TÜRKİYE CUMHURİYET MERKEZ BANKASI

Research Notes in Economics

Pessimism and Inflation: How Firms' Perception of Economic Outlook Shapes Inflation Expectations

Okan Akarsu, Altan Aldan, Ünal Seven

No: 2025-21 I September 19, 2025

Özet

Bu çalışma, firmaların sektörel duruma ilişkin algılarının ve satış beklentilerinin enflasyon beklentilerini nasıl şekillendirdiğini, farklı enflasyon rejimleri altında incelemektedir. İktisadi Yönelim Anketi (İYA) verilerini kullanan analizimiz, sektörlerinin mevcut durumuna ilişkin görece daha olumsuz beklentiler içinde olan firmaların, özellikle belirsizliğin arttığı dönemlerde, diğer firmalara göre daha yüksek enflasyon tahmininde bulunma eğiliminde olduklarını göstermektedir. Yüksek enflasyon ortamında, firmaların enflasyon beklentileri, sektörlerinin mevcut koşullarına ilişkin algılarıyla daha güçlü bir şekilde ilişkilidir; buna karşılık, gelecekteki satışlarına ilişkin beklentilerinin enflasyon bekleyişleri üzerine etkisi daha sınırlı kalmaktadır. Buna karşın, düşük enflasyon veya dezenflasyon dönemlerinde, firmaların satış beklentileri enflasyon tahminlerinde daha belirleyici bir faktör haline gelmektedir. Bu bulgular, firmaların enflasyon beklenti oluşumunun duruma bağlı bir yapıya sahip olduğunu ortaya koymaktadır. Firmaların beklenti oluşturma mekanizmalarına ışık tutan bu çalışma, makroekonomik belirsizliğin azaltılması ve politika iletişiminin güçlendirilmesinin para politikasının etkinliğini artırmada önemli bir rol oynayabileceğini vurgulamaktadır.

Abstract

This study examines how firms’ perceptions of their business environment and expectations of their own future sales shape their inflation expectations, with particular attention to differences across inflation regimes. Using firm-level data from Türkiye’s Business Tendency Survey (BTS), we find that firms with a weaker assessment of their industry’s current state tend to forecast higher inflation, particularly during periods of heightened uncertainty. In high-inflation environments, firms’ inflation expectations are more strongly associated with their perceptions of current industry conditions, whereas expectations about their own future sales play a comparatively smaller role. Conversely, firms' expectations for their own sales become a more decisive factor in their inflation forecasts during low-inflation or disinflationary periods. These results highlight the state-dependent nature of firms’ inflation expectation formation. By shedding light on the mechanisms through which firms form expectations, this note underscores how reducing macroeconomic uncertainty and strengthening policy communication can enhance the effectiveness of monetary policy.

The CBT Research Notes in Economics is a refereed publication prepared by Central Bank of the Republic of Türkiye with the purpose of disseminating results from research on the Turkish economy with a particular emphasis on macroeconomic developments and issues relevant for monetary policy, and thereby contributing to discussions on economic issues in a timely fashion. All views and opinions expressed in the CBT Research Notes in Economics are of the authors and do not necessarily represent the official views of the Central Bank of Republic of Türkiye and its staff. A written permission must be obtained to reprint the entire text of notes published in CBT Research Notes in Economics series.

1. Introduction

Inflation expectations play a pivotal role in shaping firm behavior, particularly in high-inflation economies where uncertainty about future costs, prices, and demand poses significant challenges. A crucial yet underexplored question is how firms form their expectations about future inflation. Firms' perceptions of economic growth, demand conditions, and policy direction often influence how they gauge future inflation, which in turn affects their pricing, investment, and employment decisions. Understanding how firms incorporate these perceptions into their inflation expectations is essential for policymakers seeking to design measures that stabilize inflation and strengthen economic resilience.

While much of the literature focuses on the content of firms' inflation expectations, relatively little attention has been devoted to understanding how these expectations are formed or updated. In stable economic environments, firms may adjust their expectations infrequently, relying on historical trends or macroeconomic indicators. However, in high-inflation settings, the cost of misaligned expectations rises sharply, prompting firms to adopt more dynamic and context-dependent approaches to expectation formation. This study seeks to investigate the interplay between firms' perceptions of the economic outlook and their inflation expectations, as well as the responses these expectations might prompt. In particular, we ask two key questions:

(1) How do firms' views on the economic outlook and their own demand projections influence their inflation expectations?

(2) How do these relationships change across different inflationary regimes?

Recent studies have enhanced our understanding of how firms form and act upon inflation expectations. For instance, Candia et al. (2024) found that U.S. managers lack precise knowledge of inflation trends and monetary policy, resulting in inflation expectations that are unanchored and closer to those of households than financial experts. Albrizio et al. (2023), using text analysis of corporate earnings calls, constructed a cross-country index of firms' inflation expectations and found that firms' assessments of the economic environment are strong predictors of their inflation expectations. Similarly, Kumar et al. (2023) documented that firms in high-inflation economies update expectations more frequently, aligning those updates with shifts in their view of the economic outlook. In addition, firms' view on their own economic conditions may also play an important role in forming inflation expectations. For instance, Enders et al. (2021) found that German manufacturing firms anticipating higher (lower) production in the future are more (less) likely to raise current prices than those expecting no change. Overall, these findings suggest that both firms' economic outlook views and assessments of their own business conditions may shape their inflation expectations. Determining the relative importance of these two factors is ultimately an empirical question.

Drawing on data from the Business Tendency Survey (BTS) and comprehensive administrative datasets, this study investigates how firms' views on the economic outlook and their growth expectations affect their inflation expectations in Türkiye. We also explore whether the magnitude and direction of these relationships shift with inflation levels. By analyzing these mechanisms in the context of both high- and low-inflation episodes, the study provides fresh insights into the macroeconomic implications of firm behavior during periods of heightened and diminished uncertainty.

The remainder of the study is organized as follows. Section 2 discusses the data and examines inflation dynamics in Türkiye, focusing on how macroeconomic pessimism influences inflation expectations. Section 3 presents the empirical analysis, the methodology and key findings. Finally, Section 4 concludes.

2. Dataset and Inflation Dynamics

2.1 Business Tendency Survey

Our primary source is the BTS, administered by the Central Bank of the Republic of Türkiye (CBRT). The BTS collects monthly responses from a representative sample of 1,800 to 2,200 manufacturing firms and covers the period from January 2009 to November 2024. The survey follows a structured "check-box" format, where firms report their view of the general business outlook alongside projections and actual outcomes for various firm-specific metrics, such as capacity utilization, orders, and inventories. Respondents indicate whether each economic indicator has increased, decreased, or remained stable over the past three months, and also share their expectations for these indicators over the upcoming three months. Furthermore, firms are asked to provide their annual inflation expectations in numerical terms for the end of the upcoming 12-month period.

The BTS thus covers key areas such as current business conditions, future expectations, and factors influencing production and sales, providing valuable short-term insights of the manufacturing sector. Its high frequency, broad sectoral coverage, inclusion of real variables and strong response rate make it a reliable source for our analysis. [1] Our analysis focuses on the following four questions:

Q1. *"What is your opinion on the general trend in your industry compared to the previous month? More optimistic, the same, or more pessimistic?"*

Q2. *"What is your expectation for total sales order quantity over the next three months: increase, stay the same, decrease?"*

Q3. *"Expectation for the annual consumer price index (CPI) at the end of the upcoming 12-month period: (please indicate in percentage terms)."*

Q4. *"Expectation for the annual producer price index (PPI) at the end of the upcoming 12-month period: (please indicate in percentage terms)."*

Using the responses to question 1, we classify firms into *pessimist* (if they report a more pessimistic outlook) and *other*. Similarly, using question 2, we classify firms into those with *positive sales growth expectations* and *other*.

Our dataset has 250,853 observations, of which 53,533 (21.3%) are classified as *pessimist* and 89,832 (35.8%) expect sales growth. While a negative correlation exists between *pessimist* and *positive sales growth expectation*, a notable share of answers are both pessimistic about the macro environment yet anticipate their own sales to grow, and vice versa. This implies that firms often differentiate between the over economic outlook and their own business growth prospects, at least partially.

[1] To manage extreme values, we apply a 5% winsorization, capping data at the 2.5th and 97.5th percentiles of the CPI and PPI expectation distributions. Specifically, any CPI and PPI responses that exceed these thresholds are replaced with the respective percentile values.

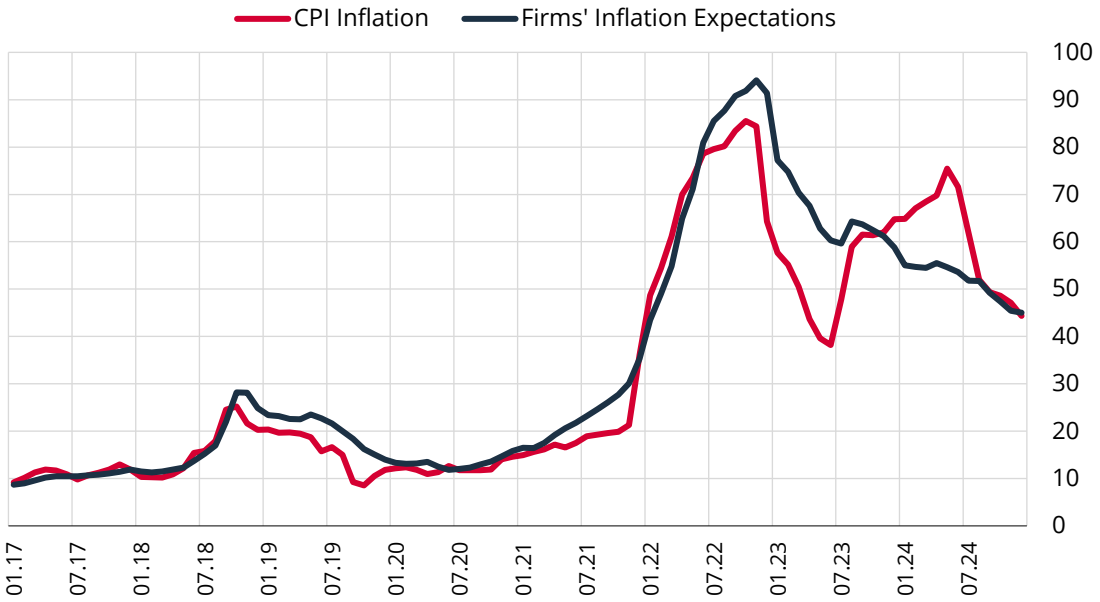
Table 1: Number of Observations

	Pessimist	Other	Total
Positive Sales Growth	10,050	79,782	89,832
Other	43,483	117,538	161,021
Total	53,533	197,320	250,853

2.2Inflation Expectations and Macroeconomic Pessimism

Since 2017, the Turkish economy has experienced a prolonged period of high inflation, influenced by both domestic and global factors. In the second quarter of 2018, in response to rising inflationary pressures, the Central Bank of the Republic of Türkiye (CBRT) implemented a series of monetary tightening measures, which successfully curbed demand-driven inflation in the subsequent months. However, the COVID-19 pandemic, which disrupted global supply chains and dampened economic activity, further complicated inflation dynamics. Additionally, subsequent interest rate cuts from September 2021 onward contributed to rapid price increases, pushing Türkiye's annual inflation to a three-decade high by October 2022 (Figure 1). To counter persistent inflationary pressures and restore macroeconomic stability, the CBRT launched a strong monetary tightening cycle in the summer of 2023, raising the policy rate from 8.5% to 50% between June 2023 and March 2024. Although firms' inflation expectations had moved closely with realized inflation until mid-2022, the gap between expectations and realized inflation widened afterwards and remained wide for about two years, before narrowing significantly toward the end of the sample period, following tighter monetary policy.

Figure 1: Annual CPI and Firm's Inflation Expectations (%)



Source: Business Tendency Survey, CBRT EDDS

Notes: The monthly expectations for the annual CPI at the end of the upcoming 12-month period are derived from the Business Tendency Survey. The actual inflation rate compared to the same month of the previous year is represented by the actual CPI line.

Alongside the increasing discrepancy between firms' expectations and actual CPI, heterogeneity in firms' inflation expectations also grew (Figure 2). Firms with a pessimistic view of the sectoral situation consistently have higher inflation expectations than their counterparts, especially during periods of elevated uncertainty (e.g., increased exchange rate volatility, monetary policy debates, supply chain disruptions, etc.). The gap in expectations between pessimistic and optimistic firms became especially pronounced during late 2021 and 2022, consistent with evidence from the literature that firms' inflation expectations are influenced not only by current economic conditions but also by their subjective beliefs regarding future policies and market dynamics (Coibion et al., 2018). In other words, firms with a more pessimistic outlook tend to emphasize adverse economic signals, which exacerbates the disparity in their inflation expectations.

Figure 2: Firm's Inflation Expectations by Pessimistic Overview

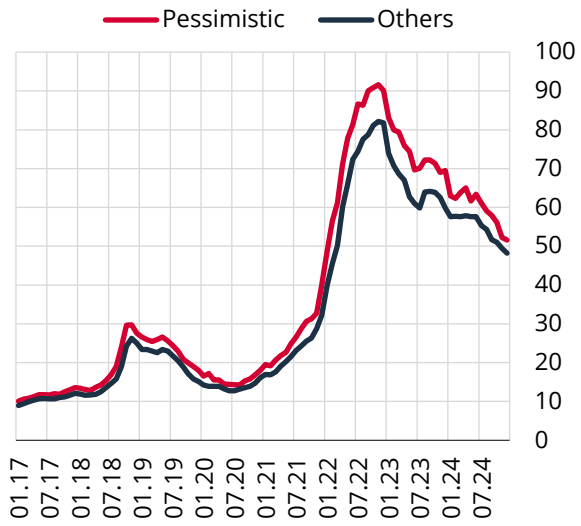
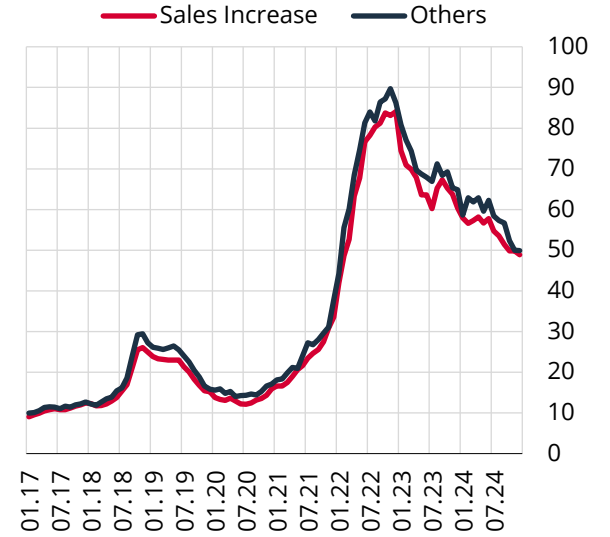


Figure 3: Firm's Inflation Expectations by Sales Growth Expectation



Source: Business Tendency Survey

Notes: In Figure 2, firms are divided into 'pessimistic' and 'others' based on their responses to the question: *"What is your opinion on the general trend in your industry compared to the previous month? More optimistic, the same, or more pessimistic?"* In Figure 3, the firms are grouped based on their responses to the question: *"What is your expectation for the total quantity of sales orders over the next three months? Increase, stay the same, or decrease?"*

Consistent with aforementioned literature, we find that in Türkiye inflation expectations vary with firms' projections of their own sales growth (Figure 3). Firms expecting higher sales growth tend to have lower inflation expectations, and this gap expands during high-inflation periods. Higher sales expectations generally reflect an optimistic view of the future, where firms anticipate stronger demand and potentially stable or favorable cost dynamics. Conversely, firms expecting decreasing sales often adopt a more pessimistic outlook, which may coincide with higher inflation expectations. Such firms, anticipating lower sales, might also view inflation as a barrier to growth, expecting cost increases due to weaker productivity or supply-side constraints (Candia et al., 2022). High inflation expectations, particularly when paired with expected weaker firm-level demand, can have real economic consequences, as firms become more hesitant to increase employment or production, thereby reinforcing the slowdown in activity (Bachmann et al., 2015). This pessimistic feedback loop highlights how elevated inflation expectations can dampen economic activity, leading to a more cautious approach to investment and labor market expansion.

3. Empirical Analysis

A key question is how firms translate their views on the broader economic outlook into inflation expectations. Evidence from Akarsu et al. (2024) highlights that elevated inflation expectations are consistently associated with more pessimistic assessments of both the macroeconomic landscape and firms' own business prospects in Türkiye. In high-inflation environments, firms frequently interpret rising inflation as a sign of economic instability, associating it with diminished purchasing power, elevated input costs, and heightened uncertainty in consumer demand.

To analyze how firms' perceptions of economic activity and their expectations for future sales shape their inflation expectations, we estimate the following regression model:

$$y_{it} = \beta_1 SectorOutlook_{it} + \beta_2 ExpectedSales_{it} + \theta Z_{it} + \Gamma X_{it-1} + \alpha_i + \delta_{st} + \varepsilon_{it} \quad (1)$$

where y_{it} is firm *i*'s inflation expectation at year-month *t*. $SectorOutlook_{it}$ reflects firm *i*'s assessment of the general trend in its industry compared to the previous month, taking a value of 1 if the firm has a pessimistic outlook in a given year-month *t* and 0 otherwise. $ExpectedSales_{it}$ represents firm *i*'s anticipated overall sales performance over the next three months, taking a value of 1 if the firm expects total sales to increase during this period and 0 otherwise. The vector Z_{it} includes additional variables such as the firm's perception of average unit costs over the past three months, its expectations for average unit costs in the next three months, and its capacity utilization ratio. The model also includes the vector X_{it-1}, which accounts for key firm-level characteristics from the previous year, such as production value, employment, leverage, and firm age. The model includes firm fixed effects (α_i) to control for time-invariant firm-specific factors, as well as sector-year-month fixed effects (δ_{st}) to account for common shocks or trends impacting firms within the same sector and time period.

Table 2 presents the estimation results. In the upper panel, the dependent variable is CPI expectations in columns (1)–(3) and PPI expectations in columns (4)–(6). The first coefficient in column (1) indicates that, during the relatively low-inflation period (January 2009–August 2021), firms with a pessimistic economic sector outlook had inflation expectations that were 0.74 percentage points higher than other firms. However, in the high-inflation period from September 2021 to May 2023, this coefficient surged to 4.94, suggesting that the gap in inflation expectations between

pessimistic firms and others widened significantly. This sharp increase may be attributed to a scale effect, as the average inflation rate in the second period was substantially higher than in the first.[2]

To account for this scale effect, the lower panel of Table 2 presents estimation results where the dependent variable is normalized by the period-average inflation. Even in normalized terms, the difference in expectations between pessimistic and other firms increased during the high-inflation period compared to the low-inflation period, rising from 7.3 percent to 8.6 percent.[3]

Table 2: Pass-Through of Perception to Inflation Expectations

	(1)	(2)	(3)	(4)	(5)	(6)
	CPI Inflation (Level)			**PPI Inflation (Level)**		
Sector Outlook	0.736***	4.944***	1.052***	0.843***	9.807***	1.186***
	(0.042)	(0.403)	(0.268)	(0.056)	(0.555)	(0.323)
Expected Sales	-0.171***	-0.511*	-0.378*	-0.159***	-0.638*	-0.049
	(0.0330)	(0.301)	(0.225)	(0.038)	(0.345)	(0.004)
	CPI Inflation (% of period-average inflation)			**PPI Inflation (% of period-average inflation)**		
Sector Outlook	0.073***	0.086***	0.018***	0.084***	0.099***	0.028***
	(0.004)	(0.007)	(0.004)	(0.006)	(0.011)	(0.005)
Expected Sales	-0.017***	-0.009*	-0.007*	-0.016***	-0.007*	-0.002
	(0.003)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)
Sample Period	2009M1-2021M8	2021M9-2023M5	2023M6-202412	2009M1-2021M8	2021M9-2023M5	2023M6-202412
Sample Mean (Dep. Variable)	10.14	57.49	58.69	11.79	99.06	42.87
Observations	202,235	26,910	21,708	202,235	26,910	21,708
R-squared	0.74	0.72	0.70	0.72	0.77	0.73

Notes: The table presents coefficient estimates and standard errors from the regression specified in equation (1). Standard errors (in parentheses) are clustered at the firm level. The unit of observation is a firm-year-month. All regressions include the control variables and fixed effects as shown in equation (1). ***p<0.01, **p<0.05, *p<0.1.

During the disinflationary period from May 2023 to December 2024, the expectation gap between pessimistic and other firms narrowed to 1.05 percentage points, converging toward its pre-inflationary mean of 0.74 percentage points. In other words, even at the early stages of disinflation, the divergence in inflation expectations diminishes, highlighting the stabilizing effect of declining inflation on firms' expectations. Notably, in terms of percentage of ongoing inflation, the expectation gap in the disinflationary period is substantially lower (1.8 percent) than during the pre-inflationary period, suggesting that inflation expectations may be converging more rapidly than actual inflation. Finally, the coefficient estimates for PPI expectations in columns (4)–(6) of Table 2 exhibit a similar pattern, reinforcing these findings.

The coefficient for firms' sales expectations is also significant, though substantially smaller than the coefficient for perception. During the pre-inflationary period, firms anticipating higher sales

[2] This framework allows us to isolate the relationship between firms' inflation expectations and their perceptions of current economic activity and future sales, while controlling for both firm-specific characteristics and broader sectoral and temporal influences.

[3] Table A1 in appendix shows that the results remain largely unchanged when the same specification is re-estimated over the 2009–2020 period, indicating that the statistically significant findings are not driven by pandemic-related supply chain disruptions.

reported inflation expectations 0.17 percentage points lower than those with less favorable sales projections. Although this coefficient increases during the inflationary period, its rise is noticeably less pronounced than that of the perception coefficient. In other words, in an inflationary environment, firms' overall perception of the current state of the economy plays a greater role than their own sales growth expectations in constituting their inflation forecasts. These findings underscore the adaptive nature of firms' expectation formation processes, shaped by the prevailing inflation regime and its implications for economic stability and predictability.

4. Conclusion

This study demonstrates that firms' perceptions of the sector economic outlook significantly influence their inflation expectations, particularly in a high-inflation environment where uncertainty about future costs, prices, and demand creates significant challenges. By leveraging unique data from the Business Tendency Survey (BTS), we find that firms with a pessimistic assessment of the current state of their sector consistently report higher inflation expectations compared to others, and that the relative importance of these sector perceptions intensifies during high-inflation periods. Meanwhile, expectations about future sales play a greater role in shaping firms' inflation expectations during low- or disinflationary periods compared to high-inflation periods, reflecting lower uncertainty and greater predictability in demand and costs.

Our findings support evidence on the state-dependent nature of inflation expectation formation (Coibion et al., 2020) and contribute to a growing body of literature that emphasizes how firms adapt their expectations in response to macroeconomic volatility. The results suggest that credible, well-communicated policy measures to stabilize inflation can help anchor firms' expectations, reducing uncertainty and enabling more accurate forecasting of costs, demand, and investment opportunities. In this sense, fostering a stable macroeconomic environment can alleviate the adverse effects of high inflation on firms' decision-making processes, ultimately supporting broader economic stability.

References

Akarsu, O., & Aktug, E. (2024). Demand-and supply-driven inflation decomposition in Türkiye. *Working Papers 2410*, Research and Monetary Policy Department, Central Bank of the Republic of Turkey.

Akarsu, O., Aktug, E., & Torun, H. (2024). Inflation expectations and firms' decisions in high inflation: Evidence from a randomized control trial. *SSRN*.

Albrizio, S., Dizioli, A., & Simon, P. (2023). Mining the gap: Extracting firms' inflation expectations from earnings calls. *IMF Working Paper No. 2023/202*.

Candia, B., Coibion, O., & Gorodnichenko, Y. (2024). The inflation expectations of U.S. firms: Evidence from a new survey. *Journal of Monetary Economics*, *103569*.

Coibion, O., Gorodnichenko, Y., & Kumar, S. (2018). How do firms form their expectations? New survey evidence. *American Economic Review, 108*(9), 2671–2713.

Coibion, O., Gorodnichenko, Y., & Ropele, T. (2020). Inflation expectations and firm decisions: New causal evidence. *The Quarterly Journal of Economics, 135*(1), 165–219.

Coibion, O., Georgarakos, D., Gorodnichenko, Y., and van Rooij, M. (2023). How does consumption respond to news about inflation? Field evidence from a randomized control trial. American Economic Journal: Macroeconomics, 15(3):109–52.

Enders, Z., Hünnekes, F., & Müller, G. (2021). Firm expectations and economic activity. *ECB Working Paper Series No. 2621*.

Kumar, S., Gorodnichenko, Y., & Coibion, O. (2023). The effect of macroeconomic uncertainty on firm decisions. *Econometrica, 91*(4), 1297–1332.

Appendix

Table A1: Pass-Through of Perception to Inflation Expectations

	(1)	(2)	(3)	(4)
	CPI Inflation (Level)		**PPI Inflation (Level)**	
Sector Outlook	0.676***	0.671***	0.761***	0.759***
	(0.041)	(0.041)	(0.052)	(0.054)
Expected Sales	-0.169***	-0.141***	-0.142***	-0.127***
	(0.026)	(0.027)	(0.035)	(0.036)
	CPI Inflation (% of period-average inflation)		**PPI Inflation (% of period-average inflation)**	
Sector Outlook	0.071***	0.069***	0.074***	0.073***
	(0.004)	(0.004)	(0.005)	(0.005)
Expected Sales	-0.018***	-0.015***	-0.014***	-0.012***
	(0.003)	(0.003)	(0.003)	(0.003)
Sample Period	2009M1-2019M12	2009M9-2020M12	2009M1-2019M12	2009M9-2020M12
Sample Mean (Dep. Variable)	9.53	9.76	10.27	10.42
Observations	192,127	177,312	194,951	179,942
R-squared	0.73	0.74	0.70	0.72

Notes: The table presents coefficient estimates and standard errors from the regression specified in equation (1). Standard errors (in parentheses) are clustered at the firm level. The unit of observation is a firm-year-month. All regressions include the control variables and fixed effects as shown in equation (1). ***p<0.01, **p<0.05, *p<0.1.