. This indicates that managerial discretion in timing its filings is indeed exercised both to delay negative information as well as to advance positive information. The smaller dispersions that we observe for high similarity filings suggest that management is not as active in steering the timing of filings when the amount of news communicated to the market is less.

Time series of the quintile performances are reported in Figure A.3 in Appendix A for both the annual and quarterly Reporting Lag signal. These graphs clearly display that the excess returns accrue gradually over time and are not driven by some specific rare events.

2.2 Fama-Macbeth regression (stock level)

We perform firm-level cross-sectional Fama-MacBeth regressions as an alternative approach to demonstrate our main findings. Stock returns are regressed on Reporting Lag and a range of control variables including market capitalization (Size), book-to-market (BM), momentum (12M-1M), annual changes in total assets (Asset Growth), revenue minus cost of goods sold divided by total

assets (Gross Profit), standardized unexpected earnings (SUE, see e.g., Latané and Jones (1977)) and free cashflow yield (FCF).

Table 4 summarizes the univariate and multivariate results of the Fama-MacBeth cross-sectional regressions. Columns 1 and 2 display the results for regressions of one month forward returns on Reporting Lag based on annual 10-K filings (column 1) and quarterly 10-Q filings (column 2). Columns 3-6 summarize the results of multivariate regressions with different sets of control variables. In columns 3 and 4 we add three common risk factors: Size, Book-to-Market and Momentum. To control for other established firm level risk- and return-drivers, Asset Growth, Gross Profit, SUE and FCF are included in columns 5 and 6. We conclude that Reporting Lag is an important determinant of the cross-section of stock returns: A short Reporting Lag is associated with high future stock returns.

[INSERT Table 4 HERE]

The average slope coefficient of Reporting Lag based on annual 10-K filings in univariate regressions is -0.00018 (t=-3.3) and ranges between -0.00015 (t=-3.7) and -0.00018 (t=-3.9) in multivariate regressions. A one day increase in Reporting Lag for annual 10-K filings is associated with a decrease in monthly returns of about 2 basis points. Similar conclusions can be drawn for regressions of Reporting Lag based on the quarterly 10-Q filings. We conclude that the statistical significance of the Reporting Lag premium using firm-level Fama-Macbeth regressions aligns with the results of risk-adjusted quintile portfolio returns in Table 2.

2.3 Longer-term predictive power

So far we have examined the predictive power of Reporting Lag for one-month forward returns. In order to better understand the underlying dynamics and test the longer-term return predictability of Reporting Lag, we delay the implementation of the Reporting Lag signal and calculate the risk-adjusted returns for equal-weighted quintile portfolios.

[INSERT Table 5 HERE]

Table 5 summarizes the longer horizon quintile portfolio results of Reporting Lag based on annual 10-K filings and quarterly 10-Q filings. The last column of Table 5 reports the risk-adjusted return

spread between the top and bottom quintile portfolios using two, six, twelve and eighteen month-forward returns. We observe slowly decaying return spreads for the Reporting Lag sorted portfolios. The results display statistically significant risk-adjusted return spreads for two, six and twelve months. We conclude that Reporting Lag predicts the cross-section of stock returns well up to a year after portfolio formation. After eighteen months the Reporting Lag sorted quintile portfolio excess returns become statistically insignificant. The vast majority of firms is likely to have filed a new report within one and a half year.

2.4 Determinants of reporting timeliness behavior

To understand the differences in Reporting Lag between firms we investigate how reporting behavior relates to document characteristics and firm characteristics.

We first analyze the impact of document characteristics on Reporting Lag by considering the amount of new information contained in the report. Newsworthiness is proxied by dissimilarity compared to the previous report. We also study the impact of the tone of the report as captured by the sentiment score. We expect more dissimilar reports and more negative reports to be filed later..

Next, we consider the impact of earnings surprises on Reporting Lag. In addition, the impact of firm efficiency on Reporting Lag is analyzed using the data set provided by Demerjian et al. (2012). We anticipate firms with more positive earnings surprises and more efficient firms to file earlier.

To further corroborate our interpretation of how these variables determine Reporting Lag, we also investigate the interaction between firm efficiency and document similarity. The importance of firm efficiency should be less pronounced when the report that needs to be filed is highly similar compared to the preceding one. Both efficient and inefficient firms are capable of repeating the same information. On the other hand, similarity more heavily impacts inefficient firms. If the report requires substantial modifications, the efficient firm can implement these without much delay whereas the inefficient firm needs more time to process such changes.

Table 6 summarizes the results of panel fixed regressions of Reporting Lag on document similarity, sentiment, firm efficiency, earnings surprises and the interaction effect between document similarity and firm efficiency, with firm fixed effects and time fixed effects, clustered

at the firm level. We also control for size, leverage and return on equity. We only report results for regressions using firm efficiency. The results using only the managerial contribution to firm efficiency, i.e., Managerial Ability, as studied in Abernathy et al. (2018), are very similar.[13]

[INSERT Table 6 HERE]

The univariate results for document characteristics in columns 1 and 2 of Table 6 illustrate that a longer Reporting Lag is negatively related to document similarity and sentiment measures. The reports of late filing firms are less similar and have a more negative tone compared to the preceding document. Univariate results for firm characteristics are reported in columns 3 and 4 of Table 6. The results in column 3 show that efficiently operated firms tend to file their reports faster than less efficient firms. From column 4 we conclude that a shorter Reporting Lag is also associated with higher earnings surprises, implying that firms with positive earnings surprises tend to file reports earlier.

The results in column 5 show that the interaction effect between document similarity and firm efficiency is positive and statistically significant. The positive sign of the interaction indeed implies that firm efficiency is less relevant when document similarity is high and that firm efficiency becomes increasingly important as consecutive filings become more dissimilar. This interaction works both ways, i.e., document similarity is less of an issue for efficient firms than it is for inefficient firms and efficiency is less relevant when consecutive documents are more similar.

In column 6, we regress Reporting Lag on the four main characteristics and the interaction effect with additional control variables, i.e., market capitalization (Size), the ratio of total liabilities to total assets (Leverage) and return on equity (ROE), following Abernathy et al. (2018). We observe that the document related characteristics, i.e., similarity and sentiment, remain statistically significant in multivariate regressions as is the case for firm efficiency and the interaction effect between similarity and efficiency. Earnings surprises become insignificant for annual 10-K filings while they remain significant for quarterly 10-Q documents.

[13] Results on Managerial Ability are available upon request.

Overall, our findings confirm that the timeliness of financial reporting is strongly related to the characteristics of the specific report under consideration, such as document similarity or changes in sentiment compared to the previous report. Our results show that firm-level characteristics such as earnings surprises and firm efficiency play a role in determining the length of the Reporting Lag as well.

Furthermore, these results provide additional evidence that management exercises its discretion in determining the timing of its annual or quarterly filings. Reports associated with higher unexpected earnings or a more positive tone are filed earlier compared to reports that contain a lower earnings surprise or have a more negative tone. Management is advancing positive news on the firm and delaying negative news, in line with our earlier assertion and the broader literature.

We now take this one step further, and argue that the same mechanisms that prompt firms to delay dissemination of negative information are also at work when a firm does not yet reveal negative information that management already possesses at the time of filing its report. In order to assess the relation between the disclosure of forward-looking information and reporting timeliness, we use Reporting Lag to predict future leverage, income and turnover ratios that are well-established inputs for credit rating calculations (see e.g., Altman (1968)). Managers of firms are expected to already have insights into the direction of development of these ratios at the time of filing the report. Several studies find that stocks that experience credit downgrades underperform (see e.g., Dichev and Piotroski (2001)).

We regress one quarter ahead debt-to-assets, net income-to-assets and revenue-to-assets on Reporting Lag. From the results in Table 7 we conclude that Reporting Lag is a statistically significant predictor of these ratios and that a longer Reporting Lag, i.e., slower filed report, forecasts higher leverage, lower net income and lower asset turnover.

[INSERT Table 7 HERE]

These results strongly suggest that management is also reporting later when the information they possess on future operations is more negative. Similar to the conclusions on earnings surprises and sentiment, this indicates active intervention by management. We can therefore extend the interaction between information and report timing: not only does negative information predict longer reporting lags, but also a longer reporting lag is an indication of not yet revealed negative

information on the firm. As a signal Reporting Lag contains information on future operations of firms beyond the content being disclosed in the corresponding reports. The predictive power of Reporting Lag for future operating ratios further explains why Reporting Lag predicts stock returns. Besides Reporting Lag predicting stock returns, it is likely to also contain information that can be used in credit markets. We believe this to be an interesting direction for future research, but beyond the scope of this paper.

All these channels provide a clear rationale for the impact of Reporting Lag on the cross-section of stock returns. A shorter Reporting Lag is associated with more positive unexpected earnings, and as such should also be linked to positive excess returns. In addition, Reporting Lag seems to be a proxy of firm efficiency that can easily be obtained, and we indeed observe that more efficient firms generate excess returns over less efficient firms. Furthermore, the report-specific characteristics such as document dissimilarity and sentiment are picking up new information that becomes available at the time of the release of the annual 10-K and quarterly 10-Q report. This, however, only becomes slowly reflected in stock prices (see also Cohen et al. (2020)) as it takes the market longer to digest this information. And lastly, we motivate that a longer Reporting Lag can be interpreted as a signal that management is not fully disclosing all negative information that it possesses on future operations of the firm.

3. Robustness Checks

In this Section, we conduct multiple robustness checks to further ensure that Reporting Lag is a distinct factor that drives future stock returns. We test our findings in a sample that excludes non-timely filers, in a sample where we use different market cap thresholds, in a European stock market sample and after controlling for sectors. In Appendix A we summarize Reporting Lag returns using value-weighted instead of equal-weighted portfolios to ensure the results are not driven by small market capitalization stocks that could potentially suffer from liquidity issues. We also report value-weighted portfolio results in the context of using these different data samples. In all cases we find that our results continue to hold and remain robust.

3.1 Excluding non-timely filers

In all the analyses so far we have included the non-timely (NT) annual NT 10-K and the quarterly NT 10-Q filings. SEC forms NT 10-K and NT 10-Q are required for companies that are not able to file before the regulatory deadline. The NT form filing is considered as a notification of not being able to file a report in time and the underlying reason is mentioned in the NT form. Bartov and Konchitchki (2017) document that NT filers are associated with negative abnormal stock returns, around the event date and in subsequent months. We exclude NT filers from our sample to analyze to what extent these non-timely filers drive the results of Reporting Lag.

We exclude a stock from the investable universe when the company files an NT form and include it again once the company files a new 10-K or 10-Q report. Table 8 summarizes the Reporting Lag sorted quintile portfolio results excluding NT filers. All risk-adjusted Q5-Q1 return spreads remain positive and statistically significant. Portfolios constructed using Reporting Lag based on the annual 10-K filings have risk-adjusted return spreads between 24 and 28 basis points per month. The risk-adjusted return spreads of portfolios based on the quarterly 10-Q Reporting Lag range between 33 and 37 basis points per month. As expected, the reductions in the risk-adjusted Q5-Q1 portfolio return spreads are mainly attributed to the less negative returns in the short leg as the negative excess returns of NT filers do no longer contribute to the Q1 portfolio return. We conclude that our results are consistent with Bartov and Konchitchki (2017) in the sense that NT filings are associated with negative abnormal returns in subsequent months. We also conclude that even when we exclude NT filers, Reporting Lag generates statistically significant risk-adjusted returns that cannot be explained by other common risk factors.

[INSERT Table 8 HERE]

3.2 Alternative subsamples

Our analysis in Section 2.4 shows that Size is a firm level characteristic that significantly drives the length of the Reporting Lag, see also the correlations in Table A.3 in Appendix A. To ensure our results are not driven by some misclassified filers, we impose two alternative cutoffs based on market value of equity equal to $1 billion and $2 billion. As shown in rows 1 and 2 of both Panel A and Panel B in Table 9, the risk-adjusted Q5-Q1 return spreads remain positive, large and

statistically significant (t>3). These results assure that our main findings are not driven by misclassification errors. Furthermore, we repeat our analysis by focusing only on the largest 500 stocks based on market capitalization and we also use the MSCI USA index as a subsample.[14] The results of rows 3 and 4 of both 10-K and 10-Q panels in Table 9 demonstrate that our results are not driven by small market capitalization stocks that could potentially suffer from liquidity issues. The risk-adjusted returns increase monotonically and the Q5-Q1 spreads remain large and statistically significant (t>3) using quarterly 10-Q or annual 10-K filings to calculate Reporting Lag. We conclude that the impact of Reporting Lag on future stock returns is not driven by size, and that Reporting Lag can also be used to generate statistically significant excess returns within the largest market capitalization stocks in the US.

[INSERT Table 9 HERE]

3.3 International evidence

We analyze Reporting Lag out of sample by applying the same methodology to European stock markets. Our European stock universe consists of the union of the constituents of the MSCI Europe Index and the MSCI Europe Small Cap Index from 2007 through 2018.[15] The results of this analysis are reported in Table 10. The risk-adjusted Q5-Q1 portfolio return spread and statistical significance are similar to our main results in the US sample. A notable difference is that the excess returns of the European Q5-Q1 spread portfolios based on annual Reporting Lags are mainly attributable to the bottom quintile (Q1). The risk-adjusted excess return of the European Q5-Q1 spread portfolio based on quarterly Reporting Lags is attributable to both the top and bottom quintile portfolios, which is similar to our main results for US portfolios.

[INSERT Table 10 & Table 11 HERE]

We also run Fama-MacBeth cross-sectional regressions at the individual firm level for the European sample and summarize the results in Table 11. The slope coefficients of Reporting Lag in the European sample are smaller than in the US which is mainly caused by a more dispersed distribution of Reporting Lag in Europe. The higher dispersion is explained by differences in

[14] The MSCI USA index only contains large and mid-cap stocks in the US market.
[15] We exclude stocks with a market capitalization smaller than $300 million and again winsorize the data at 1st and 99th percentiles.

regulatory requirements across countries regarding the filing of reports. The results show that Reporting Lag remains statistically significant at the 1% uncertainty level in both univariate and multivariable regressions.

3.4 Sector neutral implementation

We also verify that our results are not driven by different reporting practices across sectors. We first form quintile portfolios based on Reporting Lag within each sector, and then aggregate these portfolios to construct sector-neutral quintile portfolios. The corresponding portfolio returns are displayed in Table 12 and are again very similar to the original results, so we can indeed rule out that they are driven by sector-specific reporting practices. This also implies that practical implications can be implemented in the full cross section of stocks.

[INSERT Table 12 HERE]

4. Conclusions and Practical Implications

We find that Reporting Lag, the time between the end date of the fiscal period and the actual filing date of the corresponding annual 10-K or quarterly 10-Q reports, is a significant predictor of future stock returns. A strategy that buys stocks with a short Reporting Lag and sells stocks with a long Reporting Lag earns risk-adjusted returns up to 40 basis points per month. Firms that report faster command a significant premium compared to slower-filing firms and the returns remain significant until a year after portfolio formation.

Our results are established both through return analysis of equal-weighted quintile portfolios sorted on Reporting Lag, where we control for the standard risk factors, as well as through cross-sectional regressions, where we control for several additional factors. We perform several robustness checks and an out-of-sample analysis on European stocks, all of which confirm our conclusions.

We investigate the channels through which Reporting Lag can impact future stock returns by examining the drivers of Reporting Lag. On the one hand Reporting Lag is partially driven by firm-specific characteristics such as earnings surprises and firm efficiency. Shorter Reporting Lags are associated with positive earnings surprises, and therefore can be expected to command a positive excess return. We also provide evidence that we can interpret Reporting Lag as a simple proxy for firm efficiency, thus motivating the additional premium for faster-filing firms. On the other hand, we find that characteristics of the specific document, i.e., document similarity and sentiment compared to previous filing, play an important role. Shorter Reporting Lags are associated with fewer changes as measured through document similarity and more positive sentiment. Both aspects of the annual and quarterly filings are slowly digested by the market, and therefore generate a premium in the subsequent periods.

In addition, a longer Reporting Lag can be interpreted as a signal that management withholds negative information on the future operations of the firm that it is not required to fully disclose at the time of filing their report. We exemplify this assertion by demonstrating that, beyond the content of the actual report, Reporting Lag forecasts future financial ratios that are commonly used to measure the financial health of a firm.

Our research has several practical implications. Reporting Lag can be used as a signal to select stocks, as faster reporting stocks tend to outperform slower reporting stocks. The slow decay of this signal implies that also after incurring transaction costs these benefits can be captured in a realistic setting.

In addition, a longer Reporting Lag may indicate that a firm is deliberately delaying the dissemination of negative information, including negative information that pertains to the future operating results of the firm. This observation warrants further investigation, and Reporting Lag can be a useful in directing analyst attention to these firms.

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Table 1
Summary Statistics on Reporting Lag 10-Ks and 10-Qs

This Table reports the summary statistics of Reporting Lag 10-Ks and 10-Qs from 2007 to 2018. Panel A describes the Reporting Lag distribution of 10-Ks and Panel B reports the Reporting Lag distribution of 10-Qs by year. Column 2 reports the total number of firm-level observations. Column 3 reports the number of NT observations. The rest of the columns describe the distribution of Reporting Lag in days. We winsorize the variables at the 1st and 99th percentiles.

Panel A: 10-K

Year	Count_Total	Count_NT	Mean	1%	25%	50%	75%	99%
2007	13370	804	60.13	37	58	59	60	124
2008	14935	790	58.58	34	57	59	60	85
2009	13373	263	56.11	34	55	58	60	72
2010	15643	175	55.34	33	54	57	59	74
2011	16657	162	55.36	33	53	56	59	75
2012	16868	176	55.54	32	53	56	59	74
2013	18952	262	55.66	34	52	57	59	77
2014	20404	377	55.48	34	52	57	59	76
2015	20610	374	54.90	34	51	56	59	76
2016	20303	403	54.20	33	50	56	58	75
2017	21518	459	54.44	33	50	55	59	75
2018	22112	422	54.28	33	51	54	59	75

Panel B: 10-Q

Year	Count_Total	Count_NT	Mean	1%	25%	50%	75%	99%
2007	12577	764	36.06	18	33	38	40	45
2008	15039	377	35.59	17	32	38	39	43
2009	13438	76	34.73	17	31	37	38	41
2010	15723	118	34.22	19	30	36	38	41
2011	16876	73	34.12	19	32	35	39	41
2012	17049	77	33.88	19	31	34	39	40
2013	19162	173	34.26	19	31	36	39	43
2014	20552	229	34.06	19	30	36	38	43
2015	20717	162	33.77	19	30	35	38	41
2016	20442	223	33.42	19	29	34	37	41
2017	21722	314	33.59	19	31	34	38	40
2018	22305	202	33.68	19	31	34	38	40

Table 2
Equal-Weighted Portfolio Returns (Large Accelerated Filers)

This Table reports the monthly equal-weighted portfolio returns of quintile portfolios sorted on the length of the annual (10-K) or quarterly (10-Q) Reporting Lag. The sample period is from 2007 to 2018. Q5 represents the top quintile with firms that have the shortest Reporting Lag and Q1 represents the bottom quintile with firms that have the longest Reporting Lag. Q5-Q1 denotes the long-short portfolio. We report CAPM, Fama-French 3-factor and Carhart 4-factor risk-adjusted returns. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

		Q1	Q2	Q3	Q4	Q5	Q5-Q1
Panel A:	10-K						
	CAPM	-0.0021	-0.0008	-0.0003	0.0001	0.0015	0.0036***
		t = -1.3985	t = -0.6717	t = -0.2804	t = 0.0939	t = 1.3179	t = 2.8786
	Fama-French 3-factor	-0.0007	0.0006	0.0011	0.0015**	0.0027***	0.0034***
		t = -1.0392	t = 0.8149	t = 1.6467	t = 2.0949	t = 2.9999	t = 3.0765
	Carhart 4-factor	-0.0011	0.0004	0.0009	0.0013**	0.0025***	0.0036***
		t = -1.4942	t = 0.5118	t = 1.3382	t = 1.9937	t = 3.1669	t = 3.4490
Panel B:	10-Q						
	CAPM	-0.0026*	0.0003	-0.0004	-0.0001	0.0014	0.0040**
		t = -1.8176	t = 0.2452	t = -0.3534	t = -0.0697	t = 1.2614	t = 4.1529
	Fama-French 3-factor	-0.0010	0.0016**	0.0009	0.0012*	0.0027***	0.0037***
		t = -1.2856	t = 2.3617	t = 1.2856	t = 1.6707	t = 3.6120	t = 4.1036
	Carhart 4-factor	-0.0013*	0.0013**	0.0007	0.0009	0.0025***	0.0038***
		t = -1.6853	t = 2.0345	t = 0.9919	t = 1.4311	t = 3.6704	t = 4.2191

Table 3
Quintile Portfolio Returns for Reports with High or Low Similarity

This Table reports the monthly equal-weighted portfolio returns of quintile portfolios sorted on the length of the annual (10-K) or quarterly (10-Q) Reporting Lag after splitting the sample in reports with high or low document similarity. The sample period is from 2007 to 2018. Q5 represents the top quintile with firms that have the shortest Reporting Lag and Q1 represents the bottom quintile with firms that have the longest Reporting Lag. Q5-Q1 denotes the long-short portfolio. We report Carhart 4-factor risk-adjusted returns, as well as the average length of the Reporting Lag (in days) of the different quintiles. Statistical significance of the returns at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

		Q1	Q2	Q3	Q4	Q5	Q5-Q1
10-K							
Low Document Similarity	*Return*	-0.0028***	-0.0003	-0.0004	0.0003	0.0027***	0.0054***
		t = -3.3817	t = -0.3932	t = -0.5076	t = 0.3604	t = 2.9525	t = 4.6545
	Reporting Lag	64.61	58.95	56.85	53.78	45.24	-19.37
10-K							
High Document Similarity	*Return*	-0.0006	0.0011	0.0012	0.0022***	0.0016**	0.0021**
		t = -0.6253	t = 1.2914	t = 1.6505	t = 2.6133	t = 2.0547	t = 2.0595
	Reporting Lag	62.14	58.62	56.62	53.58	45.27	-16.87
10-Q							
Low Document Similarity	*Return*	-0.0020**	0.0004	-0.0006	-0.0001	0.0026***	0.0046***
		t = -2.3900	t = 0.4757	t = -0.7119	t = -0.1698	t = 3.2771	t = 4.4693
	Reporting Lag	40.06	38.02	35.48	32.04	25.75	-14.32
10-Q							
High Document Similarity	*Return*	-0.0005	0.0008	0.0010	0.0013*	0.0024***	0.0029***
		t = -0.4867	t = 0.8993	t = 1.2489	t = 1.7052	t = 3.1745	t = 2.7151
	Reporting Lag	39.77	37.58	35.33	31.96	26.07	-13.70

Table 4
Fama-MacBeth Regressions (Large Accelerated Filers)

This Table reports the results of Fama-MacBeth cross-sectional regressions of individual firm-level stock returns on Reporting Lag and a series of known return predictors. Return1M is next month's return. *10-K* is the Reporting Lag of the annual report, *10-Q* is the Reporting Lag of the quarterly report, both measured in the number of days. *Size* is log market value of equity; *BM* is log book value of equity over market value of equity; *12M-1M* is the stock return from month t-12 to month t-1; *Asset Growth* is the change in total assets; *Gross Profit* is the revenue minus cost of goods sold over total assets; *SUE* (standardized unexpected earnings) is the earnings surprise in terms of the number of standard deviations above or below the consensus earnings estimate; *FCF* is the free cashflow per share divided by price. Robust Newey-West (1987) t-statistics to adjust for serial correlation and heteroscedasticity are reported in brackets. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
			Return1M			
10-K	-0.00018***		-0.00018***		-0.00015***	
	(-3.30)		(-3.91)		(-3.67)	
10-Q		-0.00021***		-0.00019***		-0.00021**
		(-4.14)		(-3.75)		(-2.29)
Size			-0.0006	-0.0006	-0.0007	-0.0009
			(-1.31)	(-1.40)	(-1.33)	(-1.63)
BM			-0.0018**	-0.0018**	-0.0014*	-0.0020*
			(-2.17)	(-2.13)	(-1.77)	(-1.96)
12M-1M			0.0056	0.0069	0.0033	0.0061
			(0.95)	(1.15)	(0.61)	(1.04)
Asset Growth					-0.0015	-0.0035
					(-0.99)	(-1.59)
Gross Profit					0.0028	0.0011
					(0.84)	(0.29)
SUE					0.0001	0.0002**
					(1.45)	(2.45)
FCF					0.0113**	0.0101*
					(2.08)	(1.91)
Constant	0.0178***	0.0147***	0.0140***	0.0104**	0.0112	0.0098
	(3.67)	(3.34)	(2.61)	(1.98)	(1.60)	(1.43)
N	214745	215602	202334	203132	157903	159126
R^2	0.003	0.002	0.047	0.051	0.062	0.068

Table 5

Reporting Lag Longer-term Predictability

This Table reports monthly equal-weighted portfolio returns in month t+2, t+6, t+12 and t+18 of portfolios sorted on Reporting Lag in month t. The sample period is from 2007 to 2018. Q5 represents the top quintile with firms that have the shortest Reporting Lag and Q1 represents the bottom quintile with firms that have the longest Reporting Lag. Q5-Q1 denotes the long-short portfolio. The reported excess returns are obtained using the Carhart 4-factor model. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

		Q1	Q2	Q3	Q4	Q5	Q5-Q1
Panel A:	10-K						
	t+2	-0.0009	0.0004	0.0007	0.0013**	0.0025***	0.0033***
		t = -1.1799	t = 0.5100	t = 1.0587	t = 2.1317	t = 3.1449	t = 3.3236
	t+6	-0.0006	0.0002	0.0005	0.0014**	0.0024***	0.0031***
		t = -0.9241	t = 0.2797	t = 0.8189	t = 2.2272	t = 3.0406	t = 3.2529
	t+12	0.0006	0.0001	-0.0004	0.0012*	0.0024***	0.0019**
		t = 0.8563	t = 0.1002	t = -0.4872	t = 1.9645	t = 3.2700	t = 2.1758
	t+18	0.0008	0.0017**	-0.0002	0.0006	0.0010*	0.0002
		t = 1.3617	t = 2.4370	t = -0.2654	t = 1.1394	t = 1.6817	t = 0.4550
Panel B:	10-Q						
	t+2	-0.0012	0.0009	0.0014**	0.0009	0.0023***	0.0035***
		t = -1.6310	t = 1.3025	t = 2.1312	t = 1.3870	t = 3.4861	t = 3.9783
	t+6	-0.0002	-0.0002	0.0004	0.0016**	0.0026***	0.0028***
		t = -0.2108	t = -0.3185	t = 0.5703	t = 2.5465	t = 3.6843	t = 3.5686
	t+12	0.0003	0.0009	-0.0001	0.0011*	0.0020***	0.0017**
		t = 0.4122	t = 1.5414	t = -0.1692	t = 1.7931	t = 2.9972	t = 2.1732
	t+18	0.0017***	0.0006	0.0001	0.0013**	0.0006	-0.0011**
		t = 2.8429	t = 0.8551	t = 0.0644	t = 1.9811	t = 0.9363	t = -1.8680

Table 6
Determinants of Reporting Lag

This Table reports the results of regressions of Reporting Lag on explanatory variables. We regress Reporting Lag 10-K and 10-Q on two document-level characteristics and two firm-level characteristics. *Document Similarity* is the adjusted cosine similarity measure; *Change Sentiment* is the change percentage in sentiment, measured as the differences between positive words and negative words, normalized by the total word count between each filing; *SUE* (standardized unexpected earnings) is the earnings surprise in terms of number of standard deviations above or below the consensus earnings estimate; *Firm Efficiency* is the firm efficiency score developed by Demerjian et al (2012). We also include an interaction effect between *Similarity* and *Efficiency*. In addition, several controls are included: *Size* is the log market value of equity; *Leverage* is the ratio of total liabilities to total assets; *ROE* is the ratio of income before extraordinary items divided by total stockholder's equity. All regressions include firm fixed effects and year/quarter fixed effects. Standard errors are clustered at the firm level. T-statistics are shown in parentheses and statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively

Panel A: 10-K

	(1)	(2)	(3)	(4)	(5)	(6)
Document Similarity	-0.393***				-0.621***	-0.634***
	(-7.38)				(-4.88)	(-4.91)
Change Sentiment		-0.492***			-0.317***	-0.273***
		(-4.41)			(-3.55)	(-3.00)
Firm Efficiency			-1.572**		-3.253***	-2.749***
			(-2.54)		(-3.56)	(-3.04)
SUE				-0.0389***	-0.0226*	-0.0149
				(-3.13)	(-1.65)	(-1.06)
Document Similarity x Firm Efficiency					0.617**	0.633**
					(2.48)	(2.52)
Size						-0.955***
						(-5.91)
Leverage						0.525
						(0.79)
ROE						-0.355*
						(-1.93)
Constant	64.25***	63.17***	64.88***	62.77***	64.10***	64.85***
	(122.61)	(136.50)	(88.05)	(139.69)	(123.69)	(109.91)
Firm Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
N	20519	20519	14237	19845	13901	13488
R^2	0.149	0.147	0.156	0.145	0.179	0.185

Table 6 (Continued)

Panel B: 10-Q

	(1)	(2)	(3)	(4)	(5)	(6)
Document Similarity	-0.200***				-0.0412***	-0.361***
	(-7.28)				(-6.04)	(-4.58)
Change Sentiment		-0.106***			-0.280***	-0.0872***
		(-5.10)			(-4.15)	(-3.41)
Firm Efficiency			-0.931***		-1.560***	-1.558***
			(-2.81)		(-2.98)	(-2.93)
SUE				-0.032***	-0.137***	-0.0303***
				(-6.24)	(-4.62)	(-4.57)
Document Similarity x Firm Efficiency					0.345**	0.286*
					(2.57)	(1.79)
Size						-0.280**
						(-2.47)
Leverage						0.536
						(1.22)
ROE						-0.215*
						(-1.93)
Constant	45.60***	45.23***	45.52***	45.62***	46.68***	48.29***
	(12.00)	(11.82)	(9.98)	(11.33)	(9.58)	(9.06)
Firm Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
N	58111	58111	38707	56838	38250	37264
R^2	0.076	0.075	0.077	0.076	0.081	0.083

Table 7
Impact on Future Financial Ratios

This Table reports on the impact of Reporting Lag on future financial ratios. We regress one quarter ahead firm characteristics on Reporting Lag 10-K and 10-Q. *Leverage* is debt divided by total assets; *Net Income* is the ratio of income before extraordinary items divided by total assets; *Asset Turnover* is the ratio of revenue divided by total assets. All regressions include firm fixed effects and year/quarter fixed effects. Standard errors are clustered at the firm level. T-statistics are shown in parentheses and statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

Panel A: 10-K

	(1) *Leverage*	(2) *Net Income*	(3) *Asset Turnover*	(4) *Leverage*	(5) *Net Income*	(6) *Asset Turnover*
Reporting Lag 10-K	0.0005*	-0.0011***	-0.0023***			
	(1.95)	(-6.87)	(-4.67)			
Reporting Lag 10-Q				0.0010***	-0.0012***	-0.0032***
				(4.01)	(-7.71)	(-5.72)
Constant	0.206***	0.117***	1.022***	0.175***	0.0990***	1.009***
	(14.16)	(12.27)	(33.53)	(14.46)	(13.58)	(35.72)
Firm Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
N	20538	20537	19258	57495	57495	53962
*R*2	0.065	0.026	0.062	0.068	0.035	0.062

Table 8

Equal-Weighted Portfolio Returns (Large Accelerated Filers), excluding NT Filers

This Table reports monthly equal-weighted portfolio returns of quintile portfolios sorted on Reporting Lag excluding NT filers. The sample period is from 2007 to 2018. Q5 represents the top quintile with firms that have the shortest Reporting Lag and Q1 represents the bottom quintile with firms that have the longest Reporting Lag but still meet their reporting deadline. Q5-Q1 denotes the long-short portfolio. We report CAPM, Fama-French 3-factors and Carhart 4-factor risk-adjusted returns. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

		Q1	Q2	Q3	Q4	Q5	Q5-Q1
Panel A:	10-K						
	CAPM	-0.0014	-0.0011	0.0001	0.0006	0.0014	0.0028***
		t = -1.0235	t = -0.9032	t = 0.0493	t = 0.5557	t = 1.2374	t = 2.7779
	Fama-French 3-factor	0.0001	0.0003	0.0015**	0.0019***	0.0025***	0.0024**
		t = 0.1711	t = 0.4887	t = 2.3237	t = 2.6178	t = 2.7923	t = 2.5051
	Carhart 4-factor	-0.0001	0.0001	0.0013**	0.0017**	0.0024***	0.0025***
		t = -0.1581	t = 0.1880	t = 2.0630	t = 2.5850	t = 2.9404	t = 2.6410
Panel B:	10-Q						
	CAPM	-0.0023	0.0004	-0.0004	0.00004	0.0014	0.0037***
		t = -1.6138	t = 0.3189	t = -0.3792	t = 0.0367	t = 1.2487	t = 4.0179
	Fama-French 3-factor	-0.0006	0.0016**	0.0008	0.0013*	0.0027***	0.0033***
		t = -0.8604	t = 2.4483	t = 1.2812	t = 1.7723	t = 3.5958	t = 3.9190
	Carhart 4-factor	-0.0009	0.0014**	0.0006	0.0011	0.0025***	0.0035***
		t = -1.2586	t = 2.1278	t = 0.9866	t = 1.5633	t = 3.6525	t = 4.0206

Table 9

Robustness to Alternative Subsamples (Equal-Weighted)

This Table reports the monthly equal-weighted portfolios returns using alternative subsamples. The alternative subsamples are: threshold of total market capitalization $1 billion, threshold of total market capitalization $2 billion, MSCI USA index only stocks, and largest 500 stocks based on market capitalization. The sample period is from 2007 to 2018. Q5 represents the top quintile with firms that have the shortest Reporting Lag and Q1 represents the bottom quintile with firms that have the longest Reporting Lag. Q5-Q1 denotes the long-short portfolio. The reported excess returns are obtained using the Carhart (1997) 4-factor model. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

		Q1	Q2	Q3	Q4	Q5	Q5-Q1
Panel A:	10-K						
	Above $1bln	-0.0008	0.0001	0.0005	0.0014**	0.0025***	0.0032***
		t = -1.0445	t = 0.1869	t = 0.6749	t = 2.1238	t = 3.2641	t = 3.3967
	Above $2bln	-0.0018**	-0.0005	0.0003	0.0012	0.0022***	0.0040***
		t = -2.2663	t = -0.7518	t = 0.3968	t = 1.6439	t = 2.9254	t = 3.9649
	MSCI USA	-0.0019*	-0.0002	0.0002	0.0018**	0.0027***	0.0045***
		t = -1.8529	t = -0.1871	t = 0.2215	t = 2.2086	t = 3.0260	t = 3.9886
	Largest 500	-0.0017*	-0.0008	0.0002	0.0014*	0.0021***	0.0038***
		t = -1.8722	t = -1.0284	t = 0.2418	t = 1.8667	t = 2.7315	t = 3.3972
Panel B:	10-Q						
	Above $1bln	-0.0009	0.001	0.0006	0.0006	0.0026***	0.0036***
		t = -1.1980	t = 1.5327	t = 0.8463	t = 0.9045	t = 3.8564	t = 4.0685
	Above $2bln	-0.0019**	0.0006	0.0006	0.0002	0.0018***	0.0038***
		t = -2.4041	t = 0.8778	t = 0.8143	t = 0.3266	t = 2.7082	t = 4.4324
	MSCI USA	-0.0008	0.0001	0.0002	0.0006	0.0024***	0.0032***
		t = -0.7437	t = 0.0701	t = 0.2853	t = 0.8352	t = 2.9936	t = 2.9579
	Largest 500	-0.0016*	-0.0001	0.0003	0.0006	0.0021***	0.0036***
		t = -1.8515	t = -0.1210	t = 0.4502	t = 0.7589	t = 2.6385	t = 3.5806

Table 10

Equal-Weighted Portfolio Returns (Europe)

This Table reports the monthly equal-weighted returns of portfolios sorted on the length of annual and quarterly Reportng Lag in Europe. The sample is from 2007 to 2018. Q5 represents the top quintile with firms that have the shortest Reporting Lag and Q1 represents the bottom quintile with firms that have the longest Reporting Lag. Q5-Q1 denotes the long-short portfolio. We report CAPM, Fama-French 3-factor and Carhart 4-factor risk-adjusted returns. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

		Q1	Q2	Q3	Q4	Q5	Q5-Q1
Panel A:	Annual						
	CAPM	-0.0006	0.0020	0.0024	0.0029	0.0027	0.0033***
		t = -0.2747	t = 0.9652	t = 1.1713	t = 1.5565	t = 1.3905	t = 2.9472
	Fama-French 3-factor	-0.0010	0.0019	0.0022	0.0027	0.0026	0.0035***
		t = -0.5006	t = 1.0071	t = 1.1399	t = 1.5208	t = 1.3621	t = 3.7887
	Carhart 4-factor	-0.0002	0.0032*	0.0036*	0.0036**	0.0037*	0.0039***
		t = -0.1196	t = 1.7368	t = 1.9511	t = 2.0007	t = 1.9427	t = 4.0901
Panel B:	Interim						
	CAPM	0.0004	0.0010	0.0009	0.0029	0.0042**	0.0038***
		t = 0.1725	t = 0.4772	t = 0.4531	t = 1.5444	t = 2.0854	t = 3.3071
	Fama-French 3-factor	0.0001	0.0008	0.0008	0.0028	0.0038**	0.0037***
		t = 0.0623	t = 0.4446	t = 0.4398	t = 1.5284	t = 1.9771	t = 3.6738
	Carhart 4-factor	0.0009	0.0019	0.0021	0.0039**	0.0051***	0.0042***
		t = 0.4876	t = 1.0308	t = 1.1151	t = 2.1532	t = 2.6149	t = 3.9999

Table 11
Fama-Macbeth Regressions (Europe)

This Table reports the results of Fama-MacBeth cross-sectional regressions of individual firm-level stock returns in Europe on Reporting Lag and a series of controls. The sample is from 2007 to 2018. *Return1M* is next month's return. *Annual* is the Reporting Lag of the annual report, *Interim* is the Reporting Lag of the quarterly/interim report, both measured in number of days. *Size* is the log market value of equity; *BM* is the log book value of equity over market value of equity; *12M-1M* is the stock return from month t-12 to month t-1; *Asset Growth* is the change in total assets; *Gross Profit* is the revenue minus cost of goods sold over total assets; *SUE* (standardized unexpected earnings) is the earnings surprise in terms of the number of standard deviations above or below the consensus earnings estimate; *FCF* is the free cashflow per share divided by price. Robust Newey-West (1987) t-statistics to adjust for serial correlation and heteroscedasticity are reported in brackets. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
			Return1M			
Annual	-0.00005***		-0.00006***		-0.00004***	
	(-3.23)		(-4.20)		(-2.70)	
Interim		-0.00009***		-0.00008***		-0.00007***
		(-3.51)		(-3.88)		(-2.93)
Size			-0.0003	-0.0003	-0.00004	-0.00004
			(-0.56)	(-0.54)	(0.08)	(0.07)
BM			0.0002	0.0001	0.0006	0.0007
			(0.19)	(0.13)	(0.66)	(0.73)
12M-1M			0.0086*	0.0086*	0.0081*	0.0081*
			(1.67)	(1.66)	(1.73)	(1.74)
Asset Growth					-0.0027*	-0.0028*
					(-1.82)	(-1.94)
Gross Profit					0.0045***	0.0047***
					(2.78)	(2.90)
SUE					0.0001	0.0001
					(0.83)	(0.97)
FCF					0.0141***	0.0137***
					(5.73)	(5.52)
Constant	0.0086*	0.0078	0.0058	0.0045	0.0037	0.0031
	(1.77)	(1.55)	(1.11)	(0.85)	(0.69)	(0.59)
N	182076	182781	176124	177069	139607	138795
R2	0.003	0.003	0.047	0.047	0.054	0.054

Table 12

Industry-Neutral Portfolio Returns (Large Accelerated Filers)

This Table reports sector-neutral monthly equal-weighted portfolio returns from 2007 to 2018. For both 10-K and 10-Q portfolios, Q5 represents the top quintile with firms that have the shortest Reporting Lag and Q1 represents the bottom quintile with firms that have the longest Reporting Lag. Q5-Q1 denotes the long-short portfolio. We report CAPM, Fama-French 3-factors and Carhart 4-factor risk-adjusted returns. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

		Q1	Q2	Q3	Q4	Q5	Q5-Q1
Panel A:	10-K						
	CAPM	-0.0013	-0.0019	-0.0002	0.0002	0.0015	0.0028**
		t = -1.0400	t = -1.4663	t = -0.1689	t = 0.1678	t = 1.4717	t = 2.5588
	Fama-French 3-factor	-0.0004	-0.0006	0.0010	0.0015*	0.0025***	0.0028***
		t = -0.4699	t = -0.6660	t = 1.3673	t = 1.8954	t = 3.2210	t = 2.8246
	Carhart 4-factor	-0.0006	-0.0008	0.0008	0.0013*	0.0023***	0.0029***
		t = -0.8150	t = -0.9116	t = 1.1293	t = 1.7218	t = 3.3537	t = 3.1423
Panel B:	10-Q						
	CAPM	-0.0024*	-0.0006	-0.00001	-0.0001	0.0015	0.0039***
		t = -1.8668	t = -0.5375	t = -0.0051	t = -0.0666	t = 1.5503	t = 4.9736
	Fama-French 3-factor	-0.0010	0.0005	0.0011	0.0011	0.0025***	0.0036***
		t = -1.4609	t = 0.6842	t = 1.4876	t = 1.5705	t = 3.6195	t = 5.0435
	Carhart 4-factor	-0.0013*	0.0003	0.0009	0.0009	0.0024***	0.0037***
		t = -1.8249	t = 0.3668	t = 1.2126	t = 1.3625	t = 3.6069	t = 5.2151

Appendix A

Figure A.1
Number of 10-K Filings Across the Year

This Figure displays the filing frequencies for the 10-K filings of large accelerated filers throughout the year. The sample period is from 2007 to 2018.

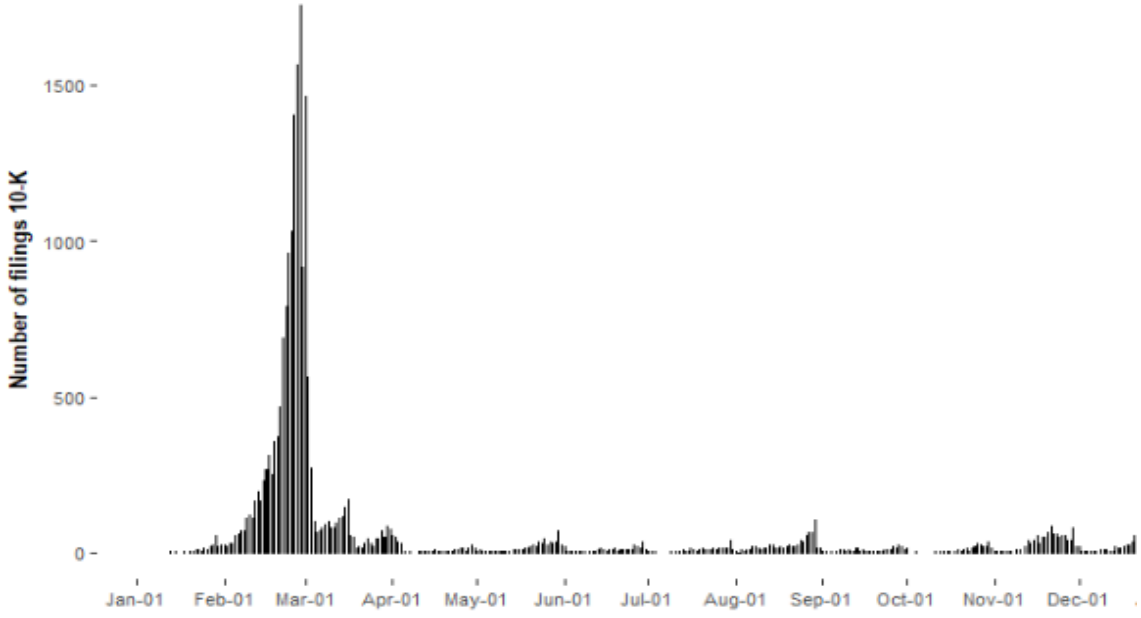


Figure A.2
Number of 10-Q Filings Across the Year

This Figure displays the filing frequencies for the 10-Q filings of large accelerated filers throughout the year. The sample period is from 2007 to 2018.

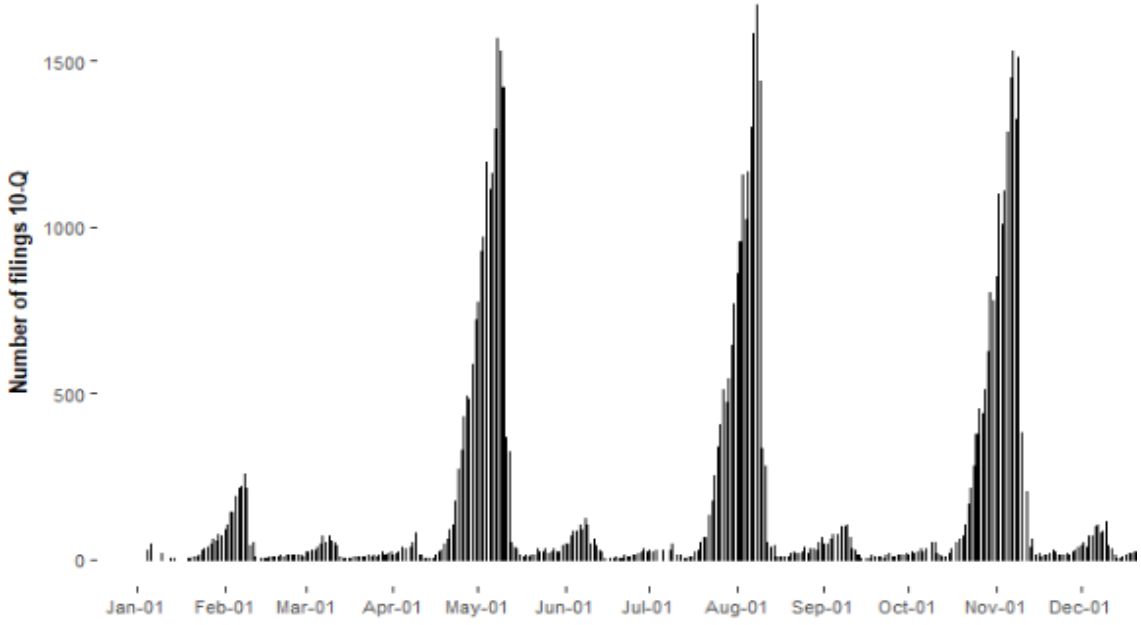
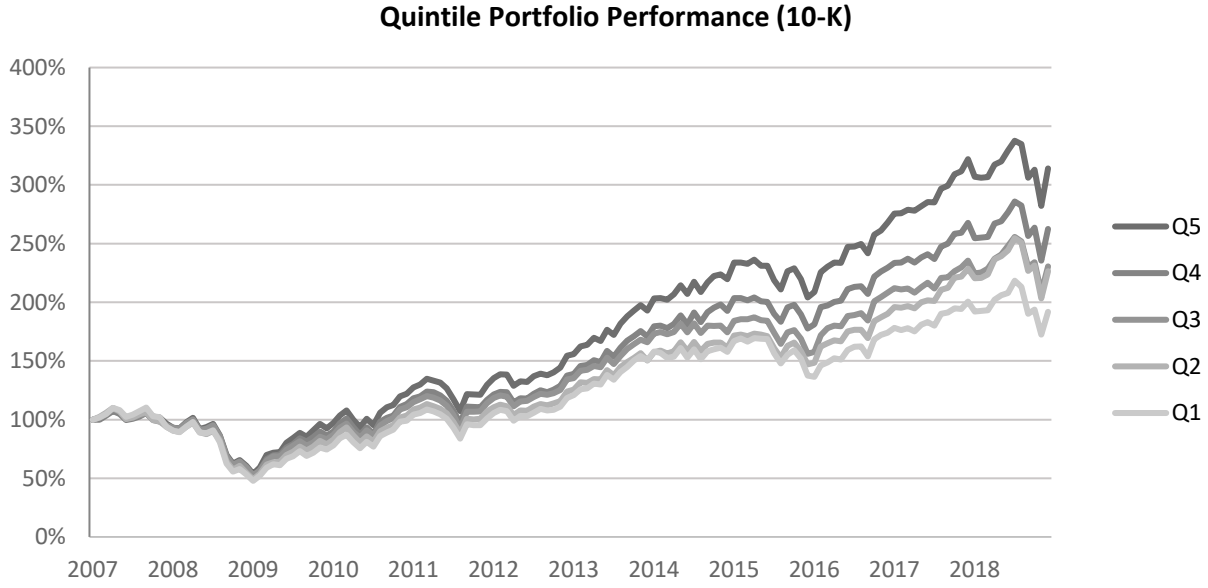
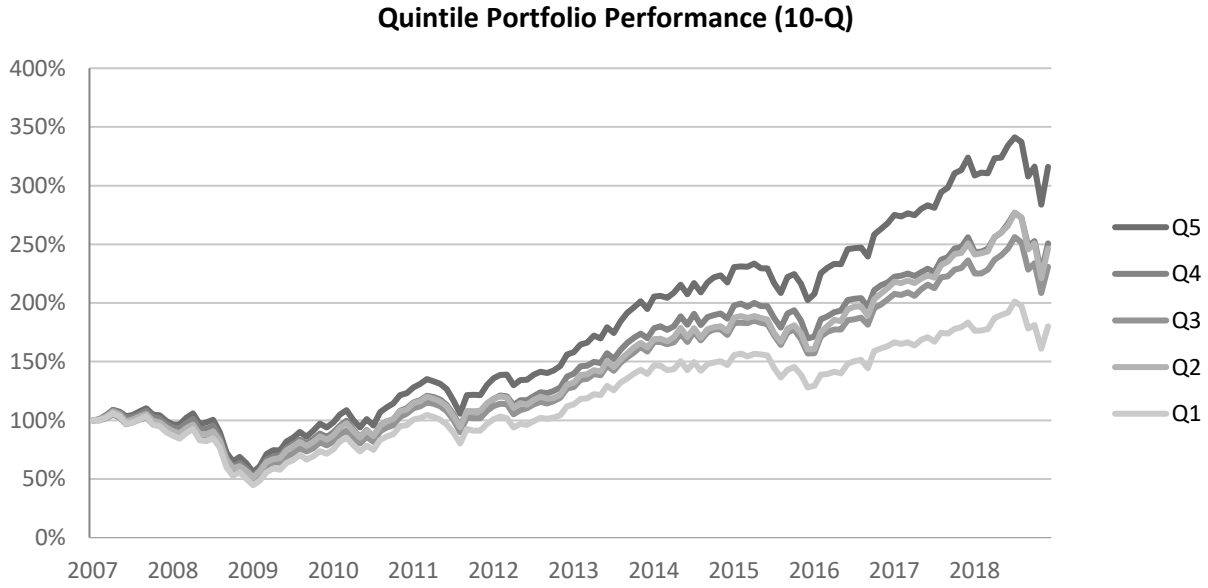


Figure A.3
Quintile Portfolio Performance

This Figure displays the performances of large accelerated filers from 2007 to 2018. Quintile portfolios are formed on annual or quarterly Reporting Lag.





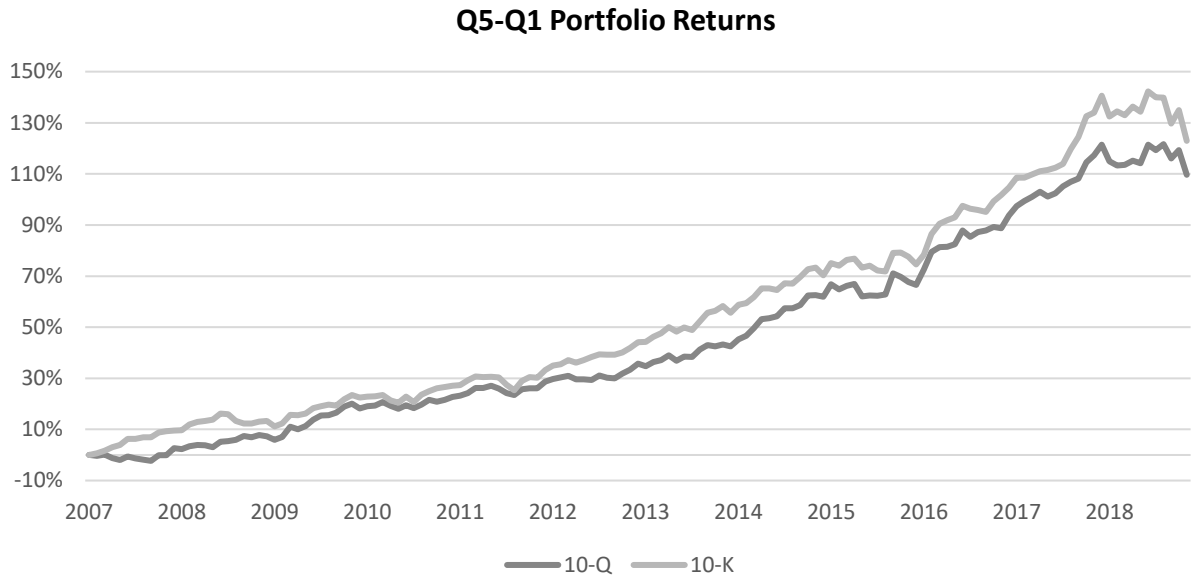


Table A.1
Summary Statistics Reporting Lag variables (US & Europe)

This Table reports the summary statistics of Reporting Lag variables in the US and Europe from 2007 through 2018. *10-K* is the annual reporting lag and *10-Q* is the quarterly reporting lag in the US, measured in days. *Annual* is the annual reporting lag in Europe; *Interim* is the quarterly/interim reporting lag in Europe, also measured in days. All variables are winsorized at the 1% level.

Variable	Count	Mean	St. Dev.	1%	25%	50%	75%	99%
10-K	214,745	55.44	7.60	31	52	57	59	75
10-Q	215,602	34.09	5.31	19	31	35	38	42
Annual	182,076	86.74	23.52	42	71	85	101	145
Interim	182,781	42.21	16.10	18	30	40	52	87

Table A.2
Summary Statistics on Firm-level and Filing-level Characteristics (US)

The Table reports the summary statistics of firm-level attributes and filing-level characteristics for both 10-K and 10-Q reports over the 2007-2018 sample. *Firm Efficiency 10-K/Q* measures the efficiency of a firm's operations; *SUE* (standardized unexpected earnings) is the earnings surprise in terms of number of standard deviations above or below the consensus earnings estimate; *Document Similarity 10-K/Q* represents the document similarity measure and *Change Sentiment 10-K/Q* measures the percentage change in sentiment score between each filing. All variables in the table are winsorized at the 1% level.

Variable	Count	Mean	St. Dev.	1%	25%	50%	75%	99%
Firm Efficiency 10-K	14,237	0.41	0.19	0.10	0.27	0.35	0.49	1.00
Firm Efficiency 10-Q	35,858	0.41	0.20	0.11	0.28	0.36	0.51	1.00
SUE 10-K	20,194	0.94	3.56	-10.58	-0.39	0.59	2.04	13.81
SUE 10-Q	57,009	1.32	3.4	-7.65	-0.24	0.84	2.55	13.95
Document Similarity 10-K	20,878	3.02	1.02	0.41	2.48	3.22	3.73	4.80
Document Similarity 10-Q	58,284	2.48	0.88	0.33	2.04	2.57	3.06	4.33
Change Sentiment 10-K	20,878	-0.03	0.46	-1.33	-0.23	-0.01	0.17	1.36
Change Sentiment 10-Q	58,284	0.02	0.81	-2.36	-0.4	0.02	0.39	2.50

Table A.3
Stock Cross-Sectional Correlations Among Key Variables

This Table reports the time-series monthly average of the cross-sectional correlation between different factors: Panel A displays the US sample and Panel B shows the European sample. *10-K/Annual* is the Reporting Lag of the annual report, *10-Q/Interim* is the Reporting Lag of the quarterly or interim report, measured in the number of days. *Size* is the log market value of equity; *BM* is the log book value of equity over the market value of equity; *12M-1M* is the stock return from month t-12 to month t-1; *Asset Growth* is the change in total assets; *Gross Profit* is the revenue minus cost of goods sold over total assets; *SUE* (standardized unexpected earnings) is the earnings surprise in terms of number of standard deviations above or below the consensus earnings estimate; *FCF* is the free cashflow per share divided by price.

Panel A: US

	10-K	*10-Q*	*Size*	*BM*	*12M-1M*	*Asset Growth*	*Gross Profit*	*SUE*	*FCF*
10-K	1.00								
10-Q	0.39	1.00							
Size	-0.29	-0.17	1.00						
BM	0.04	0.06	-0.19	1.00					
12M-1M	0.06	0.00	0.01	-0.27	1.00				
Asset Growth	0.11	0.07	-0.04	-0.08	0.02	1.00			
Gross Profit	0.02	-0.01	-0.05	-0.36	0.03	-0.08	1.00		
SUE	-0.03	-0.01	0.00	-0.07	0.09	0.00	0.07	1.00	
FCF	-0.07	-0.03	0.08	0.01	-0.02	-0.16	0.16	0.06	1.00

Panel B: Europe

	Annual	*Interim*	*Size*	*BM*	*12M-1M*	*Asset Growth*	*Gross Profit*	*SUE*	*FCF*
Annual	1.00								
Interim	0.34	1.00							
Size	-0.18	-0.14	1.00						
BM	0.08	0.07	-0.10	1.00					
12M-1M	-0.06	-0.05	0.02	-0.28	1.00				
Asset Growth	0.11	0.07	-0.03	-0.03	-0.04	1.00			
Gross Profit	0.03	-0.02	-0.02	-0.24	0.04	-0.05	1.00		
SUE	-0.02	-0.01	0.00	-0.05	0.07	0.02	0.02	1.00	
FCF	-0.06	-0.07	0.03	-0.11	0.10	-0.07	0.07	0.04	1.00

Table A.4
Value-Weighted Portfolio Returns (Large Accelerated Filers)

This Table reports monthly value-weighted portfolio returns from 2007 to 2018. For both 10-K and 10-Q portfolios, Q5 represents the top quintile with firms that have the shortest Reporting Lag and Q1 represents the bottom quintile with firms that have the longest Reporting Lag. Q5-Q1 denotes the long-short portfolio. We report CAPM, Fama-French 3-factors and Carhart 4-factor risk-adjusted returns. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

		Q1	Q2	Q3	Q4	Q5	Q5-Q1
Panel A:	10-K						
	CAPM	-0.0024**	-0.0011	-0.0014	0.0017**	0.0021***	0.0045***
		t = -2.2035	t = -1.2790	t = -1.5580	t = 2.6008	t = 2.6636	t = 3.0431
	Fama-French 3-factor	-0.0019*	-0.0008	-0.0012	0.0019***	0.0015**	0.0034**
		t = -1.8488	t = -0.9045	t = -1.3735	t = 2.8578	t = 2.0559	t = 2.5214
	Carhart 4-factor	-0.0020*	-0.0008	-0.0012	0.0019***	0.0015**	0.0036**
		t = -1.9331	t = -0.9521	t = -1.3867	t = 2.8569	t = 2.1349	t = 2.6084
Panel B:	10-Q						
	CAPM	-0.0026**	-0.0007	-0.0010	0.0015*	0.0019**	0.0045***
		t = -2.2818	t = -0.8389	t = -1.3688	t = 1.7685	t = 2.6114	t = 3.0609
	Fama-French 3-factor	-0.0021*	-0.0004	-0.0005	0.0012	0.0014**	0.0035**
		t = -1.8966	t = -0.4343	t = -0.8009	t = 1.4689	t = 2.0817	t = 2.6028
	Carhart 4-factor	-0.0022*	-0.0004	-0.0006	0.0012	0.0015**	0.0036***
		t = -1.9761	t = -0.4828	t = -0.8216	t = 1.5197	t = 2.2111	t = 2.6972

Table A.5
Value-Weighted Portfolio Returns (Large Accelerated Filers), excluding NT Filers

This Table reports monthly value-weighted portfolios returns from 2007 to 2018, excluding NT filers, for both 10-K and 10-Q portfolios. Q5 represents the top quintile with firms that have the shortest Reporting Lag and Q1 represents the bottom quintile with firms that have the longest Reporting Lag. Q5-Q1 denotes the long-short portfolio. We report CAPM, Fama-French 3-factor and Carhart 4-factor risk-adjusted returns. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

		Q1	Q2	Q3	Q4	Q5	Q5-Q1
Panel A:	10-K						
	CAPM	-0.0016	-0.0014	-0.0006	0.0015**	0.0024***	0.0040***
		t = -1.4330	t = -1.6394	t = -0.6729	t = 2.0444	t = 2.9313	t = 2.7330
	Fama-French 3-factor	-0.0009	-0.0012	-0.0002	0.0014*	0.0018**	0.0027**
		t = -0.8433	t = -1.4042	t = -0.2707	t = 1.9597	t = 2.3539	t = 2.0697
	Carhart 4-factor	-0.0010	-0.0012	-0.0002	0.0014*	0.0019**	0.0028**
		t = -0.8980	t = -1.4025	t = -0.2864	t = 1.9654	t = 2.4531	t = 2.1484
Panel B:	10-Q						
	CAPM	-0.0019*	-0.0012	-0.0010	0.0014*	0.0020***	0.0039***
		t = -1.7847	t = -1.2472	t = -1.3142	t = 1.7815	t = 2.8300	t = 2.8094
	Fama-French 3-factor	-0.0014	-0.0009	-0.0006	0.0012	0.0014**	0.0028**
		t = -1.3031	t = -0.9193	t = -0.8707	t = 1.5541	t = 2.2501	t = 2.2271
	Carhart 4-factor	-0.0014	-0.0009	-0.0006	0.0013	0.0015**	0.0030**
		t = -1.3651	t = -0.9573	t = -0.8748	t = 1.6126	t = 2.3861	t = 2.3240

Table A.6
Robustness to Alternative Subsamples (Value-Weighted)

This Table reports the monthly value-weighted portfolio returns using alternative subsamples. The alternative subsamples are: threshold of total market capitalization $1 billion, threshold of total market capitalization $2 billion, MSCI USA index only stocks and largest 500 stocks based on market capitalization. The sample period is from 2007 to 2018. Q5 represents the top quintile with firms that have the shortest Reporting Lag and Q1 represents the bottom quintile with firms that have the longest Reporting Lag. Q5-Q1 denotes the long-short portfolio. The reported excess returns are obtained using the Carhart (1997) 4-factor model. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

		Q1	Q2	Q3	Q4	Q5	Q5-Q1
Panel A:	10-K						
	Above $1bln	-0.0021**	-0.0008	-0.0007	0.0012*	0.0017**	0.0038***
		t = -2.1074	t = -1.0179	t = -0.7639	t = 1.6593	t = 2.3117	t = 2.9088
	Above $2bln	-0.0016	-0.0009	-0.0008	0.0017**	0.0016*	0.0032**
		t = -1.5169	t = -1.0767	t = -0.8963	t = 2.3551	t = 1.9706	t = 2.3717
	MSCI USA	-0.0012	-0.0008	-0.0009	0.0019***	0.0015	0.0028**
		t = -1.2442	t = -0.9089	t = -1.0294	t = 2.6156	t = 1.6198	t = 2.0138
	Largest 500	-0.0031**	-0.0004	-0.0003	0.0018**	0.0016*	0.0047***
		t = -2.5591	t = -0.4772	t = -0.3661	t = 2.2951	t = 1.7750	t = 2.7570
Panel B:	10-Q						
	Above $1bln	-0.0018*	-0.0007	-0.0007	0.0012	0.0016**	0.0034***
		t = -1.7113	t = -0.7139	t = -0.9851	t = 1.5643	t = 2.5183	t = 2.6810
	Above $2bln	-0.0019*	-0.0011	0.0001	0.0009	0.0015**	0.0034**
		t = -1.7773	t = -1.1400	t = 0.1016	t = 1.1526	t = 2.2004	t = 2.5479
	MSCI USA	-0.0011	-0.001	-0.0005	0.0007	0.0020**	0.0031**
		t = -1.0971	t = -1.0935	t = -0.5331	t = 0.8971	t = 2.6029	t = 2.3013
	Largest 500	-0.0014	-0.0013	-0.00003	0.0008	0.0019**	0.0033**
		t = -1.3940	t = -1.2611	t = -0.0322	t = 0.8220	t = 2.5275	t = 2.4562

Table A.7
Value-Weighted Portfolio Returns (Europe)

This Table reports the monthly value-weighted portfolio returns in Europe. The sample period is from 2007 to 2018. For both Annual and Interim portfolios we compute quintiles based on the length of the Reporting Lag. Q5 represents the top quintile with firms that have the shortest Reporting Lag and Q1 represents the bottom quintile with firms that have the longest Reporting Lag. Q5-Q1 denotes the long-short portfolio. We report CAPM, Fama-French 3-factor and Carhart 4-factor risk-adjusted returns. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

		Q1	Q2	Q3	Q4	Q5	Q5-Q1
Panel A:	Annual						
	CAPM	-0.0016	0.0003	0.0012	0.0012	0.0026	0.0042***
		t = -0.8882	t = 0.1839	t = 0.7154	t = 0.6456	t = 1.5439	t = 3.0579
	Fama-French 3-factor	-0.0016	0.0005	0.0011	0.0013	0.0027*	0.0043***
		t = -0.8647	t = 0.2727	t = 0.6516	t = 0.7678	t = 1.7058	t = 3.8649
	Carhart 4-factor	-0.0007	0.0013	0.0022	0.0021	0.0033**	0.0040**
		t = -0.3875	t = 0.7400	t = 1.2426	t = 1.1476	t = 2.0019	t = 3.5578
Panel B:	Interim						
	CAPM	0.0002	0.0003	0.0004	0.0006	0.0034**	0.0033**
		t = 0.0943	t = 0.1525	t = 0.2314	t = 0.3279	t = 2.0860	t = 2.5035
	Fama-French 3-factor	0.0002	0.0003	0.0008	0.0007	0.0034**	0.0032***
		t = 0.0889	t = 0.1736	t = 0.4229	t = 0.4288	t = 2.1154	t = 2.7688
	Carhart 4-factor	0.0010	0.0011	0.0018	0.0014	0.0040**	0.0030**
		t = 0.5649	t = 0.6264	t = 1.0239	t = 0.7887	t = 2.4714	t = 2.5526