

Original Research Article

Analyzing Investor Sentiment, Monetary Policy Shocks, and Company Fundamentals Impacts On Stock Returns

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ABSTRACT

What factors impact stock prices the most has always been a mystery in our world. Up till this date, nobody has come up with a foolproof way of predicting the market. Consequently, the impact of various economic factors on stock returns should be analyzed to determine which factor will influence the market the most. This research studies the core factors affecting the stock market for the finance and technology sector. Utilizing linear regression and data from different sources, the study evaluated the factors of company earnings, consumer sentiments, and monetary policy shocks in relation to changes in stock prices for technology and finance companies. However, the analysis is illustrative and does not establish causality. It is found that monetary policy shocks usually have the biggest influence on stock prices both negatively and positively compared to other factors.

Keywords: Monetary policy shocks; Company earnings; Investor sentiments; linear regression; Stock returns; Company fundamentals; Federal Reserve

INTRODUCTION

Predicting stock prices in a non-ceteris paribus environment is inherently challenging. “Financial markets are widely regarded as complex adaptive systems in which prices reflect a continuous process of information aggregation and interpretation” (1) Only limited research has examined what truly affects stock prices the most. Be it company fundamentals or market sentiment, each contributes to market movements. Company fundamentals are important in influencing investors to buy the company’s shares. A weak company fundamental causes investors to

have less confidence in the company and a good fundamental will raise investor optimism in investing. On the other hand, behavioral factors may include phenomena like herd behavior, where investors mimic the actions and decisions of a larger group buying or selling assets just because others are doing so, rather than performing their own independent analysis. Furthermore, an overreaction to news may also cause investors to overbuy or oversell their shares, giving rise to overvalued/undervalued companies. Additionally, as the Reserve Bank of Australia explains (2), monetary policy, expected or not, is so incredibly important because its impacts encompass employment, inflation, economic growth, and more, having an effect on virtually everyone. This suggests the importance of monetary policy announcements by the Federal Reserve since it can impact the economy as a whole rather than just impacting specific sectors or companies. For millions of people investing or working in the many sectors of the economy, be it finance or tech, the

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impact of company fundamentals, monetary policy surprises as well as behavioral factors is important for them to understand the health of their investment and the health of their sector of employment. This paper puts competing theories to the test by assessing their explanatory power for stock returns. It aims to examine how company earnings, monetary policy shocks, and investor sentiment collectively influence stock prices in the technology and finance sectors.

In this study, three key factors are considered. The company earnings, monetary policy surprises (MPS), and market sentiment as representative drivers of stock price movements from the fundamental and behavioral domains. Company earnings are a core fundamental metric. Changes in earnings and earnings announcements typically have direct impacts on a stock's valuation. Similarly, monetary policy surprises capture unexpected changes in central bank policy, such as interest-rate decisions, which can shift stock prices by influencing investment and consumption. Research shows that unanticipated rate moves by the Federal Reserve can significantly sway equity markets, with particularly strong effects during periods of economic stress. On the behavioral side, market sentiment refers to the overall mood and expectations of investors. High optimism or pessimism can drive prices above or below what fundamentals would justify in the short run. In fact, the question is no longer whether sentiment affects stock prices, but how to measure and quantify its influence. New metrics like Google Trends offer a proxy for investor attention, and studies find that spikes in search interest correlate with surges in trading activity and volatility, helping improve forecasts of market movements. By examining earnings, MPS, and sentiment together, a holistic view of both rational valuation factors is captured and the irrational exuberance or fear that can grip markets.

The analysis focuses on U.S. technology and finance firms listed on NASDAQ and NYSE. Data analysis includes analyzing the fluctuation of different stock prices of major finance and tech companies. Linear regression is used to examine the extent of impact that each factor has on the stock prices for various tech and finance companies.

Section 2, the Literature Review, delves into past studies exploring the intricate relationship between company fundamentals and behavioral factors with stock market returns. It will examine the effects of the three different factors on stock returns and put this study in a research gap. Section 3, the methodology, will outline

the process of data collection, detailing the sources and methodologies employed to gather relevant datasets encompassing daily stock data for various sectors and indices, as well as data on stock prices following different changes in respective factors. Section 4, the data analysis, will explain the analytical approach utilized to investigate the correlation between the different factors employed and how it will affect sectoral stock returns over the course of a few years. It will explain the regression analysis conducted to extract key insights from the data. Next, section 5, the conclusion, will summarize the entire paper and will include how other researchers can complement this research.

LITERATURE REVIEW

This work is related to three different strands of literature. The first one investigates how surprises in companies' earnings affect stock returns. For instance, (3) wrote that a stock's expected return is determined solely by its market beta β . They identify market capitalization and book-to-market ratio as strong predictors of average returns for stocks. Stocks of small firms and firms with high book-to-market ratios systematically earn higher average returns, even after controlling for beta. Furthermore, (4) found that firms with the largest positive earnings surprises earn abnormally high returns for several months after the announcement. Firms with the most negative surprises experienced negative abnormal returns over the same horizon. However, this study lacks the up-to-date data for company's respective earnings as well as lacking data for the majority of technology companies. Hence, this study will provide an updated study regarding the impact of company fundamentals on stocks.

The second study examines the effects of monetary policy on the stock market. The first rule that is known is that stock prices and monetary policy shocks are not independent of each other. Being one of the first to show this, (5), found that monetary policy is not neutral and does in fact impact stock prices. (6) reveal that high-frequency regression estimates for asset prices (bonds, stocks) remain almost unchanged when the researchers use conventional or orthogonalized surprise measures. Other examples include (7), where it was found that short-term interest rate increases cause stock prices to fall and shift the yield curve upward. This suggests that interest rates have an inverse relationship with stock prices. According to (8), it stated that "In every case the evidence indicates that expansionary policy increases

ex-post stock returns” (p.1). This means that every piece of evidence shows that there is a positive correlation between monetary policy surprises and stock returns. These conclusions are further supported by (9), who also found similar results to (8). However, it lacks the effect on stock prices when monetary policy shock is coupled with other factors like company earnings announcement or investor sentiments. Some factors may outweigh the others, causing stock returns to be different from expected. Thus, this research will bridge this gap by analyzing the combined effects of various factors on the various companies being examined.

Now, there has been much research conducted on the impacts of behavioural drivers of stock markets. Furthermore, for the investigation of how sentiments impact stock returns, we can look at (10). In his essay, it was found that investor psychology like stories, narratives, and emotional behaviour, affects prices beyond fundamentals. The feedback mechanisms amplify sentiment: rising prices draw more attention, fueling further price increases. Furthermore, looking at (11) which seeks to explore how emotional states like fear, greed and excitement can influence investor sentiments and eventually stock prices. It builds on behavioral finance critiques of the Efficient Markets Hypothesis, which argue that investor psychology frequently leads to systematic deviations from rational market behavior. It was found that positive mood correlated positively with performance of the stocks, while negative mood correlated negatively with it.

While existing literature has extensively explored the effect of various factors on stock returns, many studies did not really go on to determine which of the individual factors affected stock return rate for the tech and finance sector companies. Hence, this study aims to fill the gap in current research by examining the tech and finance sector response to changes in each of the three factors listed(monetary policy shock, investor sentiments, and company earnings), providing a more up-to-date and clearer comparison between how these factors impact stock returns. This is important because prior research did not touch on the relative impacts that each of these three factors has on financial and technological companies specifically.

METHODS AND MATERIALS

Data had to be collected first in order to answer the question on how company fundamentals, the state of the economy and behavioural factors affect stock prices. The

stock data for the respective companies were downloaded from Yahoo Finance from September 30 2020, till June 13 2025 using the finance Python library: Apple (AAPL), Amazon (AMZN), Broadcom (AVGO), Bank of America (BAC), Citigroup (C), Alphabet (GOOG), Goldman Sachs (GS), JP Morgan (JPM), Meta (META), Morgan Stanley (MS), Microsoft (MSFT), Nvidia (NVDA), Palantir (PLTR), US Bancorp (USB) and Wells Fargo (WFC). This choice for the time window is due to the fact that one of the stocks included in the data set, PLTR, only IPO-ed on the date of September 30th, 2020. The companies mentioned above are major representatives of the tech and finance sectors. Thus, data from these stocks is sufficient to cover the tech and finance space in the economy. Monetary policy shocks represent an aggregate shock to the state of the economy. This study uses the numerical measure proposed by (6). Their definition of a monetary policy shock is beneficial for this paper because it expands the definition to include the Federal Reserve’s reaction to news, along with speeches made by its chair, Jerome Powell, “which essentially doubles the number and importance of announcements”. Additionally, the data on sentiments was obtained from Google Trends using the Python library `pytrends`. This provides us with information regarding which particular stocks were trending during a specific period of time between 2020 and 2025.

The first step in identifying the relationship between the three factors is to obtain the data above for each of the factors. The dataset was also cleaned to get rid of errors since monetary shocks and company earnings are not announced every day. Through the utilization of Python, data for stock prices of major tech and finance companies was extracted through Yahoo Finance from 2020 to 2025. The extraction of earnings data came from Yahoo Finance, and consumer sentiments came from Google Trends.

Earnings news is measured as earnings surprises: $ES_{it} = (\text{Actual EPS} - \text{Consensus EPS})$. For the values of Google Trends collated each day, the higher the value displayed each day signals a higher search intensity for the specific company. Higher search intensity will mean that investors are looking more into that specific stock, leading to a chain reaction of investors pouring funds into the stock, eventually leading to an increase in price.

To report the relative popularity of a keyword from Google Trends on a 0–100 scale, normalized to the peak search interest within the selected time window. For each firm i and week t , an Abnormal Search Volume Index (ASVI) is constructed as

$$ASVI_{i,t} = \log(SVI_{i,t+1}) - \log(\text{Median}(SVI_{i,t-8:t-2}) + 1)$$

where $SVI_{i,t}$ denotes the Google search volume index for the firm's ticker or name, and the median of the prior 8-to-2 weeks represents the normal level of search activity. The logarithmic transformation captures proportional changes in attention, while the median filter smooths short-term noise and accounts for seasonality in search behavior.

Because Google Trends scales each query independently, values are rescaled within firms and over time before comparison. To ensure comparability across firms, ASVI is further standardized by each firm's sample-period standard deviation. Thus, positive ASVI values indicate unusually high public interest relative to the firm's recent search history, while negative values reflect abnormally low interest.

The frequency of data varies across the different factors of impact. For instance, company earnings are reported once every three months. Tech companies usually report their earnings in the evening 4-6 pm, and finance companies report them early in the morning, at 6-7 AM. Following this, data extracted from the three different factors were organized and collated under a single table. These factors serve as independent variables and the stock prices of each company under examination will be the dependent variable. Linear regressions of stock returns on each factor were then estimated: earnings surprises, monetary policy surprises, and change in sentiment:

$$r_{it} = \beta_{10} + \beta_{11} ES_{it} + \beta_{12} Sch_{it} + \beta_{13} MPS_{it} + \epsilon_{it}$$

where for company i in day t : r_{it} is the stock return

measured as the percentage change in stock prices, ES_{it} is the earning surprise, Sch_{it} is the change in sentiment measured as daily change in the Google Trends value, MPS_{it} is the monetary policy surprise, and ϵ_{it} is an error term that captures the unexplained part of stock returns.

Additionally, the significance level of this study is set at 5%. If the average P-value calculated for each company is < 0.05 , the result is said to be significant.

RESULTS

After conducting each regression at the company level, these are the corresponding results for the relationship between monetary policy shocks, company earnings and investor sentiments with the intraday value of the stock for each company. Table 1 and 2 below show the results of linear regression between the three factors (company earnings, consumer sentiments and monetary policy shocks) and the stock prices of respective tech and finance companies. From the data seen by Google in Table 1 for instance, if the earnings surprise goes up by one percentage point more, then the stock return will increase by 0.023 percentage points. If the change in sentiment is one percentage point higher, then the stock return will increase by approximately 0.4 percentage points. However, it is also important to note that it may be the other way around, where the positive investor sentiments are caused by positive stock returns. To determine the coefficient for this situation, we can utilize the same coefficient. Lastly, if the monetary policy surprise is higher by the equivalent of the Federal Reserve raising the Fed funds rate (interest rate) by 0.1 percentage point more than what the market expected, then the stock return will decrease by $0.1 \times (-1.02) = -0.102$ percentage points."

Table 1. Regression Results for Technology Companies

Tech Company	Earnings	Sentiments	MPS Surprise	Overall ASVI	Average R-squared	Average p-value
AAPL	-0.0286	0.2613	2.296	-0.370	0.983	0.053
AMZN	0.0006	0.7433	8.722	-0.331	0.992	0.011
GOOG	0.0235	0.3922	-1.021	-0.133	0.862	0.062
META	-0.0140	0.5023	5.509	0.004	0.924	0.033
AVGO	0.1389	0.9196	6.537	-0.414	0.836	0.024
NVDA	0.2689	0.3706	15.399	-0.340	0.993	0.014
PLTR	0.0217	0.3706	14.129	0.211	0.984	0.018
MSFT	0.0398	0.2228	6.831	-0.327	0.889	0.017

Table 2. Regression Results for Finance Companies

Finance Company	Earnings	Sentiments	MPS Surprise	Overall ASVI	Average R-squared	Average p-value
GS	0.0330	2.100	-8.550	-0.002	0.935	0.025
JPM	-0.0061	0.194	-1.230	-0.278	0.944	0.053
C	0.0041	0.297	-1.199	-0.014	0.895	0.067
MS	0.0237	-0.509	-4.605	-0.025	0.993	0.019
WFC	0.0480	1.039	-6.890	-0.219	0.823	0.012
USB	0.0309	-0.001	-4.957	-0.000	0.977	0.028
BAC	0.0330	2.100	-8.550	-0.059	0.995	0.011

DISCUSSION

After examining this, a few things stand out. Firstly, from the linear regression seen, it is obvious that MPS surprises mostly had the greatest impact on stock return rates. As seen from Tables 1 and 2, monetary policy shocks mostly have the greatest impact on the stock prices, impacting most company stocks by more than 5%. However, referring to tables 1 and 2, a constant pattern noticed is that monetary policy shocks tend to negatively impact finance companies while positively impacting technological companies. As shown in Table 1, the regression coefficients for technology firms under MPS suggest a positive value while those under finance firms in Table 2 suggest a negative value. This can be due to the fact that tech firms are less dependent on credit spreads and bank lending conditions compared to finance. So they benefit relatively when the Fed signals stability. Furthermore, the extent of impact on tech companies is larger compared to the impact on finance companies. When the central bank conducts a monetary policy shock that is receptive to a contractionary policy, investors in the entire finance sector will see decreases in their portfolio values. This is because contractionary monetary policy often results in the tightening of credit through increased interest rates, increased unemployment, reduced business investment, and decreased consumer spending due to the higher costs of borrowing (12).

Additionally, because most stocks have p-values < 0.05, there is sufficient evidence at the 5% to conclude that there is a noticeable impact that these factors have on the stock prices of each company. Sentiment changes did not have such a significant impact on stock prices compared to monetary surprises. The impact it has on Palantir (PLTR) is a stock price increase of

approximately 3%. This can be due to the fact that PLTR stock is gaining traction recently due to its mystique of a Secretive, “CIA-Linked” Company, pushing investors to invest in the stock, causing it to be extremely overvalued. Additionally, it was found that PLTR was the most overvalued stock in the S&P 500.

Lastly, company earnings have one of the smallest impacts on stock prices. Most of the percentage change of stock prices due to company earnings was <1%. A potential limitation of the analysis is the frequency mismatch between quarterly financial variables and daily stock returns. Quarterly earnings data reflect aggregate performance over three months, whereas stock returns fluctuate daily in response to both firm-specific and market-wide news. This mismatch may introduce timing-related bias or reduce comparability across firms. However, to test the robustness, the analysis uses returns around the earnings announcement, which will capture the immediate impact on the stock price more effectively. Therefore, investing in the technology sector would be preferable, should there be any rumours of monetary policy announcements.

CONCLUSION

This paper explores how fundamental and behavioural factors drive stock returns in the tech and finance sectors between September 2020 and June 2025. By analysing earnings surprises as a fundamental variable, monetary policy surprises derived from high-frequency measures, and market sentiment proxied by Google Trends, linear regression models were applied to a panel of major U.S. technology and financial firms. The analysis indicates that earnings surprises are often statistically significant but modest in magnitude, whereas sentiment effects are more variable

across firms and periods. In contrast, monetary policy surprises exert a negative influence only on financial firms, indicating that unexpected rate hikes reduce stock returns, consistent with the literature that links tighter monetary conditions to lower equity valuations.

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CONFLICT OF INTERESTS

The author declares that there are no conflicts of interest regarding the publication of this article.

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