Online Appendix

Information and the Formation of Inflation Expectations by Firms: Evidence from a Survey of Israeli Firms

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Appendix A – Sample Survey – 2016Q1 – Manufacturing Sector

Please compare the data for the current quarter with the previous quarter	Significant Increase	Moderate Increase	No Change	Moderate Decline	Significant Decline
1. Output					
2. Sales					
3. Sales in the local market					
4. Finished Goods Inventory					
5. Raw Materials Inventory					
6. Utilization rate of machinery and equipment					
7. Number of employees					
8. Orders for the local market in the coming quarter					
9. Actual exports					
10. Orders for exports for the coming quarter					

Limitations on implementing activities that were planned for the current quarter (mark X on the chosen restriction)	No Limitations	Mild Limitations	Moderate Limitations	Severe Limitations	Very Severe Limitations
Shortage of professional workers					
Scope of overseas orders					
Shortage of equipment and machinery					
Scope of local orders					
Financing constraints					

12. Number of workers in the current quarter: 0-19/20-99/over 100

13. Your expectations for the dollar rate: On 30.6.2016 XXX shekels to the dollar. On 31.03.2017 XXX shekels to the dollar.

14. Your expectations for the changes that will accumulate in the CPI (in percentages): A – Over the coming three months (April to June 2016). B – over the coming 12 months (April 2016 to March 2017).

15. Please note your email address.

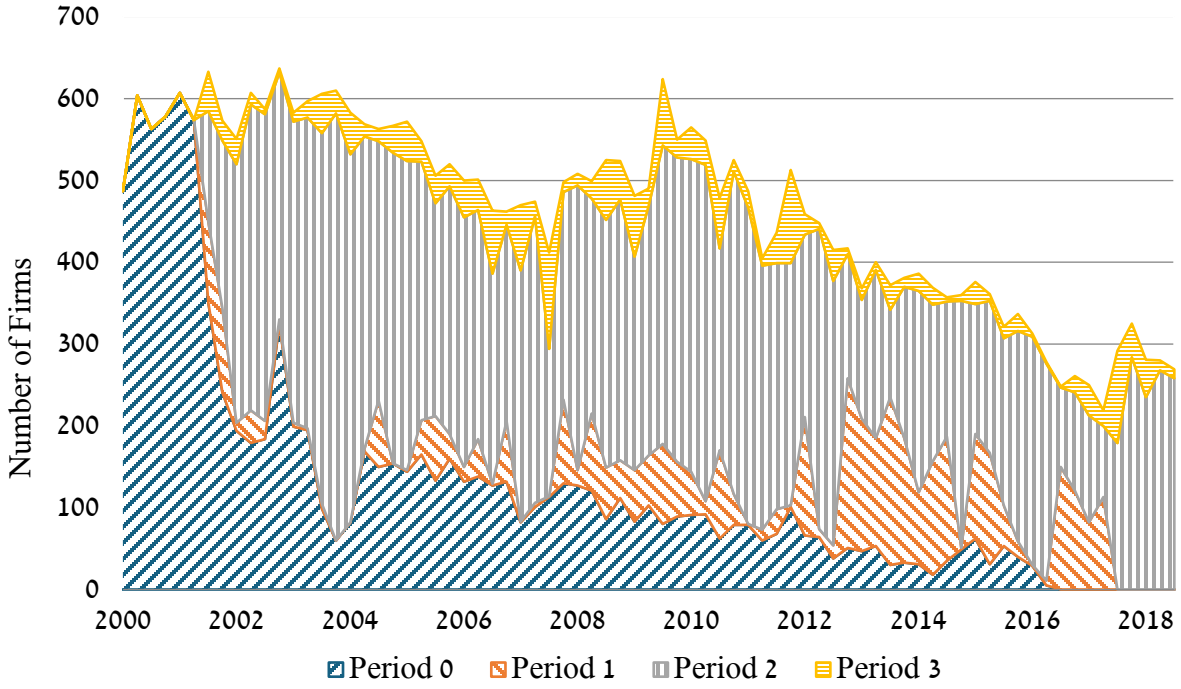
16. Please note where most of your firm's activities take place: Haifa and the North/Tel Aviv and the Center/Jerusalem and Surroundings/The South/The Entire Country

Appendix B – Additional Tables and Figures

Figure B1 – The proportion of the foreign exchange nominated, or foreign currency linked saving plans and deposits held by the Israeli public (quarterly averages, 1990Q1-2018Q3)

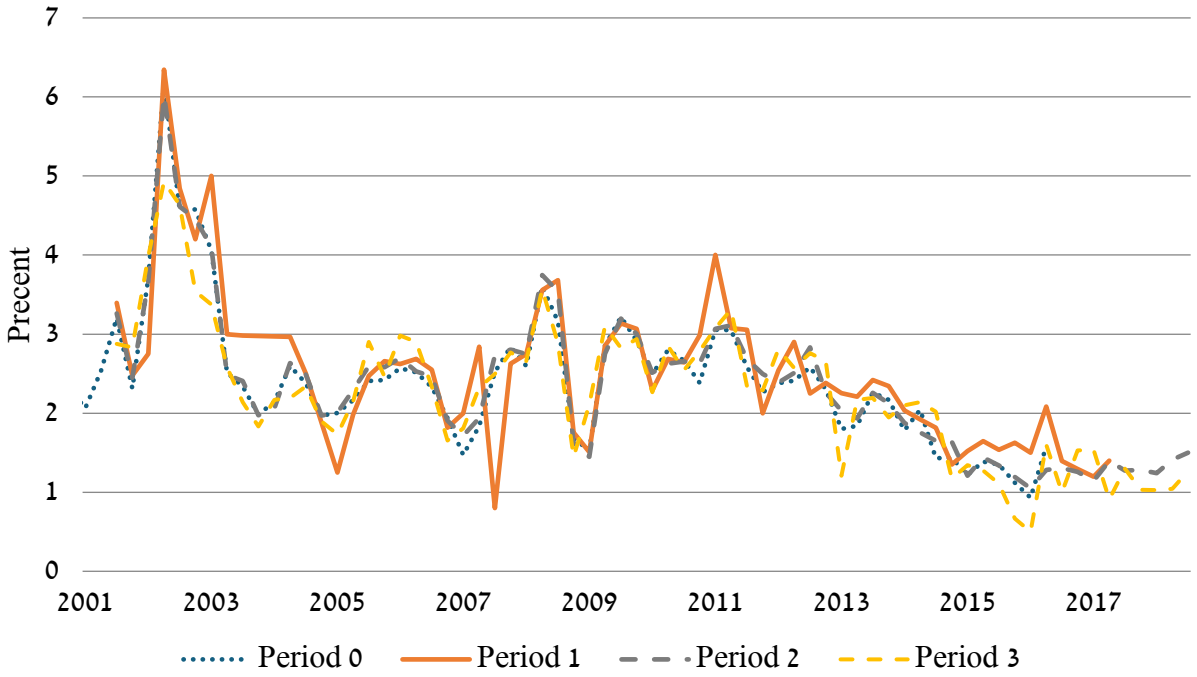
Note: the figure shows the ratio of foreign exchange nominated or foreign currency linked saving plans and deposits (short and long-term) held by the Israeli public, excluding financial institutes (Information and Statistics Department 2019a). The numerator represents the total value of these saving plans and deposits, and the denominator represents the total saving plans and deposits in the economy.

Figure B2 – The number of firms who responded to the survey, according to period (number of firms, quarterly data, 2001Q3-2018Q3)



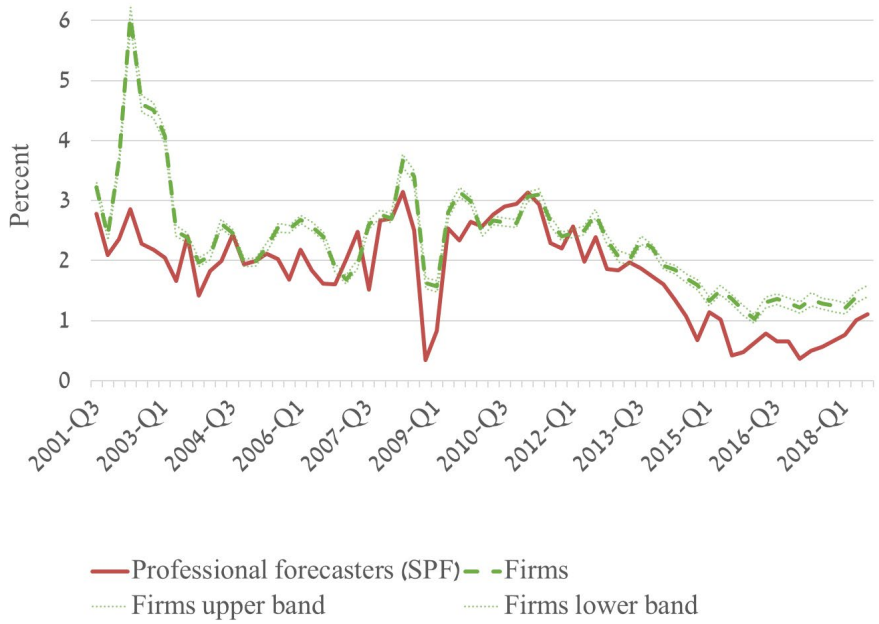
Notes: This figure presents the number of firms who responded to the survey, according to period. For more details see section 2.3.

Figure B3 – Average annual inflation expectations, according to period (Quarterly data, 2001Q3-2018Q3, percent)



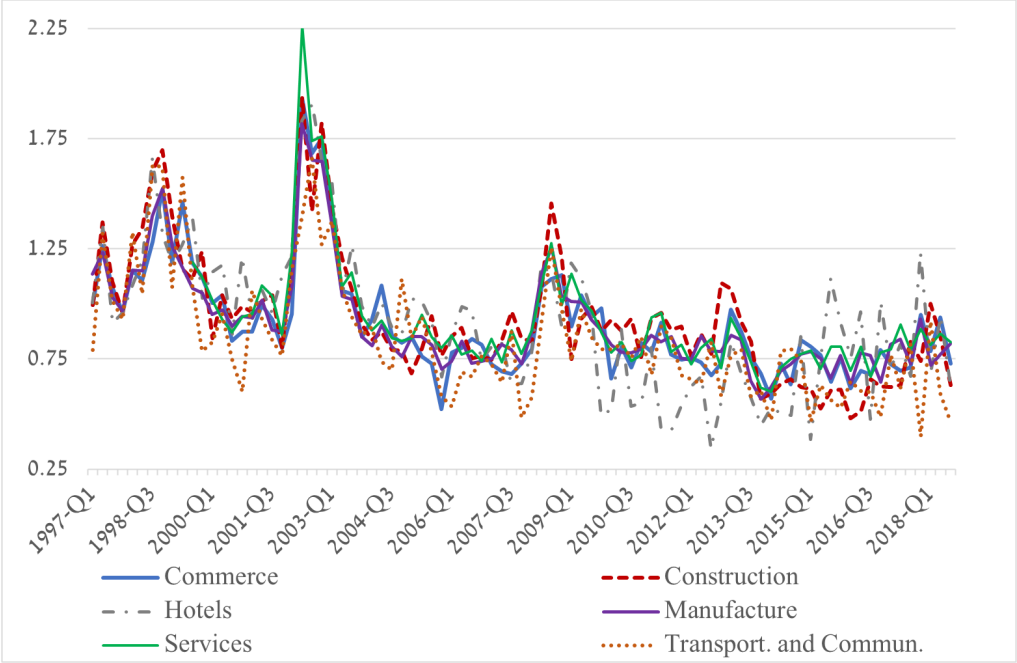
Notes: This figure presents the average annual inflation expectations from the firm survey (without outliers), according to period. For more details see section 2.3.

Figure B4. Inflation expectations of firms with cross-section 1.96 S.E. bands, and professional forecasters (Quarterly data, 2001Q3-2018Q3, percent)



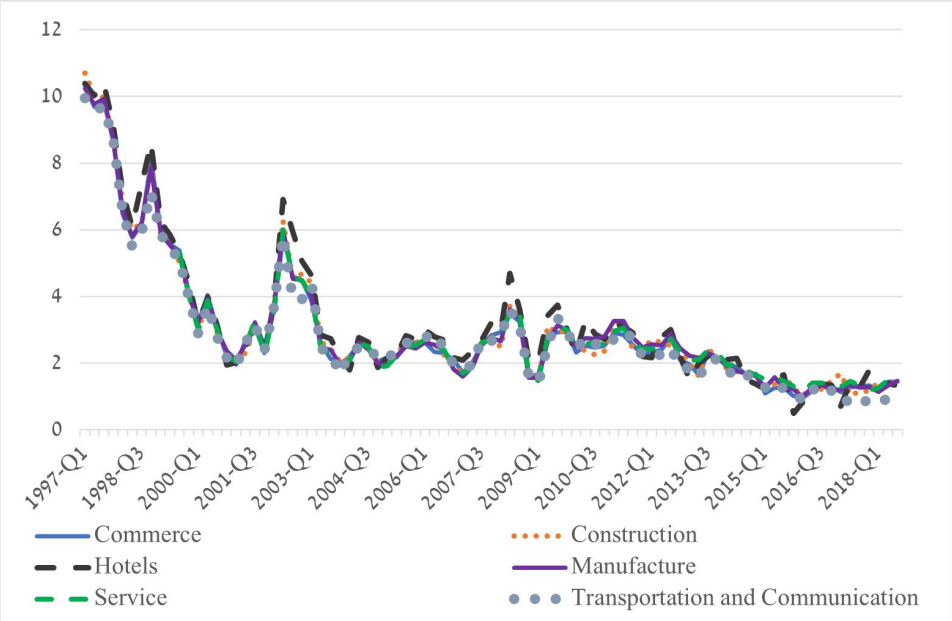
Notes: This Figure presents the average development of expectations from different sources: the firms' survey, without outliers – that is omitting expectations that are two S.D.s higher or lower than the quarter average with +-1.96 S.E. cross section bands, PF. For more details see section 2.3.

Figure B5. Disagreement (standard deviation) in one-year-ahead inflation expectations by industry, quarterly data, 1997Q1-2018Q3.



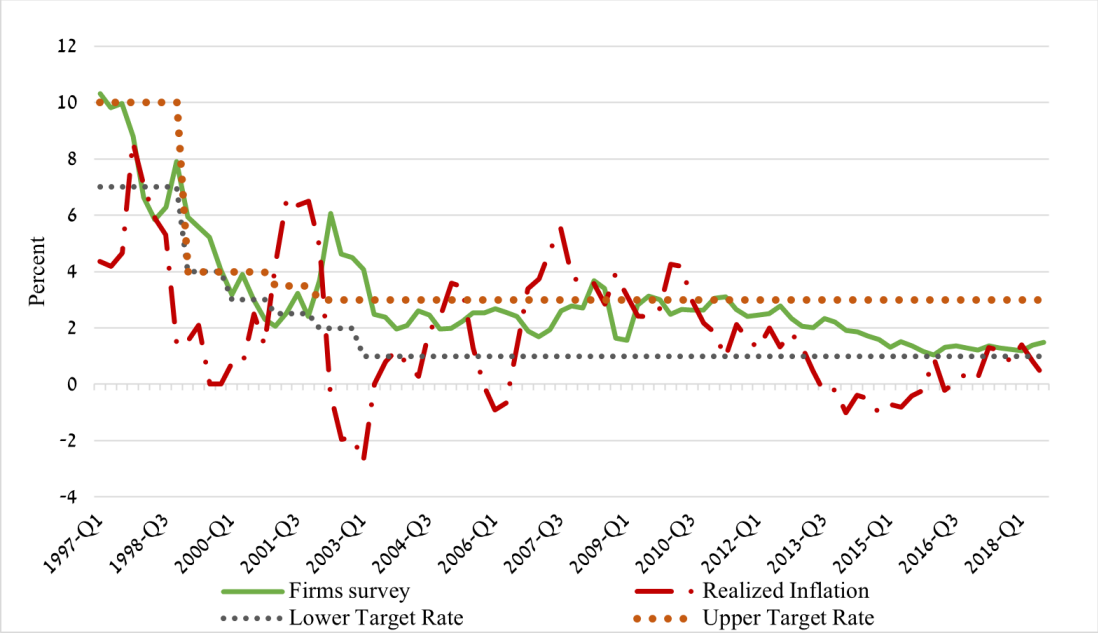
Notes: This figure presents the cross-sectional S.D. of annual inflation expectations from the firms' survey, across the industries and in each quarter, without outliers.

Figure B6. Average annual inflation expectations by industries (Quarterly data, 1997Q1-2018Q3)



Notes: This figure presents the industries average annual inflation expectations from the firm survey (without outliers).

Figure B7. Annual inflation expectations from the firms' survey, actual inflation and the inflation target range (quarterly data, 1997Q1-2018Q3, percent)



Notes: This Figure presents the average annual inflation expectations from the firms' survey, without outliers – that is omitting expectations that are two S.D.s higher or lower than the quarter average. For most of the period, there are no significant differences between the two series, but at the end of the period there is a slight upward bias. Also presented is the actual annual inflation in Israel over 12 months – in a 12-month shift– so it corresponds to the survey's expectation horizon and the inflation target range at any point in time.

Table B1. Correlation between inflation expectations from different sources

Panel A: 2001Q3 – 2018Q3					
	Firms' survey	Capital Market	Professional Forecasters		
Firms' survey	1.00				
Capital Market	0.77	1.00			
Professional Forecasters	0.74	0.91	1.00		
Panel B: 2011Q1 – 2018Q3					
	Firms survey	Capital Market	Professional Forecasters	Commercial Banks	Households
Firms' survey	1.00				
Capital Market	0.93	1.00			
Professional Forecasters	0.96	0.94	1.00		
Commercial Banks	0.96	0.96	0.99	1.00	
Households	0.49	0.49	0.50	0.49	1.00

Notes: This table presents the correlation between the quarterly expectations average from the firms' survey (without outliers), the PF, households, and commercial banks, and the capital market expectations (break-even). For more details see Section 2.3.

Table B2. Correlation between the change in inflation expectations from different sources

Panel A: 2001Q3 – 2018Q3					
	Firms' survey	Capital Market	Professional Forecasters		
Firms' survey	1.00				
Capital Market	0.63	1.00			
Professional Forecasters	0.58	0.83	1.00		
Panel B: 2011Q1 – 2018Q3					
	Firms survey	Capital Market	Professional Forecasters	Commercial Banks	Households
Firms' survey	1.00				
Capital Market	0.69	1.00			
Professional Forecasters	0.41	0.65	1.00		
Commercial Banks	0.48	0.79	0.90	1.00	
Households	0.25	0.19	0.57	0.52	1.00

Notes: This table presents the correlation between the change in quarterly expectations average from the firms' survey (without outliers), the PF, households, and commercial banks, and the capital market expectations (break-even). For more details see Section 2.3.

Table B3 – Correlation between Average 1-year inflation expectations, by industries Quarterly data, 1999Q3-2018Q3)

	Commerce	Construction	Hotels	Manufacturing	Services	Transportation and Communication
Commerce	1					
Construction	0.98	1.00				
Hotels	0.96	0.95	1.00			
Manufacturing	0.99	0.98	0.96	1.00		
Services	0.99	0.98	0.96	0.99	1.00	
Transportation and Communication	0.97	0.96	0.95	0.97	0.97	1.00

Notes: This table presents the correlations matrix of cross-sectional S.D. of 1-year inflation expectations, from the firms' survey, divided according to industry, without outliers.

Tables B4 and B5 present descriptive statistics and a correlation matrix of cross-sectional standard deviations over, by industry of the variable of 1-year inflation expectations. The standard deviation is a proxy of the level of consensus between the firms.

Table B4 – Cross-Sectional Standard deviation of 1-year inflation expectations, divided by industry, descriptive statistics (Quarterly data, 1999Q3-2018Q3, percentage)

	Average	Median	Max	Minimum	S.D.	Number of Firms**
Commerce	0.87	0.80	1.93	0.52	0.24	45
Construction	0.89	0.85	1.94	0.48	0.26	31
Hotels	0.88	0.87	1.90	0.34	0.32	28
Manufacturing	0.88	0.82	1.82	0.57	0.22	207
Services	0.92	0.84	2.27	0.60	0.26	135
Transportation and Communication	0.79	0.77	1.66	0.40	0.23	22

Notes: This table presents descriptive statistics of cross-sectional S.D.s of yearly inflation expectations from the firms' survey, by industry, without outliers.

** The average number of firms in the industry who reported their inflation expectations.

Table B5 – Correlation between standard deviations of 1-year inflation expectations, by industries Quarterly data, 1999Q3-2018Q3)

	Commerce	Construction	Hotels	Manufacturing	Services	Transportation and Communication
Commerce	1.00					
Construction	0.85	1.00				
Hotels	0.79	0.63	1.00			
Manufacturing	0.94	0.87	0.80	1.00		
Services	0.93	0.86	0.81	0.96	1.00	
Transportation and Communication	0.76	0.76	0.61	0.79	0.78	1.00

Notes: This table presents the correlations matrix of cross-sectional S.D. of 1-year inflation expectations, from the firms' survey, divided according to industry, without outliers.

Table B6 – The predictability of interest rate surprises (Quarterly data, 2001Q3-2018Q3)

Variable	$surprise^{1}$			
	2001Q3-2018Q3			2002Q3-2018Q3
	(1)	(2)	(3)	(4)
Constant	0.007	0.006	0.009	-0.005
	(0.032)	(0.039)	(0.036)	(0.011)
$Surprise^{1}(t-1)$	0.116		0.076	0.097
	(0.104)		(0.146)	(0.084)
$Surprise^{m_1}$	0.393		0.384	0.036
	(0.318)		(0.300)	(0.056)
$surprise^{m_2}$	0.351		0.343	0.058
	(0.281)		(0.290)	(0.052)
$surprise^{m_3}(t-1)$	-0.04		-0.042	0.034
	(0.122)		(0.128)	(0.042)
$\Delta Unemployment-rate(t-2)$		0.099	0.037	-0.047*
		(0.134)	(0.126)	(0.024)
Observations	68	68	68	64
R^2	0.13	0.02	0.14	0.07
F-statistic	2.42	1.13	1.94	0.92

Notes: The table presents the results of the predictability of interest rate surprises using past interest rate surprises, CPI surprises (the first, second and third monthly of the quarter) and the last publicly known change in unemployment rate. Columns 1 show results using the past interest rate and CPI surprises, for the full sample period (2001Q3-2018Q3), where Column 2 show results using the last publicly known change in unemployment rate, and Column 3 present results the full set of predictors. Column 4 show the results with the full set of predictors for a shorter sample period, 2002Q3-2018Q3, which does not include significant interest rate shocks from the beginning of the sample. The HAC standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table B7 – The predictability of the second monthly CPI surprises (Quarterly data, 2001Q3-2018Q3)

Variable	$surprise^{m_2}$			
	2001Q3-2018Q3			2002Q3-2018Q3
	(1)	(2)	(3)	(4)
Constant	-0.04	-0.032	-0.036	-0.024
	(0.025)	(0.026)	(0.027)	(0.026)
$Surprise^{1}(t-1)$	-0.091		-0.140	-0.139
	(0.141)		(0.162)	(0.168)
$Surprise^{m_1}$	0.083		0.069	0.053
	(0.097)		(0.105)	(0.117)
$surprise^{m_2}(t-1)$	-0.014		0.003	-0.015
	(0.158)		(0.166)	(0.176)
$surprise^{m_3}(t-1)$	-0.085		-0.088	-0.100
	(0.124)		(0.121)	(0.125)
$\Delta Unemployment-rate(t-2)$		0.037	0.053	0.087
		(0.042)	(0.056)	(0.053)
Observations	69	69	69	65
R^2	0.02	0.01	0.03	0.04
F-statistic	0.32	0.45	0.40	0.54

Notes: The table presents the results of the predictability of the second monthly CPI surprises using past interest rate surprises, past CPI surprises (the first, second and third monthly of the quarter) and the last publicly known change in unemployment rate. Columns 1 show results using the past interest rate and CPI surprises, for the full sample period (2001Q3-2018Q3), where Column 2 show results using the last publicly known change in unemployment rate, and Column 3 present results the full set of predictors. Column 4 show the results with the full set of predictors for a shorter sample period, 2002Q3-2018Q3, which does not include significant interest rate shocks from the beginning of the sample. The HAC standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table B8 –The predictability of the third monthly CPI surprises (Quarterly data, 2001Q3-2018Q3)

Variable	$surprise^{m_3}$			
	2001Q3-2018Q3			2002Q3-2018Q3
	(1)	(2)	(3)	(4)
Constant	-0.008	-0.002	0.005	0.000
	(0.033)	(0.027)	(0.035)	(0.034)
$Surprise^{I}$	0.160		0.203**	0.079
	(0.105)		(0.093)	(0.319)
$Surprise^{m_1}$	-0.139		-0.188	-0.167
	(0.153)		(0.146)	(0.152)
$surprise^{m_2}$	-0.015		0.044	0.058
	(0.162)		(0.181)	(0.180)
$surprise^{m_3}(t-1)$	-0.001		0.000	0.054
	(0.115)		(0.113)	(0.117)
$\Delta Unemployment-rate(t-1)$		0.075	0.128	0.103
		(0.084)	(0.092)	(0.108)
Observations	68	69	68	64
R^2	0.04	0.02	0.08	0.04
F-statistic	0.72	1.11	1.14	0.50

Notes: The table presents the results of the predictability of the second monthly CPI surprises using past interest rate surprises, past CPI surprises (the first, second and third monthly of the quarter) and the last publicly known change in unemployment rate. Columns 1 show results using the past interest rate and CPI surprises, for the full sample period (2001Q3-2018Q3), where Column 2 show results using the last publicly known change in unemployment rate, and Column 3 present results the full set of predictors. Column 4 show the results with the full set of predictors for a shorter sample period, 2002Q3-2018Q3, which does not include significant interest rate shocks from the beginning of the sample. The HAC standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table B9. Placebo test, Effect of interest rate and CPI surprises on inflation expectations in quarter $t-1$.

Variable	Expectations for the Year Ahead at Quarter $t-1$	Expectations for the Quarter Ahead at Quarter $t-1$
	2001Q3-2018Q3	2001Q3-2018Q3
	(1)	(2)
D^I	0.014 (0.018)	-0.006 (0.009)
D^{m_2}	-0.03 (0.022)	-0.006 (0.012)
D^{m_3}	0.002 (0.032)	-0.015 (0.017)
$D^I \cdot surprise^{\mathrm{I}}$	0.062 (0.061)	0.008 (0.029)
$D^{m_2} \cdot surprise^{m_2}$	-0.051 (0.105)	-0.06 (0.063)
$D^{m_3} \cdot surprise^{m_3}$	-0.187 (0.120)	-0.066 (0.065)
$\pi_{t-2}^{e,h}$	0.212*** (0.013)	0.117*** (0.011)
Firm F.E.	+	+
Quarter F.E.	+	+
Quarters	68	68
N obs.	15,709	15,859
R^2	0.67	0.46

Notes: Columns 1 and 2 present the effect of interest rate and CPI surprises on 1-year and 1-quarter inflation expectations at quarter $t-1$, respectively, for the full sample period (2001Q3-2018Q3). The standard errors are clustered at the firm level. Additional results about the dummy variable associated with the treatment group are not detailed and can be obtained from the authors. *** p<0.01, ** p<0.05, * p<0.1

Table B10. Switches of firms between treatment and control (Quarterly data, 2001Q3-2018Q3)

Treatment Group	Interest rate surprise	Second-month CPI surprise	Third-month CPI surprise
Variable	D^I	D^{m_2}	D^{m_3}
	(1)	(2)	(3)
$D^x(t-1)$	0.249***	-0.428***	0.726***
	(0.012)	(0.012)	(0.014)
Abs($surprise^x$)	-0.007	0.026	-0.052***
	(0.019)	(0.028)	(0.016)
Firm F.E.	+	+	+
Year F.E.	+	+	+
Seasonal F.E.	+	+	+
Quarters	67	68	68
Observations	16,238	16,420	16,420
R^2	0.195	0.32	0.50
F-statistic	2.74	5.29	11.19

Notes: This table presents the regression panel results of surprises on a dummy variable receiving the value "1" if the firm switched between the treatment and control groups and the value "0" if the firms did not switch. The table includes: interest rate surprise D_i (column 1), second monthly CPI surprise D_{m2} (column 2) and third monthly CPI surprise - D_{m3} (column 3). The regressions include controls for firms' fixed effects (Firm FE), time fixed effects (Year FE), and within-year seasonal fixed effects (Seasonal F.E.). The sample period is from 2001Q3 to 2018Q3 and focuses on firms for whom there is a reporting date and who responded to the question on the 1-year inflation expectations, both for the current quarter and the previous quarter (our main sample). The standard errors are clustered at the firm level. *** p<0.01, ** p<0.05, * p<0.1

Table B11. Dynamic effect of interest rate and inflation surprises on output - five qualitative responses

	Horizon of the response			
	h=0	h=1	h=2	h=3
	(1)	(2)	(3)	(4)
Panel A: Dependent variable is output				
$surprise_{i_{total}}$	0.094***	0.084***	-0.061***	-0.128***
	(0.018)	(0.019)	(0.020)	(0.020)
$surprise_{\pi_{total}}$	-0.001	0.02	-0.080***	-0.079***
	(0.019)	(0.020)	(0.021)	(0.020)
$Output_{t-1}$	0.165***	0.059***	0.029***	0.116***
	(0.012)	(0.013)	(0.009)	(0.012)
Firm F.E.	+	+	+	+
Year F.E.	+	+	+	+
Quarters	69	68	67	66
N obs	29,144	27,759	26,521	25,295
R^2	0.24	0.22	0.22	0.23
Panel B: Dependent variable is employment				
$surprise_{t,i\_total}$	0.075***	0.057***	-0.039***	-0.042***
	(0.014)	(0.014)	(0.015)	(0.015)
$surprise_{t,\pi\_total}$	0.012	-0.006	-0.032**	-0.040***
	(0.013)	(0.014)	(0.015)	(0.015)
$empl_{t-1}$	0.279***	0.108***	0.080***	0.083***
	(0.012)	(0.015)	(0.010)	(0.013)
Firm F.E.	+	+	+	+
Year F.E.	+	+	+	+
Quarters	69	68	67	66
N obs.	24,121	22,930	21,842	20,800
R^2	0.30	0.25	0.25	0.25

Notes: The table presents the result of the dynamic estimation of the correlation between inflation and monetary surprises on the qualitative indicator for firm output (Panel A) and employment (Panel B): significantly increase (+2) increase (+1), decrease (-1), significantly decrease (-2) or no change (0). The table shows the simultaneous correlation, the current quarter (column 1), between surprises and firm's output and the correlation up to three quarters ahead (columns 2-5), for the full sample period (2001Q3-2018Q3). The standard errors are clustered at the firm level. *** p<0.01, ** p<0.05, * p<0.1

Table B12. Dynamic effect of interest rate and inflation surprises on output – Significant changes only

	Horizon of the response			
	h=3	h=3	h=3	h=3
	(1)	(2)	(3)	(4)
Panel A: Dependent variable is output				
$surprise_{i_{total}}$	0.023***	0.035***	-0.013	-0.043***
	(0.007)	(0.008)	(0.008)	(0.009)
$surprise_{\pi_{total}}$	-0.007	0.006	-0.022***	-0.016**
	(0.007)	(0.007)	(0.008)	(0.007)
$Output_{t-1}$	0.124***	0.026*	0.014	0.080***
	(0.014)	(0.016)	(0.011)	(0.015)
Firm F.E.	+	+	+	+
Year F.E.	+	+	+	+
Quarters	69	68	67	66
N obs.	29,144	27,759	26,521	25,295
R^2	0.18	0.16	0.17	0.17
Panel B: Dependent variable is employment				
$surprise_{t,i\_total}$	0.006	0.009**	-0.001	-0.007
	(0.004)	(0.004)	(0.005)	(0.005)
$surprise_{t,\pi\_total}$	-0.002	0.005	-0.010**	-0.008**
	(0.004)	(0.004)	(0.004)	(0.004)
$empl_{t-1}$	0.154***	0.003	-0.003	0.019
	(0.020)	(0.021)	(0.018)	(0.025)
Firm F.E.	+	+	+	+
Year F.E.	+	+	+	+
Quarters	69	68	67	66
N obs.	24,121	22,930	21,842	20,800
R^2	0.21	0.18	0.19	0.19

Notes: The table presents the result of the dynamic estimation of the correlation between inflation and monetary surprises on the qualitative indicator for firm output (Panel A) and employment (Panel B): significantly increase (+1), significantly decrease (-1) or all else (0). The table shows the simultaneous correlation, the current quarter (column 1), between surprises and firm's output and the correlation up to three quarters ahead (columns 2-5), for the full sample period (2001Q3-2018Q3). The standard errors are clustered at the firm level. *** p<0.01, ** p<0.05, * p<0.1

Table B13. The relation between firms' assessments of their business activity and macro indicators

Variable	**Panel A:** Firms' report on Employment				**Panel B:** Firms' report on Output			
	5 Bins		3 Bins		5 Bins		3 Bins	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C	-0.027***	-0.020***	-0.017***	-0.011***	0.003	0.018***	0.032***	0.043***
	(0.002)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)
$\Delta Employment - rate$	0.109***		0.096***		0.231***		0.174***	
	(0.011)		(0.010)		(0.015)		(0.012)	
$\Delta Unemployment - rate$		-0.127***		-0.110***		-0.257***		-0.188***
		(0.011)		(0.009)		(0.014)		(0.011)
y_{t-1}	0.296***	0.294***	0.285***	0.282***	0.193***	0.189***	0.181***	0.178***
	(0.012)	(0.012)	(0.011)	(0.011)	(0.013)	(0.013)	(0.011)	(0.011)
Firm F.E.	+	+	+	+	+	+	+	+
Year F.E.	-	-	-	-	-	-	-	-
Quarters	69	69	69	69	69	69	69	69
Observations	24,121	24,121	24,121	24,121	29,144	29,144	29,144	29,144
R^2	0.29	0.29	0.27	0.27	0.22	0.22	0.21	0.21
F-statistic	5.97	6.05	5.49	5.56	4.44	4.58	4.16	4.27

Notes: The table presents the result of the estimation simultaneous correlation between firms' activity responses and Labor-Macro indicators as reported by the statistical office: the correlation between the quarterly change in employment rate or unemployment rate on qualitative indicator for firm employment (Panel A) and output (Panel B). Columns 1,2,5 and 6 show results in 5 bins qualitative categories: significantly increase (+2) increase (+1), decrease (-1), significantly decrease (-2) or no change (0). Columns 3,4,7 and 8 show results in 3 bins qualitative categories: increase (+1), decrease (-1), or no change (0). The correlations are calculated for the full sample period (2001Q3-2018Q3) and after controlling firms' Fixed-effects and the firms' responses at the previous quarter (y_{t-1}). The standard errors are clustered at the firm level. *** p<0.01, ** p<0.05, * p<0.1

Table B14. The relation between firms' assessments of their business activity and macro indicators – with Year fixed effect

Variable	**Panel A:** Firms' report on Employment				**Panel B:** Firms' report on Output			
	5 Bins		3 Bins		5 Bins		3 Bins	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C	-0.161***	-0.117***	-0.146***	-0.111***	-0.234***	-0.134***	-0.133***	-0.066**
	(0.029)	(0.029)	(0.025)	(0.025)	(0.035)	(0.037)	(0.027)	(0.028)
$\Delta Employment - rate$	0.052***		0.045***		0.124***		0.097***	
	(0.013)		(0.011)		(0.018)		(0.014)	
$\Delta Unemployment - rate$		-0.076***		-0.062***		-0.174***		-0.125***
		(0.012)		(0.010)		(0.017)		(0.013)
y_{t-1}	0.278***	0.277***	0.266***	0.265***	0.164***	0.163***	0.153***	0.152***
	(0.012)	(0.012)	(0.011)	(0.011)	(0.012)	(0.012)	(0.010)	(0.010)
Firm F.E.	+	+	+	+	+	+	+	+
Year F.E.	+	+	+	+	+	+	+	+
Quarters	69	69	69	69	69	69	69	69
Observations	24,121	24,121	24,121	24,121	29,144	29,144	29,144	29,144
R^2	0.30	0.30	0.28	0.28	0.24	0.24	0.23	0.23
F-statistic	6.25	6.27	5.78	5.80	4.97	5.03	4.66	4.71

Notes: The table presents the result of the estimation simultaneous correlation between firms' activity responses and Labor-Macro indicators as reported by the statistical office: the correlation between the quarterly change in employment rate or unemployment rate on qualitative indicator for firm employment (Panel A) and output (Panel B). Columns 1,2,5 and 6 show results in 5 bins qualitative categories: significantly increase (+2) increase (+1), decrease (-1), significantly decrease (-2) or no change (0). Columns 3,4,7 and 8 show results in 3 bins qualitative categories: increase (+1), decrease (-1), or no change (0). The correlations are calculated for the full sample period (2001Q3-2018Q3) and after controlling firms' and Years Fixed-effects and the firms' responses at the previous quarter (y_{t-1}). The standard errors are clustered at the firm level. *** p<0.01, ** p<0.05, * p<0.1

Table B15. The effect of interest rate surprises on inflation expectations ±10-days window's size

Variable	Expectations for the Next Year				Expectations for the Next Quarter			
	2001Q3-2018Q3		2002Q3-2018Q3		2001Q3-2018Q3		2002Q3-2018Q3	
	Benchmark window	10-days window	Benchmark window	10-days window	Benchmark window	10-days window	Benchmark window	10-days window
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
D^I	-0.013	0.017	-0.004	0.027	-0.004	0.020*	-0.003	0.021*
	(0.015)	(0.021)	(0.014)	(0.021)	(0.007)	(0.010)	(0.008)	(0.011)
$D^I \cdot surprise^I$	-0.302***	-0.199**	0.187	0.268	-0.111***	-0.055	0.165**	0.136
	(0.072)	(0.089)	(0.139)	(0.192)	(0.031)	(0.045)	(0.075)	(0.114)
$\pi_{t-1}^{e,h}$	0.229***	0.237***	0.235***	0.240***	0.123***	0.117***	0.116***	0.110***
	(0.012)	(0.016)	(0.013)	(0.016)	(0.010)	(0.013)	(0.010)	(0.014)
Firm F.E.	+	+	+	+	+	+	+	+
Quarter F.E.	+	+	+	+	+	+	+	+
Quarters	68	68	64	64	68	68	64	64
N obs.	18,551	11,458	17,546	10,773	18,763	11,571	17,743	10,872
R^2	0.67	0.70	0.64	0.67	0.45	0.50	0.41	0.45
F-statistic	23.31	17.38	20.23	14.47	9.37	7.20	7.81	5.80

Notes: Columns 1 and 2 present the effect of interest rate surprises on the 1-year inflation expectations, for the full sample period (2001Q3-2018Q3), for the entire firms' sample and for a limited sample where we include only firms responded within a ±10-days window around the interest rate publication (Equation 1). Columns 3 and 4 present the results of a shorter sample period, 2002Q3-2018Q3, which does not include significant interest rate shocks from the beginning of the sample. Similarly, columns 5 to 8 presents the effect of interest rate surprises on the 1-quarter inflation expectations The standard errors are clustered at the firm level. *** p<0.01, ** p<0.05, * p<0.1

Table B16. The effect of second monthly CPI surprises on inflation expectations ±10-days window's size

Variable	Expectations for the Next Year				Expectations for the Next Quarter			
	2001Q3-2018Q3		2002Q3-2018Q3		2001Q3-2018Q3		2002Q3-2018Q3	
	Benchmark window	10-days window	Benchmark window	10-days window	Benchmark window	10-days window	Benchmark window	10-days window
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
D^{m_2}	-0.055***	-0.075***	-0.051***	-0.069***	-0.025**	-0.030**	-0.026**	-0.029**
	(0.018)	(0.022)	(0.018)	(0.022)	(0.010)	(0.012)	(0.010)	(0.012)
$D^{m_2} \cdot surprise^{m_2}$	0.356***	0.612***	0.366***	0.561***	0.081	0.157**	0.133**	0.184***
	(0.091)	(0.114)	(0.093)	(0.118)	(0.053)	(0.064)	(0.056)	(0.067)
$\pi_{t-1}^{e,h}$	0.228***	0.230***	0.234***	0.235***	0.124***	0.122***	0.118***	0.111***
	(0.013)	(0.016)	(0.013)	(0.016)	(0.010)	(0.013)	(0.010)	(0.014)
Firm F.E.	+	+	+	+	+	+	+	+
Quarter F.E.	+	+	+	+	+	+	+	+
Quarters	69	69	65	65	69	69	65	65
N obs.	18,740	11350	17,736	10,642	18,960	11498	17,940	10,779
R^2	0.67	0.70	0.64	0.67	0.45	0.50	0.41	0.45
F-statistic	23.40	18.17	20.40	15.42	9.40	7.54	7.87	6.22

Notes: Columns 1 and 2 present the effect of the second monthly CPI surprises on the 1-year inflation expectations, for the full sample period (2001Q3-2018Q3), for the entire firms' sample and for a limited sample where we include only firms responded within a ±10-days window around the CPI publication (Equation 1). Columns 3 and 4 present the results of a shorter sample period, 2002Q3-2018Q3, which does not include significant interest rate shocks from the beginning of the sample. Similarly, columns 5 to 8 presents the effect of interest rate surprises on the 1-quarter inflation expectations The standard errors are clustered at the firm level. *** p<0.01, ** p<0.05, * p<0.1

Table B17. The effect of the third monthly CPI surprises on inflation expectations ±10-days window's size

Variable	Expectations for the Next Year				Expectations for the Next Quarter			
	2001Q3-2018Q3		2002Q3-2018Q3		2001Q3-2018Q3		2002Q3-2018Q3	
	Benchmark window	10-days window	Benchmark window	10-days window	Benchmark window	10-days window	Benchmark window	10-days window
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
D^{m_3}	-0.028	-0.094*	-0.01	-0.082*	-0.013	-0.01	-0.012	-0.006
	(0.026)	(0.048)	(0.025)	(0.047)	(0.014)	(0.027)	(0.014)	(0.028)
$D^{m_3} \cdot surprise^{m_3}$	0.666***	0.626***	0.815***	0.794***	0.273***	0.173*	0.320***	0.181*
	(0.111)	(0.188)	(0.099)	(0.159)	(0.060)	(0.099)	(0.062)	(0.099)
$\pi_{t-1}^{e,h}$	0.229***	0.229***	0.235***	0.245***	0.124***	0.145***	0.118***	0.145***
	(0.013)	(0.032)	(0.013)	(0.032)	(0.010)	(0.030)	(0.010)	(0.031)
Firm F.E.	+	+	+	+	+	+	+	+
Quarter F.E.	+	+	+	+	+	+	+	+
Quarters	69	69	65	65	69	69	65	65
N obs.	18,740	3,361	17,736	3,204	18,960	3,417	17,940	3,258
R^2	0.67	0.74	0.64	0.74	0.45	0.57	0.41	0.56
F-statistic	23.47	5.98	20.52	5.87	9.43	2.84	7.91	2.65

Notes: Columns 1 and 2 present the effect of the third monthly CPI surprises on the 1-year inflation expectations, for the full sample period (2001Q3-2018Q3), for the entire firms' sample and for a limited sample where we include only firms responded within a ±10-days window around the CPI publication (Equation 1). Columns 3 and 4 present the results of a shorter sample period, 2002Q3-2018Q3, which does not include significant interest rate shocks from the beginning of the sample. Similarly, columns 5 to 8 presents the effect of interest rate surprises on the 1-quarter inflation expectations The standard errors are clustered at the firm level. *** p<0.01, ** p<0.05, * p<0.1

Table B18 The effect of CPI and interest rate surprises on inflation expectations – robust CPI surprises

Variable	Expectations for the Next Year		Expectations for the Next Quarter	
	2001Q3-2018Q3	2002Q3-2018Q3	2001Q3-2018Q3	2002Q3-2018Q3
	(1)	(2)	(3)	(4)
D^I	0.024	0.028*	0.012	0.012
	(0.016)	(0.016)	(0.008)	(0.008)
D^{m_2}	-0.068***	-0.060***	-0.031***	-0.029***
	(0.019)	(0.019)	(0.011)	(0.011)
D^{m_3}	-0.031	-0.017	-0.015	-0.013
	(0.027)	(0.026)	(0.014)	(0.015)
$D^I \cdot surprise^{\mathrm{I}}$	-0.343***	0.125	-0.128***	0.137*
	(0.073)	(0.140)	(0.031)	(0.075)
$D^{m_2} \cdot surprise^{m_2}$	0.469***	0.379***	0.126**	0.136**
	(0.092)	(0.095)	(0.054)	(0.056)
$D^{m_3} \cdot surprise^{m_3}$	0.709***	0.835***	0.294***	0.330***
	(0.108)	(0.101)	(0.060)	(0.063)
$\pi_{t-1}^{e,h}$	0.229***	0.235***	0.123***	0.117***
	(0.012)	(0.013)	(0.010)	(0.010)
Firm F.E.	+	+	+	+
Quarter F.E.	+	+	+	+
Quarters	68	64	68	64
Observations	18,538	17,534	18,754	17,734
R^2	0.67	0.64	0.45	0.41
F-statistic	23.46	20.38	9.41	7.87

Notes: Columns 1 and 3 present the effect of CPI and interest rate surprises on the 1-year and 1-quarter inflation expectations, respectively (Equation 1), for the full sample period (2001Q3-2018Q3). The CPI surprises are calculated using the PF's expectation for each CPI publication from the day of its publication but before the actual data release. Columns 2 and 4 present the results of a shorter sample period, 2002Q3-2018Q3, which does not include significant interest rate shocks from the beginning of the sample. The standard errors are clustered at the firm level. *** p<0.01, ** p<0.05, * p<0.1

Table B19. The effect of interest rate and CPI surprises on inflation expectations over time.

Sub-sample	Variable	Expectations for the Year Ahead	Expectations for the Quarter Ahead
		2001Q3-2018Q3	2001Q3-2018Q3
		(1)	(2)
2001Q3 – 2007Q1	$D^{I} \cdot surprise^{I}$	-0.367***	-0.134***
		(0.080)	(0.034)
	$D^{m_2} \cdot surprise^{m_2}$	0.654**	0.017
		(0.284)	(0.123)
	$D^{m_3} \cdot surprise^{m_3}$	0.258	-0.069
		(0.164)	(0.081)
2007Q2 – 2012Q4	$D^{I} \cdot surprise^{I}$	0.116	0.167
		(0.182)	(0.107)
	$D^{m_2} \cdot surprise^{m_2}$	0.538***	0.086
		(0.130)	(0.082)
	$D^{m_3} \cdot surprise^{m_3}$	1.274***	0.741***
		(0.164)	(0.092)
2013Q1 – 2018Q3	$D^{I} \cdot surprise^{I}$	-0.183	0.225
		(0.303)	(0.161)
	$D^{m_2} \cdot surprise^{m_2}$	0.057	0.213**
		(0.171)	(0.093)
	$D^{m_3} \cdot surprise^{m_3}$	0.877***	0.346***
		(0.204)	(0.098)
	$\pi_{t-1}^{e,h}$	0.229***	0.123***
		(0.012)	(0.010)
	Firm F.E	+	+
	Quarter F.E.	+	+
	Quarters	68	68
	N obs.	18,538	18,754
	R^2	0.67	0.45
	F-statistic	23.34	9.43

Notes: Columns 1 and 2 present the effect of interest rate and CPI surprises on 1-year and 1-quarter inflation expectations, respectively, for the full sample period (2001Q3-2018Q3) allowing the effects to change over time, the first period is from 2001q3 to 2007q1, the second period from 2007q2 to 2012q4 and third period from 2013q1 to 2018q3. The standard errors are clustered at the firm level. Additional results about the dummy variable associated with the treatment group are not detailed and can be obtained from the authors. *** p<0.01, ** p<0.05, * p<0.1

Table B20 The effect of CPI and interest rate surprises on inflation Forecast Errors

Variable	Forecast Errors for the Next Year	
	2001Q3-2018Q3	2002Q3-2018Q3
	(1)	(2)
D^I	0.017	-0.019
	(0.016)	(0.018)
D^{m_2}	-0.061**	-0.071**
	(0.030)	(0.029)
D^{m_3}	0.040	0.038
	(0.034)	(0.035)
$D^I \cdot \lvert surprise^{\mathrm{I}} \rvert$	-0.290***	0.242
	(0.077)	(0.177)
$D^{m_2} \cdot \lvert surprise^{m_2} \rvert$	0.113	0.071
	(0.137)	(0.135)
$D^{m_3} \cdot \lvert surprise^{m_3} \rvert$	-0.307**	-0.250**
	(0.131)	(0.123)
$\lvert \pi_{t-1}^{e,h} \rvert$	0.117***	0.116***
	(0.011)	(0.011)
Firm F.E.	+	+
Quarter F.E.	+	+
Quarters	68	64
Observations	18,538	17,534
R^2	0.80	0.79
F-statistic	46.38	43.28

Notes: The table report estimates for the following regression

$$\begin{aligned}\lvert forecast\ error_{i,t+h} \rvert &= \mu_{1,h} \times D_{i,t}^{m_2} + \mu_{2,h} \times D_{i,t}^{m_3} + \mu_{3,h} \times D_{i,t}^{I} + \mu_{4,h} \times D_{i,t}^{m_2} \times \lvert surprise_t^{m_2} \rvert \\ &+ \mu_{5,h} \times D_{i,t}^{m_3} \times \lvert surprise_t^{m_3} \rvert + \mu_{6,h} \times D_{i,t}^{I} \times \lvert surprise_t^{I} \rvert + \mu_{7,h} \times \lvert \pi_{i,t-1}^{e,h} \rvert + \gamma_{t,h} \\ &+ \alpha_{i,h} + error\end{aligned}$$

where $forecast\ error_{i,t+h} = \pi_{t+h} - \pi_{t\to t+h}^{e}$ is the difference between realized inflation at time $t+h$ and inflation for this period predict at time t. Columns 1 present the effect of CPI and interest rate surprises on the 1-year firms' forecasts error, for the full sample period (from 2001Q3). Columns 2 present the results of a shorter sample period, from 2002Q3, which does not include significant interest rate shocks from the beginning of the sample. The standard errors are clustered at the firm level. *** p<0.01, ** p<0.05, * p<0.1

Table B21. Effect of interest rate and CPI surprises on inflation expectations by firm financial constraints

Financial constraints	Variable	One year ahead expectations		One quarter ahead expectations	
		2001Q3-2018Q3	2002Q3-2018Q3	2001Q3-2018Q3	2002Q3-2018Q3
		(1)	(2)	(3)	(4)
-	$D^I \cdot surprise^I$	-0.527***	0.155	-0.192***	0.087
		(0.122)	(0.164)	(0.048)	(0.092)
	$D^{m_2} \cdot surprise^{m_2}$	0.427***	0.406***	0.129**	0.118**
		(0.102)	(0.102)	(0.058)	(0.058)
	$D^{m_3} \cdot surprise^{m_3}$	0.674***	0.763***	0.299***	0.331***
		(0.133)	(0.128)	(0.078)	(0.082)
Financial constraint [t-1] X	$D^I \cdot surprise^I$	0.381**	-0.158	0.149*	0.034
		(0.193)	(0.242)	(0.082)	(0.127)
	$D^{m_2} \cdot surprise^{m_2}$	-0.123	-0.143	-0.07	-0.073
		(0.091)	(0.091)	(0.047)	(0.047)
	$D^{m_3} \cdot surprise^{m_3}$	-0.028	0.006	-0.111	-0.143
		(0.217)	(0.207)	(0.118)	(0.121)
	Firm F.E	Yes	Yes	Yes	Yes
	Quarter F.E.	Yes	Yes	Yes	Yes
	Quarters	68	64	68	64
	N obs	16,887	16,633	17,063	16,811
	R^2	0.68	0.65	0.45	0.42

Notes: Columns 1 and 3 present the effect of interest rate and CPI surprises on 1-year and 1-quarter inflation expectations, respectively (equation 3), for the full sample period (2001Q3-2018Q3). Columns 2 and 4 present the results of a shorter sample period, 2002Q3-2018Q3, which does not include significant interest rate shocks from the beginning of the sample. The standard errors are clustered at the firm level. Additional results about the dummy variable associated with the treatment group are not detailed and can be obtained from the authors. Lagged inflation expectations are included but not reported. *** p<0.01, ** p<0.05, * p<0.1.

Table B22 – Google Trends index: relative popularity of internet searches in Israel over time (weekly data, 2004-2018, 100 =peak search volume per term in 2004–2008)

Term		Total Weeks (1)	Publication weeks (2)	Non-publication weeks (3)
"CPI"	*Extensive search*	77%	79%	76%
	Intensive Search	21.79 (0.59)	32.48 (1.52)	18.61 (0.56)
"CPI forecast"	*Extensive search*	2%	7%	1%
	Intensive Search	0.66 (0.19)	1.68 (0.58)	0.35 (0.18)
Observations (weeks)		604	180	784

Notes: This table presents descriptive statistics for the Google Trends index, which measures the relative popularity of the terms *'CPI'* and *'CPI forecast'* in Internet searches in Israel between 2004 and 2018, for the entire period (column 1), for CPI publication weeks (column 2), and for non-publication weeks (column 3). The *"Extensive search"* rows report the percentage of weeks in which the index recorded a positive value, signifying that the term was searched in Israel during that week. The *"Intensive search"* rows report the mean and standard error of relative popularity. Each weekly data point represents the relative popularity of a term compared to the week with that term's highest search volume within the period 2004–2008 (=100). Google Trends data is available only from 2004 onward. For further details, see: https://support.google.com/trends/answer/4365533?hl=en.