

Which Macroeconomic News Matters for Price-Setting?*

Lukas Hack

Davud Rostam-Afschar

March 31, 2026

Abstract

Understanding which macroeconomic information drives firms' pricing decisions is critical for the evaluation of inflation dynamics and macroeconomic policy. We provide causal evidence on firms' price setting using daily event studies around several types of macroeconomic data releases. This is based on a survey of German firms with randomized daily invitations, from which we construct a daily time series of extensive-margin price-setting plans that is highly predictive of future realized inflation. We find that inflation and employment surprises lead to significant revisions in firms' pricing plans. In contrast, there is no significant effect of other commonly studied data releases, such as industrial production or manufacturing orders. Additional daily analysis of media coverage and news searches supports the importance of inflation and employment releases for the price-setting responses.

Keywords: Daily data, firms, price-setting, macroeconomic data releases

JEL Codes: E30, E31, E32, C83

*We thank Klaus Adam, Hassan Afrouzi, Carola Binder, Corina Boar, Benjamin Born, Jeffrey Campbell, Oliver Coibion, Fiorella De Fiore, Francesco Furlanetto, Refet Gürkaynak, Burçin Kısacıköğlü, Francesco Lucidi, Alistair Macaulay, Riccardo Masolo, Matthias Meier, Florens Odendahl, Tereza Ranošová, Christopher Roth, Karl Schulz, Peter Tillmann, Michael Weber, and Ivan Yotzov for insightful comments and discussions, as well as participants at various seminars and conferences for helpful comments. We thank Benjamin Born for generously sharing his data. We thank Eleni Tsiakiridou for outstanding research assistance. Lukas Hack (ETH Zurich, University of Mannheim): hack@kof.ethz.ch. Davud Rostam-Afschar (University of Mannheim, IZA, GLO, NeSt): rostam-afschar@uni-mannheim.de. Davud Rostam-Afschar is grateful to the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) for financial support through CRC *TRR 266 Accounting for Transparency* (Project-ID 403041268). We declare that we have no interests, financial or otherwise, that relate to the research described in this paper.

1 Introduction

For the evaluation and design of effective fiscal and monetary policies, it is critical to understand the determinants of inflation dynamics. These dynamics depend on how quickly macroeconomic conditions pass through to firms' price-setting decisions. In turn, the pass-through depends on which information is available (e.g., [Lucas, 1972](#); [Barro, 1976](#)), on how often firms consult available information (e.g., [Mankiw and Reis, 2002](#); [Reis, 2006](#)) and, more generally, when and which information firms choose to acquire given the associated costs (e.g., [Sims, 2003](#); [Maćkowiak and Wiederholt, 2009](#); [Alvarez, Lippi, and Paciello, 2011](#)).

While this is well understood theoretically, it is challenging to empirically identify which macroeconomic information firms monitor and how these information acquisition choices translate into price setting. This identification challenge partly arises because macroeconomic news becomes available daily, whereas traditional data is available only at lower frequencies. We fill this gap using daily data and present high-frequency event-study evidence on which macroeconomic surprises drive price setting. We focus on extensive-margin price setting during the post-Covid inflation surge because price adjustment frequencies increased sharply ([Cavallo, Lippi, and Miyahara, 2024](#)), and understanding inflation dynamics during such inflation surges is especially relevant for policymaking.

To obtain the necessary high-frequency data on price setting, we conduct a daily survey of German firms using randomized invitations. The randomization ensures that the daily cross-sectional composition of firms is stable, permitting us to compare survey responses around macroeconomic news events at a daily frequency.¹ We consider six distinct types of macroeconomic data releases and find that firms' extensive-margin pricing plans respond significantly to news about inflation, employment, and, to a smaller extent, the trade balance. Conversely, firms' plans do not respond significantly to news from other commonly studied data releases, i.e., industrial production, manufacturing orders, and general firm sentiment,

¹In this paper we focus on macroeconomic data releases, following a large literature in macroeconomics (e.g., [Gürkaynak, Kısacıköğlü, and Wright, 2020](#)), whereas we study daily responses of firms to identified monetary policy and oil supply shocks in related work ([Hack and Rostam-Afschar, 2024](#)).

as captured by the so-called ifo index.² These results are consistent with a rational inattention view (e.g., [Sims, 2003](#)), where firms monitor only data releases important to them, given that it takes time or is cognitively costly to acquire and process such information.

To understand the mechanism behind these results, we compile additional daily data on media coverage and agents' news-search activity. These data reveal that news coverage and news searches increase strongly after inflation and employment data releases, consistent with the estimated price-setting responses. Through the lens of rational inattention, this suggests that the cost of information acquisition may be lower for inflation and employment releases, which explains why firms are more likely to respond to these types of data releases.

Overall, our estimates allow us to understand how much of the inflationary impact of any identified macroeconomic shock is propagated forward to future inflation through its effect on contemporaneous macroeconomic data. Additionally, our data moments may be used to discipline structural models that feature a combination of menu costs and rational inattention (e.g., [Yang, 2022](#)), and a media sector (e.g., [Chahrour, Nimark, and Pitschner, 2021](#)).

The main data is based on the *German Business Panel*, an online survey of German firms that elicits plans, expectations, and opinions of executives and decision-makers ([Bischof, Doerrenberg, Rostam-Afschar, Simons, and Voget, 2024](#)). We designed a sampling scheme for this survey to allow the construction of daily time series from July 2021 to June 2024, covering the post-Covid inflation surge period: On each working day, we invite a random subset of firms to participate in the survey. This ensures that response numbers and the composition of firms is stable around macroeconomic data releases.³ The key outcome variable, constructed from this survey, is a daily time series that measures the extensive margin price-setting plans of German firms over the next 12 months.

As a validation of this price plan variable, we show that the series has substantial predictive

²The ifo index, formally, “ifo Business Climate Index”, is a monthly aggregate indicator that is based on the “ifo Business Climate Survey”, a well-established monthly firm panel. For more details, see [here](#).

³In [Hack and Rostam-Afschar \(2024\)](#), we (i) show that response numbers and the composition are also stable across workdays and the days of the month, and (ii) use the daily data to study how firms respond to oil supply, (conventional) monetary policy, and forward guidance shocks.

power for realized inflation, suggesting that firm plans translate into actual price changes. Regressing 1, 6, and 12-month leads of realized inflation on the price plan series, we obtain coefficients that are statistically significant at the 1% level, and the regression R^2 ranges between 0.21 and 0.72, depending on the forecast horizon. Importantly, our results hold, even when controlling for (past) realized inflation and daily inflation expectations from [Born, Dalal, Lamersdorf, and Steffen \(2025\)](#). When doing so, the effects are strongest for the 6 and 12-month horizons, consistent with the plans referring to price changes over 12 months. To complement the analysis of price plans, we construct additional daily time series that measure the number of newspaper articles reporting on each news event (news coverage). Similarly, we also construct daily time series that measure the Google search intensity for each event from Google Trends (news searches).⁴ These data allow us to investigate how macroeconomic information transmits to price plans. Lastly, we compile a set of forecast errors from macroeconomic data releases (the news events under consideration), computed as the realized value minus a corresponding prior consensus forecast from Bloomberg. Given these data, we provide causal evidence via daily event studies. More specifically, we regress the change in price plans on the forecast error for a given type of data release, e.g., CPI releases. The change on the left-hand side of the regression is given by the reported average sales price plan from the first day up until h days after a data release, minus the average plans within h days before the release. We refer to h as the window length, which ranges from two to ten days. A short window length has the advantage that other types of events are less likely to confound our results, whereas a larger window length captures effects that take more time to materialize, e.g., due to planning frictions.

We find that news about CPI inflation and employment leads to statistically significant and economically meaningful changes in extensive margin sales price plans. Quantitatively, a standard deviation surprise increase in inflation yields an increase in pricing plans between

⁴News searches according to Google Trends do not allow us to discriminate between firms and households. However, in practice, both are likely to be correlated since individuals need to search in both cases.

0.23 and 0.55 standard deviations.⁵ A standard deviation surprise increase in employment yields upward revisions in pricing plans up to 0.62 standard deviations. For news about the trade balance, we find a statistically significant effect on sales price plans, albeit moderate in magnitude. In contrast, surprises about industrial production, manufacturing orders, and the ifo index do not significantly move pricing plans, regardless of the window length. This suggests that only a subset of macroeconomic news matters for price-setting of firms, with news about inflation and employment being particularly important.

We investigate how the information revealed at data releases may be transmitted to firm plans. Using the same event study approach, we regress changes in news coverage and searches on an event indicator for each type of data release. We find that news coverage and news searches respond particularly strongly to inflation and employment data releases. This rationalizes our main findings from pricing plans. Different from this, however, there is more limited evidence on news coverage and searches regarding the trade balance. These results point toward heterogeneous media coverage and searches.

Lastly, we estimate cumulative impulse responses to macroeconomic news, showing that news about CPI inflation, employment, and the trade deficit have persistent effects on firms' pricing plans. Furthermore, we provide additional evidence regarding CPI releases and discuss how our results relate to the contemporaneous work from [Yotzov, Bloom, Bunn, Mizen, and Thwaites \(2025\)](#). Finally, we establish the robustness of these results with respect to various modeling choices.

Related literature. We relate to multiple strands of literature. The first literature focuses on macroeconomic news from data releases. [Kroner \(2023\)](#) studies financial market responses to different types of data releases to elicit changes in investor attention before and after the post-Covid inflation surge. [York \(2023\)](#) studies which macroeconomic data releases drive U.S. households' inflation expectations, finding that news about unemployment and CPI are

⁵To be precise, we refer to the standard deviation of the change in price plans, given the window length.

key, broadly in line with our main results.⁶ Relative to these papers, we focus on extensive margin price-setting plans of firms, which are particularly important in menu cost models with lumpy price adjustments (e.g., [Golosov and Lucas, 2007](#); [Midrigan, 2011](#); [Blanco, Boar, Jones, and Midrigan, 2024a,b](#)). To the best of our knowledge, we are the first to study how different data releases drive extensive-margin pricing plans of firms.

Further research constructs and studies a composite news index that explains stock returns ([Modugno and Palazzo, 2025](#)), exchange rates ([Anderson, Bollerslev, Diebold, and Vega, 2003](#); [Evans and Lyons, 2008](#)), and various further financial market variables ([Born, Doovern, and Enders, 2023a](#); [Bianchi, Ludvigson, and Ma, 2024](#); [Kerssenfischer and Schmeling, 2024](#)), whereas [Gürkaynak et al. \(2020\)](#) focuses on the multi-dimensionality of data releases beyond headline numbers. These studies are closely related, but none of them estimates which types of macroeconomic news matter for firms' pricing plans.

There are three additional papers focusing exclusively on inflation releases, studying the response of stock markets ([Gil de Rubio Cruz, Osambela, Palazzo, Palomino, and Suarez, 2023](#)), household inflation expectations ([Binder, Frank, and Ryngaert, 2025](#)), and firms' (intensive margin) own price growth ([Yotzov et al., 2025](#)).⁷ The latter paper finds that changes in monthly CPI inflation (not inflation surprises) drive U.K. firms' intensive margin own-price growth expectations. While changes in inflation are partly predictable, they argue that these changes are more salient to firms because they are frequently discussed in the media. We reconcile their arguments on media coverage with our findings by showing that media coverage of inflation is more pronounced when the inflation surprises are large. Overall, we view our results on inflation releases as complementary and believe that both inflation changes and surprises may matter for firms' pricing plans.⁸ Further, we offer additional

⁶[Singh and Mitra \(2022\)](#) follows a similar approach, focusing on U.S. household expectations regarding economic conditions, whereas [Bui \(2025\)](#) analyses the response of South African firms to various news events and related news coverage.

⁷Relatedly, [Binder \(2021\)](#) studies household inflation expectations around the June 2021 U.S. CPI release.

⁸In addition, the advantages of our data are that we have (i) stable survey response numbers around inflation releases, (ii) pass balance tests even without controlling for fixed effects, and (iii) can study persistence via impulse responses. In turn, the advantages of [Yotzov et al. \(2025\)](#) are the inclusion of individual fixed effects due to the panel structure and the measurement of inflation expectations as transmission channel.

insights by uncovering that employment releases are as important as CPI releases.

Second, we relate to research on firm attention and information acquisition. Several papers on expectation formation argue that firms respond strongly to idiosyncratic news (e.g., [Lein, 2010](#); [Born, Enders, Menkhoff, Müller, and Niemann, 2023b](#)) and extrapolate from firm-level and industry-level information to the macroeconomy (e.g., [Andrade, Coibion, Gautier, and Gorodnichenko, 2022](#); [Dovern, Müller, and Wohlrabe, 2023](#)), while [Hirshleifer and Sheng \(2022\)](#) argues that micro and macro news may be complementary. Consistent with the latter, we provide direct evidence on the importance of macroeconomic news. Further related papers focus on information acquisition choices of Swiss firms ([Mikosch, Roth, Sarferaz, and Wohlfart, 2024](#)), and information frictions and attention of both firms and households ([Link, Peichl, Roth, and Wohlfart, 2023](#); [Link, Peichl, Pfäuti, Roth, and Wohlfart, 2025](#)). Lastly, in complementary work, [Gautier, Savignac, and Coibion \(2025\)](#) study inflation expectations and the pass-through to price plans between 2020 and 2024, but they do not explicitly link their results to macroeconomic data releases.

Third, we relate to a large theoretical literature on information frictions among firms. For example, [Angeletos and La'O \(2009\)](#) focuses on the combination of information and price-setting frictions, whereas [Angeletos, Iovino, and La'O \(2016\)](#) studies the welfare implications of information frictions on the firm side. Further, several papers focus on the business cycle implications of rational inattention in general ([Maćkowiak and Wiederholt, 2009, 2015](#)) and in conjunction with menu costs ([Yang, 2022](#)). In rational inattention theory, firms may choose a specific signal from a set of potential signals. Our approach operationalizes this idea empirically, stipulating that firms may choose to monitor specific data releases.

Lastly, we relate to papers that focus on daily variation, studying how monetary policy announcements affect households (e.g., [Binder, Campbell, and Ryngaert, 2024](#); [De Fiore, Maurin, Mijakovic, and Sandri, 2024](#); [Rast, 2022](#)) and firms (e.g., [Bottone and Rosolia, 2019](#); [Enders, Hünnekes, and Müller, 2019](#); [Di Pace, Mangiante, and Masolo, 2025](#)).⁹

⁹Relatedly, [Buda, Carvalho, Corsetti, Duarte, Hansen, Ortiz, Rodrigo, and Rodríguez Mora \(2023\)](#) studies the effects of monetary policy on daily aggregate data from Spain.

2 Data

We combine three sources of information to examine which macroeconomic news matters for firms' price-setting behavior. The primary data source is our own daily firm survey, the *German Business Panel* (GBP). This survey provides us with a daily time series of price plans. Importantly, we show that the price plan series has predictive power for future realized inflation, suggesting that firm plans translate into actual price changes. Second, we collect additional daily measures of news coverage based on newspaper articles and corresponding measures of news searches based on Google Trends. Finally, we combine these daily outcomes with forecast errors from macroeconomic data releases using forecasts from Bloomberg. The data releases under consideration pertain to the CPI inflation, employment, industrial production, trade deficits, manufacturing orders, and the so-called ifo index.¹⁰

2.1 Measuring price-setting plans

German Business Panel. The GBP is an online survey that was introduced in 2020 and regularly interviews decision-makers of firms operating in Germany. Around 90 percent of the survey respondents are the owner or the CEO, and the sample is relatively representative of the target population of German firms along many important characteristics (Bischof et al., 2024). Since mid-2021, the survey explicitly asks for the extensive-margin price-setting plans of firms based on the following question.

What decisions are you planning to make in the next 12 months?

- (a) *Increase sales prices*
- (b) *Decrease sales prices*
- (c) *No change in sales prices*

¹⁰We choose these data releases because they are frequently studied and Kerssenfischer and Schmeling (2024) document significant financial market responses.

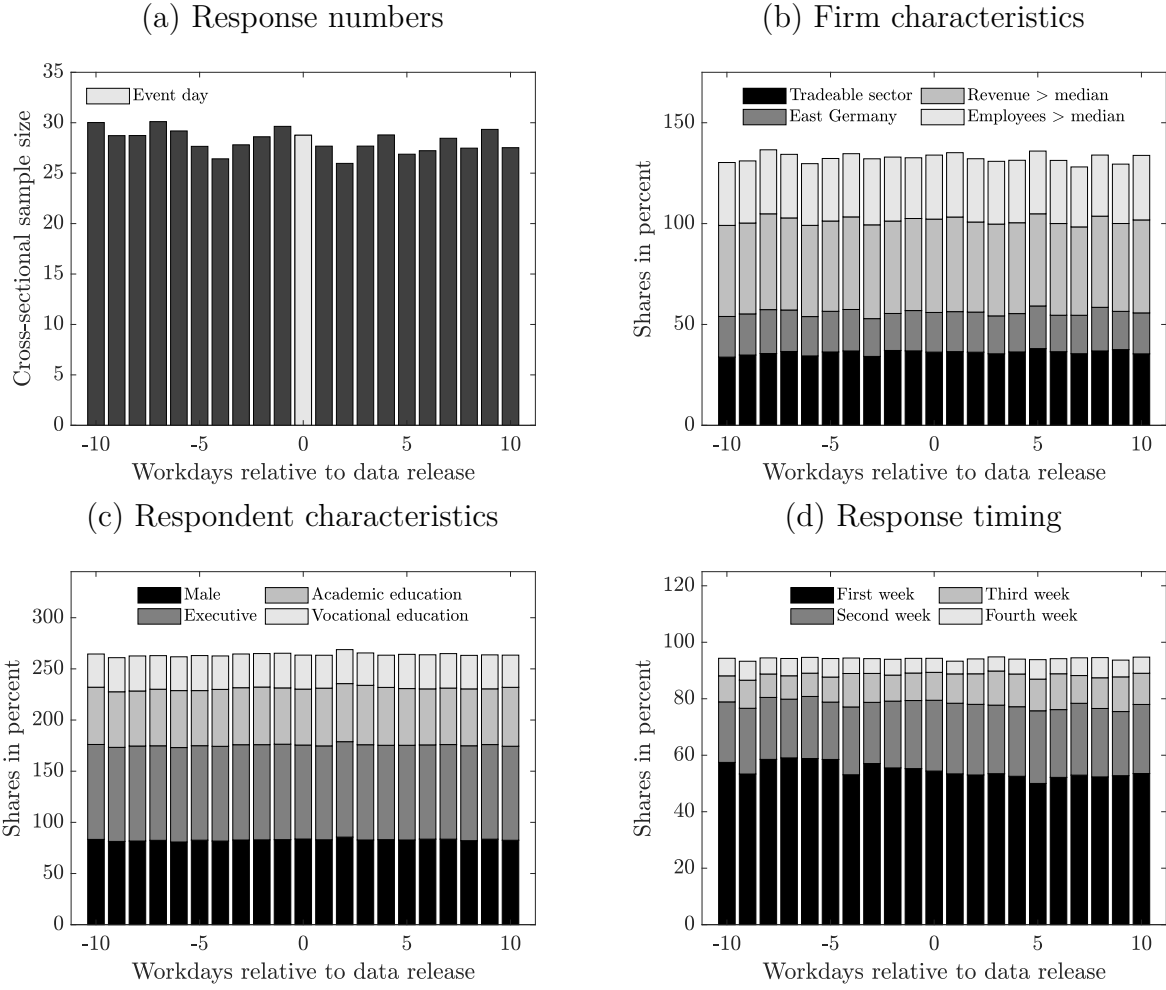
We use this question to construct a daily time series of firms' extensive margin sales price plans. Before doing so, we explain why the GBP is suited for a daily time series approach.

Sampling scheme. The GBP is particularly suited for a daily analysis due to our survey design. It is a semi-annual panel with rolling invitations. On each working day, we invite a random subset of firms to participate in the survey. The timing of the responses is such that around 30 percent of the survey responses arrive only one day after the survey invitation was sent. Furthermore, more than 90 percent of the responses are received within one day of the invitation link being opened for the first time. Overall, on average, around 45 survey responses arrive each day, and 60 responses on workdays. The overall response numbers are stable across different workdays and days of the month. In [Hack and Rostam-Afschar \(2024\)](#), we provide more details about the survey design, response numbers, and survey reminders.

Firm responses. The response numbers for those firms that answer the sales price plan question are around 31 per workday. While this is somewhat low, our empirical strategy accounts for low response numbers by pooling over several days before and after data releases, see Section 3. Importantly, however, the response numbers are stable around the data releases that we consider. We show this in Panel (a) of Figure 1 for all data releases jointly and for each type of data release separately in Figure B.1 in Appendix B. The stable composition suggests that firms do not strategically time their responses with respect to data releases.

Firm composition. The randomization part of the sampling scheme successfully induces a stable composition of firms among many observable characteristics, as shown in [Hack and Rostam-Afschar \(2024\)](#). In addition, anticipating our application to macroeconomic data releases, we further check whether the composition of firms is stable around the data releases under consideration. The results (pooled across all data releases) are displayed in Panels (b), (c), and (d) of Figure 1, studying firm characteristics, respondent characteristics,

Figure 1: Survey response numbers and composition around data releases



Notes: The figure shows the average cross-sectional response numbers surrounding all macroeconomic data releases in Panel (a), as well as the composition of survey responses surrounding all data releases by firm characteristics, respondent characteristics, and response timing in Panels (b) to (d), respectively. The composition bars may exceed 100 percent since the categories are not mutually exclusive. The data releases under consideration are CPI inflation, employment, industrial production, trade deficits, manufacturing orders, and the ifo index. We provide the same statistics for each type of data release separately in Figures B.1 to B.4 in Appendix B.

and response timing, respectively.¹¹ Regarding firm characteristics, we measure the share of firms operating in East Germany and the share of firms with above-median export shares (tradeable sector), above-median revenue, and above-median number of employees. These characteristics measure the composition in terms of location, industry, and size of the firm. The considered respondent characteristics include the share of respondents who are male,

¹¹All shares are computed by dividing by all firms that answer a respective survey question. The displayed shares add up to more than 100 percent since the displayed groups are not mutually exclusive. The details on the computation of these shares and the underlying survey questions are provided in Appendix B of [Hack and Rostam-Afschar \(2024\)](#).

work in the executive body of the firm, and have either an academic or vocational education.¹² Finally, we measure response timing by the share of firms that respond within the first 7, 14, 21, and 28 days after the invitation date. We do so because response timing may be indicative of unobserved heterogeneity (as also discussed in [Hack and Rostam-Afschar, 2024](#)). Overall, we find no evidence for changes in the composition around the data releases under consideration. We obtain the same conclusion when repeating these balance tests for each type of macro data release separately and provide the corresponding results in Figures B.2-B.4 in Appendix B. Thus, we can use the data as a repeated cross-section around data releases that is unlikely to be confounded by compositional changes.¹³

Daily time series. Given the stable composition of firms, we construct a daily time series of extensive-margin sales price plans following [Hack and Rostam-Afschar \(2024\)](#). We encode the extensive margin pricing plan of firm i that files the survey on day t in variable p_{it} and take the cross-sectional arithmetic average on each day as

$$p_t = \frac{1}{N_t} \sum_{i=1}^{N_t} p_{it} \times 100, \quad \text{with } p_{it} = \begin{cases} +1 & \text{if increase} \\ 0 & \text{if no change} \\ -1 & \text{if decrease.} \end{cases} \quad (1)$$

The underlying question has been available since survey wave three, so we can compute a daily time series from July 15, 2021, until June 30, 2024.¹⁴

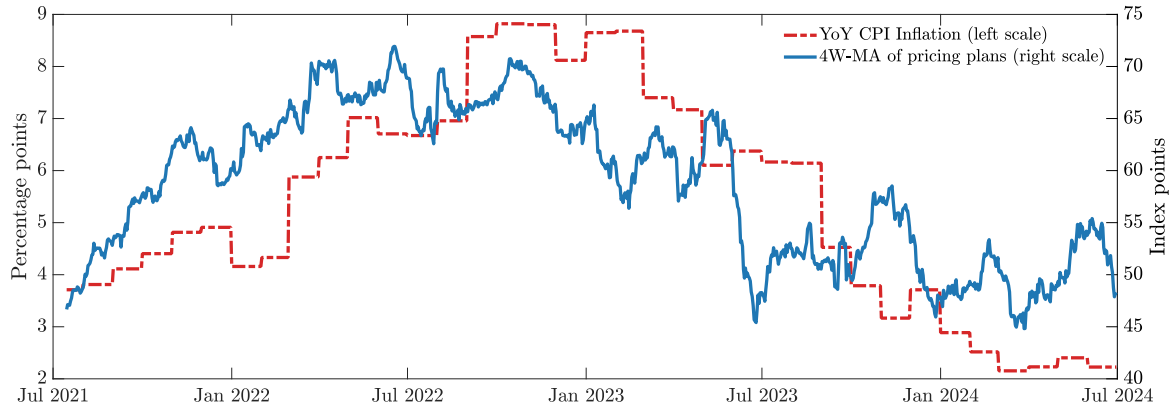
¹²We investigate respondent characteristics as [Savignac, Gautier, Gorodnichenko, and Coibion \(2024\)](#) shows that the responding individual may matter for inflation expectations.

¹³The panel dimension of the GBP is biannual and, hence, not suited for a panel analysis of daily shocks. However, the low-frequency panel dimension and the use of the data as repeated cross-section may mitigate “learning-through-survey” concerns ([Kim and Binder, 2023](#)).

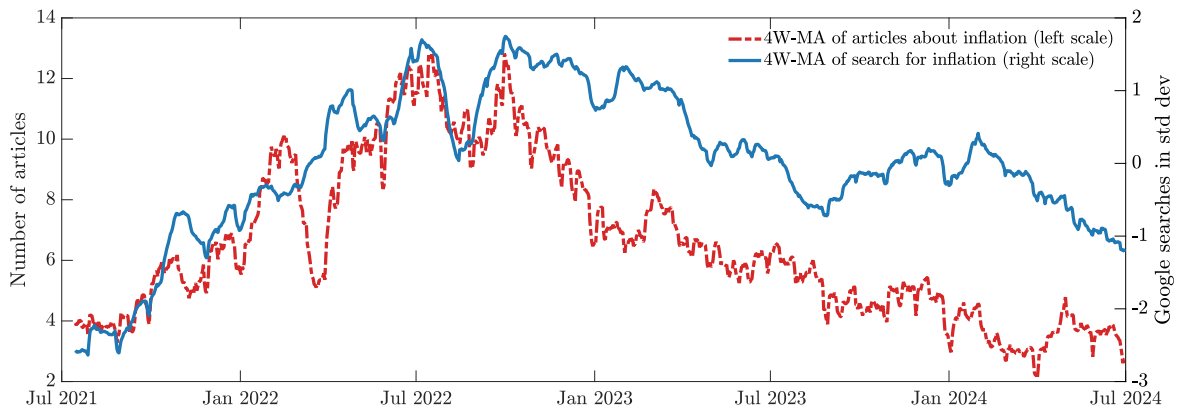
¹⁴Note that this captures the net directional balance of all reported plans at day t . However, price decreases are rare, and we obtain broadly similar results when considering a binary pricing plan variable.

Figure 2: Time series of price plans, news coverage, news searches, and macroeconomic news

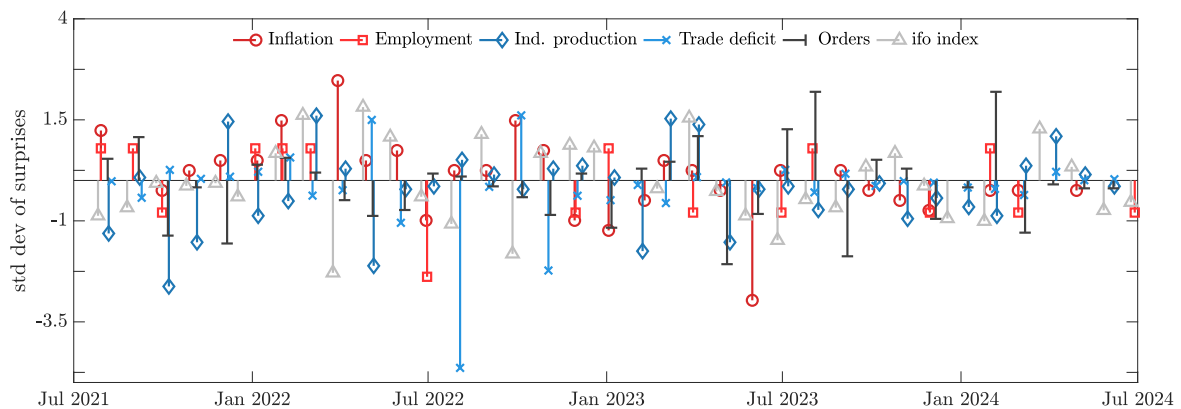
(a) Inflation and sales price plans



(b) News coverage and news searches



(c) Macroeconomic news



Notes: The figure shows the time series of year-over-year CPI inflation and a four-week backward-looking moving average of the daily sales price plan time series in Panel (a). Panel (b) shows four-week backward-looking moving averages of the number of newspaper articles featuring the word “inflation” in the headline (news coverage) and the Google search intensity for the word “inflation” (news searches). Finally, Panel (c) presents the macroeconomic news from data releases for all events with a non-zero forecast error.

2.2 Validating price-setting plans

Overview. To address potential concerns about the quality and meaning of self-reported pricing plans for actual price changes, we present two validation approaches. First, we plot our daily price plan time series vis-a-vis realized CPI inflation and find a strong association. Second, and more importantly, we estimate predictive regressions showing that price plans have statistically significant forecasting power for future realized inflation, even when controlling for past inflation and inflation expectations. This underscores that we capture meaningful variation in firms' price plans that likely translate into subsequent price changes. In addition, this also confirms the importance of extensive-margin price changes for overall inflation.

Descriptive analysis. We assess how the daily time series of pricing plans relates to realized prices, as measured by CPI inflation. To this end, we present a four-week backward-looking moving average of our daily time series to facilitate readability.¹⁵ In Panel (a) of Figure 2, we present this version of the daily time series as well as the monthly year-over-year CPI inflation, which takes the constant monthly value on each day within the month. Both series display similar dynamics over time, which reassemble an inverse U-shape around the post-Covid inflation surge episode.

Predictive regressions. The price plan series is designed to capture future price changes over the next 12 months. Thus, we formally assess the predictive power of this series for future realized inflation and estimate a sequence of daily predictive regressions

$$\text{Inflation}_{t+h} = \alpha^h + \beta^h \text{Plans}_t + \gamma^h \text{Expectations}_t + \delta^h \text{Inflation}_t + u_{t+h}^h, \quad (2)$$

¹⁵Buda et al. (2023) takes a similar approach to mitigate daily variability in daily time series. However, the main estimation results in Section 4 are based on the original series and do not require this moving average. Table B.1 in Appendix B provides descriptive statistics for the raw time series.

with $h > 0$, and Inflation_t and Plans_t denote YoY CPI inflation and the (smoothed) price plan series as shown in Panel (a) of Figure 2. Analogously to pricing plans, Expectations_t denotes a four-week backward-looking moving average of the daily inflation expectation measure from [Born et al. \(2025\)](#), and u_{t+h}^h is an error term. The estimation sample runs from July 2021 to June 2024 due to the availability of the inflation expectations series. We standardize all variables to ease interpretation and consider future inflation 1, 6, and 12 months ahead to span the full one-year horizon, which the price plans ought to capture.

The estimation results are shown in Table 1, with standard errors robust to heteroskedasticity and serial correlation in parentheses. Focusing on the joint specification in columns (4), (8), and (12), we find that our price plans have substantial predictive power for future realized inflation, regardless of the forecast horizon. The estimated coefficients are statistically significant at the 1% level. Quantitatively, for the 6- and 12-month horizons, we estimate approximately a one-for-one increase, i.e., a standard deviation increase in price plans translates into a standard deviation increase in future realized inflation.¹⁶ For the one-month horizon, we find a similarly significant estimate, albeit smaller in magnitude.

Table 1: Daily predictive regressions for CPI inflation

	Inflation 1-month ahead				Inflation 6-month ahead				Inflation 12-month ahead			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Pricing plan	0.85*** (0.10)			0.23*** (0.06)	0.97*** (0.08)			0.97*** (0.11)	0.53*** (0.13)			1.17*** (0.18)
Inflation expectation		0.71*** (0.09)		0.05 (0.05)		0.61*** (0.12)		-0.02 (0.09)		0.10 (0.13)		-0.32* (0.16)
CPI inflation			0.96*** (0.03)	0.78*** (0.06)			0.65*** (0.10)	0.02 (0.10)			0.03 (0.15)	-0.49*** (0.16)
R^2	0.624	0.582	0.909	0.937	0.724	0.390	0.369	0.724	0.208	0.010	0.001	0.414
Observations	1088	1088	1088	1088	1088	1088	1088	1088	1088	1088	1088	1088

Notes: This table presents predictive regressions of future CPI inflation on firm pricing plans, inflation expectations, and CPI inflation, see equation (2) and Section 2.2 for details. Standard errors robust to heteroskedasticity and serial correlation are reported in parentheses, and *, **, *** indicate significance at the 0.1, 0.05, 0.01 levels, respectively.

Another metric for assessing predictive power is the R^2 . At a 1-month horizon, the R^2

¹⁶In the estimation sample, the standard deviation of CPI inflation is 2.1 percentage points.

increases only moderately when including pricing plans and inflation expectations, relative to only including contemporaneous CPI inflation, see columns (3) and (4) of Table 1. However, at a 6-month forecast horizon, the R^2 roughly doubles when including expectations and plans, see columns (7) and (8). Interestingly, the R^2 in the full specification in column (8) is identical to the R^2 in column (5), where pricing plans are the only included regressor. We view this as stark evidence that pricing plans have strong predictive power for future realized inflation, whereas inflation expectations and contemporaneous realized inflation have not, at least at the 6-month horizon. When repeating the same comparison for the 12-month horizon, we similarly obtain that price plans improve the R^2 strongly, although the inclusion of expectations and contemporaneous realized inflation also improves the R^2 , see columns (9) and (12). This may be because realized inflation and inflation expectations capture mean-reversion as indicated by the negative point estimates in column (12).

Importantly, these results are not particularly sensitive to several modeling choices: we obtain broadly similar results when controlling for additional lags of inflation expectations and CPI inflation and when not smoothing the regressors, see Tables C.1 and C.2 in Appendix C. In the latter case, the coefficients become substantially smaller, possibly due to the large variability in the daily data. Over the 12-month horizon, however, the price plan variable remains the only regressor that is statistically significant at the 1% level. Moreover, when directly collapsing the data to a monthly frequency, we obtain point estimates and an R^2 not too different from the baseline, see Table C.3 in Appendix C.

Overall, the predictive regressions provide strong evidence that (i) firms' pricing plans translate into actual price changes, and that (ii) the extensive margin of price changes (as captured by our plans) is a key determinant of realized inflation.

2.3 Additional data

News coverage and searches. We construct additional daily time series for each type of data release based on media reporting and Google Trends, which capture news coverage and

news searches, respectively. We first select a keyword that clearly relates to the data release under consideration. For example, the keyword for CPI releases is “inflation”. Then, the daily time series of CPI inflation news coverage is given by the number of newspaper articles on each day that mention the keyword inflation in the article headline, and analogously for all other types of data releases. The set of newspapers includes all non-regional newspapers contained in the WISO database.¹⁷ For news demand via Google Trends, we follow the methodology from [Eichenauer, Indergand, Martínez, and Sax \(2022\)](#) through which we obtain a daily series of search intensities for each of the keywords. We list the keywords for all surprises in Table A.1 in Appendix A, along with a brief discussion.¹⁸

We present the evolution of news coverage and searches for inflation as four-week backward-looking moving averages in Panel (b) of Figure 2. Both series follow a similar pattern as realized CPI inflation and the pricing plans from Panel (a). While news coverage correlates with inflation over the entire sample, we find that news searches for inflation remain elevated even when CPI inflation was close to the target value of two percent toward the end of our sample. The time series for the remaining data releases are in Figures B.5 and B.6, and summary statistics of the raw series are in Table B.1 in Appendix B.

Macroeconomic news. We compute macroeconomic news as the forecast errors from macroeconomic data releases, which is a key regressor in the analysis in Section 4. The forecast error is given by the announced realization minus the Bloomberg consensus forecast. Using such forecast errors is advantageous because it purges the predictable component of data releases. More details on the underlying data and the computation of forecast errors are provided in Appendix A.

¹⁷This database covers all major newspapers in Germany, except the *Frankfurter Allgemeine Zeitung* and *Süddeutsche Zeitung*.

¹⁸We use broad keywords that ought to capture reporting or searches for the corresponding data release. If a keyword also captures other topics than the data release, our empirical approach remains valid as long as reporting or searches about these other topics do not increase differentially around data releases, since we study changes in reporting or searches around data releases in Section 4. For example, our keyword for industrial production is “production”, which may capture various additional reporting (e.g., about movie production). However, the differential increase in the word “production” around industrial production data releases can plausibly be attributed to the data release.

In total, we have around 36 releases for each variable, corresponding to one release per month between July 15, 2021, and June 30, 2024.¹⁹ Days without a release assume a zero value. In Panel (c) of Figure 2, we display the time series of all forecast errors that take non-zero values, scaled to have unit variance.²⁰ The surprises are well-distributed throughout the sample period, with positive and negative surprises of different magnitudes for all indicators. Sometimes, multiple distinct data releases occur on the same day.²¹ However, the surprise components of the announcements are not correlated. The absolute value of the correlation coefficient between any two time series of surprises is never larger than 0.01. Therefore, we can disentangle the effect of these different surprises on the outcomes of interest.

3 Econometric approach

General framework. We estimate two types of specifications: (i) macro event study regressions that compare firm price plans as well as news coverage and searches before and after macro news events, and (ii) daily impulse responses to macro news that allow us to measure the persistence of the effects. Specifically, we estimate the effects of macroeconomic news based on the following daily regression model

$$y_{t,h} = \alpha^h + \beta^h x_t + \Gamma^h Z_{t-1} + v_{t,h}, \quad (3)$$

where $v_{t,h}$ is an error term, Z_{t-1} is a vector of controls, x_t is the regressor of interest (e.g., a forecast error), and $y_{t,h}$ is the outcome variable. Time subscript t denotes days, including weekends. Subscript h may either capture the window length in our macro event study framework or the horizon of a cumulative impulse response in our local projection framework. Thus, (3) nests all regression models under consideration. The estimation sample runs from

¹⁹The exception is CPI inflation with 70 releases (including CPI flash releases). However, forecast errors for the final number are always zero and, thus, provide no identifying variation.

²⁰We re-scale so that the variance equals unity after dropping all zeros. The summary statistics (before scaling) are provided in Table B.1 in Appendix B.

²¹For example, for 9 out of 36 CPI (flash) releases, unemployment numbers are released on the same day.

June 15, 2021, until June 30, 2024. The baseline control vector Z_{t-1} includes lags of the time series underlying the outcome, $y_{t,h}$. Following [Hack and Rostam-Afschar \(2024\)](#), we take 28 daily lags as our baseline specification. Additionally, we control for the previous value of the data release under consideration. For example, when studying CPI data releases, we control for the CPI inflation from the previous release. Throughout, we report confidence bands based on standard errors that are robust to heteroskedasticity and serial correlation. In Section 4, we further provide a sensitivity analysis that presents various modifications of our baseline setup, e.g., the inclusion of calendar time fixed effects and additional controls.

Event study of price plans. Our main specification is a macro event study that relates the news component of a data release to the revision in firms’ pricing plans.²² We estimate this based on (3) with the left-hand side variable being

$$y_{t,h} = \frac{1}{h} \sum_{s=1}^h (p_{t+s} - p_{t-s}), \quad (4)$$

with p_t denoting the average price-setting plan on day t , as defined in equation (1). Note that we reweigh each daily observation when computing (4) to ensure that each firm enters the outcome variable with the same weight.²³ Therefore, the outcome $y_{t,h}$ is the average firm plans within h days after t minus the average firm plans within h days before t . We refer to h as the window length and consider $h = 2, 5, 10$. A short window length has the advantage that other types of events are less likely to confound our results, whereas a larger window length captures effects that take more time to materialize, e.g., due to planning frictions.²⁴

²²Similar event study specifications are often used to analyze how survey responses respond to monetary policy announcements (e.g., [Enders et al., 2019](#); [Di Pace et al., 2025](#)). The “event study” terminology stems from the macroeconomic literature on data releases (e.g., [Gürkaynak et al., 2020](#)) and must not be confused with the event studies in microeconometrics that are dynamic versions of a difference-in-difference design.

²³Without weights, firms that file the survey on days with generally lower response numbers (e.g., weekends) would have more influence on the outcome than other firms that file on days with higher response numbers. For a more detailed discussion on this matter, see [Hack and Rostam-Afschar \(2024\)](#). Note that the weighting is not made explicit in (4) to economize on notation.

²⁴An additional advantage of a larger window length is that more individual firm survey responses enter the left-hand side variable, which makes the measurement of the outcome more reliable.

Lastly, the regressor of interest, x_t , is a forecast error capturing the news component from the data release, as explained in Section 2.3. This event study approach yields the causal effect of the macro news under consideration if no confounding events occur within the event window that correlate with the forecast error under consideration.

Event study of news coverage and searches. We further consider a slightly modified event study specification when either news coverage or news searches are the outcome variables. Relative to the event study for price plans, the specification differs in three aspects.²⁵ First, while we compute the outcome variable as in (4), we do not re-weigh the outcome variables because the problem of time-varying response numbers is less relevant.²⁶ Second, the regressor x_t denotes an indicator variable that is only activated when a data release for the macro variable under consideration occurs. We do this because our measures of news coverage and news searches are not directional. For example, we expect that reporting about CPI inflation increases after announcements, irrespective of the sign of the forecast error. Finally, we additionally control for an indicator that is activated when any of the other news under consideration is released.²⁷

Cumulative local projection. To investigate whether and which macro news drives price-setting plans persistently, we further estimate cumulative local projections as in [Andrade et al. \(2022\)](#) and [Hack and Rostam-Afschar \(2024\)](#). To this end, we estimate (3) for $h = 0, 1, \dots, 100$ to obtain a daily response with x_t being a forecast error of interest. The left-hand side variable is given by the average sales price plan between t and $t + h$, i.e., $y_{t,h} = 1/(h + 1) \sum_{s=0}^h p_{t+s}$, weighting each daily price plan observation by response numbers,

²⁵When computing the left-hand side variable, we exclude the day of the announcement, analogously to price plans. This is in line with newspapers covering the data releases only on the day after the release. Similarly, it is also likely that Google searches respond primarily to reporting, suggesting that it is acceptable to also exclude the event day for news searches.

²⁶Moreover, Google provides no information on total searches, so that weighting becomes also infeasible.

²⁷We do so because, occasionally, different data releases occur on the same day. By adding this control variable, we distinguish changes in news coverage and searches from those days when no other news is released.

as explained for the event study approach.

4 Results

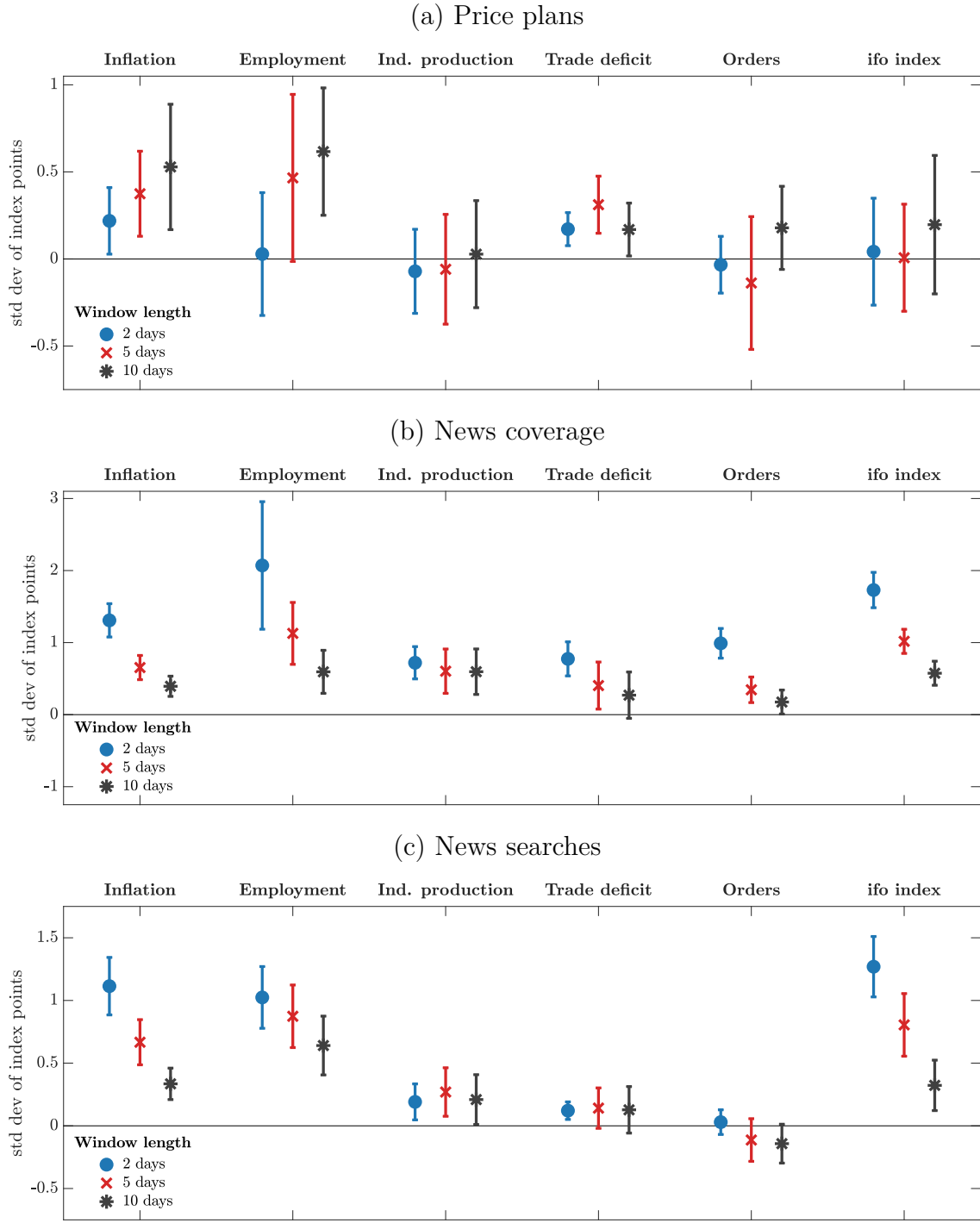
We present the main event study estimates for six macroeconomic data releases. The results show that firms revise their extensive margin sales price plans in response to macroeconomic news but only for a subset of data releases, i.e., inflation, employment, and trade deficit releases. We investigate the transmission of these surprises via news coverage and news searches. Finally, we study the dynamic effects, discuss the relation to the literature, and provide a sensitivity analysis.

4.1 Event study estimates

Price plans. The event study estimates that measure the revisions in sales price plans in response to news (surprises) from macroeconomic data releases are displayed in Panel (a) of Figure 3. Both the outcome variable and the surprises are scaled to have unit variance to ease the interpretation of the estimates. The markers indicate the OLS point estimates of β^h from equation (3), and the whiskers indicate 95 percent confidence bands. The corresponding type of data release is stated above the estimates.

We find that inflation news leads to upward revisions in pricing plans, which are statistically significant at the 5% level, regardless of the window length under consideration. The point estimates increase monotonically in the chosen window length: in response to a standard deviation inflation surprise, there is a 0.23 standard deviation price plan increase with a two-day window length, which increases to a 0.55 standard deviation change with a ten-day window length. This suggests that it takes a few days for firms to process the news and update their plans. For employment surprises, we observe the same pattern, where the estimates increase with the window length, with magnitudes being larger for the five-day and ten-day windows. The estimate corresponding to the five-day window is 0.47, but borderline

Figure 3: Event studies around macroeconomic data releases



Notes: This figure presents the event study estimates based on equation (3) as specified in Section 3. Each marker corresponds to an OLS estimate, and the whiskers indicate 95 percent confidence bands based on standard errors robust to heteroskedasticity and serial correlation. The labels at the top refer to the data release under consideration. The window length indicates the number of days over which the average outcome before and after each release is computed. Panel (a) provides the results for sales price plans, and the reported coefficients correspond to the forecast error from the respective data release. In Panels (b) and (c), we present the results for news coverage and news searches, and the reported coefficients correspond to an indicator that is activated when the respective data release occurs. All outcome variables are standardized, and the forecast errors are scaled to have unit variance to ease interpretation.

insignificant at the 5% level, with a p-value of 0.057. With the ten-day window, however, we find an upward revision in sales price plans of 0.62 standard deviations, which is statistically significant at the 1% level. The third data release that yields statistically significant effects is news about the trade deficit. When the trade deficit is higher than expected (by a standard deviation), firms revise their plans upward by 0.17 to 0.32 standard deviations. These effects are statistically significant at the 5% level but are also smaller in magnitude and do not increase (monotonically) with the window length, compared with inflation and employment surprises.

The effects of the remaining data releases – industrial production, manufacturing orders, and the ifo index – are statistically indistinguishable from zero at the 5% significance level. Further, almost all point estimates are close to zero. The only exceptions are the ifo index and orders releases, which display a somewhat larger (insignificant) point estimate when using a window length of ten days. We conclude that these data releases have no detectable effect on the average extensive margin sales price plans.

Overall, we find that only a subset of news matters for pricing plans. This suggests that the inflationary impact of macroeconomic shocks is propagated forward via employment and inflation news and less by the other types of macro news under consideration. These data moments may be used to discipline structural models. Additionally, one can use our estimates to understand how much of the inflationary impact of a given macroeconomic shock is propagated forward to future inflation through its effect on macroeconomic data.

News coverage and searches. Next, we investigate the role of news coverage and news searches in our price plan results. In Panels (b) and (c) of Figure 3, we present the responses in news coverage and news searches to macroeconomic data releases, based on the event study framework. As explained in the preceding Sections 2 and 3, the regressor of interest is not a forecast error but an indicator variable that takes the value of one only when the

macroeconomic data under consideration is released.²⁸

Our results indicate that news coverage increases significantly at the 5% level around the corresponding releases for all releases and almost all window lengths under consideration. The effects are strongest for the two-day event window and decrease monotonically as the window length increases. This makes sense since media coverage of news typically decreases over time after the news event. Quantitatively, the estimates for inflation and employment releases are particularly large, consistent with our main results on price plans. Different from the price plan results, however, there is a substantial news coverage response to ifo index releases. One possibility to reconcile the diverging findings between price plans and news coverage is treatment effect heterogeneity: the optimal price plan response of firms to an ifo index surprise may depend on the underlying structural shocks, which may attenuate the (average) price plan response to the ifo surprise.

Focusing on news searches, we investigate whether agents are aware of a given data release and search for related information. Indeed, agents search significantly more for related information after almost all data releases. Manufacturing orders are the only exception for which this is not the case.²⁹ More generally, the news search responses broadly mirror the estimates of news coverage, which is consistent with news searches capturing agents' endogenous response in information acquisition activities to changes in the news coverage (or news supply) around data releases.

²⁸We always control for an indicator that is activated when any other news (from the other five types of data releases under consideration) is released. In Table C.4, we present the associated point estimates, which capture spillovers across news types, e.g., whether news coverage or searches regarding inflation change after non-inflation data releases. The results suggest limited evidence for spillovers.

²⁹We further check whether this changes if we use other related keywords such as “Auftragseingang” (new incoming orders) or “Auftragslage” (stock of orders) to measure searches for this type of data release. However, we find only small and insignificant effects for these alternatives. Thus, we conclude that this is not driven by our keyword choice. We do this only for orders because we find significant effects for all other data releases.

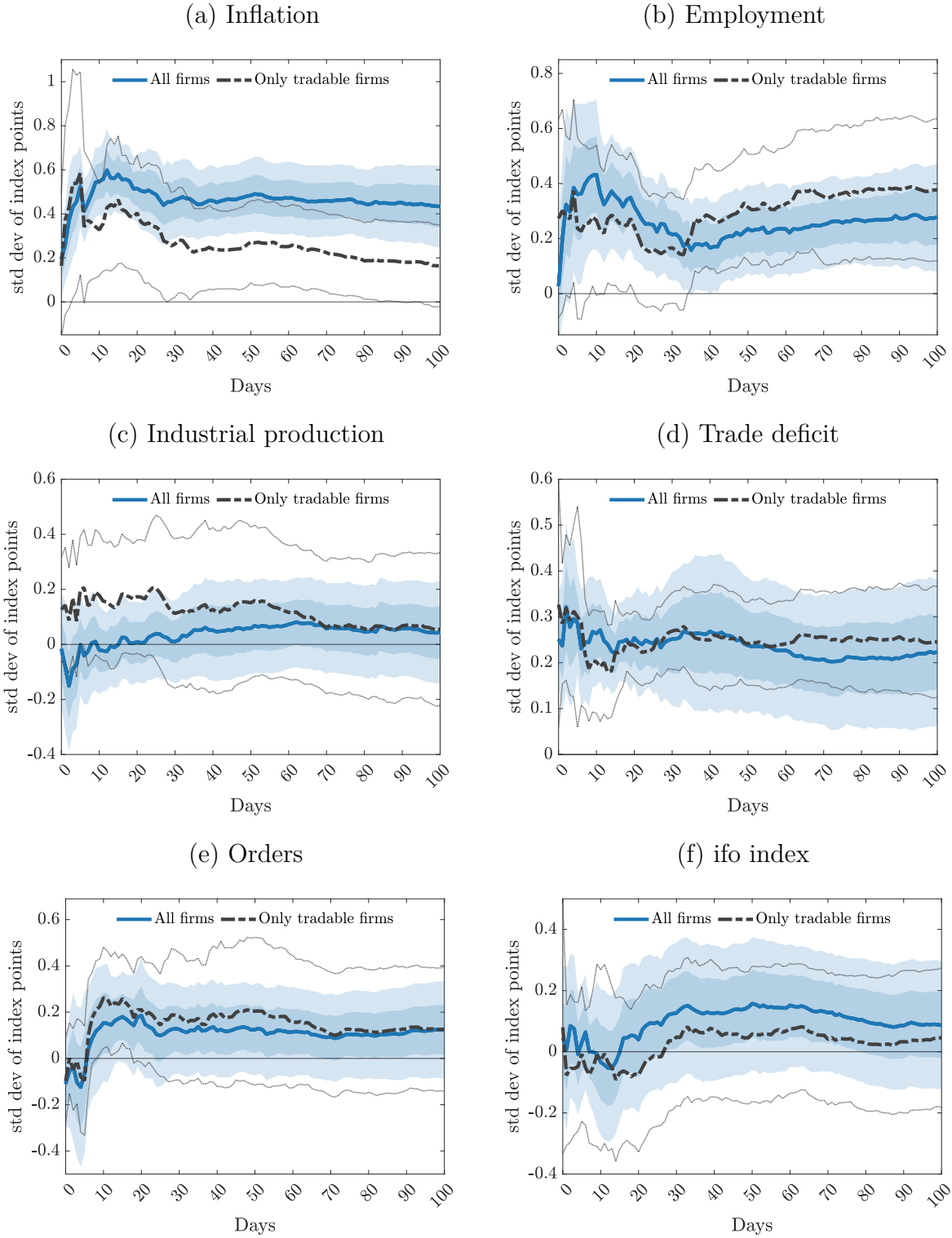
4.2 Additional results

Cumulative impulse responses. Using the local projection framework as specified in Section 3, we estimate cumulative impulse responses of the extensive margin price plans to each of the macroeconomic news. The impulse response point estimates are given by the solid blue lines in Figure 4. The shaded blue areas indicate confidence bands at 68% and 95%. As for the event study estimates, we find that inflation and trade deficit surprises yield immediate responses that are statistically significant at the 5% level. The response to an employment surprise turns equally significant after a few days, consistent with the event study estimates. The effects of all three surprises are remarkably persistent over the entire 100-day response horizon under consideration. This suggests that the price plan responses are not transitory and, thus, likely translate into actual price changes. Such an interpretation is also consistent with price plans being predictive for future inflation, as demonstrated in Section 2.2.

Tradable sector firms. As we find a particular role for news about the trade deficit, we investigate whether this is driven by export-oriented firms. We follow [Hack and Rostam-Afschar \(2024\)](#) and construct a daily time series of price plans for firms operating in the tradable sector, defined as those with above-median export shares. The corresponding point estimates are shown as dashed black lines, and the thin dotted lines indicate 95% confidence bands. We find that firms in the tradable sector respond less persistently to inflation news. Interestingly, however, the responses to all other news, including trade deficit news, differ hardly from the overall response. This suggests that our estimates are not particularly driven by firms that have high (or low) export shares.

Relation to the literature. We first discuss our findings in relation to papers that have compared different data releases, followed by a discussion of contemporaneous work focusing on CPI releases and firms' price-setting.

Figure 4: Dynamic responses of price-setting plans to macroeconomic news



Notes: This figure presents cumulative impulse responses of the sales price plan based on equation (3) as specified in Section 3. The solid blue line corresponds to the OLS estimate for each forecast error from the respective data release. The blue-shaded areas indicate 95% and 68% confidence bands based on standard errors robust to heteroskedasticity and serial correlation. The bold dashed line shows the response of the sales price plan, computed based only on firms with above-median export share (tradable firms). The thin dotted lines indicate the corresponding 95% confidence bands.

While existing research on different data releases focuses on household inflation expectations (e.g., [Singh and Mitra, 2022](#); [York, 2023](#)) and changes in investor attention (e.g., [Kroner, 2023](#)), we find it quite striking that their results also suggest that employment and CPI releases are important, echoing our main results. This suggests that the importance of these two releases may be a more general feature that might hold across economies, time periods, and different outcome variables.

Next, we compare our responses to inflation news with the work by [Yotzov et al. \(2025\)](#), which studies the own-price growth expectations of U.K. firms. Consistent with this paper, we find rapid transmission from inflation news to price plans of firms. However, different from our findings, they detect these effects only in response to inflation changes, not to inflation surprises. Three remarks are in order. First, their relatively wide confidence bands do not allow them to rule out that surprises matter too. Second, our results also hold if we simultaneously control for the change in inflation around data releases; see Table D.1. If anything, the effects of the surprises become larger and remain statistically significant at the 5% level. Third, they justify their result by arguing that firms respond to media headlines about the change in inflation. The importance of media reporting is consistent with our results, as we find that news coverage of inflation depends on the size of the CPI surprise. Specifically, we find that media reporting about inflation increases more around those CPI releases that are associated with a larger forecast error, as we show in Table C.5. Likewise, news searches also increase by more, suggesting that agents pick up this information; see Table C.5.³⁰ Overall, we view our results on inflation as complementary to [Yotzov et al. \(2025\)](#) and argue that both inflation changes and inflation surprises likely play a role in firms' pricing plans.

³⁰We test this by augmenting the news coverage event study by an additional indicator variable that is only activated for releases with an above-median absolute value of the forecast error.

4.3 Sensitivity analysis

We show that our baseline results are insensitive to various modeling choices. The corresponding results are provided in Appendix D. All event study estimates are collected in Tables D.1-D.4

Control variables. We investigate the sensitivity of our results to the inclusion of potentially important covariates in our baseline specification. First, we run a specification that includes all six macroeconomic news series simultaneously to ensure that we can disentangle the different types of news. Second, we include not only the forecast error but also the change in the macroeconomic variable under consideration to separate the pure change from the actual surprise. Third, we additionally control for macroeconomic conditions and monetary policy by including 28 daily lags of the oil price, the DAX stock index, and the three-month Euribor rate. Across all event study specifications, we find effects similar to the baseline. Only for the third specification, magnitudes become slightly smaller, and the corresponding impulse responses are less precisely estimated, see Figure D.1. This may not be too surprising as we augment the specification with 84 additional control variables, which mechanically absorb a sizable amount of variation.

Covid-19. Another concern pertains to the end of the Covid-19 pandemic being part of our sample. To inspect whether this affects our results, we add pandemic controls to the baseline specification. First, we additionally control for the Covid-19 stringency index as well as the log of the cumulative Covid-19 case count and the log of the cumulative Covid-19 deaths, see Appendix A for more details on these data. Second, we also re-estimate the baseline specification using a shorter sample that starts only in July 2022, excluding the relevant pandemic periods. The resulting event study estimates remain similar in magnitude and statistical significance, with a similar conclusion when studying the associated daily impulse responses, see Figure D.2. The only noteworthy exceptions are the estimates for

employment surprises, which increase in magnitude in the post-Covid subsample.

Late respondents. We further examine whether the timing of respondents’ survey submissions affects our results. First, we re-estimate the baseline specification using firm plans that are computed only from firms that respond within 7 days after the survey invitation is sent (the median response time). Second, we also re-estimate the baseline specification using firm plans based only on firms that respond on the same day they open the survey. Both exercises address the concern that “late responders” may differ in terms of unobserved heterogeneity. The latter specification may be a particularly good test of unobserved heterogeneity, since respondents become aware of the survey’s content only after starting it.³¹ All results are reasonably close to the baseline, suggesting that response timing and the prevalence of late responders are inconsequential to our findings.

Seasonality. One may be concerned about seasonality and other regularities due to calendar time. We investigate whether including additional seasonality controls affects the results. Specifically, we add either month fixed effects, week fixed effects, or weekday fixed effects to the regression. While the week fixed effects absorb a considerable amount of variation, lowering the employment effects, we nevertheless find that all relevant estimates remain as significant as in the baseline.

Placebo event studies. Finally, via several placebo exercises, we inspect whether our event studies pick up other data patterns, e.g., slow-moving trends. First, we conduct a Monte Carlo-type experiment where we sample from the distribution of surprises with replacement (keeping event days fixed) and re-estimate each event study. Second, we conduct another Monte Carlo experiment in which we re-shuffle the sequence of surprises randomly (keeping the distribution of surprises fixed). For both exercises, we report averages across

³¹Even if a firm has answered the survey in the previous wave, this is typically six months in the past, making it unlikely that respondents fully recall the survey contents. This also mitigates “learning-through-survey” concerns (Kim and Binder, 2023).

Monte Carlo draws, see Table D.4. Third, we deterministically shift each surprise and re-estimate our baseline specification. We pick a 10-day shift so that we are shifting out of the largest event window under consideration. Across all of these exercises, we find that none of our baseline estimates remain statistically significant, as expected in such a placebo setting. This suggests that we truly capture the causal effect of the respective data releases.

5 Conclusion

This paper analyzes which macroeconomic news matters for extensive-margin price-setting. The key results are based on our survey with randomized daily invitations. The resulting daily price plan series is highly predictive for future CPI inflation, suggesting that price plans translate into actual price changes. Our key insight is that the price setting of firms responds primarily to inflation and employment news. This suggests that both of these variables play a key role in propagating the inflationary effects of macroeconomic shocks. It also provides a rationale for policymakers to closely monitor and respond to both inflation and employment dynamics. Future work may use our data moments to decompose empirical responses into underlying channels (the different types of macro news) and to discipline structural models. To this end, a suitable framework to match our results may encompass menu costs, rational inattention, and a media sector.

References

- ALVAREZ, F. E., F. LIPPI, AND L. PACIELLO (2011): “Optimal Price Setting with Observation and Menu Costs,” *Quarterly Journal of Economics*, 126, 1909–1960.
- ANDERSON, T. G., T. BOLLERSLEV, F. X. DIEBOLD, AND C. VEGA (2003): “Micro Effects of Macro Announcements: Real-Time Price Discovery in Foreign Exchange,” *American Economic Review*, 93, 38–62.
- ANDRADE, P., O. COIBION, E. GAUTIER, AND Y. GORODNICHENKO (2022): “No Firm Is an Island? How Industry Conditions Shape Firms’ Expectations,” *Journal of Monetary Economics*, 125, 40–56.
- ANGELETOS, G.-M., L. IOVINO, AND J. LA’O (2016): “Real Rigidity, Nominal Rigidity, and the Social Value of Information,” *American Economic Review*, 106, 200–227.
- ANGELETOS, G.-M. AND J. LA’O (2009): “Incomplete Information, Higher-Order Beliefs and Price Inertia,” *Journal of Monetary Economics*, 56, S19–S37.
- BARRO, R. J. (1976): “Rational Expectations and the Role of Monetary Policy,” *Journal of Monetary Economics*, 2, 1–32.
- BIANCHI, F., S. C. LUDVIGSON, AND S. MA (2024): “What Hundreds of Economic News Events Say About Belief Overreaction in the Stock Market,” Working Paper 32301, NBER.
- BINDER, C., P. FRANK, AND J. M. RYNGAERT (2025): “The Causal Effect of News on Inflation Expectations,” Working Paper 34088, NBER.
- BINDER, C. C. (2021): “Household Expectations and the Release of Macroeconomic Statistics,” *Economics Letters*, 207, 110041.
- BINDER, C. C., J. R. CAMPBELL, AND J. M. RYNGAERT (2024): “Consumer Inflation Expectations: Daily Dynamics,” *Journal of Monetary Economics*, 103613.
- BISCHOF, J., P. DOERRENBERG, D. ROSTAM-AFSCHAR, D. SIMONS, AND J. VOGET (2024): “The German Business Panel: Firm-Level Data for Accounting and Taxation Research,” *European Accounting Review*, 1–29.
- BLANCO, A., C. BOAR, C. J. JONES, AND V. MIDRIGAN (2024a): “The Inflation Accelerator,” Working Paper 32531, NBER.
- (2024b): “Non-Linear Inflation Dynamics in Menu Cost Economies,” Working Paper 32094, NBER.
- BORN, B., H. DALAL, N. LAMERSDORF, AND S. STEFFEN (2025): “From Tweets to Transactions: High-Frequency Inflation Expectations, Consumption, and Stock Returns,” Working Paper 12361, CESifo.
- BORN, B., J. DOVERN, AND Z. ENDERS (2023a): “Expectation Dispersion, Uncertainty, and the Reaction to News,” *European Economic Review*, 154, 104440.

- BORN, B., Z. ENDERS, M. MENKHOFF, G. J. MÜLLER, AND K. NIEMANN (2023b): “Firm Expectations and News: Micro v Macro,” Working Paper 17768, CEPR.
- BOTTONE, M. AND A. ROSOLIA (2019): “Monetary Policy, Firms’ Inflation Expectations and Prices: Causal Evidence from Firm-Level Data,” *Bank of Italy Working Paper*.
- BUDA, G., V. M. CARVALHO, G. CORSETTI, J. B. DUARTE, S. HANSEN, Á. ORTIZ, T. RODRIGO, AND J. V. RODRÍGUEZ MORA (2023): “Short and Variable Lags,” *RSC Working Paper*.
- BUI, H. (2025): “News and Firms’ Expectations,” *mimeo*.
- CAVALLO, A., F. LIPPI, AND K. MIYAHARA (2024): “Large Shocks Travel Fast,” *American Economic Review: Insights*, 6, 558–574.
- CHAHROUR, R., K. NIMARK, AND S. PITSCHNER (2021): “Sectoral Media Focus and Aggregate Fluctuations,” *American Economic Review*, 111, 3872–3922.
- DE FIORE, F., A. MAURIN, A. MIJAKOVIC, AND D. SANDRI (2024): “Monetary Policy in the News: Communication Pass-Through and Inflation Expectations,” Working Paper 1231, BIS.
- DI PACE, F., G. MANGIANTE, AND R. M. MASOLO (2025): “Do Firm Expectations Respond to Monetary Policy Announcements?” *Journal of Monetary Economics*, 149, 103648.
- DOVERN, J., L. S. MÜLLER, AND K. WOHLRABE (2023): “Local Information and Firm Expectations About Aggregates,” *Journal of Monetary Economics*, 138, 1–13.
- EICHENAUER, V. Z., R. INDERGAND, I. Z. MARTÍNEZ, AND C. SAX (2022): “Obtaining Consistent Time Series from Google Trends,” *Economic Inquiry*, 60, 694–705.
- ENDERS, Z., F. HÜNNEKES, AND G. MÜLLER (2019): “Monetary Policy Announcements and Expectations: Evidence from German Firms,” *Journal of Monetary Economics*, 108, 45–63.
- EVANS, M. D. AND R. K. LYONS (2008): “How Is Macro News Transmitted to Exchange Rates?” *Journal of Financial Economics*, 88, 26–50.
- GAUTIER, E., F. SAVIGNAC, AND O. COIBION (2025): “Firms’ Inflation and Wage Expectations during the Inflation Surge,” Working Paper 33799, NBER.
- GIL DE RUBIO CRUZ, A., E. OSAMBELA, B. PALAZZO, F. PALOMINO, AND G. SUAREZ (2023): “Inflation Surprises and Equity Returns,” Working Paper 4280699, SSRN.
- GOLOSOV, M. AND R. E. LUCAS (2007): “Menu Costs and Phillips Curves,” *Journal of Political Economy*, 115, 171–199.
- GÜRKAYNAK, R. S., B. KISACIKOĞLU, AND J. H. WRIGHT (2020): “Missing Events in Event Studies: Identifying the Effects of Partially Measured News Surprises,” *American Economic Review*, 110, 3871–3912.

- HACK, L. AND D. ROSTAM-AFSCHAR (2024): “Understanding Firm Dynamics with Daily Data,” Working Paper 155, TRR 266 Accounting for Transparency.
- HALE, T., N. ANGRIST, R. GOLDSZMIDT, B. KIRA, A. PETHERICK, T. PHILLIPS, S. WEBSTER, E. CAMERON-BLAKE, L. HALLAS, S. MAJUMDAR, ET AL. (2021): “A Global Panel Database of Pandemic Policies (Oxford COVID-19 Government Response Tracker),” *Nature Human Behaviour*, 5, 529–538.
- HIRSHLEIFER, D. AND J. SHENG (2022): “Macro News and Micro News: Complements or Substitutes?” *Journal of Financial Economics*, 145, 1006–1024.
- KERSSENFISCHER, M. AND M. SCHMELING (2024): “What Moves Markets?” *Journal of Monetary Economics*, 145, 103560.
- KIM, G. AND C. BINDER (2023): “Learning-Through-Survey in Inflation Expectations,” *American Economic Journal: Macroeconomics*, 15, 254–278.
- KRONER, N. (2023): “How Markets Process Macro News: The Importance of Investor Attention,” Working Paper 4527424, SSRN.
- LEIN, S. M. (2010): “When Do Firms Adjust Prices? Evidence From Micro Panel Data,” *Journal of Monetary Economics*, 57, 696–715.
- LINK, S., A. PEICHL, O. PFÄUTI, C. ROTH, AND J. WOHLFART (2025): “Attention to the Macroeconomy,” Working Paper 2025-03, EMPCT.
- LINK, S., A. PEICHL, C. ROTH, AND J. WOHLFART (2023): “Information Frictions among Firms and Households,” *Journal of Monetary Economics*, 135, 99–115.
- LUCAS, R. E. (1972): “Expectations and the Neutrality of Money,” *Journal of Economic Theory*, 4, 103–124.
- MAĆKOWIAK, B. AND M. WIEDERHOLT (2009): “Optimal Sticky Prices under Rational Inattention,” *American Economic Review*, 99, 769–803.
- (2015): “Business Cycle Dynamics under Rational Inattention,” *The Review of Economic Studies*, 82, 1502–1532.
- MANKIW, N. G. AND R. REIS (2002): “Sticky Information versus Sticky Prices: A Proposal to Replace the New Keynesian Phillips Curve,” *Quarterly Journal of Economics*, 117, 1295–1328.
- MIDRIGAN, V. (2011): “Menu Costs, Multiproduct Firms, and Aggregate Fluctuations,” *Econometrica*, 79, 1139–1180.
- MIKOSCH, H., C. ROTH, S. SARFERAZ, AND J. WOHLFART (2024): “Uncertainty and Information Acquisition: Evidence from Firms and Households,” *American Economic Journal: Macroeconomics*.
- MODUGNO, M. AND B. PALAZZO (2025): “Decoding Equity Market Reactions to Macroeconomic News,” Working Paper 7, Board of Governors of the Federal Reserve System.

- RAST, S. (2022): “Central Bank Communication with the General Public: Survey Evidence from Germany,” *mimeo*.
- REIS, R. (2006): “Inattentive Producers,” *Review of Economic Studies*, 73, 793–821.
- SAVIGNAC, F., E. GAUTIER, Y. GORODNICHENKO, AND O. COIBION (2024): “Firms’ Inflation Expectations: New Evidence from France,” *Journal of the European Economic Association*, jvae015.
- SIMS, C. A. (2003): “Implications of Rational Inattention,” *Journal of Monetary Economics*, 50, 665–690.
- SINGH, A. AND A. MITRA (2022): “What Determines Household Expectations?” Working Paper 4189773, SSRN.
- YANG, C. (2022): “Rational Inattention, Menu Costs, and Multi-Product Firms: Micro Evidence and Aggregate Implications,” *Journal of Monetary Economics*, 128, 105–123.
- YORK, J. (2023): “Do Household Inflation Expectations Respond to Macroeconomic Data Releases?” Working Paper 4648451, SSRN.
- YOTZOV, I., N. BLOOM, P. BUNN, P. MIZEN, AND G. THWAITES (2025): “The Speed of Firm Response to Inflation,” *Journal of the European Economic Association*, jvaf044.

Supplemental Appendix

Appendix A Data sources

Survey data. The question underlying the main outcome variable, the sales price plan, is stated in Section 2 in the main text. The time series is taken from the GBP Daily Business Database. We use additional survey questions to assess whether the composition of firms varies around macroeconomic data releases. The underlying questions and their mapping to our composition variables are described in Appendix B of [Hack and Rostam-Afschar \(2024\)](#).

News coverage and news searches. To measure news coverage and searches, we use the keywords provided in the second column of Table A.1. For trade deficits, we use “export” and “import” as two distinct keywords and construct two separate time series, which we average to a single time series used in the estimation. We do so because single terms referring to the trade balance (or current account) display virtually no media coverage. We chose all keywords to be as comprehensive as possible. Therefore, the level of the time series is not necessarily a good measure of news coverage and searches for the corresponding data release. However, we argue that the change in media reporting or Google searches around data releases is primarily driven by the data releases themselves. For example, the word “production” is very general and may be used in many different contexts. However, when the use of the word “production” increases sharply around industrial production data releases, this increase is plausibly driven by these data releases.

The news coverage for a given type of data release is measured by the daily number of articles that mention the keyword in the headline. We consider all non-regional newspapers from the WISO Archive. This includes, e.g., Handelsblatt, Zeit, Focus, Spiegel, including their online versions, which enhances availability.³²

News searches are measured using the same keywords to construct daily time series of Google search intensities based on Google Trends. We follow [Eichenauer et al. \(2022\)](#), who provide an approach to obtain consistent daily time series through multiple querying of Google Trends.³³ Importantly, the level of the resulting time series lacks a clear interpretation because Google does not provide the actual search count. Therefore, we standardize all time series based on Google Trends.

³²The full list is as follows: Börsen Zeitung, Focus Money, Focus, Jüdische Allgemeine, Der Spiegel online, Welt am Sonntag, Welt Online, Zeit online, Zeit Journals (Campus, Geschichte, Wissen), Christ und Welt, Handelsblatt Morning Briefing, Le Monde Diplomatique, Stern, Handelsblatt Online, Handelsblatt, Der Spiegel, taz, FAZ Einspruch, Die Zeit. The interested reader may notice that two important German newspapers, Süddeutsche Zeitung and Frankfurter Allgemeine Zeitung, are not included.

³³We use their R package *trendecon* to implement the construction of daily time series on news searches.

Table A.1: Variables corresponding to macroeconomic data

Variable	Keyword	Measurement	Forecast error
Inflation	Inflation	Year-over-year CPI inflation released by the GFSO <i>Statistic Code 61111</i> .	We compute the forecast error directly for CPI inflation.
Employment	Arbeitslosenquote (unemployment rate)	Unemployment rate released by the Federal Employment Agency.	We compute the forecast error directly for the unemployment rate. We multiply the forecast error by minus one to obtain an employment surprise.
Ind. production	Produktion (production)	Industrial production index released by the GFSO per monthly press release (<i>GENESIS table 42153-0001</i>). The released value is already seasonally adjusted (X13 JDemetra+) by the GFSO.	We compute the forecast error for the month-over-month growth rate of the industrial production index due to forecast availability.
Trade deficit	Export, Import	Monthly German trade balance in Billion Euros released by the GFSO per monthly press release (<i>GENESIS tables 51000-0020 and 51000-0021</i>). The released value is already seasonally adjusted (X-13 Arima) by the GFSO.	We compute the (natural) logarithm of the nominal trade balance value and subtract the logarithm of the corresponding forecast. We multiply the forecast error by minus one to obtain a trade deficit surprise.
Orders	Auftrag (order)	Month-over-month growth rate of real new orders in manufacturing released by the GFSO per monthly press release (<i>GENESIS table 42155-0004</i>). The released value is already seasonally adjusted (X13 JDemetra+) by the GFSO.	We compute the forecast error directly for this growth rate.
ifo index	ifo	We take the ifo index as it is released by the ifo institute.	We compute the forecast error directly for the ifo index.

Notes: Keywords are those words that are used to measure media reporting and Google searches for the respective variable. We provide the English translation in parentheses when the German term differs from the English translation. GFSO refers to the German Federal Statistical Office.

Macroeconomic data releases. The macroeconomic data releases, the primary data sources, and the construction of the corresponding forecast errors are stated in Table A.1. The forecast underlying the forecast errors is a professional consensus forecast from Bloomberg. Specifically, we take the forecasts as well as the realized value from Bloomberg’s economic calendar. A particular advantage of these forecasts is that they are publicly available, which makes it easier for agents to retrieve them.³⁴ Note that the particular forecast errors and data transformations are due to the availability of forecasts.

Additional variables for sensitivity analysis. We use daily DAX stock index closing values from Yahoo Finance (*GDAXI*), the daily three-month Euribor rates from the Bundesbank’s time series database (*ST0316*), and the oil spot price for Western Texas Intermediate is taken from St. Louis Federal Reserve’s FRED (*DCOILWTICO*). The daily Covid-19 stringency index is computed by the Oxford Coronavirus Government Response Tracker as a composite measure of nine metrics that measure the stringency of non-pharmaceutical interventions to fight Covid-19 (Hale, Angrist, Goldszmidt, Kira, Petherick, Phillips, Webster, Cameron-Blake, Hallas, Majumdar et al., 2021).³⁵ This index is available for Germany until the end of 2022 and we set all later observations to zero since no Covid-19 related non-pharmaceutical interventions were in place anymore. Daily Covid-19 cases and deaths in Germany are taken from the World Health Organization.

To compute a separate daily time series for tradable sectors, we follow Hack and Rostam-Afschar (2024) and proceed as follows. We take the export shares from the Institut für Mittelstandsforschung in Bonn, which are computed based on the (confidential) VAT tax statistic of the Federal Statistical Office.³⁶ Export shares are defined as revenue from exports divided by total revenues and available at the one-digit industry level based on the WZ2008 industry classification, which we can use to match the export shares with the firm-level survey responses. We use the most recent export shares for 2021, but the shares have been stable in the past.

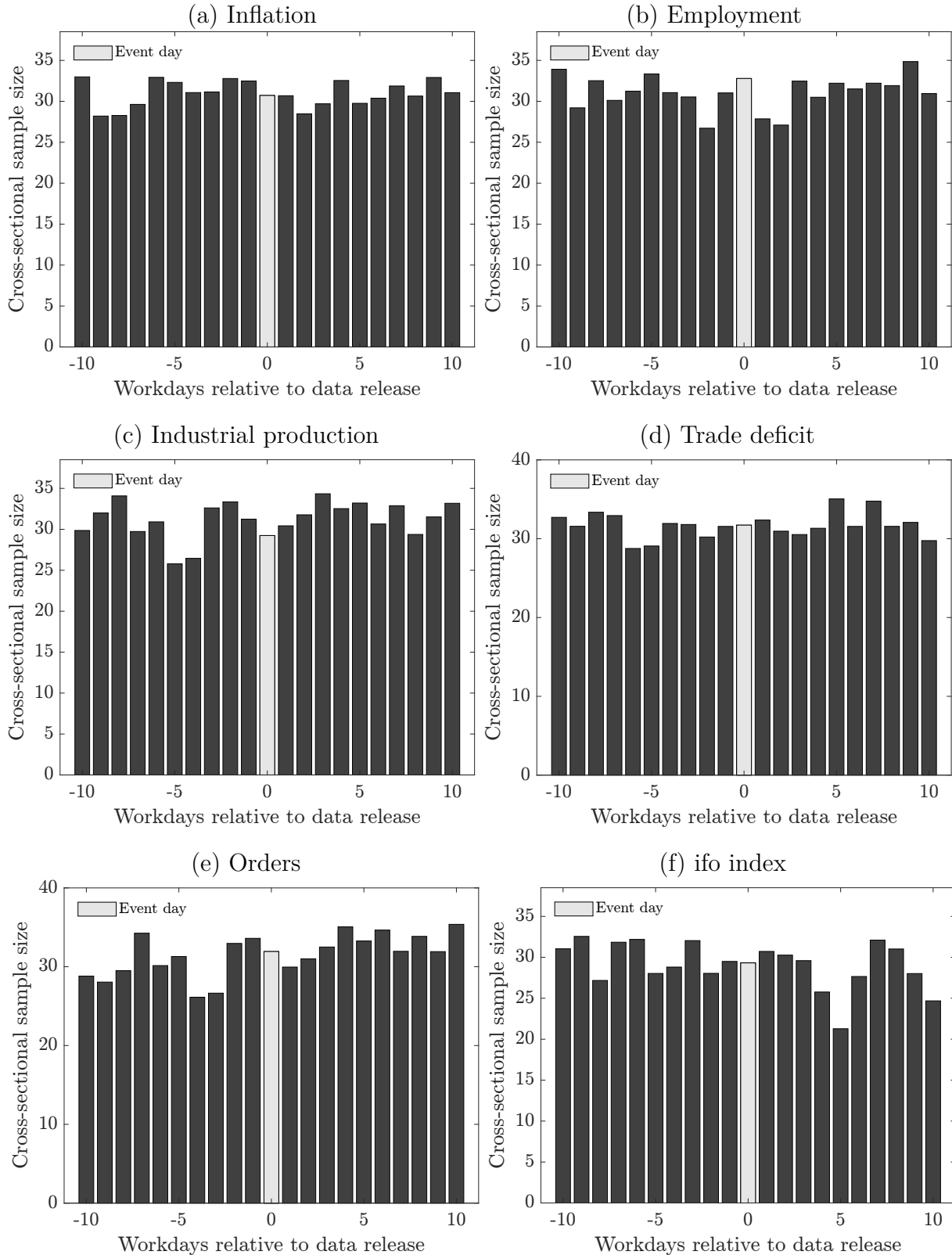
³⁴The forecasts can be accessed here: <https://www.bloomberg.com/markets/economic-calendar>.

³⁵The data can be downloaded from here: <https://github.com/OxCGRT/covid-policy-dataset>.

³⁶The data can be found here: <https://www.ifm-bonn.org>. Their computation is based on the fact that revenues exported to a different country are VAT-exempt. Hence, one can divide tax-exempted revenues by total revenues to obtain the export shares at the firm level in the VAT data.

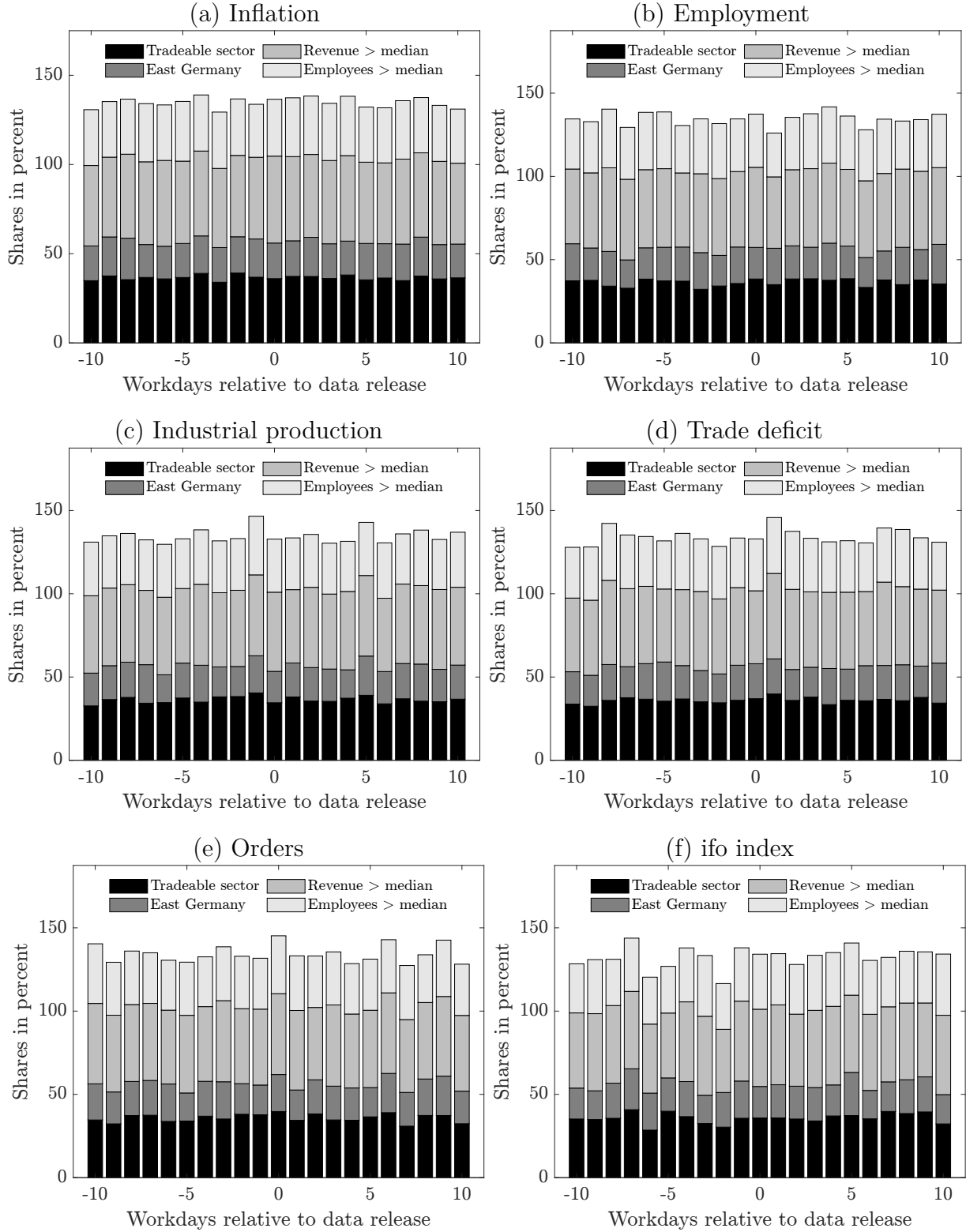
Appendix B Data statistics

Figure B.1: Survey response numbers around data releases



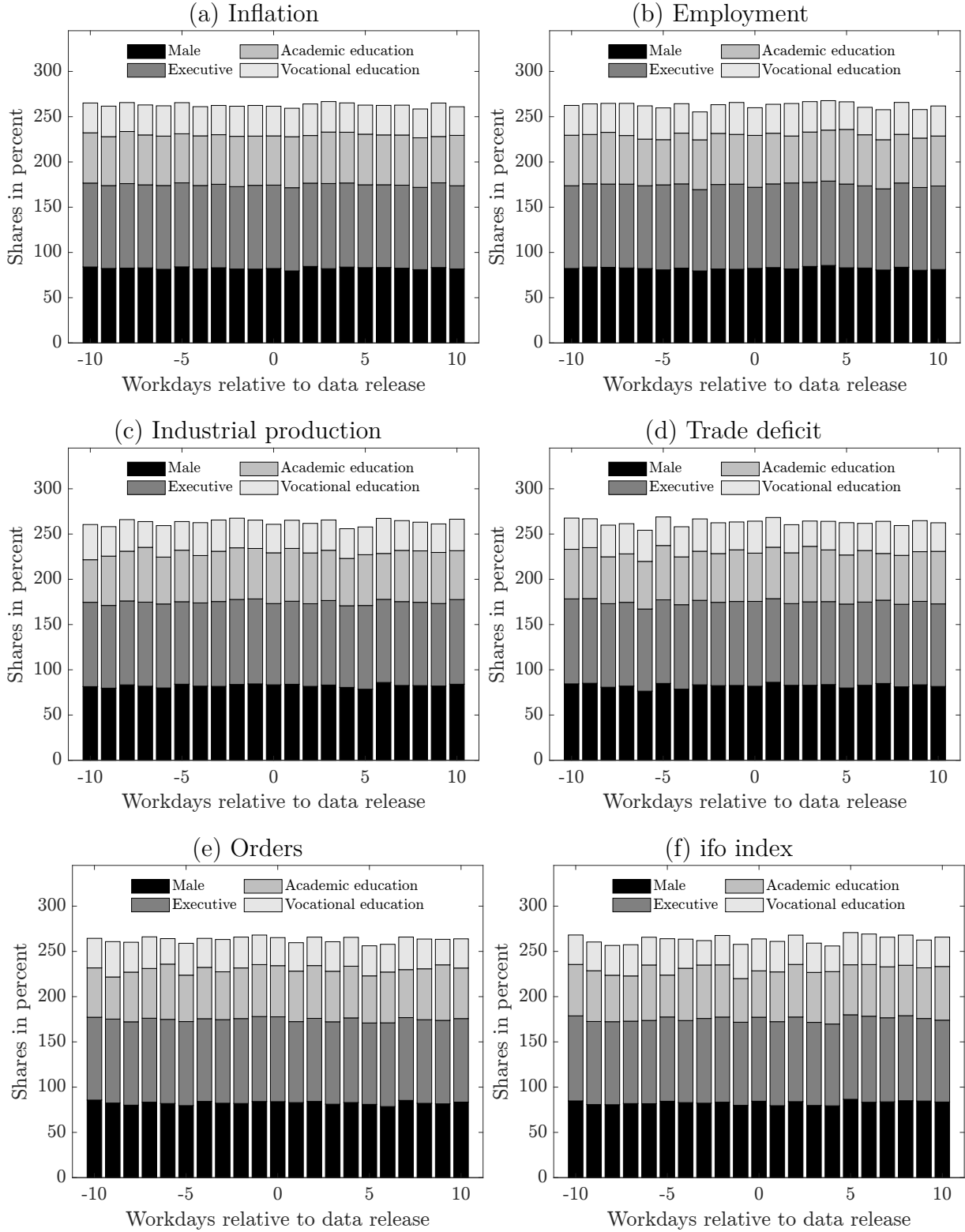
Notes: The figure shows the average cross-sectional response numbers surrounding each macroeconomic data release.

Figure B.2: Composition around data releases: firm characteristics



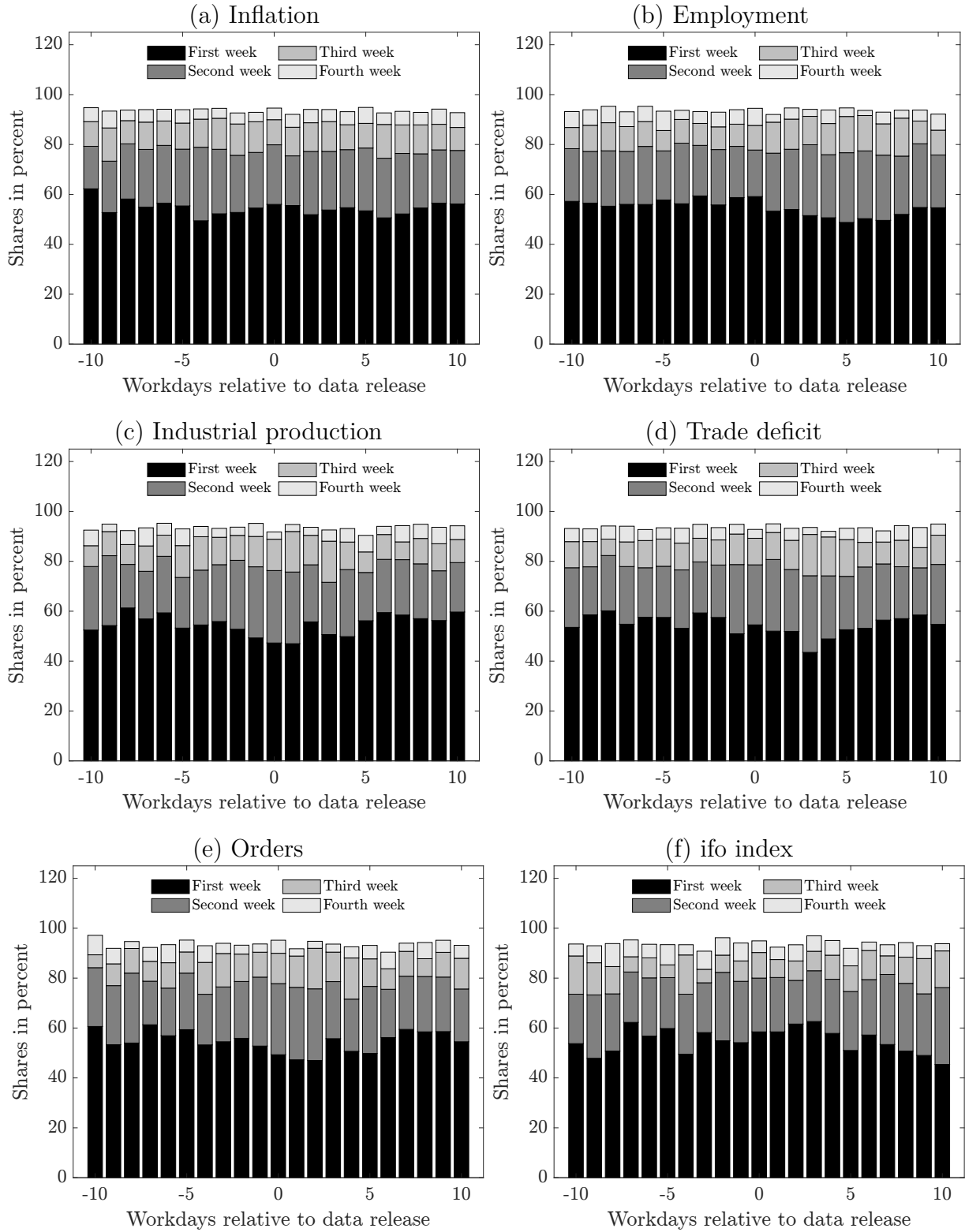
Notes: The figure shows the composition of survey responses surrounding each data release by firm characteristics. The composition bars may exceed 100 percent since the categories are not mutually exclusive.

Figure B.3: Composition around data releases: respondent characteristics



Notes: The figure shows the composition of survey responses surrounding each data release by respondent characteristics. The composition bars may exceed 100 percent since the categories are not mutually exclusive.

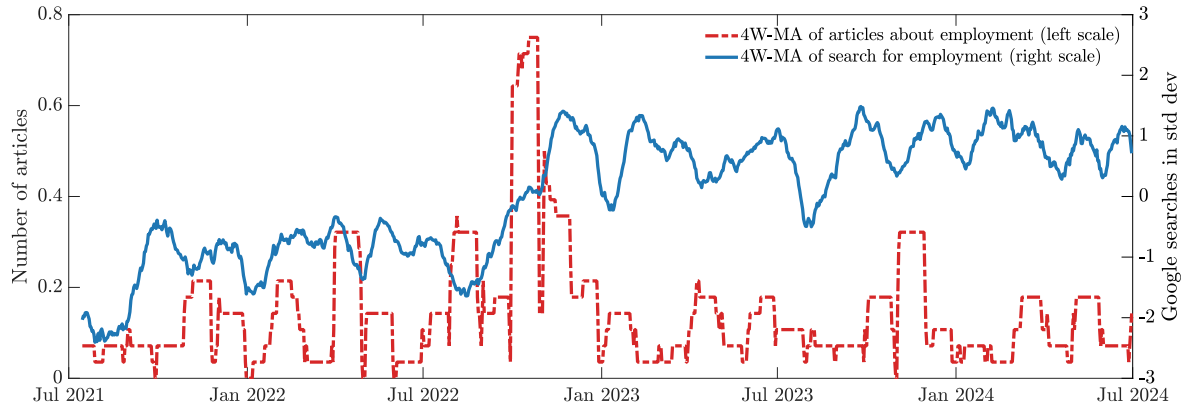
Figure B.4: Composition around data releases: response timing



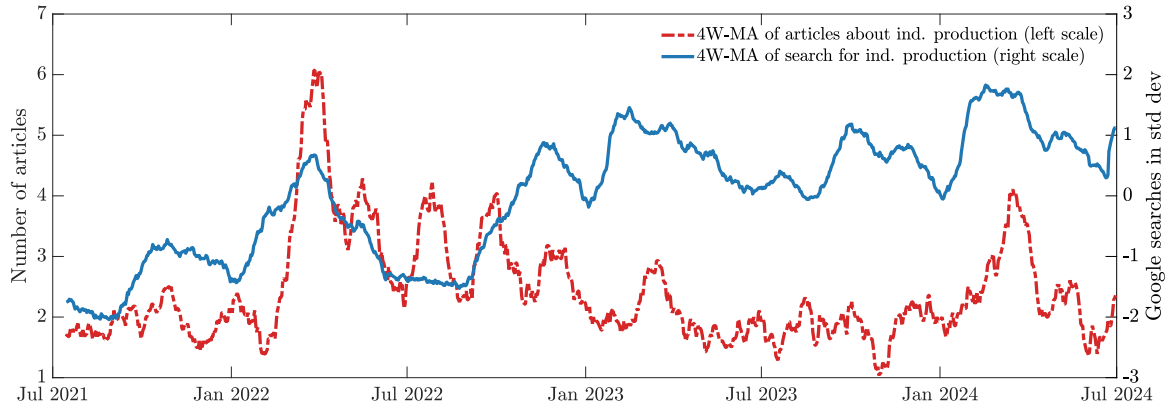
Notes: The figure shows the composition of survey responses surrounding each data release by response timing. The composition bars may exceed 100 percent since the categories are not mutually exclusive.

Figure B.5: News coverage and searches

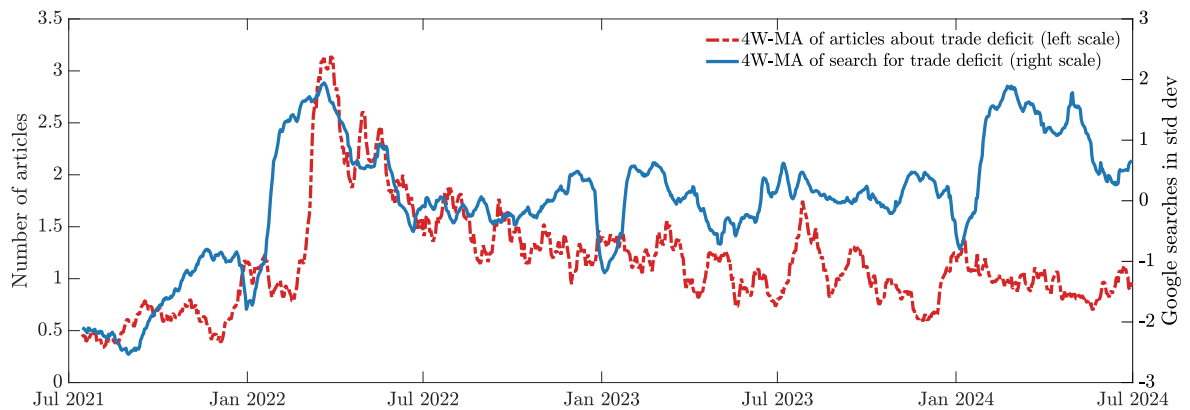
(a) Employment



(b) Industrial production



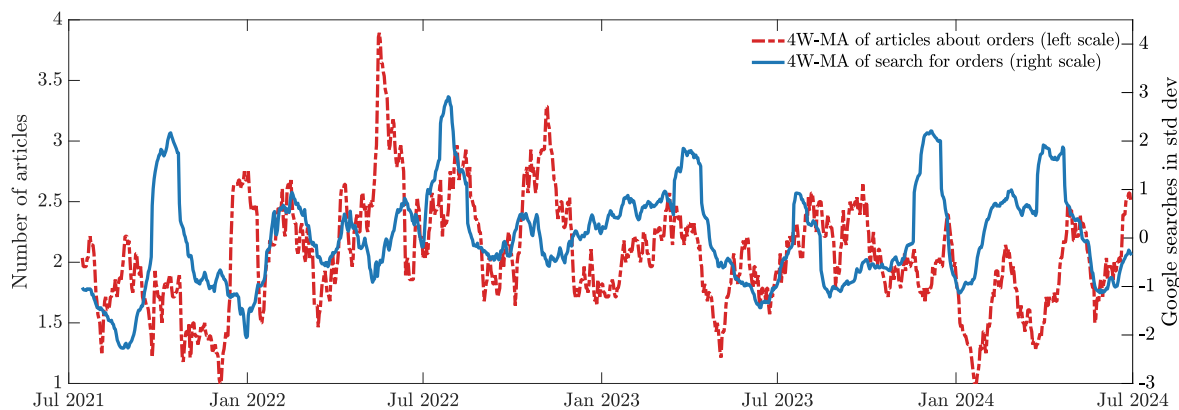
(c) Trade deficit



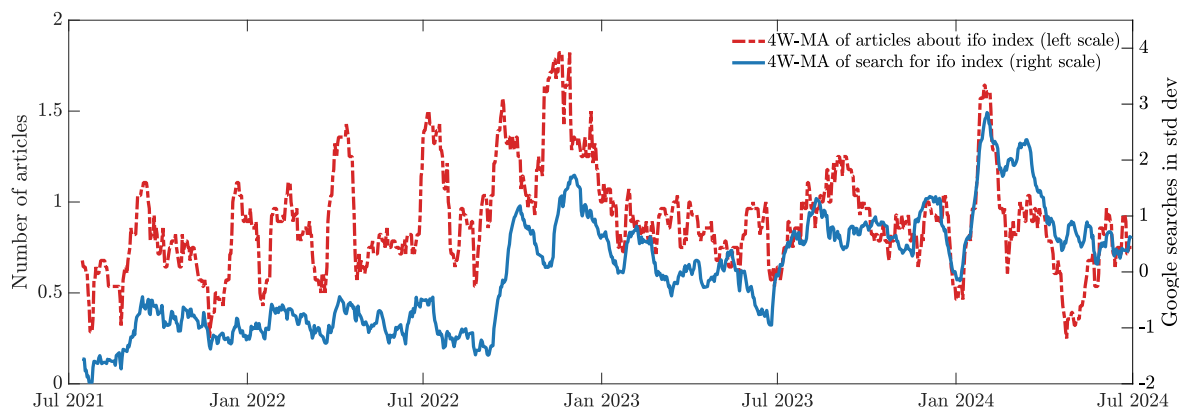
Notes: The figure shows the daily time series of the four-week backward-looking moving averages of the number of newspaper articles (news coverage) featuring the keyword associated with the data release under consideration, as well as the corresponding time series of the Google search intensity for the same keyword (news searches). The keywords are provided in Table A.1 in Appendix A. Note that our empirical approach leverages the change in coverage and searches around data releases, as the level of these series does not necessarily provide a good approximation of the actual level of coverage and searches; see the discussion in Appendix A.

Figure B.6: News coverage and searches

(a) Orders



(b) ifo index



Notes: The figure shows the daily time series of the four-week backward-looking moving averages of the number of newspaper articles (news coverage) featuring the keyword associated with the data release under consideration, as well as the corresponding time series of the Google search intensity for the same keyword (news searches). The keywords are provided in Table A.1 in Appendix A. Note that our empirical approach leverages the change in coverage and searches around data releases, as the level of these series does not necessarily provide a good approximation of the actual level of coverage and searches; see the discussion in Appendix A.

Table B.1: Summary statistics for all daily variables

	Mean	Std. dev.	Min	Max	N
Sales price plan	58.958	22.841	-100.000	100.000	1082
News coverage					
Inflation	6.541	5.710	0.000	37.000	1082
Employment	0.145	0.619	0.000	9.000	1082
Ind. production	2.415	2.163	0.000	13.000	1082
Trade deficit	1.168	1.204	0.000	11.500	1082
Orders	2.059	1.969	0.000	14.000	1082
ifo index	0.896	1.344	0.000	10.000	1082
News searches					
Inflation	64.233	21.032	13.199	157.175	1082
Employment	57.936	20.241	1.214	128.279	1082
Ind. production	66.714	15.531	18.886	172.847	1082
Trade deficit	80.680	19.337	31.169	120.861	1082
Orders	64.260	19.077	18.056	218.894	1082
ifo index	44.205	27.505	-11.527	181.217	1082
Non-zero forecast errors					
Inflation	0.031	0.405	-1.200	1.000	29
Employment	-0.013	0.126	-0.300	0.100	16
Ind. production	-0.311	1.372	-3.600	2.200	35
Trade deficit	-15.626	74.710	-346.574	120.397	34
Orders	-0.463	4.102	-8.500	9.000	35
ifo index	-0.100	1.487	-3.400	2.700	34

Notes: The table shows summary statistics for the daily time series used in the analysis of the full sample from July 15, 2021, to June 30, 2024. The summary statistics for the forecast errors exclude the zero values. The ifo index forecast error refers to the forecast error in the level of the ifo Business Climate Index, computed as the realized index minus the consensus forecast and measured in index points. All other forecast errors have percentage point interpretations and are scaled so that unity corresponds to one percentage point. Note that there are considerably fewer forecast errors for employment, as the forecast errors often equal zero. The definitions of all forecast errors are in Appendix A.

Appendix C Additional results

Table C.1: Daily predictive regressions for CPI inflation, lagged controls

	Inflation 1-month ahead				Inflation 6-month ahead				Inflation 12-month ahead			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Pricing plan	0.24*** (0.06)			0.23*** (0.06)	0.96*** (0.10)			0.95*** (0.10)	1.18*** (0.15)			1.18*** (0.15)
Inflation expectation		0.75** (0.29)		0.45 (0.31)		2.36*** (0.50)		1.29*** (0.32)		2.09*** (0.57)		0.81 (0.51)
CPI inflation			1.00*** (0.13)	0.81*** (0.11)			1.53*** (0.39)	0.77*** (0.26)			1.30*** (0.47)	0.38 (0.36)
R^2	0.938	0.920	0.922	0.940	0.811	0.540	0.542	0.814	0.594	0.186	0.188	0.595
Observations	1060	1060	1060	1060	1060	1060	1060	1060	1060	1060	1060	1060

Notes: This table presents predictive regressions of future CPI inflation on firm pricing plans, inflation expectations, and CPI inflation, see equation (2) and Section 2.2 for details. Standard errors robust to heteroskedasticity and serial correlation are reported in parentheses, and *, **, *** indicate significance at the 0.1, 0.05, 0.01 levels, respectively. In this specification, we additionally control for 28 daily lags of inflation expectations and CPI inflation.

Table C.2: Daily predictive regressions for CPI inflation, no smoothed regressors

	Inflation 1-month ahead				Inflation 6-month ahead				Inflation 12-month ahead			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Pricing plan	0.21*** (0.05)			0.04*** (0.01)	0.26*** (0.04)			0.13*** (0.03)	0.15*** (0.04)			0.14*** (0.04)
Inflation expectation		0.56*** (0.08)		0.10*** (0.03)		0.54*** (0.09)		0.29*** (0.08)		0.12 (0.10)		0.17* (0.09)
CPI inflation			0.96*** (0.04)	0.89*** (0.04)			0.65*** (0.10)	0.44*** (0.09)			-0.01 (0.16)	-0.14 (0.16)
R^2	0.050	0.378	0.904	0.914	0.065	0.298	0.352	0.433	0.022	0.015	0.000	0.042
Observations	1061	1061	1061	1061	1061	1061	1061	1061	1061	1061	1061	1061

Notes: This table presents predictive regressions of future CPI inflation on firm pricing plans, inflation expectations, and CPI inflation, see equation (2) and Section 2.2 for details. Standard errors robust to heteroskedasticity and serial correlation are reported in parentheses, and *, **, *** indicate significance at the 0.1, 0.05, 0.01 levels, respectively. In this specification, we do not smooth the price plan and inflation expectation series.

Table C.3: Monthly predictive regressions for CPI inflation

	Inflation 1-month ahead				Inflation 6-month ahead				Inflation 12-month ahead			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Pricing plan	0.79*** (0.11)			0.21*** (0.03)	1.01*** (0.10)			0.78*** (0.19)	0.57*** (0.13)			1.00*** (0.28)
Inflation expectation		0.70*** (0.14)		0.07** (0.03)		0.70*** (0.15)		0.15 (0.14)		0.11 (0.24)		-0.14 (0.31)
CPI inflation			0.97*** (0.02)	0.81*** (0.03)			0.70*** (0.14)	0.16 (0.15)			-0.10 (0.36)	-0.53 (0.37)
R^2	0.504	0.565	0.907	0.941	0.637	0.443	0.364	0.671	0.182	0.010	0.006	0.336
Observations	36	36	36	36	36	36	36	36	34	34	34	34

Notes: This table presents predictive regressions of future CPI inflation on firm pricing plans, inflation expectations, and CPI inflation, see equation (2) and Section 2.2 for details. Standard errors robust to heteroskedasticity and serial correlation are reported in parentheses, and *, **, *** indicate significance at the 0.1, 0.05, 0.01 levels, respectively. In this specification, we estimate the regression after having aggregated the data to a monthly frequency by taking the monthly arithmetic average of the daily data.

Table C.4: Event studies for news coverage and searches

Window (h)	Inflation			Employment			Ind. production			Trade deficit			Orders			ifo Index		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
News coverage																		
Event in column	1.31 (0.12)	0.65 (0.09)	0.39 (0.07)	2.07 (0.45)	1.13 (0.22)	0.59 (0.15)	0.72 (0.11)	0.60 (0.16)	0.60 (0.16)	0.77 (0.12)	0.40 (0.17)	0.27 (0.16)	0.99 (0.11)	0.34 (0.09)	0.17 (0.08)	1.73 (0.13)	1.02 (0.09)	0.57 (0.09)
Remaining events	0.00 (0.05)	-0.03 (0.06)	0.04 (0.07)	0.17 (0.06)	0.11 (0.05)	0.05 (0.04)	0.20 (0.07)	0.15 (0.06)	0.26 (0.08)	0.15 (0.08)	0.04 (0.08)	0.15 (0.08)	0.19 (0.05)	0.08 (0.05)	0.12 (0.05)	0.09 (0.05)	-0.17 (0.05)	-0.17 (0.05)
News searches																		
Event in column	1.11 (0.12)	0.67 (0.09)	0.33 (0.06)	1.02 (0.13)	0.87 (0.13)	0.64 (0.12)	0.19 (0.07)	0.27 (0.10)	0.21 (0.10)	0.12 (0.04)	0.14 (0.08)	0.13 (0.09)	0.03 (0.05)	-0.11 (0.09)	-0.14 (0.08)	1.27 (0.12)	0.81 (0.13)	0.32 (0.10)
Remaining events	-0.08 (0.05)	-0.01 (0.07)	0.10 (0.08)	0.11 (0.05)	0.07 (0.07)	0.05 (0.06)	0.07 (0.04)	0.09 (0.06)	0.12 (0.07)	0.04 (0.02)	0.03 (0.04)	0.03 (0.05)	0.03 (0.04)	-0.06 (0.06)	-0.05 (0.06)	-0.04 (0.05)	-0.22 (0.07)	-0.18 (0.07)

Notes: This table presents the event study estimates based on equation (3) as specified in Section 3. Standard errors robust to heteroskedasticity and serial correlation are in parentheses. Estimates that are statistically significant at the five percent level are bold to ease readability. The column labels refer to the data release under consideration and the window length, which indicates the number of days over which the average outcome before and after each release is computed. The outcomes are the standardized news coverage and news searches series. The regressor of interest is an indicator variable that is activated on release days for the macroeconomic variable under consideration (already displayed in Figure 3 in the main text). Additionally, we provide the estimates corresponding to a second indicator variable that is activated when any of the other five data are released to capture spillovers (remaining events).

Table C.5: Event studies for news coverage and searches: inflation releases

Window (h)	2	5	10
News coverage			
Inflation release with small surprise	0.95 (0.11)	0.35 (0.08)	0.14 (0.09)
Inflation release with large surprise	2.39 (0.21)	1.56 (0.19)	1.14 (0.19)
Differential effect for large surprise	1.45 (0.24)	1.21 (0.22)	1.00 (0.23)
News searches			
Inflation release with small surprise	0.85 (0.11)	0.42 (0.08)	0.15 (0.08)
Inflation release with large surprise	1.92 (0.26)	1.42 (0.25)	0.90 (0.18)
Differential effect for large surprise	1.08 (0.29)	1.00 (0.27)	0.75 (0.21)

Notes: This table presents the event study estimates based on equation (3) as specified in Section 3. Standard errors robust to heteroskedasticity and serial correlation are in parentheses. Estimates that are statistically significant at the five percent level are bold to ease readability. Window (length) indicates the number of days over which the average outcome before and after each release is computed. The outcomes are the standardized inflation news coverage and inflation news searches series. The regressor of interest is an indicator variable that is activated on inflation release days. Additionally, we include another indicator variable that is activated when the inflation release yields a large surprise, which is defined by an above-median absolute forecast error. The effect of the latter indicator provides the differential effect, and the sum of both estimates provides the total effect for large surprises in rows two and five.

Appendix D Sensitivity analysis

Table D.1: Event studies for price plans: sensitivity analysis

Window (h)	Inflation			Employment			Ind. production			Trade deficit			Orders			ifo Index		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
Baseline	0.23 (0.10)	0.39 (0.13)	0.55 (0.19)	0.03 (0.18)	0.47 (0.24)	0.62 (0.19)	-0.07 (0.12)	-0.06 (0.16)	0.03 (0.15)	0.18 (0.06)	0.32 (0.08)	0.17 (0.07)	-0.03 (0.08)	-0.14 (0.20)	0.18 (0.12)	0.04 (0.16)	0.01 (0.16)	0.20 (0.20)
Add. macro controls	0.18 (0.10)	0.26 (0.11)	0.44 (0.15)	-0.12 (0.18)	0.22 (0.22)	0.42 (0.19)	-0.07 (0.13)	-0.09 (0.15)	-0.02 (0.15)	0.21 (0.07)	0.28 (0.10)	0.17 (0.10)	-0.07 (0.08)	-0.12 (0.17)	0.08 (0.14)	0.10 (0.17)	0.13 (0.15)	0.28 (0.15)
All surprises controls	0.23 (0.10)	0.39 (0.13)	0.55 (0.19)	0.02 (0.18)	0.46 (0.25)	0.61 (0.20)	-0.07 (0.12)	-0.06 (0.16)	0.02 (0.15)	0.18 (0.06)	0.32 (0.08)	0.17 (0.07)	-0.03 (0.08)	-0.14 (0.20)	0.19 (0.12)	0.04 (0.16)	0.01 (0.16)	0.20 (0.20)
Change news control	0.23 (0.11)	0.51 (0.20)	0.67 (0.31)	0.23 (0.29)	1.18 (0.61)	1.40 (0.47)	-0.09 (0.13)	-0.13 (0.20)	0.09 (0.20)	0.05 (0.07)	0.26 (0.08)	0.02 (0.14)	-0.09 (0.11)	-0.29 (0.19)	0.08 (0.16)	-0.02 (0.23)	0.04 (0.27)	0.38 (0.32)
Exclude Covid-19	0.27 (0.17)	0.43 (0.18)	0.59 (0.19)	0.35 (0.19)	1.06 (0.15)	0.99 (0.20)	-0.16 (0.21)	-0.02 (0.24)	0.03 (0.23)	0.13 (0.05)	0.23 (0.08)	0.16 (0.05)	0.03 (0.11)	-0.06 (0.24)	0.24 (0.14)	-0.21 (0.20)	-0.22 (0.14)	-0.08 (0.25)
Covid-19 controls	0.18 (0.10)	0.34 (0.13)	0.46 (0.18)	0.07 (0.17)	0.51 (0.24)	0.68 (0.18)	-0.06 (0.12)	-0.04 (0.16)	0.07 (0.16)	0.17 (0.05)	0.30 (0.08)	0.14 (0.07)	-0.04 (0.08)	-0.15 (0.19)	0.16 (0.13)	0.04 (0.15)	0.01 (0.15)	0.20 (0.18)
Same-day senders	0.19 (0.06)	0.37 (0.13)	0.51 (0.16)	0.11 (0.15)	0.55 (0.20)	0.75 (0.19)	-0.09 (0.13)	-0.13 (0.18)	-0.02 (0.15)	0.16 (0.06)	0.27 (0.07)	0.21 (0.08)	0.04 (0.10)	-0.10 (0.22)	0.20 (0.12)	0.02 (0.15)	0.03 (0.14)	0.16 (0.19)
Early respondents	0.15 (0.10)	0.35 (0.16)	0.45 (0.19)	-0.08 (0.17)	0.19 (0.21)	0.41 (0.16)	-0.05 (0.11)	-0.06 (0.13)	-0.02 (0.09)	0.23 (0.07)	0.32 (0.11)	0.30 (0.08)	-0.12 (0.11)	-0.11 (0.17)	0.21 (0.12)	-0.13 (0.17)	0.08 (0.12)	0.26 (0.15)
Month FE	0.23 (0.11)	0.36 (0.13)	0.50 (0.20)	-0.03 (0.17)	0.38 (0.24)	0.50 (0.19)	-0.05 (0.13)	-0.08 (0.17)	-0.02 (0.15)	0.16 (0.05)	0.32 (0.10)	0.16 (0.09)	-0.03 (0.09)	-0.17 (0.20)	0.17 (0.13)	0.03 (0.16)	-0.01 (0.16)	0.17 (0.20)
Week FE	0.24 (0.12)	0.33 (0.12)	0.51 (0.16)	-0.03 (0.18)	0.32 (0.21)	0.36 (0.17)	-0.02 (0.11)	-0.07 (0.12)	0.06 (0.10)	0.20 (0.08)	0.35 (0.08)	0.16 (0.07)	0.02 (0.09)	-0.20 (0.18)	0.17 (0.10)	0.02 (0.16)	-0.05 (0.15)	0.25 (0.14)
Weekday FE	0.23 (0.10)	0.39 (0.12)	0.55 (0.18)	0.01 (0.17)	0.47 (0.24)	0.62 (0.19)	-0.08 (0.12)	-0.05 (0.15)	0.02 (0.16)	0.17 (0.06)	0.31 (0.09)	0.16 (0.08)	-0.04 (0.09)	-0.15 (0.19)	0.17 (0.12)	0.05 (0.15)	0.01 (0.16)	0.20 (0.20)

Notes: This table presents the event study estimates based on equation (3) as specified in Section 3. Standard errors robust to heteroskedasticity and serial correlation are in parentheses. Estimates that are statistically significant at the 5% level are bold to ease readability. The column labels refer to the data release under consideration and the window length, which indicates the number of days over which the average outcome before and after each release is computed. The outcome is the standardized sales price plan, and the regressor of interest is the forecast error corresponding to the respective data release, scaled to have unit variance to ease interpretation. All specifications include the baseline controls. Additional macro controls include 28 daily lags of the DAX stock index, the oil price, and the three-month Euribor interest rate. All surprise controls include all six forecast errors in each regression. Change news controls include the first difference of the macroeconomic variable from the data release under consideration. Exclude Covid-19 refers to the baseline specification, but the estimation sample starts in July 2022. Covid-19 controls include the Covid-19 stringency index, the log of cumulative cases, and the log of cumulative deaths. FE refers to the addition of the corresponding fixed effects.

Table D.2: Event studies for news coverage: sensitivity analysis

Window (h)	Inflation			Employment			Ind. production			Trade deficit			Orders			ifo Index		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
Baseline	1.31 (0.12)	0.65 (0.09)	0.39 (0.07)	2.07 (0.45)	1.13 (0.22)	0.59 (0.15)	0.72 (0.11)	0.60 (0.16)	0.60 (0.16)	0.77 (0.12)	0.40 (0.17)	0.27 (0.16)	0.99 (0.11)	0.34 (0.09)	0.17 (0.08)	1.73 (0.13)	1.02 (0.09)	0.57 (0.09)
Add. macro controls	1.27 (0.09)	0.63 (0.07)	0.34 (0.05)	1.95 (0.40)	1.04 (0.19)	0.48 (0.12)	0.65 (0.13)	0.60 (0.15)	0.58 (0.13)	0.78 (0.12)	0.41 (0.13)	0.29 (0.14)	0.91 (0.12)	0.30 (0.09)	0.09 (0.10)	1.69 (0.13)	0.96 (0.09)	0.52 (0.07)
All surprises controls	1.25 (0.12)	0.61 (0.10)	0.34 (0.08)	2.09 (0.49)	1.16 (0.24)	0.60 (0.17)	0.73 (0.12)	0.63 (0.16)	0.60 (0.17)	0.72 (0.12)	0.42 (0.17)	0.31 (0.19)	1.00 (0.10)	0.34 (0.09)	0.18 (0.09)	1.72 (0.12)	1.02 (0.08)	0.57 (0.08)
Change news control	1.31 (0.11)	0.65 (0.08)	0.39 (0.07)	2.06 (0.44)	1.13 (0.22)	0.60 (0.15)	0.72 (0.11)	0.60 (0.16)	0.60 (0.16)	0.77 (0.12)	0.40 (0.17)	0.28 (0.16)	0.99 (0.10)	0.35 (0.09)	0.18 (0.08)	1.69 (0.12)	1.00 (0.09)	0.55 (0.09)
Exclude Covid-19	1.22 (0.12)	0.61 (0.07)	0.34 (0.06)	2.26 (0.59)	1.19 (0.28)	0.62 (0.17)	0.78 (0.14)	0.70 (0.17)	0.65 (0.16)	0.68 (0.12)	0.24 (0.12)	0.03 (0.10)	0.89 (0.10)	0.31 (0.10)	0.17 (0.08)	1.73 (0.15)	0.98 (0.10)	0.57 (0.10)
Covid-19 controls	1.30 (0.11)	0.64 (0.07)	0.37 (0.07)	2.05 (0.44)	1.10 (0.20)	0.56 (0.13)	0.72 (0.11)	0.60 (0.16)	0.59 (0.16)	0.78 (0.12)	0.41 (0.16)	0.28 (0.16)	0.98 (0.10)	0.33 (0.09)	0.15 (0.10)	1.71 (0.12)	0.99 (0.08)	0.54 (0.08)
Month FE	1.29 (0.11)	0.62 (0.08)	0.35 (0.06)	2.04 (0.45)	1.08 (0.21)	0.56 (0.13)	0.70 (0.11)	0.57 (0.14)	0.55 (0.14)	0.76 (0.11)	0.38 (0.14)	0.24 (0.13)	0.99 (0.11)	0.34 (0.09)	0.18 (0.09)	1.72 (0.12)	1.00 (0.09)	0.56 (0.09)
Week FE	1.20 (0.10)	0.40 (0.05)	0.26 (0.04)	1.86 (0.41)	0.65 (0.13)	0.29 (0.07)	0.61 (0.10)	0.33 (0.09)	0.24 (0.07)	0.75 (0.10)	0.29 (0.12)	0.14 (0.08)	0.99 (0.09)	0.19 (0.07)	0.09 (0.06)	1.50 (0.12)	0.63 (0.08)	0.44 (0.07)
Weekday FE	1.25 (0.12)	0.69 (0.08)	0.38 (0.07)	2.04 (0.45)	1.13 (0.22)	0.58 (0.14)	0.61 (0.13)	0.57 (0.16)	0.57 (0.17)	0.69 (0.12)	0.40 (0.17)	0.26 (0.17)	0.85 (0.11)	0.35 (0.10)	0.13 (0.09)	1.68 (0.12)	1.01 (0.09)	0.55 (0.09)

Notes: This table presents the event study estimates based on equation (3) as specified in Section 3. Standard errors robust to heteroskedasticity and serial correlation are in parentheses. Estimates that are statistically significant at the 5% level are bold to ease readability. The column labels refer to the data release under consideration and the window length, which indicates the number of days over which the average outcome before and after each release is computed. The outcomes are the standardized news coverage series, and the regressor of interest is an indicator variable that is activated on release days for the macroeconomic variable under consideration. All specifications include the baseline controls. Additional macro controls include 28 daily lags of the DAX stock index, the oil price, and the three-month Euribor interest rate. All surprise controls include all six forecast errors in each regression. Change news controls include the first difference of the macroeconomic variable from the data release under consideration. Exclude Covid-19 refers to the baseline specification, but the estimation sample starts in July 2022. Covid-19 controls include the Covid-19 stringency index, the log of cumulative cases, and the log of cumulative deaths. FE refers to the addition of the corresponding fixed effects.

Table D.3: Event studies for news searches: sensitivity analysis

Window (h)	Inflation			Employment			Ind. production			Trade deficit			Orders			ifo Index		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
Baseline	1.11 (0.12)	0.67 (0.09)	0.33 (0.06)	1.02 (0.13)	0.87 (0.13)	0.64 (0.12)	0.19 (0.07)	0.27 (0.10)	0.21 (0.10)	0.12 (0.04)	0.14 (0.08)	0.13 (0.09)	0.03 (0.05)	-0.11 (0.09)	-0.14 (0.08)	1.27 (0.12)	0.81 (0.13)	0.32 (0.10)
Add. macro controls	1.12 (0.10)	0.66 (0.08)	0.32 (0.06)	0.99 (0.12)	0.83 (0.11)	0.60 (0.13)	0.17 (0.07)	0.24 (0.09)	0.22 (0.10)	0.12 (0.04)	0.14 (0.09)	0.12 (0.09)	-0.01 (0.06)	-0.16 (0.11)	-0.18 (0.09)	1.28 (0.12)	0.79 (0.11)	0.30 (0.09)
All surprises controls	1.06 (0.12)	0.63 (0.10)	0.30 (0.07)	0.99 (0.13)	0.83 (0.14)	0.59 (0.13)	0.17 (0.07)	0.24 (0.10)	0.18 (0.10)	0.10 (0.03)	0.11 (0.07)	0.08 (0.09)	0.02 (0.05)	-0.10 (0.09)	-0.14 (0.08)	1.27 (0.12)	0.81 (0.13)	0.32 (0.10)
No controls	1.11 (0.10)	0.66 (0.08)	0.33 (0.06)	1.03 (0.12)	0.87 (0.12)	0.64 (0.12)	0.19 (0.07)	0.27 (0.10)	0.21 (0.10)	0.12 (0.04)	0.14 (0.08)	0.13 (0.09)	0.03 (0.05)	-0.11 (0.09)	-0.14 (0.08)	1.19 (0.10)	0.73 (0.11)	0.25 (0.09)
Exclude Covid-19	0.94 (0.09)	0.50 (0.07)	0.23 (0.09)	0.89 (0.15)	0.83 (0.14)	0.65 (0.15)	0.20 (0.09)	0.20 (0.13)	0.14 (0.13)	0.13 (0.04)	0.15 (0.10)	0.10 (0.12)	0.05 (0.06)	-0.14 (0.10)	-0.18 (0.10)	1.33 (0.15)	0.88 (0.17)	0.27 (0.14)
Covid-19 controls	1.11 (0.11)	0.66 (0.09)	0.33 (0.08)	1.03 (0.13)	0.88 (0.13)	0.64 (0.12)	0.20 (0.07)	0.28 (0.10)	0.23 (0.10)	0.12 (0.04)	0.14 (0.08)	0.12 (0.09)	0.03 (0.05)	-0.12 (0.09)	-0.15 (0.08)	1.27 (0.12)	0.80 (0.12)	0.32 (0.10)
Month FE	1.09 (0.11)	0.63 (0.08)	0.29 (0.06)	0.91 (0.12)	0.66 (0.13)	0.39 (0.12)	0.17 (0.07)	0.22 (0.08)	0.16 (0.08)	0.11 (0.03)	0.11 (0.07)	0.08 (0.08)	0.03 (0.05)	-0.12 (0.08)	-0.15 (0.08)	1.27 (0.13)	0.81 (0.13)	0.33 (0.10)
Week FE	0.99 (0.11)	0.42 (0.07)	0.21 (0.05)	0.82 (0.11)	0.39 (0.09)	0.23 (0.08)	0.16 (0.06)	0.13 (0.07)	0.07 (0.05)	0.13 (0.03)	0.13 (0.05)	0.07 (0.04)	0.08 (0.05)	-0.03 (0.06)	-0.03 (0.06)	1.11 (0.11)	0.60 (0.11)	0.38 (0.09)
Weekday FE	1.11 (0.11)	0.71 (0.09)	0.34 (0.06)	1.02 (0.12)	0.93 (0.13)	0.65 (0.12)	0.18 (0.07)	0.26 (0.10)	0.20 (0.10)	0.10 (0.04)	0.12 (0.08)	0.11 (0.10)	-0.04 (0.04)	-0.09 (0.08)	-0.16 (0.08)	1.21 (0.12)	0.79 (0.13)	0.30 (0.10)

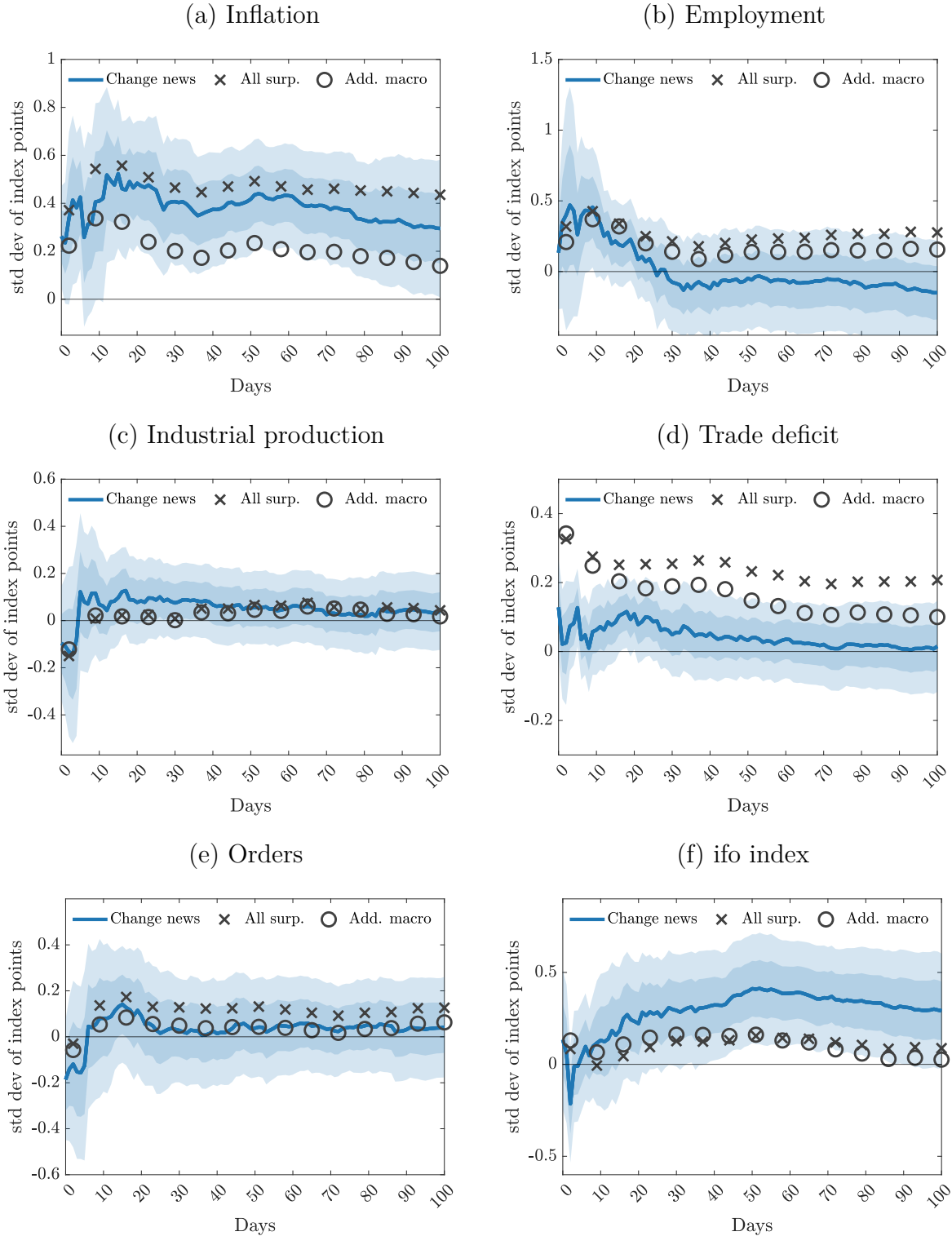
Notes: This table presents the event study estimates based on equation (3) as specified in Section 3. Standard errors robust to heteroskedasticity and serial correlation are in parentheses. Estimates that are statistically significant at the 5% level are bold to ease readability. The column labels refer to the data release under consideration and the window length, which indicates the number of days over which the average outcome before and after each release is computed. The outcomes are the standardized news searches series, and the regressor of interest is an indicator variable that is activated on release days for the macroeconomic variable under consideration. All specifications include the baseline controls. Additional macro controls include 28 daily lags of the DAX stock index, the oil price, and the three-month Euribor interest rate. All surprise controls include all six forecast errors in each regression. Change news controls include the first difference of the macroeconomic variable from the data release under consideration. Exclude Covid-19 refers to the baseline specification, but the estimation sample starts in July 2022. Covid-19 controls include the Covid-19 stringency index, the log of cumulative cases, and the log of cumulative deaths. FE refers to the addition of the corresponding fixed effects.

Table D.4: Event studies for price plans: sensitivity analysis

Window (h)	Inflation			Employment			Ind. production			Trade deficit			Orders			ifo Index		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
Baseline	0.23 (0.10)	0.39 (0.13)	0.55 (0.19)	0.03 (0.18)	0.47 (0.24)	0.62 (0.19)	-0.07 (0.12)	-0.06 (0.16)	0.03 (0.15)	0.18 (0.06)	0.32 (0.08)	0.17 (0.07)	-0.03 (0.08)	-0.14 (0.20)	0.18 (0.12)	0.04 (0.16)	0.01 (0.16)	0.20 (0.20)
Randomized surprises	0.01 (0.15)	0.01 (0.16)	0.01 (0.17)	0.00 (0.19)	-0.01 (0.23)	-0.01 (0.23)	0.00 (0.14)	-0.00 (0.15)	-0.01 (0.16)	0.00 (0.11)	-0.00 (0.12)	-0.00 (0.12)	-0.00 (0.14)	-0.01 (0.16)	-0.00 (0.16)	-0.00 (0.14)	-0.00 (0.16)	-0.01 (0.17)
Randomized event days	0.02 (0.12)	0.03 (0.21)	0.03 (0.22)	0.03 (0.20)	0.02 (0.27)	0.02 (0.26)	-0.03 (0.13)	-0.07 (0.17)	-0.08 (0.15)	0.02 (0.11)	-0.02 (0.17)	-0.07 (0.13)	-0.01 (0.09)	-0.01 (0.16)	-0.03 (0.14)	0.01 (0.14)	0.02 (0.14)	0.01 (0.20)
Shifted event days	-0.17 (0.20)	0.08 (0.12)	-0.06 (0.16)	-0.35 (0.27)	-0.15 (0.38)	-0.38 (0.37)	-0.29 (0.10)	-0.11 (0.13)	-0.05 (0.14)	-0.11 (0.17)	-0.08 (0.07)	-0.04 (0.07)	-0.14 (0.18)	0.03 (0.14)	0.12 (0.16)	-0.27 (0.10)	-0.01 (0.13)	0.23 (0.16)

Notes: This table presents the event study estimates based on equation (3) as specified in Section 3. Standard errors robust to heteroskedasticity and serial correlation are in parentheses. Estimates that are statistically significant at the 5% level are bold to ease readability. The column labels refer to the data release under consideration and the window length, which indicates the number of days over which the average outcome before and after each release is computed. The outcome is the standardized sales price plan, and the regressor of interest is the forecast error corresponding to the respective data release, scaled to have unit variance to ease interpretation. Randomized surprises and randomized event days show averages of the point estimate and the standard error across 1000 Monte Carlo draws. Randomized surprises: resample surprises of a given data release with replacement, keeping event days fixed. Randomized event days: re-shuffle the sequence of surprises randomly, keeping the distribution of surprises fixed. Shifted event days: lag surprises by ten days.

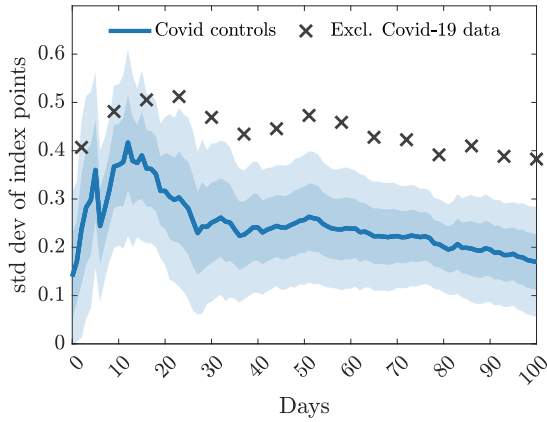
Figure D.1: Dynamic responses of price plans: additional controls



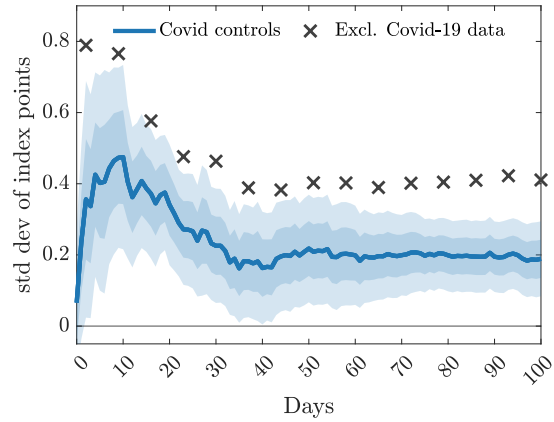
Notes: This figure presents cumulative impulse responses of the sales price plan based on equation (3) as specified in Section 3. The solid blue line corresponds to the OLS estimate for each forecast error from the respective data release. The blue-shaded areas indicate 95% and 68% confidence bands based on standard errors robust to heteroskedasticity and serial correlation. The corresponding specifications are explained in the notes of Table D.1, which provides the corresponding event study estimates.

Figure D.2: Dynamic responses of price plans: Covid-19

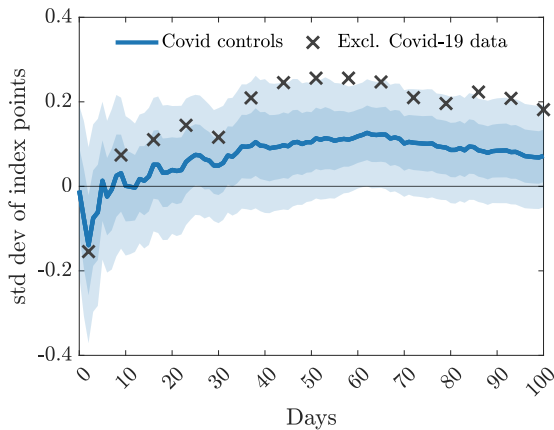
(a) Inflation



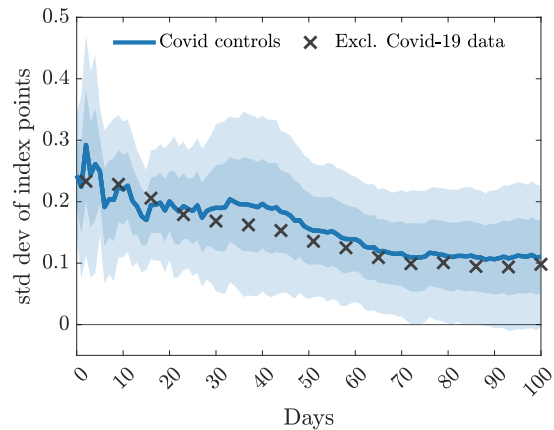
(b) Employment



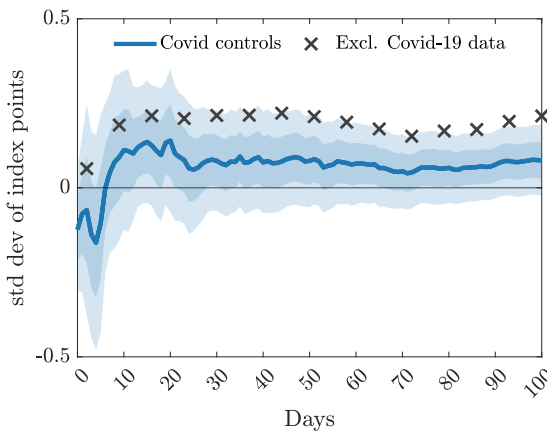
(c) Industrial production



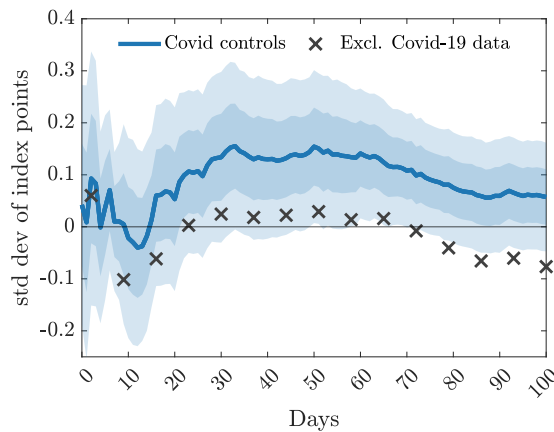
(d) Trade deficit



(e) Orders



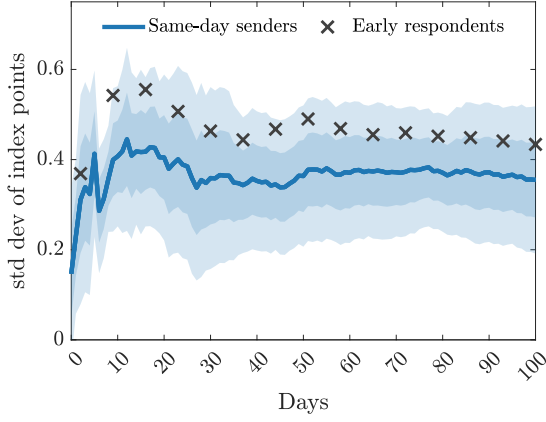
(f) ifo index



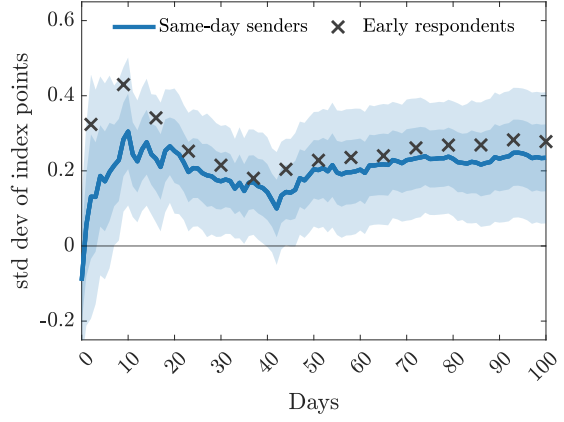
Notes: This figure presents cumulative impulse responses of the sales price plan based on equation (3) as specified in Section 3. The solid blue line corresponds to the OLS estimate for each forecast error from the respective data release. The blue-shaded areas indicate 95% and 68% confidence bands based on standard errors robust to heteroskedasticity and serial correlation. The corresponding specifications are explained in the notes of Table D.1, which provides the corresponding event study estimates.

Figure D.3: Dynamic responses of price plans: response timing

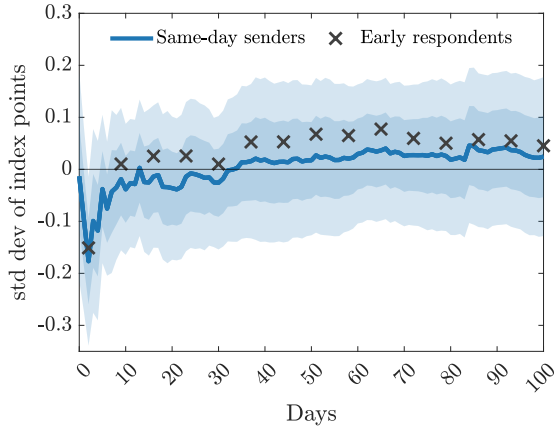
(a) Inflation



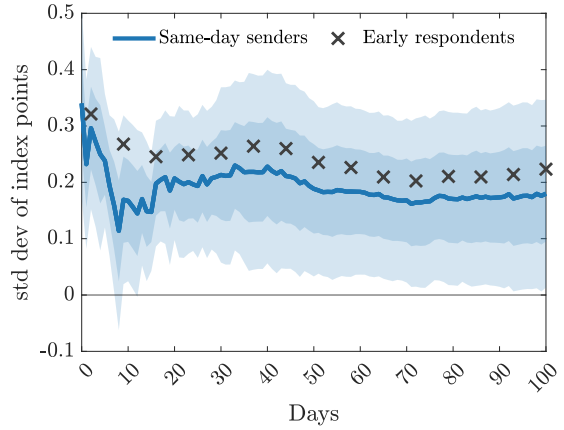
(b) Employment



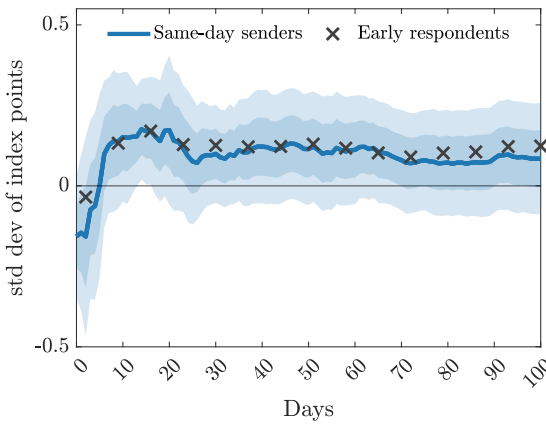
(c) Industrial production



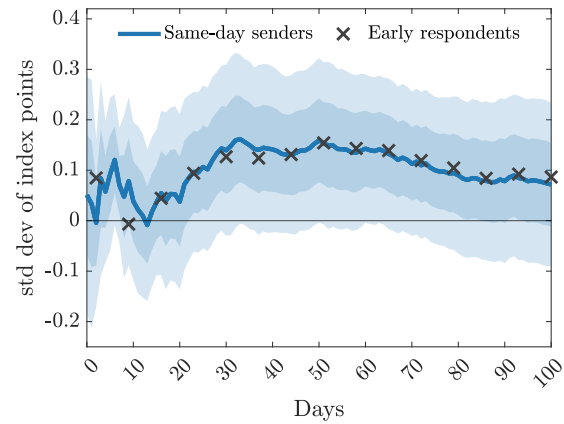
(d) Trade deficit



(e) Orders



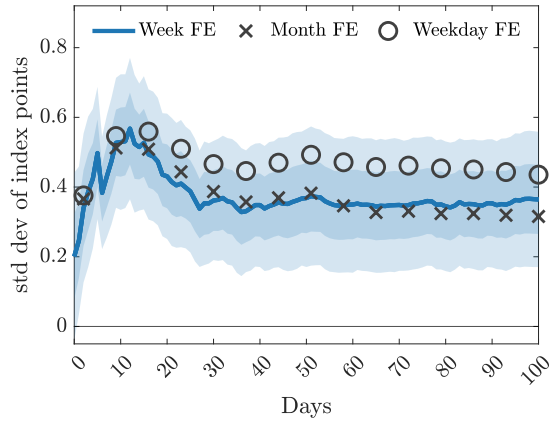
(f) ifo index



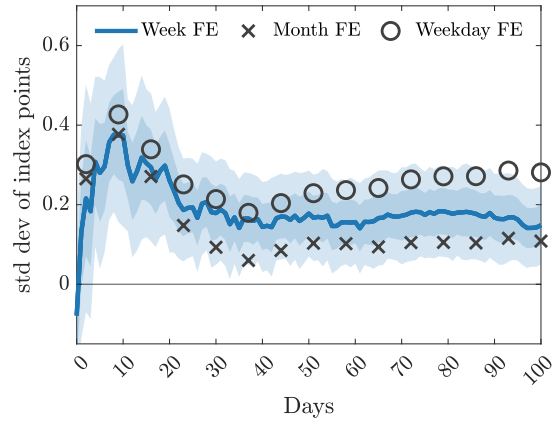
Notes: This figure presents cumulative impulse responses of the sales price plan based on equation (3) as specified in Section 3. The solid blue line corresponds to the OLS estimate for each forecast error from the respective data release. The blue-shaded areas indicate 95% and 68% confidence bands based on standard errors robust to heteroskedasticity and serial correlation. The corresponding specifications are explained in the notes of Table D.1, which provides the corresponding event study estimates.

Figure D.4: Dynamic responses of price plans: additional fixed effects

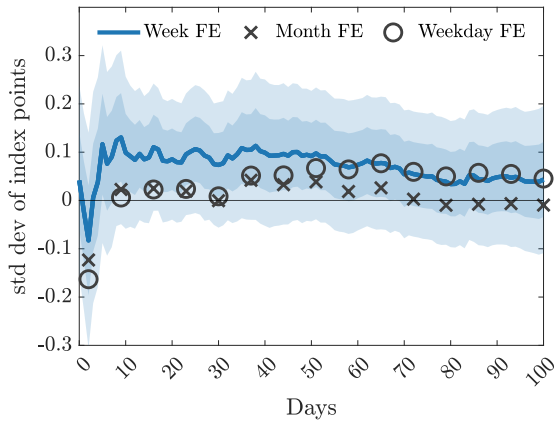
(a) Inflation



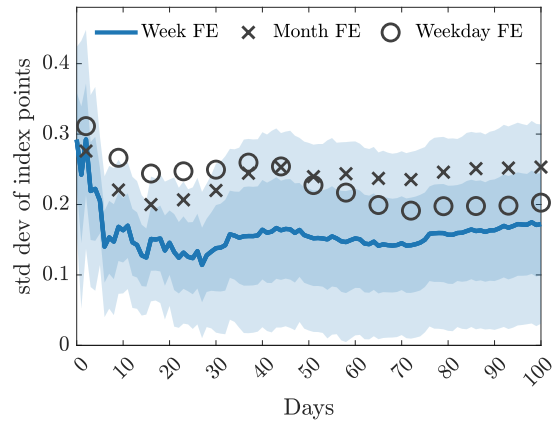
(b) Employment



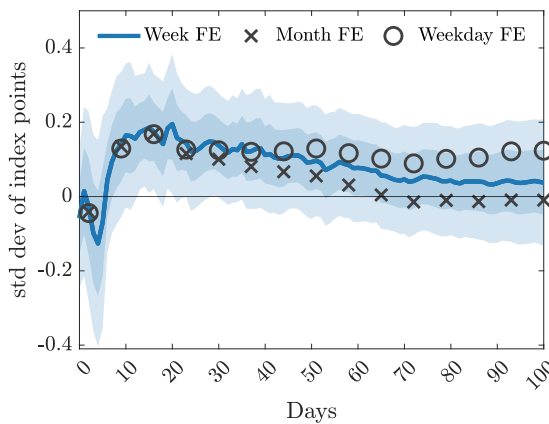
(c) Industrial production



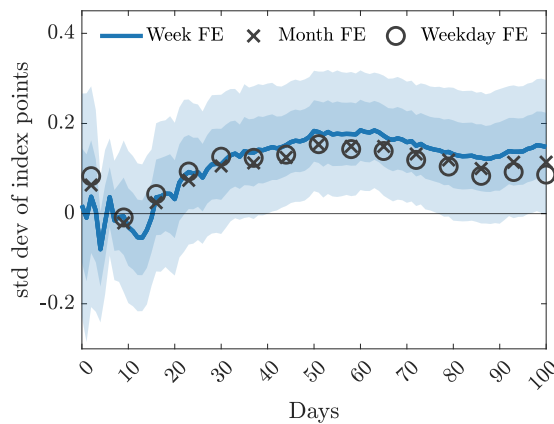
(d) Trade deficit



(e) Orders



(f) ifo index



Notes: This figure presents cumulative impulse responses of the sales price plan based on equation (3) as specified in Section 3. The solid blue line corresponds to the OLS estimate for each forecast error from the respective data release. The blue-shaded areas indicate 95% and 68% confidence bands based on standard errors robust to heteroskedasticity and serial correlation. The corresponding specifications are explained in the notes of Table D.1, which provides the corresponding event study estimates.