

How earnings reports affect the Market in the short term, using EPS and Pre-earnings momentum

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Intro

Earnings reports are one of the most important tools investors and analysts use to evaluate stock prices. They give a snapshot of the business income and help shape expectations about its prospects. In theory, if the company exceeds EPS expectations, the stock price would rise and if they fall below predictions the price should fall. In practice, however, price movement is influenced by far more than EPS surprise figures. Management guidance, revenue trends, sentiment, or broader market conditions all play a role. Furthermore, the price trend leading into the announcement may also affect how information is interpreted. This report combines both EPS surprise and pre-earnings momentum to evaluate whether either can be used to effectively and reliably predict market reactions. The analysis takes place over a short term, looking within ten trading days before and five trading days after earnings are released.

Data description

The data set contains 30 earnings announcements from the current Dow 30. Companies range from healthcare, technology and finance so each industry can be analysed. Each row represents a single earnings event, with figures all within the earning announcement date.

The main variables used include:

EPS Actual: The companies reported earnings per share

EPS Predicted: Analysts expected earnings per share

Earnings Surprise (%): Percent difference of expected and actual EPS

Price D – 10: Share price 10 trading days prior to earning announcement

Price D – 1: Share price 1 day prior to earning announcement

Price D-0: Share price on day of earning announcement

Price D+1: Share price 1 day before earning announcement

Price D+5: Share price 5 days after earning announcement

Pre-earnings momentum (%): Percent change from D-10 to D-0

D+1 Return (%): Short term percent change from D-1 to D+1

D+5 Return (%): Short term drift percent change from D-1 to D+5

Beat/Miss classification – Whether EPS exceeded or fell short of estimate

This data set allows analysis of both EPS surprise and pre-earnings momentum.

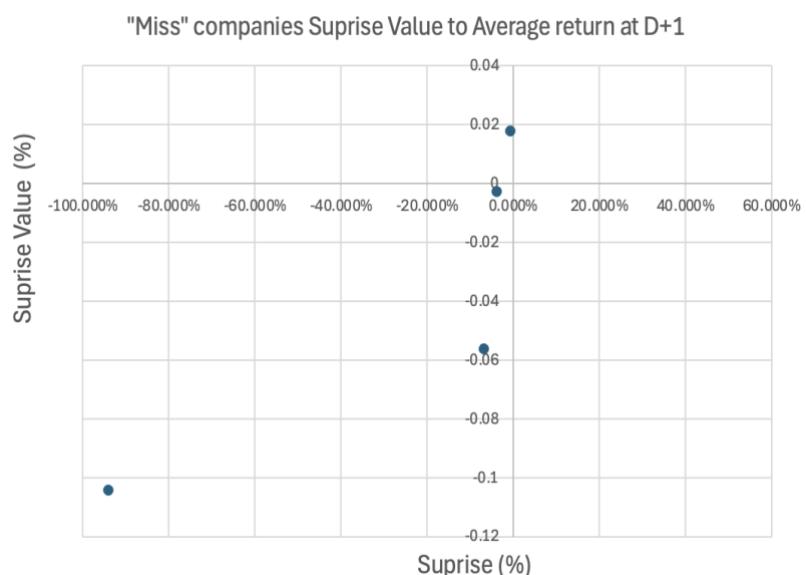
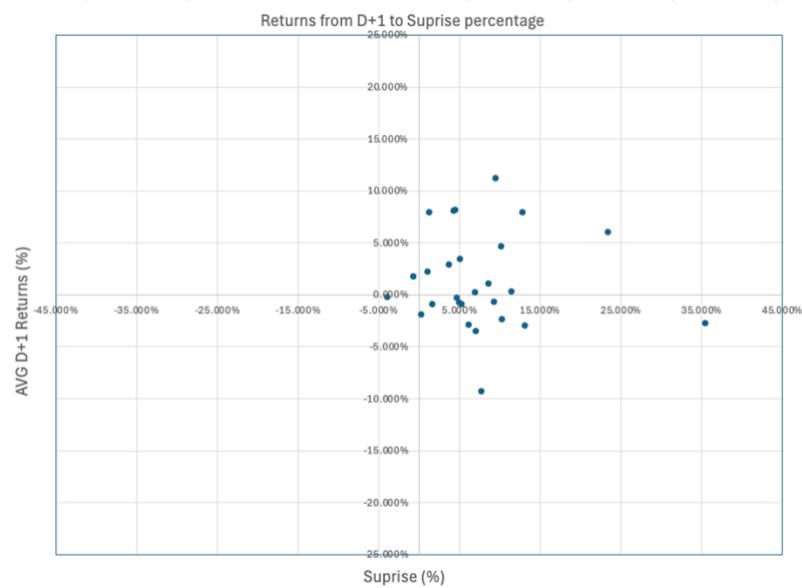
Analysis

EPS and Surprise

Firstly, focusing on EPS and Surprise, these values are used to find out how the company did it terms of its expectations. A positive Surprise value indicating a better performance than expected. Surprise values from the Dow 30 mostly ranged from -5% to 15%, however some outliers were found with values exceeding 80%.

Companies that had a positive surprise value (Beat) had an average return of 1.5% one trading day after the earning announcement, suggesting a positive correlation between the two. However, the individual returns for each company where varied, returns for Caterpillar where 11.1% but for Microsoft where -3%. The scatter graph illustrates the relationship between Surprise and returns on the next trading day (D+1). There is little to no correlation between the two. As the surprise value increases returns do increase on average, but some instances they fall.

On the other hand, with companies that had negative Surprise values (miss), there was some consistency. This graph just focuses on companies that miss. Here there is a slight tendency for lower Surprise values to give lower returns the next trading day, however this is not a guarantee. This suggests that perhaps companies that miss have a bigger impact on investors than companies that beat.



Post Earning Drift

PED is the tendency for stock prices to continue in one direction even after the earnings are announced, that can last for several weeks or months. However, this report focuses on the short-term effect of PED. From the dataset there is no correlation between the direction of stock price from D-0 to D+5 and the company being a beat/miss. Some companies produce downward trending stock prices regardless of their surprise value being positive. Values range from 9% increase after announcements to -6%.

Pre-earning momentum

Pre-earnings momentum represents the stock's price behaviour in the ten trading days before the earnings release. It shows whether the stock has been gaining or losing value ahead of the announcement. This metric is important because strong momentum can affect how investors interpret earnings results. Analysis of pre-earnings momentum showed no clear or consistent relationship with next-day returns. Some stocks with strong upward momentum experienced declines after earnings, while others continued rising. Similarly, stocks that had fallen before earnings sometimes rebounded and sometimes continued downward. Although momentum appeared slightly more related to returns than EPS surprise, the effect was weak and highly inconsistent. This suggests that short-term trends before earnings do not reliably predict how investors will respond to the actual announcement.

Discussion

The findings of this analysis highlight the complexity of how markets react to earnings announcements. While theory suggests that positive surprises should lead to immediate price increases and negative surprises to declines, behaviour observed in the dataset is far more inconsistent. EPS surprise alone proved to be a weak predictor of short-term returns. Even companies with strong beats sometimes fell the next day, while companies that missed occasionally produced positive reactions. This shows the reality that earnings announcements involve a wide range of information beyond the headline EPS number.

Investor reaction is often shaped by forward guidance, revenue performance, margin trends, macroeconomic conditions, or sentiment expressed during the earnings call. These elements can outweigh the EPS

figure and produce reactions that seem counterintuitive when looking only at the surprise value.

The analysis of pre-earnings momentum provided similar results. Although a rising stock price before earnings might suggest positive sentiment, the post-announcement reaction did not show a consistent continuation. Stocks with strong momentum sometimes declined after earnings, while others continued rising. Likewise, downward-trending stocks occasionally rebounded but frequently continued to fall. Momentum showed slightly more relationship with returns than EPS surprise, but the effect was still weak.

Overall, the results reinforce that short-term earnings reactions are highly noisy and influenced by multiple interacting factors. Neither EPS or Pre-earning momentum are sufficient to explain price movements.

Conclusion

This report set out to determine whether EPS surprise or pre-earnings momentum could be used to effectively and reliably predict short-term reactions to earnings announcements. Using a dataset of 30 earnings events from the Dow Jones 30, the analysis examined next-day (D+1) and five-day (D+5) returns in relation to these two metrics.

The results show that neither factor offers a strong or consistent ability to predict share prices. EPS surprise displayed almost no correlation with next-day returns, with positive surprises sometimes leading to declines and negative surprises sometimes resulting in gains. Pre-earnings momentum demonstrated slightly more influence but was still highly variable, offering no reliable indication of direction or magnitude of post-announcement movement. Post-earnings drift was also weak, with no clear pattern of continuation or reversal.

In summary, while earnings announcements are undeniably important market events, the short-term price reaction cannot be understood or predicted using EPS surprise or pre-earnings momentum alone. Earnings reactions are multi-factor and depend heavily on qualitative guidance, broader market conditions, and investor sentiment at the time of the announcement.

Limitations

Although the findings provide useful insights into short-term earnings behaviour, several limitations should be acknowledged:

Small Sample Size: Only 30 companies were analysed, which limits the strength of the conclusions.

Single Earnings Period: The dataset includes only one earnings release per company, not multiple quarters, which prevents identifying longer-term patterns.

Limited Metrics: EPS surprise was the primary measure used, while other key factors (revenue surprise, guidance changes, cash flow, margins) were not included.

No Sector Segmentation: Different industries react differently to earnings, but this analysis treated all companies equally.

Short Horizon: The study examined only up to five days after earnings, while academic literature often analyses 30–60-day drift.

Macro Conditions Ignored: Market wide events can overshadow earnings reactions.

These limitations mean the results should be interpreted as exploratory rather than definitive.