

DISCUSSION OF

« The Pass-Through of Inflation Expectations into Prices and Wages: Evidence from RCT Survey »

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ERWAN GAUTIER BANQUE DE FRANCE & UNIVERSITÉ PARIS-DAUPHINE



QUESTIONS

DO INFLATION EXPECTATIONS PLAY ANY ROLE FOR FIRMS PRICE/WAGE DECISIONS? Yes, in theory

$$\pi_t = \frac{\beta E_t(\pi_{t+1}) + \kappa x_t}{\kappa x_t}$$

• Werning (2022):

Calvo $\beta = 1$ Taylor $\beta = \frac{1}{2}$ Menu cost $\beta \in [0; \frac{1}{2}]$

• What is the relevant horizon of expectations for price-wage decisions?

But how much do inflation expectations matter in practice?

AN OBVIOUS CRUCIAL MONETARY POLICY ISSUE

- Topical
 - After a large positive cost shock, anchored inflation expectations help to keep inflation low
- Empirical
 - When inflation is low, inflation expectations are also low, rather hard to identify any pass-through
 - Focus on firms' price- and wage-setting decisions



WHAT THE PAPER DOES

AN RCT SURVEY AMONG MORE THAN 1,000 FIRMS IN SWITZERLAND

Elicit priors on prices, wages, inflation expectations (+ several interesting questions on when prices and wages are adjusted, how, at which frequency....)

Generate exogenous variation

- Hypothetical scenarios on future inflation (vignette)
- Two information treatments:
- 1- Price of energy (« from 0% before 2020 on average to 26% in 2022 »)
- 2- Monetary policy target (« SNB has achieved its inflation target of 0-2% (...) CPI inflation was 0.4% over the last 20 years »)

After the treatment, respondents are asked to *confirm or change their answers* on wages, prices, inflation expectations (posteriors)

Estimate the pass-through of inflation expectations to firms' prices and wages

 $\Delta y_i = \alpha + \beta \Delta \pi_i^e + \gamma X_i + \varepsilon_i \qquad (\Delta = Posterior - Prior)$



MAIN FINDINGS

ESTIMATION OF INFLATION EXPECTATION PASS-THROUGH

Incomplete/limited pass-through • line with existing evidence obtained higher inflation environments

> Prices: 0.3-0.4 Wages: 0.1-0.3

- Long-term expectations matter les • short-term expectations: For prices <0.1 vs 0.3 Not for wages 0.14 vs 0.12
- Larger pass-through for Taylor con ٠ (as predicted by Werning (2022))

	Country - period	Estimates
Prices		
Coibion et al. 2018	New-Zealand 2013-2014	~0
Coibion et al. 2020	Italy low inflation	0.2
Rosolia 2024	Italy low inflation	0
Doerrenberg et al. (2023)	Germany 2022	~1
Baumann et al. (2024)	Euro area 2022	[0.1;0.3]
This paper	Switzerland dec. 2022	[0.3;0.4]
Wages		
Coibion et al. 2018	New-Zealand 2013-2014	~0
Savignac et al. 2024	France 2020-2021	<0.1
Buchheim et al. 2024	Germany 2021-2024	[0.1;0.3]
Gautier et al. 2024	France 2021-2024	[0.1;0.3]
Baumann et al. (2024)	Euro area 2022	[0.1;0.3]
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<u> </u>		BANQUE DE FRANCE

GREAT PAPER!

• SEVERAL NICE CONTRIBUTIONS

- Methodological contribution: a lot of work of pre-testing the survey, relevance of questions, very informative on how firms perceive this type of surveys + RCT & vignette questions
- Convincing results on both price and wage setting
- Very relevant from a policy perspective
- I enjoyed a lot reading the paper!

MY DISCUSSION

- How much can the « high/moderate » inflation environment contribute to the results?
- How should we read the elasticities?
- Identifying price rigidity model and the implications for the inflation expectation passthrough

+ Additional insights from the regular Banque de France survey on inflation expectations of firms (Gautier-Savignac-Coibion 2024)

« HIGH » INFLATION ENVIRONMENT

THE SURVEY WAS RUN IN A RELATIVELY HIGH INFLATION ENVIRONMENT

It could be helpful for empirical identification? More variation across firms

It could be an issue for external validity: how results are specific to this period? Firms are more attentive to inflation (Weber et al. 2024)





WHAT DO FIRMS KNOW AND WHAT THEY DO NOT KNOW?

One worry with running RCTs among business leaders is how much they already know the information provided by the treatment. A possible explanation for the rather small effect of energy treatment?

Depends on the share of energy in total costs?

Any asymmetry in how firms react to treatments?

Another issue is how firms have interpreted the energy treatment: an increase in nominal costs but what about quantities (a drop in demand?)? Permanent vs. temporary shock? **Possible heterogeneity in the macro scenarios behind the treatments?**

Vignette questions is a useful complement to generate exog. variations in inflation expectations but similar issue on the narrative behind the scenarios



« HIGH » INFLATION ENVIRONMENT

« HIGH » INFLATION MEANS MORE VARIATION IN EXPECTATIONS ACROSS FIRMS

Wage growth distribution is less dispersed than inflation expectation distribution: firms may know better wages than inflation (Savignac et al. 2024). Are business leaders providing large inflation answers more likely to revise their inflation expectations?

The vignette question could give more detailed results on possible non-linearities / asymmetries in the pass through.

For France, we find a stronger correlation between inflation expectations and wage growth for inflation expectations lower than 7%



HOW TO READ PASS-TROUGH ESTIMATES?

WHAT ROLE FOR PAST INFLATION PERCEPTIONS, IN PARTICULAR FOR WAGES ?

Evidence on COLA adjustments in the US, European unions trying to catch-up for real wage losses in particular when inflation is high

Elasticities might depend on how wages are negotiated (Buchheim et al. 2024): *heterogeneity using the questions on determinants of prices/wages in the survey? (wage-setting mechanisms)*

Gautier et al. (2024) on French firms wage growth expectations (same results in Buchheim et al. 2024 on German data)

Regressions linking firms' wage growth expectations to aggregate inflation perceptions/expectations (2021-2024)

	No time FE	No time FE	Year FE	Year FE
Perceived past inflation	(1)	(2) 0.169***	-	(4) 0.111***
One-year expectations	0.176*** (0.007)	0.080*** (0.008)	0.103*** (0.007)	0.052*** (0.008)
3 to 5-year expectations	-0.024*** (0.007)	-0.019*** (0.007)	-0.012* (0.007)	-0.012* (0.007)
# obs.	12,960	<u>9</u> 12,960	12,960	12,960



HOW TO READ PASS-TROUGH ESTIMATES?

DECOMPOSITION OF THE PASS-THROUGH

The treatments have an overall impact of +0.1pp for energy and -0.2pp for inflation target

- the probability to revise inflation expectations: +15%
- the average of inflation expectation revisions: +0.8pp / -0.1 to -1pp

[What about the average treatment effects on price and wage decisions? When a treatment affects positively expectations, we expect a positive average effect on wages/prices?]

How to measure/identify the pass-through of revisions in expectations to revisions in decisions?

- Firms not revising their expectations should not revise their prices/wages?
- Estimation of pass-through only for firms revising their price/wage decisions ? (i.e. intensive margin of price adjustment)

- How much (non-zero?) revisions of inflation expectations affect the probability to revise prices / wages? (i.e. extensive margin of price adjustment)



A SMALLER PASS-THROUGH OF INFLATION EXPECTATIONS TO WAGES THAN THE ONE TO PRICES

- Inflation expectations affect marginal cost (wages), which then will affect prices.
 Depends on the labour share in total costs?
- How much the impact on wages is transmitted to prices in your exercise?
 A measure of second round effects? (cf. Bernanke and Blanchard 2024)
- For prices, more complicated to dissect the full transmission channels from higher inflation expectations to prices (working implicitly through overall costs?)
- Order of questions after the treatment: wages, prices, inflation expectations. Why not first inflation expectations and then wages and prices?

PRICE RIGIDITY AND THE PASS-THROUGH OF EXPECTATIONS

Interesting result showing that the pass-through is larger for firms with Taylor contracts: *many other interesting questions to investigate and identify price rigidity (usual month of price adjustments, price-/wage-setting determinants...)*

The survey was run in December where « Taylor » effects might larger?

Cumulated effect of 1-Y inflation expectations on the probability to increase prices



OLS regressions linking firms' wage growth expectations to aggregate inflation perceptions/expectations

	Taylor	Other
Perceived past inflation	0.094*** (0.012)	0.095*** (0.011)
One-year expectations	0.083*** (0.013)	0.034*** (0.010)
3 to 5-year expectations	-0.035*** (0.011)	0.004 (0.010)
# obs.	5,158	5,993



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PRICE RIGIDITY AND THE PASS-THROUGH OF EXPECTATIONS

ARE PRICE SETTING STRATEGIES FULLY EXOGENOUS?

Do observable characteristics predict why firms are Taylor vs Calvo? And potentially affect the pass-through?

In the BDF survey, large seasonality in January: for smaller firms, in services, with lower frequency of price changes

Higher inflation but still a large share of Taylor contracts ? Quicker pass-through when the frequency of price/wages changes is larger?

Share of managers reporting/expecting to increase/decrease their own prices over the next month (all sectors)

Source : BDF



MORE MINOR POINTS

Long-term expectations are higher on average then short-terme expectations + more dispersed

Deanchored expectations?

Misunderstanding in the variable business should report: cumulated inflation over 5 years vs inflation at a 5y horizon?

• More descriptive statistics would be useful (Table 1)

Correlations in the cross section between short- and long term inflation expectations

