The Speed of Firm Response to Inflation

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How much attention do firms pay to aggregate inflation dynamics? Do monthly inflation releases have a significant impact on the prices they expect to set in the future? If so, what channels might explain this effect? As inflation rates rose from 2021, there has been an increased focus on price-setting behaviour and expectations formation of households and firms (e.g. Mann 2022, Powell 2022, Reis 2023). In this paper, we answer these questions using the Decision Maker Panel's questions on inflation perceptions and expectations.

Approach

Our main methodology uses the overlap between survey dates (the DMP collects responses from firms for two weeks each month) and CPI release dates (usually on a Wednesday during the second half of each month). We create 'event windows' covering two days before and two days after each CPI release. We then estimate the impact of changes in annual CPI inflation on firm-level variables over this window. The event study design estimates the average change in firm responses (e.g. inflation perceptions or expectations) in the few days before versus after the latest inflation data are announced. Within these tight windows, few other events are likely to influence firm responses, which means our results are plausibly causal. We also include time, industry, and event window fixed effects. Our baseline specification is at the daily frequency, but response timestamps mean we can also estimate it at the hourly frequency.

CPI releases and inflation perceptions

First, we document that firms have been attentive to CPI inflation trends. We estimate the equation above with firm CPI inflation perceptions as the dependent variable. Inflation perceptions update very quickly following monthly data releases, with a highly significant impact seen within hours. On average, we find that a one percentage point increase in CPI inflation leads to a 0.7 percentage point increase in inflation perceptions (i.e. 70% pass-through) over the two days after the release. We also show that inflation perceptions are equally responsive to positive as well as negative changes in CPI inflation.

CPI releases and own-price expectations

Second, we analyse the impact of changes in CPI inflation on firms' expected year-ahead own-price growth, in the same way- where the dependent variable is now the average price growth firms expect for their own products. We find that over 2022-2024, own-price expectations responded significantly: a 1pp increase in headline CPI inflation is associated with a 0.7 pp increase in expected own-price growth. Furthermore, we find that the sensitivity to data releases is non-linear, with highly significant effects for positive CPI inflation changes, and a quantitatively smaller and less significant effect for negative CPI inflation changes. We also show that these own-price expectations effects are absent in the previous, relatively low-inflation period between 2017 and 2021.

Mechanisms

To explore potential mechanisms for own-price expectations, we create a daily index of 'inflation media chatter' as the share of all articles in UK newspapers which discuss inflation. We find that firms' expectations are more responsive in months with higher media coverage of inflation. We then show that firms’ near-term CPI inflation expectations rise in response to positive CPI inflation changes. This result uses the same event study approach but with data on CPI inflation expectations from the DMP. Together with the main results on own-price expectations, this suggests a desire to keep relative prices stable. We also investigate the responsiveness of firm expectations beyond price growth, using additional data from the DMP. The evidence suggests that firms have interpreted changes in CPI inflation since 2022 as signals about supply-side changes in the economy. Positive CPI inflation changes lead to lower expected sales volume growth and higher expected unit cost growth. Finally, firms also seem to anticipate the impact of higher inflation on their borrowing rates, as positive CPI inflation changes also lead to higher expected borrowing rates for the year ahead. Thus, firms seem to also anticipate how monetary policy might react to higher inflation rates.