

Firms' Inflation and Wage Expectations During the Inflation Surge

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The ordering of author names is randomly chosen.

Disclaimer: The views expressed do not necessarily reflect those of Banque de France or the Eurosystem.

How did French firms navigate the recent inflation cycle?

- ▶ **Anchoring of inflation expectations?**

"A protracted phase of temporarily-high inflation runs the risk of affecting medium-term inflation dynamics through a re-setting of inflation expectations" Philip Lane (2022)

- ▶ **Transmission of higher expectations to firms' decisions (prices, wages...)?**

How large is the passthrough? Which horizon is the most relevant?



Figure 1: CPI-France

What do we do

- ▶ Use answers to a **large quarterly survey conducted among 8,000 French business owners**
- ▶ Ask directly firms about their **aggregate inflation quantitative expectations** at different time horizons (short-/long- terms) and their inflation perceptions
- ▶ **Link** these expectations to **firms' decisions**: quantitative information on wage growth expectations, qualitative information on prices, employment, production
- ▶ **Cover the full recent inflation cycle (2020 - 2024)**

Key Findings

Anchoring of inflation expectations over the inflation cycle

- ▶ Short-lived deviations of expectations from the inflation target
- ▶ More disagreement among firms, but not persistent during the disinflation
- ▶ Term structure of inflation expectations: temporary decline in the perceived persistence of expected inflation

Inflation expectations matter for firms' decisions

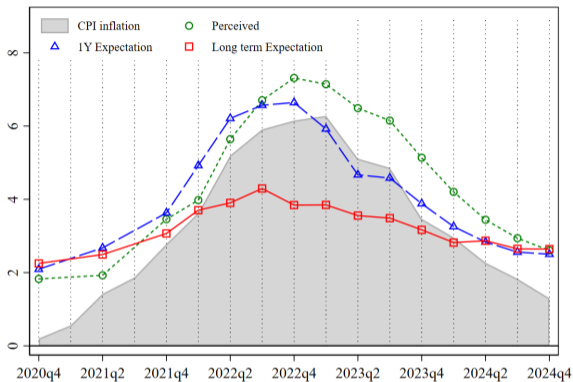
- ▶ Significant correlations with wage and prices
- ▶ Stronger effect of 1-Y expectations than of long-term expectations
- ▶ Weaker correlation when inflation is high due to firms expecting an inflation disaster

Firm Survey Data

A survey among 8,000 managers of firms over the period 2020 Q4 - 2024 Q4 (15 waves)

- ▶ **Additional module of the Monthly Business Outlook Survey** : conducted **by phone**, 1,700 firms in a given quarter
- ▶ **Inflation expectations at different horizons** (one year, 3-5 years) and **perceptions**:
 - ▶ *“As a percentage, what is, to your knowledge, the current inflation rate in France?”*
 - ▶ *“As a percentage, what do you think will be the inflation rate in France in one year?”*
 - ▶ *“As a percentage, what do you think will be the inflation rate in France in 3 to 5 years?”*
- ▶ Question on **firms' wage growth expectations** (one year)
 - ▶ *“As a percentage, what do you think will be the growth rate in base wages (gross, excluding bonuses) in your firm over the next 12 months?”*
- ▶ Monthly Business Survey: **decisions over the past month and plans on prices, production, employment**
- ▶ Savignac et al. 2024: evidence obtained from the survey during its pilot phase (2020Q4-2021Q2) Facts

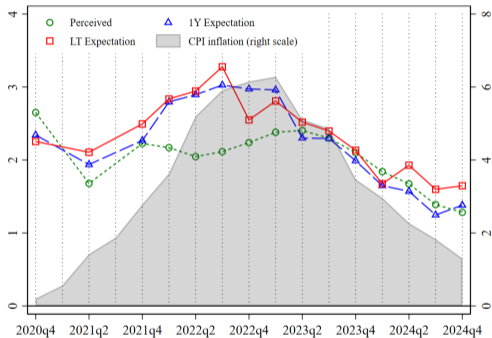
Anchored expectations (1): are expectations close to 2%? (Level)



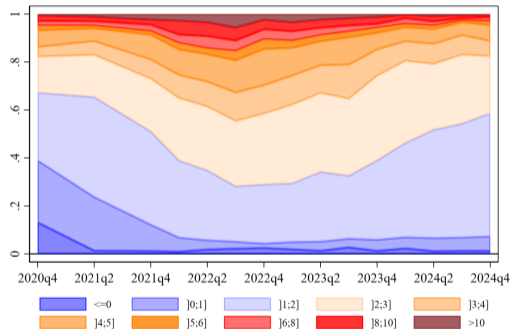
- ▶ Persistence of higher perceptions during the disinflation
- ▶ Initial undershooting of expectations and overshooting after 2022Q2 (Angeletos et al., 2021)
- ▶ End-2024: Convergence of expectations to the target

Anchored expectations (2): any disagreement? (Dispersion)

Standard deviation



Distribution of LT expectations

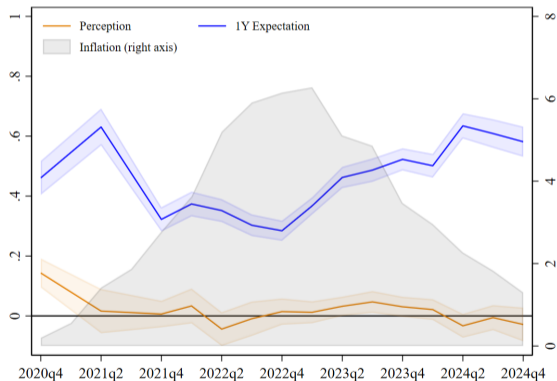


distribution 1Y

Disaster

Anchored expectations (3): do short-term inflation shocks affect long-term expectations? (Term structure)

$$E_{it}\pi_{t+(3/5)} = \delta_t E_{it}\pi_t + \theta_t E_{it}\pi_{t+1} + \gamma X_i + \epsilon_i$$

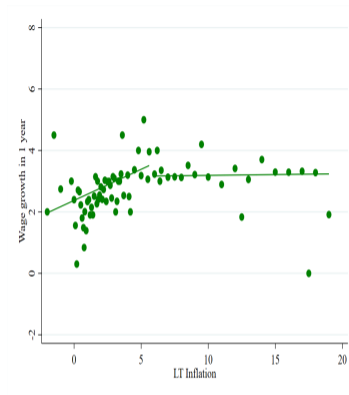
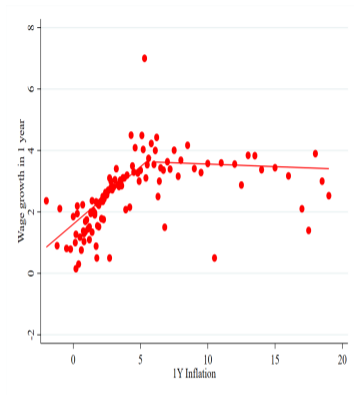
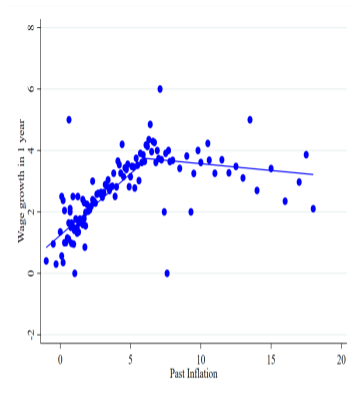


Huber regressions; sector, size, wave and region controls are included

Households

Revisions

Do expectations matter for wage growth?



- ▶ Positive correlation with **inflation perception** and **1-Y expectations**; smaller correlation with **LT expectations**
- ▶ Non-linear effect of inflation expectations (threshold at 6%)

Wage growth

Non-linearities

Passthrough of inflation expectations to wage expectations

$$E_{it}dw_{i,t+1} = \beta E_{it}\pi_t + \theta E_{it}\pi_{t+1} + \delta E_{it}\pi_{t+(3/5)} + \gamma X_i + \epsilon_i$$

	(1)	(2)	(3)
Past inflation	0.190***	0.118***	0.054 ***
1-y expectation	0.076***	0.051***	0.043***
3-5-y expectation	-0.017**	-0.010	-0.001
R^2	0.161	0.181	0.207
Year fixed effects	No	Yes	No
Date fixed effects	No	No	Yes

- In line with other countries in Europe (Abberger et al., 2024; Baumann et al. 2024; Buchheim et al.2024) Literature

Non-linearities(1)

Non-linearities(1)

Non-linearities(2)

1-Y revisions

Passthrough of inflation expectations to wage expectations: heterogeneity

	High inflation	Inflation “disaster”	High inflation excl. disasters
Past inflation	0.067***	0.063***	0.075***
1-y expectation	0.074**	0.086***	0.091***
3-5-y expectation	0.002	0.007	0.004
Interaction terms	$\pi_t > 4\%$	$E_{it}\pi_{t+1} > 10\%$	$\pi_t > 4\%$
Past inflation	-0.029*	-0.077***	-0.019
1-y expectation	-0.013	-0.130***	-0.005
3-5-y expectation	-0.010	-0.042***	0.004
R^2	0.206	0.210	0.220
Date fixed effects	Yes	Yes	Yes

Huber regressions. Number of observations: 13,892. Controls: Sector, Size, wave and region fixed effects.

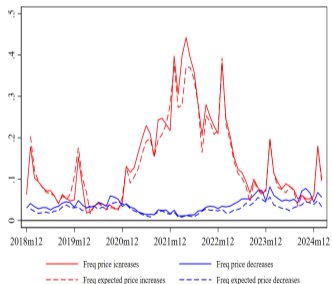
Disaster

Attention

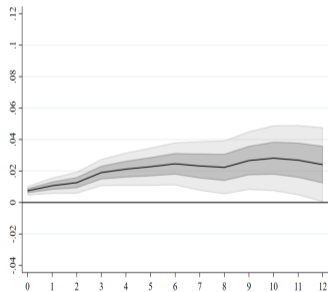
How do inflation expectations affect prices?

$$\sum_{h=0}^H \Delta Y_{t+h,t+h-1}^i = \alpha_H + \delta_H E_t^i \pi_{t+12} + \omega_H E_t^i \pi_t + \gamma_{Ht} + \rho_H X_i + error_{i,Ht}$$

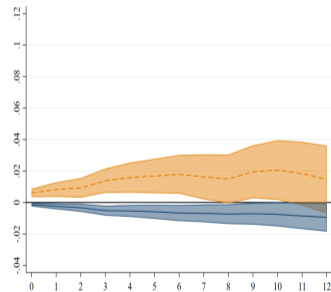
Freq. price changes



1-Y exp. on expected prices

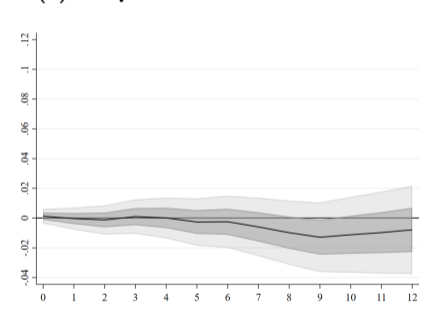


on price increases/decreases

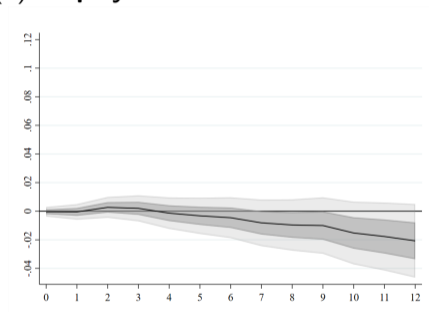


1Y inflation expectations on employment/output

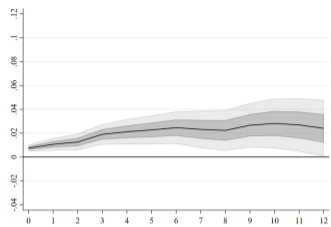
(a) Output over the next month



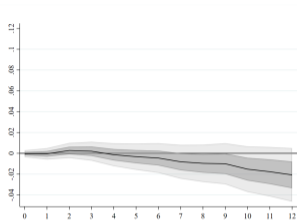
(b) Employment over the next month



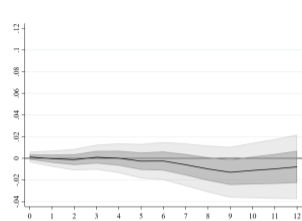
Short-term versus long-term expectations



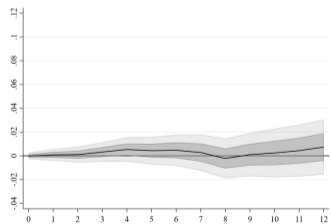
(a) **1Y-Prices**



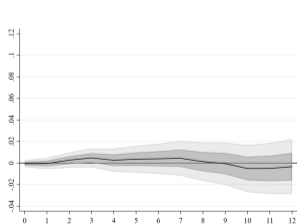
(b) **1Y-Empl.**



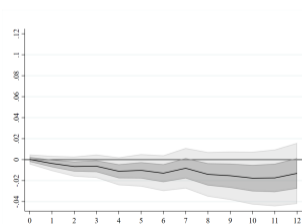
(c) **1Y-output**



(a) **LT-Prices**



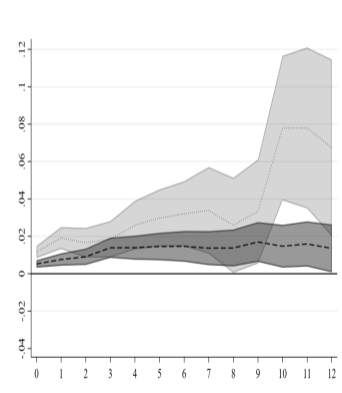
(b) **LT-Empl.**



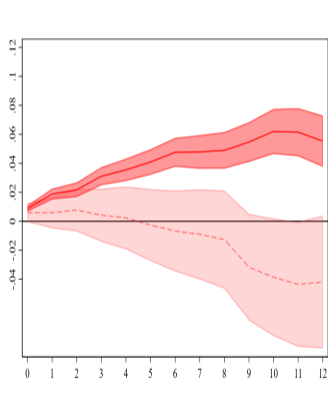
(c) **LT-output**

High inflation and the passthrough of inflation expectations into prices

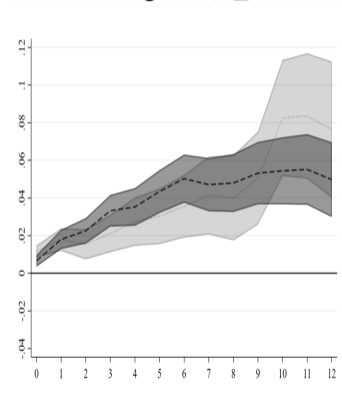
High π_t vs low π_t
All



$E_t\pi_{t+1} < 10\%$ vs $E_t\pi_{t+1} \geq 10\%$
All



High π_t vs low π_t
Excluding $E_t\pi_{t+1} \geq 10\%$



Conclusion

- ▶ A large firm survey during the 2021-2024 inflation cycle to address 2 questions:
- ▶ **De-anchoring of inflation expectations? NO**
 - ▶ Deviation of expectations from the target was short-lived.
 - ▶ Higher-than-expected inflation perceived as transitory
- ▶ **Do expectations matter for firms' decision? YES**
 - ▶ Effects on wages, prices (and more limited on employment and production)
 - ▶ Transmission through inflation perceptions and short-term inflation expectations (not long-term expectations)
 - ▶ Passthrough similar when inflation is high and some nonlinearities for high inflation expectations)
 - ▶ No risk of wage-price spiral

Some country-specific patterns

- ▶ **Role of fiscal policy:** limited passthrough of the energy price shocks to prices, contrasting with the US (Coibion, Gorodnichenko 2025)
- ▶ **Wage setting institutions:** Indexation of minimum wage, horizon for wage setting: 12 months (typical duration for collective wage agreement, and average duration before resetting, Gautier et al., 2022).

APPENDIX

Contributions - Anchoring of Firms Inflation Expectations

New literature on firm surveys of inflation expectations

- ▶ New firms' surveys recently launched in many countries
- ▶ e.g. Meyer and Sheng 2024 FRB Atlanta and Candia et al. 2024 FRB Cleveland, Savignac et al. (2024) BDF, Baumann et al. (2024) ECB- SAFE
- ▶ Grasso and Ropele (2023)- Bank of Italy, Uruguay (Frache and Lluberas 2019, Borraz, Mello and Zacheo 2020), Ukraine (Coibion and Gorodnichenko 2015)

How did inflation expectations respond to the inflation surge?

- ▶ Coibion and Gorodnichenko (2025), Baumann et al. (2025)
- ▶ Braga and Tang (2024), Korenok et al. (2023), Pfäuti (2025), Weber et al. (2025), Yotzov et al. (2025)

New evidence on French firms covering the full inflation cycle

Contributions - Inflation Expectations and Firms' Decisions

Theory

- ▶ Expectations matter for price- wage setting decisions (Phillips curve); for investment/employment decisions (real expected interest rate)
- ▶ Werning (2022): predictions for PC depend on the type of price rigidity (Calvo vs menu cost)

Evidence on prices:

- ▶ Low inflation: Coibion et al. (2018), Coibion et al. (2020), Rosolia (2024)
- ▶ High inflation: Doerrenberg et al. (2023), Baumann et al. (2024), Abberger et al. (2024), Akarsun et al. (2024) Prices

Evidence on wages:

- ▶ Firms: Buchheim et al. (2024), Coibion et al. (2018), Savignac et al. (2024) (+ Le Bihan et al., 2012 only wage data)
- ▶ Households: Jain et al. (2024), Hadjini et al. (2023) Wages

New evidence on passthrough of expectations to wages, prices... (+ survey questions on perceived inflation and several firms' decisions)

Literature - passthrough of inflation expectations

Wages	Country and period	Estimates
Firms		
Coibion et al. (2018)	New-Zealand- 2013-2014	0
Savignac et al. (2024)	France 2020-2021	0.05
Buchheim et al. (2024)	Germany 2021-2024	[0.1;0.3]
Gautier et al. (2025)	France 2021-2024	[0.1;0.3]
Baumann et al. (2024)	Euro Area - 2022	[0.1;0.3]
Abberger et al. (2024)	Swiss - 2022	[0.1;0.3]
Akarsun et al. 2024	Turkey - May 2024	0.58
Households		
Jain et al. (2023)	Canada - 2022	[0.01;0.15]
Hajdini et al. (2022)	U.S. - 2022	[0.1;0.2]
Gautier and Bignon (2025)	France - 2024	[-0.2;-0.1]

Literature - passthrough of inflation expectations

Prices	Country and period	Estimates
Coibion et al. (2018)	New-Zealand- 2013-2014	about 0
Coibion et al. (2020)	Italy - Low inflation	0.2
Rosolia (2024)	Italy - Low inflation	0
Doerrenberg et al. (2023)	Germany- 2022	about 1
Baumann et al. (2024)	Euro Area - 2022	[0.1;0.3]
Abberger et al. (2024)	Swiss - 2022	[0.3;0.4]
Akarsun et al. 2024	Turkey - May 2024	0.55

What do we know about firms' inflation expectations?

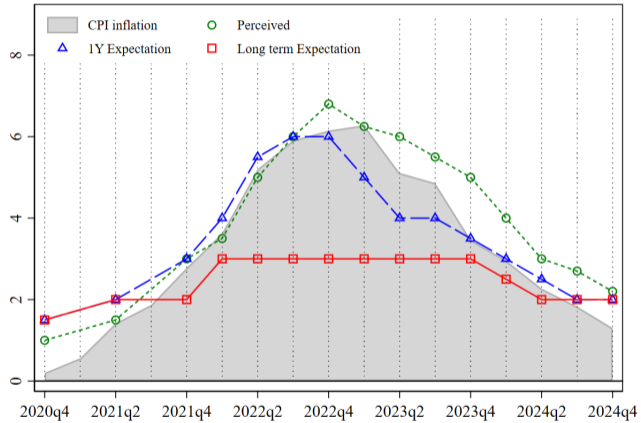
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Table 1: Descriptive statistics over the period 2020 Q4 - 2024 Q4

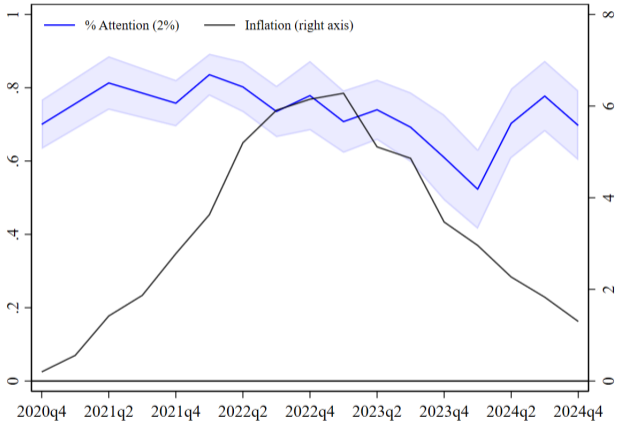
Horizon	Perceived	<i>Inflation</i>		<i>Wage Growth</i>
		1 Year	3-5 Years	1 Year
Mean	4.60	4.20	3.24	2.78
<i>Actual</i>	3.56	-	-	3.15
Median	4.10	3.60	2.53	2.77
SD	2.03	2.24	2.34	1.54
Response rate	94.0	89.9	75.9	85.2

- ▶ Slight overestimation of inflation but underestimation of wage growth
- ▶ Limited dispersion but some systematic heterogeneity among firms (size, sector)
- ▶ Factors affecting positively inflation have a negative impact on wage growth

Median

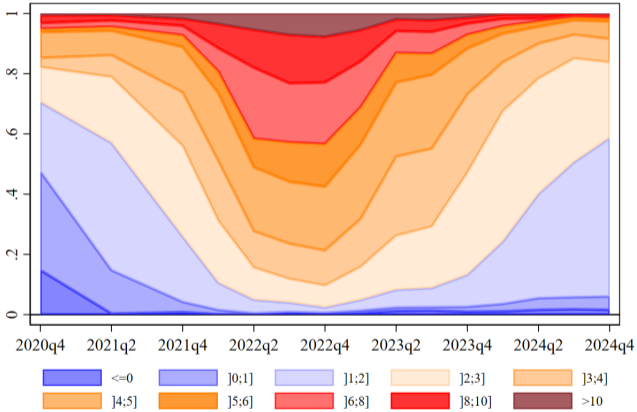


Attention to inflation

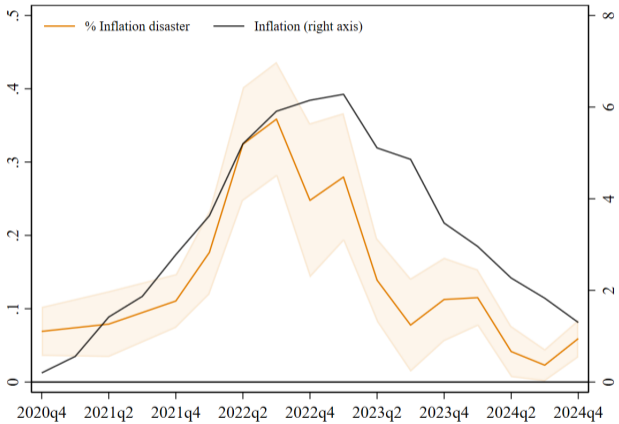


Attentive to inflation: inflation perception close to actual inflation (less than 2% in absolute terms). [Back](#)

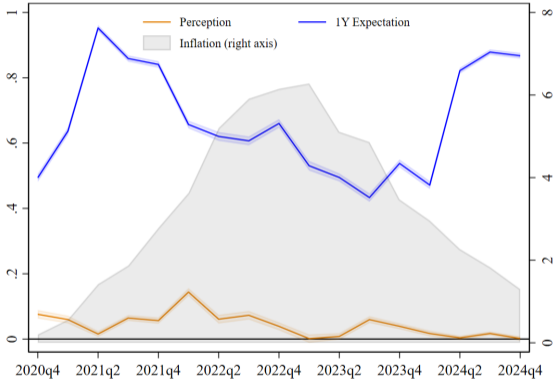
Distribution 1Y expectations



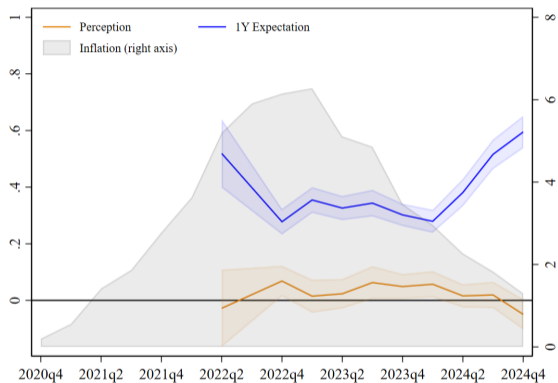
Expecting an inflation "Disaster" (>10%)



Persistence - Households



Revisions in perceived and 1Y expectations on revisions in LT expectations

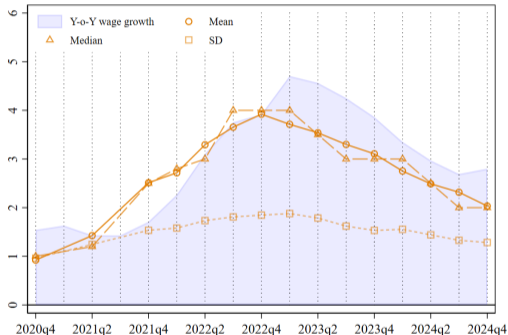


Source: CES-ECB (France)

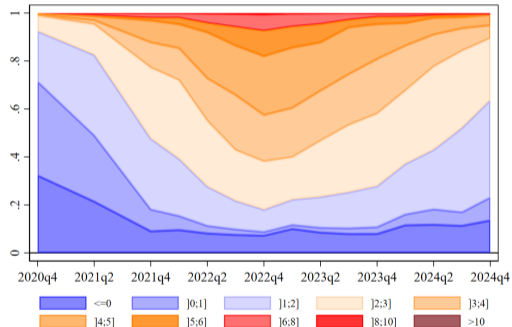
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Wage growth expectations

Firms' wage growth (1Y) expectations



Distribution over time

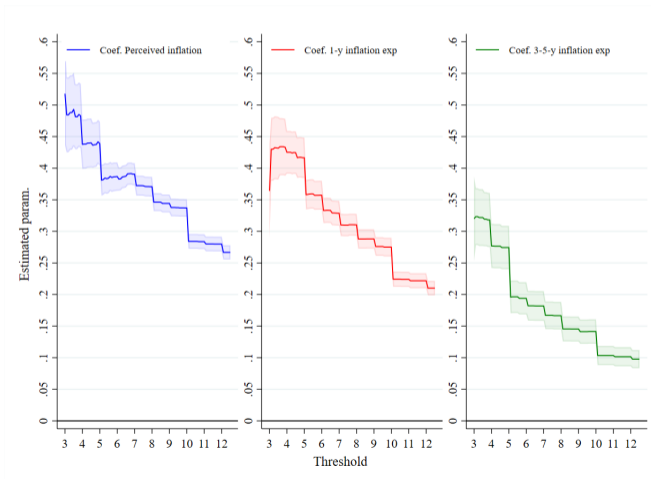


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Estimated passthrough to wage growth expectations: non linearities

$$E_{it}dw_{i,t+1} = \beta y + \delta y * 1_{y>s} + \gamma X_i + \epsilon_i$$

where $y = E_{it}\pi_t$, $E_{it}\pi_{t+1}$ or $E_{it}\pi_{t+3/5}$, s threshold [Back](#)

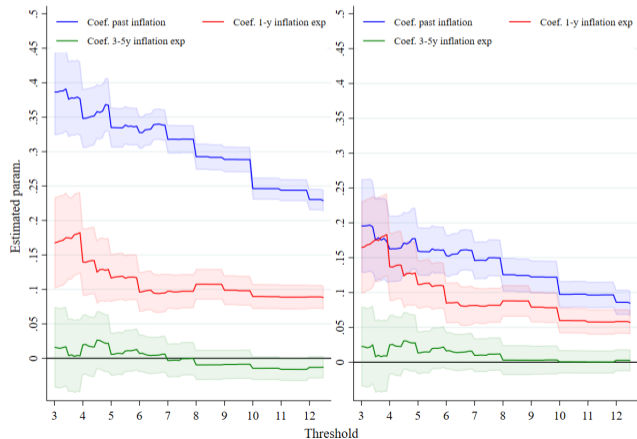


Estimated passthrough to wage growth expectations: non linearities (2)

$$E_{it}dw_{i,t+1} = \beta E_{it}\pi_t + \theta E_{it}\pi_{t+1} + \delta E_{it}\pi_{t+(3/5)} + \gamma X_i + \epsilon_i$$

Samples restricted to observations where $E_{it}\pi_t < s$ and $E_{it}\pi_{t+1} < s$ and $E_{it}\pi_{t+3/5} < s$

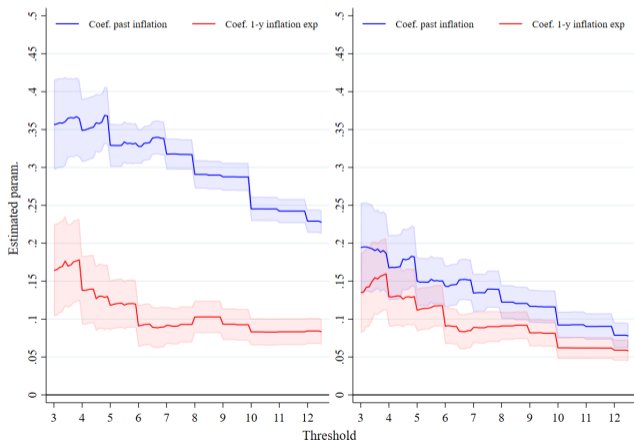
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Estimated passthrough to wage growth expectations: non linearities (3)

$$E_{it}dw_{i,t+1} = \beta E_{it}\pi_t + \theta E_{it}\pi_{t+1} + \gamma X_i + \epsilon_i$$

Samples restricted to observations where $E_{it}\pi_t < s$ and $E_{it}\pi_{t+1} < s$ [Back](#)
left panel: no date fixed effects; right panel: date fe included.

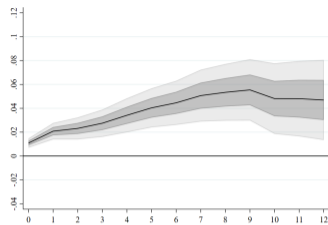


Passthrough of inflation expectations to wage expectations- Revisions

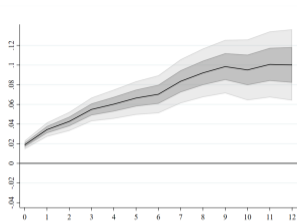
$$\Delta_{y,y-1} E_{it} dw_{i,t+1} = \beta \Delta E_{it} \pi_t + \theta \Delta E_{it} \pi_{t+1} + \delta \Delta E_{it} \pi_{t+(3/5)} + \gamma X_i + \epsilon_i$$

	(1)	(2)	(3)
Past inflation	0.141***	0.094***	0.045***
1-y expectation	0.086***	0.070***	0.055***
3-5-y expectation	-0.002	0.004	0.013
R-squared	0.227	0.248	0.273
Year fixed effects	No	Yes	No
Date fixed effects	No	No	Yes

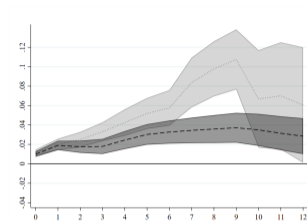
The passthrough of wage expectations into decisions



(a) Expected prices



(b) Expected employment



(c) Prices: **High infl.** vs Low infl.

$$\sum_{h=0}^H \Delta \chi_{t+h,t+h-1}^i = \alpha_H + \delta_H E_t^i \omega_{t+12} + \omega_H E_t^i \pi_t + \gamma_{Ht} + \rho_H \chi_i + error_{i,Ht}$$

- ▶ **Own wage 1Y expectations:** sharp increase in prices (a), employment (b) and production.
- ▶ **Passthrough of wage expectations:** significantly **larger than the passthrough of aggregate inflation into prices.**
- ▶ Significantly **lower passthrough** when inflation is **high** (c). Subset of firms expecting an inflation disaster.