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Firms' Inflation and Wage Expectations during the Inflation Surge

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Abstract

Using a new survey of French firms' inflation expectations that predates the inflation spike, we document i) evidence on the anchoring of inflation expectations during the inflation surge, and ii) the relevance of inflation expectations for firms' decisions. First, we show that inflation expectations under-responded to the initial surge but then persistently overshot actual inflation dynamics. As inflation rose, firms initially perceived inflation to be less persistent than in previous years, an effect that dissipated over time. Second, we find that inflation expectations correlate with firms' wage and price decisions. One-year expectations matter more than long-term expectations. During the inflation surge, wage and price decisions became increasingly disconnected from inflation expectations. This suggests that the scope for wage-price spirals is likely more limited than one might have expected from the surge in inflation and inflation expectations.

Keywords: Expectations, Inflation, Rational Inattention, Surveys, Firms

JEL classification: E2, E3, E4

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Non-Technical Summary

As inflation reached levels unseen in recent decades in most advanced economies, a primary concern was the extent to which this rise in inflation might become ingrained in inflation expectations, especially those of firms due to their role in setting prices. But because there are few surveys of firms' inflation expectations, it has been difficult to assess how firms' inflation expectations changed during this period, as well as whether those inflation expectations affected their willingness to raise workers' wages. In this paper, we use a survey of firms in France conducted between 2020 and 2024 to study these questions.

This survey has four unique characteristics that are not commonly available in other surveys of firms. First, it covers the full inflation cycle starting in 2020 when inflation was close to 0 and finishing at the end of the disinflation process in 2024, which allows us to gauge how the inflation cycle affected the anchoring of inflation expectations. Second, the survey includes questions about inflation at different horizons, so it can speak to the persistence of the inflation process, as perceived by firms, and whether it changed along the inflation cycle. Third, it includes questions on firms' expectations about the growth of wages in their firm over the next year, thereby providing an unusual link between aggregate inflation expectations and firm-level wage expectations. Finally, the survey also includes questions about the planned decisions of firms, such as their expected and past price changes and employment growth, so that expectations can be related to their decisions.

With this unique data, we examine how inflation expectations reacted to the inflation surge and then to the disinflation process. First, as inflation rose sharply in France in 2022, firms were initially surprised by the extent of the increase, with both their perceptions and expectations significantly under-responding (Figure 1). However, by 2023, both the inflation expectations and perceptions of firms had significantly overshot actual inflation dynamics.

Second, we find that the average perception but also short- and long-term expectations of inflation all came back to the target at the end of 2024. Thus, while all expectations deviated significantly from the inflation target during the surge, this deviation was relatively short-lived. Furthermore, disagreement among firms about future inflation rose sharply during this period, consistent with what has been observed for households, but the dispersion of expectations also decreased sharply during the disinflation process.

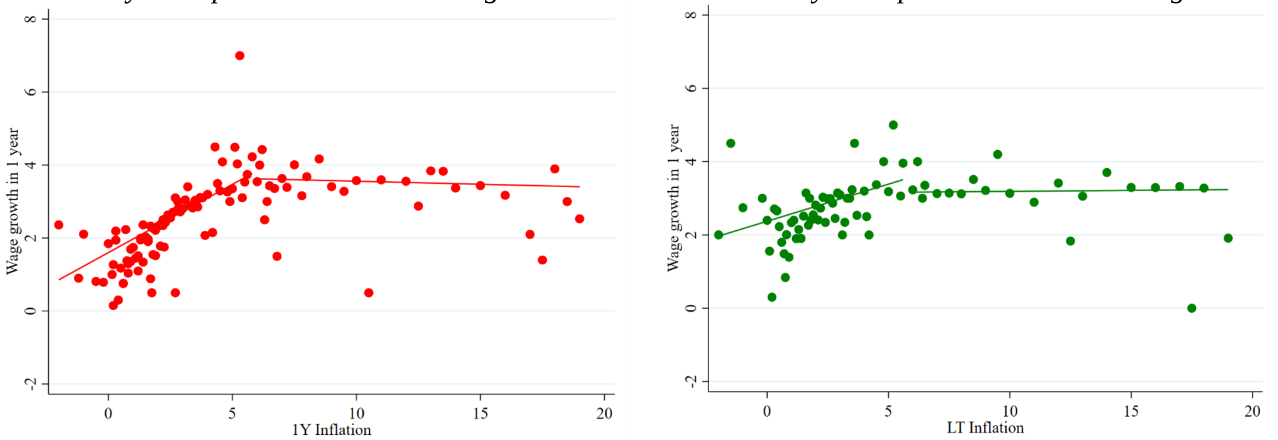
Third, as the inflation rate surged, the term structure of firms' inflation expectations pointed to a decline in the perceived persistence of inflation, but this decline was short-lived. In other words, firms initially expected the rise in inflation to be more transitory than what they usually expected for inflation changes, but their expectations ultimately went back to assuming the same persistence as usual. One possible explanation for the decline in persistence could be that the inflation surge was initially tied to a sharp increase in energy prices, which might have been expected to have only a transitory effect on inflation dynamics. Regardless of the source, firms initially perceived the inflation spike as driven by a different process than during the low inflation period. Overall, and in contrast to the experience of other countries like the U.S. (e.g. Coibion and Gorodnichenko 2025), we do not find a significant persistent de-anchoring of inflation expectations following the inflation surge.

The survey also allows us to assess how much inflation expectations matter for firms' decisions. First, we find that firms' wage expectations are closely tied to their expectations of year-ahead inflation and their beliefs about recent inflation, but we consistently observe almost no relationship between long-run inflation expectations and firms' wage expectations (Figure 1). Instead, it appears that firms expect their year-ahead wage adjustments to primarily reflect recent price dynamics as well as those anticipated over the near future. We also document heterogeneity in the pass-through between inflation and wage expectations across firms. The pass-through is generally stronger for firms that are more attentive to inflation. When inflation is higher than 3 to 4%, the relationship between expectations and wage growth is weakened. This lower pass-through during the high inflation period primarily comes from the subset of firms that expected a very high inflation rate ("inflation disaster"): these firms did not expect to adjust their wage expectations to the inflation surge (Figure 1), and they were more numerous during the high inflation period.

Finally, we consider the degree to which expectations pass through into decisions and the extent to which (and whether) that changed during the high-inflation period. We document evidence consistent with a pronounced decline in the pass-through of expectations into decisions. While we can identify a strong passthrough from these expectations into firms' ex-post prices and employment during normal times, this passthrough significantly weakened during the high-inflation period. This suggests that, even as wage and inflation expectations rose sharply during the inflation surge, their likely effect on prices and employment diminished, muting their importance during this particular episode. This changing pass-through is again primarily explained by the subset of firms expecting very high inflation (i.e. an "inflation disaster"). Among firms who were not anticipating this type of inflation disaster, we observe little change in the pass-through across high or low inflation environments.

Figure 1. – Price and Wage Inflation Correlations

1 year expectations and own-wages *3-to-5-year expectations and own-wages*



Note: the figures plot binned scatter plots, lines plot the fitted Huber regressions linking expected wage growth to expectations in interaction with a dummy variable equal to 1 if perceived or expected inflation is above a threshold of 6%.

Anticipations des entreprises en matière d'inflation et de croissance des salaires au cours du cycle d'inflation

RÉSUMÉ

À partir d'une nouvelle enquête sur les anticipations d'inflation des chefs d'entreprise en France, nous documentons i) l'ancrage des anticipations d'inflation au cours du cycle d'inflation, et ii) le rôle de ces anticipations dans les décisions des entreprises. Nous montrons qu'il y a eu une sous-réaction suivie d'une sur-réaction de ces anticipations à l'inflation. Cependant, le regain d'inflation a été perçu comme temporaire et peu persistant. Nous mettons ensuite en évidence que les anticipations d'inflation sont corrélées avec les décisions des entreprises en matière de salaires et de prix. Les anticipations à court terme (un an) ont plus d'importance pour ces décisions que celles à long terme. Durant la poussée inflationniste, les décisions en matière de salaires et de prix sont devenues de plus en plus déconnectées des anticipations d'inflation, ce qui suggère que le risque de spirale prix-salaire est resté limité en France.

Mots-clés : anticipations, inflation, entreprises, enquête, inattention rationnelle

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1. Introduction

As inflation reached levels unseen in recent decades in most advanced economies, a primary concern was the extent to which this rise in inflation might become ingrained in inflation expectations, especially those of firms due to their role in setting prices. But because there are few surveys of firms' inflation expectations, it has been difficult to assess how firms' inflation expectations changed during this period, as well as whether those inflation expectations affected their willingness to raise workers' wages. In this paper, we use a survey of firms in France conducted between 2020 and 2024 to study these questions.

This survey has four unique characteristics that are not commonly available in other surveys of firms. First, it covers the full inflation cycle starting in 2020 when inflation was close to 0 and finishing at the end of the disinflation process in 2024, which allows us to gauge how the inflation cycle affected the anchoring of inflation expectations. Second, the survey includes questions about inflation at different horizons, so it can speak to the persistence of the inflation process, as perceived by firms, and whether it changed along the inflation cycle. Third, it includes questions on firms' expectations about the growth of wages in their firm over the next year, thereby providing an unusual link between aggregate inflation expectations and firm-level wage expectations. Finally, the survey also includes questions about the planned decisions of firms, such as their expected and past price changes and employment growth, so that expectations can be related to their decisions.

With this unique data, we examine how inflation expectations reacted to the inflation surge and then to the disinflation process. First, as inflation rose sharply in France in 2022, firms were initially surprised by the extent of the increase, with both their perceptions and expectations significantly under-responding. However, by 2023, both the inflation expectations and perceptions of firms had significantly overshot actual inflation dynamics. The undershooting following by overshooting during this episode is consistent with the broader patterns identified in Angeletos, Huo and Sastry (2021) and with post-pandemic patterns observed in other countries.

Second, we find that the average perception but also short- and long-term expectations of inflation all came back to the target at the end of 2024. Thus, while all expectations deviated significantly from the inflation target during the surge, this deviation was relatively short-lived. Furthermore, disagreement among firms about future inflation rose sharply during this period, consistent with what has been observed for households (Dong et al. 2024), but the dispersion of expectations also decreased sharply during the disinflation process. Wage expectations followed a similar, albeit more muted, pattern.

Third, as the inflation rate surged, the term structure of firms' inflation expectations pointed to a decline in the perceived persistence of inflation, but this decline was short-lived. In other words, firms initially expected the rise in inflation to be more transitory than what they usually expected for inflation changes, but their expectations ultimately went back to assuming the same persistence as usual. One possible explanation for the decline in persistence could be that the inflation surge was initially tied to a sharp increase in energy prices, which might have been expected to have only a transitory effect on inflation dynamics. Regardless of the source, firms initially perceived the inflation spike as driven by a different process than during the low inflation period. Overall, and in contrast to the experience of other countries like the U.S. (e.g. Coibion and Gorodnichenko 2025), we do not find a significant persistent de-anchoring of inflation expectations following the inflation surge.

The survey also allows us to assess how much inflation expectations matter for firms' decisions. First, we find that firms' wage expectations are closely tied to their expectations of year-ahead inflation and their beliefs about recent inflation, but we consistently observe almost no relationship between *long-run* inflation expectations and firms' wage expectations. Instead, it appears that firms expect their year-ahead wage adjustments to primarily reflect recent price dynamics as well as those anticipated over the near future. The irrelevance of longer-run expectations beyond the contract duration (since most wages are changed annually) is consistent with the logic of Werning (2022). We also document heterogeneity in the pass-through between inflation and wage expectations across firms. The pass-through is generally stronger for firms that are more attentive to inflation. And, when inflation is higher than 3 to 4%, the relationship between expectations and wage growth is *weakened*. This lower pass-through during the high inflation period primarily comes from the subset of firms that expected a very high inflation rate ("inflation disaster"): these firms did not expect to adjust their wage expectations to the inflation surge, and they were more numerous during the high inflation period.

Finally, we consider the degree to which expectations pass through into decisions and the extent to which (and whether) that changed during the high-inflation period. We document evidence consistent with a pronounced *decline* in the pass-through of expectations into decisions. To do so, we characterize the extent to which higher inflation and wage expectations translate into firms' subsequent pricing and employment decisions. While we can identify a strong passthrough from these expectations into firms' ex-post prices and employment during normal times, this pass-through significantly weakened during the high-inflation period. This suggests that, even as wage and inflation expectations rose sharply during the inflation surge, their likely effect on prices and employment diminished, muting their importance during this particular episode. This changing pass-through is again primarily explained by the subset of firms expecting very high inflation (i.e. an "inflation disaster"). For these firms, the pass-through into decisions tends to be very low, and during the inflation surge, there was a significant increase in the share of these firms. Among firms who were not anticipating this type of inflation disaster, we observe little change in the pass-through across high or low inflation environments.

Our paper speaks to several recent literatures. One focuses on the extent to which the inflation surge may have altered the expectations formation process. Bracha and Tang (2024), for example, study how the degree of inattention to inflation by U.S. households, as measured by people saying "I don't know" when asked about current inflation levels, historically declines when inflation is higher. Korenok, Munro and Chen (2023) show that, across many countries, Google searches for "inflation" rise with the level of inflation whenever inflation exceeds a threshold around 4%. Pfäuti (2025) estimates how strongly inflation expectations of households and professionals in the U.S. respond to past forecast errors and shows that higher inflation periods are associated with larger responses to past errors, consistent with changing inattention. Weber et al. (2025) show that the strength of treatment effects in RCTs involving information about inflation declined during the high inflation period in the U.S. and Euro-area, both for firms and households. They also find that, among Euro-area households, absolute nowcast errors about inflation fell during the inflation surge as households became seemingly more aware of actual inflation rates. Relative to these papers, our evidence is novel because it is for firms in France where the inflation surge was more limited than in other countries (the average HICP inflation reached 6.7% in 2022 vs 9.2% in the euro area), because it includes not just inflation but also expectations of firms' wages, and because we reach qualitatively different conclusions: ultimately, we find little change in firms' nowcast errors about inflation during the surge.

Second, our paper contributes to a literature on the possibility of wage-price spirals (e.g. Lorenzoni and Werning 2023), which hinges in part on the degree to which inflation, either past or anticipated, translates into wage increases which in turn fuel further price increases. The empirical evidence on the extent to which inflation passes through into wages is limited. Buchheim et al. (2024) find only a small passthrough of expected inflation into wages, as do

Coibion et al. (2018) and Savignac et al. (2024) in low-inflation contexts.[1] Relative to this prior work, we cover a period where inflation is quite volatile and this variation allows us to better identify the relationship between wage growth and inflation expectations. We also find a somewhat larger passthrough of inflation into wages once we control for both perceived and expected inflation, reflecting the fact that past inflation can take time to be incorporated into wages. Importantly, when firms expect significantly higher inflation (an "inflation disaster"), their passthrough of inflation expectations into wages is much more muted, suggesting that there is an upper bound on the scope for wage-price spirals.

We also contribute to a burgeoning literature investigating the importance of inflation expectations and expected costs in affecting firms' decisions, and in particular how this varies with the economic environment (e.g. Abberger et al. 2024, Akarsu et al. 2024, Baumann et al. 2024, Buchheim et al. 2024, Fastbø et al. 2025, Yotzov et al. 2025). In contrast to this prior work which has emphasized higher passthroughs when inflation is high, we find that the passthrough of expectations into decisions is, if anything, *smaller* during the high inflation period. Again, key to this result is the subset of firms who anticipate significantly higher inflation: among these firms, the passthrough is much smaller than for others and their growing importance during the inflation surge drives the change in average passthrough.

More generally, our paper is related to the literature on the development of firm surveys of inflation expectations. Candia, Coibion and Gorodnichenko (2023) review existing surveys of firms' macroeconomic expectations and emphasize the sparsity of available data of this type. Grasso and Ropele (2023) describe the Italian Survey of Inflation and Growth Expectations while Baumann et al. (2024) provide details on the ECB's new Survey on the Access to Finance of Enterprises (SAFE), which includes questions on macroeconomic expectations. Other countries with existing surveys of firms' inflation expectations include Uruguay (Frache and

[1] Jain et al. (2024) and Hadjini et al. (2023) document a perceived lower passthrough looking at household expectation surveys in Canada and in the United States.

Lluberas 2019, Borraz, Mello and Zacheo 2020), Ukraine (Coibion and Gorodnichenko 2015) and the U.S. (Meyer and Sheng 2024). The pilot phase of the new French survey of firms (conducted in 2020-2021) is discussed in Savignac et al. (2024).

The paper is organized as follows. In Section 2, we describe the new survey of French firms. Section 3 describes the evolution of inflation expectations in the survey, how they relate to firm characteristics, and what they tell us about the perceived persistence of inflation. Section 4 documents how firms' expectations about their own wage growth correlate with their inflation perceptions and expectations. Section 5 focuses on the passthrough of expectations into pricing and employment decisions while Section 6 concludes.

2. The Survey

The survey of French firms' inflation expectations has been going on quarterly since 2021Q4. It is implemented as an additional module to what is otherwise a monthly survey of French firms, the *Enquete Mensuelle de Conjoncture* (Monthly Outlook Survey). These surveys are conducted by the local branches of Banque de France. The Monthly Outlook Surveys is a short survey with qualitative questions about firms' perceptions and expectations about their own activity, employment, demand and prices during the month and over short horizons (within one to 3 months). Every quarter, about 1,700 managers of various firms that are participating in the Monthly Outlook Survey are asked to answer four additional questions over the phone about their inflation perceptions, expectations and about their expectation of wage growth over the next year.[2] A given firm manager answers the inflation expectations survey once a year (each firm is allocated to a given quarter of the year) and overall, our sample contains more than 6,000

[2] The Monthly Business Survey is conducted the last three opening days of month *m* and the three first opening days of month *m+1*. The quarterly module is run during the last days of February/first days of March for Q1, during the last days of May/first days of June for Q2, during the last days of August/first days of September for Q3, during the last days of November/first days of December for Q4.

answers each year (see Table 1 for details on the sample composition).[3] Prior to the official start of the survey, two smaller pilot waves were run in 2020Q4 and 2021Q2. These included only two regions in France and a much smaller number of firms (about 1,000 overall). The pilot waves included different question formulations to measure expectations, the results of which are described in more detail in Savignac et al. (2024). Overall, the sample of individual answers covers the period 2020Q4 – 2024Q4 (15 quarterly waves) for about 8,000 different firms. More than half of firms have been surveyed 3 times or more during that period (each firm being surveyed once a year).

The first question of the quarterly survey module on inflation expectations focuses on the perceived level of inflation and is phrased as follows:

"As a percentage, what is, to your knowledge, the current inflation rate in France?"

Respondents are asked to provide a quantitative answer. Following this, they are asked to provide a point forecast for their inflation expectations over the next 12 months:

"As a percentage, what do you think will be the inflation rate in France in one year?"

This is followed by a question that measures their longer-run inflation expectations, again through a point forecast:

"As a percentage, what do you think will be the inflation rate in France in 3 to 5 years?"

The final question asks firms about what they think will happen to wages over the next year in their firm:

"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?"

Together, these four questions provide a unique view of firms' inflation expectations in France. Unlike other surveys of firms, it includes not just forward-looking expectations but also their perceptions about recent inflation, which can be used to study how informed they are about

[3] Each business owner is interviewed only once a year for two reasons: first, to keep the response rate sufficiently high: second, to prevent learning effects over time (Kim and Binder, 2023).

recent inflation dynamics. And unlike other surveys of firms, the survey also includes a question about wages in their firm, thereby combining forecasts about the aggregate economy as well as firm-specific outcomes. Furthermore, because these questions are asked as part of a larger monthly survey that asks managers about their decisions in previous months as well as their expected decisions in subsequent months, we have the ability to study how inflation expectations are related to these decisions. We explore these additional questions in Section 5.

3. Were firms' inflation expectations anchored during the inflation cycle of 2021-2024?

In this section, we examine how the anchoring of firms' inflation expectations was affected by the inflationary episode. To do so, we look at three different features of inflation expectations (Kumar et al. 2015): how levels of inflation expectations move away from the target, whether disagreement among firms was stronger and finally, how long-term expectations react to variation in perceptions and short-term expectations.

3.1 Levels of inflation expectations

Panel A of Figure 1 presents the evolution of average inflation expectations over time for different forecasting horizons, while Panel B plots the equivalent figure for the median expectation, along with actual inflation in France. Prior to the surge, inflation expectations and perceptions were all in the neighborhood of 2-2.5%. Perceptions of inflation were consistently higher than actual inflation. As the inflation rate rose rapidly starting in early 2022 with the Russian invasion of Ukraine, perceptions of inflation first rose in line with actual inflation but, by 2022Q3 overshot actual inflation and have since remained well above actual inflation, with an average upward bias of around 1-1.5 percentage points.[4] Finally, this gap increased during

[4] See also Appendix Table A.1 for descriptive statistics calculated over the full sample period.

the disinflation, as if firms were surprised by the speed of the disinflation process.[5] Prior work has emphasized that as inflation rose during this period, the size of nowcast errors for households tended to decline (Weber et al. 2025). With French firms, this does not seem to be the case except for a short period early on. Otherwise, they have maintained a consistent, albeit smaller than for households, upward bias in their perceptions of actual inflation.

In terms of 1-year ahead inflation expectations, we can see that as inflation surged in 2022, inflation expectations rose but initially undershot relative to the levels that inflation would reach a year later. But, by the second half of 2022, year-ahead inflation expectations were nearly as high as firms' perceptions of inflation and, even though they declined more rapidly than perceptions, they have consistently overstated what inflation would be in the following year by several percentage points. The pattern during this particular episode can therefore be described as one of initial undershooting followed by a very persistent overshooting of inflation expectations, consistent with the dynamics found in Angeletos, Huo and Sastry (2021). Longer-run inflation expectations display similar dynamics, although changing by smaller amounts both upward and downward.

By the end of 2024 however, perceptions and expectations had all converged back to 2%, following the rapid disinflation in which inflation reached about 1%. Looking at median measures of expectations yields similar results. In short, despite some significant movements during the inflation surge, the levels of inflation expectations ultimately returned to the target following the inflation surge, indicating the inflation surge did not lead to a persistent de-anchoring of the inflation expectations of firms in France, in contrast to e.g. the experience in the U.S. (Coibion and Gorodnichenko 2025).

[5] In the Appendix Figure A.1, we plot the share of firms defined as attentive to inflation (i.e. when the difference between perceived and actual inflation is below 2% in absolute values), we find that the share of attentive firms declined temporarily when inflation declined in 2023.

3.2 Disagreement

A second commonly used metric to assess anchored expectations is to examine disagreement about future inflation: the average forecast may be on target but if this masks that some firms expect inflation well below the target while others expect inflation well above the target, then those expectations should not be characterized as anchored.

First, there are some systematic cross-sectional differences in inflation expectations across firms.[6] In Table 2, we report results of regressions linking some firm-level observable characteristics to their expectations. Specifically, we consider the broad sector of the firm (construction, manufacturing or services) and the size of the firm (in bins for small (<50 employees), medium (50-250 employees) or large (>250 employees)). Following Kim and Binder (2023), we also test for panel conditioning effects by controlling for the number of times the respondent has participated in prior waves. This is to determine if learning about inflation takes place from the act of participating in the survey.

We find some non-trivial average differences in beliefs by sector. For example, construction firms systematically perceive and expect higher inflation than firms in the service sector, by 25 to 50 basis points depending on the measure. Firms in manufacturing tend to have lower expectations than those in either the construction or service sectors. We also find that larger firms tend to have lower inflation perceptions and expectations than smaller firms, with the effects increasing monotonically in size. Differences are large in economic terms: firms with more than 250 employees expect inflation to be 0.7 percentage points lower on average than firms with less than 50 employees. These differences in expectations according to the size of the firm tend to be more pronounced during the period of high inflation (Appendix Figure A.2).

[6] Savignac et al. (2024) investigated some determinants of this dispersion across firms during the pilot phase of the survey.

Finally, we find some evidence of a limited panel conditioning effect. As firms participate in the survey, they tend to change their expectations, reducing them on average, which brings them closer to e.g. professional forecasts given the positive bias that firms' expectations display on average. Interestingly, there is little learning effect when it comes to inflation perceptions, so it does not appear that firms are learning much about actual inflation from participating in the survey. Instead, the effects are more pronounced for inflation expectations, particularly at longer horizons. However, these effects are relatively small, on the order of 20 to 30 basis points, whereas Kim and Binder (2023) found effects as large as two percentage points in the New York Fed's Survey of Consumer Expectations. However, because firms in the French survey participate only once per year (rather than monthly in the SCE), a smaller panel conditioning effect is to be expected.[7]

We then examine how the dispersion of answers has reacted to the inflation surge. To gauge this, Panel C of Figure 1 plots the cross-sectional dispersion in French firms' inflation expectations during the inflation surge, while Figure 2 plots the distribution of responses over time. Prior to the surge, for example, almost forty percent of firms expected inflation to average 1% or less in the long-run whereas almost twenty percent of firms expected long-run inflation to exceed 3%, indicating that the average long-run expectation of 2% masked a significant dispersion in beliefs about long-run inflation.

During the surge, there was a discernible rise in disagreement about perceived inflation but also about both short-run and long-run expected inflation. This rise in disagreement as the inflation rate rose is consistent with the broader pattern identified in Mankiw, Reis and Wolfers (2004) for households and professional forecasters. To gain more insight into the sources of

[7] In Appendix Figure A.2, we present estimates of each of these effects for each survey wave separately to assess if there has been much variation over time as the inflation rate increased. Overall, we find very few changes over time along these dimensions. One noticeable change is inflation differences by sector: these do seem to decline in absolute size during the sample, pointing to some convergence in inflation expectations across sectors, especially for longer-run expectations.

this disagreement, Figure 2 plots the distribution of answers over time for each of the three measures of inflation expectations. The most striking pattern is in Panel C of Figure 2, which shows the time-varying distribution of long-run inflation expectations. As the inflation rate rose, the share of firms responding that they expected long-run inflation to be 1-2% stayed relatively constant at around 30% of responses. What changed was that with higher inflation, there was now a larger mass of people predicting much higher long-run levels of inflation of 5-6% but also even levels above 8% of inflation. In other words, we can see that there were many firms who continued to believe that in the long-run inflation would be brought back down to the ECB's target, but there was also a large group of firms who believed that inflation would remain very high for an extended period of time (i.e. an "inflation disaster").[8] Over the same period, Hilscher et al. (2025) show that the probability of inflation disasters in a 5-year horizon perceived by financial markets participants increased markedly in the euro area. It is striking that both the increase in the share of firms expecting very high inflation and the increase in the probability of inflation disasters as perceived by financial markets coincide. Since 2023Q3, the share of firms expecting inflation to be between 1 and 2% has been progressively coming back to levels observed at the end of 2021 when inflation started to increase.

3.3 Passthrough of inflation shocks into long-term expectations

A third common metric used to assess the anchoring of expectations is the extent to which shocks to the inflation rate translate into long-run expectations, a feature sometimes referred to as the "Bernanke" metric.[9] One of the unique characteristics of the French survey of firms is

[8] Appendix Figure A.1 plots the evolution of the share of firms expecting inflation to be larger than 10% at a one-year horizon (i.e. the top 5th percentile of 1-year inflation expectations) and also Table A.2 investigating the firm-level determinants of such expectations. We find that the probability of expecting an inflation disaster decreases with firm size and is significantly lower for firms that are attentive to inflation.

[9] "*In this context, I use the term "anchored" to mean relatively insensitive to incoming data. So, for example, if the public experiences a spell of inflation higher than their long-run expectation, but their long-run expectation of inflation changes little as a result, then inflation expectations are well anchored. If, on the other hand, the public reacts to a short period of higher-than-expected inflation by marking up their long-run expectation considerably, then expectations are poorly anchored*." Bernanke (2007).

that it includes beliefs about inflation at multiple horizons, including perceptions, one-year ahead expectations as well as longer-run inflation expectations, which is useful because it allows us to characterize the perceived persistence of the inflation process on the part of firms, i.e. how long-lived innovations to recent inflation are expected to be.

We can quantify this by projecting forward-looking measures of expected inflation on past inflation. For example, if we regress 1-year ahead inflation expectations on perceptions of inflation over the last year, the estimated coefficient identifies the perceived AR(1) coefficient of inflation at an annual frequency. If we regress long-run inflation expectations on perceived inflation, we similarly infer the perceived persistence of inflation over this longer horizon. Because each firm provides measures of perceived and expected inflation in each wave, we can run this regression using cross-sectional variation within each wave and thereby quantify the time-variation in this perceived persistence. If firms expected inflation to quickly return to the inflation target, consistent with anchoring, this perceived persistence should be quite low.

We plot the results from these quarterly estimates of persistence using one-year inflation forecasts in Panel A of Figure 3 and using long-run inflation forecasts in Panel B of Figure 3. Prior to the surge, we can see that the perceived passthrough of inflation shocks into long-run expectations was fairly high: every 1% point increase in past inflation raised long-run expectations by around 0.2-0.4% points, and every 1% point increase in expected inflation over the next year raised long-run expectations by around 0.6-0.8% points, both of which indicate a high perceived persistence of inflation, at odds with very anchored expectations but consistent with a range of other evidence from professional forecasters and firms across countries (Candia et al. 2023).

During the inflation surge, we observe a *decline* in the perceived persistence of the inflation process take hold when the inflation rate surges in 2022. Using year-ahead forecasts, we see for example that the perceived persistence of the inflation rate falls from around 0.8 in

2022Q1 when inflation first started rising (and before expectations responded strongly) to 0.5 by 2023. This indicates that the rise in inflation was perceived as less persistent by firms than typical inflation variation. In a symmetric way, we also observe an increase in persistence at the end of 2023 and in 2024 when the inflation rate fell. We see a similar pattern when looking at the implied persistence from regressing long-run forecasts on perceptions of inflation (Panel B). We can also measure the perceived persistence of the inflation progress by regressing long-run expectations on year-ahead inflation expectations (Panel C) or long-run expectations on both perceived and year-ahead inflation expectations (Panel D). In each case, we first see a decline in the perceived persistence of inflation when inflation rises, but by 2024, the perceived persistence of inflation had returned to its 2020-2021 value.[10] The latter indicates that the disinflation process did not reinforce nor deteriorate significantly the anchoring of long-term inflation expectations in comparison with what was observed before the inflation surge.

Taken together, these results suggest that when inflation started surging in Europe in 2022, firms viewed the source as differing from prior inflation movements and perceived it as likely to be more transient than typical inflation movements. Interestingly, this is at odds with the finding in Weber et al. (2025) who found that, among U.S. households, there was an increase in the perceived persistence of inflation during the same period. When we estimate how French households perceived the persistence of inflation during the inflation surge (using the CES-ECB survey and the same empirical set-up as the one used for French firms), we find very similar results as those found for firms, in particular, a *decrease* in the persistence in 2022-2023 (see Appendix Figure A.4). Overall, the initial perspective of French firms (and households) about the inflation outlook was quite different during this period than was the case for U.S. households. This could potentially be explained by the fact that, unlike in the U.S., French

[10] We find very similar results when looking at year-on-year revisions of firms' expectations. These revisions are calculated as the difference between the answer given by firm i at date $t+4$ and the answer given by the same firm one year before at date t (see Appendix Figure A.3).

authorities limited the passthrough of the energy price shocks into the prices faced by consumers, thereby dampening the unanchoring of inflation expectations during this period (Coibion and Gorodnichenko 2025).

4. Wage Growth and Inflations Expectations

Another unique dimension of this survey is that, in addition to measuring firms' inflation perceptions and expectations, it also asks them about their expectations for wage growth in their firm over the next 12 months. This makes it possible to study the relationship between firms' inflation expectations and their expectations about their own wage growth.

4.1 Aggregate and cross-sectional evidence

Figure 4 (Panel A) plots date by date the average, median and standard deviation for firms' year-ahead own-wage expectations. There are several notable differences compared to inflation expectations. First, while there is a similar under-reaction to the rise in wage inflation in 2022 as for aggregate inflation (i.e. forecasts of wage inflation are significantly lower than what wage inflation turns out to be a year later), by the end of 2022, firms' own-wage expectations are very close on average to what actually subsequently happened to their wages over the next year.[11] In other words, we do not see the overshooting pattern that characterized firms' aggregate inflation expectations. With wages, the initial undershooting in 2022 is the only visible deviation from a full-information response. Second, there is a limited increase in disagreement about future wages across firms during the high inflation period even though they started to disagree much more about future inflation. By itself, this already suggests that there must have been a limited passthrough of expected inflation into their own wages during this

[11] In the Appendix B, we compare for a subsample of about 1,300 firms the wage growth expectation as reported by the business owner with the actual outcome of wage bargaining in the same firm (the wage agreement can be signed before or after the survey). We find a strong contemporaneous correlation between the two variables (Figures B.1 and B.2 in the Appendix) and no systematic bias in their answers.

period, or the rise in disagreement about inflation would have led to a corresponding rise in disagreement about wages, something we do not observe. Looking at how the distribution of answers evolve over time (Figure 4, panel B), we observe more frequent answers above 3 or 4% until the end of 2022. Since 2023Q3, the share of firms expecting wages to rise by more than 3% has declined, while the share of firms expecting wages to rise by less than 2% has continuously increased to reach more than 60% at the end of 2024.

Looking at systematic differences across firms, we find that most patterns are opposite to the ones found for inflation (Table 2). In particular, larger firms systematically expect higher growth in their wages than smaller firms. Wage growth expectations are lower in the construction and, to a lesser extent, in the manufacturing sector than in services. Finally, we do not observe any statistically significant panel conditioning effect. This is again consistent with earlier evidence on learning effects in Kim and Binder (2023), who showed that learning takes place primarily with regards to topics that agents tend to be less informed about in the first place. Firm-specific variables are generally better understood by firms, so limited panel conditioning effects are to be expected in this context. We also observe that some of these systematic differences evolved during the surge period (Appendix Figure A.2). The most striking finding is that firm size differences in own-wage expectations increased sharply as the inflation rate went up then largely disappeared as the inflation rate came back down. Larger firms increased their wage expectations much more as the inflation rate rose than did smaller firms, with the gap exceeding 1 percentage point in 2023Q1.

4.2 Linking wage expectations to inflation perceptions and expectations

Figure 5 presents a visual representation of the link between beliefs about inflation and about own-wage growth. Panel A presents a scatter plot of inflation perceptions versus wage growth expectations, while Panels B and C present equivalent scatter plots for 12-month ahead and 3- to 5-year ahead inflation expectations against own-wage growth expectations respectively.

Two things jump out from the figure. First, there seems to be a strong correlation between inflation perceptions and expected wage growth at low inflation levels, as well as for 12-month ahead inflation expectations with expected wage growth at low inflation levels. In contrast, there is little correlation between longer-run inflation expectations and wage expectations of firms. This appears qualitatively consistent with the logic of Werning (2022), who suggested that expectations embodied in fixed duration contracts should be limited to those with horizons overlapping with the duration of the contract. Avouyi-Dovi et al. (2013) and Gautier et al. (2022) show that the typical duration of collective wage agreements is one year and wages are also updated on average once a year. So, the relevant expectations for wage growth should be recent and future inflation within that 12-month period. Longer run expectations should not matter since firms will have the opportunity to reset wages before that longer time horizon materializes. Figure 5 suggests that, at least visually, this pattern is present among wage setters. Second, the figure indicates that once inflation or expectations of inflation exceed a threshold at 6%, the relationship between inflation expectations and wage expectations breaks down.[12]

To assess the passthrough of inflation expectations to wage expectations in more details, we estimate Huber regressions linking own-wage expectations to inflation perceptions and expectations:

$$E_t^i \Delta w_{t+12}^i = a + bE_t^i \pi_t + cE_t^i \pi_{t+12} + dE_t^i \pi_{LT} + \theta X^i + \varphi_t + error_{i,t}$$

where $E_t^i \Delta w_{t+12}^i$ is the expected own wage growth, $E_t^i \pi_t$, $E_t^i \pi_{t+12}$, $E_t^i \pi_{LT}$, are respectively inflation perceptions, 1-year expectations and 3 to 5-year expectations, we also include controls

[12] To estimate this threshold, we estimate Huber regressions linking wage expectations to inflation perceptions or expectations separately and interacting this variable with a dummy variable equal to 1 if its value is above the threshold. We select the threshold maximizing the adjusted R2. For all three variables of inflation perceptions and expectations we find 6%. Figure A.5 in the Appendix also plots the correlation between wage expectations and inflation perceptions or expectations when inflation perceptions or expectations are below a given threshold (these correlations are estimated from a simple OLS model relating expected wage growth to perceptions / expectations interacted with a dummy variable equal to 1 when perceptions/expectations are below a given threshold and including some controls).

X^i for sector, size, region and φ_t time fixed effects (year fixed effects or date fixed effects). One challenge when estimating the relationship between inflation expectations and wage growth is that firms' expectations of wage growth might be driven by common variation in expected inflation (i.e. similar information about the macroeconomic outlook for instance). In this context, estimating the equation over a period when aggregate inflation expectations vary a lot should help for the identification of the correlation. We can also control for these common expectations by including fixed time effects, and, in that case, firm-specific differences (given a common macroeconomic scenario) will be the main source of identification of the correlation.

We report in Table 3 the results of different regressions including or not time fixed effects. When we do not include any time fixed effects, the impact of inflation perceptions on wage expectations is 0.19 pp whereas the impact of 1-year inflation expectation is 0.08 pp (column 1); both impacts are significant whereas the impact of long-term inflation expectations is negative, small and barely significant. When we include time fixed effects, the elasticities are lower (meaning that time fixed effects actually capture a common aggregate passthrough) but still significant for inflation perceptions and 1-year expectations (columns 2 and 3).[13] These estimates are broadly in line with the low passthrough estimates obtained in other countries in Europe (Abberger et al. 2024, Baumann et al. 2024 and Buchheim et al. 2024), where the reported estimates range between 0.1 and 0.3.[14] One original finding compared to this recent literature is that inflation perceptions seem to matter as much as or more than inflation expectations.[15] The stronger impact of inflation perceptions relative to 1-year inflation expectations could be related to the fact that during the inflation surge, wage decisions were

[13] In the Appendix B, we also report results using as endogenous variable the actual negotiated wage growth observed at the firm level (for firms having signed such an agreement some months after responding to our survey). Results are quite similar as the one obtained for expected wage growth.
[14] See also Le Bihan et al. (2012) linking actual base wage increases and measures of forecasted and past inflation in France. Their estimates are also in line with our survey results.
[15] In Appendix Table A.3, we show that when we do not include perceptions in our regressions, the coefficients for short-term expectations are much larger, this is especially true if we do not include any time fixed effects but this is also the case when we include time fixed effects.

partly motivated by catching up with recent losses in purchasing power. The importance of perceived inflation for wage growth expectations is also consistent with some degree of backward-lookingness in wage-setting decisions (in line with the formal indexation of the national minimum wage in France, see also Gautier et al. (2022) for more evidence on French wage-setting).[16] We also find that this elasticity is quite heterogeneous across firms: it is much stronger for larger firms and weaker for firms in the construction sector (columns (4) and (5) of Table 3).[17]

In Table 4, we investigate whether the pass-through is stronger for firms that are more attentive to inflation than others (columns (1) and (2)). To define the level of attention of firms to inflation, we compare their inflation perceptions with actual inflation (following Coibion et al. 2018).[18] If the difference between these two variables is lower than a given threshold, we consider that firm to be attentive to inflation, and we interact perceptions and expectations with this dummy variable in our baseline regression. We use two thresholds of 2 percentage points and 1 percentage point. Regardless of the threshold, we find that the pass-through of perceptions and expectations into wage growth is significantly stronger for more attentive firms: the estimated coefficients for both perceptions and 1-year expectations double when firms are more attentive to inflation.

4.3 How did the high-inflation period affect the pass-through of expectations into wage growth?

Table 4 also documents results when we interact inflation perceptions and expectations with a dummy variable equal to 1 if actual CPI inflation in France is higher than 3% (column (3)) or

[16] This is also consistent with evidence provided by Buccheim et al. (2024) on German firm-level data where realized aggregate inflation over the past 12 to 24 months matter for expected wage growth at the firm level.
[17] In the Appendix B, we also report results where we interact the exogenous variable with a dummy variable equal to 1 if the firm negotiates wages at the firm level. Our aim is to test whether elasticities differ if wages are actually set at the firm level or whether they are determined at a different level (sector, minimum wages…). We find that elasticities are slightly higher for firms negotiating their wages but not significantly.
[18] In Appendix Table A.2, we report regressions investigating the main determinants of attentiveness of firms.

higher than 4% (column (4)) (Figure 1). We observe a clear fall in the coefficient linking perceived and expected inflation and wage expectations when inflation is larger than 3 or 4%.[19] In Appendix Table 4, we document passthrough estimates by year and we find similar results: coefficients fall in 2022 and 2023 when inflation was higher than usual. These findings show that inflation expectations do not seem to matter more during the inflation surge, contrary to what Jorda and Necchio (2023) found from wage Phillips curves estimated on US data and to the results obtained by Akarsu et al. (2025) based on an RCT on Turkish firms in a context of unanchored inflation expectations.

However, as shown earlier, the dispersion in inflation expectations was high during the inflation surge, and we want to assess whether this lower passthrough might come from the small share of firms expecting a very high inflation rate (i.e. "inflation disaster"). We define a threshold at 10% (i.e. the 5th percentile of 1-year inflation expectations) and we interact in our baseline regression the inflation variables with a dummy for 1-year inflation expectation (or long-term inflation expectation) lower than 10%.[20] Results are reported in Table 4 columns (5) and (6). We find much larger passthrough coefficients for firms expecting inflation lower than 10%. This suggests that inflation expectations matter less for wage decisions when they are far from being anchored. Their influence on wage setting seems to be much more pronounced when they are located in a more realistic range of values. Most answers exceeding 10% are reported during the high inflation period (when actual inflation ranged between 4 and 6%). We run the same regression as in columns (3) and (4) interacting inflation perceptions and expectations with a "high inflation" dummy but excluding inflation expectations larger than 10% (Table 4 column (7)): we no longer find any difference in estimated coefficients in high or low inflation

[19] We obtain a very similar result when linking wage expectations revisions to inflation expectation revision (see Appendix Table A.4).

[20] In Appendix Table A.2, we report regressions investigating the main determinants of expecting an inflation disaster. We find that these firms are more likely to be in the construction sector and less likely to be in the manufacturing sector than in services. The probability of expecting an inflation disaster decreases with firm size and is significantly lower for firms that are attentive to inflation.

environments and the passthrough coefficients are stronger (in both low and high inflation environments). This suggests that the smaller passthrough during the high-inflation regime was driven by the subset of firms who expected very high inflation but did not expect to adjust their wages in response to this belief.

5. How Do Inflation and Wage Expectations Affect Firms' Decisions on Prices, Employment and Output?

We exploit the fact that the survey includes questions on firms' expected and past decisions to assess how expectations affect decisions on prices, output and employment. For example, every month, firms are asked about whether they expect to change their prices in the next month. Their answers are qualitative, with the ability to select "increase prices," "decrease prices," or "no change." They are also asked a similar qualitative question about whether they have raised their prices in the previous month. Hence, the survey allows us to measure, at least qualitatively, firms' expected and actual price changes over time. The survey also includes similar questions about employment and production, thereby also allowing us to measure these additional decisions on the part of firms.

We plot these qualitative measures of prices, employment and output in Figure 6. Panel A, which focuses on price changes, shows the fraction of firms reporting that they expect to raise prices in the next month as well as the fraction of firms expecting to cut prices. The latter tends to be small, less than 5% in any given month. The share of firms expecting to raise prices, however, changes significantly over time, rising to over 40% at the peak of the inflation spike. The figure also plots whether firms in the next month also report having changed prices, and we see that the two series move very closely together. The figure illustrates that, as the inflation rate spiked, there was a significant change in the extensive margin of price adjustment.

In Panels B and C, we plot equivalent figures for employment and output changes. Consistent with the absence of large changes in aggregate employment or output during the inflation surge, we do not see any systematic changes in firms reporting that they expected to change production of employment over these periods. Production expectations are particularly choppy, due to seasonal production patterns, but looking past these does not show any particular changes during the sample.

5.1 Inflation expectations and firms' decisions

To assess the effect of inflation expectations on decisions, we estimate local projections for the cumulative change in outcomes as follows:

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

where $\Delta x^{i}_{t+h,t+h-1}$ is the reported change in outcomes (e.g. change in prices) or the expected change in decisions (e.g. expected in prices) of firm *i* between time *t+h* and *t+h-1*, where Δx is set to one when firms report an increase, zero for no change and minus one for a decrease. Note that the regression controls for each firm's perceived level of inflation $E^{i}_{t}\pi_t$ at time *t* as well as firm-level characteristics X^{i} such as sector, size, region and time fixed effects γ_t. The parameter of interest for us is δ_H, which captures how an increase in inflation expectations of firm *i* translates into their subsequent expected or actual decisions at horizon *H*. We consider horizons of up to 12 months.

In Figure 7 (panel A), we plot impulse responses for expected prices, employment and output to inflation expectations.[21] We find that higher inflation expectations are followed by an increase in the cumulative number of times that firms report expecting to increase prices or having actually increased prices in subsequent months. Moreover, there tends to be an

[21] Appendix Figure A.7 plots the same estimation results but using past prices, employment and production as endogenous variables.

asymmetric effect on price decreases, which respond much less than price increases (Figure A.6 in Appendix). We also find that higher inflation expectations are followed by reductions in employment, which are most sharply identified when using ex-post employment changes (Figure A.7 in Appendix). With production, there is no clear response to inflation expectations on average during the sample. Overall, this suggests that higher expected inflation is associated on average with higher prices and lower employment, as if firms react to a supply shock.[22]

5.2 Wage expectations and firms' decisions

We similarly assess the pass-through of expected wage changes in the firm into prices, employment and production using the same specification as before, but with wage expectations in place of price expectations:

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

As we show in Figure 7 (panel B), on average over the sample, an increase in expected wages is followed by a sharp increase in expected price changes on the part of the firm. Higher expected wages are also followed by sharp increases in employment and production. This suggests that much of the variation in firms' own-wage expectations reflects expected changes in demand for their products, which leads them to increase their employment and the wages paid to their workers. The implied pass-through of wage expectations into prices is significantly larger than the pass-through of aggregate inflation.

We investigate whether this pass-through is stronger when firms are more attentive to inflation following the same approach as the one used when we link inflation perceptions and expectations to wage growth (in Section 4.2). Figure 8 plots the results: when firms' inflation perceptions are closer to the actual inflation rate, the pass-through of wage expectations into

[22] Appendix Figures A.8 and A.9 show that long-term inflation expectations have a much lower (and most of the time insignificant) effect on prices, employment or output of firms. Perceived inflation has a rather small effect on prices but a much more negative effect on employment and output.

their decisions is much stronger than when they are uninformed about current inflation. This is true not just for the pass-through of their wage expectations into prices but also for their wage expectations into employment and output decisions.

5.3 Results in high vs low inflation environments

Because our interest is in assessing whether these effects vary with the level of inflation, we split the sample into two periods: one when inflation is rather low (below 4%) and another one when inflation is relatively high (larger than 4%). We then estimate each regression separately on the two samples. We plot the impulse responses for each outcome (prices, employment and production) and each period in Figure 9 (panel A): we find a stark difference in the firms' responses across the two regimes. With prices, the positive response to expected inflation is much larger in the low-inflation period, indicating that the pass-through of expected inflation into prices is weaker when inflation is larger. This finding of a lower passthrough during the high inflation period is similar as the one found when we link wage and inflation expectations. This is true regardless of whether we measure price outcomes through expected price changes or through ex-post actual price changes.

As with inflation expectations, we find a sharp reduction in the amount of passthrough of wage expectations into prices during the high-inflation period (Figure 9 - panel B). The same pattern holds with employment, with the much weaker responses of employment following increases in expected wages during the high-inflation period. Despite the latter, our interpretation is that wage and price inflation expectations seem to have had much smaller passthrough into decision-making during the high-inflation era than in the past. This suggests that, even as these expectations spiked, their effect on actual outcomes was mitigated.

We investigate whether the very large inflation expectations are behind this weakening of the passthrough. Figure 10 plots results of estimations where we split the sample between those firms reporting inflation expectations higher than 10% (i.e. expecting an "inflation disaster") and those firms expecting inflation to be lower than 10%. We find that the passthroughs of inflation and wage expectations are stronger for firms expecting inflation to remain below 10%. This in particular true for the passthrough of inflation expectations into prices or wage expectations into employment. When we remove inflation expectations larger than 10%, the differences in the passthrough in the low and high inflation regimes are smaller (Appendix Figure A.10). In particular, the price responses look almost the same across low and high inflation periods, and the passthrough of wage expectations into prices and employment is also closer for both regimes. Again, this suggests that the weaker passthrough in the high inflation regime is driven by a small share of firms expecting an inflation disaster (i.e. inflation expectation much larger than the actual inflation), but for other firms the link is more or less the same in a high or low inflation environment.

6. Conclusion

The recent inflation surge led to renewed consideration of the dynamics and role of firms' expectations. Using a new survey of French firms, we find that their inflation expectations under-responded to the initial surge but then systematically and persistently over-reacted. Firms initially perceived the surge as more transitory than typical inflation fluctuations but revised this belief over time. While their wage expectations also increased during this period, they did not overshoot actual wage changes and became less tightly connected to firms' inflation expectations. And while both forms of expectations typically are followed by firms being more likely to increase their prices, we show that this passthrough weakened during the inflation surge. This suggests that expectational forces likely played a slightly smaller role in explaining inflation dynamics than one might have expected from prior evidence.

These results speak to the extent to which policymakers have to worry about anchoring expectations during this type of episode. The common wisdom is that expectations can potentially become unanchored during inflation spikes, which could tend to generate wage-price spirals. The case of France indicates that this does not have to happen. First, we find a growing disconnect between firms' expectations about aggregate inflation (which rose sharply) and their expectations about their own-wage growth (which was much more muted). Thus, even though firms' inflation expectations over-responded and did not appear anchored, this did not translate into a commensurate change in expectations about wages in their firms. Second, the passthrough of expectations into prices and employment appears to have weakened significantly during the inflation surge. As a result, the sharp rise in inflation expectations and the more limited increase in own-wage expectations likely did not lead to as much upward pressure on inflation as one might have expected from earlier periods, thereby limiting the scope for any wage-price spiral dynamics and helping to explain why inflation in France remained relatively subdued compared to other countries. Understanding why the expectations of firms in France did not become as unanchored as in other countries, like the U.S., should therefore be an important question for future work.

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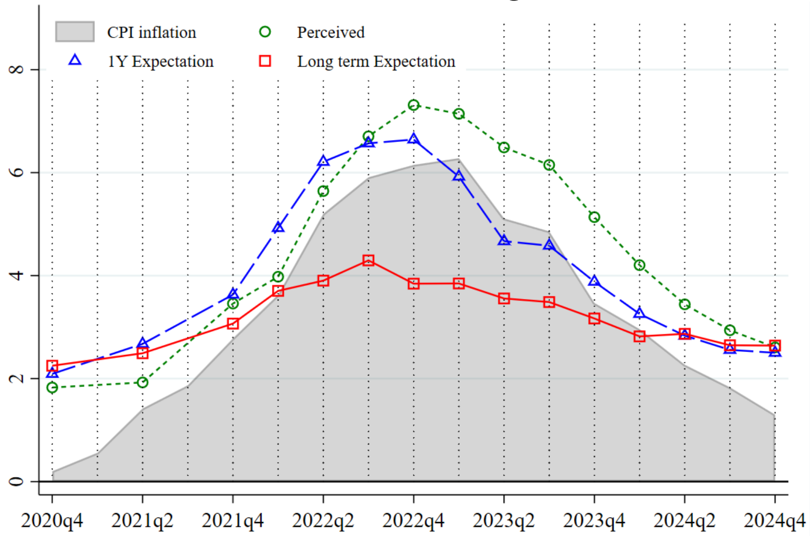
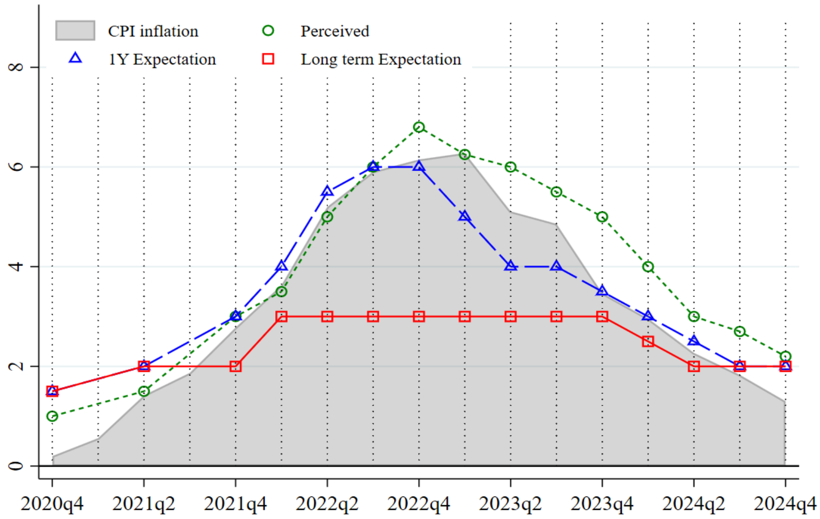
Figure 1 – Firms inflation expectations over time

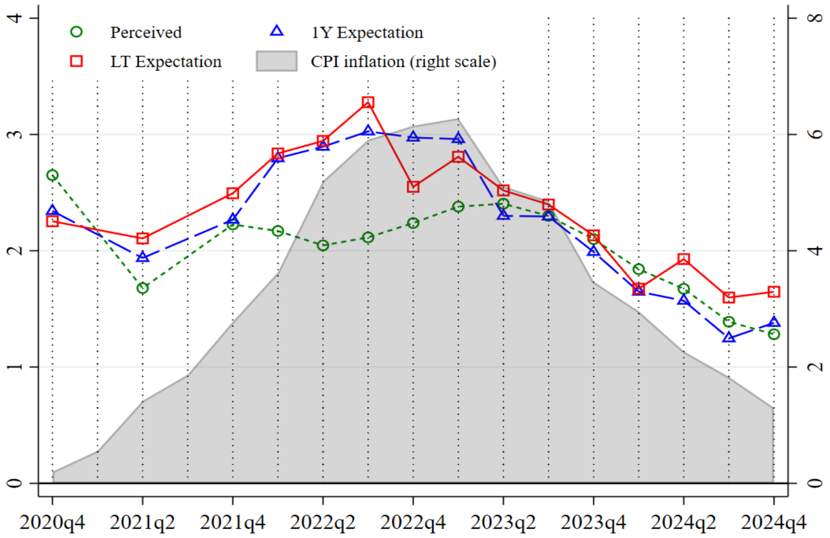
Panel A - Average



Panel B - Median

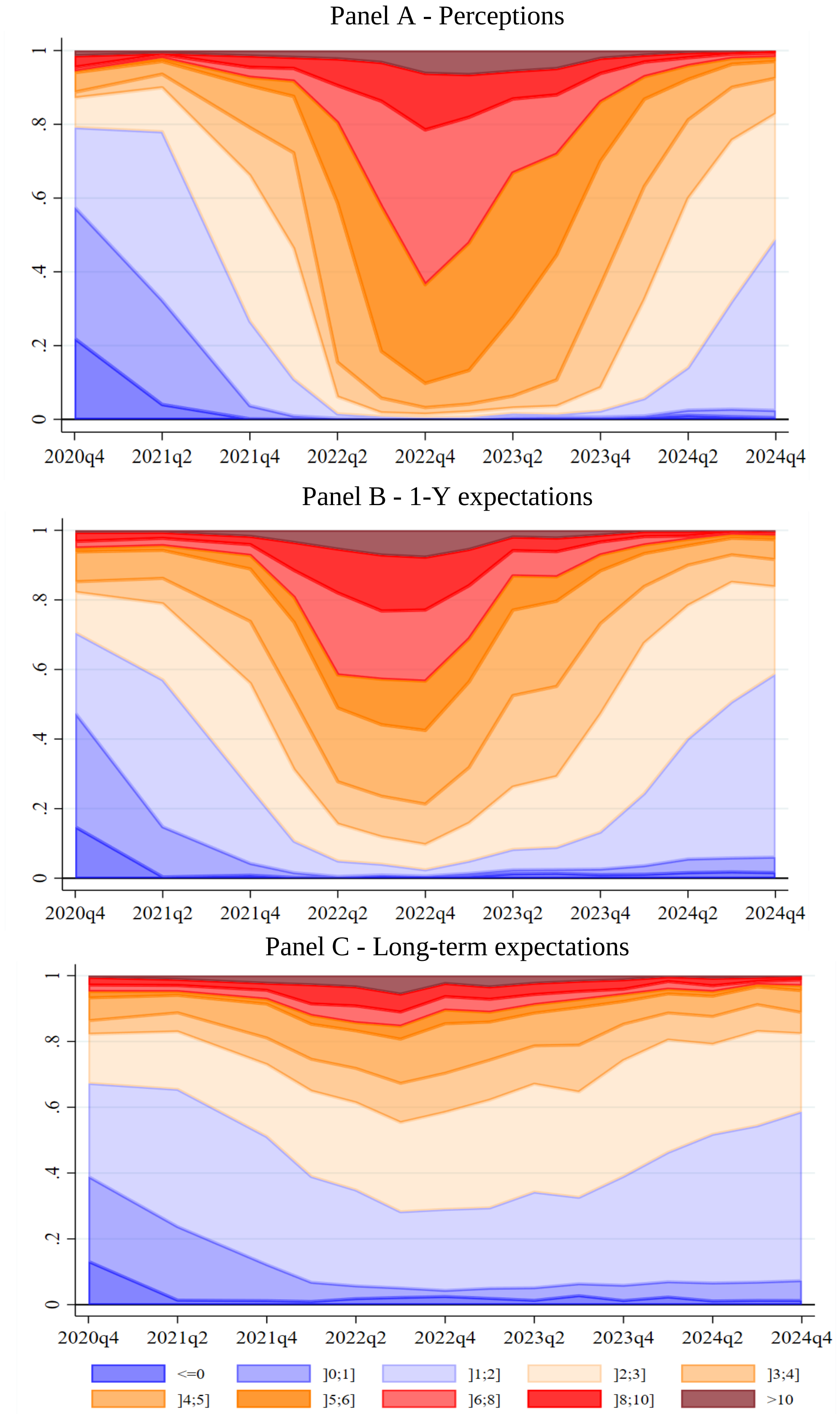


Panel C - Standard deviation



Note: the figures plot unweighted average, median and standard deviation calculated at each wave of the inflation expectation survey using answers below 20%.

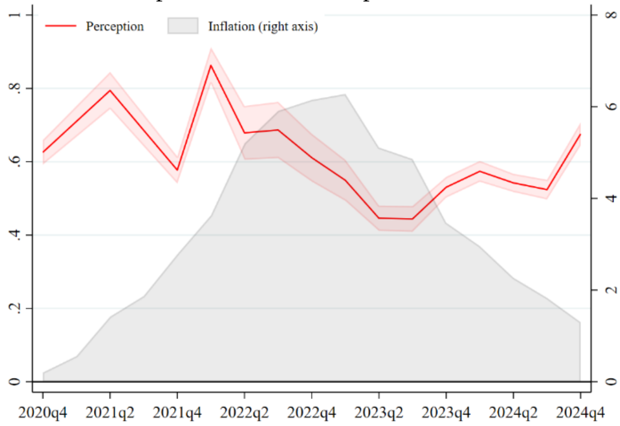
Figure 2 – Distribution of firms' inflation expectations over time



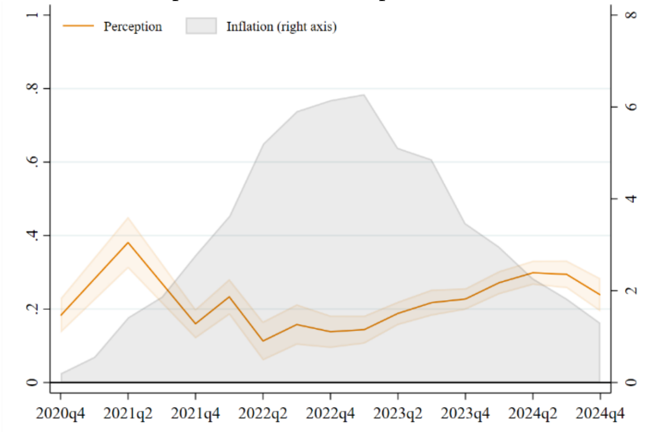
Note: the figures report the proportion of answers in each bin calculated for each wave of the inflation expectation survey using answers below 20%.

Figure 3 – Perceived Persistence of Inflation

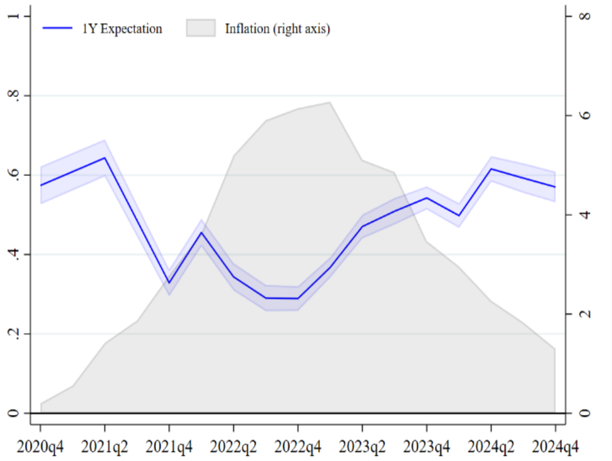
Panel A - 1Y expected inflation on past inflation



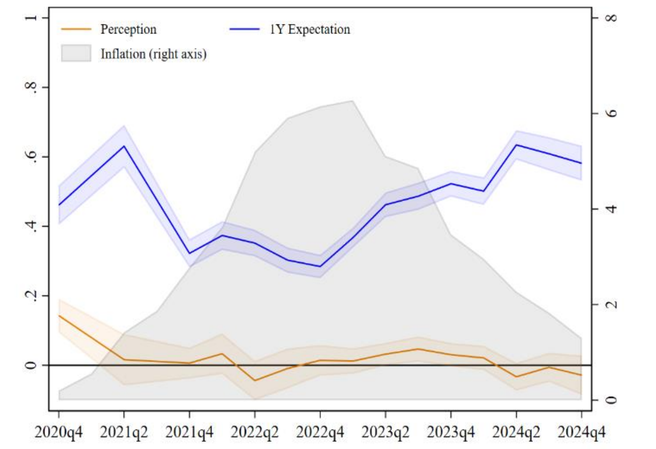
Panel B - LT expected inflation on past inflation



Panel C - LT expectations on 1Y expectations



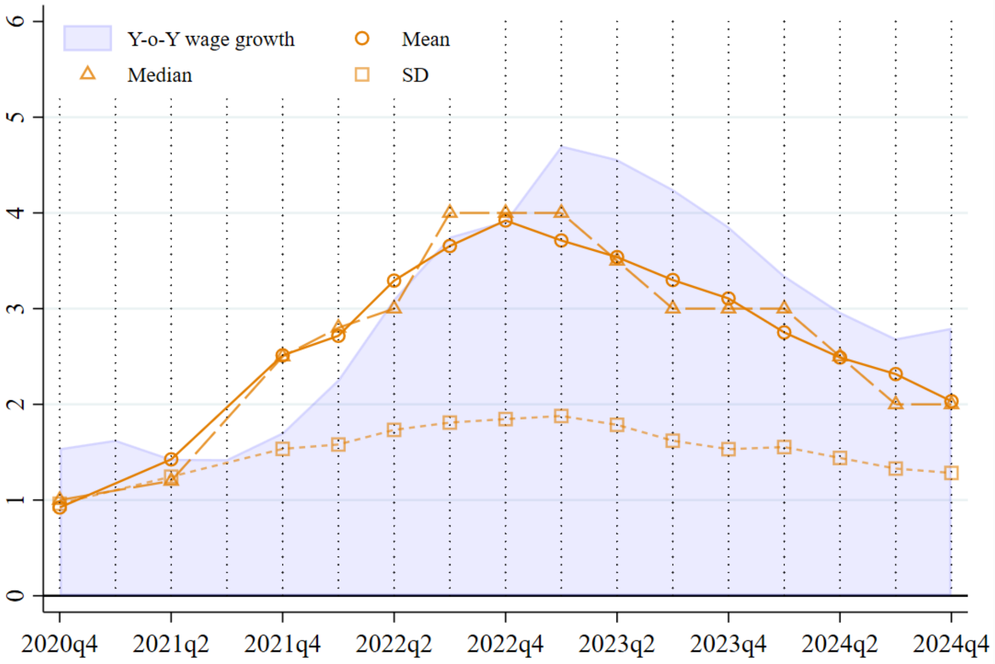
Panel D - LT expectations on past inflation and 1Y expectations



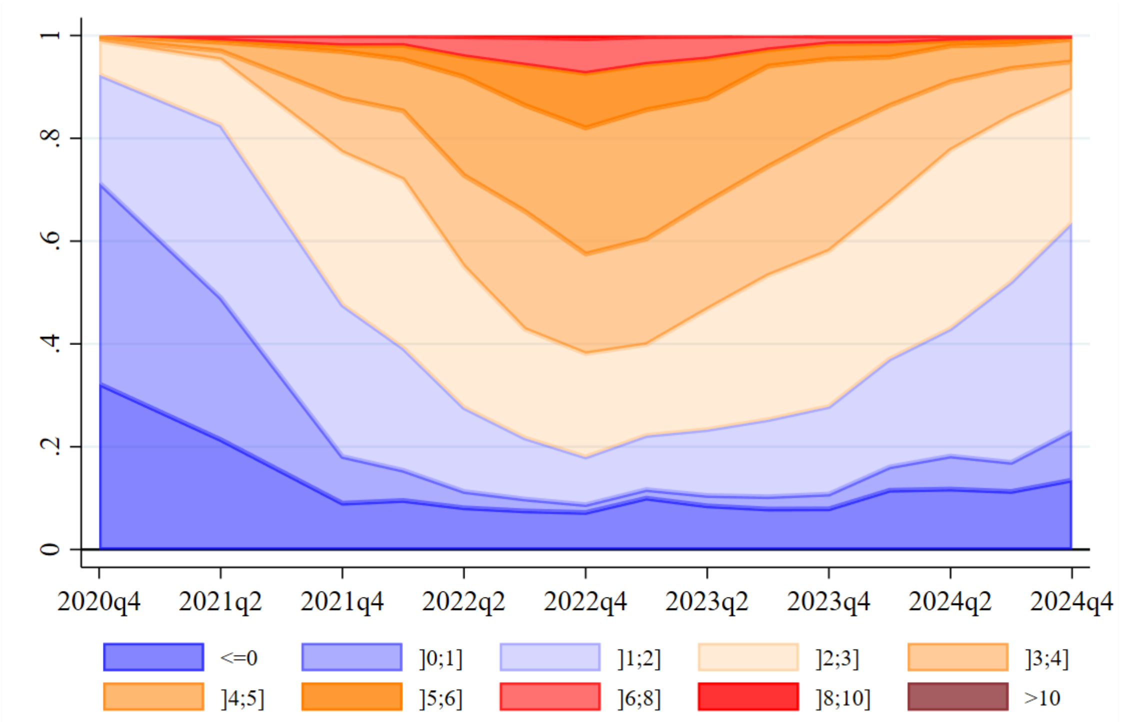
Note: for every quarterly wave of the survey, we estimate a separate Huber regression linking inflation expectations (long term and short term) and inflation perceptions. Each panel of the figure plots the estimated coefficients of these regressions wave by wave. Panel A – we regress short-term inflation expectations on inflation perception, Panel B – we regress long-term inflation expectations on inflation perception, Panel C – we regress long-term inflation expectations on short-term expectations, Panel D – we regress long-term inflation expectations on short-term inflation expectations and inflation perceptions. Every regression also include region, sector, size, learning fixed effects. Shaded areas in colors correspond to 95% confidence intervals.

Figure 4 – Firms' wage growth expectations over time

Panel A - Average – median – standard deviation



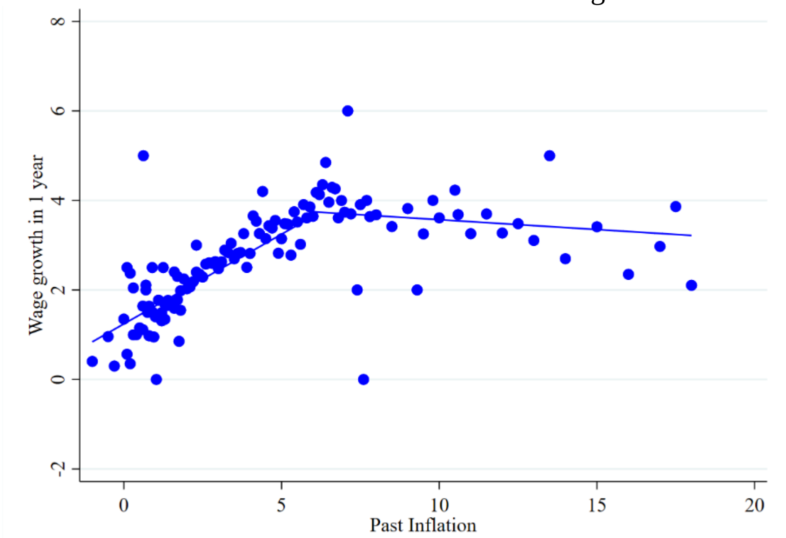
Panel B - Distribution over time



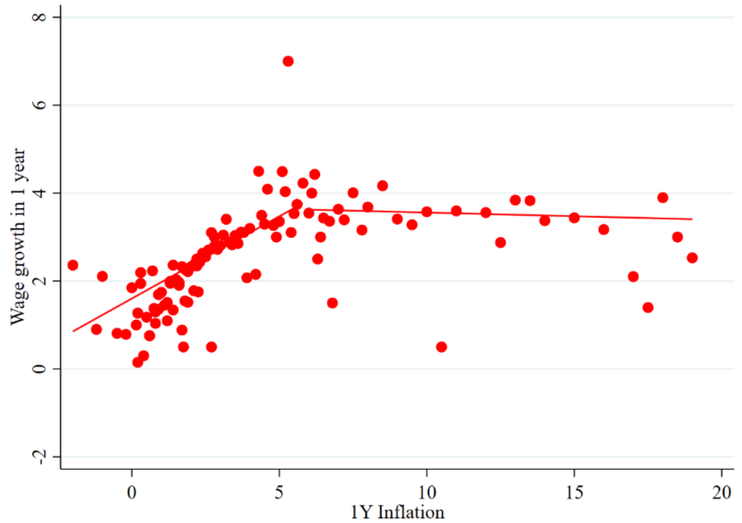
Note: the figure (Panel A) reports the unweighted average, median and standard deviation for firms' own wage expectations from the survey as well as the year on year growth of base monthly salary (source: DARES – French Ministry of Labor). The figure (Panel B) reports the proportion of answers in each bin calculated for each wave of the inflation expectation survey using answers below 10%.

Figure 5 – Price and Wage Inflation Correlations

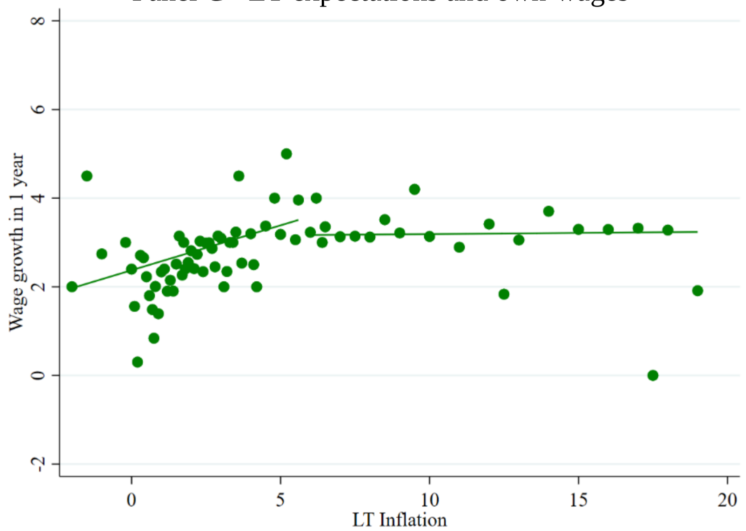
Panel A – Past inflation and own-wages



Panel B – 1 Y expectations and own-wages



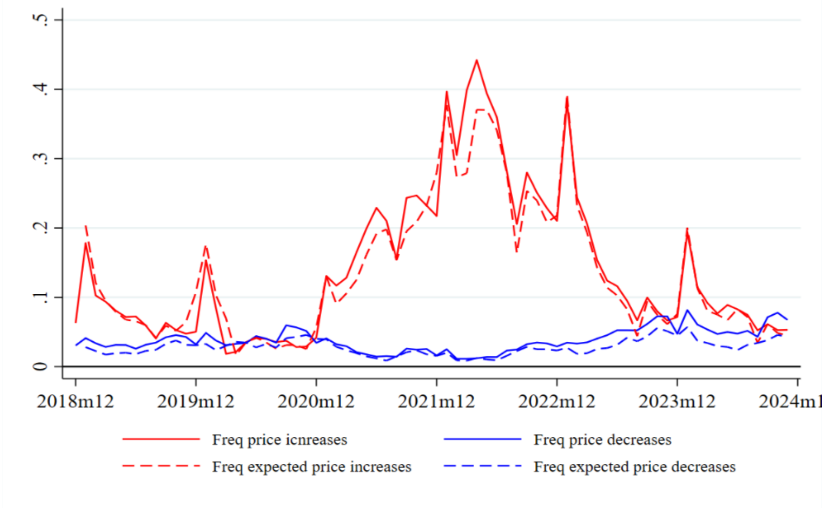
Panel C - LT expectations and own-wages



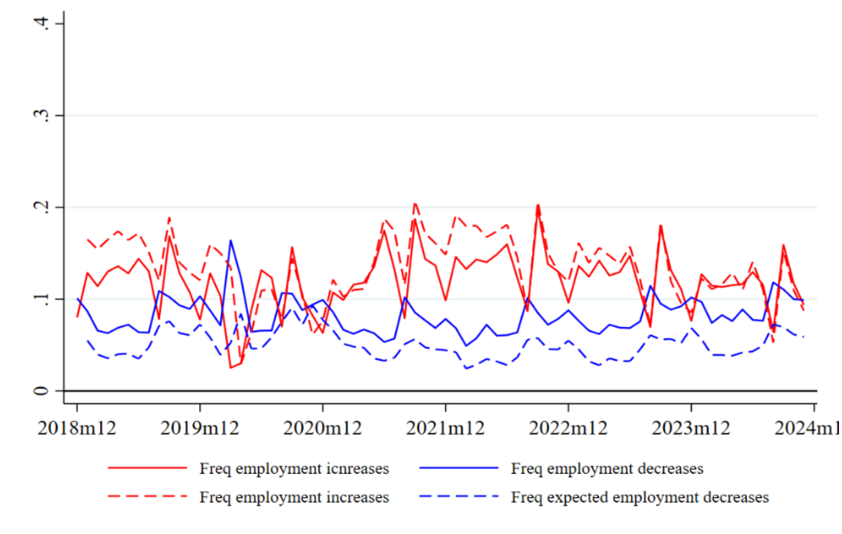
Note: the figures plot binned scatter plots, lines plot the fitted Huber regressions linking expected wage growth to inflation perceptions or expectations in interaction with a dummy variable equal to 1 if perceived or expected inflation is above a threshold of 6% (this threshold is the one maximizing the fit of the regression for all three regressions).

Figure 6 – Expectations and Realizations of Price, Employment and Output Changes

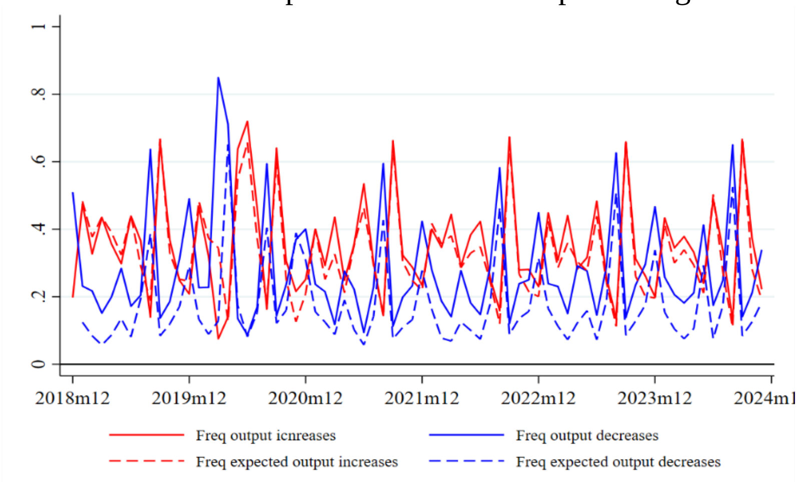
Panel A - Anticipated and Actual Price Changes



Panel B - Anticipated and Actual Employment Changes



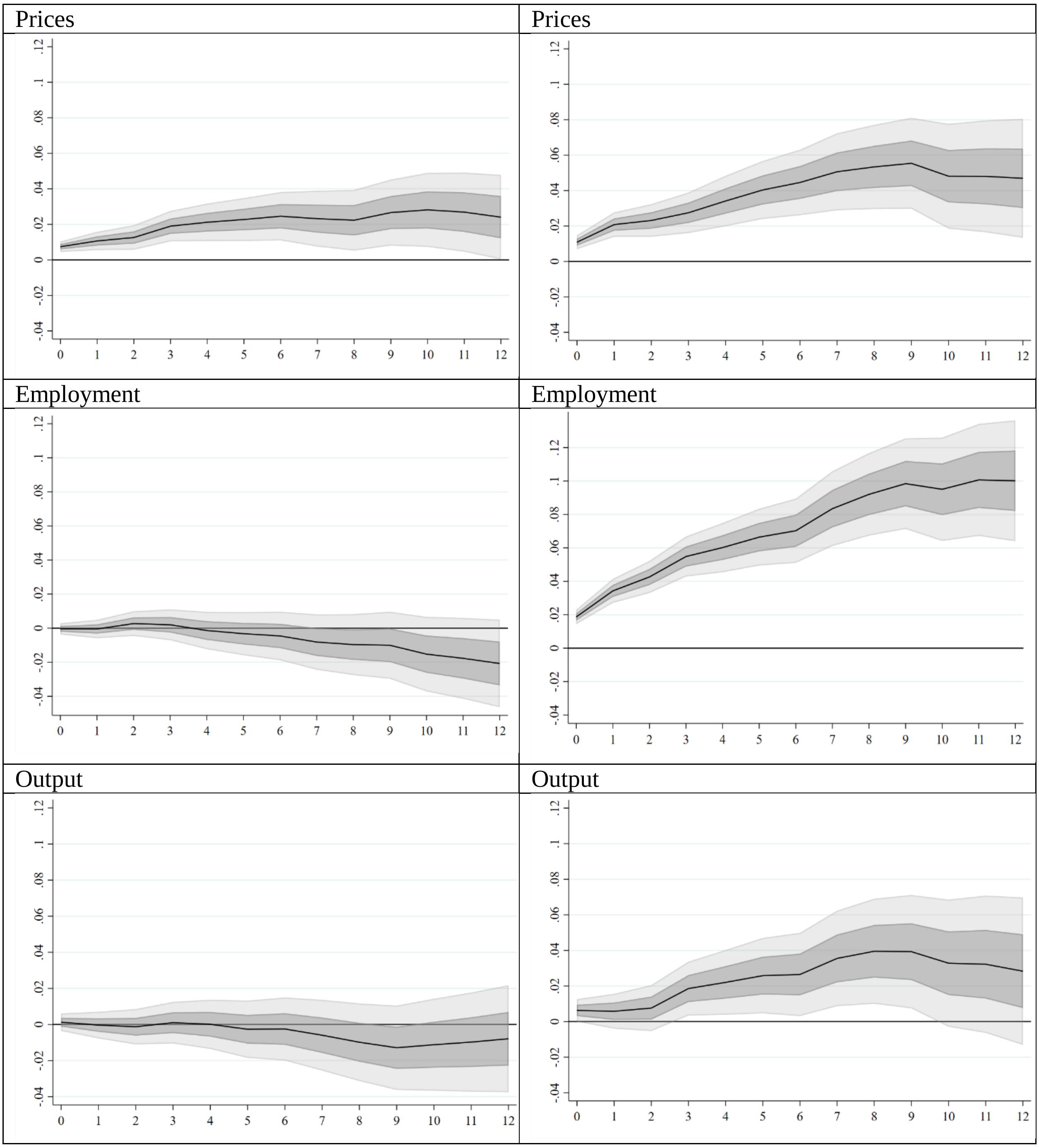
Panel C - Anticipated and Actual Output Changes



Note: the figures plot the share of answers reporting an increase (in red) or a decrease (in blue) for expected variables (dashed lines – with a one month lead) and actual decisions (solid lines – contemporaneous)

Figure 7: The Average Effect of 1-Year Inflation and Wage Growth Expectations on Future Prices, Employment and Output

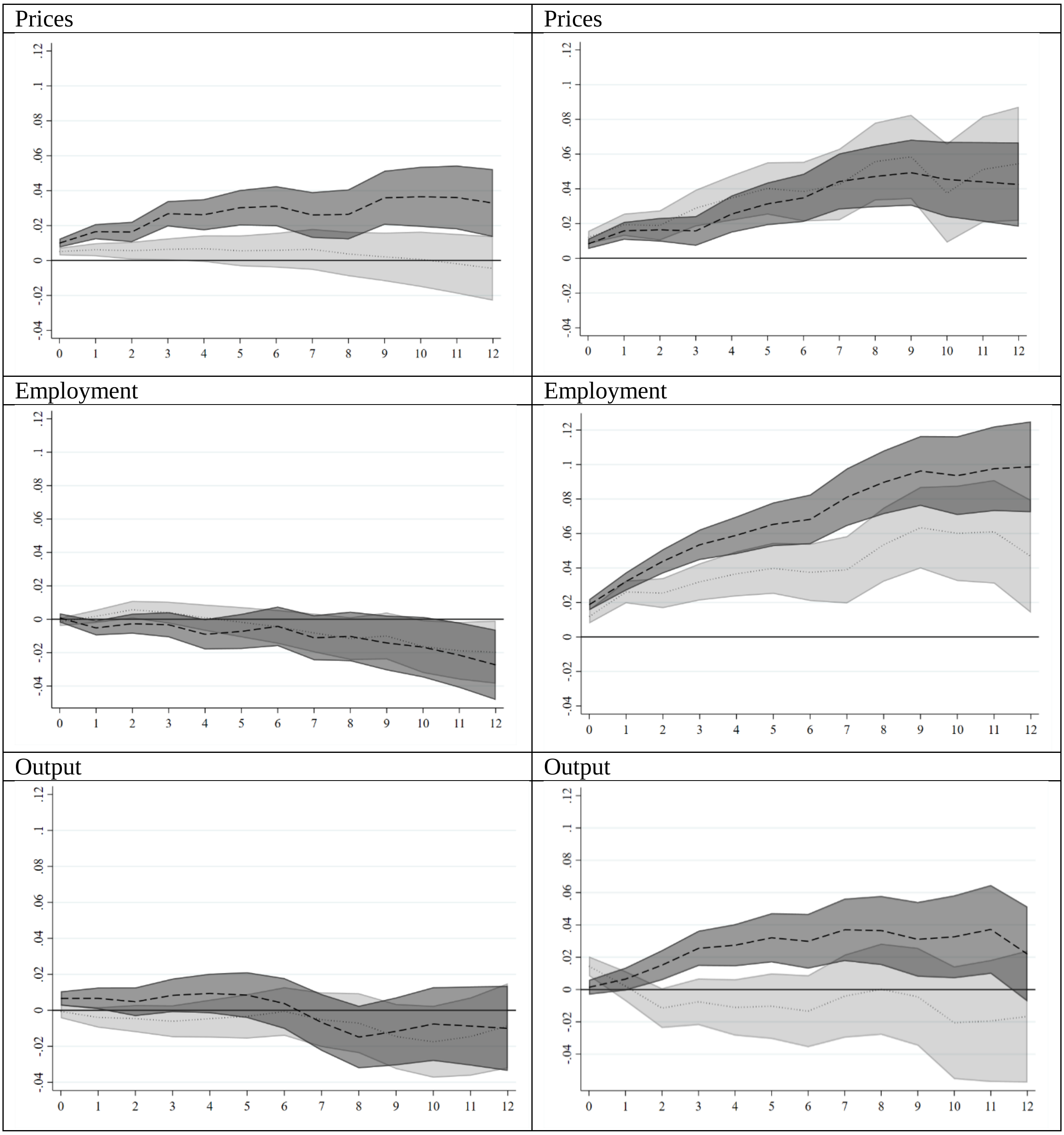
Panel A- 1Y inflation expectations ***Panel B - Own-wage 1Y expectations***



Note: each panel plots the estimates from local projections where the endogenous variable cumulates an ordered qualitative variable for expected price/employment/output variation over the next month (increase/stable/decrease - taking values +1/0/-1) over horizon H (=1,…12) and the exogenous variable is the aggregate inflation and wage growth expectation at date t+0. Shaded areas correspond to confidence intervals (68% in dark grey and 95% in light grey). Controls include perceived inflation, date, sector, region and size fixed effects.

Figure 8: Attention to Inflation - Average Effect of 1-Year Inflation and Wage Growth Expectations on Future Prices, Employment and Output –

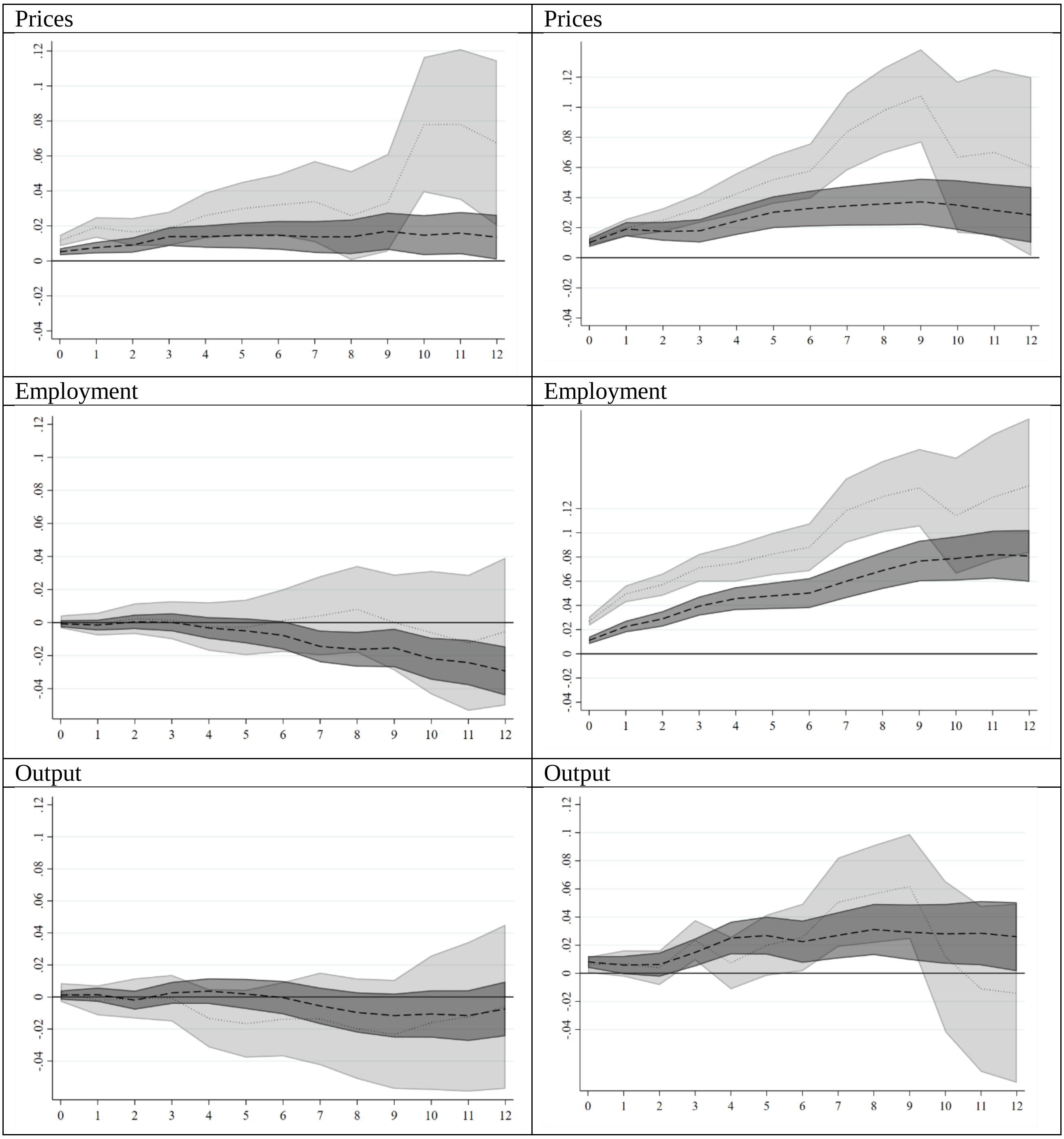
Panel A- 1Y inflation expectations ***Panel B- Own-wage 1Y expectations***



Note: each panel plots the estimates from local projections where the endogenous variable cumulates an ordered qualitative variable for expected price/employment/output variation over the next month (increase/stable/decrease - taking values +1/0/-1) over horizon H (=1,…12) and the exogenous variable is the aggregate inflation and wage growth expectation at date t+0. In each panel, the black dashed line plots the impulse response estimated using the sample of respondents for which the difference between inflation perception and actual inflation at the date of the interview is lower than 2% in absolute value; the light grey solid line plots the impulse response function estimated using answers of respondents for which the difference between perceived and actual inflation is larger than 1% in absolute values. Shaded areas correspond to 68% confidence intervals. Controls include perceived inflation, date, sector, region and size fixed effects.

Figure 9: The Average Effect of 1-Year Inflation and Wage Growth Expectations on Future Prices, Employment and Output – High vs. Low Inflation

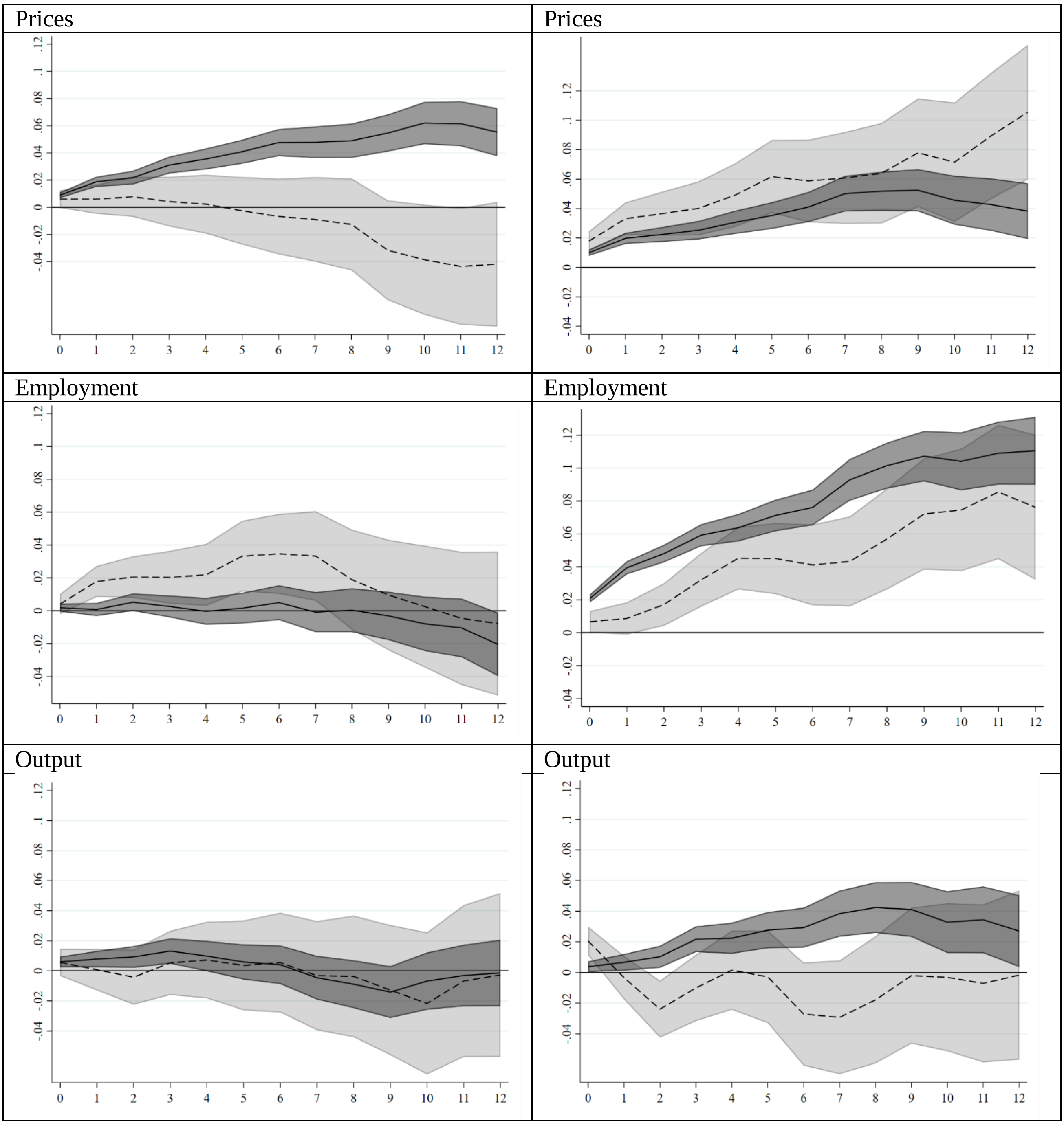
Panel A - 1Y inflation expectations ***Panel B- Own-wage 1Y expectations***



Note: each panel plots the estimates from local projections where the endogenous variable cumulates an ordered qualitative variable for expected price/employment/output variation over the next month (increase/stable/decrease - taking values +1/0/-1) over horizon H (=1,…12) and the exogenous variable is the aggregate inflation and wage growth expectation at date t+0. In each panel, the black dashed line plots the impulse response estimated on the subsample of respondents reporting their inflation and wage expectations when CPI inflation was higher than 4%; the solid grey line corresponds to the impulse response function estimated on the subsample of respondents reporting their inflation and wage expectations when CPI inflation was below 4%. Shaded areas correspond to 68% confidence intervals. Controls include perceived inflation, date, sector, region and size fixed effects.

Figure 10: Average Effect of 1-Year Inflation and Wage Growth Expectations on Future Prices, Employment and Output: Expecting an Inflation Disaster or not

Panel A - 1Y inflation expectations ***Panel B - Own-wage 1Y expectations***



Note: each panel plots the estimates from local projections where the endogenous variable cumulates an ordered qualitative variable for expected price/employment/output variation over the next month (increase/stable/decrease - taking values +1/0/-1) over horizon H (=1,…12) and the exogenous variable is the aggregate inflation and wage growth expectation at date t+0. In each panel, the black solid line plots the impulse response estimated on the subsample of respondents expecting inflation one-year ahead to be lower than 10% ; the black dashed line plots the impulse response estimated on the subsample of respondents expecting inflation one-year ahead to be higher than or equal to 10% ("inflation disaster"). Shaded areas correspond to 68% confidence intervals. Controls include perceived inflation, date, sector, region and size fixed effects.

Table 1: Survey Participants

	Total	Construction	Industry	Services
# answers				
Size				
Less than 50 employees	10,073	2,474	2,657	4,942
50-250 employees	7,445	849	4,517	2,079
More than 250 employees	3,569	182	2,688	699
Year				
2020	727	96	342	289
2021	2,175	339	1,024	812
2022	6,071	998	2,830	2,243
2023	6,141	1,034	2,876	2,231
2024	6,015	1,045	2,805	2,165
Total	21,129	3,505	9,862	7,720
# firms				
Size				
Less than 50 employees	3,935	949	1,013	1,945
50-250 employees	2,696	304	1,610	782
More than 250 employees	1,251	60	942	249
# of answers by firm				
1	1,335	237	506	592
2	1,715	244	744	727
3	3,379	595	1,591	1,193
>3	1,474	239	732	503
Total	7,903	1,315	3,573	3,015

Note: waves run in end 2020 and Q2 2021 cover 2 regions among 13 (see Savignac et al. 2024); between Q4 2021 and Q4 2024 all waves are national (all regions covered).

Table 2: Expectations and Firm Characteristics

Endogenous variable		Inflation		Wage growth
	Perception	1-y expectation	3-5y expectation	1-y expectation
Sector				
Construction	0.227*** (0.050)	0.284*** (0.058)	0.436*** (0.071)	-0.175*** (0.039)
Manufacturing	0.024 (0.034)	-0.147*** (0.040)	-0.266*** (0.045)	-0.077*** (0.029)
Services	Ref	Ref	Ref	Ref
Size				
Less than 50 empl.	Ref	Ref	Ref	Ref
50-250 empl.	-0.341*** (0.035)	-0.461*** (0.046)	-0.505*** (0.046)	0.205*** (0.029)
>250 empl.	-0.454*** (0.041)	-0.675*** (0.046)	-0.731*** (0.051)	0.426*** (0.033)
Waves				
"Learning effect"				
1	Ref	Ref	Ref	Ref
2	-0.157*** (0.055)	-0.182*** (0.063)	-0.193*** (0.073)	-0.039 (0.046)
3	-0.096* (0.058)	-0.177** (0.065)	-0.280*** (0.077)	-0.079 (0.049)
>3	-0.120 (0.082)	-0.184** (0.093)	-0.233** (0.107)	-0.036 (0.073)
R2	0.421	0.309	0.087	0.162
Number of observations	19,588	18,691	15,710	17,673

*Note: the table reports estimates of OLS regressions linking individual answers to the survey (inflation perception, expectations and wage growth expectations) to some firm-level characteristics (sector, size, number of times (annual frequency) this firm has responded to the survey). Time and region fixed effects are also included. Robust standard errors are reported in parenthesis. *** 1%, ** 5%, * 10%.*

Table 3: Impact of Inflation Perceptions/Expectations on Wage Growth Expectations

Wage Growth Expectation	(1)	(2)	(3)	Size (ref. <50 employees)	Sector (ref. Services)
Past inflation	0.190***	0.118***	0.054***	0.032***	0.074***
	(0.007)	(0.007)	(0.008)	(0.010)	(0.012)
1-y expectation	0.076***	0.051***	0.043***	0.045***	0.034**
	(0.007)	(0.008)	(0.008)	(0.010)	(0.019)
3-5-y expectation	-0.017**	-0.010	-0.001	-0.002	-0.011
	(0.007)	(0.007)	(0.006)	(0.009)	(0.021)
# 50-250 employees					
Past inflation				0.029**	
				(0.014)	
1-y expectation				0.006	
				(0.016)	
3-5-y expectation				0.005	
				(0.014)	
# >250 employees					
Past inflation				0.071***	
				(0.018)	
1-y expectation				-0.017	
				(0.021)	
3-5-y expectation				-0.004	
				(0.021)	
# Construction					
Past inflation					-0.037**
					(0.019)
1-y expectation					-0.011
					(0.021)
3-5-y expectation					0.021
					(0.017)
# Industry					
Past inflation					-0.023
					(0.014)
1-y expectation					0.021
					(0.016)
3-5-y expectation					0.016
					(0.015)
R2	0.161	0.181	0.207	0.206	0.208
Year fixed effects	No	Yes	No	No	No
Date fixed effects	No	No	Yes	Yes	Yes
# obs.	13,892	13,892	13,892	13,892	13,892

*Note: the table reports estimates of Huber regressions linking answers to the wage growth expectation question to answers on perceived and expected inflation. In column (1), no time fixed effects are included, column (2) year effects are included, (3) date (quarter*year) are included. Columns (4) and (5) report results interacted by size and sector (including date fixed effects). Sector, size, wave, and region fixed effects are also included. Robust standard errors are reported in parenthesis. *** 1%, ** 5%, * 10%.*

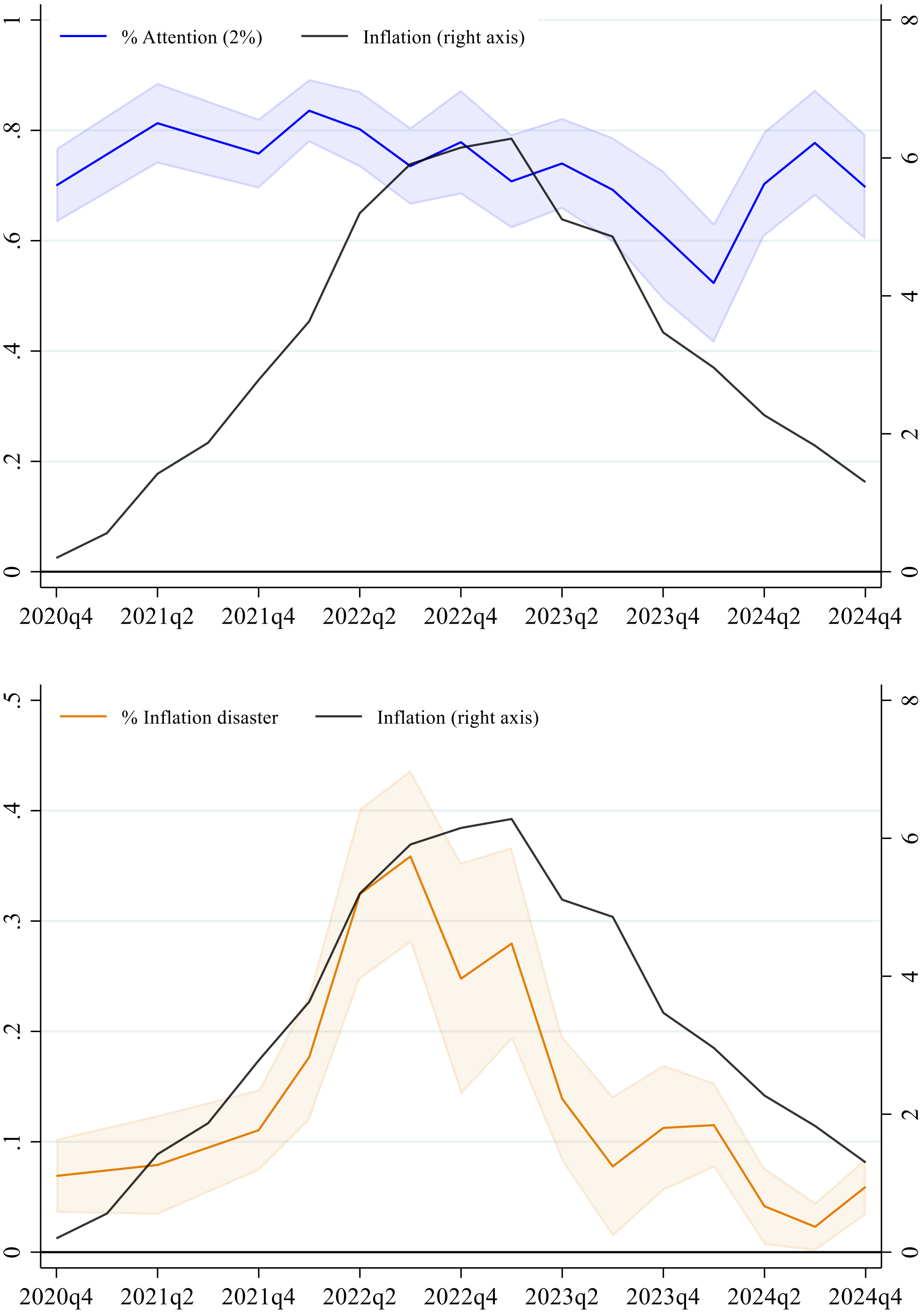
Table 4: Heterogeneity of the Impact of Inflation Perceptions/Expectations on Wage Growth Expectations

Wage Growth Expectation	Attention		High inflation		Expected inflation "disaster"		High inflation (excl. expected disaster)
	2% (1)	1% (2)	3% (3)	4% (4)	1-Y (5)	Long run (6)	4% (5)
Past inflation	0.062*** (0.010)	0.067*** (0.010)	0.051*** (0.015)	0.067*** (0.012)	0.063*** (0.008)	0.063*** (0.008)	0.075*** (0.012)
1-y expectation	0.025** (0.017)	0.026*** (0.017)	0.074** (0.017)	0.052*** (0.013)	0.086*** (0.010)	0.053*** (0.008)	0.091*** (0.015)
3-5-y expectation	-0.023** (0.011)	-0.007 (0.009)	0.011 (0.019)	0.002 (0.010)	0.007 (0.008)	0.010 (0.027)	0.004 (0.010)
# attentive to inflation							
Past inflation	0.089*** (0.010)	0.046*** (0.010)					
1-y expectation	0.026* (0.015)	0.039*** (0.015)					
3-5-y expectation	0.033** (0.013)	0.009 (0.013)					
# high inflation							
Past inflation			-0.001 (0.017)	-0.029* (0.016)			-0.019 (0.017)
1-y expectation			-0.037* (0.019)	-0.013 (0.016)			-0.005 (0.020)
3-5-y expectation			-0.019 (0.014)	-0.010 (0.013)			0.004 (0.015)
# expectation ≥ 10%							
Past inflation					-0.077*** (0.019)	-0.116*** (0.022)	
1-y expectation					-0.130*** (0.028)	-0.086*** (0.021)	
3-5-y expectation					-0.042*** (0.014)	0.012 (0.027)	
R2	0.210	0.208	0.206	0.206	0.210	0.209	0.220
# obs.	13,892	13,892	13,892	13,892	13,892	13,892	13,019

*Note: the table reports estimates of Huber regressions linking answers to the wage growth expectation question to answers on perceived and expected inflation. In columns (1) and (2), the perceived and expected inflation answers are interacted with an "attention" dummy: this dummy is equal to 1 if the difference between perceived and actual inflation is lower than 1 or 2% in absolute values. In columns (3) and (4), the perceived and expected inflation answers are interacted with a "high inflation" dummy: this dummy is equal to 1 if CPI inflation is above 3 or 4%. In columns (5) and (6), the perceived and expected inflation answers are interacted with an "inflation disaster" dummy (equal to 1 if the expected inflation rate is larger than 10%). Column (7) same regression as in column (4) but excluding 1-year inflation expectations larger than 10%. Sector, Size, wave, region fixed effects and date fixed effects are also included in all regressions. *** 1%, ** 5%, * 10%.*

APPENDIX FIGURES AND TABLES

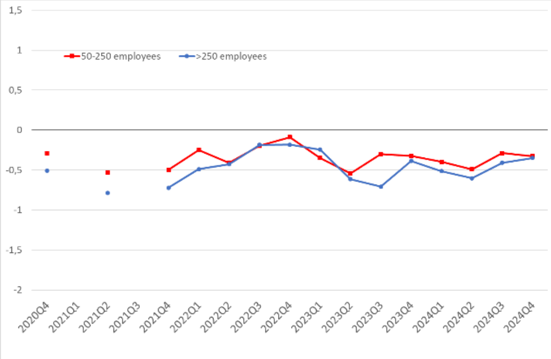
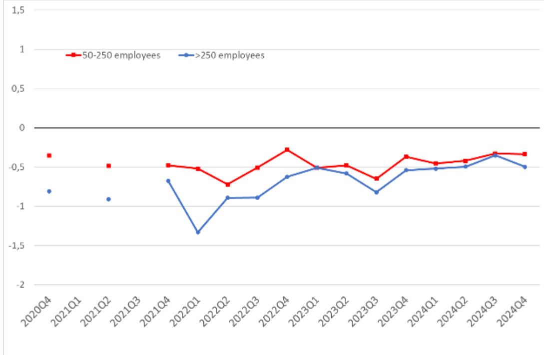
Appendix Figure A.1: Proportion of firms attentive to inflation / expecting an inflation disaster over time.

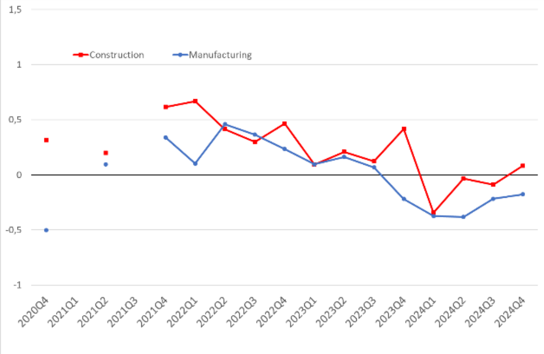
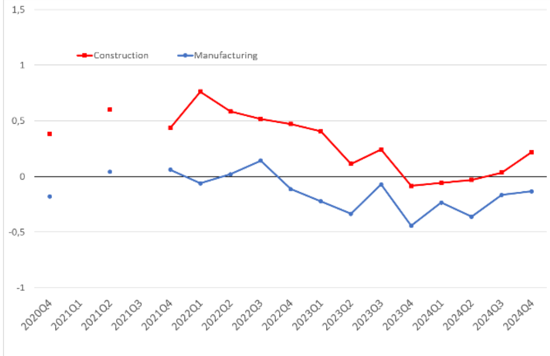


Note: each panel plots the share of respondents attentive to inflation defined as having an inflation perception close to actual inflation (difference of less than 2% in absolute terms), and the share of respondents expecting an inflation disaster (ie a 1-year inflation expectation larger than 10%). We control for size, region and wave effects. Shaded areas correspond to 95% confidence bands from regressions including those controls.

Appendix Figure A.2: Expectations and Firm Characteristics – TIME SERIES

<table>
<tr><th></th><th>Past inflation</th><th>Inflation in one year</th></tr>
<tr><td>Size

(REF <50 employees)</td><td>
</td><td>
</td></tr>
<tr><td>Sector

(REF Services)</td><td>
</td><td>
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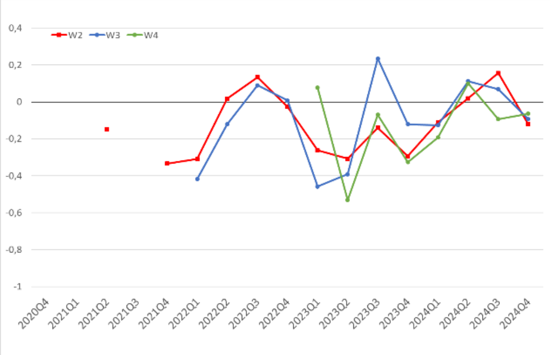
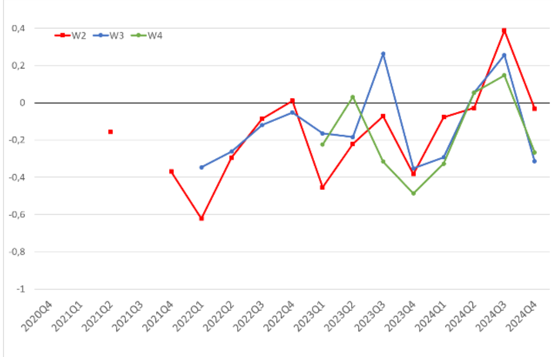
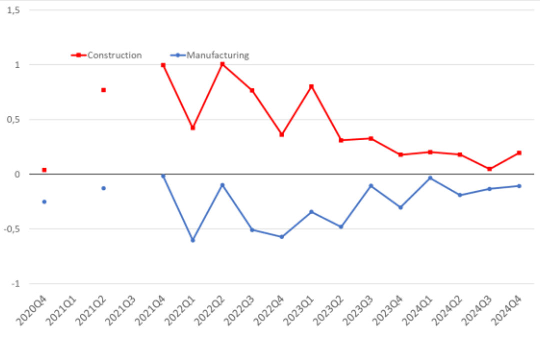
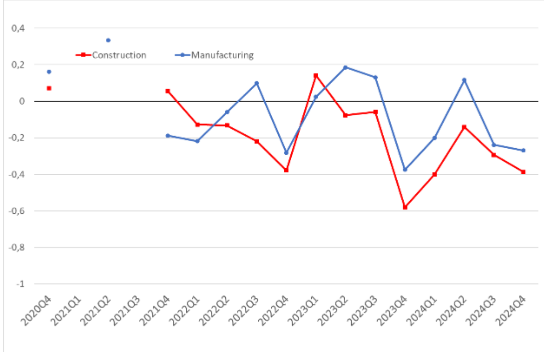
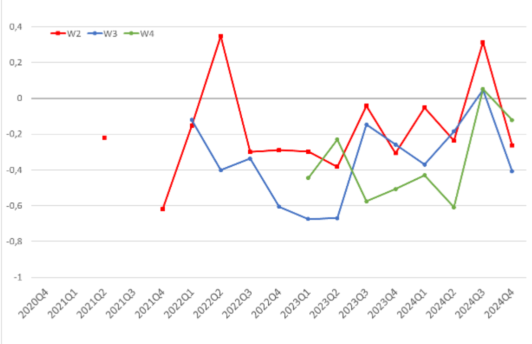
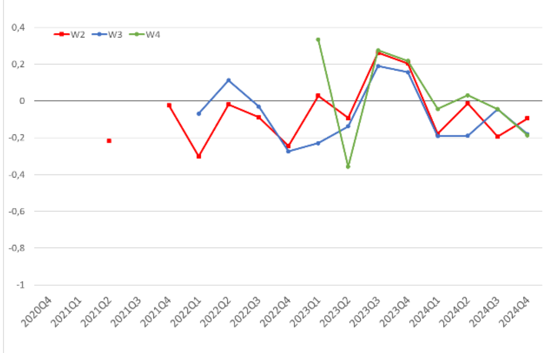
<tr><td>Learning

(REF Wave 1)</td><td>
</td><td>
</td></tr>
</table>

*Note: the figures plot results of OLS regressions estimated date by date linking individual answers to the survey (inflation perception, expectations and wage growth expectations) to some characteristics of the firm (sector, size, number of times (annual frequency) this firm has responded to the survey). Time and region fixed effects are also included. Robust standard errors are reported in parenthesis. *** 1%, ** 5%, * 10%.*

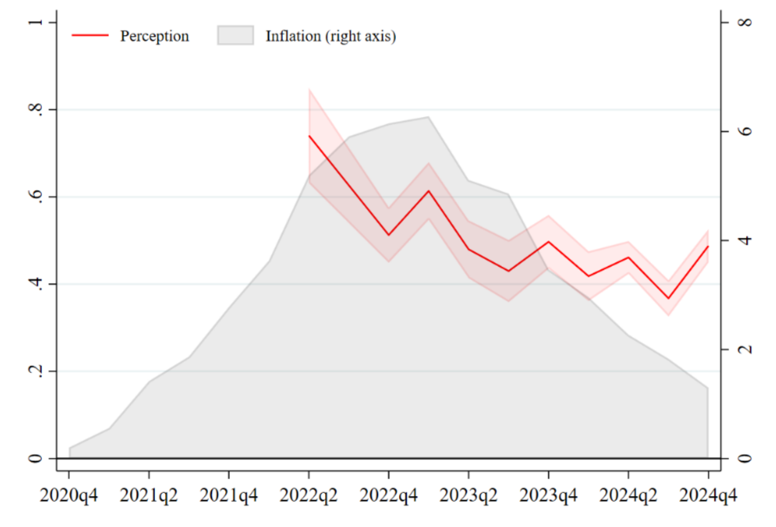
Appendix Figure A.2 (continued): Expectations and Firm Characteristics – TIME SERIES

	Inflation in 3-5 years	Wage growth expectations
Size (REF <50 employees)		
Sector (REF Services)		
Learning (REF Wave 1)		

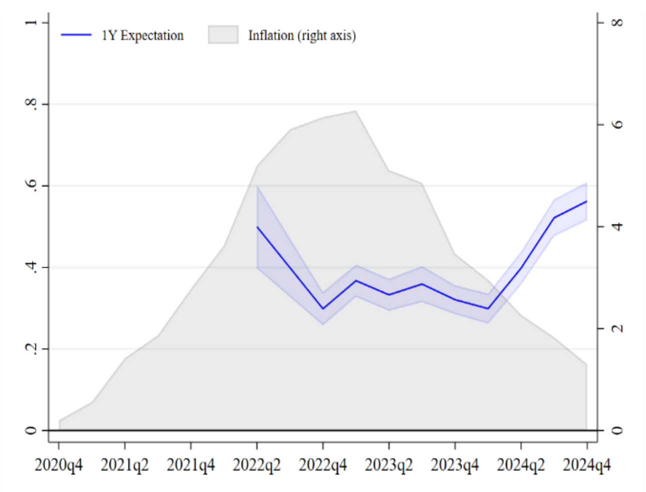
*Note: the figures plot results of OLS regressions estimated date by date linking individual answers to the survey (inflation perception, expectations and wage growth expectations) to some characteristics of the firm (sector, size, number of times (annual frequency) this firm has responded to the survey). Time and region fixed effects are also included. Robust standard errors are reported in parenthesis. *** 1%, ** 5%, * 10%.*

Appendix Figure A.3: The impact of revisions in perceived and expected inflation on the revisions in inflation expectations - OLS coefficients estimated by survey wave

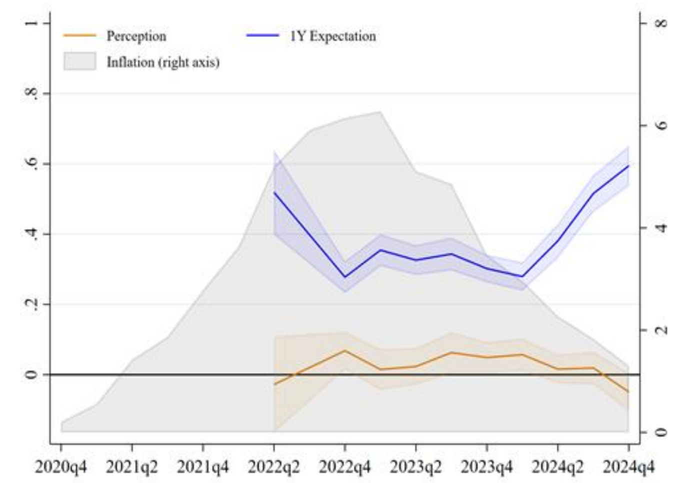
Revisions in past inflation on revisions in 1Y expected inflation



Revisions in 1Y expectations on revisions in LT expectations



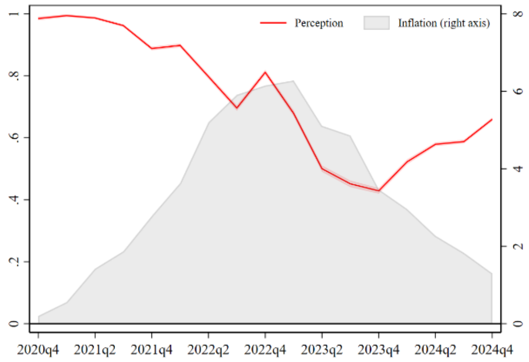
Revisions in past inflation and in 1Y expectations on revisions in LT expectations



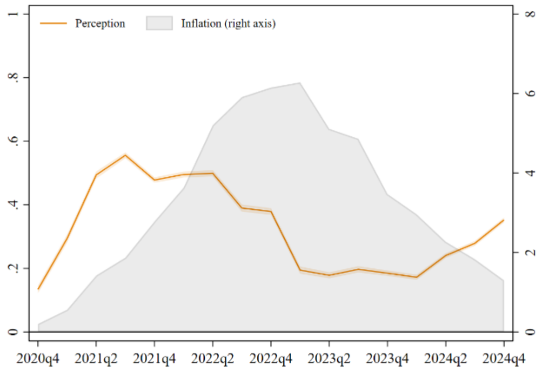
Note: these figure report Huber regression estimates of the coefficients interacted with survey waves; the endogenous variable is the revision of 1-year or long-term expectations calculated for every respondent answering the questionnaire at least twice, revisions are computed from one year to another. The exogenous variables are revisions in perceived and 1-year expected inflation calculated from one year to another. Region, sector, size, learning and time fixed effects are included. The colored areas correspond to the 95% confidence interval, the grey area to inflation (right handside axis).

Appendix Figure A.4 – Perceived Persistence of Inflation – Households (CES-ECB survey)

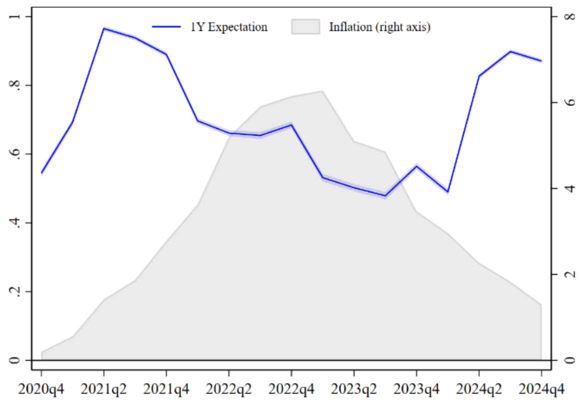
Panel A - Past inflation on 1Y expected inflation



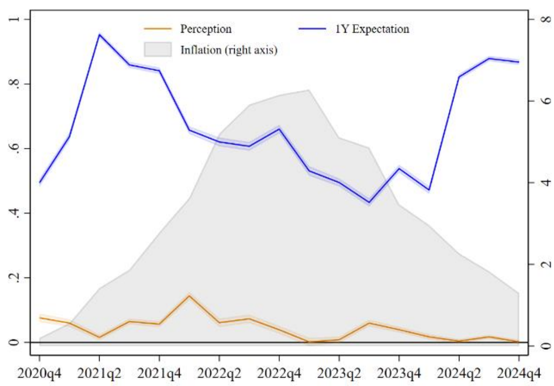
Panel B - Past inflation on LT expected inflation



Panel C - 1Y expectations on LT expectations

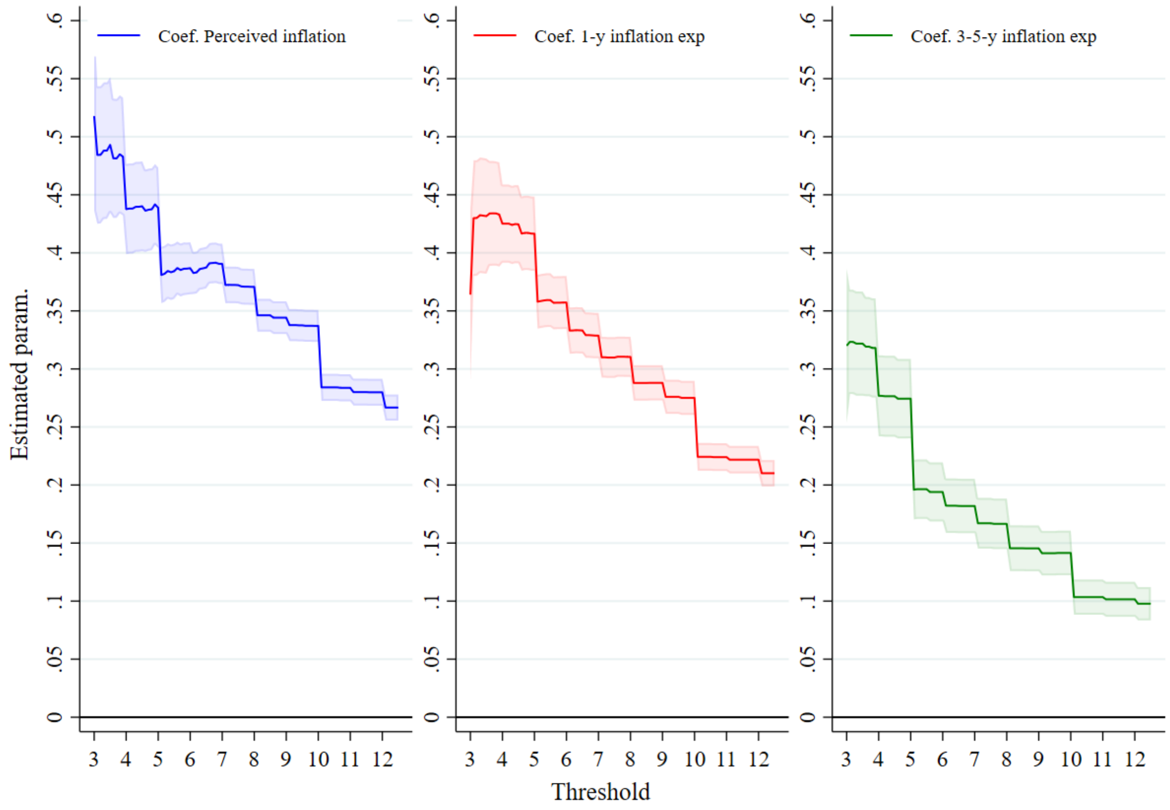


Panel D - Past inflation and 1Y expectations on LT expectations



Note: we use individual monthly answers from the CES-ECB survey collected among French households. We estimate by quarter Huber regressions linking inflation expectations and perceptions (controlling for various socio demographic variables and tenure effects). The figures plots the quarterly estimates obtained from those regressions. Shaded areas in colors correspond to 95% confidence intervals.

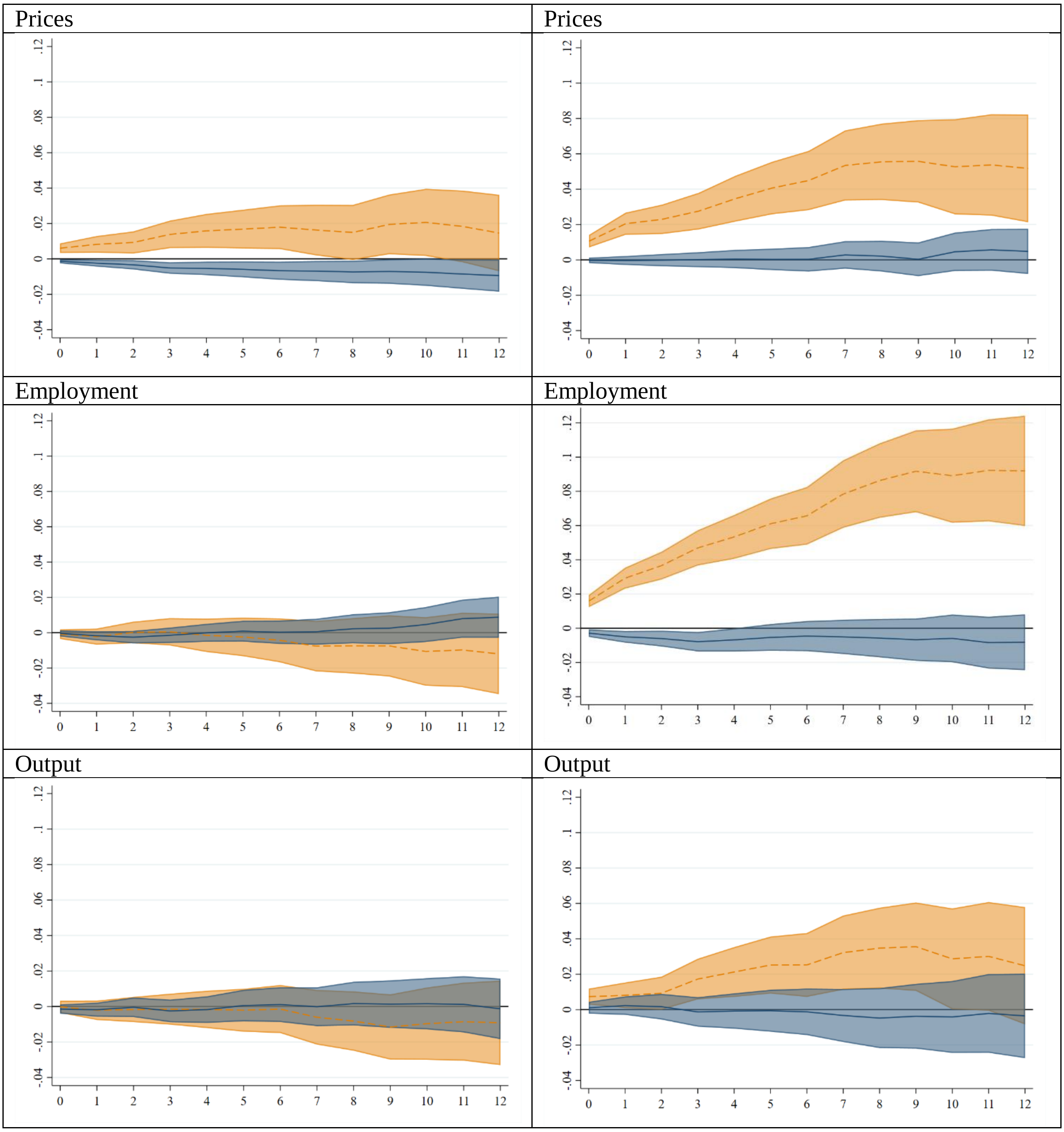
Appendix Figure A.5: Correlation of wage growth expectations with inflation perceptions/expectations when perceptions/expectations are below a given threshold



Note: these figure report Huber estimates of univariate regressions linking wage expectations to inflation perceptions, and expectations at different horizons and an interaction dummy variable equal to 1 if inflation perceptions or expectations are above a given threshold. We run regressions for different threshold values between 3 and 12.5%. We report parameter estimates associated with perceptions/expectations when they are below the threshold. Each panel corresponds to separate regressions on perceived inflation (left), 1-y expected inflation (center) and 3-5 year expected inflation (right). Sector, size, wave, and region fixed effects are also included. The colored areas correspond to the 95% confidence intervals.

Appendix Figure A.6: The Average Effect of 1-Year Inflation and Wage Growth Expectations on Future Prices, Employment and Output

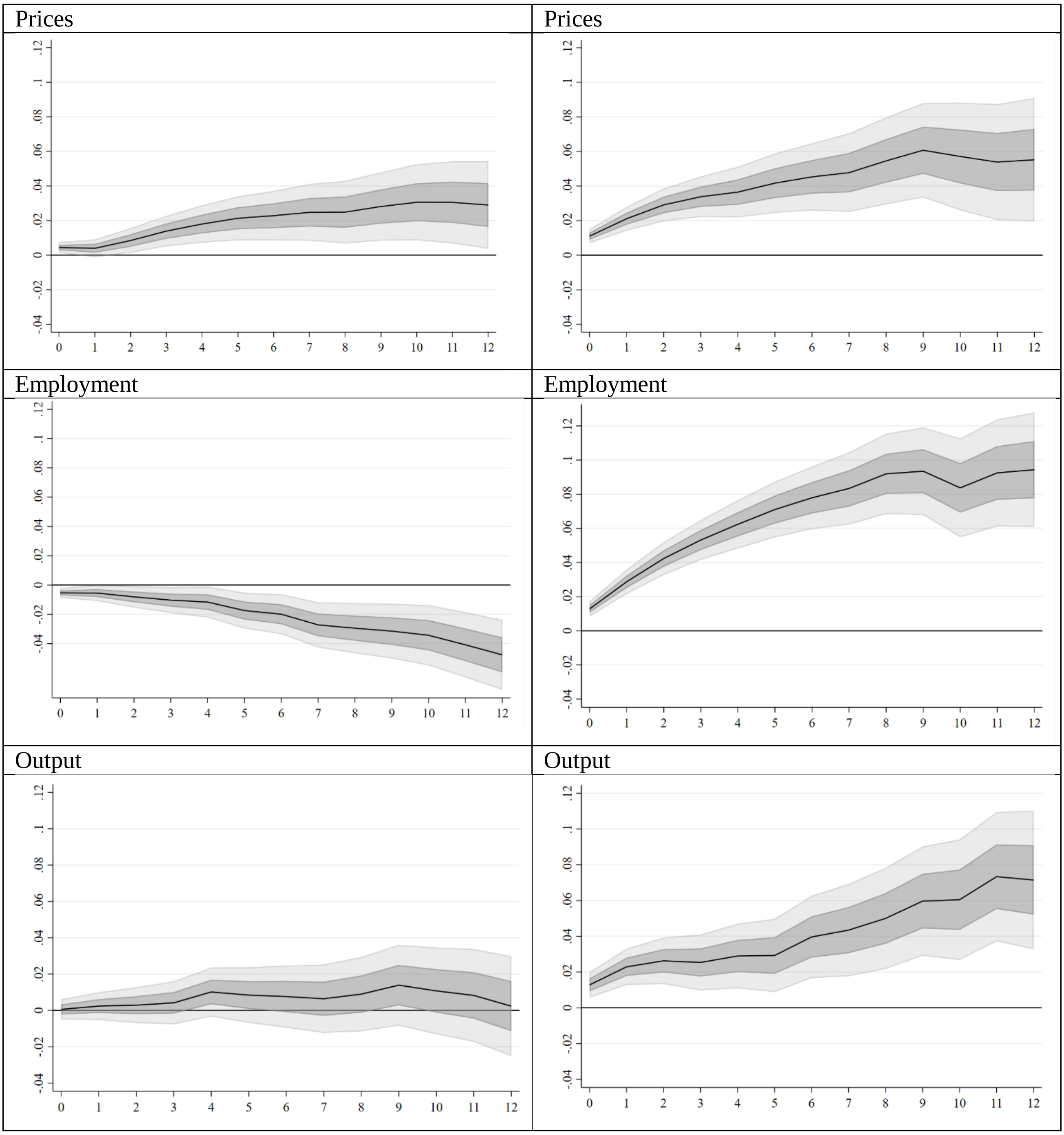
Panel A - 1Y inflation expectations ***Panel B - Own-wage 1Y expectation***



Note: each panel plots the estimates from local projections where the endogenous variable cumulates the dummy variable for price/output/employment expected increase (orange dashed line) or a dummy variable for decrease (blue solid line) (taking values +1/0) over horizon t+h (=1,…12) and the exogenous variable is the aggregate inflation and wage growth expectation at date t+0. Shaded areas correspond to 95% confidence intervals. Controls include perceived inflation, date, sector, region and size fixed effects.

Appendix Figure A.7: The Average Effect of 1-year Inflation and Wage Expectations on Prices, Employment and Output over the Last Month

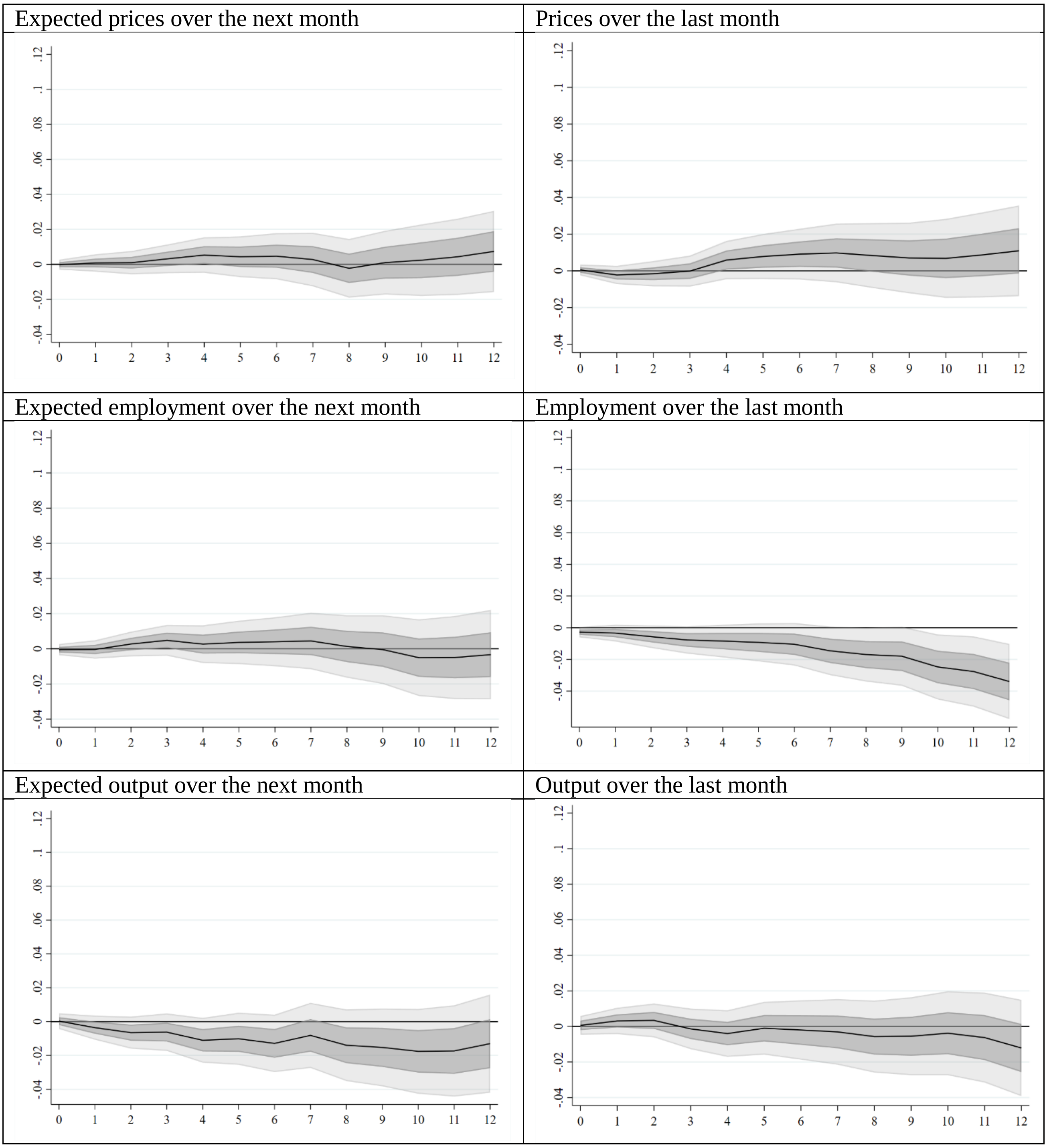
Panel A- 1Y inflation expectations ***Panel B - Own-wage 1Y expectations***



Note: each panel plots the estimates from local projections where the endogenous variable cumulates an ordered qualitative variable for price/employment/output change over the last month over the next month (increase/stable/decrease - taking values +1/0/-1) over horizon H (=1,…12) and the exogenous variable is the aggregate inflation and wage growth expectation at date t+0. Shaded areas correspond to 95 and 68% confidence intervals. Controls include perceived inflation, date, sector, region and size fixed effects.

Appendix Figure A.8: The Average Effect of Long Term Expectations on Prices, Employment and Output

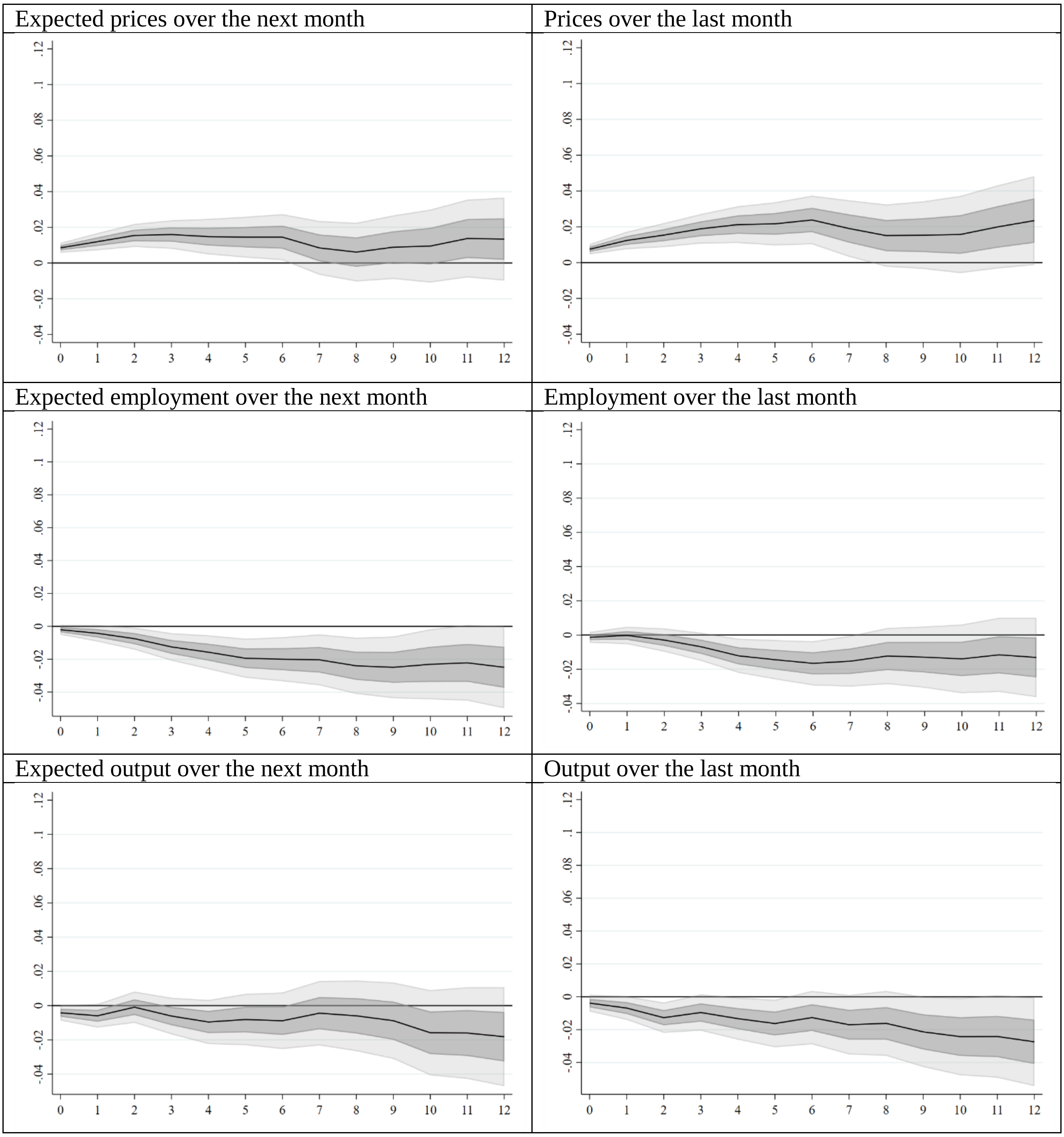
Long term inflation expectation



Note: each panel plots the estimates from local projections where the endogenous variable cumulates an ordered qualitative variable for price increase/stable prices/price decrease (taking values +1/0/-1) over horizon t+h (=1,…12) and the exogenous variable is the aggregate inflation long term expectation (3 to 5 year horizon) at date t+0. Shaded areas correspond to 95 and 68% confidence intervals. Controls include perceived inflation, date, sector, region and size fixed effects.

Appendix Figure A.9: The Average Effect of Inflation Perception on Prices, Employment and Output

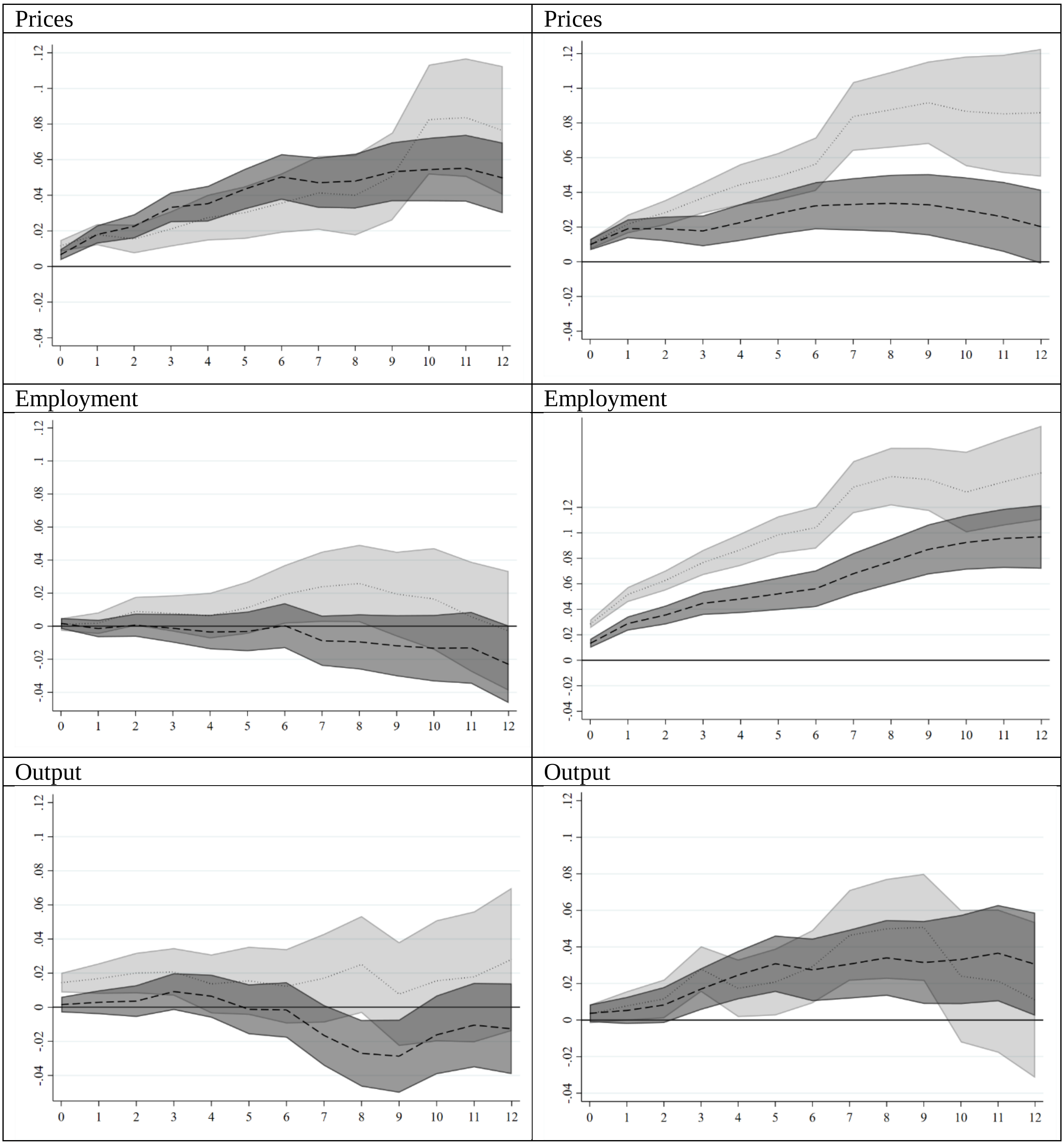
Inflation perception



Note: each panel plots the estimates from local projections where the endogenous variable cumulates an ordered qualitative variable for expected price/employment/output over the next month (left panel) or its variation over the last month (right panel) (increase/stable/decrease - taking values +1/0/-1) over horizon H (=1,…12) and the exogenous variable is the aggregate perceived rate at date t+0. Shaded areas correspond to 95 and 68% confidence intervals. Controls include perceived inflation, date, sector, region and size fixed effects.

Appendix Figure A.10: The Average Effect of 1-Year Inflation and Wage Growth Expectations on Future Prices, Employment and Output – High Inflation vs. Low Inflation (excluding 1-Y inflation expectations >10%)

Panel A - 1Y inflation expectations ***Panel B - Own-wage 1Y expectation***



Note: each panel plots the estimates from local projections where the endogenous variable cumulates an ordered qualitative variable for expected price/employment/output variation (increase/stable/decrease over the next month (taking values +1/0/-1) over horizon t+h (=1,…12) and the exogenous variable is the aggregate inflation and wage growth expectation at date t+0. The black dashed line corresponds to the high inflation period and the grey solid line corresponds to the low inflation period. Shaded areas correspond to 68% confidence intervals. Controls include perceived inflation, date, sector, region and size fixed effects.

Appendix Table A.1: Descriptive statistics

(%)	Inflation			Wage growth
	Perception	1-year expectation	3-5 year expectation	1-year expectation
Mean	4.60	4.20	3.24	2.78
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

Average inflation: 3.56%   Average wage growth : 3.15%

Note: Statistics are calculated for each wave and we report average across waves. Average inflation is average CPI inflation measured for months when the survey was conducted (source Insee). Average wage growth is computed as the average of year-on-year aggregate base wage growth (measured at the quarterly frequency) (source Ministry of Labour)

Appendix Table A.2: Determinants of attention to inflation / expecting an inflation disaster

	Attention to inflation		"Inflation disaster"	
	1%	2%	1Y	Long term
	(1)	(2)	(3)	(4)
Sector				
Construction	-0.038***	-0.038***	0.033***	0.033***
	(0.011)	(0.010)	(0.007)	(0.007)
Manufacturing	0.026***	0.003	-0.007	-0.025***
	(0.009)	(0.009)	(0.045)	(0.005)
Services	Ref	Ref	Ref	Ref
Size				
Less than 50 empl.	Ref	Ref	Ref	Ref
50-250 empl.	0.070***	0.078***	-0.042***	-0.030***
	(0.009)	(0.008)	(0.006)	(0.005)
>250 empl.	0.115***	0.109***	-0.053***	-0.038***
	(0.011)	(0.010)	(0.007)	(0.007)
Waves				
"Learning effect"				
1	Ref	Ref	Ref	Ref
2	0.010	0.003	-0.020***	-0.027***
	(0.012)	(0.012)	(0.008)	(0.007)
3	0.016	0.003	-0.013	-0.026***
	(0.015)	(0.015)	(0.009)	(0.009)
>3	0.017	0.001	-0.011	-0.028**
	(0.022)	(0.021)	(0.014)	(0.013)
Attentive to inflation			-0.098***	-0.042***
			(0.005)	(0.004)
R2	0.045	0.033	0.161	0.048
Number observations	19,588	19,588	18,441	15,520
Share of attentive firms / firms expecting a disaster	*67.9%*	*77.7%*	*12.1%*	*6.6%*

*Note: the table reports estimates of OLS regressions linking dummy variable for attention to inflation and inflation disaster to firm-specific variables and time fixed effects. The dummy variable for attention to inflation is equal to 1 when inflation perception close to actual inflation (difference of less than 1% in column 1, less than 2% in column 2, in absolute terms). The dummy for inflation disaster is equal to 1 when firms expect inflation to be larger than 10% at a one-year horizon. *** 1%, ** 5%, * 10%.*

Appendix Table A.3: Impact of Inflation Expectations on Wage Growth Expectations (when inflation perceptions are not taken into account)

Wage Growth Expectation	(1)	(2)	(3)	(4)	(5)	(6)
Past inflation	0.190***		0.054***		0.048***	
	(0.007)		(0.008)		(0.007)	
1-y expectation	0.076***	0.185***	0.043***	0.063***	0.047***	0.066***
	(0.007)	(0.007)	(0.008)	(0.007)	(0.006)	(0.005)
3-5-y expectation	-0.017**	-0.025***	-0.001	0.001		
	(0.007)	(0.007)	(0.006)	(0.007)		
Date fixed effects	No	No	Yes	Yes	Yes	Yes
# obs.	13,892	14,017	13,892	14,017	16,310	16,477
R2	0.161	0.113	0.207	0.205	0.209	0.206

*Note: the table reports estimates of Huber regressions linking answers to the wage growth expectation question to answers on perceived and expected inflation. In column (1), no time fixed effects are included, column (2) year effects are included, (3) date (quarter*year) are included. Columns (4) and (5) report results interacted by size and sector (including date fixed effects). Sector, size, wave, and region fixed effects are also included. Robust standard errors are reported in parenthesis. *** 1%, ** 5%, * 10%.*

Appendix Table A.4: Revisions in Wage Growth Expectations and in Inflation Expectations

Revisions wage growth expectations	No time FE	Year FE	Year*Quarter FE	Attention	High inflation	Large revision
Past inflation (revisions)	0.141***	0.094***	0.045***	-0.002	0.062***	0.046***
	(0.009)	(0.009)	(0.010)	(0.014)	(0.014)	(0.010)
1-y expectations (rev.)	0.086***	0.070***	0.055***	0.083***	0.059***	0.065***
	(0.010)	(0.010)	(0.010)	(0.017)	(0.015)	(0.010)
3-5-y expectations (rev.)	-0.002	0.004	0.013	-0.014	-0.003	0.016*
	(0.009)	(0.009)	(0.009)	(0.016)	(0.014)	(0.009)
# attentive to inflation						
Past inflation (revisions)				0.082***		
				(0.017)		
1-y expectation (rev.)				-0.039**		
				(0.020)		
3-5-y expectation (rev.)				0.037*		
				(0.020)		
# high inflation						
Past inflation (revisions)					-0.034*	
					(0.020)	
1-y expectation (rev.)					-0.006	
					(0.010)	
3-5-y expectation (rev.)					0.029	
					(0.018)	
# large revisions						
Past inflation (revisions)						-0.037
						(0.056)
1-y expectation (rev.)						-0.012
						(0.038)
3-5-y expectation (rev.)						-0.070*
						(0.042)
R2	0.227	0.248	0.273	0.275	0.273	0.274
Time fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes
# obs.	6,282	6,282	6,282	6,282	6,282	6,282

*Note: the table reports estimates of Huber regressions linking revisions in wage growth expectations (calculated at the individual level, from a year to another) to revisions in perceived and expected inflation. In column (1), no time fixed effects are included, column (2) year effects are included, (3) date (quarter*year) are included. Columns (4), (5) and (6) report results interacted by attention (dummy equal to one if the difference between perceived and actual inflation is below 1% in absolute values), by inflation regime (high inflation equal to 1 if CPI inflation is larger than 4%), and large revision dummy (equal to 1 if the expectation revision is larger than 10%). Sector, size, wave, and region fixed effects are also included. Robust standard errors are reported in parenthesis. *** 1%, ** 5%, * 10%.*

Appendix Table A.5: Heterogeneity of the Impact of Inflation Perceptions/Expectations on Wage Growth Expectations

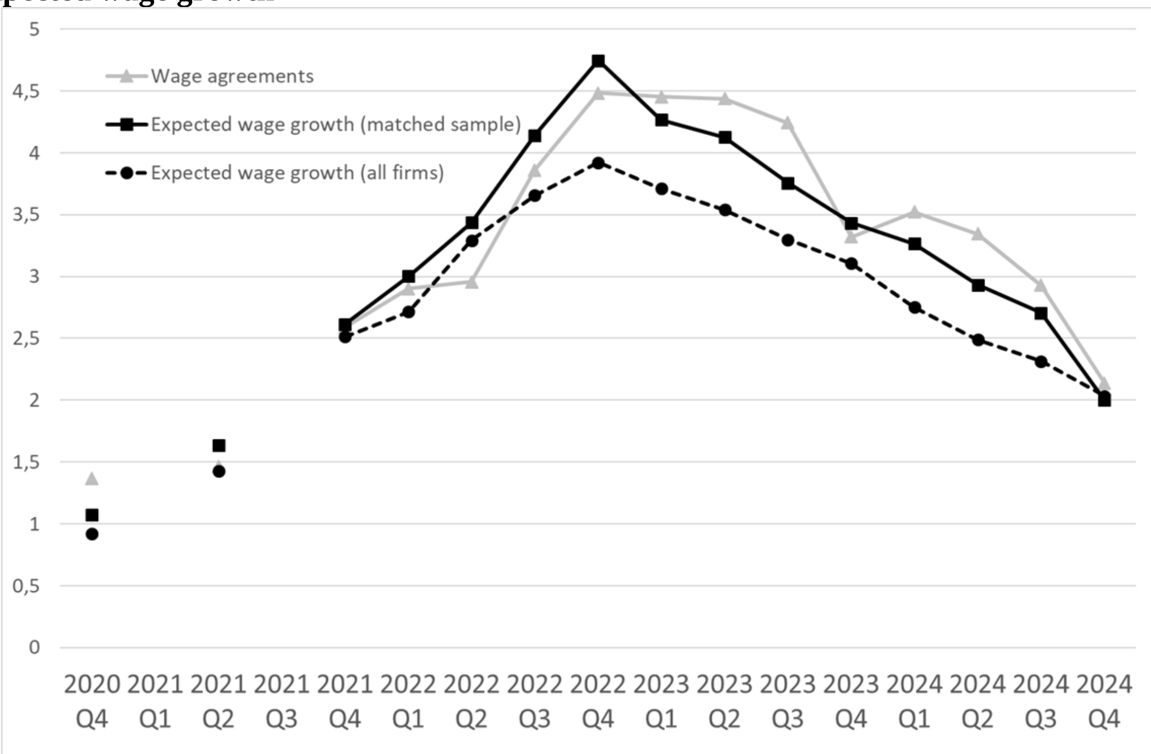
Wage expectations	1-year inflation expectation		LT inflation expectations	
	No expectation ≥10%	At least one answer ≥10%	No expectation ≥10%	At least one answer ≥10%
	(1)	(2)	(3)	(4)
Past inflation	0.069*** (0.009)	0.054** (0.024)	0.064*** (0.008)	0.072** (0.035)
1-y expectation	0.095*** (0.011)	0.037** (0.032)	0.057*** (0.008)	0.024 (0.039)
3-5-y expectation	0.001 (0.008)	0.061*** (0.022)	0.008 (0.010)	0.091** (0.040)
# expectation ≥ 10%				
Past inflation		-0.065** (0.032)		-0.112*** (0.043)
1-y expectation		-0.085* (0.046)		-0.067 (0.045)
3-5-y expectation		-0.087*** (0.026)		-0.064 (0.052)
R2	0.154	0.230	0.133	0.224
Date fixed effects	Yes	Yes	Yes	Yes
# obs.	11,478	2,414	12,482	1,410

*Note: the table reports estimates of Huber regressions linking answers to the wage growth expectation question to answers on perceived and expected inflation. We define a dummy variable at the firm level if a given firm has given a value for inflation expectations exceeding 10% and 0 otherwise. We then split the sample into two groups of firms depending on whether this dummy is equal to 0 or one. Columns (1) and (2) report the baseline regression results for firms which never gave an answer exceeding 10% for the 1-year inflation expectation (column 1) and for other firms (column 2). Columns 3 and 4 report similar regression results but using the dummy calculated on long term inflation expectations. Sector, Size, wave, and region fixed effects are also included. *** 1%, ** 5%, * 10%.*

Appendix B – Wage expectations and firm-level wage agreements

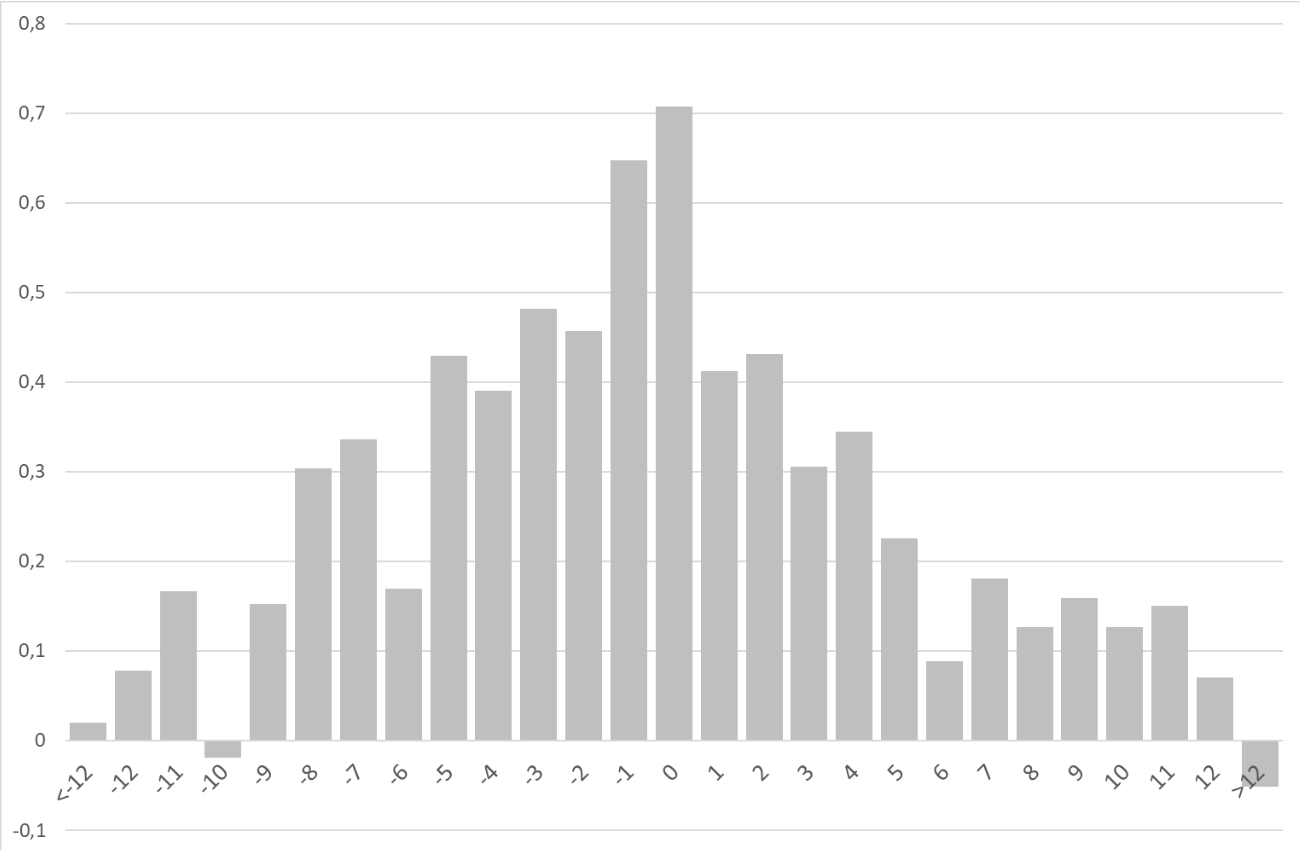
In France, firms must by law negotiate on wages every year (Avouyi-Dovi et al. 2010). They do not have an obligation to reach a wage agreement but they need to discuss this topic with unions. Since unions are present mainly in large firms (more than 50 employees), this obligations applies in practice in larger firms. All wage agreements are collected by Ministry of Labour and made public through a dedicated web site (Legifrance.fr). We have collected and coded a large data set of wage agreements containing most of wage agreements which have been made public on the dedicated public web site. The wage agreement data set contains the firm identifier, the date of signature of the agreement, the date at which it becomes effective, the general wage increase, and the average individual wage increases. We are able to match this data set with the survey answers from the expectation module of the Banque de France survey. The sample for which we both observe at least a wage agreement signed at the firm level and expected wage growth reported in the quarterly survey contains about 1,300 different firms (mostly large firms, half of them have between 50 and 250 employees and half of them more than 250 employees), 80% of these firms are in the manufacturing sector. For 32% of firms, we observe one collective wage agreement, 28% two wage agreements, 20% three wage agreements, 13% four wage agreements over the period 2021-2024.

Appendix Figure B.1: Average wage growth in wage agreements and average 1-year expected wage growth



Note: this graph plots the average wage growth contained in the wage agreement concluded at the firm level in a given quarter with the average 1- year wage growth expectations reported in the same quarter. Calculations have been made using the sample of firms for which we have information on both a wage agreement and 1-year inflation expectation in a given quarter. The sample contains about 1,500 firms for which the match is possible.

Appendix Figure B.2 Dynamic correlation between the average wage growth in wage agreements and average 1-year expected wage growth



Note: this graph plots the estimated coefficients of a Huber regression linking average wage growth contained in the wage agreement concluded at the firm level at the period (t) to the expected wage growth reported by the same firm (before or after the wage agreement). Controls for size, sector and region of the firm have been included to the regression. Calculations have been made using the sample of firms for which we have information on both a wage agreement and 1-year inflation expectation in a given quarter. The sample contains about 1,500 firms for which the match is possible.

Appendix Table B.1: Impact of Inflation Perceptions/Expectations on Wage Growth Expectations and Negotiated Wage Growth

	Wage Growth Expectation	Negotiated Firm-Level Wage Growth			
		At max 6 months before		At max 3 months before	
	(1)	(2)	(3)	(4)	(5)
Past inflation	0.050***	0.131***	0.148***	0.188***	0.219***
	(0.008)	(0.020)	(0.021)	(0.026)	(0.027)
1-y expectation	0.040***	0.039**	0.032	0.034	0.032
	(0.008)	(0.018)	(0.023)	(0.024)	(0.029)
3-5-y expectation	0.004		-0.010		-0.010
	(0.007)		(0.023)		(0.037)
# wage negotiation at the firm level					
Past inflation	0.017				
	(0.016)				
1-y expectation	0.015				
	(0.018)				
3-5-y expectation	-0.025				
	(0.018)				
Time fixed effects	Date	Year	Year	Year	Year
# obs.	13,892	1,156	1,025	681	606

*Note: the table reports estimates of Huber regressions linking answers to the wage growth expectation question or negotiated wage increases as observed in firm-level wage agreements to answers on perceived and expected inflation. In column (1), we run our baseline regression linking wage expectations to perceived and expected inflation but interacting the exogenous variable with a dummy equal to 1 if we have information that a given firm has negotiated wages at the firm level over the last 5 years; in columns 2 to 5, we link negotiated wage increases as reported in firm level wage agreements to answers of CEOs on perceived and expected inflation given over the last 6 or 3 months preceding the agreement. Sector, size, wave, and time and region fixed effects are also included. Robust standard errors are reported in parenthesis. *** 1%, ** 5%, * 10%.*