Inflation Hedging and Pricing Power*

Amra Hrustanovic† Alexander Wagner‡

VERY PRELIMINARY – NOT FOR CIRCULATION

July 30, 2024

Abstract

Historically, the average stock has been a surprisingly poor hedge during inflationary periods. We show theoretically and empirically that the relative pricing power of firms, that is, both in relation to customers and to other stakeholders such as employees, is an important, but hitherto understudied driver of hedging properties. The negative market reaction to inflation shocks is mitigated by a half for firms with above-median pricing power. Free cash flows of firms with high pricing power are more resilient after inflation shocks. However, analysts do not incorporate this in their forecasts. Instead, the greater inflation-resilience of pricing power seems to be due to lower perceived risk. Specifically, investors apply lower discount rates to firms with greater pricing power. Overall, our findings suggest that stock market participants can benefit from hedging effects when owning high pricing power shares in inflationary periods.

JEL classification: G12, G32, L11
Keywords: Pricing power, Inflation, Stock returns

*We thank Michel Habib, Ana Mão de Ferro, Felix von Meyernick, Florian Peters, Stefano Ramelli, and seminar participants at the university of Zurich for insightful comments. We declare that we have no relevant or material financial interests related to the research described in this paper.

†University of Zurich and Swiss Finance Institute.
‡University of Zurich, Swiss Finance Institute, ECGI, and CEPR.

1 Introduction

A literature dating back almost a century predicts a theoretically value-neutral effect of inflation on stock prices, claiming that stocks, as real assets, should perfectly hedge against inflation (e.g., Fisher (1930)). Yet, empirically, a negative relationship between aggregate stock returns and inflation emerges (e.g., Bodie (1976), Fama (1981), Cohn and Lessard (1981), Cohen, Polk, and Vuolteenaho (2005), and Bekaert and Wang (2010)). For example, the year 2022 was characterized by an increase in inflation in many developed countries. In the US, a 40-year high was reached in June with an inflation rate of 9.06% (12-month change in the consumer price index as reported by the Bureau of Labor Statistics). The market value of the S&P 500 declined by 15.77 % in 2022 (CRSP data), yielding the lowest performance since the Global Financial Crisis.

Motivated by this tension, this paper studies the empirical relationship between firm-level stock returns and inflation. We are in particular interested in the role of corporate pricing power during inflationary periods. We begin by developing a conceptual framework for the impact of inflation on firm value, considering pricing power both towards customers and towards other stakeholders, such as employees and suppliers. Although pricing power is often cited in practice as a characteristic of inflation-resilient firms, the analysis shows that the effect of pricing power is complex. Regarding the effects on free cash flows, a key theoretical finding is that the transmission effect of inflation depends on *relative* pricing power. If a firm has high pricing power both in relation to its customers and its goods and human capital suppliers (employees), we show it is able to pass on more than the inflation rate to free cash flows. Even if a firm can only pass on a fraction of the inflation rate to its customers, it is possible that, overall, it passes on more than the inflation rate if its suppliers have lower pricing power. This is in contrast to existing literature that implicitly assumes an overall pricing power effect of 1 (e.g., Modigliani and Cohn (1979)), which occurs if the firm and all its stakeholders fully pass on the inflation rate. The precise consequences depend on firm characteristics (for example, free cash flow components such as capex).

There are also two effects on the cost of capital. First, through the Fisher Equation,[1] the pricing power-induced inflation pass-on appears in the expected inflation rate. Hence, the expected inflation rate depends on the investors' expectation of the inflation pass-on given pricing power. Second, there is an effect on the real cost of capital: Real costs of capital increase for low-pricing-power firms because investors apply a risk premium for these firms being more exposed to systematic inflation risks.

To test the theoretical predictions, for the main tests we employ a sample of nonfinancial public firms in the U.S. from January 2020 through December 2022 (though we also confirm the results on a longer sample period that showed smaller spikes in inflation). There are 52,523 firm-month observations of 2,051 firms after applying common data restrictions.

Running regressions of next-month's stock returns on inflation measures interacted with pricing power proxies, we find that the negative relationship between inflation and stock

[1] Let k^{Nom} (k^{Real}) be the nominal (real) cost of capital and π^e the expected rate of inflation. The Fisher Equation states that $k^{Nom} = (1 + k^{Real})(1 + \pi^e)$.

returns is mitigated for firms with high pricing power. The effects are sizable. For example, on average, an increase in the unexpected monthly inflation rate by one percentage point implies a fall in next-month stock returns of 5.29 percentage points. Firms belonging to the group with above-median pricing power in a given industry-month experience a 2.45 percentage points smaller drop, that is, a drop about half the size. With CAPM-adjusted instead of raw returns, this effect is even larger in magnitude and significance.

In the next step, we analyze the drivers of this effect. Specifically, we investigate the free cash flow and the cost of capital channels. We find that the free cash flows of firms with high pricing power are more resilient after inflation shocks, consistent with the theoretical prediction. Yet, both analysts and investors fail to correctly incorporate pricing power in their beliefs about future free cash flows. Specifically, running a regression of analyst revisions of earnings forecasts after inflation rate announcements on the interaction between unexpected inflation and pricing power reveals insignificant coefficients. Similarly, running a regression of next month's returns on interaction terms between unexpected inflation and free cash flow components reveals insignificant coefficients.

Also, running a regression of implied costs of capital on the interaction between unexpected inflation and pricing power, we find that a one-percentage point increase in unexpected inflation is associated with an increase in costs of capital by 0.19 percentage points for low-pricing-power firms, whereas they remain roughly unaffected for high-pricing-power firms. Overall, the results suggest that firms' pricing power is an important driver of inflation hedging via the costs of capital channel.

Our paper makes several contributions to existing literature. First, it adds to the literature that attempts to understand the seemingly missing Fisher (1930) hedging effect. Examples include Hong (1977), Modigliani and Cohn (1979), Feldstein (1983), and Fama (1981). This paper is most similar to Modigliani and Cohn (1979), who introduced the inflation illusion hypothesis, which states that investors discount real cash flows at nominal costs of capital, which leads to an understatement of the firm value under high inflation. We argue that the inflation illusion effect occurs because investors fail to correctly incorporate the pricing power-induced effect of inflation on free cash flows and costs of capital.

Second, it adds to the literature on inflexible prices and monetary shocks. One of the early papers that acknowledges pricing power in a valuation model when assessing the impact of inflation on the components of firm value is that of Van Horne and Glassmire (1972). They, however, do not explicitly model pricing power in relation to various stakeholders and they do not emloy an empirical test of firm-level stock returns as this paper does. Favilukis and Lin (2016), Eraker, Shaliastovich, and Wang (2016), and Pasten, Schoenle, and Weber (2020) show that inflexible prices adversely affect firms during monetary policy shocks. Gil de Rubio Cruz et al. (2023) find that the marginal effect of inflation on performance is positive for firms with higher markups. They do not derive a theoretical model of pricing power and their paper does not focus on pricing power. Mão de Ferro and Ramelli (2023) find that firms with high ESG ratings perform better during inflationary periods, and they argue that this is because these firms are perceived as less greedy.

Related, D'Acunto et al. (2018), Gu, Hackbarth, and Li (2019), Augustin et al. (2021), and Lee, Mauer, and Xu (2022) show that firms with inflexible prices, i.e., low pricing power firms, build financial slack: They hold more cash and have less financial leverage. Similarly, Bhamra et al. (2023) find that the negative impact of higher expected inflation on real equity values is stronger for low leverage firms. We control for these findings by adding cash and debt interacted with inflation as control variables.

Finally, it adds to the literature on investor beliefs in inflationary periods. Katz, Lustig, and Nielsen (2017) find that local stock market investors are slow to incorporate inflation expectations in discount rates. Gorodnichenko and Weber (2016) show that after monetary policy announcements, the volatility of stock market returns of firms with stickier prices (i.e., lower pricing power) rises more than of firms with more flexible prices.

The rest of the paper is structured as follows. We derive the theoretical impact of pricing power during inflationary periods on the equity value of a firm in Section 2. Section 3 describes the sample and key variables. The analyses concerning the empirical effect of pricing power on stock returns during inflationary periods are in Section 4, while Section 5 dives into the transmission channels of pricing power. Section 6 concludes.

2 Business valuation with inflation

Using the Dividend Discount Model on an equity basis (see Brealey, Myers, and Allen (2006), Berk and DeMarzo (2007), and Bradley and Jarrell (2008)), the equity value of a firm can be calculated as

$$V_0 = \frac{FCF_1^{Nom}}{k^{Nom} - g} = \frac{FCF_0^{Real}(1+g)}{k^{Nom} - g}, \text{with} \tag{1}$$

$$k^{Nom} = k^{Real} + k^{Real}\pi^e + \pi^e \text{ and} \tag{2}$$

$$r^{Nom} = r^{Real} + r^{Real}\pi^e + \pi^e, \text{ and} \tag{3}$$

$$g = pr^{Nom} + (1-p)\pi, \tag{4}$$

where FCF_1^{Nom} is the nominal free cash flow to equity at the end of the first period, FCF_0^{Real} is the real free cash flow to equity at the beginning of the first period, k^{Nom} (k^{Real}) are the firm's nominal (real) costs of equity, g is the growth rate, p is the plowback rate, r^{Nom} (r^{Real}) is the nominal (real) return on growth investments, π is the inflation rate, and π^e is the expected inflation rate. Equations 2 and 3 are based on the Fisher Equation. Equation 4 follows from Bradley and Jarrell (2008). If a firm distributes all cash flows, that is, $p = 0$, its nominal free cash flows grow only at the rate of inflation, hence $g = \pi$.

2.1 Cash flows

The general valuation model in equation 1 has a cash flow and a cost of capital component. Consider first the effect of inflation on cash flows. Free cash flows to equity in real terms are calculated as

$$\begin{aligned} FCF_1^{Real} &= (1 - TaxRate_1)EBT_1 + Depreciation_1 - (NWC_1 - NWC_0) \\ &- CAPEX_1 + (1 - i)Liabilities_1 - Liabilities_0, \end{aligned} \tag{5}$$

where EBT are earnings before taxes, $TaxRate$ is the income tax rate, $Depreciation$ is depreciation, NWC is the net working capital (current assets, $CurrAssets$, minus current liabilities, $CurrLiab$), $CAPEX$ are capital expenditures, i is the interest rate, and $Liabilities$ are the interest-bearing liabilities. The number in the index of each variable refers to t. A detailed derivation of Equation 5 is provided in Appendix A.

We model the effect of pricing power on inflation pass-on in a multiplicative manner, i.e., as a fraction of the inflation rate passed-on to free cash flow components. We define γ as the share of inflation passed on to sales and current assets. That is, γ is larger when pricing power relative to customers is greater. We define δ as the share of inflation passed-on to COGS, SG&A, and current liabilities, i.e., δ is a proxy for a firm's pricing susceptibility towards employees, suppliers, and other stakeholder.[2] Thus, δ is smaller when the pricing

[2]Pricing power toward these different types of stakeholders could also be differentiated. In order to keep the model as simple as possible, but still show the main result, we refrain from modeling the pricing power towards employees, suppliers, and other stakeholders separately.

power relative to these stakeholders is greater. Finally, we define θ to be the share of inflation passed-on to liabilities. θ can be driven by two channels: First, if liabilities increase because the firm needs money to make an investment, e.g., buy a new machine, θ will be driven by the pricing power towards suppliers. If liabilities, on the other hand, increase in an effort to reach optimal leverage, the amount by which debt must increase is given by the endogenously derived inflation pass-on, given the other pricing power pass-on rates. In simpler terms, θ increases in pricing power relative to the lender. Table 1 provides an overview of how individual cash flow components are affected by inflation, considering pricing power.

- Table 1 about here. -

Thus, FCF_1 after inflation can be calculated as

$$
\begin{aligned}
FCF_1^{Nom} = (1 - TaxRate_1)[(1 + \pi\gamma)Sales_1 - (1 + \pi\delta)(COGS_1 + SG\&A_1) \\
- Depreciation_1 - (1 + \pi\theta)i * Liabilities_1] + Depreciation_1 \\
- (1 + \pi\gamma)(CurrAssets_1 - CurrAssets_0) \\
+ (1 + \pi\delta)(CurrLiab_1 - CurrLiab_0) - (1 + \pi\delta)CAPEX \\
+ (1 + \pi\theta)[(1 - i)Liabilities_1 - Liabilities_0]. \qquad (6)
\end{aligned}
$$

This derivation shows that the impact of inflation on firm cash flows can not be as easily determined as existing theoretical literature suggests.

Individual pricing power proxies can range from 0 to 1, if we assume that firms are not greedy.[3] Yet, the overall inflation pass-on, i.e., the factor by which real free cash flows increase, can range from 0 to values higher than 1 as the following numerical example shows. It is convenient to summarize the overall pricing power-induced inflation impact on nominal free cash flows as λ, which is the net effect of relative pricing power on inflation pass-on, i.e., the share of inflation passed-on to free cash flows, considering the individual pricing power effects to free cash flow components.

$$\begin{aligned} FCF_1^{Nom} &= (1+\lambda\pi)FCF_1^{Real}, \text{ thus} \\ \lambda &= \frac{FCF_1^{Nom} - FCF_1^{Real}}{\pi FCF_1^{Real}}. \end{aligned} \tag{7}$$

Example with numbers To illustrate the role of relative pricing power, let an all-equity firm have sales of 1000, COGS of 400, SG&A of 200, depreciation of 50, change in current assets of 40, change in current liabilities of 50, Capex of 100, and a tax rate of 20% (all values in real terms). In addition, let the inflation rate be 10%. Posit now that $\gamma = 0.8$ and

[3]Mão de Ferro and Ramelli (2023) argue that corporate greed could be the reason why firms with more social capital, i.e., trustworthy firms, perform better following inflationary periods. Hence, γ, δ, and θ could exceed the value of 1.

$\delta = 0.4$. The free cash flows elements before and after inflation are

$$
\begin{aligned}
FCF_1^{Real} &= (1-0.2)[1000-(400+200)-50]+50-40+50-100 \\
&= 240, \text{ and} \\
FCF_1^{Nom} &= (1-0.2)[(1+0.1*0.8)1000-(1+0.1*0.4)(400+200)-50]+50 \\
&\quad -(1+0.1*0.8)40+(1+0.1*0.4)50-(1+0.1*0.4)100 \\
&= 279.6 \neq (1+0.1)FCF_1^{Real} = 209.
\end{aligned}
$$

Why do we get a value of 279.6 for FCF_1^{Nom}, which is greater than $(1+0.1)FCF_1^{Real}$ =209? The pricing power of firm A relative to its customers is relatively high, i.e., $\gamma = 0.8$. Itspricing power in relation to stakeholders is also high: Stakeholders are only able to pass on 40% of the inflation, i.e., $\delta = 0.4$. Also, the composition of firm A's free cash flows contributes to this effect. If firm A had the same characteristics but zero CAPEX, λ would be 1.16, with $FCF_1^{Real} = 290$ and $FCF_1^{Nom} = 329.3$. This effect is evident in Equation 7: λ depends on free cash flow components. If a firm has low sales, it can not benefit as much from a high γ as a firm with high sales.

Figure 1 summarizes the finding about the importance of relative pricing power for the given firm characteristics. The dashed gray line in Figure 1 indicates a marginal rate of substitution of 1. The indifference curves for FCF_1^{Real} straight lines, indicating that there is a constant marginal rate of substitution between γ and δ. Also, the indifference curves are steeper than the gray curve, indicating that for the specific set of cash flow parameters assumed for this firm, the constant, positive marginal impact of pricing power towards customers on free cash flows after the inflation shock is greater than that towards other stakeholders, that is, increasing γ by 0.1 is more valuable to the firm than decreasing δ by the same value.

Also, it shows that having high pricing power towards customers alone, that is, high γ but low δ is not enough to increase free cash flows above $FCF_1^{Real}(1+\pi)$. The firms need high *relative* pricing power, which means that δ must also be low.

- Figure 1 about here. -

2.2 Cost of capital

The derivations thus far have focused on the cash flow side. To derive the value of equity, we must also investigate the pricing power-induced effect of inflation on costs of capital (see Equation 1). Equation 2 shows how nominal costs of equity are derived. It assumes that the Fisher Equation holds. To derive the effect of pricing power on costs of capital, we first plug Equations 2, 3, and 4 into Equation 1. We get

$$V_0 = \frac{FCF_0^{Real}(1+g)}{(k^{Real} - pk^{Real})(1+\pi^e)}. \tag{8}$$

Appendix B provides detailed steps for this derivation. Using the knowledge of Equations 4 and 7, the numerator can be written as

$$= \frac{FCF_0^{Real}(1 + pk^{Real} + pk^{Real}\lambda\pi + \lambda\pi)}{(k^{Real} - pk^{Real})(1 + \pi^e)}$$
$$= \frac{FCF_0^{Real}(1 + pk^{Real})(1 + \lambda\pi)}{(k^{Real} - pk^{Real})(1 + \pi^e)}. \tag{9}$$

Now, if λ was equal to 1 and $\pi = \pi^e$ Equation 9 would be

$$= \frac{FCF_0^{Real}(1 + pk^{Real})}{(k^{Real} - pk^{Real})}, \tag{10}$$

leaving the equity value of a firm unaffected. This is the starting point of the theoretical literature on the effect of inflation on stock valuations (e.g., Modigliani and Cohn (1979), Fama (1981), Cohn and Lessard (1981), and Feldstein (1983). But, as we have seen in the numerical example, λ does not have to be 1. Also, given that λ is heterogeneous, i.e., individually derived for each firm, π^e will depend on the expected value of λ, and will differ across firms. Hence, the impact of inflation on the stock value will depend on investors' expectation of λ, $\hat{\lambda}$. Equation 9 can be written as

$$= \frac{FCF_0^{Real}(1 + pk^{Real})(1 + \lambda\pi)}{(k^{Real} - pk^{Real})(1 + \hat{\lambda}\pi)}. \tag{11}$$

Investors may fail to correctly assess the inflation transmission effect to free cash flows, i.e., $\hat{\lambda}$, because it depends on the structure of free cash flows and relative pricing power. If for a firm $\hat{\lambda} > \lambda$ on average, i.e., investors on average overestimate the pricing power of the firm, inflation has a negative impact on stock valuation. Put differently, the stock is overvalued, implying negative expected future returns. If $\hat{\lambda}$ correlates positively (negatively) with λ for companies with high pricing power, there will be a negative (positive) impact of pricing power on stock prices in the event of inflation. If the two values are perfectly correlated, there is no pricing power effect in inflationary times.

However, even if nominal costs of capital increase at $\hat{\lambda}\pi$, the real costs of equity can be affected in inflationary periods due to heterogeneity in pricing power. If investors fear that a firm might go bankrupt because it can not pass inflation on, that is, it is more exposed to systematic inflation-related risks than firms with high pricing power, k^{Real} will increase to reflect the higher risk. For simplicity, let us assume that the CAPM holds and can be used to derive costs of capital. The CAPM β increases in systematic risk. Hence, firms with low pricing power will experience an increase in real costs of capital and thus nominal costs of capital, yielding a positive impact of pricing power on stock prices in inflationary periods.

2.3 Hypotheses

Based on the derivations so far, we hypothesize:

H1: Firms with high pricing power perform better during inflationary periods than firms with low pricing power.

H2: Firms with high pricing power can increase their future free cash flows by more than low pricing power firms.

H3: An increase in inflation is associated with decreasing (increasing) real costs of capital for high (low) pricing power firms.

Finally, given that λ depends on all free cash flow components and component pricing power effects (i.e., γ, δ, and θ), it is not as straightforward for investors to assess how free cash flows are affected by an inflation surge. We hypothesize:

H4: Investors do not correctly incorporate pricing power in their beliefs about future free cash flows and costs of capital.

3 Data

3.1 Sample construction

The initial sample covers firms with valid monthly stock return observations between 2020:01-2023:12 obtained from CRSP. We add accounting data from Compustat, considering a reporting lag of at least three months. We assign the Fama French 12-industries classification to each firm based on its SIC code. We retain non-financial firms with stocks listed on either AMEX, NASDAQ, or NYSE. Furthermore, we restrict the sample to firms with strictly positive assets, sales, book equity and PP&E. The unit of observation is firm-month.

The construction of the main variables is described below. A detailed description of all variables is provided in Appendix C. We remove all observations with missing values in any numeric variable except a list of variables used in exploratory analyses.[4] All variables expressed as rates are winsorized to [-1, 3] except for *InstHold* which is winsorized at [-1, 1], while all other continuous variables, except inflation proxies, are winsorized at the 1% and 99% levels. The sample period is reduced by requiring all lead variables to be nonmissing, resulting in a sample period of 2020:01-2022:12. The final sample consists of 52,523 month-firm observations of 2,051 firms.

3.2 Variables

3.2.1 Returns

We construct raw (*Return*), CAPM-adjusted (*CAPMret*), and Fama-French-adjusted (*FF3ret*) realized monthly returns. The three factor betas are estimated over a 36-months window and a one-month gap using the market, SMB, and HML factors from French's website. For the analyses, we use one-month-ahead returns. All returns (and other variables expressed as rates) are expressed in decimals.

[4]These are *AnRevEPS*, *AnRevCPS*, *AnRevEPS_stars*, *AnRevCPS_stars*, *MPEG*, and *InfSurpC*, *InstHold*, *CurDebt*, and *DQ*.

3.2.2 Costs of capital

We derive implied costs of capital, *MPEG*, following Hou, Van Dijk, and Zhang (2012) and Easton (2004). We first predict one-year and two-year ahead earnings ($\mathbb{E}_t[E_{t+1}]$ and $\mathbb{E}_t[E_{t+2}]$) and one-year ahead dividends $\mathbb{E}_t[D_{t+1}]$ for each observation, using the Hou, Van Dijk, and Zhang (2012) regression approach. Following Easton (2004), the variable *MPEG* is then defined as

$$\sqrt{\frac{(\mathbb{E}_t[E_{t+24}] + \mathbb{E}_t[D_{t+12}] - \mathbb{E}_t[E_{t+12}])}{MarketCap_t}},$$

where $MarketCap_t$ equals the market capitalization prevailing at time t. This approach yields annualized returns on a monthly basis. We compute monthly returns using the geometric formula. The advantage of using this measure of implied costs of capital instead of any of the other described by Hou, Van Dijk, and Zhang (2012) is the distribution of *MPEG*. *MPEG* is always greater than zero. Since costs of capital are, conceptually, greater than zero, it makes sense to use *MPEG*.

Another feature of implied costs of capital is that they do not include inflation for the prediction period, i.e., *MPEG* calculated between t=1 and t=2 only uses information prevailing up until t=1. Hence, it does not include the inflation passed-on to the earnings of the firm between t=1 and t=2. Thus, *MPEG* will be used to test the hypothesis about real beliefs (H1).

3.2.3 Inflation

We obtain the monthly consumer price index for all urban consumers (CPI-U) and all items on a seasonally adjusted basis from the U.S. Bureau of Labor Statistics. We construct year-on-year (yoy) and month-on-month (mom) changes in the CPI, yielding the variables *Inflayoy* and *Inflamom*, which are denoted in percentage points. We gather historical inflation rate release dates from the Federal Reserve Bank of St. Louis. If two release dates prevail in a given month, e.g., due to inflation rate corrections, we keep the later date.

We follow Ang, Bekaert, and Wei (2007), who find that surveys forecast inflation best, and use the Survey of Professional Forecasters, provided by the Federal Reserve Bank of Philadelphia, to construct inflation surprise proxies. Each quarter, the surveyed provide quarterly inflation rate forecasts for various time horizons. We collect the forecasts for the current and next quarter's inflation rate and calculate monthly inflation rates using the geometric formula. The monthly forecast rates in a given quarter are thus equal.

The forecasts are disclosed around the middle of each quarter. Thus, each quarter, two out of three monthly inflation rates are already published by the BLS by the time the forecasts are provided. Hence, we match the monthly forecast rate of the current quarter with the last month of a quarter. This reduces the sample to a quarter since only March, June, September, and December observations are kept. The inflation surprise variable, *InfSurpC* is then defined as *Inflamom* less the forecasted rate. This measure is imperfect because the information set is rich by the time the current quarter's forecast is formed. I thus compute the analagous inflation surprise measure, *InfSurpN*, using next quarter's forecasts and matching them with the respective inflation rates. The disadvantage of this variable is that, in a given quarter, it only varies with the inflation rates but not with the forecasted rates. The advantage is that no inflation rate is in the information set of the surveyed by the time the forecasts are formed.

We also construct the variable *absdInfSurpN* which is the absolute difference between $InfSurpN_t$ and $InfSurpN_{t-1}$. This variable is used to proxy for inflation uncertainty. We use it to test the effect of uncertainty on real costs of capital.

3.2.4 Pricing power

We create the variable *Mktshr* to proxy for relative pricing power. It is defined as $Sales_{i,t}$ divided by the sum of $Sales_{i,t}$ of the respective FF12-industry in a given month, where $Sales_{i,t}$ are annual sales, as reported by Compustat. Based on *Mktshr*, we construct an indicator variable, *MktshrHigh* equal to 1 if the market share of a firm in a given industry-month is greater or equal than the median in this group and zero otherwise.

3.2.5 Analyst revisions

From the I/B/E/S Details file, we take the analyst forecasts for EPS (annual periodicity) and CPS. For each month, we then compute the mean analyst forecasts before and after the inflation rate announcement. The variable *AnRevEPS* (*AnRevCPS*) is then calculated as the difference between mean analyst forecasts of EPS (CPS) before and after the inflation rate disclosure, divided by the average forecast before the announcement. This variable is coded missing for observations with average forecast pre announcement equal to zero.

3.2.6 Variables influencing investors' ability to assess pricing power

Analyst experience. We create the analogous versions of *AnRevEPS* and *AnRevCPS* for a subset of investors with working experience as an analyst of more than 10 years. The resulting variables are called *AnRevEPS_stars* and *AnRevCPS_stars*. We derive the working experience by extracting the date of the first appearance in the I/B/E/S file of the respective analyst. There are 33.20% experienced analysts in the I/B/E/S universe.

FCF composition complexity. We create the variable *DQ* by counting all non-missing cash flow elements of a firm in a given year as provided by Compustat. This variable is an adapted version of the disaggregation quality measure of Chen, Miao, and Shevlin (2015).

Institutional holdings. To test whether the trading of institutional investors is more informed, we create the variable *InstHold* which is the sum of shares hold by institutional investors, as disclosed in 13F filings obtained from Thomson Reuters, divided by shares outstanding.

Table 2 provides descriptive statistics of the main variables.

- Table 2 about here. -

In Figure 2 we provide descriptive statistics for the variable *Mktshr*, split by Fama French

12 industries. The mean market share varies from 0.58 % (Manufacturing) to 2.83 % (Telecom). The Consumer Durables industry is most concentrated: The industry's mean and maximum market shares are the highest across the industries. The Manufacturing industry, on the other hand, is least concentrated. The

- Figure 2 about here. -

4 Hedging properties of pricing power

4.1 Method

This section addresses the hypothesis on the relationship between pricing power and the stock price reaction in inflationary periods (H1). We employ versions of the following regression model:

$$Return_{i,t+1} = \beta_0 + \beta_1 Inflation_{i,t} \times MktshrHigh_{i,t} + \delta' \mathbf{X}_{i,t} + \gamma_i + \theta_t + \epsilon_{i,t}, \qquad (12)$$

where $Return_{i,t+1}$ is the stock return next month, $Inflation_{i,t}$ is a measure of inflation or inflation surprise, $MktshrHigh_{i,t}$ captures pricing power using the *MktshrHigh* indicator variable, $\mathbf{X}_{i,t}$ captures firm controls *MtB*, *Cash*, *Profitability*, and *Size*, γ_i captures firm and θ_t year fixed effects. The robust standard errors are clustered at the firm level. The main variable of interest is the interaction term between inflation and pricing power.

4.2 Results

This subsection presents the results of the regressions of returns on the interaction of pricing power and inflation measures. Table 3 shows the regression results using *Inflamom* as inflation measure, while Table 4 uses inflation surprise measures *InfSurpC* and *InfSurpN*. In both tables, models (1) and (2) use $Return_{t+1}$ as the dependent variable, whereas models (3) and (4) use $CAPMret_{t+1}$ and $FF3ret_{t+1}$, respectively.

Model (1) of Table 3 shows the main effect without control variables. There is a highly significantly negative coefficient on *Inflamom* and a highly significantly positive coefficient on the interaction term *Inflamom* × *MktshrHigh*. Adding firm control variables and firm and year fixed effects in model (2) only slightly changes these coefficients.

The economic magnitude of the implied effects is sizeable: A 0.1 percentage point increase in the inflation rate (average is 0.4%) is associated with a decrease in next-month's return by 0.593 percentage points for low pricing power firms, on average. High pricing power firms experience a 0.296 percentage points lower decrease, indicating that high pricing power firms can mitigate the drop in raw returns by half (2.956/5.925 =0.499). Similar results obtain in models (3) and (4) when using $CAPMret_{t+1}$ or $FF3ret_{t+1}$, respectively, as the dependent variable.

- Table 3 about here. -

The regression uses a median split for the pricing power proxy, but it is interesting to check whether the effect is linear over the range. For this purpose, we first regress $Return_{t+1}$ on *InfSurpN*, separately for each of 10 *Mktshr* deciles, where decile 1 indicates the lowest and decile 10 the highest market shares. We plot the resulting coefficients in Figure 3.

- Figure 3 about here. -

Figure 1 shows that the negative effect of inflation surprises on stock returns almost continuously decreases in market shares, confirming linearity. However, even for the firms with the highest market shares, inflation has a statistically significant negative effect.

One concern with the models in Table 3 is that investors may have already anticipated part of the inflation rate to the extent that it is already priced in. To investigate this further, we employ the inflation surprise proxies, *InfSurpC* and *InfSurpN* instead of *Inflamom*. Table 4 provides the regression results.

- Table 4 about here. -

As expected, the coefficient on both the inflation proxy and the interaction between inflation and pricing power sligthly decrease in magnitude, because part of the effect was anticipated. However, the coefficient on the interaction term between *InfSurpN* and *MktshrHigh* remains significant at the 1% level when using $Return_{t+1}$ and $CAPMret_{t+1}$ as dependent variable and it is significant at the 1% level when using $FF3ret_{t+1}$ as dependent variable.

4.3 Robustness

To check the robustness of these results, we conduct the regressions summarized in Table 5. Model (1) uses month-year instead of year fixed effects (*InfSurpN* is dropped because of collinearity), model (2) adds year clustering of standard errors, model (3) uses an extended sample period ranging from 2016:01 until 2022:12, and model (4) uses the continous version of market share, *Mktshr* to test linearity of results found with *MktshrHigh*. The coefficient on *InfSurpN* $\times$ *MktshrHigh* remains positive, highly significant, and robust in models (1)-(3). Model (4) confirms linearity of the effect: The coefficient on the interaction between *InfSurpN* and *Mktshr* equals 34.456 and is significant at the 1% level.

- Table 5 about here. -

The regression results discussed so far confirm the negative relationship between inflation and future stock returns and suggest that during periods of higher than expected inflation, returns decrease less for firms with high pricing power. Using the notation of Section 2, this first result indicates that investors assess λ to be higher than its true value, that is, $\hat{\lambda} > \lambda$. The second result indicates that the investors' assessment of λ correlates negatively with pricing power, that is, their assessment of high pricing power firms is more accurate (nearer to the true λ) than that of low pricing power firms. As shown in Section 2, this positive effect of pricing power in inflationary periods could also be driven by updated real beliefs, i.e., investors reassess real costs of capital of low pricing power firms to be higher post inflation surprise. Section 5 investigates the drivers of the effects found so far by separately examining the effect of pricing power post inflation surprises on free cash flows and costs of capital.

5 Transmission channels

This section addresses hypothesis H2 on the impact of inflation on free cash flows, given pricing power, hypothesis H3 on the relationship between pricing power and costs of capital during inflationary periods, and hypothesis H4 on the assessment of free cash flows and costs of capital by investors. We will first investigate the free cash flow channel.

- Table 6 about here. -

The dependent variable in Model (1) of Table 6 is $Earnings_{t+1}$, i.e., one year ahead earnings. The coefficient on *Inflayoy* × *MktshrHigh* is positive and highly significant. Firms with high pricing power deliver higher future earnings, on average and holding everything else constant, after inflationary periods. Somewhat surprisingly perhaps, the standalone impact of *MktshrHigh* is negative, once the differences between inflationary periods and normal periods. Thus, pricing power alone does not positively affect future free cash flows. Overall, these results support Hypothesis H2.

Do analysts correctly revise their forecasts? To answer, in model (2) of Table 6 we use *AnRevEPS*, i.e., analyst revisions of EPS forecasts after the disclosure of the inflation rate in month t, as the dependent variable. We expect a positive coefficient on *InfSurpN* $\times$ *MktshrHigh*. Yet, the coefficient is not significant. This indicates that analysts fail to correctly assess the total effect of pricing power (λ) during inflationary periods. [5]

Specification (3) introduces a triple interaction between *InfSurpN*, *MktshrHigh*, and the standardized version of *DQ*, *DQ(std)*. A greater value of *DQ* indicates that more granular information about the composition of the free cash flow is available to market participants. Once controlling for this firm characteristic and its interactions, analysts seem to still not incorporate pricing power in their forecasts following an inflation shock. These effects do not go in the direction expected from the derivations shown in 2. Initially surprisingly, the triple interaction effects between *DQ*, *InfSurpN*, and *MktshrHigh* imply that there is a positive (negative) effect for firms with low (high) pricing power.[6]

To test the robustness of these findings, we run regressions analogous to models (1) - (3) of Table E.1, but using free cash flows instead of earnings and analyst revisions of cash flows per share (CPS) instead of EPS as dependent variables. We obtain the same findings.

The fourth and fifth specifications of Table 6 again use $Return_{t+1}$ as the dependent variable to examine the pricing effects in more detail. First, model (4) reveals that there is no heterogeneous impact of the extent to which a firm is held by institutional investors,

[5]In Appendix F we find that more experienced analysts (analysts with more than 10 years of working experience as analysts) also fail to correctly update their beliefs.

[6]These effects are puzzling. We speculate that analysts update an initial expected value of overall pricing power to the lesser extreme once they realize that free cash flow composition is complex. Put differently, when analysts perceive a firm as having high (low) pricing power and then realize that there is actually much more moving parts to incorporate in their assessment, they adjust their beliefs about overall pricing power down (up).

which arguably is a proxy for investor sophistication.

As shown in Section 2, free cash flow components play a key role in the transmission of inflation to free cash flows. Hence, the fifth model includes interaction terms between *InfSurpN* and *Capex*, *Sales*, *CurDebt*, *LongDebt*, *COGS*, *Taxes* to proxy for these factors and to test whether investors correctly incorporate pricing power in their beliefs. The coefficient on *InfSurpN* $\times$ *MktshrHigh* remains positive and significant at the 1% level. Importantly, all coefficients on the interaction terms and the standalone variables *Capex*, *Sales*, *CurDebt*, *LongDebt*, *COGS*, *Taxes* are insignificant or, if significant, equal to 0.000. If investors correctly incorporated the value of pricing power into their beliefs about future cash flow post inflation shock (as shown in the valuation model in 2), the coefficients on these interaction terms should have been significantly different from zero (even independently of variation in pricing power). The exception is the interaction term *Capex* $\times$ *InfSurpN* (-7.309^{*}, significant at the 10% level. Given that none of the other interaction terms with the free cash flow components are significant, it seems plausible that this effect is not due to an incorporation of the role of *Capex* for cash flows, but rather that it captures the inflation-induced uncertainty about growth investments. Firms with high *Capex* are in a more uncertain position about the future when an inflation shock occurs.

The results so far indicate that neither investors nor analysts correctly reassess future free cash flows given an inflation shock. Since, empirically, a positive marginal impact of pricing power on stock returns is found, the reassessment is likely to happen on the costs of capital side. We test this channel in Table 7.

- Table 7 about here. -

The specifications in Table 7 use *MPEG* as dependent variable. *MPEG* proxies for real implied costs of capital. Models (1) and (2) of Table 7 use *absdInfSurpN* as a key explanatory variable. This variable proxies for inflation uncertainty and is therefore suitable for testing H3. The coefficient on *absdInfSurpN* is 0.193 and is significant on the 1% level. The coefficient on the interaction between *absdInfSurpN* and *MktshrHigh* is -0.101 and is also significant at the 1% level. Hence, the implied costs of capital of low pricing power firms are positively associated with inflation uncertainty on average and holding everything else constant. This result indicates that investors reassess low pricing power firms more prone to systematic risk, and they apply higher costs of capital when discounting expected future free cash flow. This channel, therefore, provides an explanation of the positive marginal impact of pricing power on stock returns during inflationary periods.

6 Conclusion

This paper studies pricing power as a corporate hedging property during inflationary periods. We derive the theoretical impact of pricing power on the value of equity during inflationary periods. The theoretical effect depends on individual firm characteristics (i.e., free cash flow components). We empirically show that when inflation hits, stock prices of firms with higher pricing power are less negatively affected than those of firms with low pricing power. An analysis of the transmission channels reveals that while high-pricing-power firms' future earnings are indeed more resilient to inflation, analysts fail to correctly revise earnings forecasts during inflationary periods. By contrast, there is robust evidence for the costs of capital channel: Investors apply a risk premium to low-pricing-power firms, resulting in higher implied costs of capital. Consequently, low-pricing-power firms are perceived as overvalued and high-pricing-power firms as undervalued during inflationary periods.

References

Ang, Andrew, Geert Bekaert, and Min Wei, 2007, Do macro variables, asset markets, or surveys forecast inflation better?, *Journal of Monetary Economics* 54, 1163–1212.

Augustin, Patrick, Linxiao Cong, Alexandre Corhay, and Michael Weber, 2021, Price Rigidities and Credit Risk, *SSRN Electronic Journal*.

Bekaert, Geert and Xiaozheng Wang, 2010, Inflation risk and the inflation risk premium, *Economic Policy* 25, 755–806.

Berk, Jonathan and Peter DeMarzo, 2007, *Corporate Finance*. Pearson Education.

Bhamra, Harjoat S, Christian Dorion, Alexandre Jeanneret, and Michael Weber, 2023, High Inflation: Low Default Risk and Low Equity Valuations, *The Review of Financial Studies* 36, 1192–1252.

Bodie, Zvi, 1976, Common Stocks as a Hedge Against Inflation, *The Journal of Finance* 31, 459–470.

Bradley, Michael and Gregg A. Jarrell, 2008, Expected Inflation and the Constant-Growth Valuation Model*, *Journal of Applied Corporate Finance* 20, 66–78.

Brealey, Richard A, Stewart C Myers, and Franklin Allen, 2006, *Principles of Corporate Finance*. Thirteenth Edition. New York: McGraw-Hill Education.

Chen, Shuping, Bin Miao, and Terry Shevlin, 2015, A New Measure of Disclosure Quality: The Level of Disaggregation of Accounting Data in Annual Reports, *Journal of Accounting Research* 53, 1017–1054.

Cohen, Randolph B, Christopher Polk, and Tuomo Vuolteenaho, 2005, Money Illusion in the Stock Market: The Modigliani-Cohn Hypothesis, *Quarterly Journal of Economics*, 639–668.

Cohn, Richard A and Donald R Lessard, 1981, The Effect of Inflation on Stock Prices: International Evidence, *The Journal of Finance* 36, 277–289.

D'Acunto, Francesco, Ryan Liu, Carolin Pflueger, and Michael Weber, 2018, Flexible prices and leverage, *Journal of Financial Economics* 129, 46–68.

Easton, Peter D, 2004, PE Ratios, PEG Ratios, and Estimating the Implied Expected Rate of Return on Equity Capital, *The Accounting Review* 79, 73–95.

Eraker, Bjørn, Ivan Shaliastovich, and Wenyu Wang, 2016, Durable Goods, Inflation Risk, and Equilibrium Asset Prices, *Review of Financial Studies* 29, 193–231.

Fama, Eugene F, 1981, Stock Returns, Real Activity, Inflation, and Money, *The American Economic Review* 71, 545–565.

Favilukis, Jack and Xiaoji Lin, 2016, Does wage rigidity make firms riskier? Evidence from long-horizon return predictability, *Journal of Monetary Economics* 78, 80–95.

Feldstein, Martin S., 1983, *Inflation, tax rules, and capital formation*. A National Bureau of Economic Research monograph. Chicago: University of Chicago Press. 300 pp.

Fisher, Irving, 1930, *The Theory of Interest*. New York: The Macmillan Company.

Gil de Rubio Cruz, Antonio, Emilio Osambela, Berardino Palazzo, Francisco Palomino, and Gustavo Suarez, 2023, Inflation surprises and equity returns.

Gorodnichenko, Yuriy and Michael Weber, 2016, Are Sticky Prices Costly? Evidence from the Stock Market, *American Economic Review* 106, 165–199.

Gu, Lifeng, Dirk Hackbarth, and Tong Li, 2019, Inflexibility and Leverage, *SSRN Electronic Journal*.

Hong, Hai, 1977, Inflation and the Market Value of the Firm: Theory and Tests, *The Journal of Finance* 32, 1031–1048.

Hou, Kewei, Mathijs A Van Dijk, and Yinglei Zhang, 2012, The implied cost of capital: A new approach, *Journal of Accounting and Economics* 53, 504–526.

Katz, Michael, Hanno Lustig, and Lars Nielsen, 2017, Are Stocks Real Assets? Sticky Discount Rates in Stock Markets, *Review of Financial Studies* 30, 539–587.

Koller, Tim, Marc Goedhart, and David Wessels, 2010, *Valuation: Measuring and Managing the Value of Companies, University Edition*. John Wiley and Sons.

Lee, Kyeong Hun, David C Mauer, and Emma Q Xu, 2022, Selling durables: Financial flexibility for limited cost pass-through, *Journal of Corporate Finance* 75, 102228.

Mão de Ferro, Ana and Stefano Ramelli, 2023, The Value of Corporate Social Responsibility: Evidence from an Inflation-Driven Crisis of Trust, *Swiss Finance Institute Research Paper Series N°23-06*.

Modigliani, Franco and Richard A. Cohn, 1979, Inflation, Rational Valuation and the Market, *Financial Analysts Journal* 35, 24–44.

Pasten, Ernesto, Raphael Schoenle, and Michael Weber, 2020, The propagation of monetary policy shocks in a heterogeneous production economy, *Journal of Monetary Economics* 116, 1–22.

Van Horne, James and William F Glassmire, 1972, The Impact of Unanticipated Changes in Inflation on the Value of Common Stocks, *The Journal of Finance*, 1081–1092.

Figure 1: Sensitivity analysis of FCF_1^{Real} given γ and δ.

This figure shows how FCF_1^{Real} is affected given different values for γ and δ. Each curve represents an indifference curve with fixed values of FCF_1^{Real}. The components other than γ and δ are set to $Sales_1 = 1000$, $COGS_1 = 400$, $SG\&A_1 = 200$, $Depreciation_1 = 50$, $CurrAssets_1 - CurrAssets_0 = 40$, $CurrLiab_1 - CurrLiab_0 = 50$, $Capex_1 = 100$, $TaxRate_1 = 0.2$. The dashed gray line indicates a marginal rate of substitution of 1. A curve steeper (flatter) than the gray curve indicates that the marginal impact of pricing power towards customers on free cash flows after the inflation shock is greater (smaller) than that towards other stakeholders.

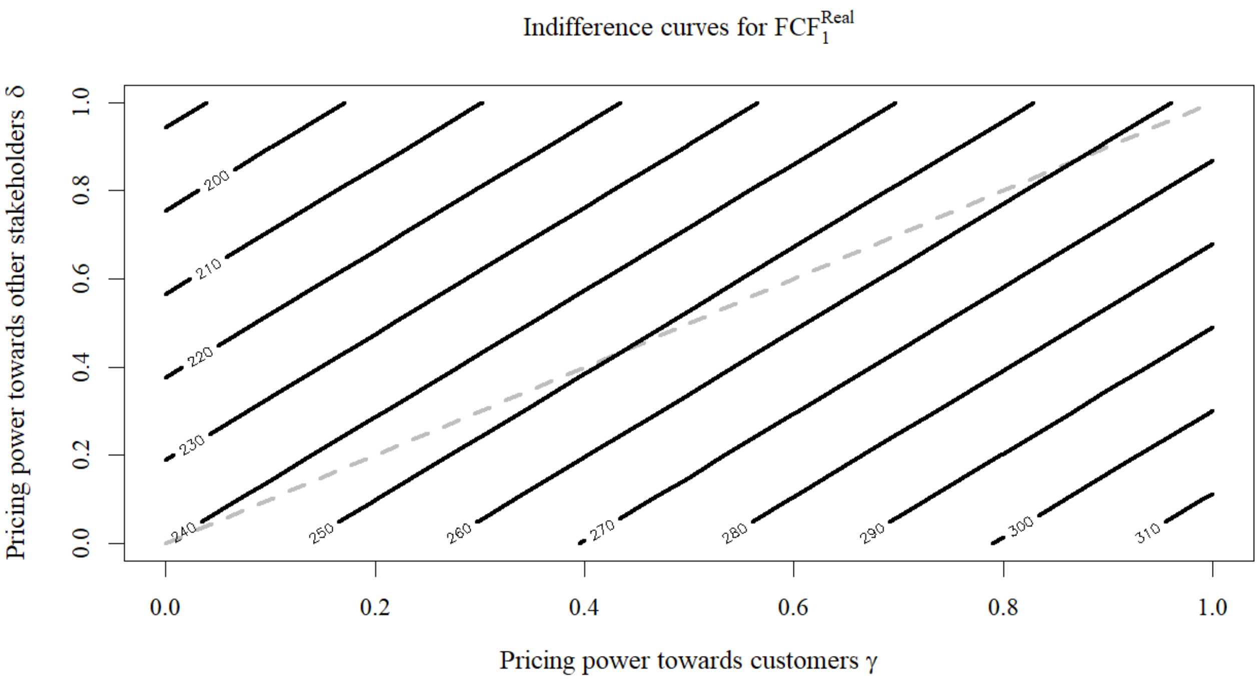

Figure 2: Market share by industry.

This figure shows descriptive statistics for the variable *Mktshr*. The gray horizontal line indicates the range of the variable, with the lowest market share value indicating the minimum and the highest value indicating the maximum. The black point indicates the mean. The black horizontal line shows one standard deviation from the mean. The vertical lines represent the 25th, 50th, and 75 percentiles. The industries are defined according to the Fama French 12 industries classification. The financial industry (number 11) is not included in the sample. The statistics were computed for the whole sample for the period 2020:01 - 2022:12. The variable market share is winsorized at the 1% and 99% levels. A detailed description of the construction of the variable *Mktshr* is provided in Section 3 and in Appendix C.

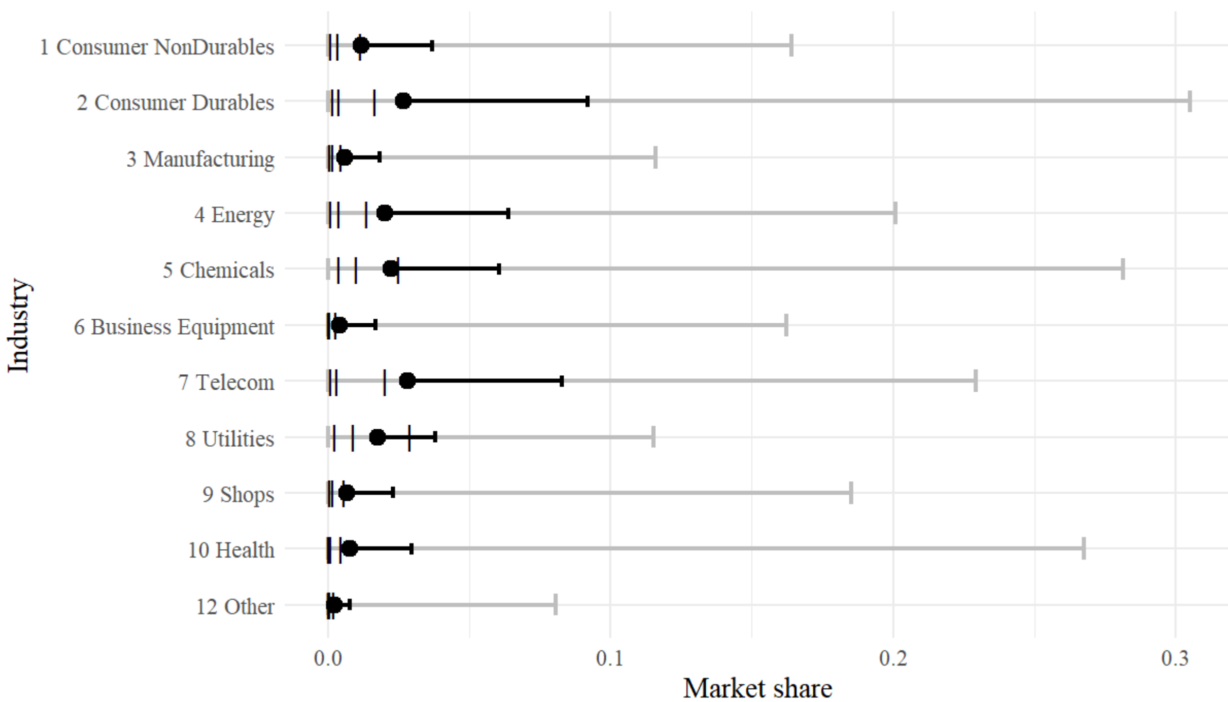

Figure 3: Inflation surprise and returns by market share group.

This figure shows the coefficients regressions of $Return_{t+1}$ on *InfSurpN*, separated by *Mktshr* deciles, where decile 1 indicates the lowest and decile 10 the highest market shares. The regressions include firm and year fixed effects. Standard errors are clustered at the firm and year levels. All coefficients are significant at the 1% level.

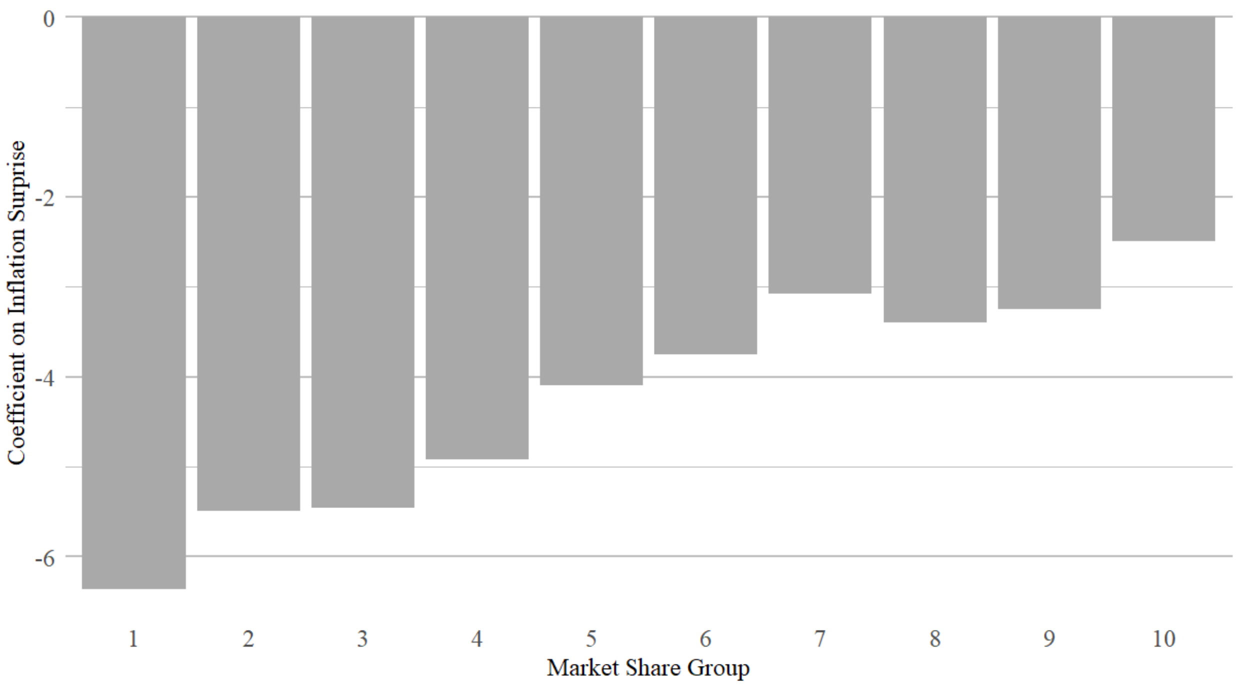

Table 1: Inflation Factors and FCF Components.

Component	Factors influencing impact of inflation on component	Denoted
Sales	Pricing power in relation to customers.	γ
COGS, *SG&A*	Pricing power in relation to other stakeholders.	δ
NWC	Pricing power in relation to customers (*CurrAssets*) and other stakeholders (*CurrLiab*).	γ, δ
CAPEX	Pricing power in relation to suppliers (stakeholder).	δ
Depreciation	Depends on the depreciation schedule. Technically, it is the portion of the change in nominal CAPEX caused by inflation attributable to year 1. If we assume assets are bought at the end of the year and depreciated in the next year, the first inflation effect on depreciation happens in t = 2 (Koller, Goedhart, and Wessels (2010)).	-
Liabilities	If the debt is needed for new investments, it depends on pricing power in relation to suppliers (stakeholder). If the debt is needed to optimize leverage, the effect on liabilities is given by the (endogenous) effect of all pricing power measures. The overall effect could be a mix of both.	θ

This table shows how individual free cash flow elements are affected by inflation, considering pricing power.

Table 2: Descriptive statistics.

Variable	NObs	Mean	SD	Min	Q25	Q50	Q75	Max
AnRevCPS	4,187	0.051	0.500	-1.000	-0.082	0.008	0.111	3.000
AnRevCPS_stars	2,555	0.050	0.501	-1.000	-0.071	0.006	0.103	3.000
AnRevEPS	13,744	0.044	0.466	-1.000	-0.041	0.003	0.058	3.000
AnRevEPS_stars	8,704	0.044	0.473	-1.000	-0.042	0.003	0.062	3.000
CAPMret	52,523	0.006	0.174	-1.000	-0.072	-0.005	0.065	3.000
Cash	52,523	0.150	0.160	0.000	0.038	0.099	0.199	0.852
DQ	52,523	31.166	2.278	16.000	30.000	31.000	32.000	38.000
FF3ret	52,523	0.005	0.178	-1.000	-0.073	-0.006	0.064	3.000
InfSurpC	17,680	0.002	0.004	0.000	0.000	0.003	0.006	0.006
InfSurpN	52,523	0.002	0.004	0.000	0.000	0.002	0.005	0.009
Inflamom	52,523	0.004	0.004	0.000	0.002	0.004	0.007	0.012
Inflayoy	52,523	0.047	0.030	0.000	0.014	0.052	0.078	0.089
InstHold	17,066	0.715	0.266	0.000	0.584	0.807	0.917	1.000
MPEG	45,090	0.015	0.014	0.000	0.007	0.011	0.018	0.197
Mktshr	52,523	0.008	0.023	0.000	0.000	0.001	0.004	0.305
MktshrHigh	52,523	0.515	0.500	0.000	0.000	1.000	1.000	1.000
MtB	52,523	5.251	8.226	0.200	1.454	2.724	5.442	245.600
Profitability	52,523	-0.009	0.177	-2.900	-0.031	0.028	0.070	0.546
Return	52,523	0.014	0.185	-0.800	-0.077	0.000	0.082	3.000
Size	52,523	7.152	2.071	1.300	5.835	7.219	8.573	12.718
absdInfSurpN	52,523	0.004	0.003	0.000	0.002	0.004	0.005	0.013
Earnings	52,523	0.359	1.635	-5.400	-0.010	0.025	0.200	61.271
FCF	52,523	1.325	4.177	-16.500	0.013	0.155	0.849	100.567

This table shows descriptive statistics. The sample period is from 2020:01 through 2022:12. Appendix C provides detailed variable descriptions.

Table 3: Hedging properties of pricing power during inflationary periods.

	$Return_{t+1}$ (1)	$Return_{t+1}$ (2)	$CAPMret_{t+1}$ (3)	$FF3ret_{t+1}$ (4)
Inflamom	-7.380***	-5.925***	-3.374***	-1.416***
	(0.388)	(0.390)	(0.400)	(0.380)
Inflamom × MktshrHigh	3.308***	2.956***	3.381***	1.295***
	(0.439)	(0.428)	(0.430)	(0.402)
MktshrHigh	-0.015***	-0.017***	-0.011**	0.001
	(0.002)	(0.006)	(0.005)	(0.005)
Firm controls	No	Yes	Yes	Yes
Firm FE	No	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes
Observations	52,523	52,523	52,523	52,523
R^2	0.016	0.130	0.066	0.055
Within R^2	–	0.022	0.014	0.009

This table reports regressions of one-month-ahead stock returns (raw returns $Return_{t+1}$, CAPM-adjusted returns $CAPMret_{t+1}$, and Fama-French 3 Factor-adjusted returns $FF3ret_{t+1}$) on the interaction between inflation (*Inflamom*) and pricing power *(MktshrHigh)*. The firm control variables are *MtB*, *Cash*, *Profitability*, and *Size*. The analyses are based on monthly observations from 2020:01 through 2022:12. Standard errors are clustered at the firm level and reported in parentheses. Intercepts are not reported. *, **, and *** represent significance levels of 0.10, 0.05, and 0.01, respectively. Appendix C provides variable definitions.

Table 4: Hedging properties of pricing power and inflation surprises.

	Return_{t+1} (1)	Return_{t+1} (2)	CAPMret_{t+1} (3)	FF3ret_{t+1} (4)
InfSurpN		-5.287***	-3.030***	-1.282***
		(0.377)	(0.386)	(0.375)
InfSurpN × MktshrHigh		2.451***	2.827***	0.918**
		(0.419)	(0.421)	(0.407)
InfSurpC	-12.388***			
	(0.615)			
InfSurpC × MktshrHigh	2.532***			
	(0.703)			
MktshrHigh	-0.015	-0.009	-0.002	0.005
	(0.011)	(0.005)	(0.005)	(0.005)
Firm Controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	17,680	52,523	52,523	52,523
R^2	0.236	0.129	0.066	0.055
Within R^2	0.074	0.021	0.014	0.009

This table reports regressions of one-month-ahead stock returns (raw returns $Return_{t+1}$, CAPM-adjusted returns $CAPMret_{t+1}$, and Fama-French 3 Factor-adjusted returns $FF3ret_{t+1}$) on the interaction between inflation surprise (*InfSurpC* and *InfSurpN*) and pricing power *(MktshrHigh)*. The firm control variables are *MtB*, *Cash*, *Profitability*, and *Size*. The analyses are based on monthly observations from 2020:01 through 2022:12. Standard errors are clustered at the firm level and reported in parentheses. Intercepts are not reported. *, **, and *** represent significance levels of 0.10, 0.05, and 0.01, respectively. Appendix C provides variable definitions.

Table 5: Robustness check of main effect.

	$CAPMret_{t+1}$ (1)	$CAPMret_{t+1}$ (2)	$Return_{t+1}$ (3)	$Return_{t+1}$ (4)
InfSurpN		-3.030***	-4.454***	-4.269***
		(0.454)	(0.315)	(0.248)
InfSurpN × MktshrHigh	2.774***	2.827***	1.670***	
	(0.419)	(0.440)	(0.342)	
InfSurpN × Mktshr				34.456***
				(7.575)
MktshrHigh	-0.004	-0.002	-0.003	
	(0.005)	(0.004)	(0.003)	
Mktshr				-0.885***
				(0.180)
Firm controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Month-Year FE	Yes	No	No	No
Year FE	No	Yes	Yes	Yes
Observations	52,523	52,523	114,372	52,523
R^2	0.090	0.066	0.063	0.129
Within R^2	0.013	0.014	0.011	0.021

This table reports regressions of one-month-ahead stock returns (raw returns $Return_{t+1}$, CAPM-adjusted returns $CAPMret_{t+1}$) on the interaction between inflation surprise ($InfSurpN$) and pricing power ($MktshrHigh$ and $Mktshr$). The firm control variables are *MtB*, *Cash*, *Profitability*, and *Size*. Models (1), (2), and (4) cover observations from 2020:01 through 2022:12, while model (3) covers the period 2016:01 through 2022:12. Standard errors are reported in parentheses and clustered at the firm level in all models except Model (2), where they are clustered at the firm and year levels. Intercepts are not reported. *, **, and *** represent significance levels of 0.10, 0.05, and 0.01, respectively. Appendix C provides variable definitions.

Table 6: Free cash flows channel.

	$Earnings_{t+12}$	AnRevEPS	AnRevEPS	$Return_{t+1}$	$Return_{t+1}$
	(1)	(2)	(3)	(4)	(5)
MktshrHigh	-0.337***	0.011	0.012	-0.095	-0.001
	(0.049)	(0.033)	(0.033)	(0.067)	(0.007)
Inflayoy × MktshrHigh	7.480***				
	(0.999)				
InfSurpN		1.569	2.476	-12.570***	-3.733***
		(3.408)	(3.529)	(1.571)	(0.737)
InfSurpN × MktshrHigh		-1.564	-2.331	5.882**	1.922***
		(3.613)	(3.726)	(2.518)	(0.617)
InfSurpN × DQ(std)			5.416**		
			(2.439)		
MktshrHigh × DQ(std)			0.027		
			(0.025)		
InfSurpN × MktshrHigh			-6.238**		
×DQ(std)			(2.600)		
				(0.060)	
InfSurpN × InstHold				1.101	
				(2.087)	
InfSurpN × MktshrHigh				-4.209	
× InstHold				(3.144)	
Earnings	0.087	0.002	0.002		
	(0.181)	(0.004)	(0.004)		
Firm controls	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
FCF interaction terms	No	No	No	No	Yes
Observations	52,523	13,744	13,744	17,066	25,141
R^2	0.881	0.170	0.170	0.240	0.143
Within R^2	0.034	0.001	0.002	0.074	0.030

This table reports regressions of next year's earnings ($Earnings_{t+12}$) on the interaction between inflation (*Inflayoy*) and pricing power (*MktshrHigh*), of analysts' EPS forecast revisions (*AnRevEPS*) on the interaction between inflation surprise (*InfSurpN*) and pricing power and on the interaction between inflation surprise and variables driving analysts' ability to assess the impact of pricing power on free cash flows (*DQ*), and of next month's raw stock returns ($Return_{t+1}$) on the interaction between inflation surprise and pricing power on the interaction between inflation surprise and variables driving investors' ability to assess the impact of pricing power on free cash flows (*InstHold*) and on the interaction between inflation surprise and free cash flow components (labeled 'FCF interaction terms'). The firm control variables are *MtB*, *Cash*, *Profitability*, and *Size*. The FCF interaction terms are between *InfSurpN* and *Capex, Sales, CurDebt, LongDebt, COGS, Taxes*, respectively. All coefficients on the interaction terms and the standalone variables are insignificant or, if significant, equal to 0.000. Exceptions are the coefficients on Capex (-0.061^*) and Capex×InfSurpN (-7.309^*). The analyses are based on monthly observations from 2020:01 through 2022:12. Standard errors are clustered at the firm level and reported in parentheses. Intercepts and coefficients on interaction terms between auxiliary variables are not reported. Appendix D provides the unshortened results of this table. *, **, and *** represent significance levels of 0.10, 0.05, and 0.01, respectively. Appendix C provides variable definitions.

Table 7: Costs of capital channel.

	MPEG (1)	MPEG (2)	MPEG (3)
absdInfSurpN	0.193***	0.194***	
	(0.018)	(0.034)	
MktshrHigh	0.001	0.000	-0.001
	(0.000)	(0.001)	(0.004)
InfSurpN			-0.626***
			(0.076)
InstHold			-0.016***
			(0.003)
absdInfSurpN	-0.101***	-0.076**	
×MktshrHigh	(0.023)	(0.033)	
InfSurpN			0.382**
×MktshrHigh			(0.152)
InfSurpN			0.675***
×InstHold			(0.104)
MktshrHigh			0.002
×InstHold			(0.004)
InfSurpN × MktshrHigh			-0.470***
×InstHold			(0.177)
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
FCF interaction terms	No	Yes	No
Observations	45,090	21,814	14,717
R^2	0.785	0.841	0.77
Within R^2	0.056	0.099	0.073

This table reports regressions of implied costs of capital (*MPEG*) on the interaction between inflation surprise (*InfSurpN* and *absdInfSurpN*) and pricing power. The firm control variables are *MtB*, *Cash*, *Profitability*, and *Size*. The analyses are based on monthly observations from 2020:01 through 2022:12. The interaction terms are between *InfSurpN* and *Capex, Sales, CurDebt, LongDebt, COGS, Taxes*, respectively. All coefficients on the interaction terms and the standalone variables *Capex, Sales, CurDebt, LongDebt, COGS, Taxes* are insignificant. Standard errors are clustered at the firm level and reported in parentheses. Intercepts are not reported. *, **, and *** represent significance levels of 0.10, 0.05, and 0.01, respectively. Appendix C provides variable definitions.

Appendix

A Derivation free cash flows to equity

To derive Equation 5 of the paper, we start with the definition of free cash flows to equity:

$$\begin{aligned}
FCF_t^{Equity} &= FCF_t^{Entity} \\
&\quad + NetDebtIssued_t \\
&= (1 - TaxRate_t)EBIT_t + Depreciation_t - (NWC_t - NWC_{t-1}) - CAPEX_t \\
&\quad + (Liabilities_t - Liabilities_{t-1}) - i * Liabilities_t + TaxAdj_t \\
&= (1 - TaxRate_t)EBIT_t + Depreciation_t - (NWC_t - NWC_{t-1}) - CAPEX_t \\
&\quad + (1 - i)Liabilities_t - Liabilities_{t-1} + TaxRate_t(EBIT_t - EBT_t) \\
&= (1 - TaxRate_t)EBT_t + Depreciation_t - (NWC_t - NWC_{t-1}) - CAPEX_t \\
&\quad + (1 - i)Liabilities_t - Liabilities_{t-1},
\end{aligned} \tag{13}$$

where t is the index for time, FCF is the free cash flow to entity, $NetDebtIssued$ is the net debt issued, EBT are earnings before taxes, $TaxRate_1$ is the income tax rate, $Depreciation_1$ is the depreciation, NWC is the net working capital (current assets minus current liabilities), $CAPEX$ are capital expenditures (change in long-term assets plus depreciation), $Liabilities$ are the interest-bearing liabilities, i is the interest rate, and $TaxAdj_1$ is the tax adjustment arising from applying the tax rate to $EBIT$ instead of EBT when calculating FCF.

B Derivation costs of equity

$$
\begin{aligned}
V_0 &= \frac{FCF_0^{Real}(1+g)}{k^{Real} + k^{Real}\pi^e + \pi^e - (pr^{Nom} + (1-p)\pi^e)} \\
&= \frac{FCF_0^{Real}(1+g)}{k^{Real} + k^{Real}\pi^e + \pi^e - (p(k^{Real} + k^{Real}\pi^e + \pi^e) + (1-p)\pi^e)} \\
&= \frac{FCF_0^{Real}(1+g)}{k^{Real} + k^{Real}\pi^e + \pi^e - (pk^{Real} + pk^{Real}\pi^e + p\pi^e) + \pi^e - p\pi^e)} \\
&= \frac{FCF_0^{Real}(1+g)}{k^{Real} + k^{Real}\pi^e + \pi^e - pk^{Real} - pk^{Real}\pi^e - p\pi^e - \pi^e + p\pi^e} \\
&= \frac{FCF_0^{Real}(1+g)}{k^{Real} + k^{Real}\pi^e - pk^{Real} - pk^{Real}\pi^e} \\
&= \frac{FCF_0^{Real}(1+g)}{(k^{Real} - pk^{Real})(1+\pi^e)},
\end{aligned}
\tag{14}
$$

where FCF_0^{Real} is the real free cash flow to equity at the end of the first period, k^{Nom} (k^{Real}) are the firm's nominal (real) costs of equity, g is the growth rate, p is the plowback rate, r^{Nom} (r^{Real}) is the nominal (real) return on growth investments, π is the inflation rate, and π^e is the expected inflation rate.

C List of variables

Table C.1: List of variables.

Variable	**Description and computation**
absdInfSurpN	Absolute difference between InfSurpN and its one-month-lagged value.
AnRevEPS	Analyst revision of earnings per share (EPS) forecasts post inflation rate announcement. Computed as the difference between the average of analysts' EPS forecasts (annual periodicity) post inflation rate disclosure in a given month and the analogous term pre inflation rate disclosure, divided by the average analyst forecasts pre inflation rate disclosure. If the average forecast pre inflation rate disclosure equals 0, this variable is coded as missing. Winsorized at [-1, 3].
AnRevCPS	Analyst revision of cash flow per share (CPS) forecasts post inflation rate announcement. Computed as the difference between the average of analysts' CPS forecasts (annual periodicity) post inflation rate disclosure in a given month and the analogous term pre inflation rate disclosure, divided by the average analyst forecasts pre inflation rate disclosure. If the average forecast pre inflation rate disclosure equals 0, this variable is coded as missing. Winsorized at [-1, 3].
AnRevEPS_stars	Similar to *AnRevEPS*, but computed for a subsample of experienced analysts. An analyst is coded as experienced if they have been in the I/B/E/S file for at least ten years at the time of the observation.
AnRevCPS_stars	Similar to *AnRevCPS*, but computed for a subsample of experienced analysts. An analyst is coded as experienced if they have been in the I/B/E/S file for at least ten years at the time of the observation.
CAPMret	CAPM-adjusted returns. The CAPM is estimated over a 36-month window with a one-month gap, using Fama-French data from French's website. Winsorized at [-1, 3].
Capex	Capital expenditures, computed from Compustat items capx/ppent. Winsorized at the 1% and 99% levels.
Cash	Cash, computed from Compustat items ch/at. Winsorized at the 1% and 99% levels.
CurDebt	Current debt, the Compustat item dlcch. Winsorized at the 1% and 99% levels.
DQ	The number of non-missing cash flow items as reported by Compustat. This variable follows WRDS's classification of free cash flow items and is an adapted version of the *DQ* measure from Chen, Miao, and Shevlin (2015). Not winsorized.

Continued on next page

Table C.1 – Continued from previous page

Variable	Description and computation
Earnings	Earnings before extraordinary items, Compustat item ib. Winsorized at the 1% and 99% levels.
FCF	Free cash flow, computed from Compustat items oancf - ivncf + dltis - dltr. Winsorized at the 1% and 99% levels.
FF3ret	Fama-French 3-factor-adjusted returns. The factor betas are estimated over a 36-month window with a one-month gap, using Fama-French data from French's website. Winsorized at [-1, 3].
InfSurpC	Inflation surprise using the current quarter's inflation rate forecast from the Survey of Professional Forecasters. 3 provides a detailed description of the derivation of this variable. Not winsorized.
InfSurpN	Inflation surprise using the next quarter's inflation rate forecast from the Survey of Professional Forecasters. 3 provides a detailed description of the derivation of this variable. Not winsorized.
Inflamom	Month-over-month change in the CPI-U for all items, denoted in percentage points. Not winsorized.
Inflayoy	Year-over-year change in the CPI-U for all items, denoted in percentage points. Monthly frequency. Not winsorized.
InstHold	Sum of shares held by institutional investors, as disclosed in 13F filings obtained from Thomson Reuters, divided by shares outstanding (CRSP item shrout). Truncated at [0, 1].
LongDebt	Long-term debt, the Compustat item dltt. Winsorized at the 1% and 99% levels.
MPEG	Easton (2004) version of implied costs of capital, following the Hou, Van Dijk, and Zhang (2012) regression approach. Winsorized at [-1, 3].
Mktshr	Sales (Compustat item sale) of a firm divided by the sum of sales of the firm's FF12 industry (based on the 4-digit SIC code as reported by CRSP). Winsorized at the 1% and 99% levels.
MktshrHigh	Indicator variable equal to one if a firm has a higher *Mktshr* than its FF12 industry in a given month.
MtB	Market-to-book ratio, computed as the absolute value of CRSP items shares outstanding (shrout) times the last traded price in a month (altprc), divided by Compustat book value of equity (seq), i.e., abs(shrout * altprc)/seq. Winsorized at the 1% and 99% levels.
Profitability	Profitability, computed as Compustat items ib/at. Winsorized at the 1% and 99% levels.

Continued on next page

Table C.1 – Continued from previous page

Variable	**Description and computation**
Return	Monthly return of a firm's stock, as reported by CRSP. Adjusted for delisting. Winsorized at [-1, 3].
Sales	Sales of a firm, Compustat item sale. Winsorized at the 1% and 99% levels.
Size	Size of a firm, computed as the log-transformation of Compustat item at: log(at). Winsorized at the 1% and 99% levels.

This table provides a detailed description of the variables used in this paper.

D Unshortened version of Table 6.

Table D.1: Free cash flows channel.

	$Earnings_{t+1}$ (1)	AnRevEPS (2)	AnRevEPS (3)	$Return_{t+1}$ (4)	$Return_{t+1}$ (5)
Inflayoy	-3.762***				
	(0.507)				
MktshrHigh	-0.337***	0.011	-0.363	-0.095	-0.001
	(0.049)	(0.033)	(0.336)	(0.067)	(0.007)
Inflayoy × MktshrHigh	7.480***				
	(0.999)				
InfSurpN		1.569	-71.630**	-12.570***	-3.733***
		(3.408)	(32.181)	(1.571)	(0.737)
InfSurpN × MktshrHigh		-1.564	83.018**	5.882**	1.922***
		(3.613)	(34.382)	(2.518)	(0.617)
DQ			-0.009		
			(0.014)		
InfSurpN × DQ			2.378**		
			(1.071)		
MktshrHigh × DQ			0.012		
			(0.011)		
InfSurpN × MktshrHigh × DQ			-2.739**		
			(1.141)		
InstHold				-0.178***	
				(0.060)	
InfSurpN × InstHold				1.101	
				(2.087)	
MktshrHigh × InstHold				0.095	
				(0.077)	
InfSurpN × MktshrHigh × InstHold				-4.209	
				(3.144)	
Earnings	0.087	0.002	0.002		
	(0.181)	(0.004)	(0.004)		
Sales					0.000
					(0.000)
Capex					-0.061**
					(0.027)
CurDebt					0.000
					(0.000)
LongDebt					0.000
					(0.000)
COGS					0.000
					(0.000)

Continued on next page

Table D.1 – Continued from previous page

	$Earnings_{t+1}$ (1)	AnRevEPS (2)	AnRevEPS (3)	$Return_{t+1}$ (4)	$Return_{t+1}$ (5)
Taxes					0.000
					(0.000)
InfSurpN × Sales					0.000
					(0.000)
InfSurpN × Capex					-7.309**
					(2.855)
InfSurpN × CurDebt					0.000
					(0.000)
InfSurpN × LongDebt					0.000***
					(0.000)
InfSurpN × COGS					0.000**
					(0.000)
InfSurpN × Taxes					0.001
					(0.001)
Firm controls	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	52,523	13,744	13,744	17,066	25,141
R^2	0.881	0.170	0.170	0.240	0.143
Within R^2	0.034	0.001	0.002	0.074	0.029

This table reports regressions of next year's earnings ($Earnings_{t+12}$) on the interaction between inflation (*Inflayoy*) and pricing power (*MktshrHigh*), of analysts' EPS forecast revisions (*AnRevEPS*) on the interaction between inflation surprise (*InfSurpN*) and pricing power and on the interaction between inflation surprise and variables driving analysts' ability to assess the impact of pricing power on free cash flows (*DQ*), and of next month's raw stock returns ($Return_{t+1}$) on the interaction between inflation surprise and pricing power on the interaction between inflation surprise and variables driving investors' ability to assess the impact of pricing power on free cash flows (*InstHold*) and on the interaction between inflation surprise and free cash flow components. The firm control variables are *MtB*, *Cash*, *Profitability*, and *Size*. The FCF interaction terms are between *InfSurpN* and *Capex, Sales, CurDebt, LongDebt, COGS, Taxes*, respectively. The analyses are based on monthly observations from 2020:01 until 2022:12. Standard errors are clustered at the firm level and reported in parentheses. Intercepts are not reported. *, **, and *** represent significance levels of 0.10, 0.05, and 0.01, respectively. Appendix C provides variable definitions.

E Free cash flow channel using analysts' CPS forecast revisions

Table E.1: Pricing power and analysts' CPS forecasts.

	FCF_{t+12} (1)	AnRevCPS (2)	AnRevCPS (3)
Inflayoy	-1.875**		
	(0.758)		
MktshrHigh	-0.170*	0.096	0.867
	(0.091)	(0.063)	(1.064)
Inflayoy × MktshrHigh	3.706**		
	(1.520)		
InfSurpN		8.910*	-33.316
		(5.243)	(41.371)
InfSurpN × MktshrHigh		-8.053	29.705
		(5.585)	(43.855)
DQ			0.022
			(0.036)
InfSurpN × DQ			1.353
			(1.384)
MktshrHigh × DQ			-0.025
			(0.034)
InfSurpN × MktshrHigh			-1.214
× DQ			(1.468)
FCF	0.020	0.003	0.003
	(0.075)	(0.004)	(0.004)
Firm controls	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	52,523	4,187	4,187
R^2	0.907	0.320	0.321
Within R^2	0.014	0.003	0.003

This table reports regressions of next year's free cash flows (FCF_{t+12}) on the interaction between inflation (*Inflayoy*) and pricing power (*MktshrHigh*) and of analysts' CPS forecast revisions (*AnRevCPS*) on the interaction between inflation surprise (*InfSurpN*) and pricing power and on the interaction between inflation surprise and variables driving analysts' ability to assess the impact of pricing power on free cash flows (*DQ*). The firm control variables are *MtB*, *Cash*, *Profitability*, and *Size*. The analyses are based on monthly observations from 2020:01 until 2022:12. Standard errors are clustered at the firm level and reported in parentheses. Intercepts are not reported. *, **, and *** represent significance levels of 0.10, 0.05, and 0.01, respectively. Appendix C provides variable definitions.

F Free cash flow channel using experienced analysts' forecast revisions

Table F.1: Pricing power and experienced analysts' forecast revisions.

	AnRevCPS_stars (1)	AnRevEPS_stars (2)
InfSurpN	8.950	4.664
	(5.527)	(4.583)
InfSurpN × MktshrHigh	-7.894	-4.366
	(6.039)	(4.843)
MktshrHigh	0.019	0.059
	(0.037)	(0.047)
FCF	0.004	
	(0.006)	
Earnings		0.002
		(0.005)
Firm controls	Yes	Yes
Firm FE	Yes	Yes
Year FE	Yes	Yes
Observations	2,555	8,704
R^2	0.361	0.197
Within R^2	0.002	0.001

This table reports regressions of experienced analysts' EPS, respectively CPS, forecast revisions (*AnRevEPS_stars*, *AnRevCPS_stars*) on the interaction between inflation surprise (*InfSurpN*) and pricing power. An analyst is coded experience if he or she has been in the I/B/E/S file for more than 10 years at the time of the observation. The firm control variables are *MtB*, *Cash*, *Profitability*, and *Size*. The analyses are based on monthly observations from 2020:01 until 2022:12. Standard errors are clustered at the firm level and reported in parentheses. Intercepts are not reported. *, **, and *** represent significance levels of 0.10, 0.05, and 0.01, respectively. Appendix C provides variable definitions.