The Cave: Evidence and Consequences of Earnings (Mis)management

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Contents

1 Abstract

We study the effect of macroeconomic earnings conservatism on stock reactions to subsequent earnings performance. Using FedEx and UPS as a prominent case of quasi-duopolists with similar business characteristics, we demonstrate how FedEx's early pessimism about future macroeconomics contributed to a more pessimistic street expectation and positive price performance upon subsequent earnings releases compared to UPS, a similar business that expressed early optimism. To extrapolate, we developed a systematic AI-driven model of the difference in street views as a result of different company commentaries. We encourage future work to be done on corporate earnings sentiment and its effects on share price.

Keywords: Earnings management, conservatism, stock reactions, oligopolistic markets, FedEx, UPS

2 Introduction

This thesis aims to show how differing macroeconomic outlooks between FedEx and UPS, despite near-identical operational profiles, can reset investor expectations and lead to varied price reactions. Specifically, we test three hypotheses regarding (a) the presence of outlook discrepancies, (b) whether those discrepancies shape Street consensus, and (c) how final earnings surprises influence share prices.

Ultimately, our research shows how differences in conservative macro guidelines initially lead to lower share price expectations and larger positive price movements upon subsequent earnings beats, while UPS's optimistic outlook produced the opposite effect. We use Visa and Mastercard as a counterexample to the example involving FedEx and UPS above.

3 Valuation and Price

The stock market is arguably one of the most important institutions in modern society. The vast majority of mature companies in the U.S. and a large portion of innovative, high-growth companies seek financing through listing on U.S. exchanges. This strategy improves the liquidity available for the investment, brand, financing, and governance outcomes of public companies; reciprocally, companies by law and in general practice reinvest such proceeds into high-return growth projects, such as PPE purchase, acquisitions, R&D, and marketing.

Prices are the most important phenomenon in stock markets. Public markets generate the benefit of exchange by matching willing buy and sell parties whose prices usually, and especially in the mid to long term, converge to the fair value of stocks.

Valuation transmits information to price. Discounted Cash Flow (DCF) analysis is a fundamental and theoretically sound approach (45; 49; 47). A business' free cash flow (DCF) is the cash that is after operations and maintenance investing activities, available for dividend distribution or additional growth investment. A rational investor would invest in companies that are valued equivalently to the discounted future free cash flow that it will generate (48; 46). There is a broad agreement among market participants that sound valuation methods are equivalent to DCF (52; 53).

If a research analyst or investor can perfectly predict with quantities and probabilities the future cash flow of a business, then the price will only change when new information affects such cash flow projections. There is little evidence that a mature business without major restructuring, distress, transformative M&A, or strategic fails to follow this valuation method. We assume that this is the case with our investigation.

4 Rationality and Efficient Market Hypothesis

Price reacts to information arrivals and revisions. This may include factors including updates on historical and earnings outlook. For information to move price materially, there must be significant surprises in existing expectations on future earnings performance.

4.1 Efficient Market Hypothesis (EMH)

EMH posits that prices ”fully reflect” all available information (**?**). Given that the arrival of new information is unpredictable, a significant corollary of this hypothesis is that investors cannot consistently achieve risk-adjusted returns above market average.

This claim sets a too high a benchmark for empirical tests. So, Fama (1970) separated the claim into three levels: (1) strong form that includes in current prices all information, both public and private, (2) semi-strong form that includes all publicly available information, including earnings releases and CEO guidance, and (3) weak form that includes all information contained in past trading data, such as historical prices and trading volumes. Although none of these versions are always true, they frequently are, and we are interested in the specific circumstances where they are not. As Seth Klarman, CEO of Baupost, one of the best-known investors, puts it, ”value investing is predicated on the efficient market hypothesis being wrong” (17).

The strong form is violated by clear evidence of insider trading. Some corporate insiders are able to earn statistically significant abnormal profits when trading shares in their own companies, especially before positive or negative news releases (13; 22; 23). Our paper will not engage in further supporting this view because insider trading is a manifest fact. However, we note that corporate insiders are often deemed to have the best knowledge of their businesses, which, through truthful transmission, will inform market beliefs. This point provides a logical link to our investigation of earnings release and the reaction of equity consensus.

The weak form is contradicted by unidirectional drifts in trading prices in the absence of earnings or other informational catalysts. Momentum effects are a tendency for assets that have performed well in the past to continue to outperform and for past losers to continue to underperform (14). In contrast, securities industry practitioners often use concepts such as ”mean reversion” to describe the tendency of a stock that has deviated from a risk-adjusted valuation multiple to return to fair value. Our thesis provides case studies that can both be explained by

The semi-strong form fails to account for times when the markets react slowly, incompletely, and inconsistently to publicly available information. The discussion of semi-strong is arguably the most important because the strong and weak forms are clearly disproved, and the strategies to exploit such inefficiencies either require illegality to face criminal consequences or high technicality to capture thin margins. However, inefficiencies in the semi-strong form can be exploited by any experienced investor, including retail.

Post-Earnings Announcement Drift (PEAD) is a phenomenon in which, after earnings announcements, a stock drifts in the direction of an earnings surprise for a period of up to a few months (6; 8; 9).

Another example involving multiple stocks is the Siamese twins. For corporate finance, including fundraising, investor risk management and diversification, and regulatory purposes, investors divide securities of one firm's ownership into a set of twins. The economic interests of the two are identical, but the valuations differ significantly, for instance, in the case of Royal Dutch Petroleum / Shell Transport and Trading PLC, Unilever NV / Unilever PLC, SmithKline Beecham, Elsevier NV / Reed International PLC, Molex common / Molex Class A, and 3Com / Palm stub (21; 11; 16). However, this series of work has not yet discussed market inefficiencies between several stocks caused by earnings releases.

Our research complements the existing literature by investigating how the stock market misassessed the content of earnings releases between different stocks.

4.2 Explanations for Market Inefficiencies

Although our paper has no intention of proving the explanations for market inefficiencies, it has implications.

Theories of human behavior are appropriate. The stock market is the composition of the consensus of traders and investors (30). Participants anticipate valuation changes and express their views through buys and sells. The aggregation of human interactions that behavioral features will serve the purpose to explain why irrationality exists.

Kahneman and Tversky (1979)'s prospect theory found that investors are often risk-averse when faced with potential gains but risk-seeking when faced with potential losses, pioneering behavioral theories. Prospect theory is a more appropriate framework to explain risk than traditional in many cases, proven mathematically and empirically (28; 29; 34). The historically high premium earned by stocks over bonds can be explained if investors are loss-averse and evaluate their portfolios frequently (myopically). Frequent evaluations increase the importance of potential short-term losses, and loss-averse investors demand a high premium to compensate for the frequent psychological pain of observing these losses, even if transient.

Furthermore, they theorized that the frame of an announcement will affect people's perception of decisions (27). People tend to segregate different types of wealth or transactions into separate "mental accounts" (e.g., 'gainer stock,"speculative stocks,' 'operationally challenged business services company') and apply different decision rules to each (42; 41). Investors may see a business operating and present financial metrics in a similar way; however, the way CEOs talk about such behavior will frame the story differently and cause a difference between an optimistic and pessimistic prospect. For example, FedEx has a reputation for providing more conservative guidance; however, for many, this frames the company in a more conservative light (43). Both prospect and framing theories are critical to understanding our case of interest.

5 Forward-Looking Statements and Conservatism

Our research aims to investigate how macroeconomic guidance in CEO earnings-related releases affects stock market expectations and subsequent stock market performance.

We believe that our independent variable of management macro guidance during earnings has not been directly studied in the existing literature. Our method of using equity research sentiment as a proxy for street views after earnings is a deviation from the surveyed literature.

5.1 Earnings Management

SEC filings and earnings releases are an adequate proxy for material information. These are written following mandatory rules and discretionary judgments. SEC regulations require that public companies disclose quarterly financial results through Form 10-Qs. 10-Ks are annual releases, but contain fourth quarter results. Most mature publicly traded companies in the U.S. couple these mandated releases with earnings releases, where they will comment on existing results and provide an outlook on future earnings potential. Public market research organizations, the most important groups of which are referred to as 'sell-side research', and investors tend to follow these quarterly results and update their outlook on companies accordingly.

Practitioners regard these public filings and releases as one of the most important sources of information for valuation. Value investors have written in length the methods of using fillings to estimate and project corporate earnings and valuation (54). Management is highly focused and often pressed by these quarterly events. The most prominent example is Dell Technologies. In 2012, investors became acutely concerned about the Dell PC business and began to project a single digit YoY decline in all its business segments, except servers (55; 56). Dell was known as the direct PC company; now it wants to be an end-to-end solutions player with a mid-tier design point. That has not shown itself in high incremental profits. The share price has significantly underperformed on earnings loss and weakening guidance (57; 58; 59). Michael Dell felt distracted from managing investor relations, pressed, and afraid that a stock decline would dampen morale and harm his ability to turnaround the business and raise funds for investments in new server, storage, networking, and software businesses and to capture the virtualization trend (60). Within the tech vertical, earnings misses have been the reasons for take-private transactions of Compuware, BMC, ClickSoftware, Pluralsight, SailPoint, Smartsheet, and many others. This resulted in one of the largest software take-privates. In most cases, public markets provide better financing for most companies. A greater understanding of investor communications would have benefitted many companies and alleviated the pain and panic of missing earnings.

Currently, there is little academic research on how earnings conservatism affects subsequent earnings reactions and price performance. This may be attributed to a few factors: (1) It is difficult to disaggregate various factors and isolate independent variables. Broader factors, including industry, company, and market structure variables, may be used to explain pricing. In the cases of most stock performance, there is no feasible way to prove our thesis convincingly. (2) Most companies hand over earnings management to finance departments and investor relations professionals. They do have reason to exhibit individualistic characteristics of earnings conservatism. (3) There is a lack of a consistent methodology to detect earnings conservatism.

Related research includes studies on earnings management, mostly using auditors' choices and counting of discretionary accounting changes such as accruals as independent variables. Little work is done on general corporate guidance as an independent variable. Pioneers (61) and (62) suggested earnings are managed before public offerings. (63) nuanced small and larger firms and argued that earnings management exists mainly, if at all, among the former. (64) showed most IPO firms manage earnings using discretionary accounting choices, proxied by factors that include the ratio of change in nonstandardized discretionary accruals to the absolute value of net income. (65) found firms with positive accruals reported in the first fiscal year experience poor stock performance over the next 3 years. (66) showed companies that launched an IPO in Canada leveraged discretion to move reported earnings closer to expectations at IPO. (67) found companies that adjust earnings upward before secondary equity offerings and innovatively argued its connection to the manipulation of shareholder lawsuits. These findings provided context on the importance of earnings beats, but they all invariably focused on equity offerings as a terminus a quo and ignored whitespace in research stock performance throughout the listing time of a company.

Studies on conservatism and stock performance have mostly focused on crashes. (68) distinguishes ”good and ”bad news, arguing earnings are more timely or concurrently sensitive in reflecting publicly available ’bad news’ than ’good news.’ A company may hold or accumulate bad news until the stock price crashes once it is released (69; 70). This dynamic is mitigated by auditors who can manipulate earnings through higher standards of verifiability, known as ’conditional conservatism’ (71) found that the degree of earnings conservatism is significantly negatively correlated with the probability of future price crashes. However, there is little discussion of whether management may take their own initiatives in managing earnings through conditional conservatism.

An understudied area of conservatism is guidance in a more qualitative form, such as a pre-release, profit warning, and comments during earnings calls. These are critically important, especially for stocks with macro exposure, such as bank stocks, transportation, retailers, food & beverage, and logistics stocks. For example, JPMorgan’s COO Daniel Pinto said that ’NII expectations are a bit too high, next year will be a bit more challenging’ in September 2024, causing the stock to crash 5% and remain so until the next earnings are filled (74). Academic research understands the goal of these warnings to reduce information asymmetry (72). Some research further suggests that such warnings do not provoke excessive reactions, as there is no evidence of reversals within the 11-day post-warning period (73). This line of research is faulty because it fails to find adequate cases to measure the effects of warnings on long-term price reactions, such as the next earnings call, which is usually 1 to 3 months from the warning date.

Our research intends to investigate how macroeconomic guidance in CEO's earnings-related releases affect stock market expectations and subsequent stock market performance against those of the stock market.

6 Hypotheses

We are interested in 3 questions: (1) Does there exist a noticeable discrepancy between companies on the outlook for macro and its effects on earnings? (2) Do management macro-outlook differentials create further discrepancies among street consensus on companies' future outlook? and (3) How does the stock price react differently in the subsequent periods? Therefore, we posit 3 hypotheses from our case study:

1. There is no noticeable discrepancy between the macroeconomic outlooks of companies and their effects on corporate earnings, that is, there is no macroeconomic conditional conservatism.

2. Such a discrepancy will not correlate with discrepancies among Street consensus on the companies, which means that Street is rational to be consistent in macroeconomic assumptions across the 2 companies.

3. The stock price will not negatively react to differences in street consensus; that is to say, the buy side will not be surprised by the results of the earnings after macroeconomic conditional conservatism.

6.1 Methodology

Given the homogeneity of the valuation method, information that causes similar changes in the future earnings potentials of different securities for two securities with similar discount rates will have similar valuation effects. Therefore, under EMH, the fair valuation of securities by investors incorporates such valuation effects similarly. We want to investigate how differences in a similar event (macroeconomics) will affect stock performance differently due to differences in street perceptions.

The difference in the street view of corporate earnings can be proxied by sell-side research and earnings expectations.

Sell-side research is an important institution where investment bank research departments publish updated market views that qualify and quantify the effect of new information on earnings expectations. Typical sell-side research contains a company overview, thesis, recent performance updates, and valuation. Most market participants follow the research of the sell-side to determine their fair valuation. Therefore, we regard research on the sell-side as a proxy for street consensus. A scan of sentiment from research reports can serve as a good estimator of street view changes; an adjusted average of projection numbers in the research report can help anchor whether stock results will surprise investors positively or negatively.

Earnings expectations are sell-side line item-level expectations of particular quarters' financial results. For most companies (with the exception of high-growth software companies), such expectations are consistent with most investors'. All earnings expectations data are obtained from the LSEG Refinitiv dashboards, unless otherwise specified.

We obtain share price data from Yahoo Finance's "historical data" section. We only use "Adj. Close" for each day's stock price.

A case study format is appropriate given the lack of high-quality samples. We cannot find many equivalently comparable cases like FedEx and UPS out of the top 500 U.S. publicly traded companies. More rarely, these have distinct management cultures that allow for a divergence of outlook projection on a distant, intangible factor, macro.

7 Case Study: FedEx vs. UPS

My study focuses on the effects of earnings releases from two very similar duopolists on the stock price reaction of subsequent earnings: FedEx and UPS.

The pair of businesses is unusual and ideal for our inquiry because they are very similar. These delivery service companies deliver packages through trucking and air freight and operate in a duopoly with high product substitutability. There is no sizable package delivery service geared towards both retail and small-sized commercial use other than FedEx and UPS. DHL is a much smaller player; XPO and SAIA are geared for LTL and logistics; e-commerce delivery businesses are fundamentally a different category because their value is derived from a convenient form of e-commerce goods delivery with a universal speed demand and vendor-friendliness, making them substitutes instead of direct competitors. Consumers are indifferent to using FedEx or UPS for package delivery services, and businesses will choose mainly based on pricing and reliability. Since reliability is roughly equivalent or generates no material competitive advantage, pricing homogenizes. This view is corroborated by the fact that FedEx and UPS earn roughly equivalent contribution margins (defined as revenue minus compensation and benefits, repairs and maintenance, and fuel). Both companies face a high level risk with the increase in e-Commerce insourcing, notably driven by Amazon, where there is no reason to project a materially disparate effect of e-Commerce (83).

FedEx and UPS earn proportionately similarly from the same business segments and geographies. For 2022, FedEx earns 72% of its revenue in the United States and 28% internationally; UPS earns 79% and 21% (84; 87; 117; 118). Segmentally, FedEx derives 43% of its revenue from Express Air and 48% from Ground; UPS derives 43% from its equivalent of the FedEx Express Air business and 50% from its ground equivalence. Within Express Air, FedEx derives 38% of its total revenue from the Packages business, 45% of which is in the U.S. and 55% abroad, and 5% from Freight, 40% of which is in the U.S. and 60% abroad. Within UPS' equivalent, it derives 27% of its total revenue from packages, 40% of which is in the U.S. and 60% abroad, and 15% from freight, 95% of which is in the U.S. and 5% abroad. The metrics around average daily package volume and revenue per piece are also roughly equivalent.

Capital structures are also similar. Based on unlevered discounted cash flow (UDCF), the capital structure affects the valuation only through changes in WACC, varied by the current market price of debt and equity. On 30 September 2022, UPS runs on \$20.3 billion debt (defined in the Note section of fillings, including current maturities and long-term debt), while on 31 August 2022, FedEx runs on \$20 billion (119; 120). Their debt-to-equity ratios are roughly equivalent.

Based on business models, competitive dynamics, segmentation, geographies, and capital structure comparisons, macro-sensitivities are roughly equivalent. A slow drop in the GDP of a particular region will affect its country and cross-border volume to FedEx and UPS in roughly similar proportions. FedEx and UPS form a rare pair of comparable companies to control for factors other than the earnings outlook.

7.1 Event Analysis

- **FedEx (Sept 15, 2022)**: Pessimistic outlook triggered a 25.7% drop.
- **UPS (Oct 25, 2022)**: Optimistic outlook mitigated its price drop to -10.6%.

On 15 September 2022, FedEx reported preliminary Q1 results with an update on the outlook. CEO Raj Subramaniam is quoted to have said: "Global volumes declined as macroeconomic trends significantly worsened later in the quarter, both internationally and in the U.S. We are swiftly addressing these headwinds, but given the speed at which conditions shifted, first quarter results are below our expectations (131). The company withdrew guidance for the rest of the fiscal year. Following the announcement, the share price dropped from $195.4 to $153.5 the next day (-21.4%) and $145.2 2 weeks later (-25.7%). UPS, on the other hand, dropped from $168.16 to $160.6 (-4.5%) and $150.3 (-10.6%).

On 25 October 2022, UPS reported 3Q 2022 results, where CEO Carol Tomé stated: "I want to thank UPSers around the world for their unstoppable spirit and for continuing to provide outstanding service to our customers. The macro environment is very dynamic, but we are on track to achieving our 2022 financial targets by executing our strategy and controlling what we can control (133). The company reaffirmed its 2022 rest of year guidance. Subsequently, UPS increased from $151.8 to $153.6 (1.2%) and 163.5 (7.7%), representing -2.8% total decline since September 15. FedEx from 148.5 to 150.6 (1.3%) and 145.0 (2.4%), representing a -25.8% total decline.

We reject hypothesis (1) that there is no noticeable discrepancy between the macroeconomic outlook of companies and their effects on corporate earnings, that is, conditional macroeconomic conservatism does not exist. In both events, CEO sentiments are clearly disparate. The pessimistic FedEx commentary has triggered a sell-off, which had a contagion effect on UPS. A more positive outlook from UPS has caused its share price to recover much, with a minor contagion effect to FedEx, which could be well attributed to normal market fluctuations. After completion of information absorption, FedEx is down more than 20% in price compared to UPS.

7.2 Sell-Side Reactions

Sell-side research clearly painted a disparate outlook for the two firms with roughly equivalent businesses (for sell-side research articles surveyed, see Appendix A). We sample the major U.S. banks, excluding investment banks with small market shares, that released their sell-side reports within 14 days after earnings. The most pessimistic report on UPS (JPMorgan) is more optimistic than the most optimistic report on FedEx (Cowen). We provide a table listing the dates and titles of these publications below. Sell-side updates on both firms available after FedEx' announcement included publications by JPMorgan, Morgan Stanley, Jefferies, Wells Fargo, and Cowen. Jefferies' on FedEx was an initiation, which disqualifies Jefferies from our study. Initiations usually signify the beginning of an investment banking relationship, which propels coverage analysts to find positives in a business, resulting in a lack of genuine rationality and thus cannot serve as a reliable proxy for Street views. JPMorgan stated that FedEx remains a "show me a story" for the foreseeable future. Specifically, it is difficult to analyze how much of the cost savings are permanent versus temporary or variable in volume, considering that the company is still adjusting to deteriorating economic conditions (122). Morgan Stanley noted that FedEx faced "tough macro conditions and execution is likely to keep earnings under pressure" in its investment thesis commentary but failed to include such language in UPS (123). Wells Fargo has downgraded FedEx from overweight to equal weight, citing: "We believe that the transformation will take time and the macro-economic headwinds could challenge profitability. Our concern is that the delineation between structural and cyclical headwinds will become more difficult" (124). On the same date, Wells' note on UPS argued it "side-stepped the quarter's macroeconomic slowness by shifting capacity toward pockets of strength to maintain asset utilization" (125). Cowen lowered estimates and cited macro pressure in title page and risk sections (126).

In reaction to the FedEx news, many sell-side firms published notes commenting on its performance and macroeconomics' impact on October 25, 2022. These invariably commented on UPS positives on FedEx. Barclays wrote its theses: "UPS demonstrating the difference in quality management and financial discipline, delivering on prior guidance despite a slowing macro backdrop, a stark contrast to the challenges at FedEx" and "Many unknowns remain, but a solid quarter and unchanged outlook suggests today's market reaction in UPS shares is a bit more pessimistic on macro growth concerns" (78; 127). BMO argued, for UPS, "Strong Execution Should Help Mitigate Intensifying Cyclical Headwinds" (128). BofA agreed: "Mitigating volume slowdown with 'Better and Bolder' cost, rev quality focus" (129). The only exception to all UPS commentators is the JPMorgan analyst Ossenbeck, who titled the report "Tough Macro Trumps Good Operations" (122). Despite the negative tune in the title, Ossenbeck still employed more benign language, arguing "UPS continues to execute well in a dynamic macro environment with a focus on profitable growth and productivity gains," and this is a relatively better segment than his pronouncement on FedEx (122).

The above evidence suggests that street consensus and likely price movement differences are caused by taking management's differing macrovisions and their impact on the two businesses at face value. The delta of their view follows that of the CEO statements. Unlike the UPS wording, there is no material substance on why and how UPS is better positioned to navigate a challenging macroeconomic environment. The reason may be that sell-side research is mostly a puppet show on management projections. No investment bank is willing to lose such a multibillion-dollar account as FedEx or UPS for arguing a bear case that directly contributes to CEO's statement by evidence of macro projections. The evidence of potential contradiction is weak at best, and the risk of harming a relationship is tremendous. This is corroborated by the fact that the updates of some banks directly acknowledge the derivation of their knowledge from the management statements. JPMorgan's first update on UPS came after lunch with CEO Raj Subramaniam, CFO Mike Lenz, and Director of Investor Relations Steve Hughes (143). Because analyst lunches tend to corporate lines and are restricted from leaking nonpublic information material, JPMorgan probably just heard qualitative reiterations of the sentiment that the earnings warning reported (81). Credit Suisse simply reported journalistically: ”UPS reaffirms outlook despite softening macro, highlighting contrast with peers; Better and Bolder framework next step to drive efficiency” (130). Based on the above, we reject hypothesis (2) that the macroeconomic earnings conservatism discrepancy will not correlate with the discrepancies among the Street consensus on the companies.

We generalize our methodology on identifying differing macroeconomic outlooks through LLM (see Appendix B). We input all equity research texts, defined as the title and human-written investment thesis, into GPT 3.5, with the prompt: ”Given the equity research articles on FedEx and UPS below. Combine insights from both articles. Rate from 0 to 10 whether the articles are concerned with the macroeconomic downturn’s impact on FedEx. Rate from 0 to 10 whether the articles are concerned with the macroeconomic downturn’s impact on UPS. 0 is least concerned, and 10 is most. We then extract sentiment scores from each response. We label NA if the input data doesn’t contain mention of either of the two companies. This is an extension of the author’s existing contribution on the instruction-tuning of LLM in financial sentiment analysis and digest of equity research data (1; 2; 3).

7.3 Subsequent Performance

- FedEx: 9.3% EBITDA surprise (2022Q2), +17.4% price gain (2023) compared to a year ago before earnings.
- UPS: 50% EBITDA misses, -17.5% price decline.

After 2022Q1, FedEx scored a series of outperformances. Its F2022Q2 EBITDA surprise was 9.3%. EBITDA beat expectations for all quarters through F2024Q4 except a F2023Q2 miss. In contrast, UPS performance after F2022Q3 was poor. It missed more than half of the EBITDA from 2024Q4 to 2024Q2. The price of the FedEx share rose to $229.4, a 17.4% gain compared to a year ago, on October 25, 2023. In contrast, the price of UPS shares fell to $138.6, a decrease of -17.5%.

We reject hypothesis (3) that the price of the stock will not negatively react to differences in street consensus, that is to say, the buy side will not be surprised by earnings results after macroeconomic conditional conservatism. There clearly exists a significant divergence between the subsequent earnings performance of the two businesses, represented through the EBITDA outperformance, and the movements in share prices. In terms of absolutes, the financial performance of the two firms is roughly in line with historical levels. The rise in expectations for UPS after the CEO's optimism has resulted in earnings expectations that could not be fully met by execution. FedEx lowered street expectations and therefore had an easier time meeting such demand.

8 Case Study: Visa vs. Mastercard

After FedEx and UPS as a positive case, we test the negative case of stock reactions to subsequent earnings for Visa and Mastercard, where they exhibit similar macro guidance characteristics.

These companies are ideal for our investigation because they are two duopolists that operate under highly similar business models. Both Visa and Mastercard process electronic payments across global networks and generate revenues primarily through transaction fees, data processing fees, and cross-border charges. There is no sizable competitor in the multi-network payment processing space that rivals their scale or business model. Visa and Mastercard dominate the fee-based payment network market globally and in most regional segments; they are similarly excluded from markets that have resisted their entry (i.e., China) (**?**). The two are omparably substitutable in terms of product offerings and competitive positioning.

For fiscal 2023, Visa generates approximately 40% of its revenue in North America and 60% internationally, while Mastercard exhibits a similar geographic revenue distribution (139; 140). Segmentally, both companies derive a substantial portion of their revenues from processing volumes and fee-based services, with comparable operating metrics such as transaction volumes and revenue per processed transaction.

Capital structures are also similar. Based on the closest filings to September 2022, Visa reported a total debt of approximately $0.2 billion, and Mastercard reported a similar debt level (137; 141; 142). Their debt-to-equity ratios are very low, reflecting strong balance sheets and robust liquidity profiles. As a result, differences in capital structure are minimal and have little impact on their valuations or on the weighting of their earnings outlooks.

Based on business models, competitive dynamics, geographic segmentation, and capital structure comparisons, Visa and Mastercard form a rare pair of truly comparable companies. This similarity allows us to control for factors other than the earnings outlook when examining how differences in market sentiment affect subsequent stock performance.

8.1 Event Analysis

- **Mastercard (Oct 28, 2020)**: Cautiously optimistic outlook triggered a -8.1% drop on the day.
- **Visa (Oct 28, 2020)**: Cautiously optimistic outlook triggered a -9.5% drop on the day.

On 28 October 2020, at 9 am, Mastercard held its 3Q 2020 conference call. CFO Sachin Mehra said: ”The impact of the pandemic on travel, and in particular on non-intra-Europe cross-border travel, remains significant. While we believe that cross-border will ultimately recover, it will take time for people to build their confidence in the safety of travel as we believe that is tied to the broad availability of vaccines and therapeutics likely towards the latter part of next year” (136). This comment combines the acknowledgment of macroeconomic challenges, but provides an optimistic glimpse into the future. The company is declining revenue guidance: ”As we previously established, given the ongoing uncertainty, we will not be providing a forward view for net revenues at this time. We do intend, however, to continue to provide periodic updates to our operating metrics to help you understand the trends we're seeing.”

On 28 October 2022, during the aftermarket, Visa reported the 4Q 2022 results, where CFO Vasant M. Prabhu stated: ”The environment remains uncertain. It is not possible to reliably forecast volume and revenue four quarters out.” Additionally, he remained optimistic: ”Q4 was the first quarter of recovery from global shutdowns. I'll start with some high-level observations on the trajectory of the recovery so far” (135). In response to the question that Sanjay Sakhrani from Keefe, Bruyette & Woods asked about recovery expectations, Prabhu said: ”We live in uncertain times, and it's difficult to hazard guesses on what's going to happen if there are spikes in infections."

The price reactions were similar. On 28 October 2020, the price of the Mastercard share dropped from $309.1 to $284.0 during the day (-8.1%), returned to $285.8 (-7.5%), and recovered to $324.0 2 weeks later (+4.8%). Visa, on the other hand, dropped from $184.0 to $175.1 (-9.5%) on October 28th, rose back to 178.9 (-2.8%) the next day, and $205.9 (+11.9%). The total difference in the reaction of the stocks is less than 7. 5%. Additionally, the difference in share price recovery 2 weeks later was more attributable to U.S. reopening news, a separate catalyst than CEO guidance.

In this case, we cannot reject hypothesis (1) that there is no noticeable discrepancy between the macroeconomic outlook of companies and their effects on corporate earnings; that is, conditional macroeconomic conservatism does not exist. In both events, the CEOs were cautious about the environment and the impact of the pandemic; they were optimistic about the recovery but tailored the approach to avoid providing revenue guidance.

8.2 Subsequent Performance

- Mastercard: 9.3% EBITDA surprise (2022Q2), +11.1% price gain in 2023 compared to a year ago before earnings.
- Visa: 2.5% EBITDA misses, 5.5 share gain compared to a year ago pre-earnings.

After 2022Q1, Mastercard scored a series of outperformances. Its F2021Q3 EBITDA surprise was 8.9%. EBITDA beat expectations for all quarters through F2024Q3 except a F2024Q3 miss. Similarly, Visa's performance after F2020Q4 was strong, with a 2.5% EBITDA beat. It in fact continued to delivery earnings beats through F2024Q4. On Oct. 28th, 2021, the price of the Mastercard share rose to $204.4, a 11.1% gain compared to a year ago, on October 25, 2023. Price of Visa shares rose to $326.2, a gain of 5.5% compared to a year ago. The difference basically maintains the level post the conference calls of the 2 companies on October 29th, 2020.

We reject hypothesis (3) that the price of the stock will not negatively react to differences in street consensus, that is to say, the buy side will not be surprised by earnings results after macroeconomic conditional conservatism. There clearly exists a significant divergence between the subsequent earnings performance of the two businesses, represented through the EBITDA outperformance, and the movements in share prices. In terms of absolutes, the financial performance of the two firms is roughly in line with historical levels. The rise in expectations for UPS after the CEO's optimism has resulted in earnings expectations that could not be fully met by execution. FedEx lowered street expectations and therefore had an easier time meeting such demand.

9 Future Research

- The multiple of FedEx expanded via conservative guidance; UPS contracted.
- Markets overreact to macro conservatism, creating mispricings.

Our research demonstrates an inconsistency between earnings expectations for securities exposed to equivalent macroeconomic impact.

9.1 Future Research on Oligopoly Pair Trades

Despite FedEx and UPS being our best pair of controlled comparisons, other oligopolistic markets are also worth exploring. GM has a tendency of lower pricing assumption in the guidance, whereas Ford is more optimistic. Other pairs include Home Depot and Lowe's, Advanced Auto Parts and O'Reilly Auto Parts, Nike and Adidas, and Boeing and Airbus. However, the confounding variables at these other firms make the analysis more nuanced.

9.2 Future Research on CEO Sentiments

Broadly, CEO sentiment on earnings calls deserves more studies. The gap has been noticed the literature review above. This has become increasingly important as hedge fund activities become a greater driver of stock performance. Tesla's 2024Q4 earnings call is an example where Elon Musk called its lackluster performance moving "between two major growth waves and expected its core vehicle business to "return to growth in 2025, leading to higher share price performance in the aftermarket (111). Later results have shown that optimism is completely misguided as Tesla's car business sales volume dropped due to both competition and brand issues (112). Similar examples abound on this stock, as Elon Musk has a tendency to avoid cautious and pessimistic analyst questions during Q&As. For example, in 2018Q1, Musk announced: ”We're going to go to YouTube. Sorry. These questions are so dry. They're killing me” (113). Sanford Bernstein's Toni Sacconaghi asked about CapEx guidance; RBC's Joseph Spak asked about Model 3 reservations; Piper Jaffray's Alex Potter asked about Model 3's specifications and tried to gauge the exact effect of Tesla's CapEx spends. All these questions were dodged and rebuffed as ”boring, bonehead questions.” Combining with other actions by Tesla management, Wolfe Research remarked ”management style and structure needs to change” and ”it is our uncertainty in management's willingness to plot this path, and to avoid bringing unnecessary distractions and legal risks onto the company, that keeps us on the sidelines for now” (114). This led to a negative stock performance, but a significant upside surprise in 2018Q3 when Tesla made much better than expected production, deliveries, and massive profits (115; 116). We cannot conduct a pair-based analysis as in the case of UPS and FedEx on Tesla. A potential solution is to see how multiples or line item projection changes after an optimistic guidance, trade those changes to particular drives, and observe later whether these drivers would transpire or not.

We also wonder if there is a method to determine to what extent CEOs give optimistic guidance. Sometimes, optimism can completely overshadow short-sellers and lengthen the lifespan of an inherently problematic business. In early 2002, Greenlight Capital identified earnings and balance sheet manipulation at Allied Capital. May 15, 20002, Greenlight president David Einhorn gave the famed speech at Tomorrows Children's Fund charity event, alleging Allied's practice of marking loans at cost, certain bad investments, non-cash add-backs, and unsustainable dividend yield. During the aftermarket and the next day trading, the stock was down 20%. Short-selling interest increased 6x during the 2 months before and after the speech (88). In response to Einhorn, during the subsequent conference call, Allied blocked Einhorn from dialing in. Allied chairman Bill Walton made general statements to maintain optimism about the company's performance, divert attention, and ad-hominem attacks against Einhorn. Over the next

5 years, Allied continued to deploy a campaign publicly and semi-privately among investor circles to dissuade concerns about its financials. Einhorn has correctly assessed the situation, and Allied's subsidiaries engaged in much worse reckless lending behavior than expected (89). Allied's BDC subsidiary Ciena eventually filed for Chapter 11 over its misfeasance (90; 91). Since Allied was successful in the interim, Greenlight did not make a windfall return, unlike the Sirrom short they conducted in 1998. The morale of this history may be limited because financial institutions are especially hard to properly value, and short-selling them requires especially exceptional opportunities to be successful. We may cite the example of the Muddy Water short of Fairfax, alleging practices inflating book value (92). This attempt failed because Fairfax had blowout quarters in 2024Q1, Q2, and especially Q3 (93; 94; 95).

10 Implications

10.1 Implications For Investors

For investors, a key takeaway is patience in waiting for the market to adjust. Successful investors invariably share the trait of patience. The benefit of public markets is that a patient buyer has ample space to wait for opportunities from irrational sellers. The market overreacts to intangible factors such as macroeconomic outlook and does not maintain internal consistency, creating opportunities for investors looking for long-term value (17; 31) and for momentum opportunities in the short to medium term (18; 19; 20). FedEx experienced a multiple expansion, while UPS contracted. Coupled with the core values emphasized throughout the FedEx culture, FedEx gained relative confidence through its conservative outlook (138; 43). Management teams that are incentivized for long-term shareholder value creation are encouraged to favor credible guidance over short-term optimism.

Furthermore, for hedge funds that have traditionally benefitted from access to management, channel checks, and other sources to glean management team confidence, we suggest doing a pairwise comparison of how management team guidance styles differ. Upon controlling for similar businesses, differences in guidance may be attributable to an intentional setting lower expectations, leading to earnings-uplift opportunities.

10.2 Implications For Management

For managers, total shareholder returns are often best achieved through a stable, growing share price as the company invests in assets for returns higher than the cost of capital. Macroeconomic uncertainties rattle investors, causing volatility and sometimes downbeat expectations of a company when it navigates difficult times. The behavior of Visa and Mastercard in 2020 offered a prime example of how to be cautiously optimistic and mitigate guidance differences about macroeconomics. In the extreme and rare end, investors with long-term philosophy, such as Warren Buffett and T. Rowe, refuse to hold conference calls (144).

Management should appear thoughtful, confident, and reliable during earnings and investor interactions. If the company has historically been conservative and will always beat its reported earnings line item, such as revenue, operating income, net income, or cash flow items, Wall Street may imply moving past these numbers to find out what is behind the scenes by tracking other KPIs. Even if the company reports higher reported earnings, the stock market may not react positively. Since 2022Q1, Fiverr and Upwork, two leading online freelancer marketplaces, have not seen prices move on earnings despite reporting better than expected revenue for most quarters. Upwork, especially, has historically been more conservative and beat every quarter since its IPO. The market believed that the macroenvironment remains uneven and unpredictable, with tight budgets, customer hesitation, and a slower than historical growth of new clients (96; 97; 98; 99). The market has priced in take-rate growth as they have understood that the freelancer employers are captured by these marketplaces. The market tracks GSV (gross services volume), and any growth of that metric above 3% elicits investor interest (100; 101). In 2024Q2, despite 3-4% revenue beat, investors remain disappointed in the 3% decline of GSV and still embed the softness of GSV in future projections (102). It was not until 2024Q3 that UpWork released preliminary earnings, reporting GSV at $998m, a 14-16% better number than the expectations of equity research, causing shares to climb 23% on the news, implying both multiple and estimates rising (103; 104; 105). The same dynamics of the stock reaction can be said for Fiverr (106). The only difference is that Fiverr has not reported a noticeable GMV (as per its filling's terminology) in 2024 (107). Previously bullish single-digit GMV growth as expected by some analysts did not occur (108; 109; 110). It is unclear if UpWork were not to be more conservative than Fiverr, whether UpWork's price uplift could have been less upon the 2024Q3 GSV beat.

11 Caveats

We believe that the above case study is appropriate to illustrate how corporate earnings may cause market inefficiency, noting a few caveats below.

- **Confounding Variables:** The analysis may be affected by unobserved factors such as differences in multiples, governance changes (including activist board interventions), cost structure, and unnoticed differences in intertemporal changes of market narratives that are not fully controlled for in our study. We do not think that there is a feasible way to control for these items. The stock market will never offer a controlled experiment. However, the similarities across two global duopolists should provide comfort to our thesis.

  - **Valuation Discount—FedEx vs. UPS:** FedEx (6-9x) has traditionally traded at a discount to UPS' (9-11x) NTM EBITDA multiple. It may be possible that a macroeconomic impact would translate into growth shrinkage that disproportionately affected FedEx. However, this is less likely because the share price was largely driven by earnings revisions, not multiple changes. Per dollar earned on FedEx, there is a higher maintenance cash flow spent to maintain the air infrastructure versus UPS. The discount was attributed to the lower earnings quality, volatility, and restructuring efforts of FedEx air freight, which are rather separate variables from macro-guidelines.

  - **Activist Intervention—D.E. Shaw at FedEx:** Since mid-2022, D.E. Shaw has engaged FedEx as an activist, whereas UPS is rather impervious to activists because a large portion of its class B shares are held by passive institutions. In June 2022, D.E. Shaw succeeded in naming Amy Lane, a former Merrill Lynch executive, and ex-Union Pacific Corp chief operating officer Jim Vena to the FedEx board and appointing the heir apparent Raj Subramaniam as CEO (132). Consequently, investors became more frustrated when the new CEO showed signs of weakness in September 2022 when he guided conservative and withdrew rest-of-year guidance. The results of activist involvement may have resulted in better-than-expected cost savings and implementation of the DRIVE program, leading to price upside (85; 86). However, this guidance difference is a result of macroeconomic commentary, the same independent variable that we investigated; the activist difference can, in fact, be added to our potential explanation of market inefficiency in the lead-up to share performance differences we analyzed.

  - **Labor Pressures—Teamsters Negotiations:** Both FedEx and UPS suffered a tougher position from Teamsters. On 25 July 2023, UPS reached an increased wage agreement with the Teamsters union for the 340,000 workers it represents and narrowly avoided a nationwide strike after weeks of stalled negotiations (134). This may impact earnings at a higher rate than expected on UPS than on FedEx.

- **Reporting Date Misalignment:** Differences in fiscal reporting dates and the timing of earnings announcements between companies can introduce discrepancies in event windows, potentially affecting the comparability of our results. The difference, after adjusting for the calendarization effect, is less than 3%, a minor concern.

- **Data Limitations:** The limited availability of high-quality, comparable sell-side research and sentiment data may restrict the generalizability of our findings. Despite the fact that the general public lacks such access, this concern is mitigated by the fact that most investors have access to the sell-side research.

- **Methodological Constraints:** The reliance on natural language processing techniques and large language models to extract sentiment from equity research introduces potential measurement errors due to the subjectivity in interpreting qualitative statements. To address this issue, we have compared the street reactions of the two companies both qualitatively and quantitatively using LLM.

12 Appendices

Appendix A: Equity Research Report Dates and Titles

Bank	FedEx Report	UPS Report
JPMorgan	Takeaways from Management Meeting and Notes from the Road. N/A	Oct. 25th, 2022. ”Tough Macro Trumps Good Operations”
Bank of America	None	Oct. 25th, 2022. ”Mitigating volume slowdown with ‘Better and Bolder’ cost, rev quality focus”
Morgan Stanley	Oct. 10th, 2022. ”FDX Ground Volume at Risk?”	None
Barclays	None	Oct. 25th, 2022. ”Many unknowns remain, but a solid quarter and unchanged outlook suggests today’s market reaction in UPS shares is a bit more pessimistic on macro growth concerns”
Credit Suisse	None	Oct. 25th, 2022. ”UPS reaffirms outlook despite softening macro, highlighting contrast with peers; Better and Bolder framework next step to drive efficiency”
UBS	None	Oct. 25th, 2022. ”3Q Report Points to Stable Trend; but Visibility to 2023 Remains Limited”

Continued on next page

Deutsche	None	Oct. 25th, 2022. ”Why UPS results show FDX was not the macro
Evercore	None	Oct. 25th, 2022. ”Better for Longer, but How Much Longer?”
Jefferies	N/A	Oct. 25th, 2022. ”3Q22: The Good, the Bad and the Outlook”
Wells Fargo	Sept. 15th, 2022: ”Losing the Confidence Game”	Oct. 25th, 2022. ”UPS: Strength in Execution Drives Q3 Upside”
Oppenheimer	None	Oct. 25th, 2022. ”3Q22 Delivered as Expected; 2022 Guidance Reiterated”
BMO	None	Oct. 25th, 2022. ”Strong Execution Should Help Mitigate Intensifying Cyclical Headwinds
Cowen	Sept. 23rd, 2022. ”Lowering PT to $185; Focus on Rightsizing Business as Global Macro Decelerates	Oct. 25th, 2022. ”UPS Delivers on Costs to Beat 3Q22 Adj. EPS Estimates; Reaffirms FY22 Guidance”
Wolf	None	Oct. 25th, 2022. ”UPS - Executing”

Appendix B: FedEx / UPS Equity Research and Sentiment Scores

Firm	FedEx	UPS
JPMorgan	9	7
Bank of America	10	7
Morgan Stanley	8	6

Firm	FedEx	UPS
Barclays	8	7
Credit Suisse	8	3
UBS	N/A	7
Deutsche	7	6
Evercore	9	8
Jefferies	6	2
Wells Fargo	9	6
Oppenheimer	N/A	7
BMO	N/A	4
Cowen	9	6
Wolfe	9	7

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