Central Bank Inflation Forecasts and Firms' Price Setting in Times of High Inflation*

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Abstract

Using a randomized survey experiment among firms, we study how central bank information on inflation, energy costs, and wages affects price setting plans in a high-inflation environment. Firms receiving central bank forecasts plan significantly smaller price increases over the subsequent year than uninformed firms, with strongest effects among firms whose prior inflation expectations are farther away from the central bank forecast. Information also affects price setting frequency, reducing the share of firms expecting to adjust prices much more often. Finally, treatment effects are heterogeneous, with stronger responses among less attentive firms and those more satisfied with overall economic policy. Overall, the results highlight central bank communication as an effective tool for influencing firms' pricing behavior during high inflation.

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After all, it is the everyday economic decisions of people and companies that we seek to influence with our policy and communication.

(Lagarde, 2020)

1 Introduction

Firms' expectations of future inflation are widely viewed as a key determinant of actual inflation (Coibion et al., 2018, 2020a,b; Weber et al., 2022; Werning, 2022; Coibion and Gorodnichenko, 2025). To the extent that firms take expected future inflation into account when setting prices, their beliefs can shape pricing decisions and, in turn, aggregate inflation dynamics.[1] Consistent with this view and central banks' objective of price stability, central banks have placed increasing emphasis on communication as a policy tool, with the aim of influencing inflation expectations not only in financial markets but also among businesses (Blinder et al., 2024). Over the past decade, central banks have substantially expanded their communication efforts, employing a broader range of channels and formats to reach the wider public and explain their assessment of inflation developments and the economic outlook. This focus on communication reflects the view that managing inflation expectations may complement conventional policy instruments by directly affecting firm behavior. A pivotal question emerges from this premise: Can an effective information policy, such as sharing current and projected inflation figures, directly impact the way firms plan to set their prices?

While this question is vital for assessing the role of central bank communication in managing inflation dynamics, empirical evidence on the causal effect of inflation information on firms' price setting is scarce, mainly due, among other factors, to the limited availability of firm surveys (compared to household surveys) (Coibion et al., 2020a). We aim to address this gap by providing causal evidence of how information on current and expected future inflation rates influences firms' pricing plans in a high-inflation environment.[2] To this end, we survey around 2,000 firms in Germany during the high-inflation environment of 2022 and conduct an information provision experiment. In the survey, we start by eliciting firms' expectations of inflation over various time horizons. Following

[1] As noted by James Bullard, former President of the Federal Reserve Bank of St. Louis (Bullard, 2016): "*How does expected inflation affect actual inflation? Firms and households take into account the expected rate of inflation when making economic decisions, such as wage contract negotiations or firms' pricing decisions. All of these decisions, in turn, feed into the actual rate of increase in prices.*"

[2] We study firms' pricing plans during a *high-inflation environment*, defined here as a period of unusually elevated and rapidly changing inflation in an *advanced economy*, with headline inflation peaking at 11.6% in October 2022 (Destatis, 2026). Importantly, this episode differs from historical cases of entrenched high inflation characterized by persistently high inflation, such as those observed in Uruguay or Argentina (Coibion et al., 2020a). Recent literature studying inflation expectations during this period adopts a similar terminology ("*high inflation*") in the German context (Coleman and Nautz, 2023), which we follow. The 2022 inflation surge thus offers a rare opportunity to study firm behavior following a large inflationary shock in advanced economies, a setting that may become increasingly relevant as similar shocks recur.

this, treated firms receive different information sets. Firms in an active control group are merely reminded of their inflation forecasts, whereas firms in the treatment group receive the central bank's official inflation projections (in addition to what control group firms see). The survey then proceeds to collect data on firms' planned price changes, which are known to closely align with realized price changes of firms (Coibion et al., 2018, 2020b; Kumar et al., 2023).[3]

As a first piece of evidence, we document firms' pre-treatment inflation perceptions, expectations, and pricing plans (for the control group) during the inflation surge. Firms appear to be well informed about recently realized inflation, with reported inflation for 2021 closely aligned with official figures, consistent with heightened salience in a high-inflation environment found in previous literature (Weber et al., 2025). By contrast, expectations for current and future inflation are substantially higher than central bank forecasts and remain well above the inflation target. These elevated inflation expectations are reflected in firms' pricing plans: in the absence of additional information, firms plan sizable price increases over the next twelve months, with nearly all firms reporting intended price increases.

Building on these descriptive patterns, we turn to our main experimental results on firms' price setting behavior. Providing firms with information about current and expected inflation leads to sizable and statistically significant reductions in planned price increases over the subsequent twelve months. In our preferred specification, information about the central bank's inflation forecast lowers planned price increases by roughly 4 percentage points relative to the control group. Given that firms in the control group plan large price increases on average, these effects are economically meaningful and remain robust to the inclusion of a comprehensive set of firm, manager, and time controls. Taken together, these results show that central bank information about future inflation can shape firms' pricing plans.

We further examine whether the extent and type of inflation-related information matter for firms' price setting behavior. In two additional treatments, firms receive information on the central bank's projections for energy prices and wage growth, in addition to the inflation forecast. This allows us to test whether providing information on specific components underlying inflation – particularly those relevant for firms' input costs – has incremental effects beyond information on aggregate inflation dynamics alone. We find that the two additional treatments do not lead to statistically different reductions in planned price increases compared to the inflation-only treatment, despite slightly smaller

[3]Evidence suggesting that planned price changes align with actual price changes is derived from survey questions asking about expected and past price changes, or from analyzing current prices of only a selected subgroup of firms with available price data (Coibion et al., 2018, 2020b; Kumar et al., 2023). Moreover, it has been shown that survey-reported behavior is often close to revealed preference results in archival data (Parker and Souleles, 2019; D'Acunto et al., 2022; Coibion et al., 2023). In the context of the German Business Panel, Bischof et al. (2025) and Winter et al. (2025) demonstrate that survey answers align well with actual behavior.

point estimates for the energy and wage treatments (around 3 percentage points). This suggests that additional information on energy-price developments and wage growth contains little incremental information for firms, potentially because firms understand that these components are already incorporated into the central bank's overall inflation forecast.

We test the robustness of our main results along several dimensions. The estimated treatment effects remain stable across alternative inference procedures, different sets of control variables, and a wide range of sample definitions, and are not driven by influential observations. We also document heterogeneity in treatment responses. Firms that have high pre-treatment inflation expectations – i.e., whose expectations are substantially above the central bank forecast – exhibit a more pronounced adjustment of planned price increases in response to the information treatments. This is consistent with a larger information shock leading to stronger effects on pricing strategies. Since high-prior firms also plan markedly larger price increases in the absence of treatment, the information interventions are most effective precisely among firms exposed to the strongest pricing pressure. This pattern is consistent with belief updating rather than mere priming (Haaland et al., 2023).

To shed light on the mechanisms underlying these effects, we develop a simple model of firms' price setting that links planned price changes to pre-treatment inflation expectations and belief updating in response to the information treatments. In the control group, planned price increases are strongly and nearly proportionally related to firms' inflation expectations. This finding indicates that in *high-inflation environments*, inflation expectations appear to be highly correlated with firms' price setting behavior. While this relationship should be interpreted as an association rather than a causal effect of expectations, it is nevertheless informative given our active control design, in which firms are explicitly reminded of their own inflation beliefs when forming price plans.[4]

The information treatments substantially attenuate this relationship by shifting weight away from firms' pre-treatment expectations toward a common signal, flattening the link between pre-treatment inflation expectations and planned price changes. Mapping the estimated coefficients into the model shows that the magnitude of this signal reflects the information content of each intervention: We find moderate effects for aggregate inflation, stronger effects for energy costs, and weaker effects for wages. Still, relative to the mean of each arm these effects generate similar downward shifts in planned prices. Firms place the greatest weight on the aggregate inflation forecast, consistent with Bayesian updating in which more precise and easier-to-interpret signals receive greater weight, and

[4]The primary purpose of our experiment is to examine the planned price response to inflation information, rather than the effect of treatment-induced updates in expectations on prices. Therefore, we do not survey post-treatment expectations, but elicit planned prices immediately after the treatment to ensure that participants take the provided information into account when reporting their price plans (see Section 3 for more discussion of this design choice).

with evidence that concise aggregate guidance is particularly effective in central bank communication (Coibion et al., 2018; Blinder et al., 2024).

Beyond our main findings, we present additional results that further characterize how firms respond to inflation-related information and shed light on dimensions along which responses to central bank communication differ. First, we examine firms' planned price-adjustment frequency. In the absence of treatment, many firms expect to adjust prices more frequently, consistent with heightened inflationary pressures and state-dependent pricing behavior (Cavallo et al., 2024). Providing information about inflation, energy prices, or wage developments causally reduces firms' propensity to plan very frequent price adjustments, with effects concentrated at the upper end of the distribution, where pricing behavior is most relevant for inflation dynamics. Consistent with this pattern, reductions in planned price increases are more pronounced among firms that intend to adjust prices more frequently, suggesting that information provision is particularly relevant for firms with more active pricing plans. Second, we document heterogeneity in treatment responses by firms' satisfaction with economic policy, which we interpret as a proxy for confidence in the policy environment. Firms reporting higher satisfaction respond more strongly to the information treatments, while firms with lower satisfaction show weaker responses. More satisfied firms also hold inflation perceptions and expectations that are closer to realized inflation and central bank projections. Third, we study how firms' inattention to inflation dynamics is associated with treatment responses. Using firms' misperceptions of realized inflation in 2021 as a measure of attentiveness, we find stronger treatment effects among firms that previously overestimated inflation than among firms whose perceptions were closer to realized outcomes. These patterns are suggestive of a path-dependent adjustment process in which larger prior misperceptions leave greater scope for belief updating and amplify the impact of information provision on firms' pricing plans in a high-inflation environment.

Related literature.— We contribute to existing work along several dimensions. First, we contribute to the literature assessing the role of information as a suitable policy tool for central banks striving for price stability. The importance of communication strategies to dampen overall uncertainty with regard to economic and monetary policy has risen since the 1990s (Blinder et al., 2008, 2024). Nevertheless, empirical evidence on the success of communication strategies related to inflation that affect firm decisions is still scarce (Coibion et al., 2020a). Testing this channel, we find that central bank communication on forecasted inflation dynamics can be a successful tool for dampening the transmission of high inflation expectations to firms' price setting. Thereby, central banks can control and curb inflation by breaking expectations–price spirals among price setters. This is particularly relevant when traditional instruments such as interest rate changes are costly and take time to materialize in the economy.

Second, we contribute to the literature examining how the effectiveness of information provision varies with the inflationary context faced by economic agents. We are the first to explicitly test how providing inflation information affects *firms' pricing strategies* in a *high-inflation environment*. Prior studies in the literature are conducted in *low-inflation environments*, which may be the reason that they document only relatively small (Coibion et al., 2018, 2020b) or zero (Rosolia, 2024) effects.[5] This highlights the importance of the inflationary context in which firms operate. In low-inflation environments, relatively small revisions in expected inflation may not generate sufficient benefits to outweigh price adjustment costs, potentially explaining the limited responses documented in the literature (Rosolia, 2024). By contrast, in our high-inflation setting – where information about price dynamics is highly relevant – information provision translates into larger adjustments in firms' price plans, as the benefits of adjusting prices outweigh the associated costs.

The relevance of the inflationary context for the magnitude of treatment effects is further supported by related evidence on households and firms.[6] Weber et al. (2025) study the recent high-inflation episode and find that information provision has smaller effects on inflation expectation updating when inflation is high, which they attribute to households and firms being better informed in such environments, leaving less scope for additional information to shift expectations.[7] Our findings highlight an important distinction between expectation updating and pricing behavior. While Weber et al. (2025) focus on how expectations respond to information, our experiment examines how providing central bank inflation information affects firms' planned price setting decisions. This distinction matters: evidence from the Federal Reserve Bank of Atlanta's Business Inflation Expectations survey shows that in the high-inflation environment of 2022, firms substantially increased their attention to inflation and reported that inflation exerted a stronger influence on business decisions (Weber et al., 2025). Consistent with this evidence, firms in our data appear well informed about recently *realized* inflation (2021), while expectations about future inflation at the time of our survey remained substantially above the German central bank's projections, leaving scope for forward-looking information to affect firms' pricing plans.[8]

[5]Using a randomized controlled trial among Swiss firms in a relatively moderate inflation environment (with inflation peaking at around 3%), Abberger et al. (2024) show that providing information about the central bank's inflation target leads to modest revisions in firms' inflation expectations, with an incomplete pass-through to prices and wages. They further note that the moderate inflation setting likely constrains the scope for larger price and wage adjustments.

[6]Coibion et al. (2020a) provide an overview of previous studies. The overall results indicate that the inflation environment affects how well households and firms are informed about recent inflation developments.

[7]This interpretation is further reinforced by recent theoretical work. Pfäuti (2025) develops a model in which attention to inflation doubles once inflation exceeds 4%, amplifying the persistence and impact of supply shocks.

[8]This pattern is also visible in Panel B of Figure 1 in Weber et al. (2025), where perceived inflation among euro-area households in late 2022 remains elevated and closely aligned with firms' expectations in our survey, while ex post inflation outcomes lie substantially closer to the Bundesbank's projected path.

Third, whereas previous firm surveys test the impact of *central bank inflation targets* or most recent *annual realized inflation* on inflation expectations (Coibion et al., 2018, 2020b; Hunziker et al., 2022; Huber et al., 2023; Savignac et al., 2024; Abberger et al., 2024; Weber et al., 2025), we focus on *central bank inflation forecasts*, which previous research has shown to be useful in affecting household expectations (Coibion et al., 2022; Dräger et al., 2024) and which are arguably more relevant for firm decisions that are shaped by expectations about future economic conditions (Bullard, 2016). We test the relevance of *central bank inflation forecasts* for firms' price setting in times of high uncertainty about future price developments, an environment in which inflation forecasts could become an even more important factor for firms' decision-making process. Consistent with recent evidence (Weber et al., 2025), firms in our data appear well informed about recently realized inflation, while expectations about future inflation at the time of our survey remain substantially above the German central bank's projections, creating scope for forward-looking information to matter for firms' pricing decisions.[9]

Fourth, we contribute to the literature on state-dependent pricing by studying how central bank information affects firms' planned price setting frequency in a high-inflation environment. Consistent with recent empirical evidence (Dhyne et al., 2006; Cavallo et al., 2024; Dedola et al., 2025), firms in the absence of treatment plan more frequent price adjustments when inflationary pressures are elevated. We show that providing information about inflation forecasts reduces the propensity to plan very frequent price changes, with effects concentrated at the upper tail of the adjustment distribution, where pricing behavior is most relevant for inflation dynamics (Dedola et al., 2025). This suggests that information provision can dampen state-dependent price setting responses by lowering firms' perceived need to adjust prices frequently in high-inflation environments.

Fifth, we add another layer of information to our experiment that features components of the overall central bank inflation forecasts that are relevant for firms' input cost developments, namely energy and wage costs. This allows us to make inferences about how information about input cost developments affects firms' planned price setting, thereby addressing a gap in the existing literature (Weber et al., 2022). An additional advantage of our setting is that our sample is not restricted to certain industries or larger firms but instead includes firms of different sizes from a wide range of industries.

Finally, on a broader level, we add to the literature studying the effects of aggregate-level variables on firm-level decisions and to the literature on managerial inattention. The growing literature that studies the effects of aggregate-level variables on firm-level decisions shows that macroeconomic conditions explain variation in managers' decisions (Ball et al., 2009; Bonsall IV et al., 2013; Binz, 2022). In addition, firms' profitability

[9]Moreover, our results for an advanced economy (Germany) add to the findings for developing countries with *persistently high inflation*. Using an information provision experiment with firms in Uruguay, Caruso-Bloeck et al. (2023) find that firms adjust their inflation and GDP growth expectations when treating firms with expected disinflation projections due to a new monetary policy regime.

and investments are influenced by monetary policy and macroeconomic announcements (Binz et al., 2022a,b). We contribute to this stream of literature by providing causal evidence that (inflation) forecasts by monetary authorities can directly influence managers' (pricing) plans. Moreover, the literature on managerial inattention posits that managers, as all economic agents, have limited capacities (Ocasio, 1997; Sims, 2003; Dessein et al., 2016; Dessein and Santos, 2021). Ample empirical evidence exists showing that managerial capabilities explain the quality of managerial decisions and thereby eventually firms' performance (Helfat and Martin, 2015). We show that a substantial portion of managers are inattentive to inflation dynamics, and that more attentive firms are influenced in their pricing plans to a lower extent when receiving central bank inflation forecasts.

The paper proceeds as follows. Section 2 describes the data. Section 3 outlines the experimental setup. Section 4 provides descriptive information on firms' beliefs about past and future inflation and their pricing plans. Section 5 presents the main results of our analyses, while Section 6 examines the mechanisms underlying our main results by introducing a simple conceptual framework. Section 7 presents further evidence on price setting frequency and heterogeneity in treatment effects across firms. Finally, Section 8 concludes and discusses the policy implications of our results.

2 Data

Our analysis rests on survey data collected by the German Business Panel between July 26, 2022, and November 2, 2022. Bischof et al. (2025) provide a detailed description of the German Business Panel. Contact information of firms was obtained from the *Bureau van Dijk Orbis* database and through web scraping techniques. The sample of firms that participated in our survey was drawn randomly from the overall address pool and invited to participate in our online survey via email.[10] A total of 1,942 respondents completed the questionnaire during the field phase.

The survey collects data on firm characteristics, including firm revenues, number of employees, industrial sector, and legal form. Moreover, respondent characteristics like gender, education, and position in the company are collected. Our set of surveyed firms is largely representative of the underlying population of German firms in terms of industry sector and slightly larger with regard to the number of employees and revenues (see Table B.3 in Appendix B). Approximately 87% of survey respondents are the owner or CEO of the corresponding firm. The majority of firms in our sample have less than 50 employees (94%) and less than 10 million € in revenues (93%). With regard to industry composition, firms mainly come from the manufacturing and trade sector (28%). In the Appendix, we offer comprehensive information on the variable definitions and survey questions (Appendix A.2), along with detailed summary statistics on both firm

[10]During the field phase, 210,667 firms with valid email addresses were invited to participate.

and manager characteristics of the participating firms (Appendix B).

3 Experimental Setup

For the survey experiment, we assign respondents randomly to three treatment groups that receive information on the German central bank's inflation assessment and a control group that does not receive central bank information.[11] The information underlying the three treatments was retrieved from the June 2022 report of the German central bank (Deutsche Bundesbank, 2022). The German central bank did not update these forecasts during our period of data collection.[12]

Figure 1 presents an overview of the survey flow. At the start of the survey, all participants are asked to inform us about their inflation assessment for the year 2021 (realized at the time of the survey), and their inflation expectations for the years 2022 (current) and 2023 (future). This allows us to measure beliefs prior to providing participants with additional information. This practice is in line with suggestions on the design of information provision experiments by Haaland et al. (2023). Then we apply our information treatments.[13]

[Figure 1 ABOUT HERE]

First, around one-quarter of survey participants receive our baseline **INFLATION treatment**. Firms in this group see their own inflation assessment from the previous question vis-à-vis the German central bank's inflation estimates for the three years (2021, 2022, 2023). The reported central bank estimates are 3.2% (2021), 7.1% (2022), and 4.5% (2023). Second, another quarter of participants receive the **ENERGY treatment**. In addition to the information set provided in the INFLATION treatment, firms receive information on the central bank forecasts of energy prices for 2021 to 2023. These central bank estimates for energy price changes are 10.1% (2021), 27.2% (2022), and 8.5% (2023). A third group receives the **WAGE treatment**. This information treatment is very similar in structure to the previous ENERGY treatment. However, instead of energy prices, firms receive central bank estimates on the development of wages (in addition to the information provided in group INFLATION). These estimates are 3.5% (2021), 4.3% (2022), and 4.5% (2023). Finally, a **CONTROL group** is provided with an overview of

[11] The study was pre-registered in the AEA RCT registry (Doerrenberg et al., 2022).

[12] We use inflation forecasts from the German Bundesbank because inflation data for Germany is likely to be the most relevant for our sample of German firms. Additionally, the German Bundesbank is regarded as a trusted institution by the German public due to its well-known focus on price stability (Ehrmann and Tzamourani, 2012; Hayo and Neuenkirch, 2014). However, we acknowledge that the European Central Bank (ECB), not the Bundesbank, is the institution responsible for setting the monetary policy strategy for the Eurozone. Nevertheless, the Bundesbank holds a seat on the ECB's governing council, which allows it to influence EU monetary policy and assess its implications for future inflation in Germany.

[13] Translated experimental treatments can be found in Figure A.1 in Appendix A.1.

their own inflation estimates originating from the pre-treatment beliefs elicitation at the start of the survey. Balancing tests (Appendix B) show that randomization worked well: Inflation expectations, firm and respondent characteristics are balanced across groups.

Our experimental design has several features worth emphasizing. First, we ensure that CONTROL group firms are as reflective of inflation as treatment firms by exposing firms in the CONTROL group to the same amount of survey steps covering the topic of inflation (rather than having CONTROL firms skip the treatment screen). We accomplish this by explicitly treating firms in the CONTROL group with their pre-treatment assessment of inflation. Therefore, any effect observed on planned prices in the CONTROL group can be attributed to reminding firms about their inflation forecast.

Second, between-subject designs like ours typically have no natural anchor and, therefore, results inherently have substantial noise. This is particularly the case with forecasts. We reduce this noise by asking for the 2021 inflation rate, which was realized at the time of the survey. This provides a natural anchor and allows within-subject comparison of realized and expected inflation.

Third, note that our survey was designed to analyze the planned price response to our interventions. Therefore, to ensure participants incorporate the provided information into their pricing plans, we collect planned prices immediately after the treatments. Although we assess inflation expectations before the treatment, we do not reassess them post-treatment, preventing us from linking updated expectations to prices for our treatment groups. We opted for this strategy as eliciting pre- and post-treatment inflation expectations requires asking the same question twice and thus entails problems related to consistency bias, ordering, over-sensitivity to context, and experimenter demand (Haaland et al., 2023). Moreover, the alternative of using a different question design to elicit post-treatment inflation expectations can lead to different answers solely due to the difference in question-wording or design (Pavlova, 2025; Weber et al., 2025). Additionally, in settings where outcomes of interest are firm-level employment or investment, it is less problematic to elicit both the outcome of interest and inflation expectations before and after an information treatment using slightly similar question wordings. However, the problem of asking a similar question several times becomes more severe in our setting when the outcome of interest is firm-level prices, since inflation and price levels are closely related concepts. Thus, eliciting price plans and inflation expectations before and after the information treatment would mean asking a similar question *four times*, which we try to avoid in our survey design. However, to explore the relationship between inflation expectations and prices, we analyze the non-causal association between inflation expectations and prices of firms in the CONTROL group (only treated with their own forecasts) and investigate how their inflation expectations relate to firms' pricing plans as a baseline.

Finally, our setup combines three levels of information additions: participants' own estimates (CONTROL), the addition of inflation forecasts (INFLATION), and the fur-

ther provision of forecast components that are particularly relevant for firms' input costs (ENERGY, WAGE). This design allows us to estimate the incremental effect of each piece of information. A further dimension is the kind of information. ENERGY and WAGE treatments have distinctly different properties. Energy prices are highly volatile and key drivers of inflation at the time of the survey in 2022 (Wehrhöfer, 2023). They may decrease in the future as quickly as they have increased before, which is why they rather affect firms' short-term planning. Labor costs are predicted to be increasing at a much lower rate but are rather stable and relevant for firms' long-term decisions. In sum, both ENERGY and WAGE treatments contain information on input cost expectations that relates more directly to firms' price setting compared to the INFLATION treatment.[14]

While the results provide informative evidence on the potential role of central bank communication as a policy tool, two features of the experimental design imply that the estimated effects should be interpreted as an upper bound on its real-world effectiveness. First, as in all information experiments of this type, the design identifies a treatment-on-the-treated effect rather than the intention-to-treat effect that is ultimately most relevant for policy. Treated participants are required to read the information provided, whereas in practice central bank communications may not reach large segments of the population, may not be consumed even when available, and may differ substantially in effectiveness across communication channels. As a result, the estimates abstract from the potentially substantial frictions involved in disseminating information and ensuring its uptake, which previous literature suggests are among the main obstacles to effective communication policy (Coibion et al., 2020a; Blinder et al., 2024).

Second, price setting decisions are elicited immediately after the information treatment, when the salience of the communicated information is at its peak. While this choice is deliberate, it implies that the experiment captures short-run responses and does not speak to the persistence of treatment effects. Given that information effects are known to attenuate over time, responses might have been weaker had decisions been elicited later or in subsequent survey waves (Cavallo et al., 2017; Coibion et al., 2018, 2020a,b, 2022; Blinder et al., 2024).[15] Acknowledging these aspects, the findings should be viewed as capturing the maximal impact of salient and fully absorbed communication. This underscores the need for effective communication to be timely and repeated to influence economic decisions (Coibion et al., 2020a).

[14]In the survey, we asked firms which factors have the greatest influence on their pricing decisions, allowing for multiple responses. The majority of firms identify *energy/material costs* (69%) and *labor costs* (64%) as the most important determinants of pricing. By contrast, other factors – such as *legal regulations* (26%), *customer demand* (25%), and *competitors' prices* (19%) – appear to play a less significant role in our sample at the time of the survey. Overall, these findings suggest that energy/material and labor costs are important drivers of firms' price setting decisions, underscoring the relevance of the information provided in the ENERGY and WAGE treatments.

[15]However, Coibion et al. (2022) document that the persistence of the treatment effect associated with *forward-looking information* like forecasts is higher among households than that of information about current inflation, possibly because it is perceived as more relevant.

4 Pre-Treatment Beliefs on Inflation Expectations

As a first step, we study how well informed firms are about realized inflation in 2021. We find that they are relatively well informed. Figure 2a shows that 75% of respondents indicate inflation rates (measured before treatment) for 2021 that are within a 2-percentage-point range of the central bank's reported 3.2%. Firms in our high-inflation environment seem to be better informed about inflation dynamics compared to previous studies in low-inflation environments, presumably because higher inflation makes the topic more salient and increases the benefit of being informed.[16] Still, on average, firms slightly overestimate inflation by around 1.5 percentage points (Mean: 4.7%), in line with previous results finding that firms overestimate inflation (Weber et al., 2022).

When assessing the current (2022) and future (2023) inflation rates, the distribution becomes wider and deviates more from the German central bank's forecasts. For 2022, firms are around 3 percentage points above the central bank's forecast of 7.1% (mean: 10.5%) with only 50% of firms indicating a value within the 2-percentage-point distance (see Figure 2b). Moreover, 81% of the firms in our sample have higher inflation expectations for 2022 than the central bank. For 2023, Figure 2c reveals that only 23% of respondents are somewhat close to the central bank's forecast of 4.5%. The mean firm expects inflation to be almost 7 percentage points higher (mean: 11.3%). Overall, 94% of our participants indicate inflation expectations, which are higher than the central bank's forecast.[17] Thus, our results indicate that firms' inflation expectations appear to be well above the central bank's inflation target of 2% in our high-inflation environment. This is in line with results for households and firms in Germany (Coleman and Nautz, 2023; Wehrhöfer, 2023).

Finally, Figure 2d shows the distribution of planned price changes for firms in the CONTROL group. Firms in the CONTROL group are not influenced by additional information on the inflation assessment from the central bank, as we only remind them of their own inflation assessment. On average, these firms plan to increase prices by 15.4% in the next 12 months. Approximately 90% of firms plan to increase prices, and less than one percent plan price reductions.

[16] This result is in line with recent evidence. Coibion et al. (2018) document that only 49% of firms were within 2 percentage points of realized inflation during periods of relatively low inflation. Cavallo et al. (2017) show that the environment matters, as households in high-inflation environments (e.g., Argentina) are better informed about inflation than households in low-inflation environments (e.g., U.S.). For Germany, Link et al. (2023) find that firms are better informed about macroeconomic indicators (e.g. inflation) than households. Finally, Weber et al. (2025) show that agents are substantially more attentive and better informed about inflation in high-inflation environments than in low-inflation ones.

[17] The inflation expectations for 2023 reported by firms in our survey broadly align with one-year-ahead inflation expectations elicited by the German central bank through its *Unternehmensstudie/Bundesbank-Online-Panel-Firmen (BOP-F)* over the same survey period (Deutsche Bundesbank, 2025). The inflation expectations for 2022 are also well in line with the current perceived inflation of euro-area households surveyed over the same period (see Figure 1, Panel B, in Weber et al. (2025)).

[Figure 2 ABOUT HERE]

Overall, these patterns highlight the role of the high-inflation environment in shaping firms' information and expectations. Consistent with recent evidence (Weber et al., 2025), firms appear well informed about *recently realized inflation*, while *expectations about future inflation* remain substantially above the German central bank's projections. This gap suggests that, even when attention to inflation is high, forward-looking information may still matter for firms' pricing plans. In the next section, we test how information provided by the central bank affects firms' planned price setting.

5 Main Experimental Effects on Planned Price Changes

Next, we investigate how the information treatments affect firms' price setting plans. The scope for change in beliefs is large, as the majority of firms (94%) have higher inflation forecasts for 2023 compared to the central bank's prediction. Lowering firms' beliefs about future inflation may signal slower expected growth in input costs and wages, reduce firms' perceived scope to pass through higher prices, and shape expectations that competitors will also adjust prices more modestly (Coibion et al., 2018, 2020a,b; Blinder et al., 2024). It also reduces uncertainty about future conditions, thereby lowering precautionary markups. When inflation expectations are elevated, firms may otherwise plan precautionary price increases to protect future margins, increasing the risk of demand losses, inefficient coordination on high price paths, and costly future price reversals. We therefore hypothesize that in response to the information provision, firms will adjust their pricing plans, on average, downward.

Empirical specification.— To test this hypothesis, we estimate the following regression model using ordinary least squares (OLS):

$$\Delta Price_{i+12m} = \beta_0 + \beta_1 \times INFLATION_i + \beta_2 \times ENERGY_i + \beta_3 \times WAGE_i + X_i'\gamma + \varepsilon_i. \quad (1)$$

The dependent variable $\Delta Price_{i+12m}$ represents the planned change of firm i's main product's or service's price in the next 12 months. The binary variables $INFLATION_i$, $ENERGY_i$ and $WAGE_i$ take the value of one, if firm i was allocated to the INFLATION, ENERGY or WAGE treatment, respectively, and zero otherwise. β_0 represents the expected price change in the CONTROL group. β_1, β_2 and β_3 measure the incremental effect of the INFLATION, ENERGY and WAGE treatments, respectively, relative to the CONTROL group. X_i is a vector of control variables which we include in some specifications to enhance precision. It includes firm controls, manager controls, and time

controls. Firm controls include the size group of the firm (micro-enterprise, small company, medium-sized company, large company)[18], the legal form of the firm (sole proprietor, private company/partnership, corporation, other), and the industry (NACE Revision 2 industry sections). Manager controls are the respondent's gender, education (university degree, vocational training (e.g., master craftsman), other (e.g., apprenticeship)), and the respondent's position in the company (owner/CEO, other (e.g, department head)). We additionally code missing values in the control variables as their own category to retain observations with incomplete information. As the survey is conducted on an ongoing basis, we also include the survey week into the vector of control variables. Descriptive statistics for the control variables can be found in Appendix B. Standard errors are clustered at the survey-week level.

[Table 1 ABOUT HERE]

Main Results.— Results are summarized in Table 1. Across all specifications, the information treatments lead to economically and statistically significant reductions in firms' planned price increases over the subsequent 12 months. In columns (1)–(2), in which we include all firms which answered the question on planned price changes, each treatment (INFLATION, ENERGY, WAGE) reduces planned price adjustments by approximately 3–3.4 percentage points relative to the control group. The results remain highly robust when restricting the sample to firms with non-missing inflation expectations for 2023 (columns (3)–(4)). We treat this as our preferred sample because it includes only firms that provided an explicit numerical forecast of inflation for 2023. Moreover, by further excluding implausibly high or low expectation values (a drop of $\sim$0.8% of the sample), this sample offers a cleaner and more reliable basis for subsequent analyses. The estimated coefficients continue to be large and precisely estimated, with implied effects in the range of 2.7–4.2 percentage points.[19] Including the full set of controls leaves the treatment effects essentially unchanged. Finally, while the individual treatment effects are estimated with a degree of noise and relatively large standard errors, we nonetheless find that the treatments are jointly informative about firms' pricing behavior. The joint significance tests ($\text{p}(\beta_1 = \beta_2 = \beta_3 = 0)$) in Table 1 confirm that the treatments collectively exert meaningful explanatory power for firms' pricing plans, with p-values ranging from 1.2% to 4.6%. Taken together, the estimates suggest that providing firms with central bank forecasts that are lower than their own forecasts translates into materially lower planned

[18]Classification is in line with the European Commission's definition for small and medium-sized enterprises (SMEs).

[19]We do not find a significant difference between the experimental groups INFLATION, ENERGY, and WAGE. For example, p-values from the respective t-tests for column (3) in Table 1 are: 0.42 (INFLATION vs. ENERGY), 0.55 (INFLATION vs. WAGE), and 0.74 (ENERGY vs. WAGE).

price increases. Next, we assess the robustness of our findings by examining their sensitivity to several alternative specifications.

Robustness Checks.— We examine the robustness of our findings by conducting several checks which we present in Appendix C. As a first robustness check, we test whether the results are sensitive to alternative methods of computing standard errors. Table C.1 reports the baseline specification using four different approaches: heteroskedasticity-robust standard errors, clustering by industry, two-way clustering by industry and survey week, and wild cluster bootstrap p-values clustered at the week level. Across all specifications, the estimated treatment effects remain largely unchanged in significance. This shows that the results are robust to alternative clustering schemes and are not sensitive to the choice of standard error calculation.

As a second robustness check, we vary the included set of control variables. Table C.2 reports estimates when adding firm-level controls (column 1), manager-level controls (column 2), and time controls via survey-week fixed effects (column 3). Across all specifications, the coefficients on the experimental group dummies remain stable in both magnitude and statistical significance. This indicates that the results remain robust to a wide range of control structures.

As a third robustness check, we assess whether our findings are sensitive to alternative sample definitions. Table C.3 reports estimates under several variations of the sample used. Column (1) includes all firms with non-missing inflation expectations. Column (2) limits the sample to firms reporting non-negative expectations, while Column (3) excludes extreme positive outliers (expectations ≥ 75). Columns (4) and (5) further trim the sample by removing approximately 1% and 3% of firms, respectively, based on increasingly narrow intervals for plausible inflation expectations. Across all specifications, the estimated treatment effects remain very similar in magnitude and significance, indicating that our results are not driven by the particular sample restriction imposed.

As a final robustness check, we examine the sensitivity of the estimated treatment effects to random modifications of the estimation sample. Figure C.1 reports results from 50 draws in which approximately 1% of firms are randomly excluded from the sample. We conduct this exercise for both underlying samples – firms responding to the price question and firms responding to both the price and the 2023 inflation-expectations questions – displaying confidence intervals at the 95% and 90% levels. Across all treatments and specifications, the estimated coefficients remain highly stable, with only minor variation around the baseline estimates. This indicates that the results are not driven by a small set of influential observations and are robust to random changes in sample composition.

In sum, these robustness exercises confirm that our main results are stable across a wide range of inference procedures, model specifications, and sample constructions, providing strong support for the reliability of the estimated treatment effects.

Heterogeneity in Expectations.— A challenge in information experiments is distinguishing the effects of priming from actual belief updating (Haaland et al., 2023). The observation of stronger treatment effects among respondents whose priors are less aligned with the information treatment is frequently interpreted as evidence of an actual change in beliefs (Armantier et al., 2016; Haaland et al., 2023). Therefore, we first investigate heterogeneity with respect to treatment intensity, which depends on the divergence between firms' pre-treatment expectations and the inflation forecast of the central bank for 2023 (4.5%). Following Coibion et al. (2018), we define firms to be close to the central bank's forecast if they deviate at most 2 percentage points upwards (low prior). Otherwise, firms are categorized as having a high prior. We estimate equation (1) separately for both groups. Results are displayed in Table 2.

Across the two groups, we find a clear pattern: firms whose prior inflation expectations are already close to the central bank forecast (low-prior firms) exhibit no statistically significant response to any of the information treatments. By contrast, firms with substantially higher prior expectations (high-prior firms) adjust their planned price increases downward in response to all three treatments, with effect sizes ranging from roughly 3 to 5 percentage points. This asymmetry is economically intuitive – firms that already hold beliefs aligned with the central bank's forecast receive little new information from the treatments and therefore have limited scope to adjust their plans, whereas firms starting from more elevated priors receive stronger downward signals. Overall, the larger treatment effects for high-prior firms are consistent with meaningful belief updating (Haaland et al., 2023). It is also noteworthy that high-prior firms in the CONTROL group plan substantially larger price increases on average (around 17%), compared to low-prior firms (around 10%). Importantly, it is precisely these firms with the strongest planned price increases that respond most to the information treatments, adjusting their planned prices downward when receiving the central bank's forecast. These are exactly the firms a central bank seeks to target when managing inflation in times of high inflation.

[Table 2 ABOUT HERE]

Discussion.— Two key insights emerge from the main results. First, firms' price setting plans respond to information about inflation released by the central bank. The reductions in planned price increases observed across all treatments indicate that firms incorporate such information into their expectations formation process and adjust their pricing intentions accordingly. This reaction is consistent with the underlying mechanisms discussed above: lower inflation expectations reduce anticipated input and wage pressures and limit perceived scope for price pass-through, all of which restrain planned price increases. Thus, targeted communication policies toward firms may complement traditional

monetary policy instruments, such as interest rate changes, by directly influencing firms' price setting behavior.

These results speak to the recent findings on communication effectiveness in high-inflation environments. Whereas Weber et al. (2025) document attenuated expectation updating when inflation is high, our results show that providing forward-looking inflation projections can nonetheless meaningfully affect firms' pricing plans. This difference likely reflects both the forward-looking nature of our treatment and the fact that firms' inflation expectations during our survey period exceeded the central bank's projections by a substantial margin, leaving room for belief adjustment with direct implications for price setting. Second, providing firms with additional information on energy-price and wage developments does not lead to substantial differences in average planned price setting behavior compared to providing information on inflation alone. This pattern suggests that firms may perceive information on energy prices and wage growth as already embedded in the central bank's overall inflation forecast and therefore as providing little incremental guidance for pricing decisions on average. We examine the mechanisms behind these effects in greater detail in Section 6, where we show that the component forecasts shift the implied signal but, at the same time, are given less weight than the aggregate forecast, so that these two forces largely offset at the mean prior.

6 Price Setting Mechanism

In Section 5, we show that all information treatments led firms to reduce their planned price increases, with no statistically meaningful differences in average effects across the INFLATION, ENERGY, and WAGE treatments. To understand why conceptually different pieces of information generate similar average responses, this section develops a simple model that links firms' price setting plans to their pre-treatment inflation expectations and to the updating induced by the information treatments. We then map these predictions to our empirical specification by refining equation (1) to explicitly include firms' pre-treatment inflation forecasts for 2023 and their interaction with the treatment indicators. This framework allows us to quantify how much weight firms place on their prior inflation expectations relative to the signal contained in each treatment and to interpret the resulting regression coefficients in terms of the model parameters. Consequently, the analysis sheds light on the mechanisms through which the different treatments operate.

Model.— To interpret the heterogeneous treatment effects documented above, we introduce a simple model of firms' price setting plans. Let $\Delta Price_{i+12m}$ denote firm i's desired price change over the next twelve months. We assume that planned price adjustments relate linearly on firm i's inflation expectation π_i:

$$\Delta Price_{i+12m} = a + b\,\pi_i + \varepsilon_i, \tag{2}$$

where b captures the association of expected inflation with planned price changes and ε_i is an idiosyncratic error term. Firms assigned to a treatment group receive a common signal s about inflation. Upon receiving the signal, firms update their expectations following a standard Bayesian updating rule:

$$\pi_i^{post} = \lambda\,\pi_i^{pre} + (1-\lambda)\,s, \qquad 0 \le \lambda \le 1, \tag{3}$$

where λ measures the weight placed on prior beliefs and $(1-\lambda)$ the weight on the signal. Let $D_i \in \{0,1\}$ indicate treatment assignment ($D_i = 1$ if treated). Substituting (3) into (2) yields:

- *Control group* ($D_i = 0$):

$$\Delta Price_{i+12m} = a + b\,\pi_i^{pre} + \varepsilon_i. \tag{4}$$

- *Treated firms* ($D_i = 1$):

$$\begin{aligned} \Delta Price_{i+12m} &= a + b\big(\lambda\,\pi_i^{pre} + (1-\lambda)s\big) + \varepsilon_i \\ &= a + b\lambda\,\pi_i^{pre} + b(1-\lambda)s + \varepsilon_i. \end{aligned} \tag{5}$$

Equations (4)–(5) imply that the treatment affects both the intercept and slope of the relationship between planned price changes and pre-treatment inflation expectations. We denote the group-specific regression coefficients by (α_c, β_c) for control group firms and (α_t, β_t) for treated firms. Matching coefficients gives:

$$\alpha_c = a, \qquad \beta_c = b, \qquad \alpha_t = a + b(1-\lambda)s, \qquad \beta_t = b\lambda. \tag{6}$$

This mapping provides a direct link between the empirical estimates (presented below) and the structural parameters governing firms' updating behavior.

Empirical specification.— We formalize this insight by estimating the following regression, shown here for ease of exposition with a single treatment indicator:

$$\Delta Price_{i+12m} = \alpha + \beta\,\pi_i^{pre} + \delta\,D_i + \theta\,(D_i \times \pi_i^{pre}) + \varepsilon_i. \tag{7}$$

The specification allows the intercept and slope of the relationship between planned price changes and pre-treatment inflation expectations to differ between treated and control firms. For the control group ($D_i = 0$), equation (7) reduces to

$$\Delta Price_{i+12m} = \alpha + \beta\, \pi_i^{pre} + \varepsilon_i, \tag{8}$$

while for treated firms ($D_i = 1$) it becomes

$$\Delta Price_{i+12m} = (\alpha + \delta) + (\beta + \theta)\, \pi_i^{pre} + \varepsilon_i. \tag{9}$$

Thus, the empirical regression delivers the following group-specific coefficients

$$\alpha_c = \alpha, \quad \beta_c = \beta, \qquad \alpha_t = \alpha + \delta, \quad \beta_t = \beta + \theta, \tag{10}$$

which correspond directly to the parameters identified in the model.

Match model to regression.— The group-specific coefficients derived above map directly into the parameters of the model. Equating the coefficients for control and treated firms yields the following relationships:

$$\beta = b,$$

$$\beta + \theta = b\lambda \quad \Rightarrow \quad \theta = -b(1-\lambda),$$

$$\delta = b(1-\lambda)s.$$

Hence, the empirical regression imposes the restrictions

$$\beta = b, \qquad \theta = -b(1-\lambda), \qquad \delta = b(1-\lambda)s. \tag{11}$$

These expressions provide a direct link between the estimated coefficients and the model parameters governing firms' updating behavior.

Empirical results.— We estimate the following interaction regression, which allows both the intercept and the slope of firms' price setting plans to differ across treatment groups:

$$\Delta Price_{i+12m} = \alpha + \beta\, \pi_i^{pre} + \sum_{g \in \{\text{I,E,W}\}} \delta_g D_{ig} + \sum_{g \in \{\text{I,E,W}\}} \theta_g (D_{ig} \times \pi_i^{pre}) + X_i'\gamma + \varepsilon_i, \tag{12}$$

where π_i^{pre} denotes firm i's pre-treatment inflation expectation for 2023, D_{ig} indicates assignment to treatment $g \in \{\text{INFLATION}, \text{ENERGY}, \text{WAGE}\}$, and the CONTROL group serves as the omitted category. The vector X_i includes the same set of variables as described in Section 5. Standard errors are clustered at the week level.

[Table 3 ABOUT HERE]

Table 3 shows that planned price increases are strongly and positively associated with firms' inflation expectations, with a baseline slope of $\beta \approx 1.15$ (column ((1)) that is statistically indistinguishable from one ($p(\beta = 1) = 0.668$). This near-unit association reflects a strong, albeit non-causal, correlation between firms' inflation beliefs and their pricing intentions, with planned prices tending to move almost proportionally with expectations. The information treatments substantially attenuate this relationship: for example, the INFLATION treatment reduces the slope to $\beta + \theta_{\text{INF}} = 0.362$, with the ENERGY and WAGE treatments yielding similar, though somewhat smaller, reductions. Figure 3 illustrates these patterns visually, showing markedly flatter slopes for treated firms. This flattening indicates that firms with above-average inflation expectations revise their planned price downward whereas those with below average inflation expectations for 2023 tend to revise their planned price up, consistent with Bayesian updating (Coibion et al., 2018). Including firm and manager controls in column (2) leaves the results essentially unchanged. Next, we relate the empirical results to the model described above.

[Figure 3 ABOUT HERE]

Implied weights and signals.— We now map the empirical coefficients from Column (1) of Table 3 to the structural parameters of the model introduced above. The model implies the following relationships between the empirical estimated coefficients and the underlying model parameters:

$$\beta = b, \qquad \theta_g = -b(1 - \lambda_g), \qquad \delta_g = b(1 - \lambda_g)s_g, \tag{13}$$

where $g \in \{\text{INFLATION}, \text{ENERGY}, \text{WAGE}\}$ indexes the treatment arms. These restrictions allow the empirical regression to yield a direct estimate of b, the treatment-specific weight on the prior λ_g, and the treatment-specific signal s_g.

For each treatment g, the posterior weight on prior expectations is given by

$$\lambda_g = \frac{\beta + \theta_g}{\beta}, \tag{14}$$

so that $1 - \lambda_g$ measures the weight placed on the common signal rather than on firms' own prior beliefs. Across treatments, the estimates indicate that exposed firms place systematically less weight on their priors and shift the remaining weight toward the signal, consistent with the updating rule

$$\pi_i^{post} = \lambda_g \pi_i^{pre} + (1 - \lambda_g)s_g. \tag{15}$$

The structural signal associated with treatment g is obtained from

$$s_g = -\frac{\delta_g}{\theta_g}. \tag{16}$$

To illustrate the mapping, consider the **INFLATION** treatment. Using the estimates from column (1),

$$\beta = 1.145, \qquad \theta_{\mathrm{I}} = -0.783, \qquad \delta_{\mathrm{I}} = 4.059,$$

which implies

$$\lambda_{\mathrm{I}} = \frac{1.145 - 0.783}{1.145} = 0.32, \qquad s_{\mathrm{I}} = -\frac{4.059}{-0.783} = 5.18.$$

The recovered signal lies within the range of the Bundesbank inflation projections shown to firms (3.2% in 2021, 7.1% in 2022, and 4.5% in 2023), suggesting that treated firms updated toward the communicated inflation anchor.

The corresponding estimates for the ENERGY and WAGE treatments are reported in Table 4. The implied signals align closely with the informational content of the interventions: the ENERGY signal ($s_{\mathrm{E}} = 6.11$) is largest, reflecting the substantial energy price increases presented (10.1% in 2021, 27.2% in 2022, 8.5% in 2023), whereas the WAGE signal ($s_{\mathrm{W}} = 3.50$) is smallest, consistent with comparatively moderate wage growth (3.5% in 2021, 4.3% in 2022, 4.5% in 2023). Since both the ENERGY and WAGE treatments provide this information *in addition to* the inflation projections included in the baseline INFLATION treatment, the estimated signals follow a natural pattern: ENERGY yields an upward shift in the signal relative to INFLATION, while WAGE produces a downward shift in the signal. This correspondence shows that the parameters recovered from firms' responses align closely with the direction of the cost signals embedded in each treatment.

[Table 4 ABOUT HERE]

Discussion.— Taken together, the empirical patterns map into the model in a transparent way. Firms in the control group exhibit a strong correlation between their inflation expectations and their planned price changes. The information treatments shift weight away from these prior expectations and toward a common signal whose magnitude reflects the content of each intervention: a moderate inflation signal (INFLATION), a stronger cost-pressure signal from energy prices (ENERGY), and a more muted cost signal from wage growth (WAGE). These results explain how the treatments jointly affect both the intercept and the slope of firms' planned price adjustments.

An additional feature visible in Figure 3 is that, around the mean of firms' inflation expectations (indicated by the vertical grey line), the fitted lines for the treatment groups lie very close together. This reflects the empirical fact that firms with average priors exhibit little differential response across treatments – a pattern consistent with the regression results in column (3) of Table 1, where treatment effects at the mean expectation

are statistically indistinguishable from each other. The results therefore indicate that the treatments flatten the relationship between inflation expectations and planned price changes, while generating similar downward shifts in planned prices across treatments at the mean expectation.

A further feature of Table 4 is that firms place the largest weight on the signal in the baseline INFLATION treatment ($(1 - \lambda_I) = 0.68$, compared to 0.59 for ENERGY and 0.46 for WAGE). In a Bayesian framework (Coibion et al., 2018), agents update more when a signal is perceived as more precise. The Bundesbank's inflation projections offer a concise and credible summary of future price dynamics, whereas additional information on energy or wage components is likely noisier and more complex to process. Accordingly, firms rely most strongly on the pure inflation signal and place relatively more weight on their priors when the information set becomes more disaggregated. This pattern is consistent with firms responding most strongly to concise aggregate guidance from the central bank (Blinder et al., 2024).

7 Further Results

This section presents additional results that complement our main findings. We begin by analyzing whether the information treatments affect firms' expected price setting frequency. For this outcome, the experimental variation allows us to identify average causal effects of the treatments on firms' reported adjustment frequency. We then extend the analysis to examine how treatment effects vary across firms and outcomes, including heterogeneity by price setting frequency, satisfaction with economic policy, and attention to realized inflation. These latter analyses document differences in treatment responses across firms and provide further descriptive evidence on how pricing behavior varies with firm characteristics. While they are informative about how firms' responses differ across characteristics, the discussion of underlying mechanisms in these analyses should be interpreted as suggestive rather than causal.

7.1 Price Setting Frequency

As the aggregate price level rises, the benefits of adjusting prices increasingly outweigh the expected costs of not changing prices (Ball et al., 1988; Ball and Mankiw, 1995). Consequently, higher average inflation should be associated with a greater share of firms adjusting prices more frequently in state-dependent price setting models (Dhyne et al., 2006; Dedola et al., 2025). This stands in contrast to time-dependent price setting models such as Calvo (1983), which assume a constant probability of price adjustment and rule out state dependence. Recent empirical evidence supports state-dependent pricing, showing that firms adapt their price setting behavior to the inflation environment. In particular,

empirical evidence documents a higher prevalence of state-dependent pricing and more frequent price adjustments during periods of elevated inflation (Dhyne et al., 2006; Cavallo et al., 2024; Dedola et al., 2025; Bunn et al., 2026).[20] In line with the empirical findings above, we therefore expect firms in the absence of any treatment not only to raise their price levels – as illustrated in Panel (d) of Figure 2 – but also to increase the frequency with which they adjust prices.

Importantly, changes in the frequency of price adjustment can also shape the speed at which aggregate shocks are transmitted to inflation, making inflation dynamics more responsive when price adjustments become more frequent (Dedola et al., 2025). From the perspective of firms, receiving information that points to lower inflationary pressure reduces their perceived need to safeguard margins or maintain relative prices, thereby weakening the economic incentive to revise prices frequently. Given these considerations, an important question is whether the information treatments themselves meaningfully alter firms' planned price setting frequency – particularly at the upper end of the adjustment distribution, where more frequent price changes are most concerning for monetary policy, as central banks aim to manage inflation expectations in high-inflation environments and prevent a wage–price spiral.

To examine whether the information treatments affect firms' price setting frequency, we ask respondents whether they expect to adjust the price of their main product or service more or less frequently over the next 12 months compared to previous years. Firms choose among five ordered categories with illustrative examples provided to clarify the implied changes in adjustment intervals: ***Much less frequently*** *(e.g.,every 12 months in future, previously every 3 months)*, ***Rather less frequently*** *(e.g., every 12 months in future, previously every 6 months)*, ***Unchanged*** *(e.g., in future every 12 months, previously every 12 months)*, ***Rather more frequently*** *(e.g., every 6 months in future, previously every 12 months)*, and ***Much more frequently*** *(e.g., every 3 months in future, previously every 12 months)*.[21]

Table C.4 in the Appendix provides some descriptive details on the answers to this question. The results confirm that 64% of the firms in the CONTROL group indicate to increase prices more frequently in the near future compared to the past. This confirms that

[20] Using survey evidence from Swiss firms, Abberger et al. (2024) document state-dependent pricing behavior in response to large cost shocks: when firms are asked how they would react to an unexpectedly large increase in input costs, nearly half report that they would raise prices immediately, consistent with menu-cost models in which sufficiently large shocks trigger price adjustment.

[21] The survey randomly assigned firms to one of two question formats – a direct ordered categorical question defining the scale of expected changes in price setting frequency presented here, and an interval-based question eliciting past and current price adjustment intervals. We harmonize responses by mapping the interval-based information onto the ordered scale of the categorical question to construct a single unified measure. Appendix A.2 provides details on the ratio-based construction of this procedure. A robustness check using only firms that directly answered the categorical question (see Table C.6) yields qualitatively similar results; although estimates are less precise due to the smaller sample size, the direction and relative magnitude of the effects are preserved, indicating that the main findings do not depend on the harmonization procedure.

firms do not only plan to increase price levels but also the frequency of their price setting, as conjectured above.[22] A salient pattern in Table C.4 is the proportion of firms falling into the most inflation-sensitive category, *Much more frequently*. This response, which is of particular relevance from a monetary policy perspective because it signals a higher frequency of price adjustments in high-inflation environments, includes 28% (119/431) of firms in the CONTROL group, whereas only 22–24% of firms in the treatment groups are in this category (105/477 in INFLATION, 108/465 in ENERGY, and 111/463 in WAGE). These differences suggest that treated firms are somewhat less likely to fall into the category of firms planning the most frequent price adjustments.

To assess whether these descriptive differences reflect systematic treatment effects, we estimate an ordered probit model using the five-category measure of expected price setting frequency as the outcome variable. Panel A of Table 5 reports the estimated coefficients, which indicate that assignment to any of the treatment groups is associated with a statistically significant leftward shift in the distribution of expected price adjustment frequencies. Panel B presents the corresponding average marginal effects relative to the CONTROL group. The treatments increase the probability that firms report adjusting prices *less* frequently (e.g., by 0.5–0.9 percentage points for the *Much less frequently* and *Rather less frequently* categories) and increase the probability of reporting *Unchanged* adjustment frequency by roughly 4 percentage points. More importantly from a monetary policy perspective, the treatments reduce the likelihood that firms fall into the most inflation-sensitive category, *Much more frequently*, by about 4 percentage points. As a robustness check, we also estimate a linear probability model in which the dependent variable equals one if a firm expects to adjust prices *Much more frequently* and is zero otherwise. The results, reported in Appendix Table C.5, likewise show that treated firms are 3.7–4.5 percentage points less likely to plan highly frequent price adjustments, reinforcing the conclusions from the ordered probit specification. These results support the descriptive patterns documented above and suggest that the information treatments modestly dampen the expected frequency of future price adjustments.

[Table 5 ABOUT HERE]

To further understand how information affects pricing behavior, we also examine whether treatment effects on planned price changes differ by firms' intended price setting frequency. From an economic perspective, firms that plan to adjust prices more frequently are likely those facing stronger cost pressures or operating closer to flexible-price environments, making them more responsive to information relevant for near-term

[22] For a subset of firms, we additionally elicit both the past interval at which they adjusted the price of their main product or service and the interval at which they plan to adjust prices in the current environment. Firms in the CONTROL group indicate approximately on average 16 months (9 months) as past (current) price adjustment frequency, so these firms somewhat less than halved the period between two price changes on average.

pricing decisions. To assess this, Table 6 splits the sample according to whether firms expect their price setting frequency to decrease or remain unchanged versus to increase relative to the past, and re-estimates the baseline regressions (equation 1) within each subsample.

[Table 6 ABOUT HERE]

The results suggest that, among firms that plan to adjust prices less frequently or at the same frequency, treatment effects are modest and often statistically insignificant, particularly for the ENERGY and WAGE treatments. By contrast, for firms intending to adjust prices more frequently, all three treatments lead to sizable and statistically significant reductions in planned price increases. For this group, the INFLATION, ENERGY, and WAGE treatments lower planned price changes by roughly 4–5 percentage points relative to the control group. Overall, these patterns indicate that information provision is most effective among firms that plan to revise prices more actively.

Taken together, the evidence indicates that information provision affects not only the level of firms' planned price changes but also the intensity with which firms expect to adjust prices. Across specifications, treated firms are less likely to plan very frequent price adjustments, a margin that is particularly relevant for inflation dynamics in high-inflation environments. Moreover, treatment effects on planned price increases are concentrated among firms that intend to revise prices more frequently. From a monetary policy perspective, these findings suggest that credible and timely information can help temper both the magnitude and the propagation of price increases by influencing the planned pricing behavior of firms.

7.2 Satisfaction with Economic Policy

The effectiveness of central bank communication is often argued to depend on the credibility of the central bank in the eyes of the public, which is related to trust in the central bank and the broader institutional environment (Blinder et al., 2024). In our survey, we ask firms: *"How satisfied are you with economic policy in Germany?"*, measured on a scale from 0 (*very unsatisfied*) to 10 (*very satisfied*). In this subsection, we use firm responses to this question as an empirical measure capturing heterogeneity in firms' assessments of the economic policy environment. We then examine whether treatment effects on planned price setting differ systematically across firms with varying levels of reported satisfaction.

Although our survey measure captures satisfaction with the general economic policy environment rather than generalized institutional trust per se, we interpret it as a proxy for broader confidence in the institutional environment and the policy-making process. In this sense, higher satisfaction with economic policy is likely to reflect greater generalized institutional trust, which prior literature identifies as an important determinant of trust in

specific institutions, such as the central bank (Hayo and Neuenkirch, 2014; Brouwer and de Haan, 2022). This link matters for our setting because prior evidence for households suggests that trust and perceived credibility of the central bank shape how strongly agents respond to monetary policy (communication) of a central bank (Christelis et al., 2020; Hoffmann et al., 2022; Ehrmann et al., 2023; Niizeki, 2023). Building on this evidence, we examine whether treatment effects on firms' planned price setting vary with reported satisfaction, to test whether firms with higher satisfaction react more strongly to the treatments, as higher satisfaction may proxy for greater trust in and perceived credibility of the policy signal.

[Table 7 ABOUT HERE]

Satisfaction with economic policy in our sample is relatively low, with a mean of 2.9 and a median of 3. Based on this distribution, we classify firms as having *low satisfaction* if they report a value between zero and two on this scale (i.e., below the sample median), and as having *medium/high satisfaction* if they report a value at or above the median. We then re-estimate equation (1) separately for firms with lower and higher satisfaction with economic policy. We conjecture that firms that are generally more dissatisfied lend less credibility to the central bank information provided in our treatments and, as a result, exhibit weaker adjustments in their planned prices in response to the treatments. The estimation results are displayed in Table 7.

We find evidence that treatment effects on firms' planned price changes vary with their satisfaction with economic policy. In columns (1) and (3), the INFLATION treatment reduces planned price changes by 3.73 percentage points for low-satisfaction firms (column (1)) and by 4.67 percentage points for firms with medium/high satisfaction (column (3)), with both effects statistically significant. The larger magnitude of the effect for firms with higher satisfaction suggests a stronger response to inflation information. A similar pattern emerges for the ENERGY and WAGE information treatments. In column (1), neither treatment is statistically significant for low-satisfaction firms, whereas in column (3) both treatments are economically larger and statistically significant for firms with medium/high satisfaction. In particular, the WAGE treatment reduces planned price changes by 4.93 percentage points among medium/high-satisfaction firms (column (3)), compared to an estimated effect of 1.68 percentage points for low-satisfaction firms. Overall, the results indicate that firms with higher satisfaction with economic policy tend to adjust their price plans more strongly in response to the information treatments.

As an additional check, we examine firms' perceptions of past inflation in 2021 and their inflation expectations for 2023. Prior studies show that individuals who place greater trust in central banks tend to hold inflation expectations that are closer to ex-post realized inflation (Rumler and Valderrama, 2020) or the central bank's inflation target (Christelis et al., 2020; Brouwer and de Haan, 2022). In line with this evidence, if satisfaction

with economic policy captures broader confidence in institutions and engagement with economic information, it should be associated with more accurate inflation beliefs. Consistent with this interpretation, firms with high satisfaction report inflation perceptions that are closer to realized inflation outcomes in the past and benchmark projections for the future. For 2021, firms with low satisfaction report significantly higher perceived inflation than firms with high satisfaction (5.02% vs. 3.94%; $p < 0.001$), compared with realized inflation of 3.2%. Similarly, for 2023, low-satisfaction firms report substantially higher inflation expectations than firms with medium/high satisfaction (13.04% vs. 8.79%; $p < 0.001$), with the latter being closer to the central bank's projected inflation rate of 4.5%. Notably, despite having lower baseline inflation expectations – and thus less scope for updating – firms with higher satisfaction respond more strongly to the information treatments, consistent with greater trust in or perceived credibility of the policy signal.

In sum, these findings suggest that firms' satisfaction with economic policy is important for the effectiveness of central bank communication. Firms with higher satisfaction – who also hold more accurate inflation beliefs – exhibit larger adjustments in their price plans in response to the information treatments. These results underscore why central banks increasingly emphasize credibility and trust as key objectives of their communication strategies (Ehrmann et al., 2023; Blinder et al., 2024), particularly in light of recent evidence showing that periods of high inflation can weaken trust in central banks and politicians (van der Cruijsen et al., 2023).

7.3 Inattention with regard to Realized Inflation

Next, we examine how inattention to realized inflation shapes firms' price plans. A distinctive feature of our survey is that, prior to treatment, we elicit firms' perceptions of recently *realized* inflation in 2021 in addition to their expectations about future inflation. This allows us to measure firms' misperception of realized inflation and thus to control for inattention to inflation dynamics in a quantitative way.[23] Importantly, as shown in Figure 2a, a given degree of inattention can reflect either a underestimation or a overestimation of realized inflation (3.2%), and the sample is roughly evenly split between these two cases. Therefore, we can test whether firms differ in their planned price adjustments depending on whether they previously underestimated or overestimated inflation.

This approach is closely related to Coibion et al. (2018). In their low-inflation environment, however, firms' misperceptions of recent inflation are highly asymmetric: large errors (realization minus belief) are predominantly negative, with the vast majority of firms substantially overestimating realized inflation, and only a very small fraction under-

[23]Similar to an *inflation target*, the inflation rate in 2021 is a realized number at the time the survey was conducted. Although we agree that perceptions of current and future inflation can depend on the specific environment firms are in, testing knowledge about a specific value already realized at the time of the survey should reasonably capture the concept of attentiveness to inflation dynamics.

estimating it (5%). Moreover, Coibion et al. (2018) study heterogeneity in firms' reported behavioral responses by distinguishing firms according to their initial knowledge of the RBNZ inflation target – specifically, whether their beliefs were close to the target or substantially above it. In our high-inflation setting, the shares of underestimators and overestimators of realized inflation in 2021 are approximately evenly split around the true value of 3.2%, though overestimators have larger deviations. Importantly, firms that underestimate past inflation or correctly perceive it report beliefs that lie very close to the realized inflation rate.[24] By contrast, firms that overestimate inflation exhibit substantially larger deviations, implying considerably greater scope for belief updating. This feature allows us to distinguish between firms whose beliefs are already well aligned with realized inflation – those that underestimate or correctly perceive inflation – and firms whose beliefs deviate substantially from it – those that overestimate inflation. Therefore, we hypothesize that firms with more accurate or better-informed beliefs adjust their pricing plans less in response to our information treatment than firms with larger prior misperceptions.

To test for such heterogeneity, we estimate equation (1) separately for firms that reported inflation in 2021 at or below the realized rate of 3.2% and for firms that reported inflation above this threshold. The results are summarized in Table 8. Columns (1) and (2) present results for firms whose perceived inflation in 2021 was at most 3.2%, while Columns (3) and (4) focus on firms that overestimated realized inflation.

[Table 8 ABOUT HERE]

Columns (1) and (3) of Table 8 report the effects of the INFLATION, ENERGY, and WAGE information treatments on firms' planned price changes over the next 12 months, distinguishing firms by their prior perceptions of realized inflation. Among firms whose perceived inflation in 2021 was at or below the realized rate of 3.2%, Column (1) shows that the INFLATION treatment is associated with significantly smaller planned price increases at the 10% level. By contrast, the ENERGY and WAGE treatments do not have statistically significant effects on planned price changes for this group.

For firms that overestimated realized inflation in 2021, Column (3) indicates a stronger response to the INFLATION treatment, with a larger negative coefficient that is statistically significant at the 1% level. In addition, the WAGE treatment is associated with significantly smaller planned price changes at conventional significance levels, while the ENERGY treatment yields a negative and marginally significant effect. Including the full set of controls in Columns (2) and (4) leaves these qualitative patterns unchanged. Overall, the coefficient magnitudes are noticeably larger for firms that overestimated past inflation.

[24] Firms that underestimate past inflation or correctly perceive it report perceived inflation rates that lie in a narrow range around the realized value of 3.2%, with beliefs spanning $[-2, 3.2]$.

To rationalize the observed patterns, we consider how firms' prior inflation misperceptions shape their price setting. Firms whose beliefs were closer to realized inflation in 2021 – such as those that underestimated or correctly perceived past inflation – receive comparatively little new information from the treatments and therefore exhibit more muted responses. These firms report inflation expectations for 2023 of roughly 9% and price increases of around 13% in the control group. For firms that previously underpriced relative to realized inflation, the accumulated cost backlog limits how far they are willing or able to reduce planned price increases in response to the weaker downward information signal. Moreover, for these firms, the information contained in the treatments conveys a comparatively weaker downward signal. Consistent with this interpretation, Columns (1) and (2) show smaller estimated treatment effects for this group.

For firms that overestimated past inflation, the adjustment environment differs, and the estimated effects are correspondingly stronger. These firms incorporated substantially more inflation into their past pricing decisions than was ultimately realized, yet they report very high inflation expectations for 2023, around 13%. Starting from an already elevated price path (planned price increases of 18% in the control group), their scope for further price increases is therefore more tightly constrained, as their price setting already reflected higher inflation beliefs. Moreover, the information provided in the treatments conveys stronger downward signals for firms that overestimated past inflation relative to firms that underestimated it. In this setting, the treatments lead to more pronounced reductions in planned price increases, consistent with the larger negative coefficients observed in Columns (3) and (4).

Taken together, we interpret these patterns as consistent with a path-dependent adjustment process. While both under- and overestimating firms reduce their planned price increases in response to the information treatments, the effect is stronger among firms that previously overestimated inflation. Having already incorporated high inflation into past pricing decisions, these firms face tighter constraints on further price increases, which amplifies the impact of additional information on inflation dynamics. Our findings in a high inflation environment complement previous results from Coibion et al. (2018) in a low-inflation environment. They report a revision effect for *inattentive* firms regarding employment and investment decisions, but not for prices, when provided with information on the inflation target of the central bank. Our results concerning price plans suggest that information on inflation dynamics is particularly relevant for firms' price setting strategies in high-inflation environments, where the benefits of price adjustments are likely to outweigh the costs.

8 Conclusion

We provide causal survey evidence on the effect of central bank inflation communication on firms' price setting plans. Using a randomized information experiment, firms are assigned to receive different sets of publicly available forecasts from the German central bank on inflation and its key components, or no additional central bank information. Our main results show that providing firms with such information leads to economically meaningful reductions in planned price increases. Across all information treatments, firms lower their intended price adjustments over the subsequent 12 months by roughly 3 percentage points relative to the control group, with effects that are highly robust across specifications, samples, and inference procedures. These responses are markedly stronger among firms whose prior inflation expectations substantially exceeded the central bank's forecast, while firms with already well-aligned expectations exhibit weaker reactions. Notably, providing firms with additional information on energy prices and wages yields effects that are quantitatively similar to those of providing inflation information alone, potentially because firms perceive information on energy-price developments and wage growth as already embedded in the central bank's overall inflation forecast and therefore containing little incremental information on average. Overall, the findings provide causal survey evidence that central bank communication can influence firms' price setting behavior in times of high inflation.

Beyond the average treatment effects, we provide evidence on how the information treatments operate and for which firms they matter most. A simple Bayesian interpretation suggests that the treatments shift firms' pricing plans toward a common inflation signal, flattening the relationship between pre-treatment expectations and planned price changes. Firms respond most strongly to the aggregate inflation signal, which appears more precise and easier to process than disaggregated information on energy or wages. We also show that information affects not only planned price increases but also intended price setting frequency, reducing the share of firms that expect to adjust prices much more frequently. Finally, treatment effects are heterogeneous, with stronger responses among firms with higher satisfaction with economic policy and among firms displaying greater inattention to realized inflation.

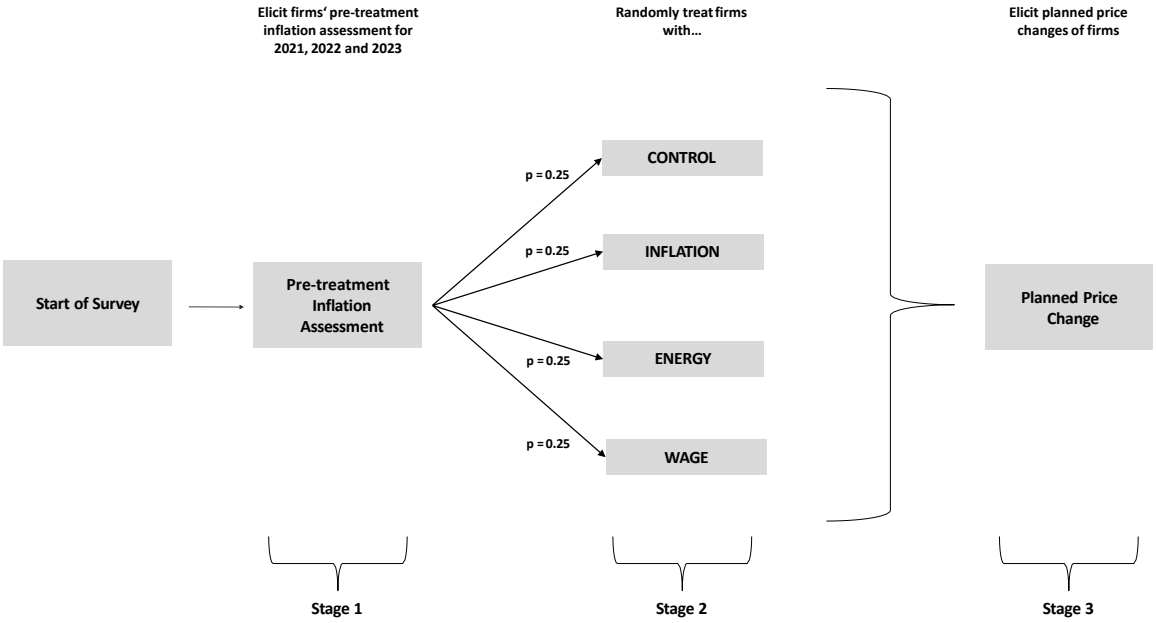
Our findings bear key implications for monetary policy-making. First, we show that central bank communication can be an effective tool to shape firms' price setting plans in times of high inflation. Therefore, central bank information policies targeted toward firms can effectively be used to break an inflation spiral. An improved information provision would also allow keeping interest rates on a lower path, thereby decreasing the risk of a hard landing. Second, our information treatments have a stronger impact on firms with higher (untreated) inflation expectations or limited knowledge with regard to realized inflation, which are precisely the types of firms that central bank communication aims to target during periods of high inflation. Overall, our results suggest that adequate

information policies towards firms can be an effective additional instrument for monetary policy allowing better guidance of firms' pricing decisions, and thereby inflation in the economy as a whole.

At the same time, the estimated effects should be interpreted as an upper bound on the effectiveness of central bank communication in practice. The experimental design abstracts from frictions in information dissemination and captures responses at the peak of information salience. As a result, it identifies short-run responses among fully informed firms, rather than the attenuated effects that would be expected under imperfect information diffusion outside the experimental setting (Coibion et al., 2020a; Blinder et al., 2024). Moreover, in real-world settings, limited reach and the decay of information effects over time are likely to attenuate these responses as well (Cavallo et al., 2017; Coibion et al., 2018, 2022). Taken together, the findings underscore the importance of timely, repeated, and broadly disseminated communication strategies, including the use of more targeted and direct channels, such as social media or ad-based outreach, to complement traditional communication channels (Coibion et al., 2020a).

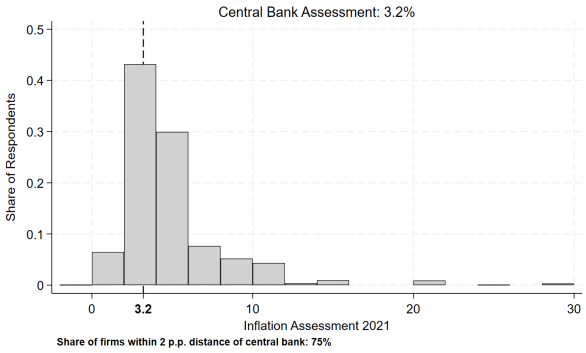
Figures and Tables

Figure 1: Experimental Design

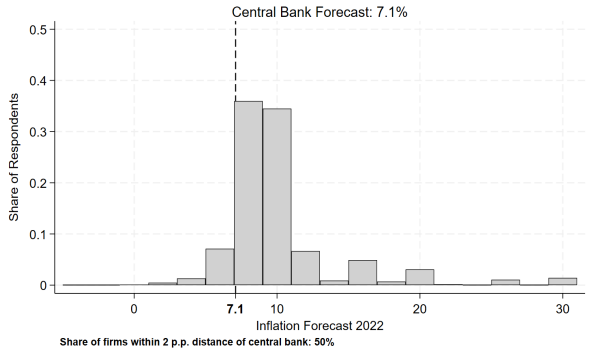


Note: Figure 1 presents the experimental design of our survey experiment.

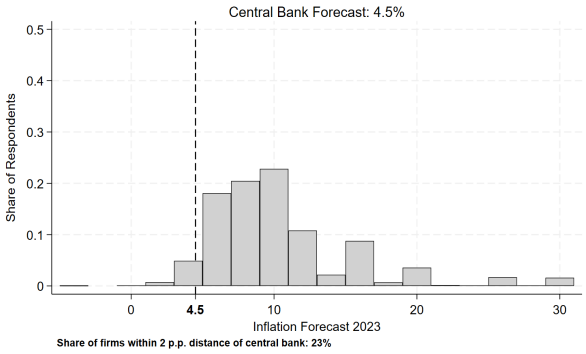
Figure 2: Firms' Inflation Assessment and Price Setting Plans



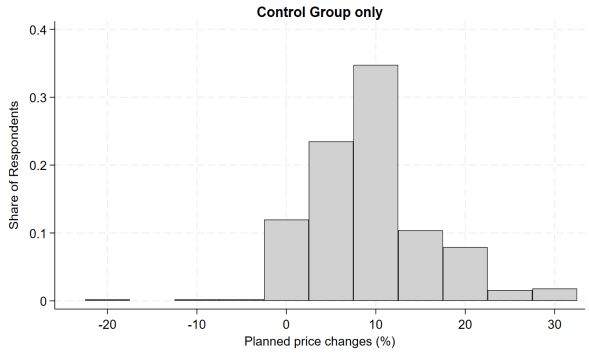
(a) Firms' 2021 Inflation Assessment



(b) Firms' 2022 Inflation Assessment



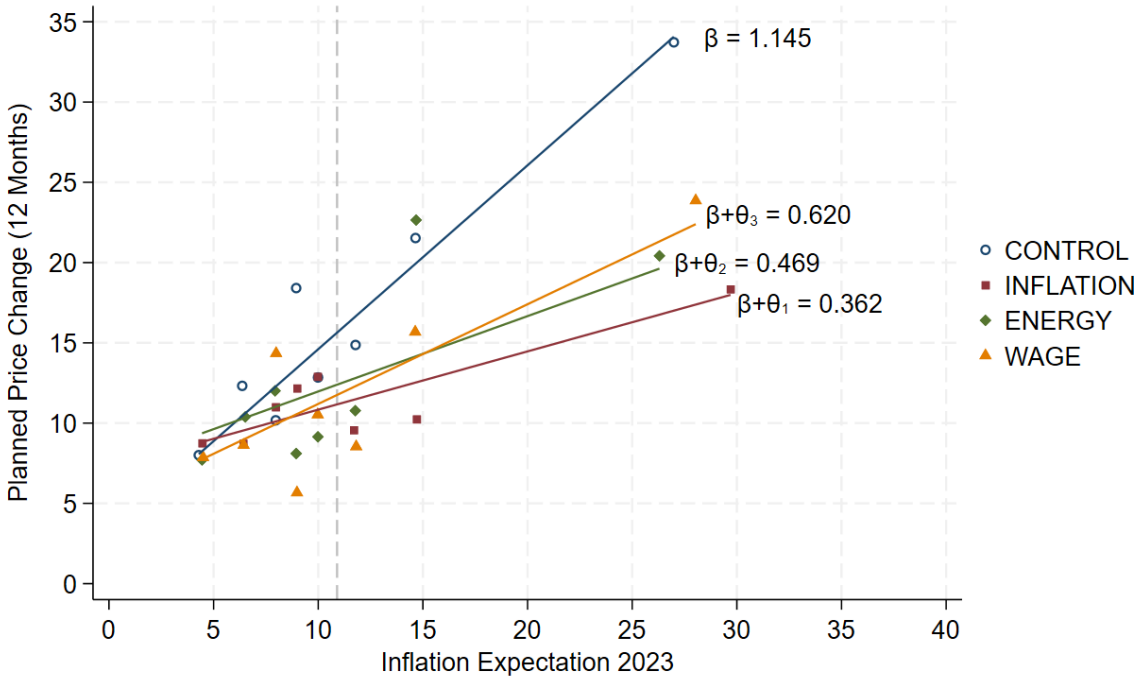
(c) Firms' 2023 Inflation Assessment



(d) Planned Price Changes in Next 12 Months

Note: Figure 2a, Figure 2b and Figure 2c present histograms of firms' inflation assessments for 2021 (N = 1,870), 2022 (N = 1,896), and 2023 (N = 1,881). Horizontal axis: indicated inflation rate (question: "*How high do you estimate the inflation rate for 2021/2022/2023?*"). Vertical axis: Share of survey respondents. Blue bars: answers in range of 2 percentage points distance to German central bank's inflation assessment (2021: 3.2%; 2022: 7.1%; 2023: 4.5%). Figure 2d shows surveyed firms' indicated price changes for the next 12 months. Horizontal axis: indicated price change (question: "*Compared to today, how do you plan to adjust the selling price of your main product or service in the next 12 months (in %)?*") Vertical axis: Share of survey respondents. Control group only (N = 443).

Figure 3: Firms' Pre-Treatment Inflation Expectations and Price Setting Plans



Note: Binscatters of firms' pre-treatment inflation expectations for 2023 (x-axis) versus their post-treatment price plans in the 12 months ahead (y-axis). The coefficient estimates indicate the slope of each line. The sample is restricted to firms with non-missing inflation expectations in the plausible range $[0, 75)$, thereby excluding implausible observations outside this interval. The vertical grey line marks the sample mean of firms' inflation expectations for 2023 (10.9%).

Table 1: Experimental Groups and Planned Price Changes

Sample:	**All**		Non-missing $E_{2022}Inflation_{i2023}$	
Dependent Variable:				
$\Delta Price_{i+12m}$	(1)	(2)	(3)	(4)
INFLATION	-3.392**	-3.274**	-4.188***	-4.101***
	(1.147)	(1.311)	(1.178)	(1.241)
ENERGY	-2.985**	-2.913**	-2.886**	-2.739**
	(1.088)	(1.123)	(1.216)	(1.269)
WAGE	-3.331**	-3.459**	-3.346**	-3.494**
	(1.392)	(1.259)	(1.422)	(1.337)
Constant (CONTROL)	15.380***	15.362***	15.311***	15.288***
	(0.931)	(0.774)	(1.005)	(0.759)
N	1910	1910	1844	1844
R^2	0.004	0.051	0.005	0.052
p($\beta_1 = \beta_2 = \beta_3 = 0$)	0.025	0.046	0.012	0.020
Controls	No	Yes	No	Yes

Note: OLS estimates from the regression of firms' planned price change in the next 12 months on experimental group dummies: $\Delta Price_{i+12m} = \beta_0 + \beta_1 \times INFLATION_i + \beta_2 \times ENERGY_i + \beta_3 \times WAGE_i + X_i'\gamma + \varepsilon_i$. Columns (1) and (2) include all observations in our sample that answered the planned price adjustment question. Columns (3) and (4) restrict the sample to firms with non-missing inflation expectations. Imposing this requirement reduces the sample to 1,858 observations (a drop of ∼2.7%). In these columns, we further limit the sample to expectations in the plausible range $[0, 75)$, yielding 1,844 observations and excluding an additional 14 firms (a drop of ∼0.8%) with implausibly high or low values. Controls as indicated in each column. Controls include firm controls (size groups, legal forms and 1-digit industries (WZ08 classification)), manager controls (education, position in the firm and the gender of the decision-maker) and week fixed effects. Standard errors clustered on survey-week level. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 2: Experimental Groups and Planned Price Changes - Heterogeneity

	Low Prior		**High Prior**	
Dependent Variable:				
$\Delta Price_{i+12m}$	(1)	(2)	(3)	(4)
INFLATION	-1.296	-2.025	-5.099***	-5.064***
	(2.868)	(3.020)	(1.346)	(1.378)
ENERGY	-2.463	-1.937	-3.234*	-3.373*
	(1.900)	(1.727)	(1.699)	(1.684)
WAGE	-2.117	-1.798	-3.976*	-4.114*
	(2.716)	(2.143)	(2.166)	(2.076)
Constant (CONTROL)	10.078***	10.089***	17.071***	17.134***
	(2.662)	(1.550)	(1.441)	(1.116)
N	445	445	1399	1399
R^2	0.002	0.158	0.007	0.057
p($\beta_1 = \beta_2 = \beta_3 = 0$)	0.566	0.710	0.014	0.016
Controls	No	Yes	No	Yes

Note: OLS estimates from the regression of firms' planned price change in the next 12 months on experimental group dummies: $\Delta Price_{i+12m} = \beta_0 + \beta_1 \times INFLATION_i + \beta_2 \times ENERGY_i + \beta_3 \times WAGE_i + X_i'\gamma + \varepsilon_i$. The sample is restricted to firms with non-missing inflation expectations in the plausible range $[0, 75)$, thereby excluding implausible observations outside this interval. Columns (1) and (2) include only firms with forecasts of inflation for 2023 $\leq$ 6.5% (i.e., 2 p.p. above central bank forecast and lower). Columns (3) and (4) include only firms with forecasts of inflation for 2023 $>$ 6.5%. Controls as indicated in each column. Controls include firm controls (size groups, legal forms and 1-digit industries (WZ08 classification)), manager controls (education, position in the firm and the gender of the decision-maker) and week fixed effects. Standard errors clustered on survey-week level. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 3: Experimental Results - Expectations and Pricing Plans

Dependent Variable: $\Delta Price_{i+12m}$	(1)	(2)
Infl. 2023	1.145***	1.178***
	(0.332)	(0.331)
INFLATION	4.059	4.119
	(3.497)	(3.680)
ENERGY	4.127	4.528
	(3.725)	(3.628)
WAGE	1.835	2.267
	(4.017)	(4.128)
INFLATION × Infl. 2023	-0.783**	-0.787**
	(0.332)	(0.347)
ENERGY × Infl. 2023	-0.676*	-0.698*
	(0.359)	(0.342)
WAGE × Infl. 2023	-0.525	-0.578
	(0.438)	(0.435)
Constant	3.155	2.799
	(3.366)	(3.367)
N	1844	1844
R^2	0.060	0.105
Controls	No	Yes
$p(\beta) = 1$	0.668	0.600

Note: OLS estimates from the following regression: $\Delta Price_{i+12m} = \alpha + \beta\,\pi_i^{pre} + \sum_{g\in\{\text{I, E, W}\}} \delta_g\, D_{ig} + \sum_{g\in\{\text{I, E, W}\}} \theta_g\, \left(D_{ig} \times \pi_i^{pre}\right) + X_i'\gamma + \varepsilon_i$. The dependent variable is the firm's planned price change over the next 12 months. Independent variables include the respondent's inflation forecast for 2023, three experimental treatment indicators (INFLATION, ENERGY, WAGE), and their interactions with the forecast. The omitted (baseline) category is the CONTROL group. Column (2) additionally includes firm controls (size groups, legal forms, and 1-digit industries (WZ08 classification)), manager controls (education, position in the firm, and gender of the decision-maker), and week fixed effects. The sample is restricted to firms with non-missing inflation expectations in the plausible range $[0, 75)$, thereby excluding implausible observations outside this interval. Standard errors are clustered at the survey-week level. Standard errors in brackets. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 4: Translation of Empirical Coefficients to Model Parameters

Treatment g	Prior: λ_g	Signal: $1 - \lambda_g$	s_g
INFLATION	0.32	0.68	5.18
ENERGY	0.41	0.59	6.11
WAGE	0.54	0.46	3.50

Notes: This table reports the posterior weights on firms' prior inflation expectations (λ_g), the corresponding weight placed on the common signal ($1 - \lambda_g$), and the implied signal s_g for each treatment group $g \in \{\text{INFLATION}, \text{ENERGY}, \text{WAGE}\}$. Values are derived from the empirical coefficients in Table 3.

Table 5: Ordered Probit Regression and Average Marginal Effects on Expected Price Adjustment Frequency

Dependent Variable:	Price Adjustment Frequency	
	(1)	(2)
Panel A. Ordered Probit Coefficients		
$\mathbb{1}\{\text{Treatment}_i\}$	-0.136**	-0.128**
	(0.060)	(0.060)
N	1836	1836
pseudo R^2	0.001	0.035
Controls	No	Yes
Panel B. Average Marginal Effects for Treatment		
	Baseline: Control group	
Pr(Much less frequently)	0.005**	0.005**
	(0.002)	(0.002)
Pr(Rather less frequently)	0.009**	0.008**
	(0.004)	(0.004)
Pr(Unchanged)	0.038**	0.033**
	(0.017)	(0.016)
Pr(Rather more frequently)	-0.008***	-0.007***
	(0.003)	(0.003)
Pr(Much more frequently)	-0.043**	-0.039**
	(0.020)	(0.019)

Note: Table 5 reports ordered probit coefficients (Panel A) and corresponding average marginal effects (Panel B) for the probability of reporting different expected price adjustment frequencies over the next 12 months compared to past years. The sample is restricted to firms with non-missing inflation expectations in the plausible range $[0, 75)$, thereby excluding implausible observations outside this interval. Controls as indicated in each column. Controls include firm controls (size groups, legal forms and 1-digit industries (WZ08 classification)), manager controls (education, position in the firm and the gender of the decision-maker) and week fixed effects. Standard errors clustered at the week level are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 6: Price Setting Frequency and Treatment Effects

	Price Setting Frequency Change			
Sample:	**Lower/Unchanged**		**Higher**	
Dependent Variable:				
$\Delta Price_{i+12m}$	(1)	(2)	(3)	(4)
INFLATION	-2.465**	-2.155*	-4.695**	-4.578*
	(0.858)	(1.080)	(2.020)	(2.503)
ENERGY	0.310	0.310	-4.056**	-4.444**
	(2.091)	(2.400)	(1.547)	(1.758)
WAGE	-0.012	-0.133	-4.709**	-5.232**
	(1.830)	(1.713)	(1.842)	(1.777)
Constant (CONTROL)	9.451***	9.404***	18.462***	18.654***
	(1.029)	(1.249)	(1.528)	(1.339)
N	724	724	1112	1112
R^2	0.004	0.070	0.007	0.077
p($\beta_1 = \beta_2 = \beta_3 = 0$)	0.008	0.101	0.058	0.049
Controls	No	Yes	No	Yes

Note: OLS estimates from the regression of firms' planned price change in the next 12 months on experimental group dummies: $\Delta Price_{i+12m} = \beta_0 + \beta_1 \times INFLATION_i + \beta_2 \times ENERGY_i + \beta_3 \times WAGE_i + X_i'\gamma + \varepsilon_i$. The sample is restricted to firms with non-missing inflation expectations in the plausible range $[0, 75)$, thereby excluding implausible observations outside this interval. Sample split in columns (1) through (4) is based on a survey question in which respondents indicate whether they expect to adjust the price of their main product or service more or less frequently over the next 12 months relative to previous years. Columns (1) and (2) include firms indicating the options *Much less frequently* (e.g. every 12 months in future, previously every 3 months), *Rather less frequently* (e.g. every 12 months in future, previously every 6 months) or *Unchanged* (e.g. in future every 12 months, previously every 12 months). Columns (3) and (4) include firms indicating the options *Rather more frequently* (e.g. every 6 months in future, previously every 12 months) or *Much more frequently* (e.g. every 3 months in future, previously every 12 months). Controls as indicated in each column. Controls include firm controls (size groups, legal forms and 1-digit industries (WZ08 classification)), manager controls (education, position in the firm and the gender of the decision-maker) and week fixed effects. Standard errors clustered on survey-week level. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 7: Satisfaction with Economic Policy

Sample:	Satisfaction			
	Low		Medium/High	
Dependent Variable:				
$\Delta Price_{i+12m}$	(1)	(2)	(3)	(4)
INFLATION	-3.732***	-4.180***	-4.665**	-5.132**
	(1.127)	(1.332)	(1.685)	(1.898)
ENERGY	-1.152	-2.299*	-4.554**	-4.621**
	(1.510)	(1.255)	(1.705)	(1.948)
WAGE	-1.677	-2.461	-4.925***	-5.228***
	(2.505)	(2.288)	(1.415)	(1.309)
Constant (CONTROL)	16.776***	17.378***	13.874***	14.089***
	(1.062)	(0.826)	(1.396)	(1.136)
N	914	914	928	928
R^2	0.003	0.083	0.010	0.076
p($\beta_1 = \beta_2 = \beta_3 = 0$)	0.023	0.024	0.022	0.009
Controls	No	Yes	No	Yes

Note: OLS estimates from the regression of firms' planned price change in the next 12 months on experimental group dummies: $\Delta Price_{i+12m} = \beta_0 + \beta_1 \times INFLATION_i + \beta_2 \times ENERGY_i + \beta_3 \times WAGE_i + X_i'\gamma + \varepsilon_i$. The sample is restricted to firms with non-missing inflation expectations in the plausible range $[0, 75)$, thereby excluding implausible observations outside this interval. Sample split in columns (1) through (4) is based on the question *"How satisfied are you with economic policy in Germany?"*. Columns (1) and (2) include firms indicating a low satisfaction (0-2). Columns (3) and (4) include firms that indicated an intermediate to high satisfaction (3-10). Controls include firm controls (size groups, legal forms and 1-digit industries (WZ08 classification)), manager controls (education, position in the firm and the gender of the decision-maker) and week fixed effects. Standard errors clustered on survey-week level. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 8: Inflation Inattention and Planned Price Changes

	Inflation 2021 $\leq$ 3.2%		Inflation 2021 $>$ 3.2%	
Dependent Variable:				
$\Delta Price_{i+12m}$	(1)	(2)	(3)	(4)
INFLATION	-3.029*	-3.440*	-5.653***	-5.743***
	(1.682)	(1.793)	(1.683)	(1.613)
ENERGY	-2.170	-1.975	-3.653*	-3.204
	(1.767)	(1.704)	(1.705)	(1.997)
WAGE	-3.475	-3.552	-3.901**	-4.666**
	(2.240)	(2.358)	(1.748)	(1.833)
Constant (Baseline CONTROL)	12.758***	12.826***	18.105***	18.230***
	(1.637)	(1.275)	(1.646)	(0.995)
N	868	868	948	947
R^2	0.005	0.065	0.007	0.082
p($\beta_1 = \beta_2 = \beta_3 = 0$)	0.356	0.329	0.018	0.012
Controls	No	Yes	No	Yes

Note: OLS estimates from the regression of firms' planned price change in the next 12 months on experimental group dummies: $\Delta Price_{i+12m} = \beta_0 + \beta_1 \times INFLATION_i + \beta_2 \times ENERGY_i + \beta_3 \times WAGE_i + X_i'\gamma + \varepsilon_i$. The sample is restricted to firms with non-missing inflation expectations in the plausible range $[0, 75)$, thereby excluding implausible observations outside this interval. Columns (1) and (2) include firms with reported inflation for 2021 $\leq$ 3.2% (i.e., realized inflation rate in 2021). Columns (3) and (4) include firms with reported inflation for 2021 $>$ 3.2%. Controls as indicated in each column. Controls include firm controls (size groups, legal forms and 1-digit industries (WZ08 classification)), manager controls (education, position in the firm and the gender of the decision-maker) and week fixed effects. The sample size in Column (4) relative to Column (3) is reduced by one observation because the estimation drops a singleton observation when absorbing the full set of firm- and manager-level controls as well as week fixed effects. Standard errors clustered on survey-week level. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

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Appendix

A Survey and Experimental Design

A.1 Experimental Design

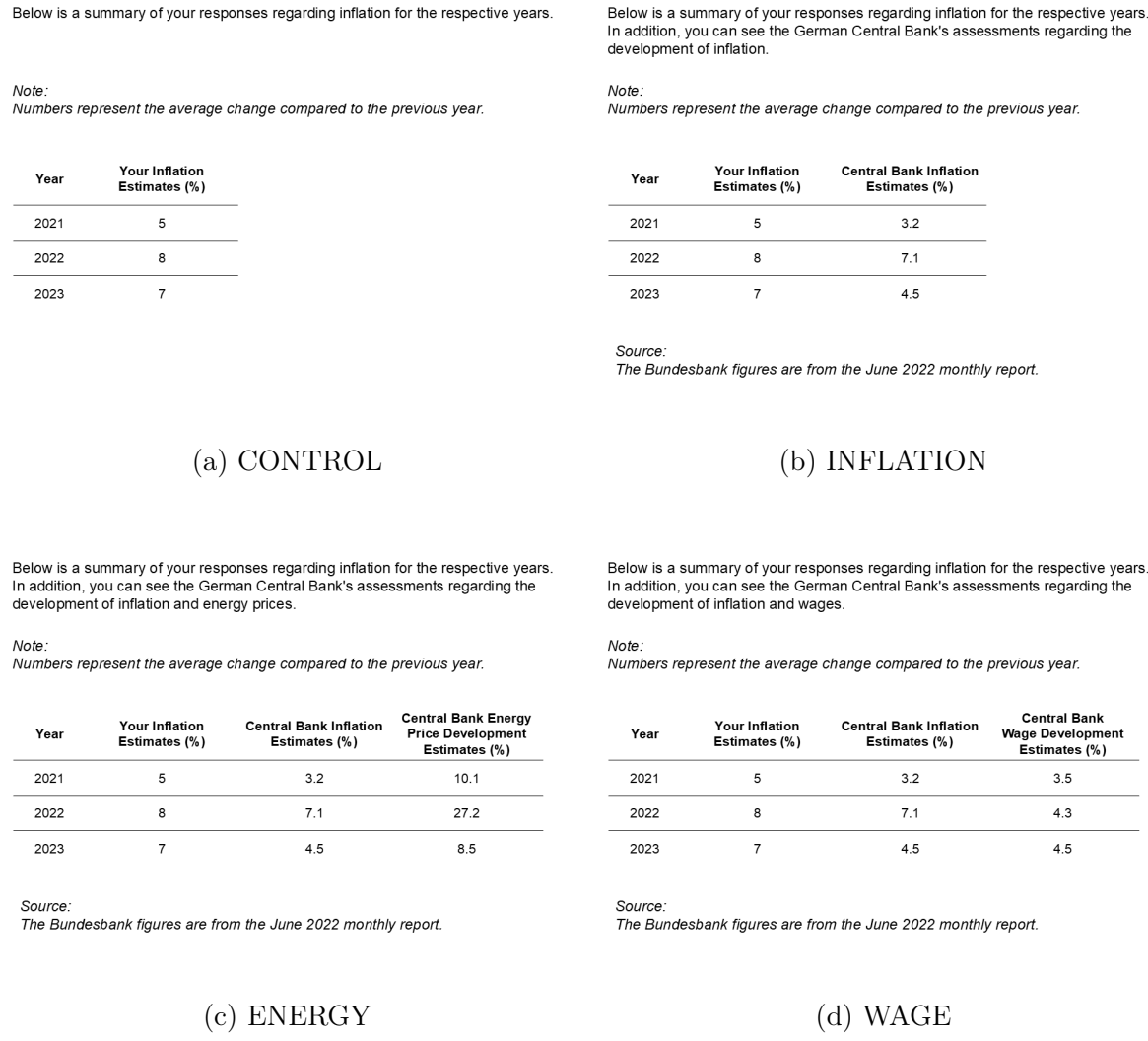
Our experimental design incorporates several stages, which are visually depicted in Figure 1 in the main text. In the initial stage, participants are requested to provide their inflation estimates for the years 2021, 2022, and 2023. This stage yields two essential pieces of information. First, we obtain participants' prior expectations regarding future inflation, specifically for the years 2022 and 2023. Notably, the expectation for 2022 is partially realized at the time of the survey, while the expectation for 2023 remains entirely in the future. Second, by eliciting firms' assessment of past inflation in 2021, we can gauge the level of misperception of a specific realized inflation rate and, hence, a measure of inattention or attentiveness to inflation dynamics of each firm. This serves as a natural anchor point and enables within-subject comparisons between realized and expected inflation.

In the second stage, after indicating their inflation assessment, firms are randomly assigned to one of four groups. Depending on the assignment to one of the four groups, firms see different information displayed on the next page of the survey. The exact layout of the information provided can be seen in Figure A.1 (translated survey question) and Figure A.2 (original survey language in German). All firms, including the CONTROL group, see their own inflation assessment for the three years as indicated in the first question. Firms in the INFLATION, ENERGY and WAGE group see, in addition, the German central bank's inflation assessment for the respective year. Finally, the ENERGY (WAGE) group is additionally informed about the central bank's assessment of energy cost (labor cost) development for all three years. All mentioned information is displayed adjacently for the respective group. Hence, participants can compare their own estimates to the displayed information. The CONTROL group only sees its own estimates. The INFLATION group receives the same screen as the CONTROL group with inflation forecasts added. Further, ENERGY and WAGE see the same information as the INFLATION group with single cost components added. This step-wise addition of information allows us to measure the incremental effect of additional information.

In the third stage, we ask participants about their pricing plans for their main product in the upcoming twelve months. Pricing plans allow us to infer the posterior beliefs about inflation expectations and the updating parameters, rather than measuring posterior beliefs per se. It is important to note that we purposely avoid directly measuring these beliefs due to various reasons, such as the desire to minimize potential experimenter demand effects, as explained in Section 3 of the main paper. Following the completion of the third stage, participants proceed to the remaining questionnaire of the German

Business Panel. For the empirical analyses, we utilize variables associated with specific survey questions in the German Business Panel, and a comprehensive description of these variables can be found in Section A.2.

Figure A.1: Screenshots - Experimental Treatment (translated)



Below is a summary of your responses regarding inflation for the respective years.

Note:
Numbers represent the average change compared to the previous year.

Year	Your Inflation Estimates (%)
2021	5
2022	8
2023	7

(a) CONTROL

Below is a summary of your responses regarding inflation for the respective years. In addition, you can see the German Central Bank's assessments regarding the development of inflation.

Note:
Numbers represent the average change compared to the previous year.

Year	Your Inflation Estimates (%)	Central Bank Inflation Estimates (%)
2021	5	3.2
2022	8	7.1
2023	7	4.5

Source:
The Bundesbank figures are from the June 2022 monthly report.

(b) INFLATION

Below is a summary of your responses regarding inflation for the respective years. In addition, you can see the German Central Bank's assessments regarding the development of inflation and energy prices.

Note:
Numbers represent the average change compared to the previous year.

Year	Your Inflation Estimates (%)	Central Bank Inflation Estimates (%)	Central Bank Energy Price Development Estimates (%)
2021	5	3.2	10.1
2022	8	7.1	27.2
2023	7	4.5	8.5

Source:
The Bundesbank figures are from the June 2022 monthly report.

(c) ENERGY

Below is a summary of your responses regarding inflation for the respective years. In addition, you can see the German Central Bank's assessments regarding the development of inflation and wages.

Note:
Numbers represent the average change compared to the previous year.

Year	Your Inflation Estimates (%)	Central Bank Inflation Estimates (%)	Central Bank Wage Development Estimates (%)
2021	5	3.2	3.5
2022	8	7.1	4.3
2023	7	4.5	4.5

Source:
The Bundesbank figures are from the June 2022 monthly report.

(d) WAGE

Note: Translation of screenshots of the experimental information treatment in the online survey for the four experimental groups. Top left: **CONTROL** group is shown their own inflation estimates they indicated in the previous survey question. Top right: firms in baseline **INFLATION** treatment are shown their own inflation estimates contrasted with the forecasts of the German central bank (Bundesbank) at the time of the survey. Bottom left: firms in extended **ENERGY** treatment are shown their own inflation estimates contrasted with the forecasts of the German central bank (Bundesbank) on both inflation rates and energy price development at the time of the survey. Bottom right: firms in extended **WAGE** treatment are shown their own inflation estimates contrasted with the forecasts of the German central bank (Bundesbank) on both inflation rates and wage development at the time of the survey.

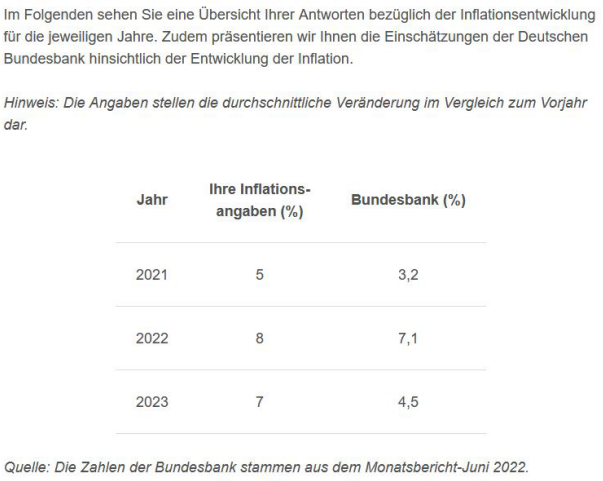
Figure A.2: Screenshots - Experimental Treatment (Original Survey Questions)

Im Folgenden sehen Sie eine Übersicht Ihrer Antworten bezüglich der Inflationsentwicklung für die jeweiligen Jahre.

Hinweis: Die Angaben stellen die durchschnittliche Veränderung im Vergleich zum Vorjahr dar.

Jahr	Ihre Inflations-angaben (%)
2021	5
2022	8
2023	7

(a) CONTROL



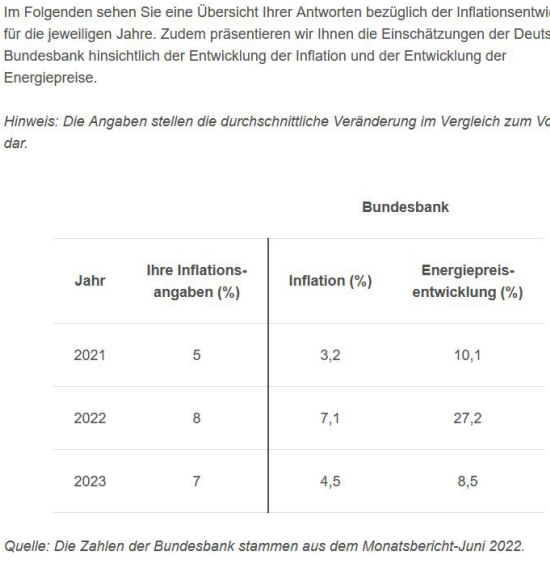
Im Folgenden sehen Sie eine Übersicht Ihrer Antworten bezüglich der Inflationsentwicklung für die jeweiligen Jahre. Zudem präsentieren wir Ihnen die Einschätzungen der Deutschen Bundesbank hinsichtlich der Entwicklung der Inflation.

Hinweis: Die Angaben stellen die durchschnittliche Veränderung im Vergleich zum Vorjahr dar.

Jahr	Ihre Inflations-angaben (%)	Bundesbank (%)
2021	5	3,2
2022	8	7,1
2023	7	4,5

Quelle: Die Zahlen der Bundesbank stammen aus dem Monatsbericht-Juni 2022.

(b) INFLATION



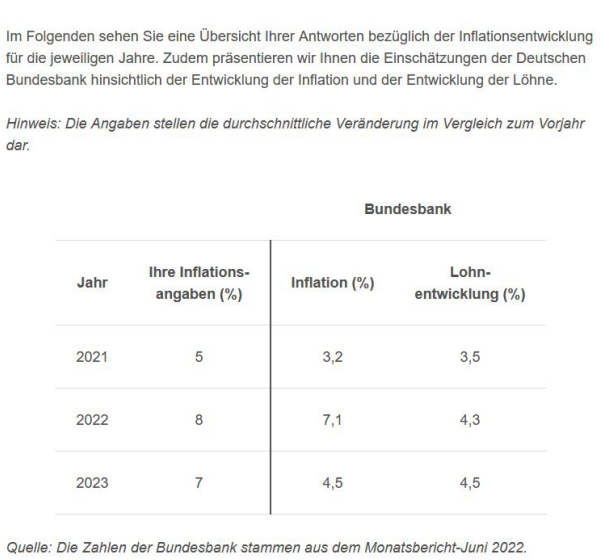
Im Folgenden sehen Sie eine Übersicht Ihrer Antworten bezüglich der Inflationsentwicklung für die jeweiligen Jahre. Zudem präsentieren wir Ihnen die Einschätzungen der Deutschen Bundesbank hinsichtlich der Entwicklung der Inflation und der Entwicklung der Energiepreise.

Hinweis: Die Angaben stellen die durchschnittliche Veränderung im Vergleich zum Vorjahr dar.

		Bundesbank	
Jahr	Ihre Inflations-angaben (%)	Inflation (%)	Energiepreis-entwicklung (%)
2021	5	3,2	10,1
2022	8	7,1	27,2
2023	7	4,5	8,5

Quelle: Die Zahlen der Bundesbank stammen aus dem Monatsbericht-Juni 2022.

(c) ENERGY



Im Folgenden sehen Sie eine Übersicht Ihrer Antworten bezüglich der Inflationsentwicklung für die jeweiligen Jahre. Zudem präsentieren wir Ihnen die Einschätzungen der Deutschen Bundesbank hinsichtlich der Entwicklung der Inflation und der Entwicklung der Löhne.

Hinweis: Die Angaben stellen die durchschnittliche Veränderung im Vergleich zum Vorjahr dar.

		Bundesbank	
Jahr	Ihre Inflations-angaben (%)	Inflation (%)	Lohn-entwicklung (%)
2021	5	3,2	3,5
2022	8	7,1	4,3
2023	7	4,5	4,5

Quelle: Die Zahlen der Bundesbank stammen aus dem Monatsbericht-Juni 2022.

(d) WAGE

Note: Screenshots of the experimental information treatment in the online survey for the four experimental groups. Top left: **CONTROL** group is shown their own inflation estimates they indicated in the previous survey question. Top right: firms in baseline **INFLATION** treatment are shown their own inflation estimates contrasted with the forecasts of the German central bank (Bundesbank) at the time of the survey. Bottom left: firms in extended **ENERGY** treatment are shown their own inflation estimates contrasted with the forecasts of the German central bank (Bundesbank) on both inflation rates and energy price development at the time of the survey. Bottom right: firms in extended **WAGE** treatment are shown their own inflation estimates contrasted with the forecasts of the German central bank (Bundesbank) on both inflation rates and wage development at the time of the survey.

A.2 Variable Definition

Table A.1 provides a comprehensive and detailed account of the main variables used in the empirical analysis, linking each variable to its underlying survey question and documenting the corresponding response scales. The table covers firms' inflation expectations, planned price changes, and the cost factors relevant for pricing decisions, as well as measures of price setting behavior in terms of past adjustment intervals, current adjustment plans, and expected changes in the frequency of price adjustments. In addition, it includes an attitudinal measure capturing managers' satisfaction with economic policy in Germany. Appendix D offers screenshots of the original survey questions in German.

In the survey, firms were randomly assigned to one of two question formats eliciting the frequency with which they adjust prices (see Table A.1). Approximately half of the firms received an *ordered categorical* question, *Expected Change in Price Adjustment Frequency*, asking whether, relative to the past, they expect to update prices "much less frequently," "rather less frequently," "unchanged," "rather more frequently," or "much more frequently." To aid interpretation, each label was accompanied by an example that translates the qualitative statement into a change in the *price-adjustment interval*. These examples imply specific ratios of the future interval to the past interval: moving from every 3 months to every 12 months corresponds to "much less frequently" (ratio = 12/3 = 4), moving from every 6 months to every 12 months corresponds to "rather less frequently" (ratio = 12/6 = 2), moving from every 12 months to every 12 months corresponds to "unchanged" (ratio = 12/12 = 1), moving from every 12 months to every 6 months corresponds to "rather more frequently" (ratio = 6/12 = 0.5), and moving from every 12 months to every 3 months corresponds to "much more frequently" (ratio = 3/12 = 0.25). The other half of the sample received two *interval-based* questions instead, *Past Price Adjustment Interval* and *Current Price Adjustment Interval*, asking at what interval they adjusted prices in the past and at what interval they currently plan to adjust prices. Response options ranged from daily, weekly, and monthly adjustments to intervals exceeding 24 months, as summarized in Table A.1.

To construct a unified measure that is comparable across both question formats, we express the interval-based responses in terms of the same *interval ratio* underlying the categorical question and then aggregate them back onto its five ordered categories. For firms answering the interval-based questions, we first compute the continuous ratio

$$r_i \;=\; \frac{\textit{Current Price Adjustment Interval}_i}{\textit{Past Price Adjustment Interval}_i},$$

which directly mirrors the ratios implicit in the survey examples. By construction, $r_i > 1$ indicates that the planned interval is longer than the past interval and thus that the firm expects to adjust prices *less frequently* going forward; $r_i < 1$ indicates a shorter planned interval and thus *more frequent* future price adjustment; and $r_i = 1$ corresponds to no

expected change in frequency. We then map this continuous ratio onto the five response categories of *Expected Change in Price Adjustment Frequency* using cutoff values defined as the midpoints between the anchor ratios provided to respondents (4, 2, 1, 0.5, 0.25). These midpoints are 3, 1.5, 0.75, and 0.375, which define the thresholds used to assign firms to the five ordered categories. Specifically, we classify firms as adjusting prices "much less frequently" if $r_i > 3$, "rather less frequently" if $1.5 < r_i \leq 3$, "unchanged" if $0.75 < r_i \leq 1.5$, "rather more frequently" if $0.375 < r_i \leq 0.75$, and "much more frequently" if $r_i \leq 0.375$. This aggregation places all firms – whether they answered the direct categorical question or the two interval-based questions – on a common ordinal scale capturing expected changes in price setting frequency.

The results for the full sample, based on the harmonized measure of expected changes in price setting frequency described above, are reported in the main text in Table 5. To assess whether these findings are driven by the aggregation of interval-based responses onto the ordered categorical scale, Table C.6 presents a robustness check using only the subsample of firms that directly answered the ordered categorical question. The estimated treatment effects in this subsample are qualitatively similar to those obtained for the full sample, with the treatment increasing the probability of reporting less frequent price adjustments and decreasing the probability of reporting more frequent adjustments. While the estimates are less precise due to the smaller sample size, the overall pattern of results remains unchanged, suggesting that the main findings are not driven by the harmonization procedure.

Table A.1: Variable Definitions

Variable	**Survey Question**	**Response Scale**
Inflation Expectations (2021–2023)	"How high do you estimate the inflation rate for the respective years?" (2021, 2022, 2023) (*Hint: The inflation rate is defined as the change in the average price development of all goods and services that private households in Germany buy for consumption purposes. It is measured as the average change compared to the previous year.*)	$[-100, 100]$ %
Planned Price Change	"Compared to today, how do you plan to adjust the selling price of your main product or service in the next 12 months (in %)?"	≥ -100 %
Input Cost Factors	"Which factors have the greatest influence on pricing in your company?"	Multiple binary indicators (0/1): labor costs; material/energy costs; competitor prices; customer demand; legal regulations; other
Expected Change in Price Adjustment Frequency (ordered categorical)	"Compared to past years: Do you think you will adjust the price of your main product or service more or less frequently in the next 12 months?"	Ordered categorical scale: 1 = much less frequently (e.g., every 12 months in future, previously every 3 months) 2 = rather less frequently (e.g., every 12 months in future, previously every 6 months) 3 = unchanged (e.g., in future every 12 months, previously every 12 months) 4 = rather more frequently (e.g., every 6 months in future, previously every 12 months) 5 = much more frequently (e.g., every 3 months in future, previously every 12 months)
Past Price Adjustment Interval (ordered categorical)	"At what interval have you adjusted the price of your main product or service in the past?"	Ordered categorical scale: 1 = daily 2 = weekly 3 = 1 month ⋮ 26 = 24 months 27 = more than 24 months
Current Price Adjustment Interval (ordered categorical)	"At what interval do you currently plan to adjust the price of your main product or service?"	Ordered categorical scale: 1 = daily 2 = weekly 3 = 1 month ⋮ 26 = 24 months 27 = more than 24 months
Economic Policy Satisfaction (ordered categorical)	"How satisfied are you with economic policy in Germany?"	Ordered Likert scale: 0 = very unsatisfied 10 = very satisfied

Note: Table A.1 summarizes the main variables used in the empirical analysis, reporting the corresponding survey questions and the response scales as implemented in the German Business Panel.

B Descriptive Characteristics and Balancing Tests

A key assumption of randomized controlled trials is that random assignment of participants to treatments leads to balanced characteristics across treatment groups. In this section, we investigate whether this assumption holds in our experiment, that is, whether firms in the different experimental groups have comparable prior inflation expectations and similar firm and manager characteristics. In other words, we test whether randomization across experimental arms was successful. This ensures that participating firms do not exhibit systematic differences in their inflation assessments prior to receiving the information treatment or in firm and manager characteristics.

Table B.1 shows descriptive statistics for each experimental group's inflation assessments for 2021, 2022, and 2023. We perform a Wald chi-square test of equality of means across all four experimental groups. The p-values, displayed in the last column of Table B.1, indicate that inflation expectations do not differ significantly across groups, confirming the effectiveness of our randomization procedure.

Table B.2 displays descriptive statistics for firm and manager characteristics we use in our analyses for the total sample and by experimental group. Again, the last column of Table B.2 displays the p-values of Wald chi-square tests for equality of means across all four experimental groups for each variable. P-values demonstrate that our randomization was also successful regarding firm and manager characteristics, as the distributions do not display systematic differences. Out of all balancing tests, only three tests exhibit statistically significant differences at the 10% level or below, which is well within what would be expected by chance given the number of tests conducted.

Finally, Table B.3 shows that the industry composition of our firm sample is largely comparable to the industry composition of the overall German firm population (German Federal Statistical Office, 2021). Our sample includes more firms from the manufacturing and information sector and fewer firms from the hospitality and health service industry, in contrast to the German firm population in 2021. Moreover, firms in our sample are slightly larger with regard to employees and revenues compared to the German firm population.

Table B.1: Descriptive Statistics and Balancing Tests – Inflation Assessment

	Total	CONTROL	INFLATION	ENERGY	WAGE	P-value for equality across groups
Inflation 2021 (in %)						
Mean	4.68	4.54	5.03	4.37	4.74	0.25
SD	(4.93)	(3.72)	(6.28)	(4.42)	(4.77)	
N	1,870	436	496	474	464	
Inflation 2022 (in %)						
Mean	10.48	10.08	10.80	10.22	10.78	0.24
SD	(7.14)	(5.47)	(8.49)	(6.33)	(7.69)	
N	1,896	440	504	480	472	
Inflation 2023 (in %)						
Mean	11.31	10.74	11.80	10.89	11.76	0.20
SD	(10.06)	(7.58)	(12.02)	(9.32)	(10.52)	
N	1,881	439	494	477	471	

Note: Descriptive statistics for prior inflation assessment for 2021, 2022 and 2023 in % for the total sample and the experimental groups, respectively. *P*-values in the last column from a Wald chi-square test for equality of means across all four experimental groups. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table B.2: Descriptive Statistics and Balancing Tests – Firm and Manager Characteristics

	Total Sample	CONTROL	INFLATION	ENERGY	WAGE	P-value for equality across groups
Size groups - Revenues/Employees						
Very Small	0.66	0.64	0.67	0.64	0.69	0.27
Small	0.24	0.26	0.24	0.24	0.20	0.23
Medium	0.06	0.05	0.05	0.06	0.07	0.62
Large	0.01	0.02	0.01	0.02	0.00	0.03**
Missing	0.03	0.03	0.03	0.04	0.04	0.59
Legal Forms						
Sole Proprietorship	0.23	0.22	0.23	0.21	0.24	0.64
Partnerships	0.13	0.15	0.15	0.12	0.10	0.10*
Corporations	0.56	0.56	0.52	0.59	0.58	0.13
Other/Missing	0.08	0.08	0.09	0.07	0.07	0.63
Economic Sector (1-digit WZ08)						
A Agriculture	0.01	0.02	0.01	0.02	0.01	0.54
B Mining and quarrying†	0.00	0.00	0.00	0.00	0.00	-
C Manufacturing	0.14	0.15	0.14	0.13	0.14	0.88
D Energy supply	0.01	0.01	0.01	0.00	0.01	0.41
E Water supply	0.00	0.01	0.00	0.00	0.00	0.33
F Construction	0.10	0.10	0.11	0.09	0.08	0.39
G Trade	0.14	0.15	0.14	0.14	0.12	0.58
H Transport and storage	0.03	0.02	0.02	0.03	0.04	0.49
I Accommodation and food service activities	0.04	0.04	0.04	0.03	0.04	0.93
J Information	0.08	0.08	0.05	0.08	0.10	0.07*
K Financial and insurance activities	0.03	0.02	0.02	0.03	0.03	0.82
L Real estate activities	0.03	0.03	0.02	0.03	0.02	0.65
M Professional, scientific, and technical activities	0.14	0.12	0.16	0.15	0.14	0.35
N Other economic services	0.04	0.04	0.05	0.04	0.04	0.79
O Public administration	0.00	0.00	0.00	0.00	0.00	0.86
P Education	0.02	0.02	0.01	0.03	0.01	0.52
Q Health and social services	0.03	0.03	0.03	0.03	0.03	0.91
R Arts and entertainment	0.03	0.02	0.04	0.03	0.03	0.66
S Other services	0.04	0.04	0.04	0.04	0.04	0.92
Missing	0.10	0.08	0.08	0.11	0.12	0.11
Gender						
Male	0.75	0.78	0.74	0.73	0.74	0.25
Missing	0.08	0.07	0.08	0.09	0.09	0.65
Education						
University degree	0.43	0.43	0.45	0.43	0.39	0.26
Vocational Training	0.14	0.15	0.15	0.12	0.12	0.42
Other	0.18	0.17	0.15	0.19	0.20	0.22
Missing	0.26	0.24	0.25	0.25	0.29	0.41
Position						
Owner/CEO	0.87	0.88	0.87	0.86	0.88	0.73
Other (e.g., Department Head)	0.06	0.06	0.07	0.07	0.06	0.87
Missing	0.06	0.06	0.06	0.07	0.06	0.79
N	1,942	448	515	499	480	

Note: Descriptive statistics of firm and manager characteristics for the total sample and the experimental groups, respectively. *P*-values in the last column from a Wald chi-square test for equality of means across all four experimental groups. Sizegroups - Revenues/Employees (SME- EU Definition 2003/361): Very small ($\leq$ 9 employees & $\leq$ 2 mio. revenues), Small ($\leq$ 49 employees & $\leq$ 10 mio. revenues), Medium ($\leq$ 249 employees & $\leq$ 50 mio. revenues), Large ($>$ 249 employees or $>$ 50 mio. revenues). The economic sector classification follows the classification of economic activities from the German statistical office (2008 edition; WZ 2008). †: Due to missing observations in the experimental group ENERGY for the sector B, no test for equality of means across experimental groups can be conducted. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table B.3: Firm Characteristics - Sample vs. Population

	Total Sample	Company Register 2021
No. of Employees		
0-9	0.72	0.87
10-49	0.22	0.10
50-249	0.04	0.02
>250	0.01	0.00
Missing	0.01	-
Revenues (in million €)		
0-2	0.80	0.93
2-10	0.13	0.06
10-50	0.03	0.01
>50	0.01	0.00
Missing	0.03	-
Economic Sector (1-digit WZ08)		
A Agriculture	0.01	†
B Mining and quarrying	0.00	0.00
C Manufacturing	0.14	0.06
D Energy Supply	0.01	0.02
E Water supply	0.00	0.00
F Construction	0.10	0.11
G Trade	0.14	0.17
H Transport and Storage	0.03	0.03
I Accommodation/Food	0.04	0.07
J Information	0.08	0.04
K Financial/Insurance	0.03	0.02
L Real Estate	0.03	0.06
M Professional, scientific, and technical activities	0.14	0.15
N Other econ. services	0.04	0.07
O Public administration	0.00	‡
P Education	0.02	0.02
Q Health/Social Services	0.03	0.08
R Arts/Entertainment	0.03	0.03
S Other services	0.04	0.06
Missing	0.10	-
N	1,942	3,390,704

Note: Firm characteristics of the total sample and the German company register for 2021 for comparison German Federal Statistical Office (2021). †, ‡: Information on marginal distributions for these industries not available from German company register.

C Additional Results

Table C.1: Experimental Groups and Planned Price Changes - Robustness Check Standard Errors

SE-Type:	Robust SE	C(industry)	C(week industry)	Wild-BS C(week)
Dependent Variable:				
$\Delta Price_{i+12m}$	(1)	(2)	(3)	(4)
INFLATION	-4.188***	-4.188**	-4.188**	-4.188***
	(1.485)	(1.804)	(1.549)	[0.004]
ENERGY	-2.886*	-2.886**	-2.886***	-2.886**
	(1.691)	(1.199)	(0.676)	[0.029]
WAGE	-3.346**	-3.346**	-3.346**	-3.346**
	(1.576)	(1.475)	(1.352)	[0.041]
Constant (CONTROL)	15.311***	15.311***	15.311***	15.311***
	(1.291)	(1.639)	(1.427)	[0.000]
N	1844	1844	1844	1844
R^2	0.005	0.005	0.005	0.005
p($\beta_1 = \beta_2 = \beta_3 = 0$)	0.045	0.100	0.032	0.018
Controls	No	No	No	No

Note: OLS estimates from the regression of firms' planned price change in the next 12 months on experimental group dummies: $\Delta Price_{i+12m} = \beta_0 + \beta_1 \times INFLATION_i + \beta_2 \times ENERGY_i + \beta_3 \times WAGE_i + X_i'\gamma + \varepsilon_i$. The sample is restricted to firms with non-missing inflation expectations in the plausible range $[0, 75)$, thereby excluding implausible observations outside this interval. **Column (1)** reports estimates using heteroskedasticity-robust standard errors. **Column (2)** reports standard errors clustered at the industry level. **Column (3)** reports standard errors two-way clustered by week of survey and industry. **Column (4)** reports coefficient estimates identical to the baseline specification in column (3) in Table 1 but presents *wild cluster bootstrap* p-values (9,999 repetitions) in square brackets clustered at the week level for each treatment indicator and for the joint test of significance. For Column (4), conventional standard errors are omitted for brevity since they are already reported in the main results table (Table 1). ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table C.2: Experimental Groups and Planned Price Changes - Robustness Check Control Variables

Controls:	Firm Controls	Manager Controls	Time Controls
Dependent Variable:			
$\Delta Price_{i+12m}$	(1)	(2)	(3)
INFLATION	-4.276***	-4.063***	-4.108***
	(1.197)	(1.205)	(1.169)
ENERGY	-2.691*	-2.875**	-2.911**
	(1.289)	(1.210)	(1.225)
WAGE	-3.444**	-3.349**	-3.439**
	(1.388)	(1.365)	(1.427)
Constant (CONTROL)	15.309***	15.276***	15.319***
	(0.927)	(1.018)	(0.761)
N	1844	1844	1844
R^2	0.037	0.009	0.018
p($\beta_1 = \beta_2 = \beta_3 = 0$)	0.013	0.016	0.014

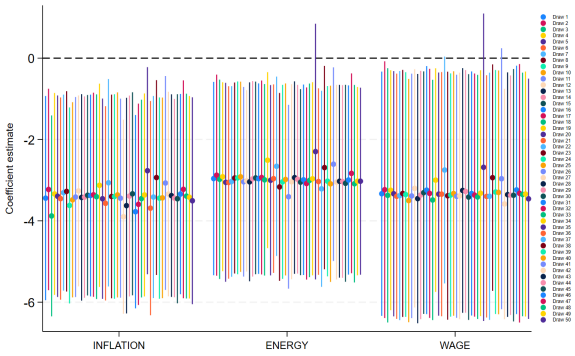
Note: OLS estimates from the regression of firms' planned price change in the next 12 months on experimental group dummies: $\Delta Price_{i+12m} = \beta_0 + \beta_1 \times INFLATION_i + \beta_2 \times ENERGY_i + \beta_3 \times WAGE_i + X_i'\gamma + \varepsilon_i$. The sample is restricted to firms with non-missing inflation expectations in the plausible range $[0, 75)$, thereby excluding implausible observations outside this interval. **Column (1)** includes only firm-level controls (size groups, legal forms and 1-digit industries (WZ08 classification)). **Column (2)** includes only manager-level controls (education, position in the firm and the gender of the decision-maker). **Column (3)** includes only survey-week fixed effects to control for time-specific shocks. Standard errors clustered on survey-week level. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table C.3: Experimental Groups and Planned Price Changes - Robustness Check Sample

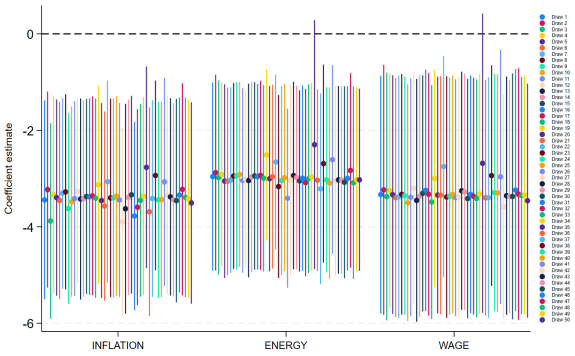
Sample:	Non-Missings Expectations	Non-Negative Expectations	Positive Outliers Excl. (≥ 75)	$\sim$1% dropped [-50,50]	$\sim$3% dropped [-30,30]
Dependent Variable:					
$\Delta Price_{i+12m}$	(1)	(2)	(3)	(4)	(5)
INFLATION	-3.178**	-3.214**	-4.153***	-4.150***	-3.386**
	(1.169)	(1.160)	(1.183)	(1.185)	(1.269)
ENERGY	-2.916**	-2.926**	-2.876**	-2.851**	-2.005*
	(1.191)	(1.201)	(1.207)	(1.210)	(1.137)
WAGE	-3.247**	-3.299**	-3.294**	-3.318**	-2.796**
	(1.438)	(1.442)	(1.419)	(1.427)	(1.184)
Constant (CONTROL)	15.316***	15.351***	15.275***	15.275***	14.232***
	(0.994)	(0.993)	(1.006)	(1.006)	(0.944)
N	1858	1854	1848	1844	1800
R^2	0.003	0.003	0.005	0.005	0.004
p($\beta_1 = \beta_2 = \beta_3 = 0$)	0.042	0.040	0.012	0.013	0.060
Controls	No	No	No	No	No

Note: OLS estimates from the regression of firms' planned price change in the next 12 months on experimental group dummies: $\Delta Price_{i+12m} = \beta_0 + \beta_1 \times INFLATION_i + \beta_2 \times ENERGY_i + \beta_3 \times WAGE_i + X_i'\gamma + \varepsilon_i$. **Column (1)** uses all firms with non-missing inflation expectations (including outliers). **Column (2)** restricts the sample to firms with only non-negative inflation expectations (expectations ≥ 0). **Column (3)** excludes positive extreme inflation expectations (expectations ≥ 75). **Column (4)** trims the sample to firms with inflation expectations in the interval $[-50, 50]$ (approximately 1% of firms answering the inflation expectation question for 2023 removed). **Column (5)** further tightens the sample to firms with expectations in the interval $[-30, 30]$ (approximately 3% of firms answering the inflation expectation question for 2023 removed). Standard errors clustered on survey-week level. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

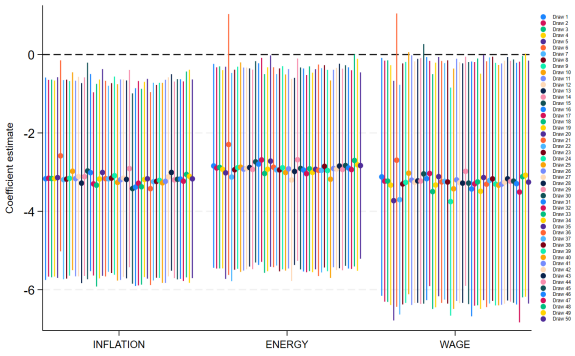
Figure C.1: Sensitivity of Estimated Treatment Effects to Random 1% Exclusions of the Estimation Sample



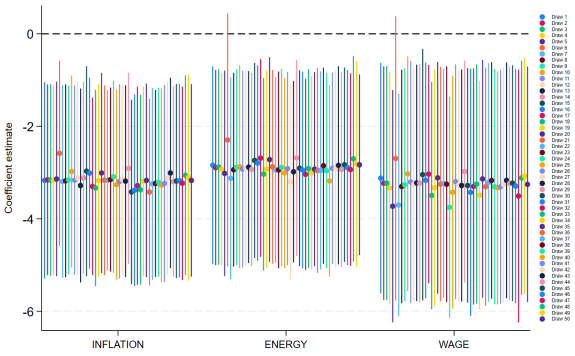
(a) Price Sample, 95%-CI



(b) Price Sample, 90%-CI



(c) Price + Inflation Sample, 95%-CI



(d) Price + Inflation Sample, 90%-CI

Note: Each panel reports coefficient estimates for the three treatment indicators (INFLATION, ENERGY, and WAGE) obtained from 50 regressions in which approximately 1% of firms are randomly excluded from the estimation sample. Panels differ by the underlying sample (firms responding to the price question (N = 1,910) vs. firms responding to both the price and inflation 2023-expectation questions (N = 1,858)) and by the confidence level displayed (95% or 90%). All regressions are estimated using OLS with standard errors clustered at the survey-week level. The figure illustrates the stability of the estimated treatment effects to random variations in the estimation sample.

Table C.4: Price Setting Frequency - Descriptives

	CONTROL	INFLATION	ENERGY	WAGE	**Total**
Much less frequently	4	7	7	10	**28**
Rather less frequently	15	17	20	19	**71**
Unchanged	135	161	166	163	**625**
Rather more frequently	158	187	164	160	**669**
Much more frequently	119	105	108	111	**443**
Total	**431**	**477**	**465**	**463**	**1,836**

Note: Table C.4 presents the absolute frequency of price-adjustment revisions across our experimental groups (CONTROL, INFLATION, ENERGY, WAGE). Statistics are based on a survey question in which respondents indicate whether they expect to adjust the price of their main product or service more or less frequently over the next 12 months relative to previous years. We differentiate firms according to five categories of price-adjustment frequency: *Much less frequently* (e.g., every 12 months in the future, previously every 3 months), *Rather less frequently* (e.g., every 12 months in the future, previously every 6 months), *Unchanged* (e.g., every 12 months in the future, previously every 12 months), *Rather more frequently* (e.g., every 6 months in the future, previously every 12 months), and *Much more frequently* (e.g., every 3 months in the future, previously every 12 months). The sample is restricted to firms that answered the planned price adjustment question and have non-missing inflation expectations in the plausible range $[0, 75)$, thereby excluding implausible observations outside this interval.

Table C.5: Effect of Inflation Treatment on the Probability of Planning Much More Frequent Price Adjustments

Dependent Variable:	$\mathbb{1}\{\text{Much More Frequent}_i = 1\}$	
	(1)	(2)
	Linear Probability Model	
$\mathbb{1}\{\text{Treatment}_i\}$	-0.045**	-0.037*
	(0.020)	(0.017)
N	1836	1836
R^2	0.002	0.097
Controls	No	Yes

Note: Table C.5 reports results from linear probability models, where the dependent variable equals one if a firm expects to adjust prices *much more frequently* over the next 12 months compared to past years. The sample is restricted to firms with non-missing inflation expectations in the plausible range $[0, 75)$, thereby excluding implausible observations outside this interval. Controls include firm controls (size groups, legal forms and 1-digit industries (WZ08 classification)), manager controls (education, position in the firm and the gender of the decision-maker) and week fixed effects. Standard errors clustered at the week level are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

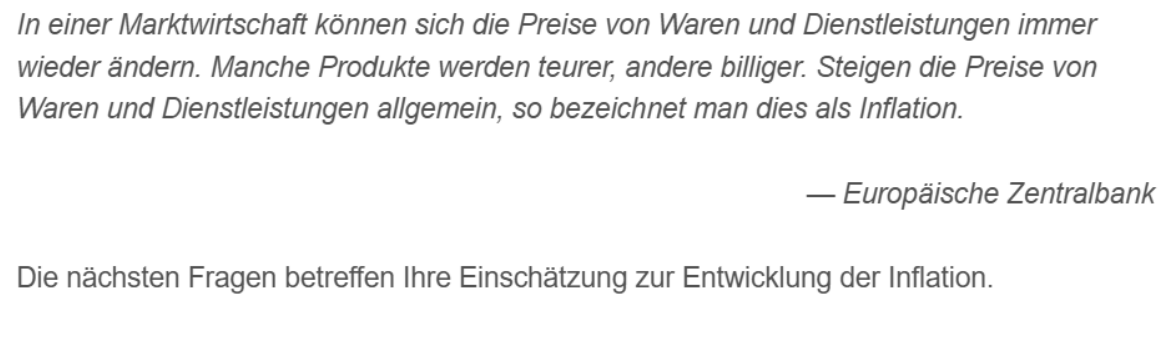
Table C.6: Ordered Probit Regression and Average Marginal Effects on Expected Price Adjustment Frequency – **Categorical-Question Subsample**

Dependent Variable:	Price Adjustment Frequency	
	(1)	(2)
Panel A. Ordered Probit Coefficients		
$\mathbb{1}\{\text{Treatment}_i\}$	-0.175*	-0.112
	(0.096)	(0.089)
N	930	930
pseudo R^2	0.002	0.057
Controls	No	Yes
Panel B. Average Marginal Effects for Treatment		
	Baseline: Control group	
Pr(Much less frequently)	0.010*	0.007
	(0.006)	(0.005)
Pr(Rather less frequently)	0.017**	0.010
	(0.009)	(0.007)
Pr(Unchanged)	0.041*	0.024
	(0.023)	(0.019)
Pr(Rather more frequently)	-0.017**	-0.010
	(0.008)	(0.008)
Pr(Much more frequently)	-0.051*	-0.030
	(0.029)	(0.024)

Note: Table C.6 reports ordered probit coefficients (Panel A) and corresponding average marginal effects (Panel B) for the probability of reporting different expected price adjustment frequencies over the next 12 months compared to past years. The sample is restricted to firms that answered the direct ordered categorical question on expected changes in price-adjustment frequency, excluding firms for which this variable is constructed from interval-based responses. The sample is further restricted to firms with non-missing inflation expectations in the plausible range $[0, 75)$, thereby excluding implausible observations outside this interval. Controls as indicated in each column. Controls include firm controls (size groups, legal forms and 1-digit industries (WZ08 classification)), manager controls (education, position in the firm and the gender of the decision-maker) and week fixed effects. Standard errors clustered at the week level are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

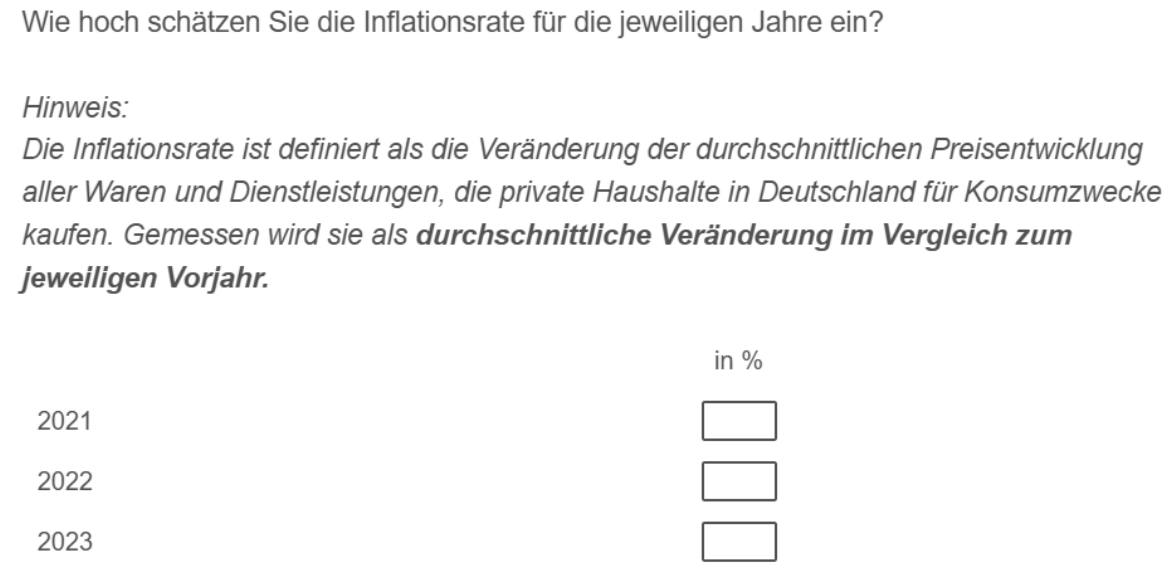
D Screenshots Original Survey Questions

Figure D.1: Survey Introduction



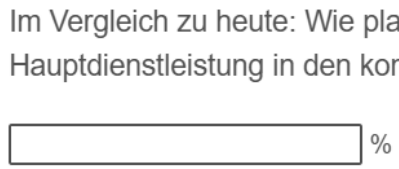
Note: Introductory definition of inflation from the European Central Bank presented to respondents at the start of the survey prior to the elicitation of inflation expectations. English translation of the original German wording: *In a market economy, the prices of goods and services may change repeatedly. Some products become more expensive, others cheaper. When the prices of goods and services increase overall, this is referred to as inflation. The following questions concern your assessment of the development of inflation.*

Figure D.2: Pre-Treatment Inflation Assessment



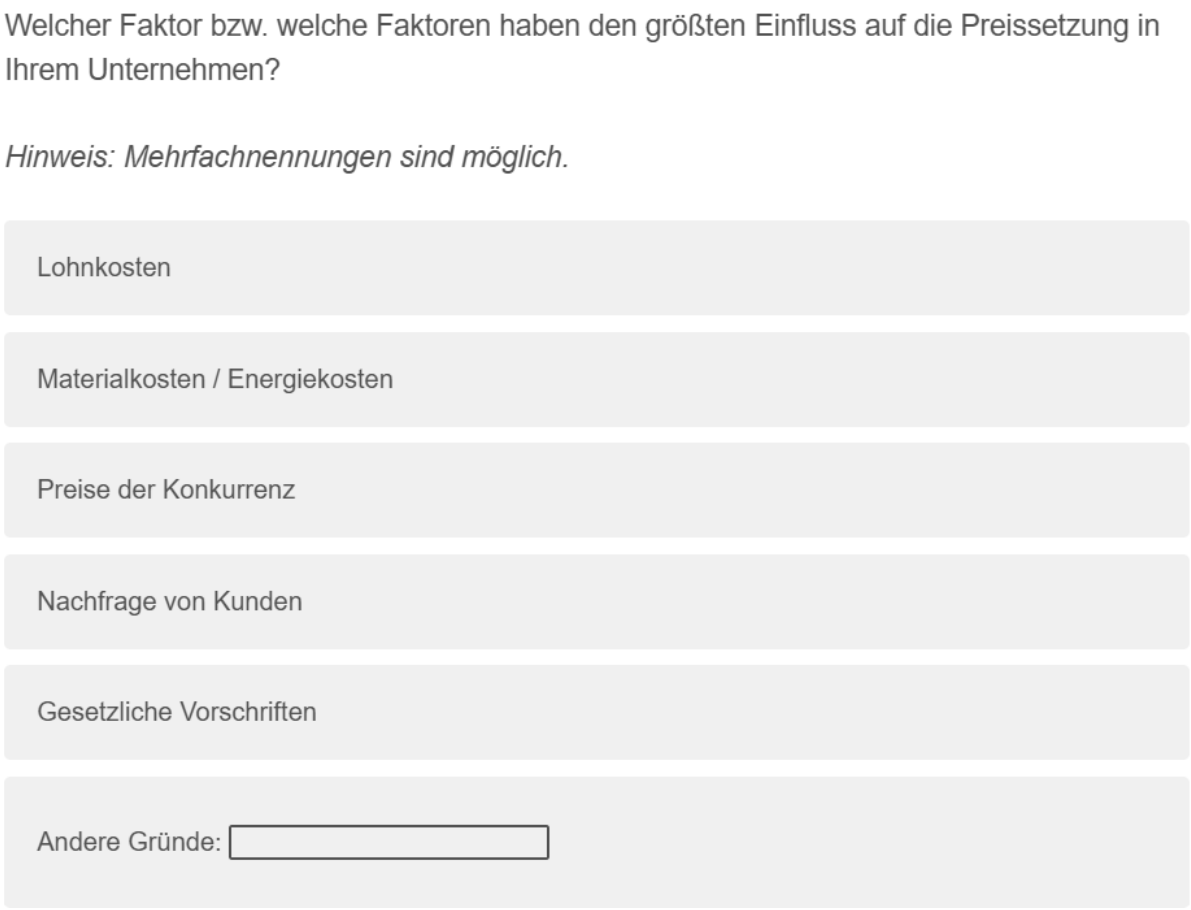
Note: Survey question eliciting respondents' pre-treatment estimates of annual inflation rates for the years 2021–2023. Inflation is defined as the year-on-year percentage change in the average price level of goods and services consumed by private households in Germany.

Figure D.3: Planned Price Change



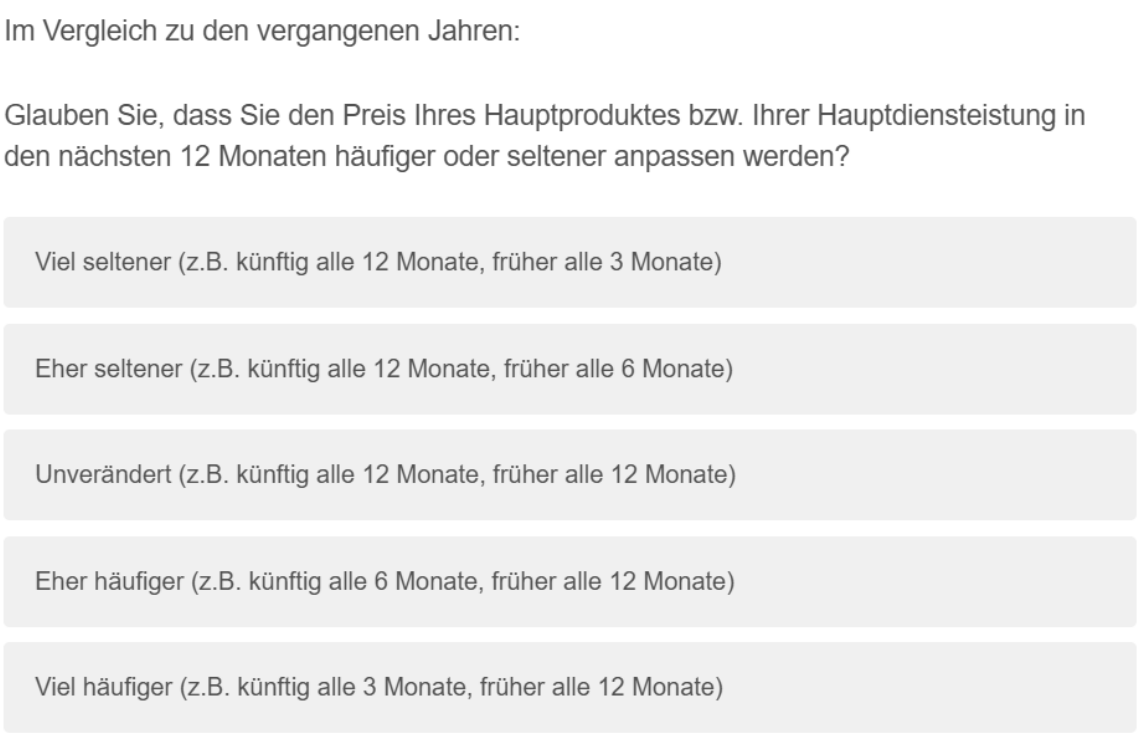
Note: Survey question eliciting firms' post-treatment planned percentage change in the selling price of their main product or service over the next 12 months, measured relative to the current price level.

Figure D.4: Input Cost Factors



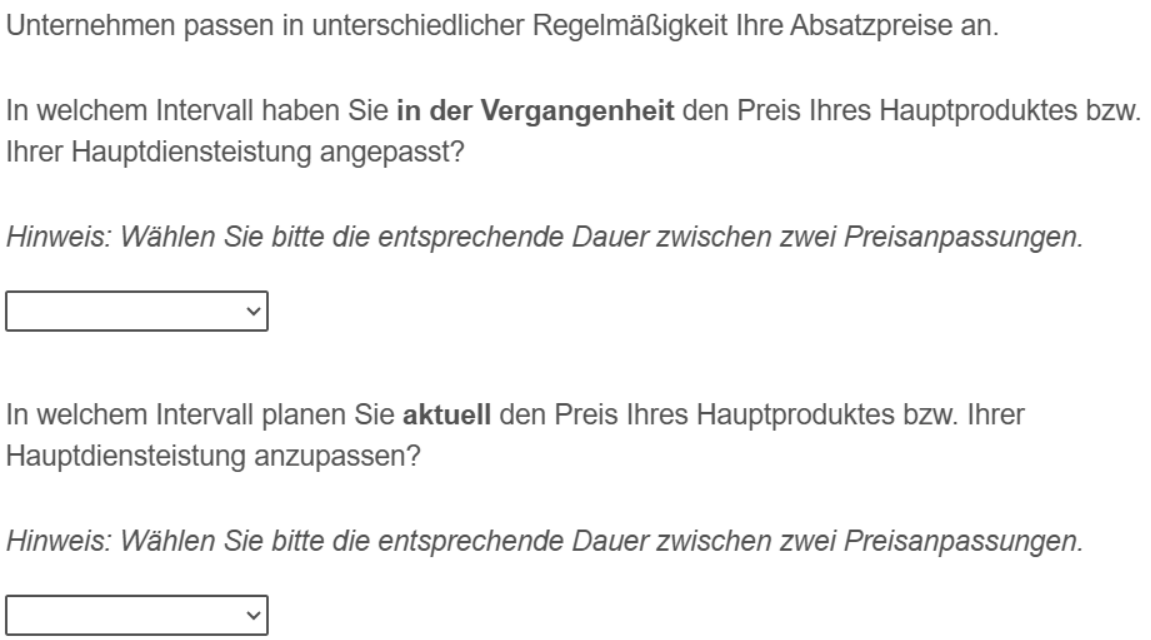
Note: Survey question eliciting the main input cost and market factors influencing firms' pricing decisions. Respondents indicate, using multiple binary indicators, whether each factor applies, including labor costs, material and energy costs, competitor prices, customer demand, legal regulations, and other factors.

Figure D.5: Expected Change in Price Adjustment Frequency



Note: Survey question eliciting firms' post-treatment expected change in the frequency of price adjustments over the next 12 months relative to past years. Responses are recorded on an ordered categorical scale ranging from "much less frequently" to "much more frequently," with illustrative examples provided for each category.

Figure D.6: Past/Current Price Adjustment Interval



Note: Survey questions eliciting firms' past and current price adjustment intervals, measured post-treatment, for their main product or service. Responses are recorded on ordered categorical scales ranging from daily adjustments to intervals exceeding 24 months.

Figure D.7: Economic Policy Satisfaction

Note: Survey question eliciting respondents' satisfaction with economic policy in Germany, elicited post-treatment. Responses are recorded on an ordered Likert scale ranging from 0 (very unsatisfied) to 10 (very satisfied).

References - Appendix

German Federal Statistical Office (2021). Statistisches Unternehmensregister. Company Register, German Federal Statistical Office. Technical Report.