Earnings Acceleration and Stock Returns*

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ABSTRACT: We document that earnings acceleration, defined as the quarter-over-quarter change in earnings growth, has significant explanatory power for future excess returns. These excess returns are robust to a wide range of previously documented anomalies as well as a battery of risk controls. The magnitude of the excess returns (1.8% in a month-long window) is comparable to those from book-to-market, post-earnings announcement drift and gross profitability anomalies. The future return predictability appears to be consistent with investors missing predictable implications of earnings acceleration for earnings growth two and three quarters hence. Finally, the excess returns from the basic earnings acceleration trading strategy can be enhanced further by nearly 45% by focusing on specific patterns of earnings acceleration.

***JEL Classifications*:** G14, M41

***Data*:** From public sources identified in the text

***Keywords*:** Earnings acceleration; trading strategy; active investing; mispricing; anomaly

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1. Introduction

In this study, we examine the implications of earnings acceleration for future stock returns. We measure earnings acceleration as the change in earnings growth from one quarter to the next, where earnings growth is the scaled change in earnings over the corresponding quarter a year ago. Using a sample of 377,907 observations spanning 8,824 different firms and 176 fiscal quarters from 1972-2015, we find that earnings acceleration is a significant predictor of future stock returns. A trading strategy that involves going long in the top decile of quarterly earnings acceleration and short in the bottom decile of earnings acceleration produces large market-adjusted returns, both in one-month and quarter-long trading windows that start two days after an earnings announcement. We find market-adjusted returns of 1.8% (3.4%) over the month-long (quarter-long) window, which translates to annualized returns in excess of 23% (14%). The significant excess returns persist even when low priced stocks (less than $5) and/or low capitalization stocks (up to $0.5 billion) are excluded from the trading strategy. While the primary trading strategy involves buying/selling stocks two days after the earnings announcement, we still obtain significant excess returns when a conservative trading strategy involving calendar month rebalancing is adopted.

We conduct a battery of tests to rule out two potential explanations for the excess returns: (a) the returns are a manifestation of an already known active investment strategy, and (b) the analysis omits a risk factor. First, to rule out the known strategy explanation, we demonstrate that the excess returns are robust to the inclusion of several known anomalies, namely post-earnings announcement drift (PEAD, Bernard and Thomas 1990), profit trend anomaly (Akbas et al. 2017), combination of known mispricing factors (Stambaugh and Yuan 2017), gross profit anomaly (Novy-Marx 2013), accrual anomaly (Sloan 1996), past earnings volatility (Cao and Narayanamoorthy 2012), return momentum (Jegadeesh and Titman 1993), total asset growth

anomaly (Cooper et al. 2008), as well as the size and book-to-market anomalies. Second, to preclude a missing risk factor explanation, we document the robustness of our results to the use of Fama-French three-factor and Carhart four-factor adjusted returns. More recently, Fama and French (2015) have proposed a five-factor model that augments the previous three-factor model with two additional factors – investment and profitability. The results are robust to the use of Fama-French five-factor adjusted returns as well. Additionally, the trading strategy spanning 176 quarters rarely produces losses – for a risk explanation, the frequency of losses would be significantly higher.

After ruling out the known anomaly and risk explanations, we then explore the nature of the price relevant information in earnings acceleration that is apparently missed by the market leading to the abnormal returns. We specifically examine whether earnings acceleration has implications for subsequent earnings growth and whether these implications are missed by the market. We find that earnings acceleration has implications for future earnings growth, especially two and three quarters ahead. We also find significant short-window three-day abnormal returns surrounding earnings announcements of these two future quarters. Significant short-window announcement returns make a risk-based explanation for the anomaly unlikely (Rangan and Sloan 1998). Last, we examine how returns from the basic earnings acceleration strategy can be enhanced further by focusing on specific patterns of earnings acceleration. In particular, going long on high earnings acceleration represented by consecutive positive earnings growth quarters and going short on low earnings acceleration represented by positive earnings growth followed by negative earnings growth can improve the anomalous returns by nearly 45% (from 1.8% to 2.6% over a month).

The excess returns are robust to both risk adjustments and other known anomalies. Considering the vast number of studies trying to explain the cross-section of returns, studies documenting new anomalies are subject to p-hacking (data mining) concerns. Harvey et al. (2016) recommend a higher hurdle (t-statistic greater than 3.0) for any new variable purporting to explain the cross-section of returns. Earnings acceleration comfortably beats this hurdle. Green et al. (2017) document that post-2003 returns from several well-documented anomalies are insignificantly different from zero. The earnings acceleration anomaly continues to perform well even in the post-2003 period. Several previously documented anomalies do not remain significant when equal-weighted portfolios are replaced by value-weighted portfolios (Hou et al. 2017). Our results remain robust to the construction of value-weighted portfolios. In sum, we document that significant abnormal returns can be earned by employing an active investment strategy that entails going long in high past earnings acceleration stocks and short in low past earnings acceleration stocks.

2. Earnings Acceleration and Future Returns

In this section, we begin with discussing our variable construction. Next, we conduct portfolio tests on the earnings acceleration-based trading strategy. We then document the robustness of these returns to risk as well as to other known active investment strategies. Finally, we augment our portfolio test results by conducting regression tests of the earnings acceleration-based trading strategy.

2.1 Data: Construction of earnings acceleration and other variables

The measurements for all the variables used in this study are summarized in Table 1. The primary variable of interest is our earnings acceleration measure, which we define as the earnings growth in quarter t minus the earnings growth in quarter t-1. Earnings growth in quarter t is calculated as the deflated change in earnings per share (EPS) from quarter t-4 to quarter t (that is, seasonally differenced EPS).[1] We consider two alternative deflators for our earnings growth measure: the absolute value of EPS in quarter t-4, and the stock price at the end of quarter t-1. In other words, our earnings growth measures, EGP and EGA, are scaled measures of $EPS_t - EPS_{t-4}$. In addition, we also consider sales growth and profitability growth as alternative growth measures. We define sales growth as seasonally differenced sales per share (SPS), deflated by sales per share four quarters ago, and profitability growth as the seasonally differenced return-on-assets (ROA). Thus, our first definition of earnings acceleration (EAP) is calculated as:

$$\mathrm{EAP}_{i,t} = \mathrm{EGP}_{i,t} - \mathrm{EGP}_{i,t-1} = \frac{\mathrm{EPS}_{i,t} - \mathrm{EPS}_{i,t-4}}{\text{Stock Price}_{i,t-1}} - \frac{\mathrm{EPS}_{i,t-1} - \mathrm{EPS}_{i,t-5}}{\text{Stock Price}_{i,t-2}}$$

Our second definition of earnings acceleration (EAA) is calculated as:

$$\mathrm{EAA}_{i,t} = \mathrm{EGA}_{i,t} - \mathrm{EGA}_{i,t-1} = \frac{\mathrm{EPS}_{i,t} - \mathrm{EPS}_{i,t-4}}{|\mathrm{EPS}_{i,t-4}|} - \frac{\mathrm{EPS}_{i,t-1} - \mathrm{EPS}_{i,t-5}}{|\mathrm{EPS}_{i,t-5}|}$$

Our third definition of earnings acceleration (SA) is calculated as:

$$\mathrm{SA}_{i,t} = \mathrm{SG}_{i,t} - \mathrm{SG}_{i,t-1} = \frac{\mathrm{SPS}_{i,t} - \mathrm{SPS}_{i,t-4}}{\mathrm{SPS}_{i,t-4}} - \frac{\mathrm{SPS}_{i,t-1} - \mathrm{SPS}_{i,t-5}}{\mathrm{SPS}_{i,t-5}}$$

Our last definition of earnings acceleration (PA) is calculated as:

[1] We define earnings acceleration on a per share basis to account for the effects of mergers and acquisitions, as well as to strip out any predictability due to changes in the scale of the firm's operations.

$$PA_{i,t} = PG_{i,t} - PG_{i,t-1} = \left(ROA_{i,t} - ROA_{i,t-4}\right) - \left(ROA_{i,t-1} - ROA_{i,t-5}\right)$$

To mitigate the impact of outliers, we follow prior research (see, for example, Rangan and Sloan 1998, and Livnat and Mendenhall 2006) and transform our earnings acceleration measures into decile ranks. The decile cutoffs are based on the distribution of the previous fiscal quarter's earnings accelerations. The decile ranks are initially numbered 0 through 9. We then convert the numbers to scaled ranks by dividing by 9 and subtracting 0.5. The resulting scaled ranks vary from -0.5 to +0.5 with a mean of zero and a range of one. The range of one implies that the coefficient on earnings acceleration in a return regression represents the abnormal return from a zero investment strategy of going long on the highest earnings acceleration decile and short on the lowest earnings acceleration decile. This choice of range facilitates a comparison of the economic magnitudes of our main results to prior research.

The primary abnormal return measures in our study are calculated over two windows: (a) a window beginning two days after quarter t's earnings announcement date and ending on day 30, and (b) a window beginning two days after quarter t's earnings announcement date and ending one day after quarter t+1's earnings announcement date. We use value-weighted market-adjusted return as our measure for abnormal returns, and calculate the return as the difference between a firm's buy-and-hold raw return and the same period CRSP value-weighted index return.[2]

2.2 Basic results of the earnings acceleration-based trading strategy

In Table 2, we present the results for both the one-month and quarter-long market-adjusted returns sorted by earnings acceleration deciles for the four measures of acceleration. In Panel A,

[2] If a stock is delisted subsequent to portfolio formation, we compute the remaining return using the CRSP delisting return if it is available. Thereafter we reinvest any remaining proceeds in the market portfolio until the end of the holding period.

we report the results for equal-weighted average portfolio returns. The month-long VMAR for the bottom decile on EAP is -0.2% while the VMAR for the topmost decile is 1.6%. This represents a hedge portfolio return of 1.8% over one month, which in annualized terms is an excess return exceeding 23%. Over the quarter-long window, the corresponding hedge return is 3.4%. The hedge portfolio returns for the other three measures of earnings acceleration over both return windows are comparable. Additionally, moving from the bottom decile to the top decile, the stock returns are monotonically increasing, showing that the anomaly gradually increases in earnings acceleration decile and is not concentrated in a particular decile. In Figure 1, we show the evolution of the cumulative abnormal return over the month-long (day 2 to day 30) window for the top and bottom decile of earnings acceleration. Decile one has a small negative return in the immediate aftermath of the earnings announcement and then remains at roughly that level for the entire month. Decile ten, on the other hand, increases virtually monotonically to reach 1.6% at day 30. Recent research has documented that several well-documented anomalies vanish when equal-weighted portfolios are replaced by value-weighted portfolios (Hou et al. 2017). In Panel B, we report the results for value-weighted average portfolio returns, and we find that the returns remain robust to this portfolio construction. The value-weighted portfolio for EAP, our primary acceleration variable, yields a hedge return of 1.5% over a month compared to 1.8% for the equal-weighted portfolio.

In Table 3, we present the results for the robustness of earnings acceleration-based strategy to alternative risk adjustments. Columns one through five present returns for equal-weighted portfolios and columns six through ten provide the results for value-weighted portfolios.[3] Recall

[3] While we present the results for one earnings acceleration measure (EAP) in the month-long return window, the results for this measure in the quarter-long window are similarly significant. Additionally, the results for the other three acceleration measures (EAA, SA and PA) in both return windows are similar to the results for EAP.

that our base results already adjust for value-weighted market index returns. In column one, we present stock returns adjusted for equal-weighted market index returns (EMAR). The excess returns again show a monotonically increasing trend across the EAP deciles and the hedge portfolio return is again 1.8%. In column two, we present the results of the EAP strategy using size-adjusted returns and again obtain a hedge portfolio return of 1.8%. In columns three and four, we employ returns that are adjusted by the typical Fama French (FF) factors. Column three presents the results with the traditional three factor model and column four uses the Fama French three factor plus Momentum adjustment. Recently, Fama and French (2015) have developed and tested a five-factor model that extends their original three-factor model with investment and profitability factors. They argue that this augmented model explains a number of well-documented anomalies. In column five, we test the robustness of the earnings acceleration strategy to this augmented risk model and show that the excess hedge portfolio return remains significant over the month long window. Columns six through ten present qualitatively similar results for value-weighted portfolio returns and provide confidence in the robustness of the results to various risk adjustments. In all the remaining tests, we continue to employ the VMAR measure for excess returns.

In Table 4, we examine the robustness of the earnings acceleration strategy to other well-documented anomalies. Stambaugh and Yuan (2017) create a comprehensive mispricing measure – M-Score that incorporates several well-documented anomalies. In Panel A, we examine the robustness of the earnings acceleration strategy hedge portfolio excess returns to this M-Score measure. We follow Liu et al. (2017) in constructing portfolios independently sorted on both the M-Score measure as well as our variable of interest, namely earnings acceleration. As we move from column one to column five, we move from the lowest quintile to the highest quintile of

earnings acceleration. Similarly, when we move from row one to row five, we move from the lowest M-Score (which represents underpricing) to the highest M-score (which represents overpricing). The last column depicts the returns from a hedge portfolio strategy of going long on highest quintile of earnings acceleration and short on the lowest quintile of earnings acceleration. The trading strategy yields consistently positive returns across all rows showing the robustness of the strategy to other well documented anomalies captured in M-Score.[4] More importantly, the lowest excess return is still a healthy 1.2% over the month long window. The returns to the M-score strategy, depicted along the last row, are typically lower than the magnitude of the returns for the earnings acceleration strategy. Additionally, they do not remain consistently significant across all the earnings acceleration quintiles.

In Panel B, we follow the same methodology as Panel A, but examine the joint returns from the earnings acceleration and post-earnings announcement drift (PEAD) strategies. The key variable used in traditional PEAD studies is Standardized Unexpected Earnings (SUE). The "Unexpected" earnings are the surprise from a seasonal random walk model for earnings. Thus, they are identical to the seasonal growth in earnings, which is the growth measure we use to compute earnings acceleration. As such, we use the variable EGP to represent the same SUE variable that has been employed in the PEAD literature. Again, the lowest return across the rows is 1.1% and we obtain significant excess returns to a strategy of going long in the highest EAP quintile and short in the lowest EAP quintile across all rows (as shown in the last column). In contrast, the PEAD strategy does not yield significant results uniformly across all EAP quintiles. Akbas et al. (2017) have recently documented a profitability trend anomaly that can potentially overlap with the earnings acceleration anomaly presented in this study. A direct comparison of

[4] The same pattern is observed when we use deciles instead of quintiles.

the two anomalies is presented in Panel C. Once again, the earnings acceleration strategy tends to produce much higher excess returns than the profitability trend anomaly. More importantly, the acceleration anomaly is present across all profitability trend partitions, while the profitability trend anomaly appears to be significantly smaller in several of the earnings acceleration partitions.

In addition to the hedge portfolio return tests, a typically more conservative test of the anomaly entails a regression analysis across all deciles. Besides including data from all deciles, another advantage of the regression approach is the ability to control for several risk factors and anomalies simultaneously. In Table 5, we present regression analysis of excess returns from the earnings acceleration strategy after including all the controls. In Panel A, the dependent variable is the month-long excess return and in Panel B, it is the quarter-long excess return. The main regression model estimated is:

$$\mathrm{VMAR(Q)_{i,t}} = \alpha_0 + \alpha_1 \mathrm{EGP_{i,t}} + \alpha_2 \mathrm{EAP_{i,t}} + \alpha_3 \mathrm{SIZE_{i,t}} + \alpha_4 \mathrm{TREND_{i,t}} + \alpha_5 \mathrm{BM_{i,t}} + \alpha_6 \mathrm{PASTRET_{i,t}} + \alpha_7 \mathrm{GP_{i,t}} + \alpha_8 \mathrm{ACC_{i,t}} + \alpha_9 \mathrm{VOL_{i,t}} + \alpha_{10} \mathrm{AG_{i,t}} + \varepsilon_{i,t} \quad (1)$$

where EAP is earnings acceleration, defined as quarter t earnings growth minus quarter t-1 earnings growth, and earnings growth is the seasonal change in EPS scaled by the stock price at the end of quarter t-1 (see Table 1).

The standard errors reported are from Fama-Macbeth regressions (with Newey-West correction with six lags) and hence are controlled for cross-sectional and serial correlation in the panel data. Model one includes controls for the PEAD strategy and size and model two includes additional controls for the profitability trend, book-to-market, past returns, profitability, accruals, earnings volatility and asset growth. In the discussion, we focus on the results from model two. The regression coefficient on EAP, our earnings acceleration variable, is 0.016. Recall that the

EAP decile rank variable has been scaled to have a range of one and a mean of zero. Thus, the coefficient of 0.016 can be interpreted as the return (1.6%) from a hedge portfolio that entails going long in the highest decile of earnings acceleration and short on the lowest decile. In column four, the corresponding incremental return is 2.3%. These returns are comparable in magnitude to the PEAD anomaly, which had returns of 1.2 % over the first month and 4.0% over a quarter. Book-to-market and gross profit have incremental returns of 1.4% (2.5%) and 1.1% (1.7%) over the next month (quarter), respectively. In contrast, the profit trend anomaly only yields incremental returns of 0.4% over the month and 1.2% over the quarter.

3. Earnings Acceleration and Future Earnings Growth

So far, we have demonstrated that earnings acceleration can predict future stock returns and that these returns are robust to adjustments for risk and other known anomalies. We now explore the nature of the information contained in earnings acceleration. We examine whether earnings acceleration has incremental predictive ability for future earnings growth and whether the future abnormal return from the earnings acceleration strategy documented in section 2 is associated with this predictive ability.[5] If so, the abnormal return we document likely manifests because investors do not consider fully the implications of earnings acceleration for future earnings growth.

3.1 Implications of earnings acceleration for future earnings growth

[5] Such a test is analogous to the PEAD context, where current earnings growth from a seasonal random walk model had implications for future earnings growth and these implications have been shown to be associated with PEAD (see Bernard and Thomas 1990, Rangan and Sloan 1998, among others).

We estimate a regression of future earnings growth on past earnings acceleration. Since past earnings growth has been shown to predict future earnings growth (in the PEAD context), we also control for earnings growth to document that the implications of earnings acceleration are incremental.

$$EGP_{t+k} = \alpha + \beta EAP_t + \gamma EGP_t + \varepsilon_{t+k} \quad (2)$$

Here *k* takes on the values 1, 2 and 3 meaning that EGP_{t+k} represents the seasonal earnings growth one, two and three quarters in the future.

Table 6 reports the regression results testing the relation between earnings acceleration and the earnings growth for each of the three subsequent quarters. Columns one, four and seven represent the basic relation between earnings acceleration and future earnings growth one, two and three quarters, respectively, in the future. While the coefficient for one quarter ahead growth is negative, the coefficients for the two subsequent quarters (i.e., 0.046 and 0.237) are significantly positive. The other columns examine the effect of earnings acceleration for future earnings growth after including various controls for a wide range of potential explanatory variables for earnings growth. These control variables are defined in Table 1. With controls, the coefficients on EAP for every subsequent quarter are positive, though they are consistently stronger for earnings growth two and three quarters into the future than for one quarter into the future. In columns five and eight, the coefficients are significantly positive at 0.056 and 0.248, respectively, suggesting that earnings acceleration is a significant predictor of future two- and three-quarters-ahead earnings growth. Economically, moving from the bottom decile to the top decile of scaled earnings acceleration leads to a nearly 25% incremental change in the decile of earnings growth three quarters hence. For comparison, the EGP coefficient, that is relevant in the PEAD context, is 32%

for one quarter ahead earnings growth (column two), and is actually negative (-4.5% in column eight) for three quarters ahead earnings growth.

3.2 Short-window returns around future earnings announcement dates

While our primary results employ one-month and quarter-long abnormal returns and are robust to controlling for a litany of risk factors, a further intuitive test involves shorter-window returns, which are typically less susceptible to risk considerations (Bernard and Thomas 1990, Sloan 1996). Specifically, since we wish to assess whether the earnings acceleration anomaly is attributable to the market missing, at least partially, the implications of earnings acceleration for earnings growth two and three quarters in the future, we examine whether abnormal returns occur in short windows around earnings announcements two and three quarters ahead.

Table 7 reports the regression results testing the relation between earnings acceleration and the three-day abnormal return surrounding each of the three subsequent earnings announcements. The coefficient on EAP is positive and significant in all columns (ranging in magnitude from 0.3% to 0.8%). The short-window excess returns are largest around the third subsequent quarter's earnings announcement (ranging from 0.6% to 0.8% in columns seven through nine). These magnitudes are comparable to or larger than historically reported three-day returns in the PEAD context. Our finding that earnings acceleration is positively associated with three-day returns around all three subsequent earnings announcements strongly indicates that investors do not appear to incorporate fully the implications of earnings acceleration for subsequent earnings in a timely fashion. Although a significant portion of the mispricing is corrected in the one-month following an earnings announcement, some of the correction only takes place when future quarterly earnings are announced (especially two and three future fiscal quarters).

4. Additional Tests

In this section, we address three additional topics: (1) ways to enhance returns from the acceleration-based strategy, (2) robustness of the results to the adoption of alternative definitions/deflators, and (3) tests regarding the implementability of the strategy.

4.1 Enhancing the earnings acceleration strategy returns by considering alternative earnings acceleration patterns

In our prior tests, we focus on the earnings acceleration variable which is defined as the difference between current quarter earnings growth and prior quarter's earnings growth. IN this section, we examine whether specific patterns of earnings acceleration have varying implications for future returns. Specifically, we partition EAP into six patterns as follows:

Pattern 1: Both current and previous quarter's earnings growth are positive, and current quarter's earnings growth is higher than previous quarter's

Pattern 2: Current quarter's earnings growth is positive, while previous quarter's earnings growth is negative

Pattern 3: Both current and previous quarter's earnings growth are negative, and current quarter's earnings growth is higher than previous quarter's

Pattern 4: Both current and previous quarter's earnings growth are positive, and current quarter's earnings growth is smaller than previous quarter's

Pattern 5: Current quarter's earnings growth is negative, while previous quarter's earnings growth is positive

Pattern 6: Both current and previous quarter's earnings growth are negative, and current quarter's earnings growth is smaller than previous quarter's

We examine the relation between earnings acceleration and stock returns conditional on each of the earnings acceleration patterns. We find that the relation between earnings acceleration and stock returns differs significantly across the six earnings acceleration patterns, with the relation being strongest under pattern 1 and pattern 5 (un-tabulated). The largest returns to the high earnings acceleration decile come from pattern 1 (low mean reversion) and the lowest returns to the low earnings acceleration decile come from pattern 5. We then investigate the effect of an earnings acceleration strategy that focuses exclusively on these two patterns.

Table 8, Panel A reports the average value-weighted market-adjusted returns for portfolios double sorted (independently) based on EAP deciles and whether the stock belongs to either pattern 1 or pattern 5. A trading strategy that focuses only on pattern 1 or pattern 5 generates one-month hedge return of 2.6%. In contrast, our base strategy only yielded a hedge return of 1.8% (Table 3). Thus, focusing on specific patterns of earnings acceleration can enhance the excess returns by nearly 45%. Panel B reports the regression results including dummy variable DDEAP (which equals to one if a firm-quarter belongs to either pattern 1 or pattern 5) and its interaction with PEAP. While the coefficient on PEAP is 1.3%, the coefficient on the interaction of DDEAP and PEAP ranges from 1.2% to 2% and is consistently significant under different controls, confirming in a regression setting that the pattern of earnings acceleration is useful in enhancing the acceleration strategy returns.

4.2 Alternative earnings acceleration definitions/deflators

While we show that the relation between earnings acceleration and stock returns is present under each of the four definitions of earnings acceleration (i.e., EAA, EAP, SA and PA) in section 2, we only present results for EAP when investigating the relation between earnings acceleration and future earnings growth in section 3. Un-tabulated results show that the relation between earnings acceleration and future earnings growth is present and remarkably similar across each of the other three earnings acceleration measures.

We also examine how different deflators for EGP and EAP affect our results. Specifically, we examine a total of 16 scenarios, as a combination of using each of the following four variables as deflators for EGP and for EAP: last quarter's stock price, four-quarters-ahead stock price, last quarter's total asset, and four-quarters-ahead total assets. The returns results remain qualitatively unchanged under these different EGP and EAP deflators.

4.3 Implementability of the earnings acceleration strategy

We have already discussed in section 2 the robustness of the strategy to the use of value-weighted portfolios instead of equal-weighted portfolios. We further examine here the implementability of the earnings acceleration strategy along three dimensions – stability of the excess returns over time, the exclusion of low price / low market capitalization stocks and the use of calendar month rebalancing. In Figure 2, we depict the one-month hedge returns to the earnings acceleration strategy for each of the 176 quarters in our sample. The hedge return is positive in 140 out of the 176 fiscal quarters (80%), which suggests that the relation between earnings acceleration and subsequent stock returns is quite stable over time. This also alleviates concerns that the excess returns are a result of unidentified risk factors. More importantly, Figure 2 shows

that the trading strategy is equally successful in recent years compared to earlier periods. From 2004 to 2015, the strategy yields positive excess returns in 41 out of 48 fiscal quarters (85%). This finding is relevant in view of the recent finding by Green et al. (2017) that a majority of the previously well documented anomalies do not generate returns significant from zero in the post-2003 period.

Notwithstanding that a detailed cost-benefit analysis of the trading strategy is beyond the scope of this study, our second set of results indicate significant positive excess returns of between 0.9% - 1.5% per month even when low priced stocks (less than $5) and/or various partitions of small capitalization stocks (up to $0.5 billion) are excluded from the trading strategy.

The trading strategy outlined earlier involved buying and selling stocks two days after an earnings announcement. Such a strategy can potentially lead to significant portfolio rebalancing costs. In our third set of tests, we adopt a conservative calendar month-based rebalancing strategy. At the beginning of each calendar month, we sort stocks of companies that announced earnings in the previous three months into earnings acceleration deciles. Table 9 presents the results of the calendar month rebalancing strategy using equal-weighted portfolio returns.[6] A hedge portfolio going long in the top earnings acceleration decile and short in the bottom decile still yields about 0.9% excess returns over the month-long window. The Table also presents factor loadings on the five Fama-French factors.

[6] The results are nearly unchanged if we consider earnings announcements only in the previous month instead of the previous three months or if we use value-weighted portfolio returns.

5. Conclusion

We document that earnings acceleration is an important variable that active investors can focus on in their stock picking efforts to earn significant excess returns. We find economically significant excess returns to an earnings acceleration-based strategy over a quarter following an earnings announcement (with a significant portion accruing over the first month). The returns are robust to a battery of controls for risk and are distinct from previously documented anomalies. In portfolio tests, the incremental excess returns at 1.8% over a month translate to an annualized returns of over 23%. The returns are also remarkably stable over a long period (we include the 176 past quarters).

Our results indicate that the abnormal returns are consistent with investors not incorporating fully the implications of current earnings acceleration for future earnings growth, especially two and three quarters in the future. Notably, current earnings acceleration appears to be associated with significant positive returns in these quarters' earnings announcement windows.

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FIGURE 1

Earnings Acceleration Strategy over Different Horizons

This figure depicts the difference in value-weighted market-adjusted returns (VMAR) between top and bottom earnings acceleration (EAP) deciles over different time horizons (after earnings announcement). The x-axis represents the number of days after the earnings announcement date. The y-axis represents the VMAR for the top and bottom EAP deciles as well as their difference averaged over 176 fiscal quarters from 1972 till 2015. See Table 1 for variable definitions.

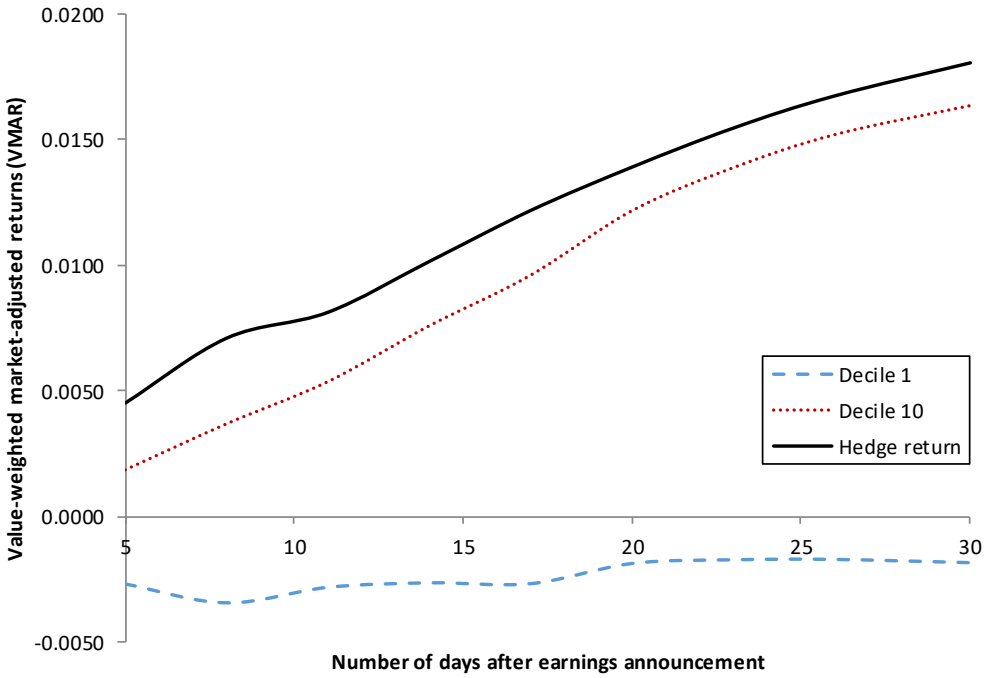
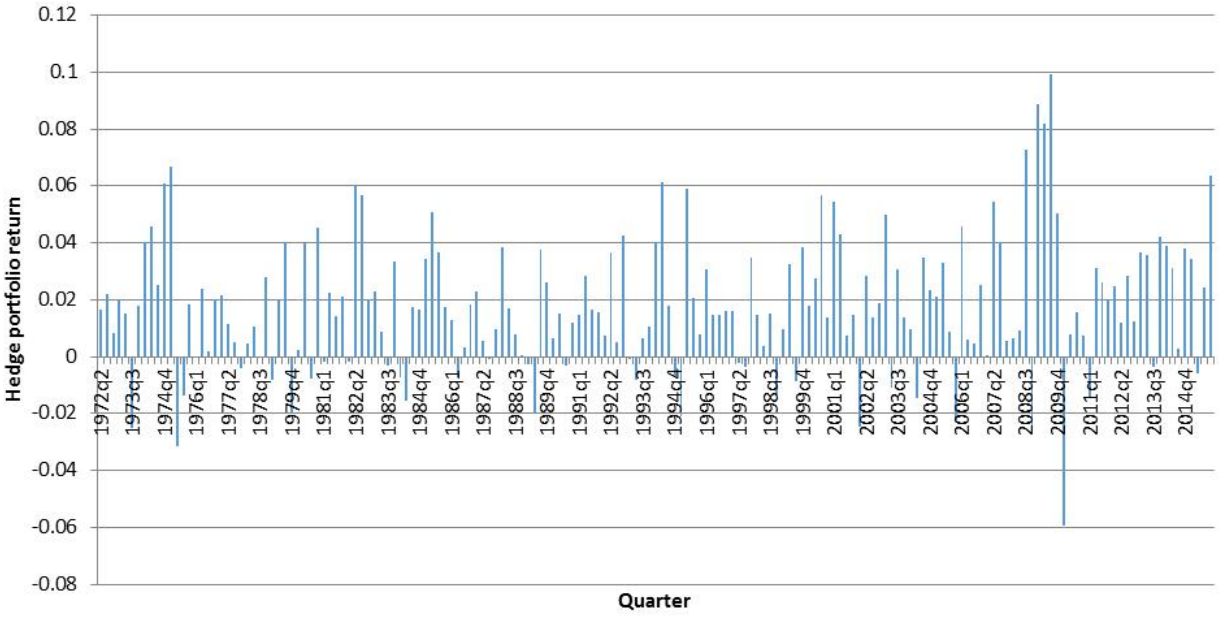


FIGURE 2

Stability of Earnings Acceleration Strategy over Time

This figure depicts the one-month return by fiscal quarter to a hedge portfolio taking a long position in the stock of firms in the highest decile of EAP and an equal sized short position in the stock of firms in the lowest decile of EAP. The x-axis represents fiscal quarters. The y-axis represents the one-month hedge portfolio returns. See Table 1 for variable definitions.



	Number of quarters
Positive	140
Negative	36
Total	176

TABLE 1

Variable Definitions

This table summarizes variable definitions.

Variables	Descriptions
VMAR	Value-weighted market-adjusted buy-and-hold return during the one-month window, defined as the raw return (two days through 30 days after quarter t earnings announcement date) adjusted for the same period CRSP value-weighted index return
VMARQ	Value-weighted market-adjusted buy-and-hold return during the quarter-long window, defined as the raw return (two days after quarter t earnings announcement date through one day after quarter t+1 earnings announcement date) adjusted for the same period CRSP value-weighted index return
EMAR	Equal-weighted market-adjusted buy-and-hold return during the one-month window following earnings announcement date
SAR	Size-adjusted buy-and-hold return during the one-month window following earnings announcement date
FF3	Fama-French three-factor-adjusted buy-and-hold return during the one-month window following earnings announcement date
FFM	Fama-French three-factor and momentum-adjusted buy-and-hold return during the one-month window following earnings announcement date
FF5	Fama-French five-factor-adjusted buy-and-hold return during the one-month window following earnings announcement date
EGP	Earnings growth (deflated by price), defined as quarter t's earnings per share (EPS) minus quarter t-4's EPS, scaled by the stock price at the end of quarter t-1; where EPS is calculated as income before extraordinary items (IBQ), divided by shares outstanding (CSHOQ). Shares are adjusted for stock splits and stock dividends.
EGA	Earnings growth (deflated by absolute value of earnings), defined as quarter t's EPS minus quarter t-4's EPS, scaled by the absolute value of quarter t-4's EPS
SG	Sales growth, defined as quarter t's sales per share (SPS) minus quarter t-4's SPS, scaled by quarter t-4's SPS; where quarter t's SPS is calculated as net sales (SALEQ), divided by shares outstanding (CSHOQ). Shares are adjusted for stock splits and stock dividends.
PG	Profitability growth, defined as quarter t's return-on-assets (ROA) minus quarter t-4's ROA; where ROA is defined as operating income after depreciation (OIADPQ) per share at quarter t, divided by total assets (ATQ) per share at quarter t-1. Shares are adjusted for stock splits and stock dividends.
EAP	Earnings acceleration (price deflated), defined as quarter t's EGP minus quarter-1's EGP
EAA	Earnings acceleration (absolute value of earnings deflated), defined as quarter t's EGA minus quarter t-1's EGA
SA	Sales acceleration, defined as quarter t's SG minus quarter t-1's SG
PA	Profitability acceleration, defined as quarter t's PG minus quarter t-1's PG

TABLE 1 (Continued)

Variable Definitions

This table summarizes variable definitions.

Variables	Descriptions
MSCORE	Mispricing factor, from Yu Yuan's website (http://www.saif.sjtu.edu.cn/facultylist/yyuan/)
TREND	Trend in quarterly gross profitability, measured as b1 from estimating the following trend regression each quarter: GPQ = a0 + b1*t + b2*D1 + b3*D2 + b4*D3 + ε; where GPQ is calculated as sales (SALEQ) minus cost of goods sold (COGSQ), divided by total assets (ATQ)
SIZE	Market capitalization, defined as market price at earnings announcement date multiply by the total number of shares outstanding
BM	Book-to-market ratio, defined as the book value of equity at the end of quarter t divided by the market capitalization at earnings announcement date
PASTRET	Past return, defined as the value-weighted market-adjusted stock return during the [-180,-2] window before quarter t earnings announcement date
GP	Gross profitability, defined as quarter t's SALEQ minus COGSQ, divided by ATQ
ACC	Accruals, defined as quarter t's (ΔACTQ - ΔCHEQ - ΔLCTQ + ΔDLCQ + ΔTXPQ) / Average ATQ, where ACTQ, CHEQ, LCTQ, DLCQ, TXPQ represent current assets, cash and short-term investments, current liabilities, debt in current liabilities and income tax payable, respectively
VOL	Earnings volatility, defined as standard deviation of EPS in the most recent 8 quarters (including quarter t)
AG1	Asset growth (definition 1), defined as quarter t's total assets per share minus quarter t-1's total assets per share, divided by quarter t-1's total assets per share
AG2	Asset growth (definition 2), defined as quarter t's total assets per share minus quarter t-4's total assets per share, divided by quarter t-4's total assets per share
VMAR3	Value-weighted market-adjusted buy-and-hold return during the earnings announcement window, defined as the raw return (one day before through one day after quarter t earnings announcement date) adjusted for the same period CRSP value-weighted index return
DDEAP	Dummy variable which equals to 1 if EAP belongs to either pattern 1 or pattern 5. Pattern 1 represents the situation where both current and previous quarter's earnings growth are larger than 0, and current quarter's earnings growth is higher than previous quarter's earnings growth. Pattern 5 represents the situation where previous quarter's earnings growth is larger than 0, and current quarter's earnings growth is smaller than 0

TABLE 2

Portfolios Formed Based on Earnings Acceleration

This table reports the average market-adjusted returns for portfolios formed based on earnings acceleration deciles. See Table 1 for variable definitions. t-statistics are reported in parentheses, and are calculated based on the time-series of the portfolio market-adjusted stock returns.

Panel A: Equal-weighted portfolio returns

	One-month abnormal returns (VMAR)				Quarter-long abnormal returns (VMARQ)			
EA deciles	EAA	EAP	SA	PA	EAA	EAP	SA	PA
Lowest	0.001	-0.002	0.000	0.002	0.010	0.007	0.001	0.003
	(0.404)	(-0.617)	(-0.038)	(0.56)	(2.515)	(1.152)	(0.225)	(0.466)
2	0.000	0.000	0.002	0.001	0.004	0.001	0.005	0.002
	(0.213)	(0.199)	(1.203)	(0.346)	(0.995)	(0.353)	(1.316)	(0.573)
3	0.001	0.001	0.003	0.003	0.003	-0.001	0.007	0.006
	(0.951)	(0.596)	(1.54)	(1.438)	(0.959)	(-0.195)	(2.275)	(1.684)
4	0.003	0.003	0.005	0.005	0.006	0.006	0.012	0.008
	(1.821)	(1.902)	(3.063)	(3.271)	(1.826)	(2.187)	(3.704)	(2.978)
5	0.004	0.006	0.006	0.006	0.009	0.012	0.014	0.013
	(2.967)	(5.159)	(3.933)	(3.778)	(3.326)	(5.689)	(5.224)	(4.603)
6	0.009	0.011	0.008	0.010	0.019	0.023	0.017	0.017
	(6.121)	(8.682)	(5.018)	(6.283)	(6.638)	(10.864)	(6.142)	(6.222)
7	0.013	0.012	0.011	0.012	0.027	0.023	0.024	0.022
	(8.213)	(7.872)	(7.248)	(7.288)	(7.096)	(8.586)	(8.165)	(7.331)
8	0.013	0.013	0.013	0.016	0.027	0.026	0.028	0.030
	(7.284)	(7.959)	(7.594)	(8.046)	(7.596)	(8.704)	(8.732)	(8.329)
9	0.014	0.015	0.014	0.018	0.033	0.031	0.032	0.036
	(7.223)	(7.279)	(7.628)	(8.31)	(8.529)	(7.81)	(8.824)	(9.172)
Highest	0.015	0.016	0.013	0.020	0.037	0.042	0.035	0.046
	(6.225)	(5.131)	(5.868)	(6.775)	(8.233)	(6.19)	(7.405)	(6.604)
Highest - Lowest	0.014	0.018	0.013	0.017	0.026	0.034	0.034	0.042
	(9.218)	(10.254)	(8.975)	(7.648)	(11.078)	(11.451)	(12.724)	(10.314)

TABLE 2 (Continued)

Portfolios Formed Based on Earnings Acceleration

This table reports the average market-adjusted returns for portfolios formed based on earnings acceleration deciles. See Table 1 for variable definitions. t-statistics are reported in parentheses, and are calculated based on the time-series of the portfolio market-adjusted stock returns.

Panel B: Value-weighted portfolio returns

	One-month abnormal returns (VMAR)				Quarter-long abnormal returns (VMARQ)			
EA deciles	EAA	EAP	SA	PA	EAA	EAP	SA	PA
Lowest	-0.002	-0.007	-0.001	-0.003	-0.002	-0.014	-0.005	-0.015
	(-0.824)	(-2.672)	(-0.481)	(-1.087)	(-0.515)	(-2.791)	(-1.418)	(-3.727)
2	-0.001	-0.003	-0.001	0.000	-0.003	-0.009	-0.007	-0.003
	(-0.443)	(-1.849)	(-0.657)	(-0.109)	(-1.277)	(-2.651)	(-2.212)	(-1.114)
3	-0.002	-0.003	0.000	-0.001	-0.007	-0.007	-0.001	-0.002
	(-1.109)	(-1.573)	(-0.004)	(-0.371)	(-2.862)	(-2.884)	(-0.467)	(-0.731)
4	-0.001	-0.001	0.001	0.000	-0.001	-0.003	-0.001	-0.001
	(-0.747)	(-0.433)	(0.529)	(0.321)	(-0.306)	(-1.359)	(-0.738)	(-0.293)
5	0.002	0.005	0.003	0.000	-0.002	0.003	0.004	0.000
	(1.559)	(3.838)	(1.868)	(0.143)	(-1.2)	(1.267)	(1.887)	(0.152)
6	0.003	0.003	0.003	0.003	0.003	0.005	0.004	0.004
	(2.379)	(2.254)	(1.708)	(2.117)	(1.303)	(2.528)	(1.695)	(2.007)
7	0.007	0.003	0.004	0.003	0.007	0.004	0.005	0.002
	(5.04)	(1.987)	(3.066)	(2.12)	(3.044)	(1.749)	(2.374)	(0.672)
8	0.004	0.002	0.005	0.005	0.005	0.000	0.004	0.005
	(2.416)	(1.143)	(3.614)	(2.451)	(1.859)	(0.085)	(1.544)	(1.54)
9	0.002	0.005	0.005	0.009	0.004	0.008	0.007	0.011
	(0.832)	(2.326)	(2.682)	(4.186)	(1.499)	(2.522)	(2.604)	(3.021)
Highest	0.005	0.008	0.006	0.004	0.013	0.008	0.010	0.011
	(2.122)	(2.985)	(2.636)	(1.48)	(3.406)	(1.921)	(3.061)	(2.165)
Highest - Lowest	0.007	0.015	0.007	0.006	0.014	0.022	0.015	0.026
	(2.582)	(4.394)	(2.14)	(1.737)	(3.734)	(3.876)	(3.51)	(4.281)

TABLE 3

Portfolios Formed Based on Earnings Acceleration: Alternative Risk Adjustments

This table reports the average one-month risk-adjusted returns for portfolios formed based on EAP deciles. See Table 1 for variable definitions. t-statistics are reported in parentheses, and are calculated based on the time-series of the portfolio risk-adjusted stock returns.

	Equal-weighted portfolio returns					Value-weighted portfolio returns				
EAP deciles	EMAR	SAR	FF3	FFM	FF5	EMAR	SAR	FF3	FFM	FF5
Lowest	-0.010	-0.002	-0.004	-0.004	-0.003	-0.015	-0.008	-0.008	-0.007	-0.007
	(-5.199)	(-1.028)	(-2.273)	(-2.449)	(-1.786)	(-5.264)	(-3.072)	(-3.601)	(-3.761)	(-3.49)
2	-0.009	-0.001	-0.003	-0.003	-0.002	-0.012	-0.004	-0.003	-0.004	-0.003
	(-6.499)	(-0.414)	(-2.327)	(-2.776)	(-2.388)	(-4.631)	(-2.108)	(-2.113)	(-2.367)	(-2.112)
3	-0.008	0.001	-0.001	-0.002	-0.001	-0.011	-0.003	-0.001	-0.001	-0.001
	(-6.021)	(0.538)	(-1.735)	(-1.894)	(-1.412)	(-4.203)	(-1.603)	(-0.347)	(-0.699)	(-0.599)
4	-0.006	0.002	0.000	0.000	0.001	-0.009	-0.001	0.000	-0.001	-0.001
	(-4.578)	(2.173)	(0.678)	(0.419)	(0.863)	(-3.425)	(-0.525)	(-0.239)	(-0.499)	(-0.74)
5	-0.003	0.005	0.003	0.003	0.003	-0.003	0.005	0.003	0.003	0.003
	(-1.804)	(5.834)	(4.227)	(3.687)	(4.112)	(-1.16)	(3.808)	(2.74)	(2.216)	(2.565)
6	0.001	0.010	0.007	0.007	0.007	-0.006	0.003	0.003	0.002	0.003
	(1.043)	(10.16)	(10.81)	(10.66)	(10.52)	(-2.339)	(2.353)	(3.145)	(2.772)	(2.541)
7	0.003	0.011	0.008	0.008	0.008	-0.005	0.003	0.003	0.002	0.003
	(2.139)	(11.142)	(10.398)	(10.205)	(10.71)	(-2.082)	(1.906)	(2.731)	(2.161)	(2.355)
8	0.004	0.013	0.008	0.008	0.008	-0.006	0.002	0.001	0.001	0.000
	(3.282)	(11.807)	(9.796)	(9.898)	(10.219)	(-2.344)	(1.051)	(1.059)	(0.948)	(0.245)
9	0.006	0.014	0.009	0.009	0.010	-0.004	0.004	0.003	0.004	0.004
	(3.731)	(10.512)	(7.787)	(8.066)	(8.452)	(-1.278)	(2.088)	(2.211)	(2.409)	(2.703)
Highest	0.007	0.016	0.011	0.011	0.012	0.000	0.007	0.005	0.005	0.006
	(3.183)	(7.084)	(5.769)	(6.107)	(6.372)	(-0.101)	(2.96)	(3.012)	(2.805)	(3.472)
Highest - Lowest	0.018	0.018	0.015	0.015	0.015	0.015	0.015	0.013	0.012	0.013
	(9.973)	(9.946)	(9.899)	(9.642)	(9.637)	(4.338)	(4.535)	(4.982)	(5.061)	(5.108)

TABLE 4

Portfolios Formed Based on Earnings Acceleration and Other Anomaly Variables

This table reports the average one-month market-adjusted returns for equal-weighted portfolios formed based on EAP deciles and other anomaly variables (using independent sorting). See Table 1 for variable definitions. t-statistics are reported in parentheses, and are calculated based on the time-series of the portfolio market-adjusted stock returns.

Panel A: Two-way sorting, controlling for Mscore effect

			EAP					
		Mscore effect	Lowest	2	3	4	Highest	Highest - Lowest
Mscore	Underpriced	0.008	-0.002	0.001	0.009	0.015	0.020	0.021
		(6.221)	(-0.881)	(0.895)	(7.151)	(10.055)	(8.304)	(7.438)
	2	0.007	-0.003	-0.001	0.008	0.014	0.016	0.019
		(5.29)	(-1.417)	(-0.904)	(6.195)	(8.872)	(7.305)	(7.981)
	3	0.006	-0.006	0.001	0.009	0.012	0.011	0.017
		(4.555)	(-3.07)	(0.669)	(6.361)	(7.203)	(4.945)	(7.769)
	4	0.006	-0.004	0.002	0.009	0.010	0.011	0.015
		(3.802)	(-1.445)	(1.377)	(5.4)	(5.459)	(4.701)	(6.261)
	Overpriced	0.001	-0.007	0.000	0.003	0.006	0.005	0.012
		(0.684)	(-2.366)	(-0.164)	(1.538)	(2.545)	(1.998)	(5.445)
Underpriced - Overpriced		0.006	0.005	0.002	0.006	0.009	0.014	
		(3.029)	(1.613)	(0.694)	(2.223)	(3.401)	(4.667)	

Panel B: Two-way sorting, controlling for PEAD effect

			EAP					
		SUE effect	Lowest	2	3	4	Highest	Highest - Lowest
EGP	Lowest	0.000	-0.002	0.002	-0.002	0.004	0.009	0.011
		(0.174)	(-0.839)	(0.846)	(-0.521)	(1.367)	(2.392)	(4.182)
	2	0.003	-0.003	0.000	0.007	0.006	0.010	0.012
		(2.269)	(-1.015)	(0.02)	(4.193)	(3.109)	(3.235)	(3.749)
	3	0.008	-0.002	0.000	0.010	0.011	0.016	0.019
		(6.603)	(-0.681)	(0.273)	(8.249)	(6.513)	(4.168)	(3.797)
	4	0.010	0.000	0.004	0.007	0.016	0.013	0.013
		(6.128)	(0.155)	(1.886)	(3.483)	(9.342)	(4.923)	(4.039)
	Highest	0.015	0.004	0.003	0.010	0.015	0.020	0.016
		(5.849)	(1.11)	(0.98)	(2.131)	(5.626)	(7.109)	(5.833)
Highest - Lowest		0.014	0.006	0.001	0.012	0.011	0.011	
		(8.77)	(1.873)	(0.381)	(1.86)	(3.503)	(3.988)	

TABLE 4 (Continued)

Portfolios Formed Based on Earnings Acceleration and Other Anomaly Variables

This table reports the average one-month market-adjusted returns for equal-weighted portfolios formed based on EAP deciles and other anomaly variables (using independent sorting). See Table 1 for variable definitions. t-statistics are reported in parentheses, and are calculated based on the time-series of the portfolio market-adjusted stock returns.

Panel C: Two-way sorting, controlling for Profit Trend effect

			EAP					
		TREND effect	Lowest	2	3	4	Highest	Highest - Lowest
TREND	Lowest	0.006	-0.001	0.004	0.011	0.010	0.011	0.011
		(3.162)	(-0.354)	(1.907)	(5.827)	(4.858)	(3.541)	(4.014)
	2	0.008	0.002	0.002	0.007	0.013	0.016	0.014
		(5.295)	(0.765)	(1.073)	(4.664)	(6.788)	(6.445)	(5.325)
	3	0.008	0.002	-0.001	0.009	0.013	0.017	0.016
		(5.349)	(0.549)	(-0.554)	(6.105)	(7.644)	(5.886)	(5.739)
	4	0.009	0.001	0.002	0.008	0.015	0.023	0.022
		(5.54)	(0.459)	(1.228)	(5.182)	(7.716)	(6.454)	(6.841)
	Highest	0.015	0.005	0.008	0.012	0.021	0.026	0.020
		(5.32)	(1.744)	(3.569)	(4.982)	(7.269)	(6.369)	(7.033)
Highest - Lowest		0.009	0.006	0.004	0.003	0.011	0.015	
		(5.298)	(2.242)	(2.216)	(1.291)	(4.13)	(5.475)	

TABLE 5

Earnings Acceleration and Stock Returns: Regression Analysis

This table reports the regression results testing the relation between earnings acceleration and stock returns. See Table 1 for variable definitions. Standard errors are from a Fama-MacBeth estimation with Newey-West correction for up to six lags. t-statistics are reported in parentheses. ***, **, * indicate significantly different from zero at the 1%, 5%, 10% level, respectively.

	One-month abnormal returns (VMAR)			Quarter-long abnormal returns (VMARQ)		
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.007***	0.008***	0.008***	0.016***	0.017***	0.016***
	(4.109)	(4.104)	(4.289)	(4.742)	(4.823)	(4.470)
EGP	0.009***	0.012***	0.012***	0.042***	0.038***	0.040***
	-4.956	(5.025)	(5.102)	(12.878)	(8.041)	(7.952)
EAP	0.016***	0.016***	0.015***	0.023***	0.023***	0.021***
	(10.628)	(9.221)	(9.429)	(8.792)	(8.428)	(8.251)
SIZE	-0.009***	-0.004	-0.003	-0.041***	-0.032***	-0.028***
	(-3.295)	(-1.212)	(-0.951)	(-6.797)	(-4.344)	(-3.944)
TREND		0.005**	0.004*		0.013***	0.012***
		(2.217)	(1.930)		(3.809)	(4.484)
BM		0.014***	0.014***		0.025***	0.024***
		(4.303)	(4.350)		(3.521)	(3.431)
PASTRET		-0.010***	-0.011***		-0.005	-0.006
		(-3.328)	(-3.457)		(-0.932)	(-1.097)
GP		0.011***	0.012***		0.017***	0.018***
		(3.632)	(3.778)		(3.296)	(3.696)
ACC		-0.013***	-0.012***		-0.022***	-0.019***
		(-9.909)	(-9.416)		(-9.502)	(-8.127)
VOL		-0.011***	-0.012***		-0.028***	-0.032***
		(-6.461)	(-6.993)		(-8.598)	(-10.535)
AG1		0.001			0.003	
		(0.588)			(0.995)	
AG2			-0.001			-0.014***
			(-0.219)			(-3.817)
Observations	355,492	244,864	244,864	347,802	239,353	239,353
R-squared	0.010	0.053	0.053	0.019	0.067	0.068
Number of groups	176	162	162	176	162	162

TABLE 6

Earnings Acceleration and Future Earnings Growth

This table reports the regression results testing the relation between earnings acceleration and future earnings growth. See Table 1 for variable definitions. Standard errors are from a Fama-MacBeth estimation with Newey-West correction for up to six lags. t-statistics are reported in parentheses. ***, **, * indicate significantly different from zero at the 1%, 5%, 10% level, respectively.

	One-quarter-ahead earnings growth EGP_{t+1}			Two-quarters-ahead earnings growth EGP_{t+2}			Three-quarters-ahead earnings growth EGP_{t+3}		
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Constant	-0.001	0.000	0.002	-0.002	0.002	0.001	-0.001	0.002	0.002
	(-0.670)	(0.134)	(0.803)	(-0.832)	(0.791)	(0.660)	(-0.349)	(0.480)	(0.549)
EGP	0.416***	0.323***	0.331***	0.220***	0.166***	0.176***	-0.006	-0.045***	-0.035***
	(56.963)	(35.022)	(37.623)	(34.501)	(24.196)	(26.078)	(-0.786)	(-7.011)	(-5.727)
EAP	-0.018***	0.011***	0.005	0.046***	0.056***	0.046***	0.237***	0.248***	0.238***
	(-4.642)	(2.813)	(1.277)	(10.331)	(14.611)	(12.373)	(41.149)	(39.663)	(39.761)
SIZE	-0.024***	-0.060***	-0.045***	-0.047***	-0.074***	-0.056***	-0.070***	-0.088***	-0.073***
	(-8.788)	(-18.104)	(-14.236)	(-13.194)	(-18.407)	(-14.589)	(-18.082)	(-21.543)	(-18.452)
TREND		0.030***	0.016***		-0.007	-0.021***		0.013*	0.003
		(8.583)	(4.336)		(-1.145)	(-5.276)		-1.682	(0.723)
BM		-0.046***	-0.052***		-0.052***	-0.063***		-0.055***	-0.066***
		(-10.363)	(-11.891)		(-10.384)	(-12.571)		(-10.578)	(-12.720)
PASTRET		0.124***	0.131***		0.083***	0.088***		0.043***	0.049***
		(23.265)	(21.600)		(17.250)	(17.881)		(6.353)	(6.199)
GP		0.011***	0.017***		0.005	0.011**		-0.007	-0.002
		(2.692)	(4.540)		(0.791)	(2.047)		(-1.096)	(-0.330)
ACC		-0.009***	0.000		-0.019***	-0.010***		-0.021***	-0.014***
		(-3.535)	(0.091)		(-6.254)	(-3.452)		(-6.900)	(-4.887)
VOL		0.072***	0.054***		0.077***	0.055***		0.081***	0.061***
		(10.556)	(9.398)		(10.156)	(7.747)		(11.610)	(9.950)
AG1		0.006			-0.021***			-0.031***	
		(1.195)			(-6.276)			(-6.651)	
AG2			-0.077***			-0.118***			-0.117***
			(-18.510)			(-21.962)			(-16.671)
Observations	335,264	231,678	231,678	321,755	222,671	222,671	318,129	219,348	219,348
R-squared	0.171	0.210	0.216	0.068	0.112	0.122	0.068	0.115	0.124
Number of groups	175	161	161	174	160	160	173	159	159

TABLE 7

Earnings Acceleration and Future Three-Day Abnormal Returns around Earnings Announcements

This table reports the regression results testing the relation between earnings acceleration and future three-day abnormal returns around earnings announcements. See Table 1 for variable definitions. Standard errors are from a Fama-MacBeth estimation with Newey-West correction for up to six lags. t-statistics are reported in parentheses. ***, **, * indicate significantly different from zero at the 1%, 5%, 10% level, respectively.

	Three-day abnormal return (t+1)			Three-day abnormal return (t+2)			Three-day abnormal return (t+3)		
	$VMAR3_{t+1}$			$VMAR3_{t+2}$			$VMAR3_{t+3}$		
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Constant	0.003***	0.003***	0.003***	0.004***	0.003***	0.003***	0.004***	0.002***	0.002***
	(8.140)	(5.824)	(5.627)	(9.717)	(5.416)	(5.550)	(9.339)	(3.819)	(3.884)
EGP	0.006***	0.002	0.003*	-0.000	-0.000	0.000	-0.006***	-0.006***	-0.005***
	(6.353)	(1.558)	(1.700)	(-0.288)	(-0.148)	(0.333)	(-6.543)	(-3.400)	(-3.181)
EAP	0.003***	0.003***	0.003***	0.005***	0.004***	0.003***	0.008***	0.007***	0.006***
	(3.991)	(3.233)	(3.140)	(7.067)	(4.334)	(3.857)	(9.712)	(6.556)	(6.369)
SIZE	-0.006***	-0.004***	-0.003***	-0.007***	-0.003***	-0.003***	-0.007***	-0.003***	-0.002**
	(-7.426)	(-4.435)	(-3.639)	(-8.160)	(-3.597)	(-2.836)	(-8.472)	(-2.992)	(-2.428)
TREND		-0.000	0.001*		0.000	-0.000		-0.001	-0.001
		(-0.046)	(1.784)		(0.137)	(-0.551)		(-1.028)	(-1.449)
BM		0.008***	0.007***		0.007***	0.006***		0.007***	0.007***
		(8.534)	(8.012)		(7.441)	(6.833)		(8.187)	(7.647)
PASTRET		0.003***	0.003**		0.001	0.002		-0.001	-0.001
		(2.727)	(2.365)		(1.021)	(1.394)		(-1.174)	(-0.972)
GP		0.006***	0.007***		0.007***	0.007***		0.007***	0.007***
		(6.531)	(6.896)		(5.117)	(5.284)		(4.930)	(5.150)
ACC		-0.001*	-0.000		-0.004***	-0.004***		-0.002***	-0.002***
		(-1.814)	(-0.577)		(-6.593)	(-5.909)		(-3.441)	(-3.030)
VOL		-0.005***	-0.006***		-0.006***	-0.007***		-0.007***	-0.007***
		(-6.881)	(-8.218)		(-8.343)	(-9.710)		(-8.125)	(-8.876)
AG1		0.003***			0.000			-0.001	
		(3.425)			(0.411)			(-1.122)	
AG2			-0.004**			-0.004***			-0.005***
			(-2.100)			(-5.700)			(-5.253)
Observations	341,904	235,415	235,415	333,257	229,114	229,114	325,501	223,370	223,370
R-squared	0.008	0.042	0.041	0.005	0.040	0.040	0.006	0.041	0.042
Number of groups	176	162	162	175	161	161	174	160	160

TABLE 8

Patterns of Earnings Acceleration

This table reports the portfolio and regression results testing the relation between earnings acceleration and stock returns, condition on different earnings acceleration patterns. See Table 1 for variable definitions. Standard errors are from a Fama-MacBeth estimation with Newey-West correction for up to six lags.

Panel A: Long highest EAP and pattern 1 or 5, short lowest EAP and pattern 1 or 5

	VMAR					
EAP deciles	#	Pattern 1 or 5	t-statistics	#	Non-pattern 1 or 5	t-statistics
Lowest	16,490	-0.005	-1.645	24,015	0.000	-0.036
2	14,569	-0.005	-2.456	23,092	0.004	1.575
3	11,827	-0.002	-1.290	24,971	0.002	1.338
4	8,704	-0.001	-0.344	28,671	0.004	2.411
5	6,306	0.007	3.987	29,741	0.006	4.557
6	20,314	0.011	7.998	15,958	0.009	5.101
7	21,055	0.016	8.748	16,311	0.007	4.157
8	15,618	0.018	8.532	21,461	0.009	5.184
9	12,384	0.022	7.809	25,133	0.013	6.078
Highest	11,770	0.022	4.831	27,395	0.015	4.621

Long highest EAP and pattern 1 or 5, short lowest EAP and pattern 1 or 5:

One-month hedge return	t-statistics
0.026	7.093

Long EAP decile 8 or 9 and pattern 1 or 5, short EAP deciles 1 or 2 and pattern 1 or 5:

One-month hedge return	t-statistics
0.027	11.228

TABLE 8 (Continued)

Patterns of Earnings Acceleration

This table reports the portfolio and regression results testing the relation between earnings acceleration and stock returns, condition on different earnings acceleration patterns. See Table 1 for variable definitions. Standard errors are from a Fama-MacBeth estimation with Newey-West correction for up to six lags. t-statistics are reported in parentheses. ***, **, * indicate significantly different from zero at the 1%, 5%, 10% level, respectively.

Panel B: One-month value-weighted market-adjusted return

	VMAR				
VARIABLES	(1)	(2)	(3)	(4)	(5)
Constant	0.007***	0.007***	0.006***	0.007***	0.008***
	(3.949)	(4.085)	(3.568)	(3.852)	(4.184)
EGP	0.016***		0.006***	0.009***	0.011***
	(9.926)		(2.688)	(3.516)	(5.427)
DDEAP		0.002***	0.002***	0.003***	0.003***
		(3.222)	(3.720)	(3.094)	(3.141)
EAP		0.013***	0.013***	0.013***	0.012***
		(8.083)	(8.205)	(6.757)	(6.759)
EAP*DDEAP		0.020***	0.014***	0.012***	0.013***
		(7.847)	(4.590)	(3.578)	(3.647)
SIZE			-0.009***	-0.004	-0.005
			(-3.461)	(-1.283)	(-1.380)
TREND				0.003*	0.005***
				(1.897)	(2.880)
BM				0.014***	0.014***
				(4.382)	(4.425)
PASTRET				-0.010***	-0.009***
				(-3.246)	(-2.818)
GP				0.012***	0.013***
				(4.034)	(4.275)
ACC				-0.013***	-0.012***
				(-9.864)	(-9.364)
VOL				-0.011***	-0.012***
				(-6.452)	(-7.046)
AG1				0.001	
				(0.545)	
AG2					-0.002
					(-0.995)
Observations	355,573	377,620	355,492	244,864	244,864
R-squared	0.003	0.005	0.012	0.055	0.055
Number of groups	176	176	176	162	162

TABLE 9

Alphas and Factor Loadings on Portfolios Sorted on Earnings Acceleration

This table reports calendar-month average returns to portfolios sorted on earnings acceleration, and results of time series regressions of these portfolios' returns on the Fama and French five factors [the market factor (MKT), the size factor small-minus-large (SMB), the value factor high-minus-low (HML), the profitability factor robust-minus-weak (RMW), and the investment factor conservative-minus-aggressive (CMA)]. t-statistics are reported in parentheses. ***, **, * indicate significantly different from zero at the 1%, 5%, 10% level, respectively.

EAP deciles	Average raw return	Alpha	MKT	SMB	HML	RMW	CMA
Lowest	0.015***	0.004*	1.132***	1.180***	0.188	-0.613***	0.009
	(4.283)	(1.916)	(22.600)	(13.370)	(1.380)	(-6.082)	(0.040)
2	0.013***	0.002	1.086***	0.971***	0.236***	-0.173*	-0.117
	(4.506)	(1.335)	(32.250)	(15.136)	(2.709)	(-1.964)	(-0.961)
3	0.012***	0.001	1.069***	0.872***	0.147**	0.029	-0.163
	(4.49)	(0.777)	(38.848)	(15.812)	(1.967)	(0.338)	(-1.427)
4	0.013***	0.002**	1.056***	0.759***	0.059	0.106*	-0.063
	(5.048)	(2.164)	(58.170)	(22.714)	(1.323)	(1.827)	(-0.906)
5	0.014***	0.004***	1.040***	0.613***	-0.060	0.168***	-0.052
	(5.969)	(6.527)	(51.321)	(19.940)	(-1.421)	(3.866)	(-0.922)
6	0.017***	0.006***	1.054***	0.569***	-0.043	0.197***	0.005
	(6.976)	(9.445)	(60.761)	(20.356)	(-1.021)	(4.453)	(0.093)
7	0.017***	0.006***	1.060***	0.692***	0.013	0.091	0.029
	(6.825)	(8.468)	(48.754)	(18.080)	(0.221)	(1.424)	(0.509)
8	0.018***	0.007***	1.096***	0.792***	0.044	-0.010	0.090
	(6.871)	(8.752)	(37.940)	(14.381)	(0.627)	(-0.107)	(0.950)
9	0.020***	0.008***	1.097***	0.936***	0.158**	-0.139*	0.067
	(7.035)	(8.253)	(38.265)	(16.880)	(2.091)	(-1.756)	(0.664)
Highest	0.024***	0.012***	1.175***	1.152***	0.217	-0.451***	0.200
	(6.963)	(6.156)	(20.851)	(11.461)	(1.572)	(-3.147)	(0.959)
Highest - Lowest	0.009***	0.008***	0.044	-0.028	0.029	0.162**	0.191**
	(8.784)	(7.116)	(1.451)	(-0.550)	(0.481)	(2.219)	(2.018)