INFLATION, EXPECTATIONS AND MONETARY POLICY: WHAT HAVE WE LEARNED AND TO WHAT END?

Olivier Coibion
UT Austin
and NBER

Yuriy Gorodnichenko
UC Berkeley
and NBER

This Draft: May 19th, 2025

Abstract: We review recent research and experiences linking inflation and expectations, emphasizing what has been learned since 2020. One clear lesson is that the inflation expectations of most economic agents have been and remain *unanchored*. The unanchored nature of inflation expectations, in combination with supply shocks, can explain much of the inflation surge and subsequent disinflation when viewed through the lens of an expectations-augmented Phillips curve, both in the U.S. and abroad. New policy frameworks are unlikely to address this feature of expectations. Only a communication strategy that breaks what we refer to as the "cycle of selective inattention" is likely to be successful, but it is probably already too late to stop the next inflation surge.

JEL: E31, C83, D84
Keywords: Expectations management, inflation expectations, surveys, communication, randomized controlled trial.

The views in the paper are those of the authors and do not represent those of any institution with which they are affiliated. The authors thank Bernardo Candia, Michael Athanassiadis, and Andres Larios for research assistance and BB90 fund for financial support.

"*Our obligation is to keep longer-term inflation expectations well anchored to make certain that a one-time increase in the price level does not become an ongoing inflation problem"*

Jerome Powell, April 4th, 2025.

"... many citizens have begun to wonder whether it is realistic to anticipate a return to general price stability, and have begun to change their behavior accordingly. Inflation feeds in part on itself, so part of the job of returning to a more stable and more productive economy must be to break the grip of inflationary expectations." Paul Volcker, October 17, 1979

1 Introduction

The last five years have been marked by economic challenges unseen in decades: a pandemic, a global inflation surge, active conflict in both Europe and the Middle East, and the growing prospect of international trade wars as part of a realignment of the international economic order. Exceptional times often present an opportunity for learning about how the world works, and the last few years are no exception. In this paper, we review some important takeaways that recent experiences, as well as new research, provide. We focus on three dimensions. First, how has the recent experience altered our views about the formation of inflation expectations by economic agents and their consequences? Second, what do these lessons tell us about how to interpret the inflation surge? Third, what are the main takeaways for central banks in designing policy frameworks and communication strategies?

Inflation expectations play an important role in many of the economic decisions that are at the heart of macroeconomic dynamics, including price and wage setting, consumption and saving, investment, etc. Central banks pay particular attention to whether inflation expectations are "anchored", as illustrated by Powell's quote above. Along this dimension, we argue that both prior to and during the inflation surge, the inflation expectations of most economic agents in the U.S. are best characterized as *un*anchored. This is unambiguously the case when looking at the inflation expectations of both U.S. households and firms, and even when it comes to financial market participants, the evidence for anchored expectations is mixed at best. Coming to terms with the fact that inflation expectations are not nearly as anchored as is commonly characterized is, in our view, key to understanding the evolution of inflation over the last five years, the outlook for inflation, and the policy implications that follow from both.

While inflation expectations were unanchored before the surge and remained that way during the surge, there have nonetheless been striking changes along some dimensions of the expectations formation process during this era. One is the growing attention paid to inflation and monetary policy by economic actors during the surge. This evolving degree of attention depending on the economic environment has been shown in a variety of ways in recent research and is likely one of the more important takeaways from this period, with implications both for the modeling of expectations and for policy communications. For example, as the inflation rate rose sharply in the U.S. and other countries, households and firms became more attuned to inflation dynamics and monetary policy: the gap between their perceptions of recent inflation and actual inflation shrank, their knowledge of the inflation target rose, etc. This growing knowledge of and attention to inflation and monetary policy

should not be viewed as a communication success however, but as a policy failure, equivalent to the well-known fact that households and firms in high-inflation countries like Argentina or Turkey tend to be better informed about inflation and central bank targets than those living in countries with histories of low and stable inflation. One would not attribute this knowledge to better communication on the part of Argentine and Turkish central banks. When people learned about inflation and monetary policy during the surge, what they learned was that inflation was well above the target and that monetary policy was failing, further contributing to unanchoring expectations. How long people remain in this "high-attention" regime will depend on the extent to which memories and scarring effects persist (Salle et al. 2024) and can significantly shape how future shocks will translate into economic dynamics (Pfauti 2024). For example, the effects of tariffs on inflation may be quite different when people are attentive than when they are not, so the effects of the 2018-19 trade wars may offer only limited guidance for what is happening now.

Expectations changed along a number of other dimensions during the surge as well, some of which were predictable based on prior evidence and some much less so. On the predictable side, one is that as inflation surged, uncertainty about future inflation increased, consistent with the notion that high inflation is volatile inflation. High inflation uncertainty has been found to have significant negative effects on consumers' spending, labor supply and portfolio decisions (Georgarakos et el. 2024), and can be an important source of misallocation (Barro 1976). A second dimension is that households tend to attribute inflation to supply-side forces, so as their inflation expectations rose during the surge, they became much more pessimistic about the economic outlook. A third is that the rising inflation was met with growing disagreement about the path of future inflation, consistent with earlier evidence from Mankiw, Reis and Wolfers (2004). Widespread disagreement about future inflation leads firms to set different prices and is a source of misallocation. By itself, this mechanism is likely to have led to costs from the inflation surge equivalent to 2-7% of steady-state consumption (Ropele et al. 2024). Consistent with this, U.S. households report that they would be willing to sacrifice around 5-6% of their consumption to bring inflation to their desired level, which on average would entail bringing prices closer to their pre-surge path, although they view this as an unlikely scenario (Sergeyev and Gorodnichenko 2021).

Two other features of expectations during the surge have been less predictable. One is the growing influence of polarization as a source of disagreement about inflation. While it has long been the case that political views shape the economic outlook of individuals, the extent to which this is the case has grown to unprecedented levels. At the start of the first Trump administration, the average difference in inflation expectations between Democrats and Republicans was around 2 percentage points. By the start of the second Trump administration, it had grown to 10 percentage points. Since there is now widespread evidence that individuals act on these expectations, the rising importance of polarization as a source of disagreement is notable. Second is the absence of a clear passthrough of inflation expectations into wage expectations, either on the part of households (Hajdini et al. 2023) or firms (Coibion, Gorodnichenko and Kumar 2018, Savignac et al. 2024). A high passthrough of

inflation expectations into wage expectations can be a source of wage-price spirals (Lorenzoni and Werning 2023), but the evidence from the surge is striking in how small this passthrough seemed to be in practice, suggesting that the scope for expectations-driven wage-price spirals was fairly limited during this period. Whether it would continue to be small if inflation were to remain elevated for a long period, however, is unclear at this stage.

If not through wages, then how do inflation expectations actually affect inflation? Consistent with traditional New Keynesian models, a growing body of causal evidence confirms that when firms expect higher inflation, they pass these expectations into their prices (Coibion, Gorodnichenko and Kumar 2018, Abberger et al. 2025, Coibion, Gorodnichenko and Ropele 2020, Akarsu, Aktug and Torun 2024) as formalized in Werning (2022). This mechanism is captured in the expectations-augmented Phillips curves at the heart of most macroeconomic models used by central banks today. These Phillips curves typically make two predictions about expectations in terms of inflation determination. First, it is *short-run* inflation expectations which determine price-setting, not long-run expectations. This is because, from a firm's viewpoint, the only time horizon that is relevant while choosing a new price today is until their next price change. Since U.S. firms change prices at least once a year on average, long-run inflation expectations are irrelevant to this decision other than to the extent that they may matter for what people expect for the short-run. Second, it is the inflation expectations *of firms*, not those of professional forecasters or financial markets which matter for this transmission. In prior work, we had shown that the U.S. evidence was strongly supportive of both predictions, and the recent evidence from the inflation surge further reinforces these points. While central bankers around the world tend to focus on the long-run inflation expectations of financial markets and professional forecasters, it should be emphasized that this focus is at odds with the predictions of standard macroeconomic models.

Interpreting the recent inflation surge through the lens of an expectations-augmented Phillips curve, we argue that both the surge and the subsequent disinflation can be explained largely through shifting inflation expectations and supply shocks to the economy, with little scope for explanations relying on fiscal or monetary policies. Much of the variation in inflation is attributed to unanchored inflation expectations, which themselves are primarily accounted for by changes in gasoline and other commodity prices. Most of the remaining variation is explained by other supply shocks, such as global supply chain pressures following the pandemic and rising natural gas prices following the barbaric Russian invasion of Ukraine. Labor market pressures played a role as well, capturing demand side channels like monetary and fiscal policies, but their direct contribution was much smaller. The international evidence strongly supports this view. First, the inflation experience across countries was remarkably similar, whereas the pandemic responses varied widely across countries. Second, countries that raised interest rates much sooner and by more did not experience better inflation outcomes than those who seemed "behind the curve." Third, the few countries who were largely immune from the surge were those who did not rely on (or minimized the effect of) global energy markets, not ones who followed very different monetary policies. Taken together, this narrative suggests that while

policymakers should not be blamed excessively for the inflation surge, they should not be given much credit for the disinflation either. From a macroeconomic point of view, this is primarily a "bad luck followed by good luck" historical episode in a setting of unanchored inflation expectations.

Like all large macroeconomic events from the Great Depression to the Great Recession, the inflation surge will likely have long-lasting and profound consequences. The surge and the fact that prices stayed high thereafter were deeply unpopular, and households cited these factors prominently in their voting decisions in the last election and report that they would be willing to sacrifice a significant amount of consumption to see them reversed (Georgarakos et al. 2025). Another of these consequences is that inflation expectations have plateaued at new and higher levels than prior to the surge, much as was the case after the 1974 inflation surge. Indeed, what is remarkable is the similarity between the dynamics of inflation and inflation expectations during the 1974 surge and the more recent episode. It is common wisdom—which is encapsulated by Paul Volcker's quote above—that the 1970s experience was driven by unanchored expectations. The fact that inflation expectations and inflation followed an almost indistinguishable path this time around strongly supports the notion that these expectations were and remain unanchored.

What can be done about these unanchored expectations? More knowledge of monetary policy, by itself is unlikely to be enough. For example, as households and firms paid more attention to monetary policy during the surge, many learned about the Fed's 2% inflation target. Yet this learning has not translated into lower long-run inflation expectations, in fact these have gone up significantly. Could an alternative framework do better? We see limited upside from changes in the framework. Most people struggle to understand the difference between inflation targeting or average inflation targeting (AIT), much less asymmetric or flexible AIT, and the effects of these on inflation expectations appear to be very limited. However, a new survey provides some evidence that U.S. households would prefer to see some reversion of prices toward a fixed trajectory after shocks, consistent with price-level targeting, so perhaps a movement toward reformulating the AIT framework in terms of prices instead of average inflation could help anchor expectations somewhat.

But ultimately, we view the main challenge toward anchoring inflation expectations as breaking what we refer to as the "cycle of selective inattention". This is the fact that, when inflation is low and stable, households and firms tend to be inattentive to inflation, so their expectations are naturally volatile and unanchored. When inflation surges, people start to pay attention to monetary policy and inflation, but they do so precisely *when monetary policy appears to be failing* and inflation is high. So what they learn is negative, which reinforces the unanchored nature of their expectations. Breaking this cycle requires successful communication strategies that provide information to agents *when inflation is low and stable*. The new information will serve to anchor beliefs and can be very powerful since people tend to be uninformed during those times and therefore place a lot of weight on new information. But reaching them is challenging since they are inattentive. During times of high inflation, communication strategies will likely be much less effective. In that environment, central banks should focus on reducing inflation as rapidly as they can.

And we are likely to be in one of those times at the moment. With inflation expectations of households and firms being high since the surge and a large shock to import prices already hitting, we could very well be in the early stages of a second inflation surge, mirroring the 1970s experience. In light of this historical episode, policymakers need to finally come to grips with the fact that they consistently tend to focus on the wrong measures of inflation expectations. Yes, the long-run inflation expectations of professional forecasters and financial markets tend to look very stable and well-behaved compared to the short-run inflation expectations of households and firms. Yet outside of pricing long-term yields, it is the short-run inflation expectations of firms and households that are the main channels through which inflation expectations actually matter. Policymakers who focused on financial market expectations during the inflation surge missed the extent of inflationary pressures at work as household and firm expectations were rising sharply. And as these expectations measures are rising again with incoming tariffs, policymakers who choose to keep reiterating the mantra that "long-term expectations are well-anchored" are almost certain to repeat the pattern. While anchored inflation expectations allow policymakers to "look through" supply shocks (Clarida, Gali and Gertler 2000), the fact that inflation expectations are currently unanchored makes such a strategy a dangerous one to follow.

We are not the first to study the sources of the recent inflation surge. A number of studies have emphasized demand-side explanations but, given how flat the Phillips curve is, these typically include additional forces such as alternative labor market measures (e.g. Barnichon and Shapiro 2024) or non-linear Phillips curves (Benigno and Eggertsson 2023) to explain the inflation surge. By focusing on supply shocks, we are much closer to Ascari, Bonam and Smadu (2024), Brooks, Orszag and Murdock (2024), Bernanke and Blanchard (2023), and IMF (2023b). Unlike this prior work, however, we emphasize the key role played by *unanchored* inflation expectations in accounting for the surge.

Our paper is structured as follows. Section 2 discusses the anchoring of inflation expectations, and how these expectations evolved during the inflation surge. Section 3 turns to understanding the dynamics of inflation during the surge based on an expectations-augmented Phillips curve. Section 4 considers the policy implications. Section 5 concludes.

2 Inflation Expectations Before, During and After the Surge

The last two decades have been marked by an explosion of research into the expectations formation process, with much of it focused on inflation expectations. The inflation surge created a unique experiment to reconsider the evidence from this early work, and the extent to which the main characteristics of inflation expectations did or not change. In this section, we do just that by reviewing some of the main characteristics of inflation expectations emphasized prior to the surge and how well they have held up to this new setting.

2.1 Unanchored Inflation Expectations (Almost) Wherever and Whenever You Look

Monetary policy discussions of inflation expectations prior to the surge focused extensively on the extent to which these expectations were "anchored." This is because, as emphasized in Powell's quote, monetary policymakers typically view anchored inflation expectations as providing them the leeway to

"look through" supply shocks. In support of this view, the 1970s are typically described as a clear example of how supply shocks can generate persistent inflation when inflation expectations are unanchored.[1] Here, we consider several metrics of anchoring for different measures of expectations.

We focus on the inflation expectations of different types of economic agents. As a benchmark of what anchored inflation expectations should look like, we use whenever possible the inflation forecasts provided by Federal Open Market Committee (FOMC) participants in their Summary of Economic Projections (SEP). In addition, we consider forecasts from the Survey of Professional Forecasters. While it is not immediately clear what economic role these agents play at an aggregate level, as some of the most informed actors in the economy, they also provide a useful benchmark. Furthermore, because their forecasts are the most readily available over time, horizons and countries, they have been the most extensively studied source of expectations in the literature. Third, we consider the inflation forecasts of households, primarily using the Michigan Survey of Consumers (MSC) and the New York Fed's Survey of Consumer Expectations (SCE), although we occasionally make use of other surveys including U.S. households in the Nielsen Homescan Panel and the Indirect Consumer Inflation Expectations survey (ICIE) as well as households in the Euro area participating in the ECB's Consumer Expectations Survey. Fourth, we make use of the Federal Reserve Bank of Cleveland's Survey of Firms' Inflation Expectations (SoFIE) to measure the inflation expectations of U.S. firms. Finally, for financial markets, we rely on the survey of financial professionals run by MacroPolicy Perspectives (MPP). While each survey is different in its implementation, the exact questions asked and a number of other metrics, they all contain questions which ask respondents explicitly about what they think will happen to aggregate prices or inflation, so they are at least conceptually comparable. When possible, we also consider the inflation expectations of financial participants implied by TIPS spreads relative to Treasuries. The details of many these surveys are described in Weber et al. (2022), while Coronado et al. (2025) provide more information on the MPP survey.

2.1.1 Are Inflation Expectations Close to the Inflation Target?

The first and simplest metric of whether inflation expectations are anchored is whether agents' average inflation expectations are close to the central bank's target, whether in the near-term or long-term, which we refer to as the "eyeball" test. Figure 1 therefore plots the average (mean) inflation expectations from each type of agent in the U.S. for inflation over the next year (Panel A) and over the next 5 years (Panel B). We focus on the mean because, as we explain later, medians downplay information from the right tail of the distribution which has important economic content. Since policymakers frequently emphasize the question of whether long-run expectations are anchored, consider first Panel B and in particular the 5-year-ahead inflation expectations of FOMC members,

[1] For example, New York Fed President Williams (2024) stated "It is now evident that in the 1960s and 1970s, both short- and longer-term inflation expectations in the U.S. became unmoored, rising as actual inflation rose. This made it even more difficult for policymakers to maintain stable prices amid the shocks of that period." In a speech, St. Louis Fed President Musalem (2025) similarly stated "A balanced approach was not feasible in the 1970s because inflation expectations were not anchored. Elevated inflation expectations were a key reason why bringing inflation under control was so much more costly at that time than it has been since 2022."

which we create based on their short-run and long-run forecasts.[2] They are all always very close to 2%, the Fed's inflation target, so there is no ambiguity here in terms of whether these expectations are anchored along this dimension. For other agents, we can observe larger deviations from the Fed's inflation target over five-year horizons. For example, at the height of the surge, financial market participants and professional forecasters were predicting an average inflation rate of around 3% over the next five years. Currently, their average forecasts are for an average inflation rate of around 2.5%. With contemporaneous inflation running around that level, they clearly do not expect that the Fed will be successful in bringing inflation back to 2% in the near future. In the case of households and firms, deviations in long-run expectations from the Fed's target are even more pronounced. For example, with firms, their long-run expectations were nearly 4% in 2018 before coming close to the target shortly before the pandemic, but they surged to almost 9% in 2021. Households displayed a more gradual rise in long-term inflation expectations during the surge, but unlike with firms, their long-run expectations kept rising as the inflation rate came down rapidly.[3] Currently, the long-run inflation expectations of households and firms are 8% and 4.5% respectively, both quite far from the target.

With short-run expectations, we again observe a lot of variation in the inflation expectations of all agents. Those of professionals and financial market participants are generally close to, but often deviate from, FOMC forecasts, while those of firms and households are more volatile and further from the target. In short, the inflation expectations of households and firms cannot be characterized as anchored by this metric, either prior to the surge or during/since the surge period. Expectations of financial markets and professional forecasters are closer to those of the FOMC, but even those display significant deviations from the 2% target, even over long horizons. At a bare minimum, one would need to say that these expectations are subject to periods of deanchoring, consistent with Carvalho et al. (2023), whereas those of households and firms are unambiguously unanchored.

Household and firm surveys are commonly downplayed by policymakers due to their "excess" volatility, bias, etc. Although some of these elements apply to such surveys, dismissing them out-of-hand is a mistake. The volatility in household surveys is generally not noise. For example, Panel A of Figure 2 plots the average level of inflation expectations in MSC against the level of gasoline prices: there is a striking, robust and persistent correlation between the two, at both low and high frequencies. Clearly, U.S. households place a lot of weight on the price of gasoline, a price that is visible on a daily basis, in forming beliefs about broader price movements. More generally, extensive evidence has shown that the prices that people face in their shopping has a pronounced effect on their

[2] In short, the 5-year-ahead SEP inflation forecast is the weighted average of inflation projections for each of the next three years (with the weight of 1/5 for each year) and longer-run projections (with the weight of 2/5).

[3] The Michigan survey switched from being implemented over the phone to online in early 2024, inducing a jump in the level of mean long-run inflation expectations at that time due to the methodological change. Because they had been running the survey both on the phone and online in parallel for years, one can verify that long-run inflation expectations diverged somewhat across the two methodologies during the surge, leading to a jump in the reported level when the switch was applied to the official series. We report the web-based version continuously over our sample for long-run expectations. The phone-based measure displays a similar trend of rising long-run inflation expectations during this period at a somewhat lower (albeit still very disanchored) level (see Survey of Consumers 2024). The methodological change had no meaningful effect for short-run expectations.

beliefs about aggregate inflation dynamics (D'Acunto et al. 2021) and the same pattern has been documented for firms (Kumar et al. 2015). Panel B of Figure 2 presents another way of seeing this in the European context: the inflation expectations of firms for the Euro area are heavily shaped by the inflation rates that they experienced in their own country (Baumann et al. 2024).

The strong correlation between expectations of the inflation rate and the *level* of frequently observed prices like gasoline is particularly important to emphasize. No such strong relationship exists with changes in gasoline or other prices (see e.g. Appendix Figure 10): people really do seem to draw inferences about inflation rates from the *levels* of the prices they observe. When thinking about how one-time price level shocks can generate sustained inflation as motivated by Powell (and as happened in the 1970s with shocks to the level of oil prices), this correlation provides a very natural mechanism that can explain how this can arise.

Another approach sometimes taken is to minimize the variation in household expectations through the choice of questions to report (e.g. point forecasts versus distributions), censoring high values (e.g. no one could reasonably expect inflation of more than 15%), choosing statistics that are more stable (medians versus means). Even the composition of the sample (e.g. panel vs repeated cross-sections) can make a difference. Indeed, those who follow household surveys of inflation closely may be surprised by the lines plotted in Figure 1 since they look little like those published by the New York Federal Reserve's SCE, for example, whose reported figures appear very well-anchored by the "eyeball" test. But this reflects several factors. First, the SCE uses a panel design in which participants repeatedly complete monthly surveys. It turns out that after participating the first time, respondents go out and collect information about inflation, so that their subsequent forecasts differ dramatically from their original ones (e.g. they fall around 2 p.p. on average). This "panel conditioning" effect is very pronounced in a monthly panel and makes much of the sample unrepresentative when it comes to their inflation expectations (Kim and Binder 2023).[4] Second, the NY Fed reports responses to a distributional question in which respondents have to assign probabilities to different pre-specified possible outcomes ("bins") for inflation. This question can be problematic both because it induces framing effects (it is centered around zero) and the bins do not change with the level of inflation, inducing a growing downward bias when inflation rises. Third, the NY Fed reports medians rather than means (as does the Michigan survey), which downplays what is happening on the right tail of the distribution. Unfortunately, this is the tail that provides the most predictive power (Reis 2021, Fofana, Patzelt and Reis 2025) and, as shown in Figure 2, the associated higher-frequency variation in the mean is not noise but instead highly correlated with actual prices paid by consumers in the economy. When we take the survey results from the SCE and focus on point forecasts, first-time participants, and the Huber-robust mean (to deal with outliers), we find dynamics

[4] One of the comments we received from somebody who completed our survey about monetary policy was revealing: "I just wanted to say that the study I just completed regarding inflation and the Fed really opened my eyes to how little I understand exactly what their purpose and methods are beyond "economic growth/stable economy." Thanks, I'll be reading up on that now." Note that while there is some panel component in the Michigan survey, the time period is of 6 months so learning effects are strongly dissipated by then (Kim and Binder 2023).

that very closely resemble those of the MSC (see Appendix Figure 1). So the difference is not arising from the surveys themselves (the SCE is an outstanding survey) but rather from the choice over how to present the results. Unfortunately, because the SCE does not provide micro-data for the last 12 months, we cannot verify to what extent the most recent dynamics in the MSC hold in the SCE when done in a comparable manner. However, other household surveys (e.g., the Nielsen Homescan Panel or the Indirect Consumer Inflation Expectations of the Cleveland Federal Reserve Bank, see Hajdini et al. 2022) confirm the recent dynamics in the MSC (Appendix Figure 2).

Nor is it the case that the inflation expectations of households and firms do not play a role in their economic decisions. It has, by now, been shown repeatedly and exhaustively that changes in the inflation expectations of households and firms causally affect their decisions, along a variety of margins.[5] So one should not dismiss these expectations as irrelevant. Indeed, as we will show in Section 3, when it comes to how expectations affect inflation, it is precisely the expectations of households and firms that are most relevant in price-setting decisions.

Of course, this is only the "eyeball" test and there are other metrics for anchoring that one can consider. But as we will see, broadly, they all paint a similar picture of households' and firms' inflation expectations being systematically unanchored while those of professionals and financial markets are closer to being anchored but still display patterns and episodes that deviate from what we would to expect to see from well-anchored expectations.

2.1.2 Inflation Disagreement and Uncertainty

Whether the average inflation expectation is close to the inflation target does not establish whether most people think the target will be reached. For example, an average inflation expectation of 2% could reflect half the population expecting deflation of 1% and the other half inflation of 5%, which would not look very anchored. So the amount of disagreement can provide another metric to assess the extent of anchoring of expectations. Panel A of Figure 3 plots the disagreement about 1-year ahead inflation for households, firms, professional forecasters, and inflation traders, as available. For the latter, there is very little disagreement to be seen in their inflation forecasts. Even professional forecasters, who generally display little disagreement, seem to disagree more than financial market participants. During the surge, disagreement among professional forecasters increased, consistent with earlier evidence from Mankiw, Reis and Wolfers (2004). Households displayed a much higher level of disagreement prior to the surge, and strikingly this disagreement grew through the surge but also the subsequent disinflation, reaching unprecedented levels in 2025. Part of this is due to growing polarization, as can be seen in Panel B of Figure 3. While political affiliation has long colored economic expectations, the extent to which this is the case now is striking. After the first election of Trump in 2016, there was a gap of around 2 percentage points in the inflation expectations of Democrats and Republicans, a large amount in economic terms. This grew to around 4 p.p. during the Biden administration, and now stands at close to 10 p.p., with Republicans expecting zero inflation

[5] See for examples Coibion, Gorodnichenko and Weber (2022) and Georgarakos et al. (2024) for households and Coibion, Gorodnichenko and Kumar (2018), Coibion, Gorodnichenko, and Ropele (2020) and Akarsu, Aktug and Torun (2024) for firms.

and Democrats expecting close to 10% inflation. But rising disagreement is not exclusively due to political polarization: even within each political party disagreement about inflation is surging (Appendix Figure 3). With firms, the evidence from SoFIE prior to the surge pointed to disagreement sometimes reaching levels as high as for households but other times falling to that of professionals. During the surge however, there was a large increase in disagreement about future inflation which gradually dissipated during the disinflation, unlike with households.

Disagreement about future inflation is not innocuous. Not only does it indicate that at least some people expect even larger departures from the inflation target than the average, these differences in beliefs, to the extent that they then affect decisions, can lead to worse economic outcomes. For example, as emphasized in Werning (2022), firms who expect higher inflation should reset their price to a higher level than firms who expect lower inflation, holding everything else constant, since they would expect their relative price to fall by more over time. Disagreement about inflation would therefore lead to price dispersion and misallocation, as some firms would be inefficiently large and others inefficiently small. In Ropele et al. (2024), we showed using a survey of firms in Italy that this intuition held up in the data: more disagreement among firms about future inflation led to more misallocation among them. Furthermore, the economic magnitudes implied were quite large: the increase in disagreement that occurred during the surge would have generated a welfare loss equivalent to a 2%-7% drop in TFP. This cost of inflation is above and beyond some of the usual costs of inflation emphasized in the literature.

Another metric for the anchoring of expectations is how uncertain people are in their forecasts. For example, someone who reports an inflation expectation of 2% could be thinking that there is a 50% chance of 0 inflation and a 50% chance of 4% inflation, which again would not look like anchored expectations even though their point forecast is equal to the inflation target. Panel A of Figure 4 plots the uncertainty in inflation expectations from households in the SCE, based on the probabilities they assign to different bins of possible inflation outcomes, as well as for the SPF (no comparable measures are available for financial market participants, firms or FOMC members). The average uncertainty among professionals is moderate, with a standard deviation in their year-ahead forecasts of around 0.5% on average, which increased during the pandemic and again during 2023. Households became much more uncertain about future inflation during the surge, but their uncertainty declined with inflation until 2025, when their uncertainty again began to increase. While equivalent measures of firms' inflation uncertainty are unfortunately not available, by most other metrics firms' inflation forecasts tend to be closer to households than professional forecasters, so it is likely their uncertainty has followed a similar pattern as households. Indeed, measures of policy uncertainty suggest very high current levels of uncertainty which, given the policies involved (e.g. tariffs, shocks to labor supply, tax changes), are almost certainly translating into uncertainty about future inflation.

The inflation uncertainty of economic agents, like disagreement, can have profound economic consequences. There is extensive empirical evidence that higher uncertainty about inflation affects households' spending, labor supply and portfolio decisions (Georgarakos et al. 2024, Kostyshyna and

Petersen 2024). With firms, less informed priors will lead them to place more weight on noisy new signals, which can lead to greater price dispersion and misallocation (Barro 1976). Hence, not only does the high level of uncertainty during and since the surge suggest a lack of confidence that the Federal Reserve will be able to achieve its target, the uncertainty can be costly in and of itself (Alfaro, Bloom and Lin 2024, Baker, Bloom and Terry 2025).

2.1.3 Passthrough of Short-Run Beliefs into Long-Run Expectations

A fourth metric of anchored expectations frequently considered (the "Bernanke" metric) is the passthrough of short-run shocks into beliefs about the long-run.[6] If the central bank is perceived as credible in being able to stabilize inflation around its target, shocks that affect the short-run outlook should not have much effect on long-run inflation expectations. One way to assess this prediction is to project long-run (5-year ahead) inflation expectations within a survey wave on short-run (1-year ahead) expectations to estimate the perceived passthrough of short-run shocks into long-run inflation each period. We do this, as feasible, for households, firms, and professional forecasters in Panel B of Figure 4. As a benchmark, note that if individuals expected complete stabilization of inflation beyond the one-year horizon, the perceived passthrough would be 0.2. Instead, we find much higher passthrough, especially for professional forecasters and firms. With households, passthrough averages around 0.4 over the sample, with certain periods displaying lower perceived passthrough (the pandemic) and others higher (2025). With professionals and firms, the average passthrough is around 0.5 or higher, indicating that *shocks to short-run expectations are expected to be long-lived* and have a pronounced effect on long-run expectations, a feature which did not change much during the inflation surge. This is true for firms as well as professional forecasters.

With financial markets, there is a different way to assess the "Bernanke" degree of anchoring by examining how asset prices respond to high-frequency monetary surprises. For example, Gurkaynak, Sack and Swanson (2005) noted years prior to the surge that the response of long-term yields to monetary surprises was consistent with inflation expectations of financial market participants being *unanchored*. Nakamura and Steinsson (2018) found, prior to the surge, that monetary surprises had little effect on break-even inflation from TIPS at short horizons but moved these implied measures of inflation expectations significantly at long horizons, again pointing toward unanchored inflation expectations in financial markets. More recently, Acosta et al. (2025) studid the response of break-even inflation rates from 2014-2024 to monetary policy surprises. They found that the responses of 5-10 forward inflation expectations to monetary surprises is, if anything, larger than it was in the earlier sample from 2004-2014: a 10 basis point surprise increase in interest rates leads financial market participants to expect annual inflation to be around 5 basis points lower *at a horizon of 5-10 years later*, a striking indication of unanchored expectations among financial markets that is both statistically and economically significant.

[6] "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).

2.1.4 Summary

There are different metrics for the anchoring of expectations. But by any metric we use, *it is difficult to escape the conclusion that inflation expectations of all types of economic actors, other than FOMC members, appear to be unanchored in the U.S., at least along some dimensions*. For households and firms, the evidence is pervasive. Along any metric we choose, these expectations are unambiguously unanchored, a fact which was true before the inflation surge and remains true today, perhaps more than ever. For professional forecasters and financial market participants, the "eyeball" test comes closer to anchored expectations, but even with them one can find episodes and criteria that point squarely toward unanchored expectations as well. It is well past time for policymakers to stop asserting that expectations are well-anchored and come to terms with the fact that we live in a world where the inflation expectations of most economic agents are far from anchored, and that these unanchored expectations drive many economic decisions.

2.2 How the Environment Shapes Attention to Inflation and Monetary Policy

While inflation expectations were unanchored both before and during the surge, this does not mean that nothing changed in the way people formed their inflation expectations. For example, Bracha and Tang (2024) found that the share of people in U.S. and Euro-area survey reporting that they didn't know what the recent inflation rate was fell significantly as the inflation rate spiked, suggesting that they were becoming more informed. Korenok, Munro and Cheng (2023) showed that people started searching for information about inflation on the internet more intensively after the inflation rate surpassed 4%, and that this phenomenon occurred across countries. Consistent with more attentiveness, Pfauti (2024) showed that the predictability of forecast errors declined with the surge. All of these indicate that households likely became more informed about inflation as the environment changed.

Another direct way of determining how informed people are about inflation or monetary policy is to assess how their expectations change when presented with information. For people who are already familiar with the information, the Fed's inflation target, for example, being provided with the information should have no effect on their economic expectations since there is no news content to it. But for those who are not familiar with it, one might expect relevant information to lead to changes in their beliefs. The extent to which this information affects beliefs therefore can be a metric of how informed people are in the first place.

A strategy to implement this approach in practice is through randomized controlled trials (RCTs) in which survey participants are first asked for their expectations, then randomly assigned to different groups who get different pieces of information (or none at all), then asked again for their economic expectations. One can then compare revisions in beliefs of the treated to the untreated participants to gauge the effect of the new information on expectations. This strategy had been applied in a number of studies prior to the surge and the general finding was that providing simple pieces of information like the most recent inflation rate or the central bank's inflation target had profound effects on the economic expectations of households or firms in advanced economies, indicating that

they were largely unaware of this information.[7] Prior to the surge, knowledge about inflation and monetary policy was quite limited in countries with low and stable inflation.

But as the inflation rate rose in the U.S. and other countries, a remarkable thing happened: the effects of these information treatments fell dramatically. This can be seen in Panel A of Figure 5, which plots the treatment effects from providing information about recent inflation, the inflation target or the FOMC/SPF inflation forecast to U.S. households over time. The magnitudes of these effects can range from 0 (the provided information has no effect on expectations) to -1 (everyone changes their expectations to the value of the provided information), where more negative values indicate that households were initially inattentive and therefore the information changed beliefs. As discussed in Weber et al. (2025), we ran the same information treatments on U.S. households many different times both before, during and since the surge. As the inflation rate rose, we can see that the treatment effects declined in absolute value, indicating that households were becoming more informed about these pieces of information. The effect is especially powerful for recent inflation statistics: people clearly began to track actual inflation more closely when its level was high, with the effect gradually fading away as the inflation rate fell back down. We see a similar albeit smaller effect with information treatments involving forecasts or the inflation target: while there was some growing familiarity with these during the surge, even at the height of inflation, these treatments were still relatively important in shaping expectations.

This changing inattention in the face of a different inflation environment is not unique to U.S. households. In Weber et al. (2025), we show that the same pattern happened with U.S. firms, and households and firms in the Euro area. In contrast, repeated information treatments in New Zealand when inflation was consistently low did not lead to variation in treatment effects (they were always powerful), and repeated information treatments in Uruguay when inflation was consistently high also did not lead to variation in treatment effects (they were always small). Pooling all of these different RCTs together, Panel B of Figure 5 shows that the degree of inattention to inflation and monetary policy varies strongly with the inflation environment: high inflation settings induce households and firms to become more attentive to inflation, whereas low inflation settings allow them to become inattentive, consistent with earlier evidence from Cavallo et al. (2017). We refer to this pattern as the cycle of selective inattention.[8]

Crucially, this cycle of selective inattention implies that people tend to be inattentive when times are good and attentive, i.e. learning, when times are bad. But if learning primarily takes place when inflation is high relative to the target, then it is natural that inflation expectations will appear to be systematically unanchored, both during the bad times when people are attentive (which is when central banks appear to be failing) as well as during the good times when people are inattentive and their expectations are shaped by their prior experiences.

[7] See Coibion and Gorodnichenko (2026) for more details on the methodology.
[8] Models of endogenous inattention include Abel, Eberly and Panageas (2013) and Afrouzi, Flynn and Yang (2024).

This cycle has two immediate implications for monetary policy communications. First, an informed population need not be an indicator of communication success, indeed it may be the opposite. In high inflation settings, people may very well know what the central bank's target is or what the recent inflation rate was, but this is a reflection of the environment and their need to know this information in that environment. One would not attribute the fact that Argentines are very familiar with inflation rates to a successful communication campaign by the central bank of Argentina.

Second, the challenge for communication by central banks to the general public in low and high inflation environments is very different.[9] During periods of low inflation, households and firms will tend to be very inattentive to monetary policy. Breaking through this veil of inattention is the main challenge. Issuing statements or doing press conferences and relying on the media to diffuse that information to the general public is insufficient. This has consequences: people's expectations can be highly unanchored even in low inflation environments and the success of the central bank in creating this low inflation environment may not be acknowledged or appreciated, leaving it susceptible to populist critiques. During periods of high inflation, on the other hand, households and firms tend to be much more informed about and attentive to inflation and monetary policy, so reaching them becomes easier. But during those times, what they will witness is inflation being out of line with the target. Hence changing their expectations becomes more difficult: the power of communication is reduced. So policymakers need to be prepared to pursue different communication strategies as the environment changes.

2.3 Inflation Expectations, Perceived Economic Conditions and Expected Wage Growth

One important characteristic of inflation expectations emphasized prior to the inflation surge is that they are not formed in a vacuum: inflation is endogenous so when economic agents revise their beliefs about inflation, they tend to revise their beliefs about other economic conditions as well (Candia et al. 2020). Particularly striking is the fact that households and (to a large extent) firms seemed to take a supply-side view of inflation: when they expect higher inflation, they tend to expect worse economic conditions all around (Kamdar and Ray 2024).

Did the surge change this pattern? In Panel A of Figure 6, we plot binscatters of households' inflation expectations against their expectations of output growth from the Michigan Survey of Consumers. Prior to the pandemic, there was a clear negative relationship, which was largely unaffected by the pandemic. During and since the surge, the pattern has also remained largely unchanged: when households have higher inflation expectations, they tend to expect worse macroeconomic outcomes, as if the inflation was driven by supply-side shocks. Indeed the surge period was accompanied by very low levels of consumer confidence, even though labor markets and the real economy were growing soundly. This disconnect is not difficult to explain in the context of the high inflation period and the fact that people have such a strong supply-side view of inflation. Unfortunately, comparable evidence for firms in the U.S. is unavailable due to much more limited survey evidence that covers both their inflation expectations and their views about the real economy (SoFIE only covers inflation).

[9] Financial markets are always attentive to central bank communication, so this difference does not arise in their case.

A second dimension of inflation expectations that has received a lot of attention is the extent to which they pass through into wage expectations, both for firms and workers. If higher inflation expectations lead firms and workers to expect subsequent wages to rise, then this will put upward pressure on prices and can lead to wage-price spirals (Lorenzoni and Werning 2023). But the extent to which this actually takes place is uncertain. For example, when firms in New Zealand were exogenously provided with information that changed their inflation expectations prior to the inflation surge, they did not revise their expectations about their future wages at all. So at least from the point of view of the firm, they did not perceive a significant passthrough of inflation into wages (Coibion, Gorodnichenko and Kumar 2018). That pattern does not appear to have changed: recent evidence from France linking firms' inflation expectations to their expected wage growth for their firm finds very little passthrough during and since the surge (Gautier et al. 2025), as is the case in Norway (Fastbo et al. 2025).

On the worker side, there also seems to be surprisingly little passthrough of inflation expectations into expected wage changes. Panel B of Figure 6, for example, plots inflation expectations of U.S. households against what they expect will happen to their wages over the next year. As the inflation rate rose sharply, there was no discernible change in people's expectations of their own wages. More causal evidence of this is provided in Hajdini et al. (2023), who found using an RCT approach that an increase in inflation expectations of 1 p.p. led to an increase in expected nominal income of just 0.1 p.p. on the part of U.S. households. Similar evidence has been found in other countries or with other research designs (e.g., Jain et al. 2024, Baek and Yaremko 2022, Buchheim, Link, and Möhrle 2024). Hence, across the board, the available evidence suggests that there is little passthrough of inflation expectations into expected wage changes from either firms or workers, even though we ultimately see some passthrough into wages, as shown in Panel B of Figure 6.

This limited perceived passthrough can have large economic consequences. If nominal wages are not expected to change but inflation rises, then both firms and workers should expect large declines in real wages from current matches. This should make firms increase vacancies and hiring, as happened during the surge period, while workers should more aggressively search for new jobs and we should see a rise in E-E flows, which also happened during the surge period (Afrouzi et al. 2025). Survey evidence is also consistent with these mechanisms. For example, Pilossoph and Ryngaert (2024) show that when workers have higher inflation expectations, they search more aggressively for work. Coibion, Gorodnichenko and Kumar (2018) find that as firms expect higher inflation but constant nominal wages, they then hire more workers. All of these mechanisms hinge on the notion that the passthrough of expected inflation into the expected nominal wages of existing matches is very low, so higher inflation should lead to pronounced declines in expected real wages. This perception should make inflation seem very costly to workers, a prediction we now turn to.

2.4 The Perceived Costs of Inflation

How costly is inflation? Qualitative evidence suggests that people strongly dislike inflation (Shiller 1997, Stantcheva 2024), primarily because they view inflation as eroding the purchasing power of their income, much as described by the evidence above. But in typical economic models, the costs of

inflation tend to be moderate at most and driven by the misallocation associated with price dispersion. Certain mechanisms, however, can make the costs of inflation significantly higher. For example, Ropele et al. (2024) find that the costs of inflation stemming from greater disagreement about inflation are equivalent to a drop in productivity of 2-7%. Afrouzi et al. (2025) argue that the costs to workers associated with the inflation surge stemming from falling real wages and greater search costs were on the order of one month's worth of lost income.

In a recent paper (Georgarakos et al. 2025), we attempted to quantify how large U.S. households (as well as those in other countries) perceive the costs of inflation to be. To do so, we followed a two-step procedure. First, we asked survey respondents what inflation rate they thought would be best over the next 3 years. Second, respondents were asked how much of their consumption they would be willing to sacrifice to achieve this desired rate of inflation. On average, survey participants reported that they wanted to see deflation of 1-2% per year on average. As shown in Panel A of Figure 6, those who thought that recent inflation had been higher tended to report higher desired levels of deflation, *consistent with a desire to see prices revert back toward prior trajectories*. This result suggests that what households would prefer is not a traditional inflation targeting approach where "bygones are bygones" but instead something closer to price level targeting in which periods of above average inflation are offset by periods of below average inflation that aim to bring prices back toward the trajectory that they would have otherwise followed.

How much would they be willing to sacrifice to achieve this? The answer is quite a bit: the average willingness to pay (WTP) to achieve their desired inflation rate is around 5% of consumption, a large amount compared to typical costs of inflation found in macroeconomic models.[10] Panel B of Figure 6 shows the distribution of responses, both in the U.S. as well as pooled across 13 different countries (U.S., South Korea, and the eleven Euro area countries in the ECB's CES). There are several things to note about these results. First, there is a lot of rounding in the answers at numbers like 5 and 10%, which is typical in surveys when respondents are uncertain about their answers (Binder 2017). This should not be surprising: this is a difficult question that respondents do not typically think about. Second, while the total consumption reduction is large, this in part reflects the fact that people want to see a significant change in inflation. The average forecast of inflation in the sample is around 6%, so reaching a deflation of 1% requires a reduction in inflation of 7 percentage points. Per unit of disinflation, the sacrifice in consumption is not that large. Third, when respondents are instead asked how much unemployment or GDP growth they would be willing to sacrifice to achieve their desired inflation rate, the implied sacrifice ratio is low, around 0.5, and close to Pfajfar and Winkler (2024). In other words, while households report that they would individually be willing to sustain a fairly significant drop in consumption to reduce inflation, they are much less willing to impose an aggregate cost on the rest of society, which suggests some altruistic motives. Finally, cross-sectional differences in the WTP to reduce inflation are consistent with what theory would suggest. For example, those wanting a larger disinflation, those who are more

[10] In another formulation of the survey question, we asked U.S. respondents to report how much they would be willing to pay per month to ensure stability. In April 2025, U.S. respondents were willing to pay approximately $100 per month to this end.

uncertain about future inflation, and those living in countries with a history of inflation tend to be willing to sacrifice more of their consumption to achieve their desired inflation rates.

2.5 Summary

What should we take away from all of this recent survey evidence? First, and foremost, is the fact that inflation expectations simply do not behave like the "well-anchored" objects that central bankers hope for, as summarized in Table 1. Yes, one can twist, select, drop, and squeeze survey data into something that looks fairly well-anchored, but this is not doing justice to what economic agents actually believe. The underlying survey results may look volatile, but the volatility is not necessarily noise and is often tied to observable prices that are used to form expectations about broader price dynamics in the economy. And these expectations affect economic decisions. Whether one looks at consumers' spending and labor search decisions or firms' pricing and employment decisions, inflation expectations play an important role. Even the expectations of professional forecasters and financial markets are not as anchored as the "eyeball" test suggests: both professionals and financial market participants change their long-run forecasts significantly in response to transitory shocks, effects that for the latter group matter for asset prices.

The resulting changes in inflation expectations are far from innocuous. High uncertainty about inflation, which is associated with higher levels of inflation, leads households to engage in strongly precautionary behavior in their spending, search and portfolio allocations. High disagreement about future inflation leads to misallocation across firms and large welfare costs. And high inflation leads workers to perceive large drops in their real income, resulting in intense dislike of inflation, a desire for prices to return to prior trends, and a willingness to sacrifice some of their own consumption to get there. Across the board, there are consequences coming from inflation expectations. But ultimately the most direct channel for inflation is via the price-setting decisions of firms.

3 Inflation Expectations, the Phillips Curve, and Recent Inflation Dynamics

How do inflation expectations translate into actual inflation? Theoretical models and empirical evidence point toward many different channels, but the most direct and historically emphasized is through price-setting. There is by now extensive evidence from microdata showing that inflation expectations affect the price-setting decisions of firms.[11] As a result, we take the existence of this channel as a given here and focus on the implications of this channel, which are characterized at the aggregate level by an expectations-augmented Phillips curve.

3.1 The Expectations-Augmented Phillips Curve in the U.S.

Ever since Friedman (1968) and Phelps (1967), most representations of the link between the nominal and real sides of the economy have taken the form of an expectations-augmented Phillips curve, linking actual inflation to expected inflation and a measure of economic activity or slack. The specific

[11] See for examples Coibion, Gorodnichenko and Kumar (2018), Coibion, Gorodnichenko and Ropele (2020), Akarsu, Aktug and Torun (2024), and Abberger et al. (2025).

formulation of the Phillips curve varies with the microfoundations, e.g. sticky prices, imperfect information, sticky information all make somewhat different predictions about the timing, horizon and nature of expectations that relate inflation and the real economy. The most popular formulation is the New Keynesian Phillips curve (NPKC), which captures sticky prices, and can be formulated as:

$$\pi_t = \beta\pi^e_{t+1} - \alpha(U_t - U^*_t) + \varepsilon_t.$$

This equation relates current inflation π_t to expected inflation π^e_{t+1}, real economic activity which here we represent by deviations of unemployment from the natural rate $U_t - U^*_t$, and finally supply-shocks ε_t. An extensive literature has focused on how to estimate the NKPC, following in particular the seminal approach proposed in Gali and Gertler (1999). Because our interest is in the role played by the real-time expectations, we will pursue a simpler strategy and treat both the expectations and the measure of economic slack as observable. We will then estimate the Phillips curve by OLS. Note that because inflation expectations are correlated with some supply shocks, we should not expect to recover β but a reduced form parameter that captures both β and the covariance between expectations and these unobserved shocks.

The NKPC, because it captures the price-setting decisions of sticky-price firms, makes two important predictions about the inflation expectations that matter in determining inflation. First, it should be the inflation expectations of firms that are most relevant in explaining inflation, since they are the price-setters and it is their expectations that are used in the price-setting decision. Second, the relevant expectations of inflation are over *short-horizons*, not long-horizons. This is because firms only care about the dynamics of inflation until they next change their price: anything beyond that horizon is irrelevant to their current pricing decision. Given that firms in the U.S. change their prices at least once a year on average (Bils and Klenow 2004, Nakamura and Steinsson 2008), longer-run inflation expectations should play little role in price-setting decisions. In prior work, we argued that both predictions were born out in the data (Coibion and Gorodnichenko 2015). First, inflation expectations over the next year tend to fit much better than longer-run expectations, as predicted by theory (e.g. Werning 2022). Second, household forecasts (which are much more highly correlated with firms' inflation forecasts) tend to fit much better than inflation expectations from professional forecasters. To what extent did these results change with the inflation surge?

In Table 2, we first present results from estimating the NKPC using one-year-ahead inflation expectations from households (mean of the MSC), professional forecasters (mean of the SPF) and firms (mean of the SoFIE) at the quarterly frequency. With the MSC, we have a long sample available from 1978-2025. We find over this period that the coefficient on expected inflation is positive and statistically significant, and the coefficient on the unemployment is negative and significant. Hence, both coefficients are as predicted by theory. Furthermore, the fit of the regression is very high, with an R^2 of 0.72. With professional forecasts, we find very similar coefficient estimates, although the estimated coefficient for expectations is closer to one but the overall fit is lower, with an R^2 of just 0.27. Inflation forecasts for firms are unfortunately only available since 2018, giving us only 28 observations to estimate the NKPC. Nonetheless, we find a coefficient on expected inflation that is

positive and significant, and a coefficient on the unemployment gap which is negative but, due to the larger standard errors, not statistically significant. When we run a "horserace" and include different measures of inflation expectations simultaneously (or lagged inflation), we find that it is the inflation expectations of households that are most important, with coefficients that are nearly unchanged and highly significant, whereas the expectations of professionals or past inflation play little role in accounting for inflation once household expectations are controlled for. Over the short sample for which both firms and households are available, household forecasts are preferred but standard errors are so large one cannot conclude much from this short sample. In short, our main takeaway is that household expectations continue to be the most relevant measure of expectations when estimating the Phillips curve when we include the surge period, consistent with the notion that they are a much better proxy for firms' expectations than are professional forecasters.

In Table 3, we turn to the role played by expectations of different horizons, comparing the one-year ahead and five-year ahead inflation expectations of households in accounting for inflation dynamics. While both are individually significant when included one at a time, it is the short-run inflation expectations that are most relevant when both are included. Consistent with Werning (2022) and the microeconomic evidence from Abberger et al. (2025), long-run inflation expectations do not play a role in determining inflation via the Phillips curve once short-run inflation expectations are controlled for. Long-run inflation expectations still matter (they are relevant for pricing long-term assets), but when it comes to inflation dynamics, it is short-run expectations that play the leading role.

Table 3 also reports estimates of the NKPC across different subsamples. A point emphasized in Coibion and Gorodnichenko (2015) and Coibion, Gorodnichenko and Kamdar (2018) was that, once we estimate the Phillips curve using household forecasts, the evidence of a changing slope of the Phillips disappears. This is reproduced in columns (5)-(8) for each decade of our sample separately until the 2010s. When we consider the 2020s which include both the pandemic and the surge period, the results are unchanged: the slope of the Phillips curve looks stable once we condition on the real-time expectations of households as a proxy for firms' inflation expectations.[12]

In short, the evidence for an expectations-augmented Phillips curve survives the surge period easily as long we condition for households' inflation expectations as the relevant measure. Forecasts from professionals are strictly dominated by household forecasts in explaining inflation dynamics, as are longer-run forecasts, all of which is consistent with theoretical predictions from sticky prices. Finally, the expectations-augmented Phillips curve is remarkably stable over time and continues to predict that labor markets are important in explaining inflation, once we correctly take into account real-time inflation expectations of the relevant agents in the economy

3.2 Interpreting Recent Inflation through the Lens of the Phillips Curve

Inflation is determined in general equilibrium, so one should be wary of making inferences about the sources of aggregate dynamics from a single aggregate structural relationship like the Phillips curve.

[12] It's also the case that once we condition on the real-time expectations of households, there is little evidence for non-linearities in the Phillips curve, as shown in Appendix Table 1.

Nonetheless, in this case, quite a bit can be learned from examining the dynamics of inflation given the estimated Phillips curve. To start, consider a visual representation of the Phillips curve and the corresponding dynamics of inflation since 2020. To start, Panel A of Figure 8 presents an "unconditional" Phillips curve representation, linking unemployment gaps to the level of inflation. At the height of the pandemic, the unemployment gap was high and we were on the bottom right of the figure, along the historical Phillips curve estimated from the pre-pandemic period. As the economy recovered, we moved along the Phillips curve: inflation rose as the labor market gradually tightened. This movement along the Phillips curve could be interpreted as reflecting growing demand, as restrictions were loosened and both monetary and fiscal policies supported the recovery. But when the inflation surge began in early 2021, the unemployment rate was only two percentage points above the natural rate. So the large amount of inflation in the next few years was much greater than what could be explained from the tightness in the labor market, leading some to conclude that the Phillips curve must be non-linear.

In Panel B of Figure 8, we now consider an "expectations-augmented" Phillips curve, comparing unemployment gaps to deviations of inflation from expected inflation. In 2020, we again see the movement along the Phillips curve as the unemployment closed, but in 2021, we no longer have a large unexplained surge in inflation: instead, *the rise in expected inflation in 2021 fully explains the onset of the inflation surge*. Only in 2022 do we begin to see an upward movement above the Phillips curve, which through the lens of the NKPC model, should be interpreted as stemming mostly from supply-side factors (ε_t). From that point on, almost all subsequent movements are represented as vertical movements in the inflation gap with only very small changes in the unemployment gap, again indicating that supply-side factors were a primary driver of inflation movements during this period. Note that if we were using long-run expectations of households or the expectations of financial markets or professional forecasters, *we would be unable to explain the start of the inflation surge in 2021*, which again illustrates the importance of focusing the expectations that theory suggests are the most relevant ones. In addition, once we control for household expectations, there is little to no role left for a non-linear Phillips curve to explain the inflation surge period.[13]

One way to see the importance of supply-side factors is presented in Panel C of Figure 8, in which we again plot the expectations-augmented Phillips curve but now also controlling for changes in the price of natural gas (which was driven by the Russian aggression rather than macroeconomic developments) and supply-chain bottlenecks. Doing so significantly reduces the amount of vertical variation in inflation gaps that are not associated with labor market changes. There is almost no unexplained variation in inflation left. In other words, through inflation expectations and supply shocks, we seem to be able to explain almost all of the inflation dynamics as of 2021.

Another way to see this is through regressions, as shown in Table 4. First, columns (1) and (2) show the explanatory power of labor market forces and inflation expectations in accounting for

[13] The same pattern is true if we use core CPI instead of headline (Appendix Figure 8) or other measures of the labor market like vacancy/unemployment ratios (Appendix Figure 9). Changes in inflation expectations account for most of the otherwise-puzzling rise in inflation in 2021.

inflation dynamics: jointly, their R^2 is 80% of inflation, with expectations accounting for the vast majority of this share. In subsequent columns, we introduce different measures of supply factors that could shift the Phillips curve. For example, when we include global supply chain pressures (GSCPI) as an additional control, it single-handedly explains about one-third of the remaining variation in inflation during the post-pandemic period. Variables capturing shocks to food prices, which are largely orthogonal to U.S. economic conditions, also explain some of the remaining variation in inflation, as do fertilizer prices (for which the main driver is the price of natural gas). Interestingly, as we include supply-side shocks, the coefficient on inflation expectations declines, which reflects the high sensitivity of inflation expectations to these volatile price categories and the fact that part of the way supply shocks translate into inflation is not only through their role as inputs into production or consumption, but also by shaping aggregate inflation expectations (as shown in Figure 2) which in turn affect price-setting decisions in other sectors.

Our interpretation of these results is that they indicate that the vast majority of the inflation dynamics during the surge era can be attributed to supply shocks and constraints, which affected inflation both directly but even more importantly through their effects on inflation expectations and pricing decisions of firms. Inflation expectations, of course, are endogenous and one cannot rule out a priori that demand side forces like monetary and fiscal policies were behind movements in expectations. Demand forces could also have contributed to creating supply "shocks" like the stress on global supply chains. But these can also be explained by a reallocation of consumer spending toward durable goods due to reduced access to services during the pandemic, with no need to appeal to higher aggregate demand (Ferrante, Graves and Iacoviello 2023). Furthermore, the evidence presented in Figure 2 suggests that most of the movements in inflation expectations are driven by gasoline and other easily observable prices, whose movements during this particular period were large and often due to exogenous supply shocks (Baumeister 2023). Given this, it is difficult to attribute much of the rise in inflation to either monetary or fiscal policy, but by the same logic, one would similarly attribute much of the subsequent decline in inflation to good luck (positive supply shocks) rather than policy. Thus, our reading of the data is that the surge and subsequent disinflation were primarily due to a period of initially unfavorable supply shocks that also had powerful effects on inflation expectations, followed by large favorable supply shocks that also had powerful effects on inflation expectations, in other words a "bad luck followed by good luck" interpretation, consistent with IMF (2023b).

3.3 International Evidence on Inflation, Expectations and Monetary Policy

The inflation surge was a global experience. For example, Panel A of Figure 9 shows the inflation dynamics across many countries around the world. While inflation started from somewhat different levels, reached somewhat different levels, and fell at somewhat different rates across countries, what mostly jumps out is how homogeneous the inflation experience was internationally. Any explanation for it must therefore apply to this wide range of countries. Given this, it is very difficult to explain the inflation dynamics during the surge through policy choices. For example, some central banks started raising interest rates very rapidly in 2021, whereas others held off until mid-2022, as shown in Panel

A of Figure 9. Yet their inflation experience was broadly similar. So monetary policy does not seem to be a promising candidate for explaining the surge. Nor is fiscal policy: the degree of fiscal stimulus during and after the pandemic varied widely across countries (Chen et al. 2021), yet inflation experiences did not. So again, policy is an unlikely culprit.

Instead, global shocks provide a more promising explanation. For example, the pandemic affected everyone, so the recovery from the pandemic and the resulting supply chain constraints provide a natural explanation to explain global inflation. Similarly, commodity shocks to oil, food, fertilizers etc. particularly following the barbaric Russian invasion of Ukraine clearly provided an inflationary force around the world (see Appendix Figure 6). Appendix Figure 4, for example, plots the time series correlation for many countries between their inflation and energy prices in their country. Across the board, the correlation between energy price dynamics and their inflation is striking. Another way to see this is to consider visual evidence from Phillips curves dynamics across these countries. To do so, we use household surveys of inflation expectations for each available country and plot the resulting inflation gaps versus unemployment gaps during 2021 to 2025 for each country in Panel B of Figure 9, analogous to what we did for the U.S. in Figure 8. For most of the countries, we can see that many of the movements are vertical, pointing toward supply shocks shifting inflation relative to expectations, with limited changes in unemployment gaps other than early during the pandemic recovery. Hence, the international patterns suggest a similar story as what comes from the U.S.: the recovery from the pandemic led to small increases in inflation relative to expectations, captured by movements along the Phillips Curve, until large supply shocks accompanied by significant increases in inflation expectations, caused the inflation surge until those shocks reversed themselves and inflation came down significantly.

One can also glean some insight from cases where countries did *not* experience the inflation surge compared to their neighbors. Three examples stand out in particular: Bolivia, Taiwan and Switzerland. Panel A of Figure 10 plots inflation dynamics in Bolivia relative to neighboring countries like Chile, Peru and Paraguay. All peer countries experienced the typical surge inflation dynamics, with peak levels of inflation around 10% in 2022-23, with rapid declines thereafter. Bolivia stands out in that its inflation during that period peaked at just 3.1% during the surge, before starting to rise over the course of 2024-25. The main factors behind Bolivia's low inflation during this period include a combination of price controls and subsidies affecting 60% of the consumption basket, along with export restrictions to increase local supply (IMF 2022, 2025). By limiting increases in energy prices, the strategy prevented any rise in meaningful rise in core CPI. While unsustainable in the long-run (the subsidies imposed a very large fiscal burden, which ultimately led the government to monetize deficits and spur inflation in 2025), this example illustrates the importance of energy prices in fueling the inflation surge. Taiwan presents a similar case study; its inflation rate remained around 3% during the surge era while other East Asian countries saw significant increases in inflation (Panel B of Figure 10). This was accomplished through a combination of controls on gasoline, natural gas prices, and electricity prices through state-owned companies, albeit at great financial cost, as well as reductions in tariffs on

food imports.[14] France similarly imposed caps on gas and electricity, financed by the government at great cost, which limited its inflation as well (Banque de France 2024). Whereas neighboring countries spent even larger amounts on defraying costs of rising energy prices on consumers through transfers, France's approach was likely more successful because the price caps limited effects on inflation expectations whereas subsidies did not. Finally, Switzerland was particularly successful in limiting the inflation surge relative to its neighbors but not through price controls (Panel C of Figure 10). Instead, because of its heavy hydroelectric production and low energy consumption, Switzerland was simply much less exposed to the energy price shock (IMF 2023a). Jointly, these cases highlight the crucial role played by commodity prices in general and energy prices in particular as a source of both the inflation surge and the subsequent disinflation, in particular through their role on inflation expectations. More generally, countries' differential exposure to energy shocks helps account for their differential core inflation experiences during this period (Vlieghe 2024).

3.4 Summary

What these results highlight is the important role played by inflation expectations in shaping inflation outcomes, both in the U.S. and across countries, consistent with the IMF's analysis (2023b). The recovery from the pandemic during which labor markets tightened can account for some of the initial rise in inflation, but the brunt of the surge is accounted for by rising inflation expectations and supply shocks. And while short-run inflation expectations have fallen since the height of the surge, they remain elevated relative to prior levels. What does this imply in terms of the lessons that people have drawn from the surge and the ones that policymakers should draw in terms of future policy?

4 What Lessons Should We Draw from This Experience?

The inflation surge has largely passed, and policymakers are now focused on the "last mile" of getting inflation back to the target. But the consequences of the surge are likely to be long-lived. The new plateau of inflation expectations since the surge is one indication of this and is consistent with a wide body of evidence that studies how large macroeconomic events like the Great Depression or hyperinflations can have persistent effects on beliefs, be it on risk-taking (Malmendier and Nagel 2011) or inflation expectations (Braggion et al. 2023). At the same time, a lot of learning took place on the part of households and firms about inflation and monetary policy during the surge era, so this could potentially have made it easier for policymakers to stabilize beliefs in the future. In this section, we discuss some takeaways for the design of policy frameworks and communication that we view as stemming from this experience.

4.1 Knowledge of Policy Frameworks and the Anchoring of Expectations

Weber et al. (2025), along with many others, documented the extent to which households and firms became more informed about inflation and monetary policy during the surge. As could be seen in Figure 5, for example, information treatments about the Fed's inflation target had significantly smaller effects

[14] See contemporaneous news reports by Reuters: Taiwan freezes electricity prices, reports power utility losses of $13 bln | Reuters as well as Hong Kong Trade Development Council (2022).

in 2022 than they did in 2018, consistent with some learning about the policy regime. To assess the current understanding of monetary policymaking and the Fed's framework, we ran a new survey of U.S. households on April 2nd, 2025, with approximately 2,500 representative respondents from Prolific, a popular survey platform. In this survey, we asked respondents what they thought the Fed's inflation target was. Panel A of Figure 11 presents the distribution of responses for beliefs about the Fed's inflation target, superimposed on results from asking the same question to U.S. households participating in the Nielsen Homescan panel in 2018 (Coibion, Gorodnichenko and Weber 2022). We see a clear leftward movement in the distribution of answers between 2018 and 2025, with the average belief falling from 8.5% in 2018 to just 3% in 2025. Hence, it is clear that there was widespread learning about the Fed's inflation target during this time period. Despite this, as Figure 1 made clear, long-run inflation expectations of households have increased over the same time period. *Better knowledge of the inflation target is therefore clearly not enough to anchor inflation expectations*.

We also asked respondents questions to measure whether they were aware of the Federal Reserve's broader objectives. In one question, we asked them to choose among a variety of objectives and select (up to) the two most important ones that they perceived the Fed as focusing on. As shown in Panel B of Figure 11, the top response was "Financial Stability", which is a reasonable answer albeit price stability and maximum employment are the two mandated objectives of the Federal Reserve. The next two, on the other hand, were "Maintaining a strong dollar" and "Keeping interest rates low to reduce the government's cost of borrowing," both well outside the realm of what the Federal Reserve focuses on. This indicates broad confusion about the broad objectives of the Fed. We also asked about which framework they thought the Federal Reserve was using with respect to prices and could choose between "Inflation Targeting" (IT), "Average Inflation Targeting" (AIT), "Flexible Average Inflation Targeting" (FAIT), and "Price Level Targeting" (PLT), as well as "The Fed does not pursue price stability," "Other" and finally "I don't know." The most common answer was "I don't know," with the rest split close to equally across the different inflation frameworks. Clearly, FAIT is still not widely understood to be the Fed's price stability framework.

Would it make any difference if it were? In Coibion et al. (2023), we had tried to assess whether, if we explained to households how AIT differed from IT, this would affect their inflation expectations as theory would predict. We found no effect, although Hoffman et al. (2022) subsequently found some evidence consistent with AIT having some effect among German households. In our April 2025 survey, we tried new hypotheticals to assess whether understanding of AIT has improved (abstracting from the asymmetry), as follows:

> *"One framework that central banks sometimes use is known as Average Inflation Targeting. Effectively, this means that when inflation is below the central bank's target rate of inflation, that central bank will try to push inflation above the target for some time. And vice versa, when inflation is above the target, the central bank will try to push inflation below the target for some time.*

Earlier in the survey you indicated that your inflation forecast for the next 12 month is XXX [pipe the response from Q11]. If the Federal Reserve adopted Average Inflation Targeting with the inflation target of 2% per year, what inflation would you expect for the next 12 months as well as over the next 5 years on average?"

We did equivalent hypotheticals for IT and price-level targeting. In Panel C of Figure 11, we report answers from respondents for each type of question in terms of what their short-run and long-run forecasts would be under the hypothetical scenario. In short, there is no difference in expectations across frameworks. Just as the inflation target is not enough to anchor inflation expectations, neither does the particular framework used for price stability seem to have much of an effect.

4.2 The *Desired* Policy Framework

The new survey also included some questions that were designed to infer what framework for price stability respondents would prefer to see in place, in the hope that this might shed some light as to what might help anchor expectations more successfully. To do so, we asked respondents two parallel questions about the definition of price stability: what they thought price stability meant versus what they thought the Fed meant by price stability. We offered them a number of possible answers and asked them to select their (up to) top two, with results presented in Panel A of Figure 12. The results point to fairly striking differences. In terms of what respondents perceive as price stability, the two most common answers were "low inflation" and "a fixed level of prices for goods and services in the economy," both of which are statements about the level of inflation (either small or zero). In contrast, what they perceived in terms of how the Fed defined price stability were "stable inflation" and "predictable inflation," both of which are statements about the volatility of inflation rather than its level. This indicates that U.S. households perceive a gap between their definition of price stability and the Fed's definition of price stability where, in fact, there is basically none.

A second area we explored is whether Americans would prefer to see something like traditional inflation targeting or average inflation targeting. We did this by asking people how they thought the Fed would respond to a hypothetical one-time increase[decrease] in inflation as well as how they thought the Fed *should* respond to the same shock. The answers were to try to offset all of the increase in inflation by running inflation below[average] the target for some time, offset part of the increase, or not to try to offset any of it. Some respondents randomly received the question formulated in terms of positive inflation shocks and others negative, and some respondents randomly received the question formulated in terms of price levels. The latter did not make much difference, so we focus on the inflation version of the question.

The results are plotted in Panel B of Figure 12. Overall, most Americans believe that the Fed would not try to offset either positive or negative transitory shocks to inflation, consistent with an IT framework. Only 15-20% thought that the Fed would try to fully offset the shock, whether positive or negative. Across all Americans, the average perceived passthrough of an inflation shock into the price level was therefore around 75%. There is at best very modest evidence that households perceive

an asymmetry in how the Fed currently responds to such shocks, offsetting negative shocks but not positive ones. When asked how the Fed should respond though, a larger share now emphasized that the Fed should be offsetting some of the shock, especially when it is on the upside, consistent with the notion that workers are disproportionately affected by positive shocks to inflation via declines in their real wage. Hence, we see some mild support for the Fed pursuing a strategy like average inflation targeting or price level targeting with some offsetting of inflation shocks, but if there is to be an asymmetry they would want it to be in the opposite direction of what it currently is. But overall, it is close to a 50-50 split as to whether people would prefer a traditional inflation target where bygones are bygones or an average inflation target. A switch back to traditional inflation targeting or one toward symmetric average inflation targeting would therefore, by itself, be unlikely to generate much enthusiasm from the general public but either would represent an improvement relative to the current regime in terms of being closer to the public's preferences.

4.3 Breaking the Cycle of "Selective Inattention"

Taken together, these results paint a very mixed picture in terms of policymakers' ability to anchor expectations. Prior to the surge, in an era of low and stable inflation, households' and firms' inflation expectations were unanchored because there was relatively little incentive for people to pay attention to inflation and monetary policy. During the surge, people started paying attention and learned that, while the Fed was targeting an inflation rate of 2%, actual inflation was much higher. So their experience of paying attention to inflation and monetary policy happened precisely when monetary policy appeared at its worst. And this is the memory they will recall of this episode (Salle et al. 2024). Perhaps not surprisingly, we have seen a significant and persistent deterioration in the long-run inflation expectations of households and, to a lesser extent, firms since that time. It is difficult to anchor expectations in a world where people are either inattentive or if they are attentive, it is because conditions have become so bad that they have to pay attention: this is the cycle of selective inattention.

Such a pattern is unlikely to be resolved by a change in the framework for price stability. There is some evidence that people would like to see more stabilization of price levels rather than inflation: desired inflation rates are inversely related to perceived recent inflation rates and most respondents report that they would like to see hypothetical jumps in inflation or prices at least partially reversed, whether they are on the upside or downside. So perhaps if the framework was formulated more clearly in terms of price levels rather than average inflation rates, it might be more easily understood and have a more powerful effect on expectations. The asymmetry in the Fed's FAIT is also precisely the opposite of what the public would prefer to see and only complicates communication of the framework. Redefining the framework as something closer to a symmetric 2%-growth price-level trajectory could also increase the credibility of the institution by bringing its objectives more in line with what the public would like to see, even though in practice it would only eliminate the asymmetry in the framework.

But we are skeptical that changes in the framework, by themselves, could do very much in terms of anchoring expectations. Clearly the adoption of FAIT did not have the effects on inflation expectations that one might have hoped, despite widespread news coverage. Even when *we* try hard

to explain the differences between AIT, PLT and IT, we see little effect on expectations. So the power of a change in the framework is likely to be quite limited.

Instead, the best hope for anchoring inflation expectations is two-fold. First, it requires being successful in breaking the back of inflation and restoring it to the target. This will require more contractionary policy for as long as it takes. During periods in which inflation is above the target, or when discussing scenarios that involve inflation rising above the target, communication should emphasize that the best way to achieve the employment side of the mandate is to *first* achieve price stability. While optimal policy under anchored inflation expectations might allow for policymakers to look through transitory supply shocks, the fact that expectations are unanchored implies that this approach should not be followed prior to anchoring being achieved and well-established.

Second, one has to break the cycle of selective inattention. This means central banks must find ways of communicating with the public about inflation and monetary policy *when inflation is low and close to the target*. At that time, learning would be positive in the sense that it would involve the message that the central bank is successful in achieving its target. To undo the fact that people tend to learn about inflation and monetary policy only in bad times, it will be up to the central banking community to reduce the cost of acquiring the information enough for learning to take place during the good economic times instead.

The challenge of course is that reaching the public during good times is difficult since they have little incentive to pay attention to news about inflation and monetary policy (Coibion et al. 2020). Press conferences will go unwatched and news reports unread. Tweets will be lost in the ether. But finding ways to get the information across will be essential for people to learn about just how successful modern central banks have actually been over the last 40 years. Only that knowledge can be expected to anchor expectations. But as long as the cycle of selective inattention continues, one can predict inflation expectations to remain unanchored.

5 Conclusion: The Looming Risks from Unanchored Expectations

It is common wisdom among central bankers that unanchored expectations played a key role in driving inflation dynamics during the 1970s. Indeed, Panel A of Figure 13 illustrates how household inflation expectations started rising prior to the 1974 surge, driven by not only higher oil prices but also surging food prices, such as from the then-famous disappearance of Peruvian anchovies (Blinder and Rudd 2008). This increase in inflation expectations explains how a relative price change generated broad-based inflation. And when the inflation rate fell, those inflation expectations remained at a higher level than before the surge. With a population having just experienced a significant inflationary shock and attentive to potential news about inflation, any significant shock was poised to start another fire. Rising prices for imported commodities and energy in the late 1970s provided the ignition, leading inflation expectations to start rising again and fueling the second and larger inflation surge of the decade.

It is also common wisdom among central bankers that anchored inflation expectations this time around played a key role in limiting the inflation surge. That common wisdom is wrong. Panel B of Figure 13 plots inflation and expectations during the recent surge and the resemblance to the early 1970s

is striking: a rise in household expectations preceding the surge, driven by a combination of higher oil prices and food prices (e.g. the egg crisis) followed by a plateauing afterwards at a significantly higher level. One cannot appeal to unanchored expectations to explain the 1970s and simultaneously cite anchored expectations during the recent surge when their dynamics are nearly indistinguishable. So we find ourselves in the same situation as in the mid-1970s. Once again, any significant spark could reignite the fire. And with rising import prices already happening, the fire has likely already begun.

References

Abberger, Klaus, Anne Funk, Michael Lamla, Sarah Lein, and Stefanie Siegrista, 2025. "The pass-through of inflation expectations into prices and wages: Evidence from an RCT survey." Manuscript.

Abel, Andrew B., Janice C. Eberly and Stavros Panageas, 2013. "Optimal Inattention to the Stock Market with Information Costs and Transaction Costs," *Econometrica* 81(4): 1455-1481.

Acosta, Miguel, Andrea Ajello, Michael Bauer, Francesca Loria, and Silvia Miranda-Agrippino, 2025. "Financial Market Effects of FOMC Communications: Evidence from a New Event-Study Database," Manuscript.

Afrouzi, Hassan, Andres Blanco, Andres Drenik and Erik Hurst, 2025. "A Theory of How Workers Keep Up with Inflation," manuscript.

Afrouzi, Hassan, Joel P. Flynn and Choongryul Yang, 2024. "What Can Measured Beliefs Tell Us About Monetary Non-Neutrality?" NBER Working Paper 32541.

Akarsu, Okan, Emrehan Aktug, and Huzeyfe Torun, 2024. "Inflation Expectations and Firms' Decisions in High Inflation: Evidence from A Randomized Control Trial." Manuscript.

Alfaro, Iván, Nicholas Bloom, and Xiaoji Lin, 2024. "The Finance Uncertainty Multiplier," *Journal of Political Economy* 132(2): 577-615.

Ascari, Guido, Dennis Bonam, and Andra Smadu, 2024. "Global Supply Chain Pressures, Inflation and Implications for Monetary Policy," *Journal of International Money and Finance* 142: 103029.

Baek, ChaeWon, and Vitaliia Yaremko, 2022. "Spillovers in Macroeconomic Expectations and Labor Supply: Implications for Wage-Price Spirals," manuscript.

Baker, Scott, Nicholas Bloom, and Stephen Terry, 2024. "Using Disasters to Estimate the Impact of Uncertainty," *Review of Economic Studies* 91(2): 720-747.

Banque de France, 2024. "The energy crisis: what emergency measures did the European Union introduce in response," Bulletin de la Banque de France 253-6.

Barnichon, Regis and Adam Hale Shapiro, 2024. "Phillips Meets Beveridge," *Journal of Monetary Economics* 148(Supplement): 103660.

Barro, Robert J., 1976. "Rational Expectations and the Role of Monetary Policy," *Journal of Monetary Economics* 2(1): 1-32.

Baumann, Ursel, Annalisa Ferrando, Dimitris Georgarakos, Yuriy Gorodnichenko, and Timo Reinelt, Timo, 2024. "SAFE to Update Inflation Expectations? New Survey Evidence on Euro Area Firms," CEPR Discussion Paper 19161.

Baumeister, Christiane, 2023. "Pandemic, War, Inflation: Oil Markets at a Crossroads," Manuscript.

Bernanke, Ben, 2007. "Inflation Expectations and Inflation Forecasting," Speech at the Monetary Economics Workshop of the NBER, Cambridge, Massachusetts.

Bernanke, Ben, and Olivier Blanchard, 2023. "What Caused the U.S. Pandemic Era Inflation?" NBER Working Paper 31417.

Bils, Mark and Peter J. Klenow, 2004. "Some Evidence on the Importance of Sticky Prices," *Journal of Political Economy* 112(5): 947-985.

Binder, Carola C., 2017. "Measuring uncertainty based on rounding: New method and application to inflation expectations," *Journal of Monetary Economics* 90, 1-12.

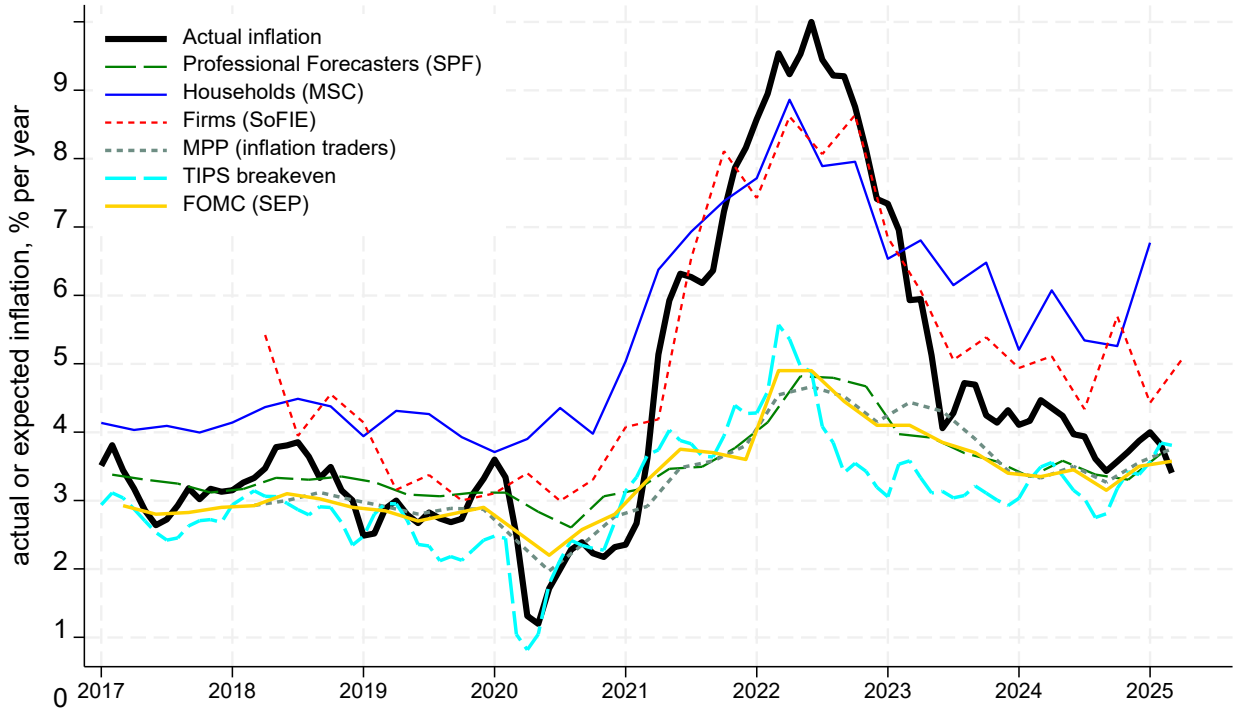
Blinder, Alan A. and Jeremy B. Rudd, 2008. "The Supply-Shock Explanation of the Great Stagflation Revisited," NBER Working Paper w14563.
Bracha, Anat, and Jenny Tang, 2024. "Inflation Levels and (in)Attention," Forthcoming in *Review of Economic Studies*.
Braggion, Fabio, Felix von Meyerinck, and Nic Schaub, 2023. "Inflation and Individual Investors' Behavior: Evidence from the German Hyperinflation," Forthcoming in *Review of Financial Studies*.
Brooks, Robin, Peter Orszag, and William Murdock, 2024. "Covid-19 inflation was a supply shock," https://www.brookings.edu/articles/covid-19-inflation-was-a-supply-shock/.
Buchheim, Lukas, Sebastian Link, and Sascha Möhrle, 2024. "Inflation and Wage Expectations of Firms and Employees," CESifo Working Paper 11329.
Candia, Bernardo, Olivier Coibion and Yuriy Gorodnichenko, 2020. "Communication and the Beliefs of Economic Agents," in *Navigating the Decade Ahead: Implications for Monetary Policy*, Economic Policy Symposium (Jackson Hole, WY) Proceedings, Federal Reserve Bank of Kansas City, 2020.
Carvalho, Carlos, Stefano Eusepi, Emanuel Moench, and Bruce Preston. 2023. "Anchored Inflation Expectations." *American Economic Journal: Macroeconomics* 15 (1): 1–47.
Cavallo, Alberto, Guillermo Cruces, and Ricardo Perez-Truglia. 2017. "Inflation Expectations, Learning, and Supermarket Prices: Evidence from Survey Experiments." *American Economic Journal: Macroeconomics* 9(3): 1-35.
Chen, Can, Yu Kelly Shi, Ping Zhang, and Chengri Ding, 2021. "A Cross-Country Comparison of Fiscal Policy Responses to the Covid-19 Global Pandemic," *Journal of Comparative Policy Analysis, Research and Practice* 23(2): 262-273.
Coibion, Olivier, and Yuriy Gorodnichenko, 2015. "Is the Phillips Curve Alive and Well after All? Inflation Expectations and the Missing Disinflation," *American Economic Journal: Macroeconomics* 7(1): 197-232.
Coibion, Olivier, and Yuriy Gorodnichenko, 2026. *Expectations Matter: The New Causal Macroeconomics of Surveys and Experiments*. Princeton University Press.
Coibion, Olivier, Yuriy Gorodnichenko, and Michael Weber, 2022. "Monetary Policy Communications and their Effects on Household Inflation Expectations," *Journal of Political Economy* 130(6): 1537-1584.
Coibion, Olivier, Yuriy Gorodnichenko, and Rupal Kamdar, 2018. "The Formation of Expectations, Inflation, and the Phillips Curve." *Journal of Economic Literature* 56 (4): 1447–91.
Coibion, Olivier, Yuriy Gorodnichenko, and Saten Kumar. 2018. "How Do Firms Form Their Expectations? New Survey Evidence." *American Economic Review* 108(9): 2671–2713.
Coibion, Olivier, Yuriy Gorodnichenko, and Tiziano Ropele, 2020. "Inflation Expectations and Firm Decisions: New Causal Evidence," *Quarterly Journal of Economics* 135(1): 165-219.
Coibion, Olivier, Yuriy Gorodnichenko, Edward S. Knotek II, and Raphael Schoenle, 2023. "Average Inflation Targeting and Household Expectations," *Journal of Political Economy – Macroeconomics* 1(2): 403–446.
Coibion, Olivier, Yuriy Gorodnichenko, Saten Kumar, and Mathieu Pedemonte, 2020. "Inflation expectations as a policy tool?" *Journal of International Economics* 124(C): 103297.
Coronado, Julia, Laura Rosner, Olivier Coibion and Yuriy Gorodnichenko, 2025. "The Expectations of Financial Market Participants: New Survey Evidence," Manuscript.
D'Acunto, Francesco, Ulrike Malmendier, Juan Ospina and Michael Weber, 2021. "Exposure to Grocery Prices and Inflation Expectations," *Journal of Political Economy*, 129(5): 1319-1666.
Fastbo, Tuva, Eleonora Granziera, Nicolo Maffei-Faccioli, Lovisa Reiche, and Michael Weber, 2025. "Five Facts about Inflation Expectations: Evidence from Four Different Groups of Agents," Manuscript.
Ferrante, Francesco, Sebastian Graves and Matteo Iacoviello, 2023. "The inflationary effects of sectoral reallocation," *Journal of Monetary Economics* 140(Supplement): S64-S81.
Fischer, Johannes, Christoph Herler, and Philip Schnattinger. 2024. "The Effect of Inflation Uncertainty on Household Spending," mimeo.

Fofana, Salome, Paula Patzelt and Ricardo Reis, 2025. "Household Disagreement about Expected Inflation," in The Research Handbook of Inflation, edited by Guido Ascari and Riccardo Trezzi, Edward-Elgar, Chapter 15, 2025.
Friedman, Milton, 1968. "The Role of Monetary Policy" *American Economics Review* 58(1): 1-17.
Galí, Jordi and Mark Gertler, 1999. "Inflation dynamics: A structural econometric analysis," *Journal of Monetary Economics* 44(2): 195-222.
Gautier, Erwan, Frederique Savignac and Olivier Coibion, 2025. "Firms' Inflation and Wage Expectations during the Inflation Surge," NBER Working Paper 33799.
Georgarakos, Dimitris, Kwang Hwan Kim, Olivier Coibion, Myungkyu Shim, Myunghwan Andrew Lee, Yuriy Gorodnichenko, Geoff Kenny, Seowoo Han, and Michael Weber, 2025. "How Costly Are Business Cycle Volatility and Inflation? A Vox Populi Approach," NBER Working Paper 33476.
Georgarakos, Dimitris, Yuriy Gorodnichenko, Olivier Coibion, Geoff Kenny, 2024. "The Causal Effects of Inflation Uncertainty on Households' Beliefs and Actions," NBER Working Paper 33014.
Gürkaynak, Refet, Brian Sack, and Jonathan Wright, 2010. "The TIPS Yield Curve and Inflation Compensation," *American Economic Journal: Macroeconomics* 2(1): 70-92.
Gürkaynak, Refet, S., Brian Sack, and Eric Swanson. 2005. "The Sensitivity of Long-Term Interest Rates to Economic News: Evidence and Implications for Macroeconomic Models." *American Economic Review* 95 (1): 425–436.
Hajdini, Ina, Edward Knotek, John Leer, Mathieu Pedemonte, Robert Rich and Raphael Schoenle, 2023. "Low Passthrough from Inflation Expectations to Income Growth Expectations: Why People Dislike Inflation," Federal Reserve Bank of Cleveland Working Paper No. 22-21.
Hajdini, Ina, Edward S. Knotek II, John Leer, Mathieu Pedemonte, Robert Rich and Raphael S. Schoenle, 2022. "Indirect Consumer Inflation Expectations: Theory and Evidence," Federal Reserve Bank of Cleveland Working Paper No. 22-35.
Hoffman, Mathias, Emanuel Mönch, Lora Pavlova, and Guido Schultefrankenfeld, 2022. "Would Households Understand Average Inflation Targeting?" *Journal of Monetary Economics* 129: S52-S66.
Hong Kong Trade Development Council, 2023. "Taiwan's Rising Inflation Spurs Cost-Countering Government and Retail Alliance," Available at https://research.hktdc.com/en/article/OTc4OTUxNTMw.
International Monetary Fund, 2022. "Bolivia - Article IV Consultation," Country Report 2022/333.
International Monetary Fund, 2023a. "Switzerland - Article IV Consultation," Country Report 2023/196.
International Monetary Fund, 2023b. "Managing Expectations: Inflation and Monetary Policy," in World Economic Outlook, Chapter 2, Fall 2023.
International Monetary Fund, 2025. "Bolivia - Article IV Consultation" Country Report 2025/034.
Jain, Monica, Olena Kostyshyna, and Xu Zhang, 2024. "How do people view wage and price inflation?" *Journal of Monetary Economics* 145(C): 103552.
Kamdar, Rupal, and Walker Ray, 2024. "Attention-Driven Sentiment and the Business Cycle," mimeo.
Kim, Gwangmin and Carola Binder, 2023. "Learning-through-Survey in Inflation Expectations," *American Economic Journal: Macroeconomics* 15(2): 254-278.
Korenok, Oleg, David Munro and Jiayi Chen, 2023. "Inflation and Attention Thresholds," *Review of Economics and Statistics*, November: 1-23.
Kostyshyna, Olena, and Luba Petersen. 2024. "The Effect of Inflation Uncertainty on Household Expectations and Spending," NBER Working Paper 32939.
Kumar, Saten, Hassan Afrouzi, Olivier Coibion, and Yuriy Gorodnichenko, 2015. "Inflation Targeting Does Not Anchor Inflation Expectations: Evidence from Firms in New Zealand," *Brookings Papers on Economic Activity* 46(2 (Fall)): 151-225.
Lorenzoni, Guido and Ivan Werning, 2023. "Wage-Price Spirals," *Brookings Papers on Economic Activity* 54(2): 317-393.
Malmendier, Ulrike, and Stefan Nagel, 2011. "Depression Babies: Do Macroeconomic Experiences Affect Risk Taking?" *Quarterly Journal of Economics* 126(1): 373-416.

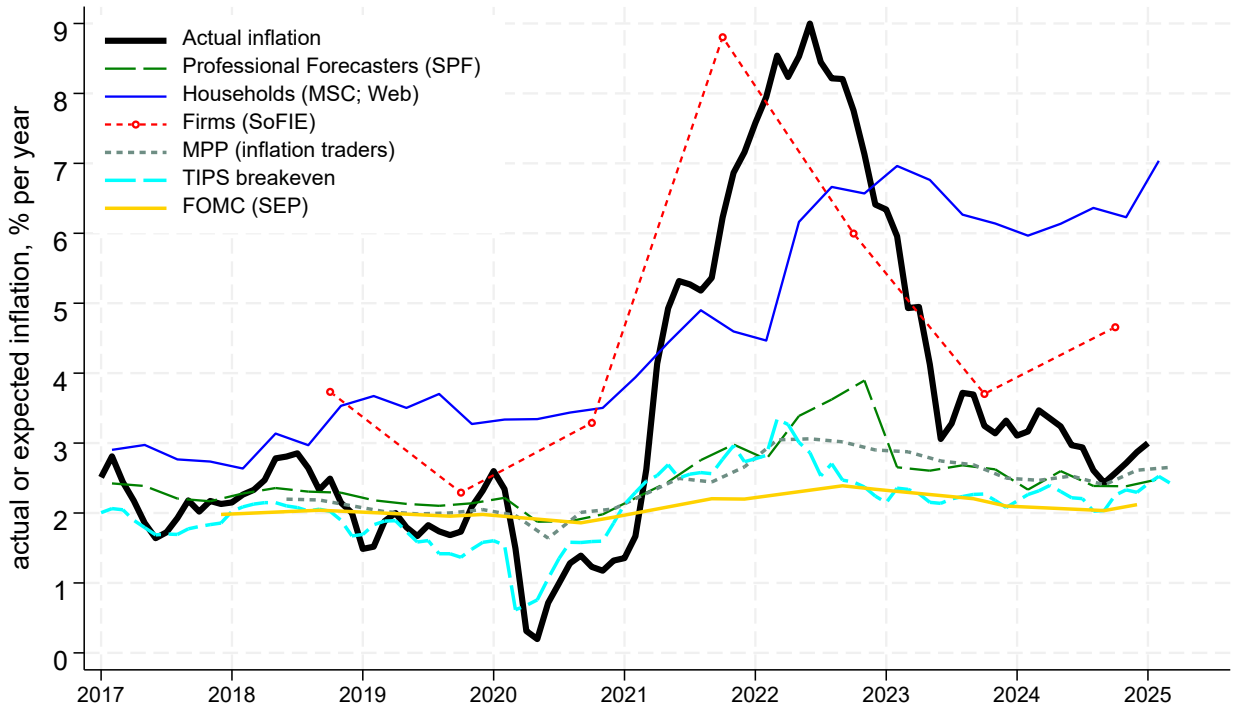
Mankiw, Gregory, Ricardo Reis, and Justin Wolfers, 2004. "Disagreement about Inflation Expectations," NBER Chapters, in: *NBER Macroeconomics Annual* 2003: 209-270.
Musalem, Alberto, 2025. "Remarks on the Economic Outlook and Monetary Policy," at the 41st Annual National Association for Business Economics (NABE) Economic Policy Conference.
Nakamura, Emi, and Jón Steinsson, 2008. "Five Facts about Prices: A Reevaluation of Menu Cost Models," *Quarterly Journal of Economics* 123(4), 1415-1464
Nakamura, Emi, and Jón Steinsson, 2018. "High-Frequency Identification of Monetary Non-Neutrality: The Information Effect," *Quarterly Journal of Economics* 133(3): 1283-1330.
Pfajfar, Damjan, and Fabian Winkler, 2024. "Households' Preferences Over Inflation and Monetary Policy Tradeoffs," Finance and Economics Discussion Series 2024-036, Board of Governors of the Federal Reserve System.
Pfauti, Oliver, 2024. "The Inflation Attention Threshold and Inflation Surges," Manuscript.
Phelps, Edmund, 1967. "Phillips Curves, Expectations of Inflation and Optimal Unemployment over Time," *Economica* 34(135): 254-281.
Pilossoph, Laura, and Jane Ryngaert, 2024. "Job Search, Wages, and Inflation," NBER Working Paper 33042.
Reis, Richardo, 2021. "Losing the Inflation Anchors," *Brookings Papers on Economic Activity* 52: 307-379.
Ropele, Tiziano, Yuriy Gorodnichenko, and Olivier Coibion, 2024. "Inflation Expectations and Misallocation of Resources: Evidence from Italy." *AER Insights* 6 (2): 246–61.
Salle, Isabelle, Yuriy Gorodnichenko and Olivier Coibion, 2026. "Lifetime Memories of Inflation: Evidence from Surveys and the Lab," NBER Working Paper 31996.
Savignac, Frédérique, Erwan Gautier, Yuriy Gorodnichenko, and Olivier Coibion, 2024. "Firms' Inflation Expectations: New Evidence from France," *Journal of European Economic Association* 22(6): 2748–2781.
Sergeyev, Dmitriy, and Yuriy Gorodnichenko, 2021. "Zero Lower Bound on Inflation Expectations," CEPR Discussion Paper 16729.
Shiller, Robert, 1997. "Why Do People Dislike Inflation?" in Christina Romer and David Romer, editors, *Reducing Inflation: Motivation and Strategy*, p. 13 –65, University of Chicago Press.
Stantcheva, Stefanie, 2024. "Why Do We Dislike Inflation?" *Brookings Papers on Economic Activity* 55:1-65.
Surveys of Consumers. Technical Report: Comparisons of Variables Collected by Phone and
Vlieghe, Gertjan, 2024. "Core strength: international evidence on the impact of energy prices on core inflation," forthcoming in *Economica*.
Web, January 2017 - May 2024, 2024.
Weber, Michael, Bernardo Candia, Tiziano Ropele, Rodrigo Lluberas, Serafin Frache, Brent H. Meyer, Saten Kumar, Yuriy Gorodnichenko, Dimitris Georgarakos, Olivier Coibion, Geoff Kenny and Jorge Ponce, 2025. "Tell Me Something I Don't Already Know: Learning in Low and High-Inflation Settings," *Econometrica* 93(1): 229-264.
Weber, Michael, Francesco D'Acunto, Yuriy Gorodnichenko and Olivier Coibion, 2022. "The Subjective Inflation Expectations of Households and Firms: Measurement, Determinants and Implications," *Journal of Economic Perspectives* 36(3): 157-184.
Werning, Iván, 2022. "Expectations and the Rate of Inflation," NBER Working Paper 30260.
Williams, John C., 2024. "Managing the Known Unknowns," Remarks at the Suresh Tendulkar Memorial Lecture, Reserve Bank of India, Mumbai, India.

Figure 1: Inflation Expectations Before, During and Since the Surge

Panel A: Mean Year-Ahead Inflation Expectations



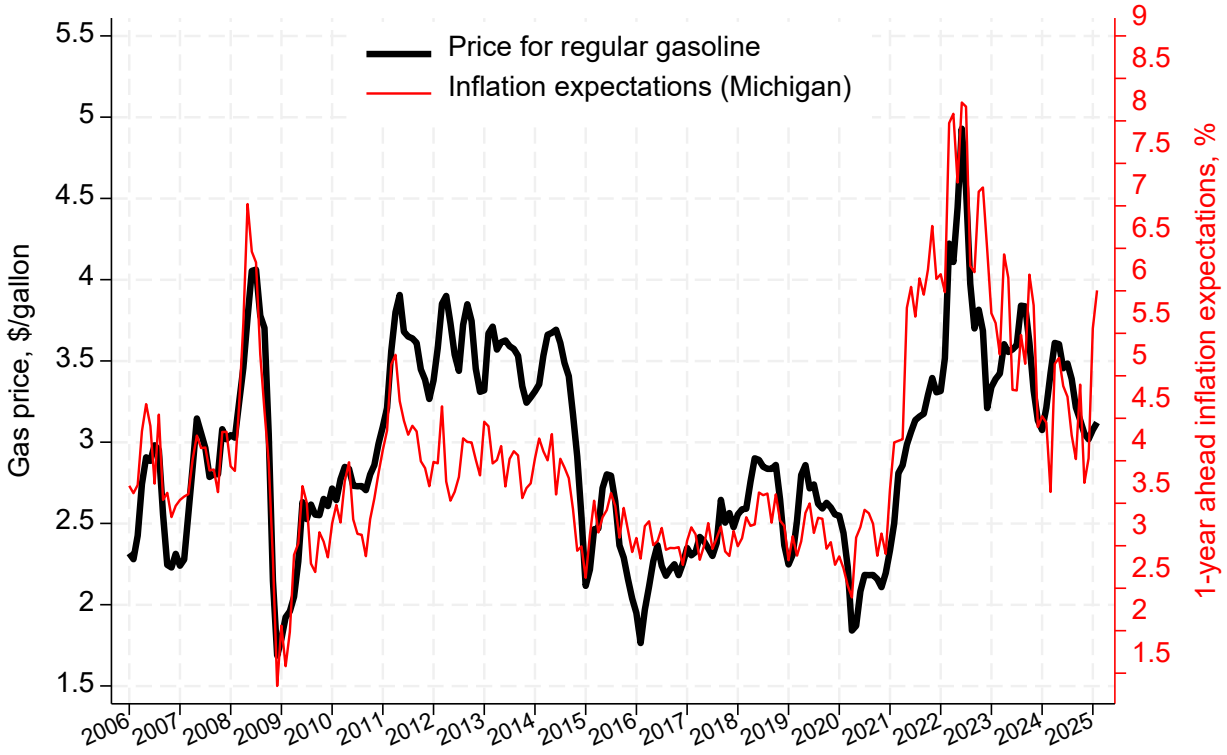
Panel B: Mean 5-Year Ahead Inflation Expectations



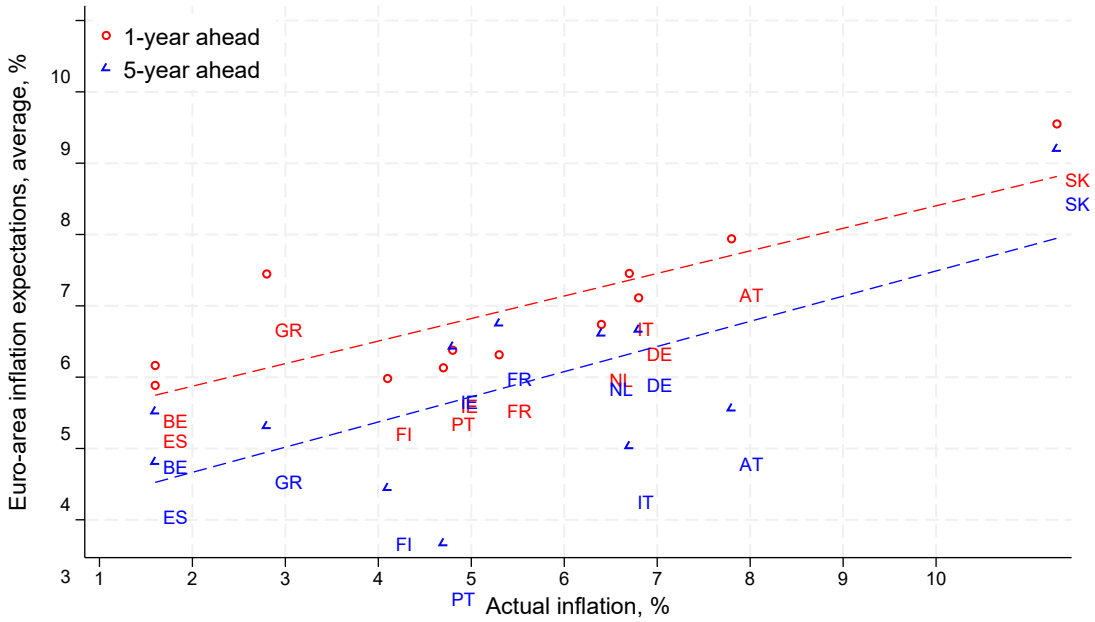
Notes: inflation expectations are from the Michigan Survey of Consumers (MSC), Survey of Firms' Inflation Expectations (SoFIE), MacroPolicy Perspectives (MPP), the spread between nominal and inflation indexed bonds (TIPS) from Gürkaynak et al. (2010), and Summary of Economic Projections (SEP) from the Federal Open Market Committee (FOMC). To ensure consistency over time, 5-year ahead inflation expectations for MSC are from the subset of response that were collected using an online survey.

Figure 2: Inflation Expectations and Observed Prices

Panel A: U.S. Inflation Expectations and Gas Prices



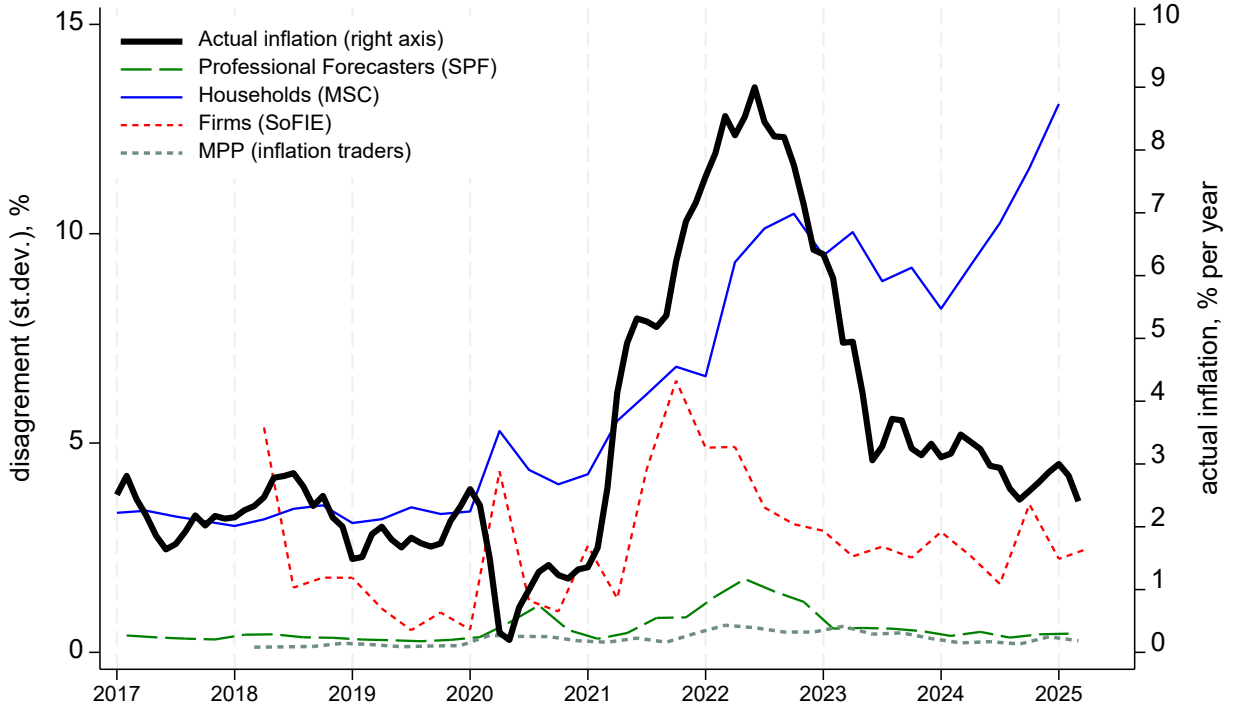
Panel B: Inflation Expectations and Experienced Prices



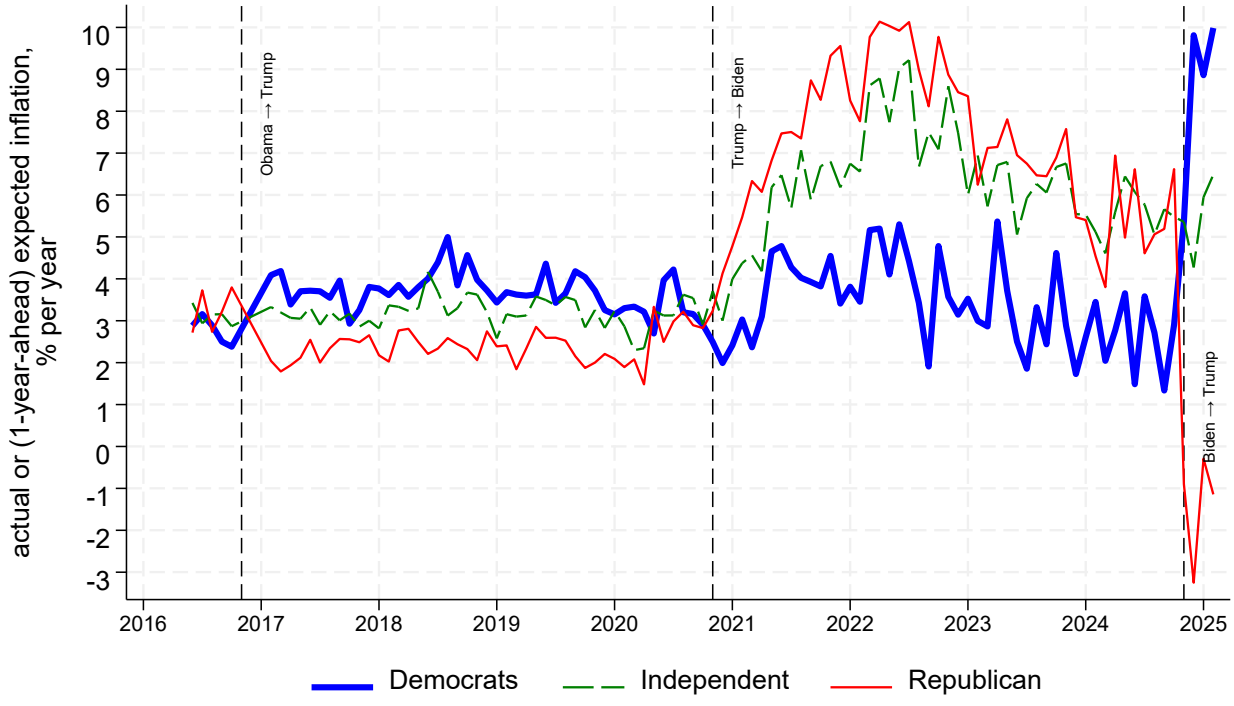
Notes: Panel B shows average euro-area inflation expectations vs. country-level inflation in the euro area in July 2023. The data are from the European Central Bank's Survey on the Access to Finance of Enterprises (SAFE). See Baumann et al. (2024) for more details.

Figure 3: Disagreement about Future Inflation

Panel A: Disagreement about One-Year-Ahead Inflation



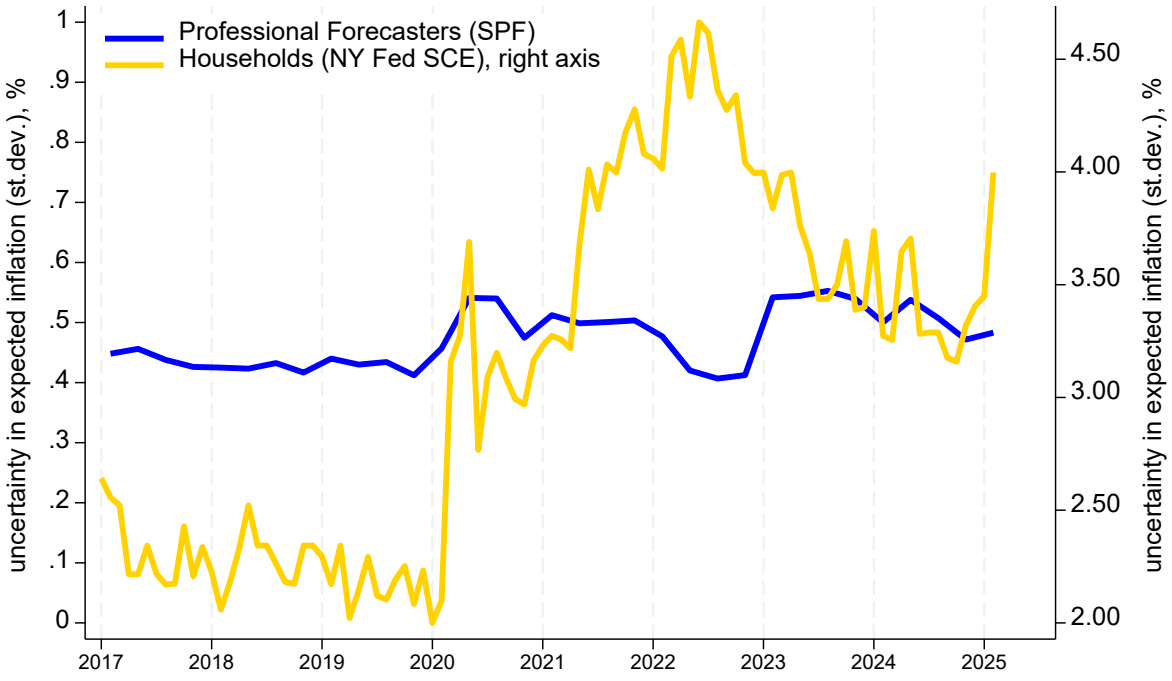
Panel B: Disagreement about One-Year-Head Inflation by Political Affiliation



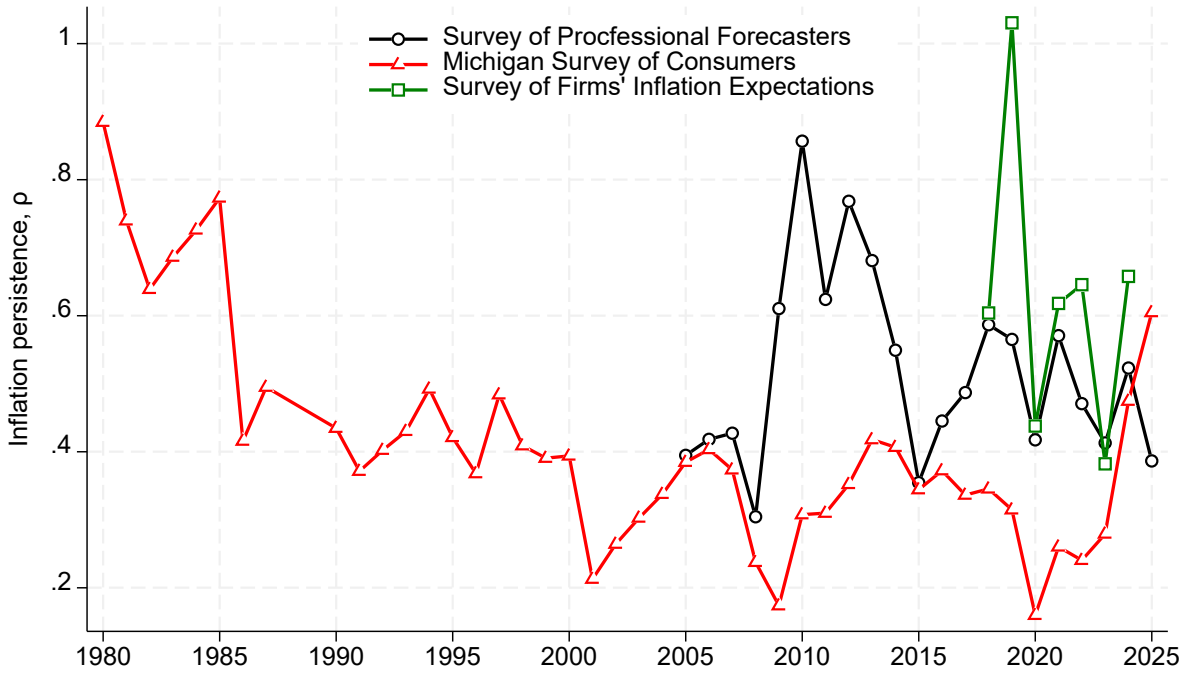
Notes: In Panel A, disagreement is measured with the standard deviation for cross-sections of expectations in a given period. Disagreement for 5-year ahead inflation forecasts is reported in Appendix Figure 7. Panel B shows time series of inflation expectations by political preferences in the Michigan Survey of Consumers.

Figure 4: Inflation Uncertainty and Perceived Persistence

Panel A: Uncertainty about Year-Ahead Inflation



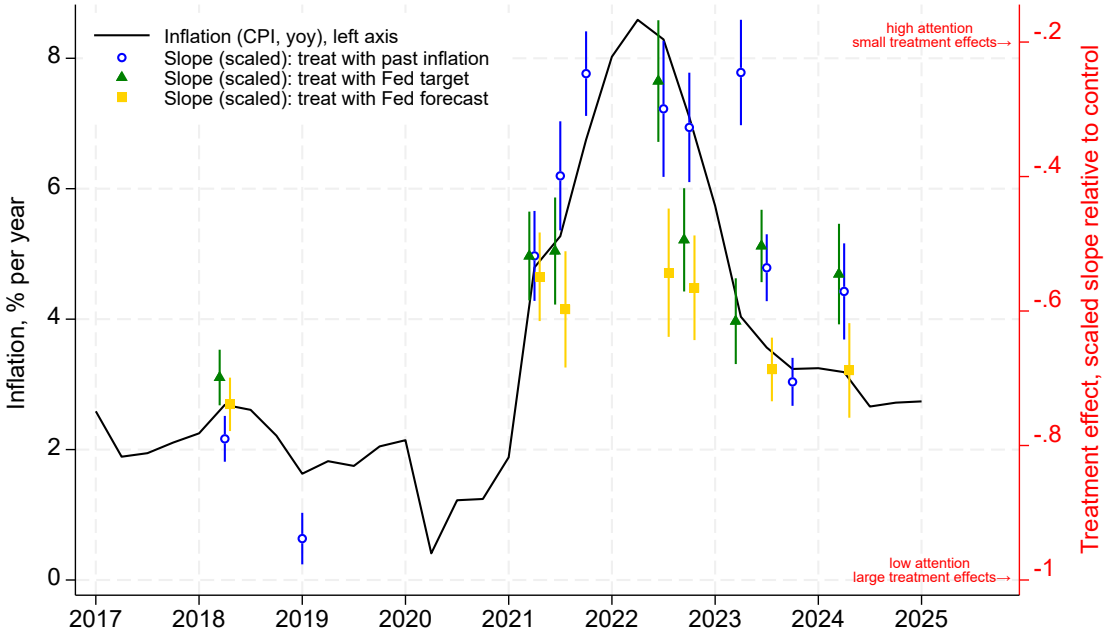
Panel B: Perceived Persistence of Inflation



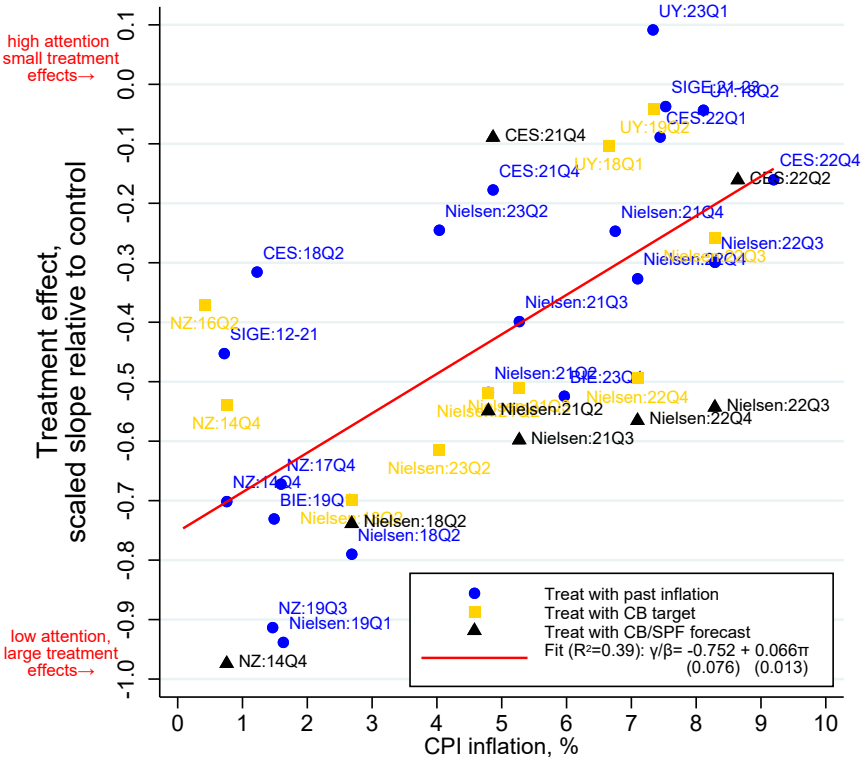
Notes: Panel A shows the time series of uncertainty (standard deviation) implied by the reported subjective probability distributions in the Philadelphia Fed' Survey of Professional Forecasters (SPF) and the New York Fed's Survey of Consumer Expectations (SCE). Panel B shows the slopes of Huber-robust cross-sectional regressions $E_{it}\pi_{t+5} = b_{0,t} + \rho_t E_{it}\pi_{t+1} + error$ for each year t where i indexes respondents. The data are from Michigan Survey of Consumers (MSC), Survey of Firms' Inflation Expectations (SoFIE), and SPF.

Figure 5: How Inattention Varies with the Inflation Environment

Panel A: Information Treatments and the Level of Inflation in the U.S.



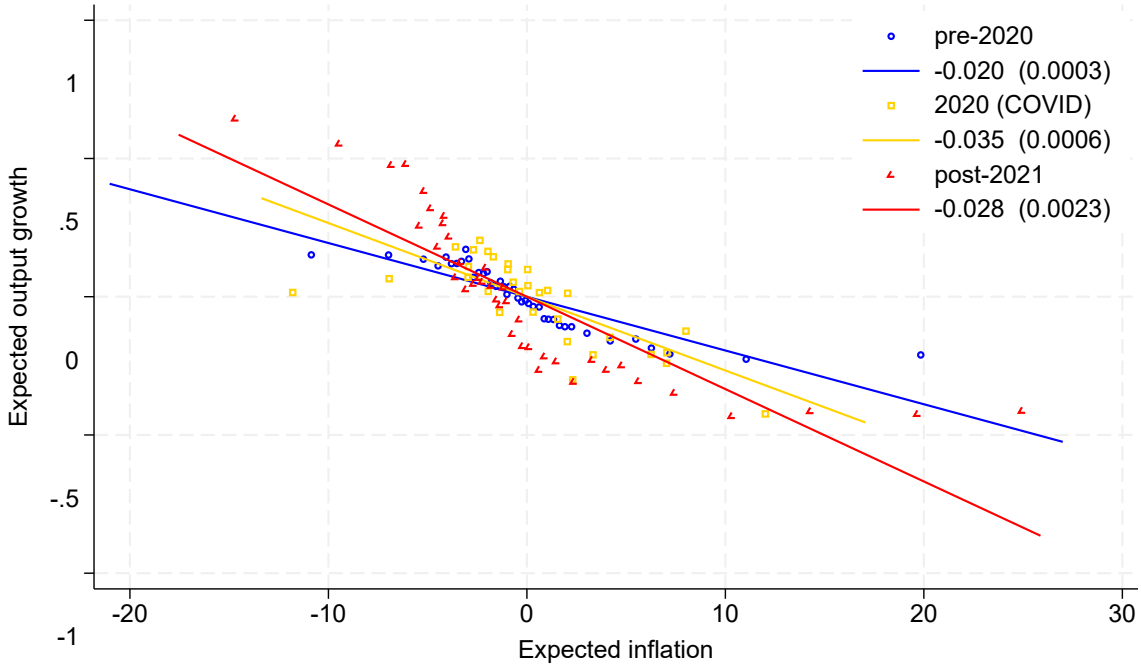
Panel B: Information Treatments and the Level of Inflation across Countries and Time



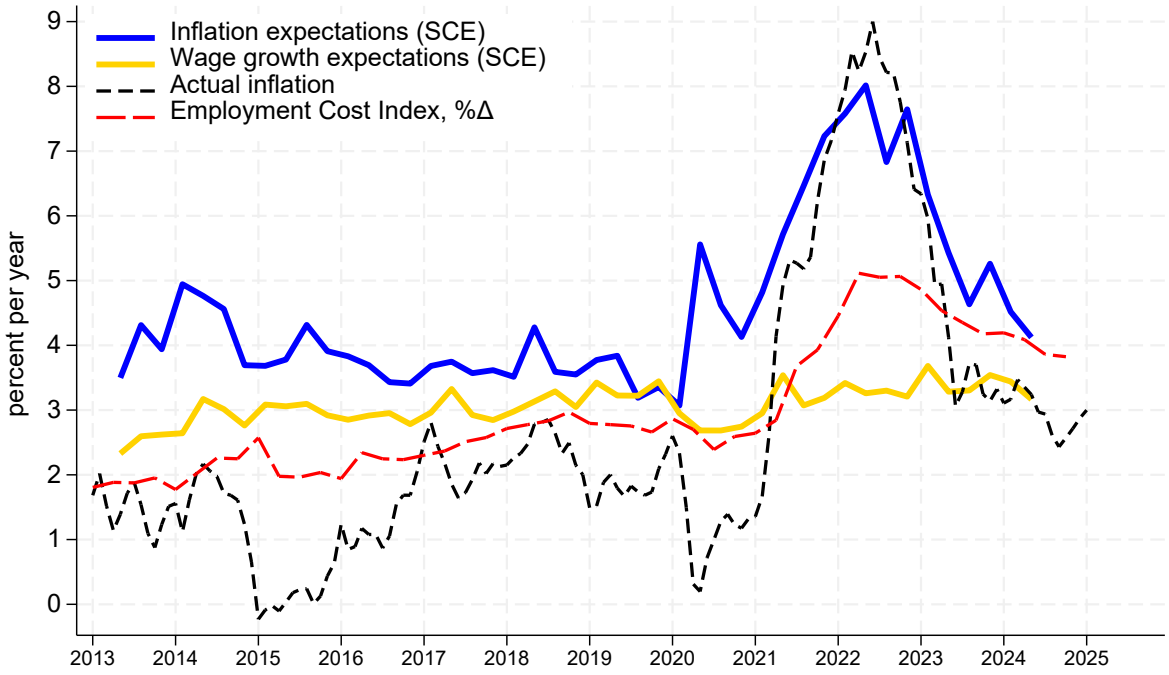
Notes: Panel A shows an updated version of Figure 4 in Weber et al. (2025) using randomized controlled trials to measure how attentive U.S. households are to inflation. Full-information rational expectations is consistent with the treatment effect (scaled slope) being equal to zero. Full inattention is consistent with the treatment effect (scaled slope) being equal to -1. Panel B is an updated version of Figure 11 in Weber et al. (2025) which presents cross-country evidence for treatment effects for firms and households.

Figure 6: Inflation Expectations and Perceived Economic Outcomes

Panel A: Inflation Expectations and the Economic Outlook



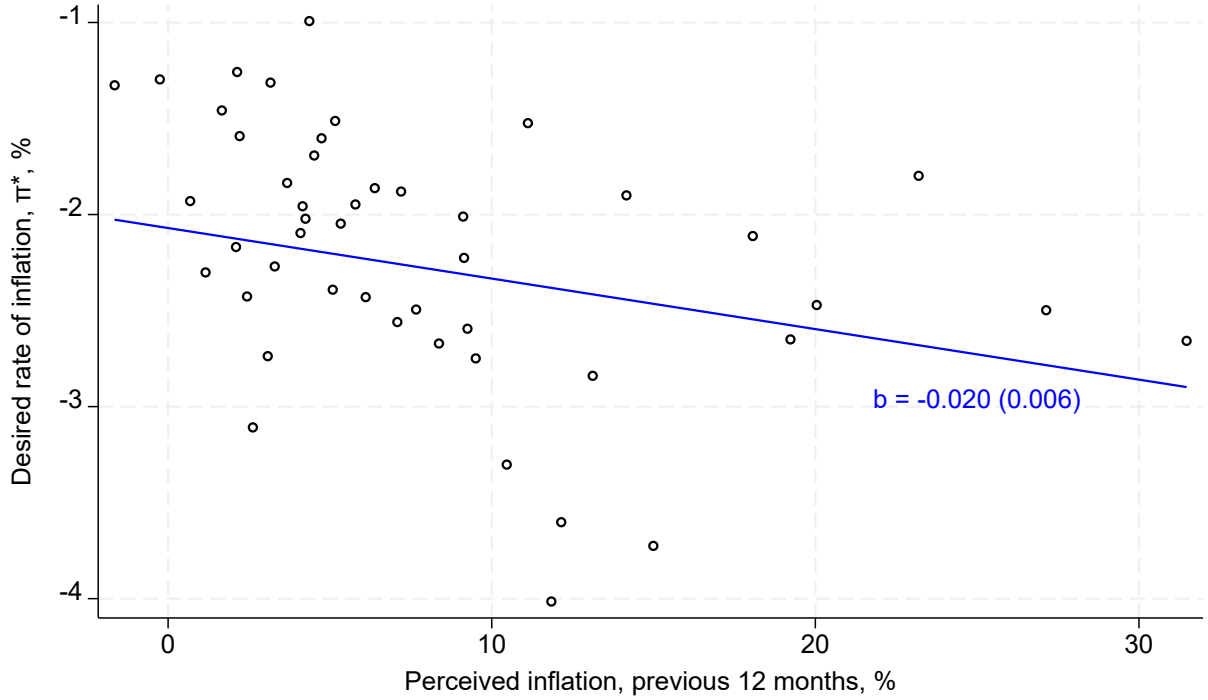
Panel B: Inflation Expectations and Expected Wage Growth



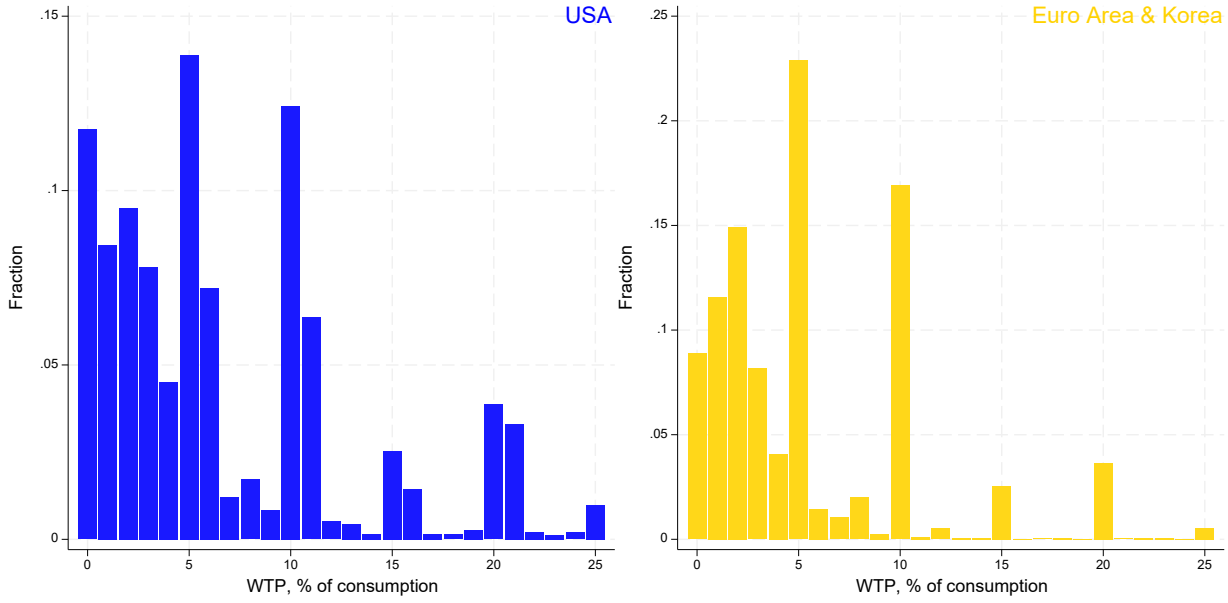
Notes: Panel A shows a binscatter of expected output growth (qualitative measure, -1 = decrease, 0 = no change, +1 increase) vs. one-year ahead expected inflation in the Michigan Survey of Consumers. The legend reports estimated slopes and standard errors (in parentheses) by time period. Panel B plots one-year ahead expectations (Huber-robust mean for point predictions) for inflation and wage growth in the New York Fed's Survey of Consumer Expectations (SCE). The sample is restricted to respondents who participate in the survey for the first time.

Figure 7: Desired Inflation and the Willingness to Pay to Disinflate

Panel A: Desired and Perceived Inflation

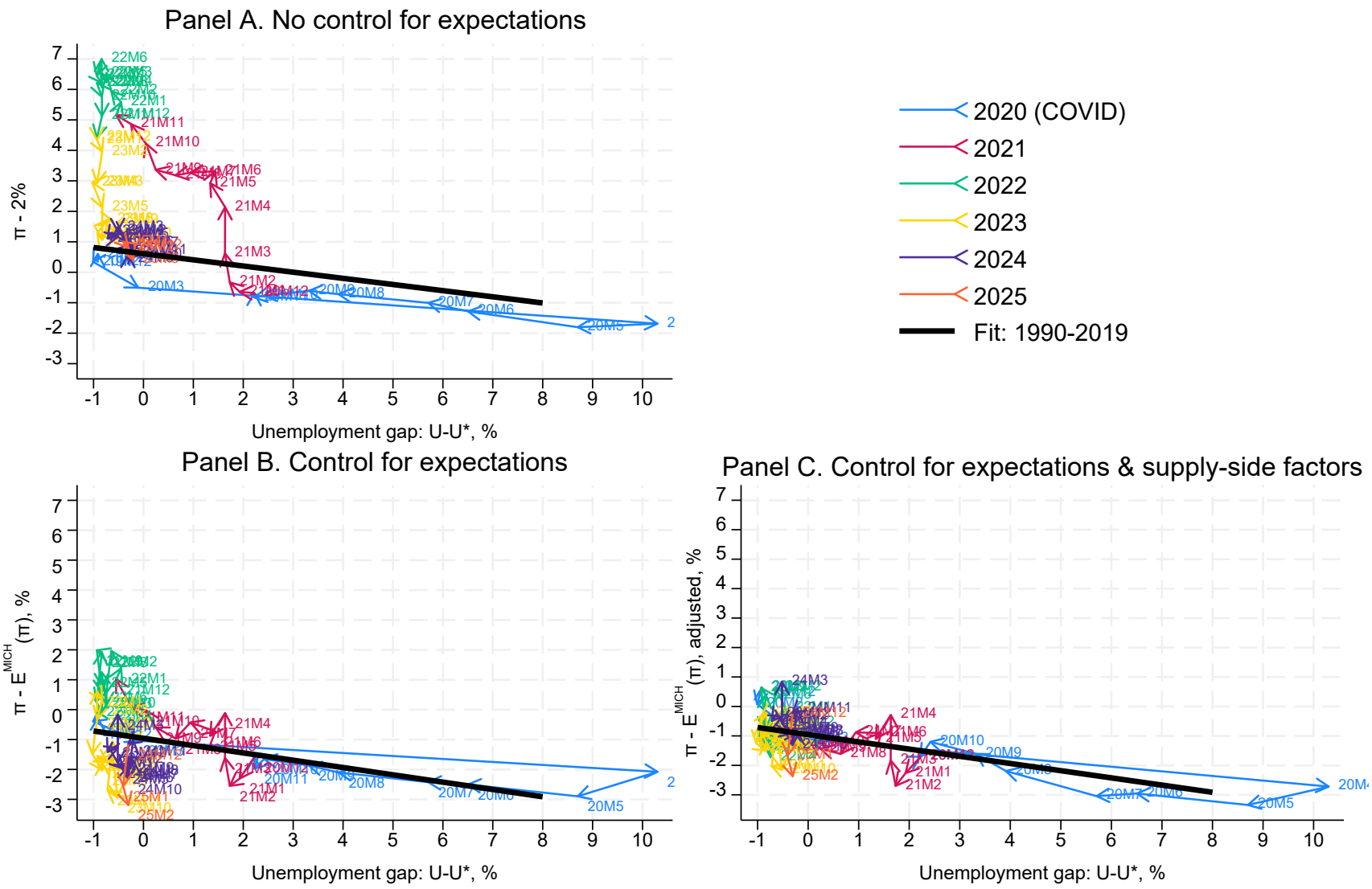


Panel B: The Willingness to Pay to Achieve Desired Inflation Rates



Notes: Panel A shows a binscatter plot of perceived vs desired inflation in a survey of U.S., European and Korean households (summer 2024). Panel B shows the distribution of willingness to pay (WTP, as percent of consumption) to achieved desired rate of inflation. See Georgarakos et al. (2025) for more details.

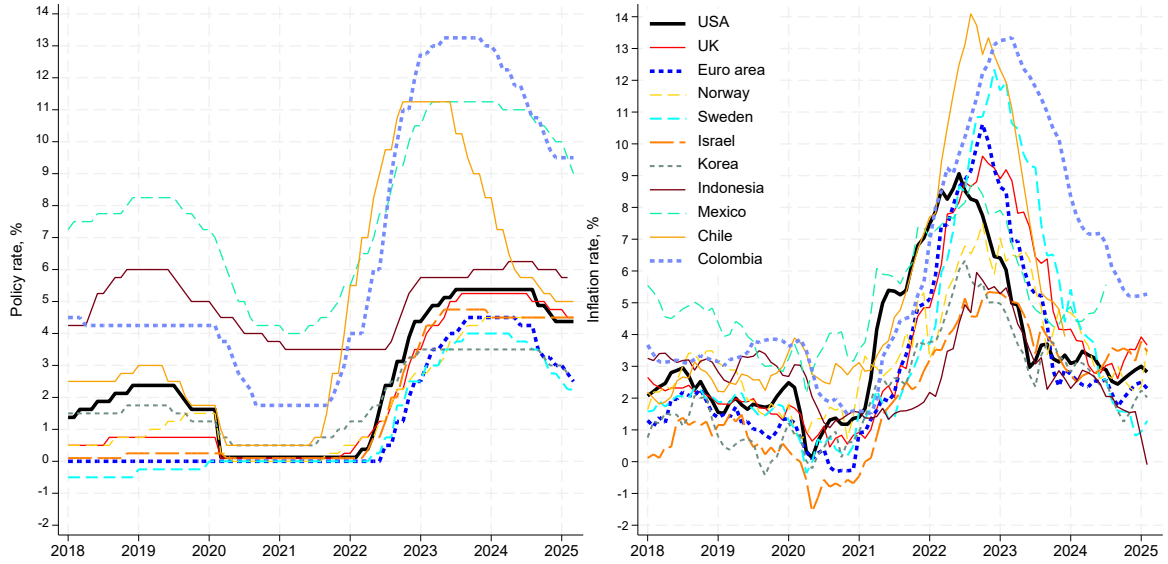
Figure 8: Recent Inflation through the Expectations-Augmented Phillips Curve



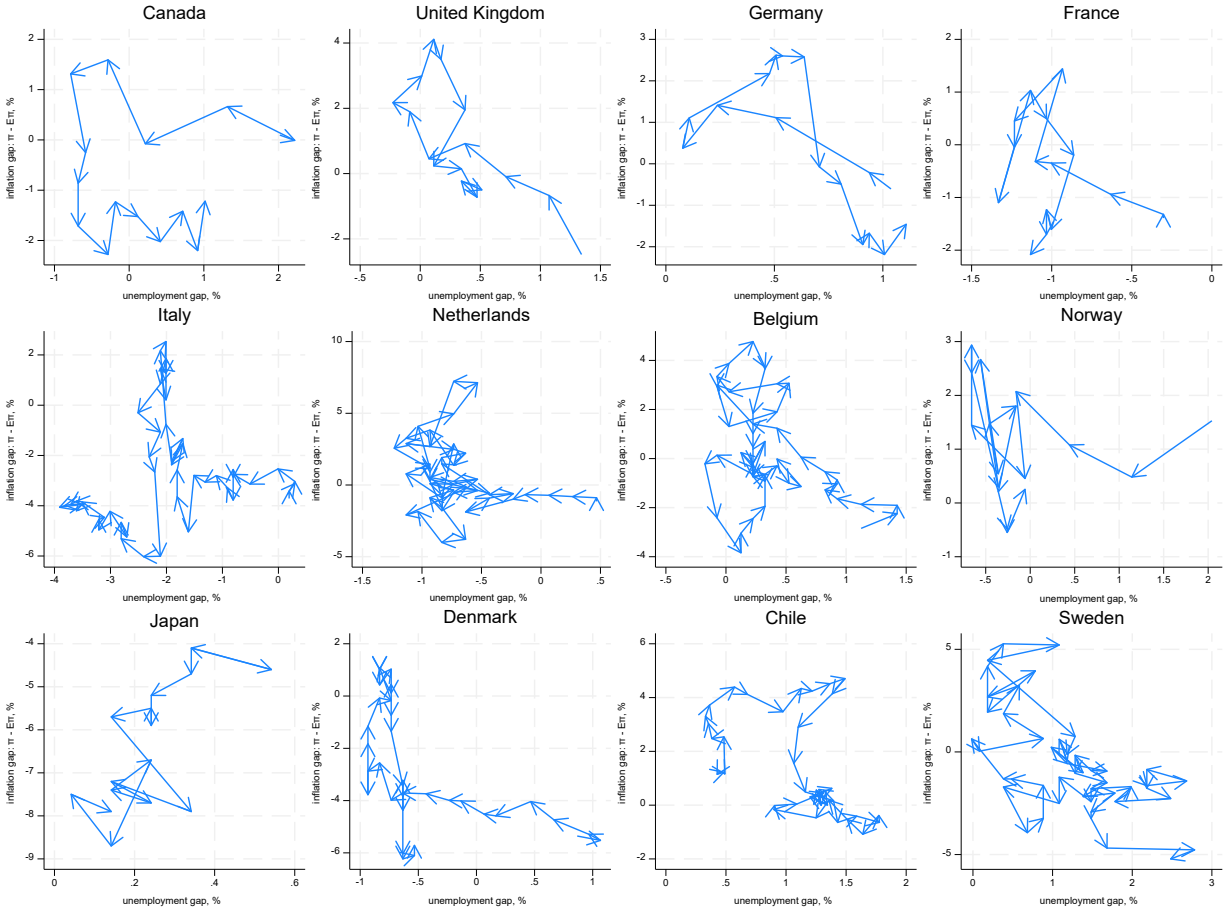
Notes: The figure plots the evolution of inflation, inflation gap (actual inflation minus one-year ahead inflation expectations in the Michigan Survey of Consumers), and unemployment gap (unemployment rate minus Noncyclical Rate of Unemployment (NROU) from the Congress Budget Office).

Figure 9: Global Inflation and Policy Responses

Panel A: Cross-Country Monetary Policy Responses



Panel B: Cross-Country Inflation



Notes: Panel B plots the inflation gap (actual inflation minus households' one-year ahead inflation expectations), and unemployment gap (unemployment rate minus unemployment rate in 2019). Panel A plots policy rates and inflation for selected countries from various regions.

Figure 10: Case Studies of Countries with Limited Inflation during the Surge

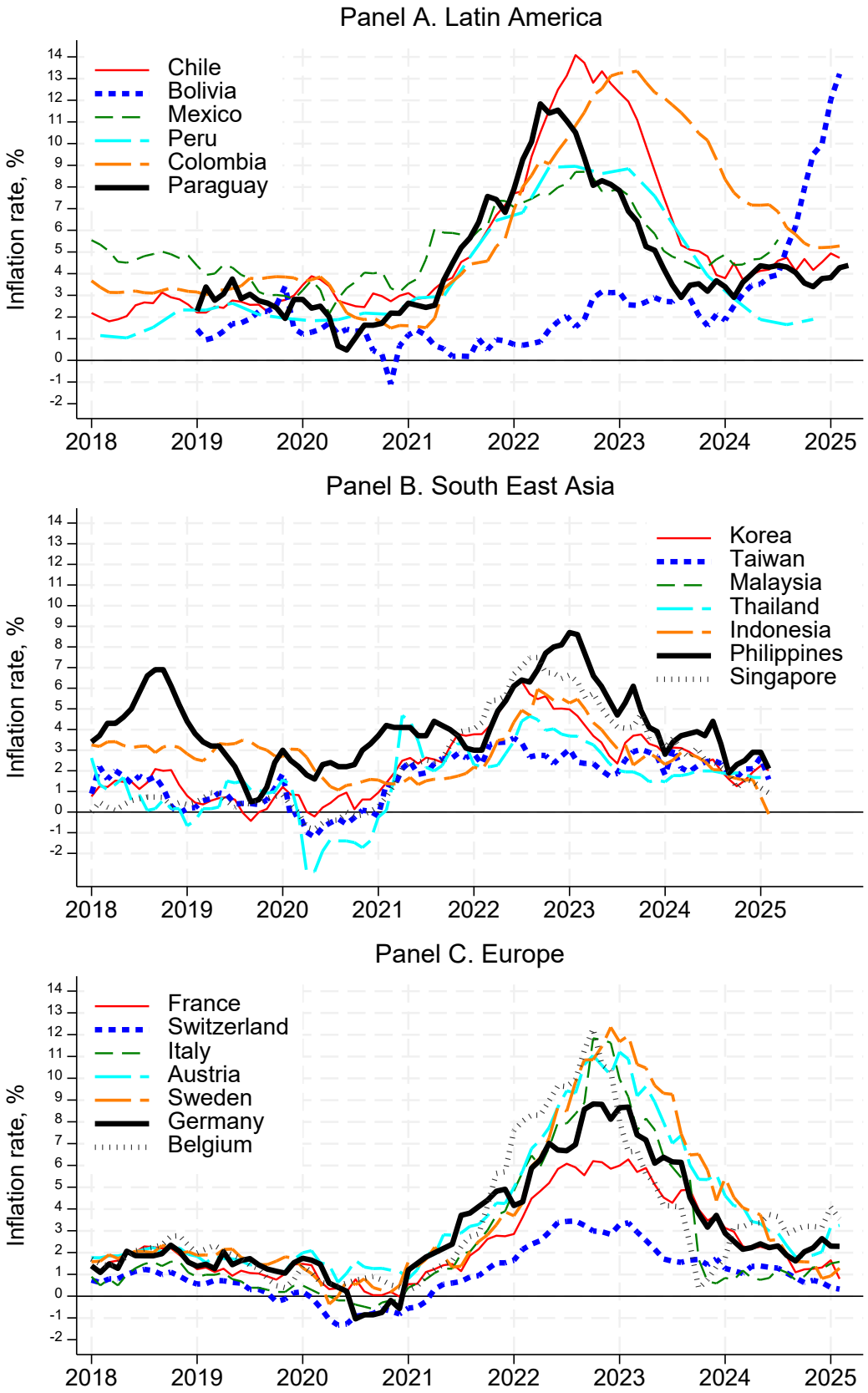
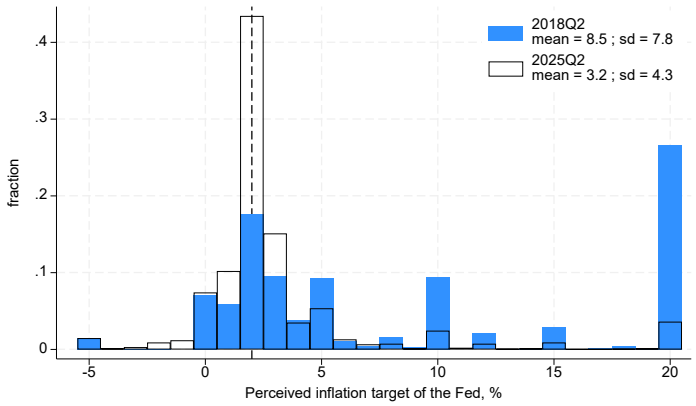
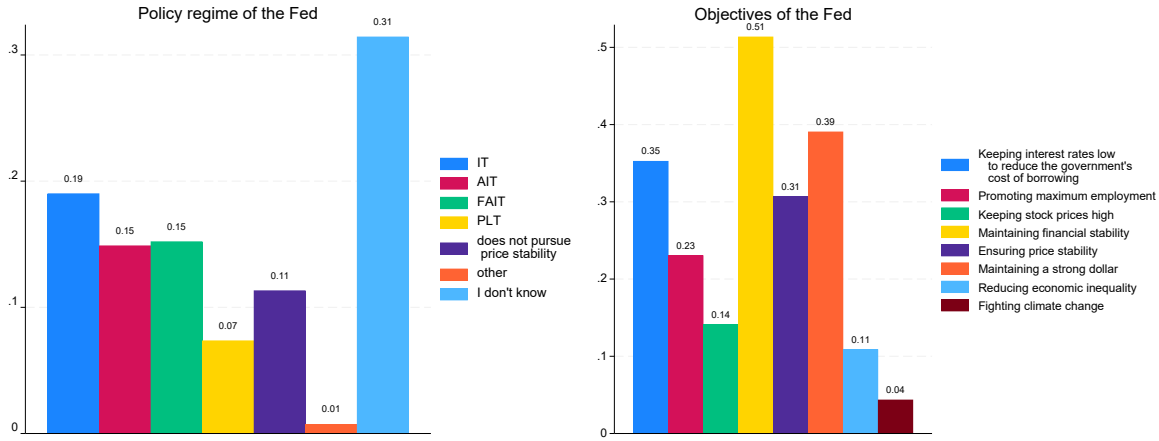


Figure 11: Learning about Monetary Policy during the Surge

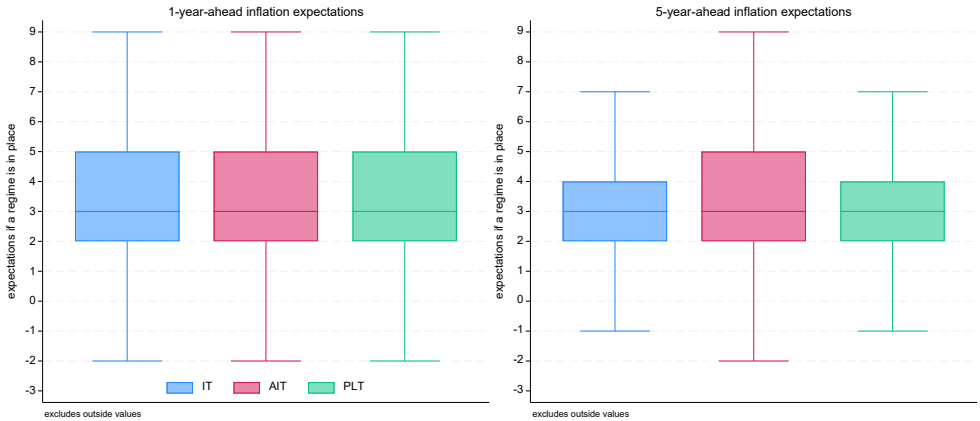
Panel A: Knowledge of the Target and Long-Run Inflation Expectations



Panel B: Knowledge of the Fed's Framework



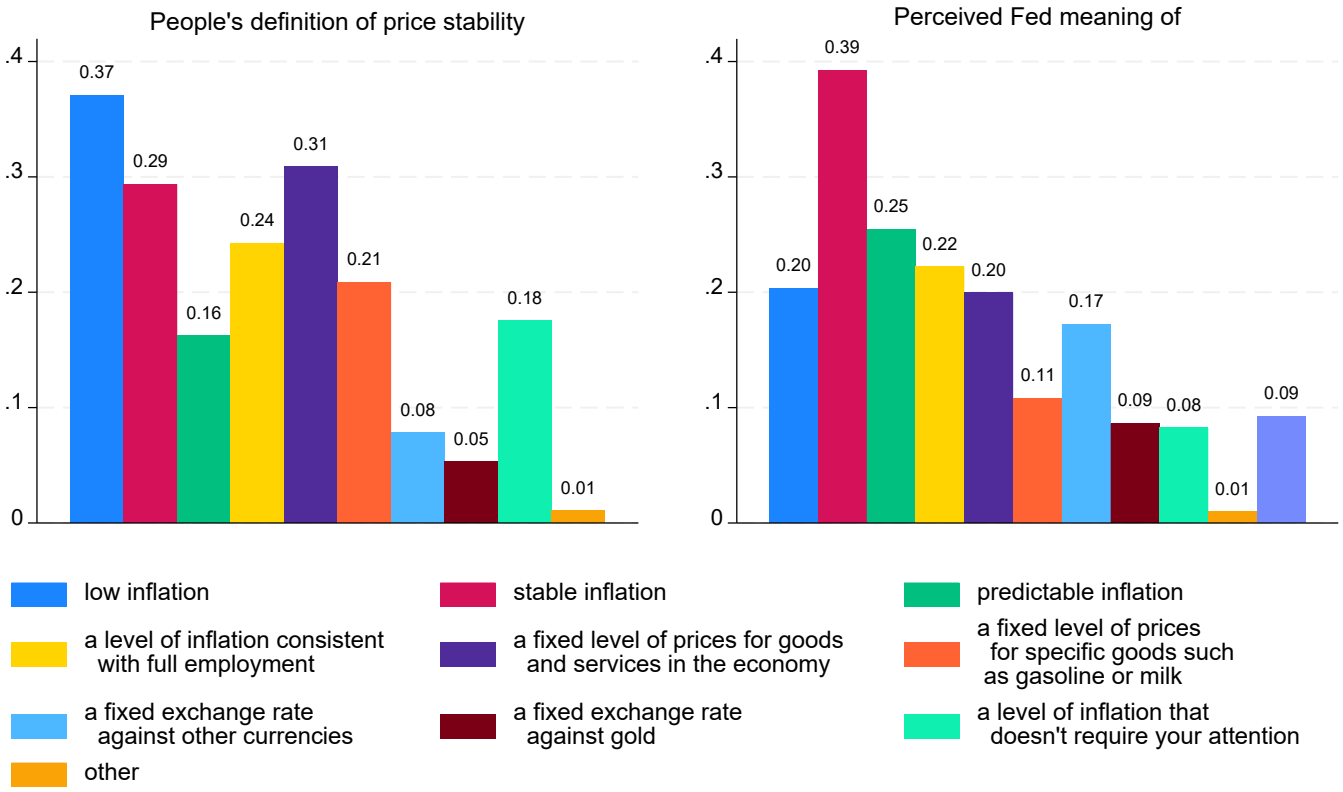
Panel C: Would Different Frameworks Better Anchor Inflation Expectations?



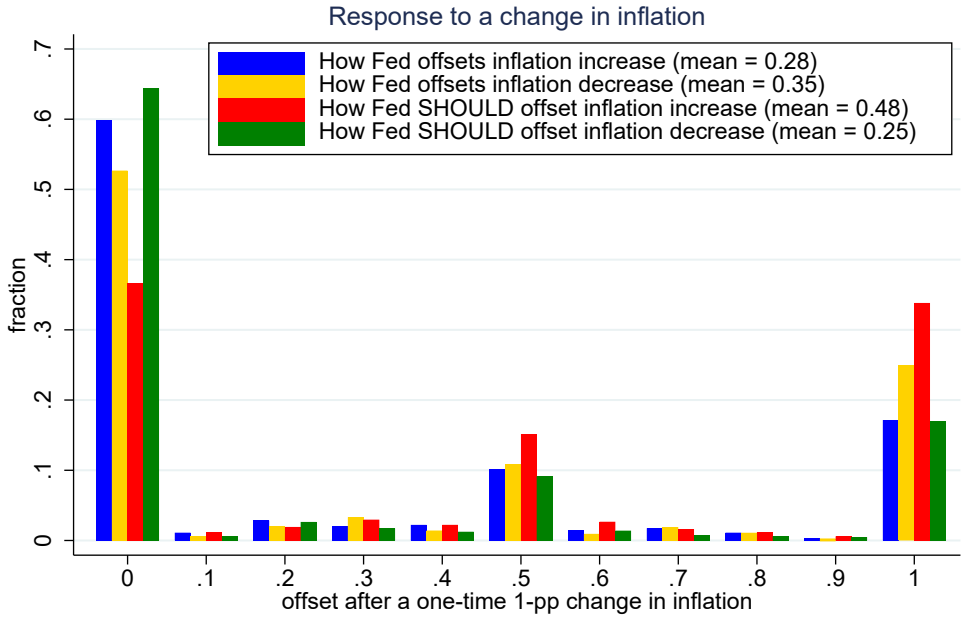
Notes: Panel A plot the distribution of perceived inflation target of the Fed in 2018Q2 (Nielsen HomeScan Panel; see Coibion et al. (2022) for more details) and 2025Q2 (Prolific Survey; April 2-3, 2025, representative sample of 2,500 respondents in Prolific, a survey platform). Panel B plots data from the Prolific survey to illustrate what US households know about the policy framework and objectives of the Federal Reserve. Panel C plots the distribution (box plot) for hypothetical inflation expectations if a given policy framework were in place. Each box plot shows 25th (bottom of the box), 50th (the mid line inside the box), and 75th (top of the box) percentiles as well as lower and upper adjacent values (whiskers, 25th and 75th percentiles ± 1.5 interquartile range). …

Figure 12: The Desired Framework

Panel A: Desired Definition of Price Stability vs. Fed's Perceived Definition of Price Stability

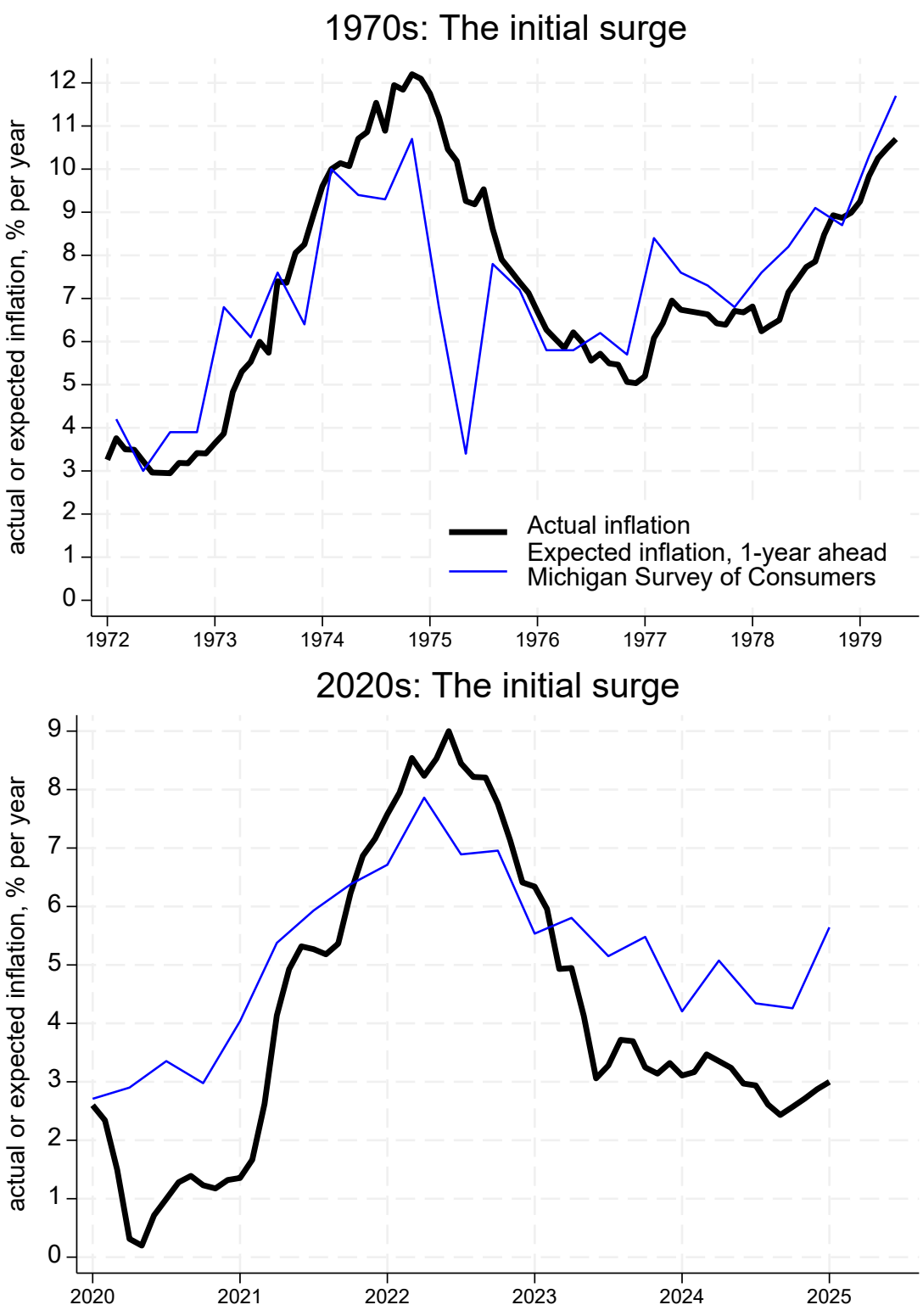


Panel B: Should Bygones be Bygones?



Notes: The figures uses data from the Prolific survey (April 2-3, 2025, representative sample of 2,500 respondents in Prolific, a survey platform). Panel A shows perceptions of price stability. Panel B shows responses to a hypothetical question asking respondents to describe (or prescribe "SHOULD") the behavior of the Federal Reserve to a one-time one-percentage point increase/describe in the inflation. Results for the price level version of Panel B are reported in Appendix Figure 5. See Appendix for the survey questionnaire.

Figure 13: Is the Next Inflation Surge Around the Corner?



Notes: The figure plots inflation and one-year-ahead inflation expectations (Michigan Survey of Consumers) during two inflation surges in the US.

Table 1: Are Inflation Expectations Anchored?

Forecaster	Eyeball test for long-run expectations	Bernanke Test passthrough into long-run expectations
FOMC forecasts	Yes	N/A
Professional forecasters	Sometimes	No
Financial markets	Sometimes	No
Firms	No	No
Households	No	Sometimes/no

Table 2: Whose Expectations Matter for the Phillips Curve?

Dep. Var.: π_t	(1)	(2)	(3)	(4)	(5)	(6)	(7)
MSC: $E^{1yr}\pi$	1.504***				1.268***	1.574***	1.318***
	(0.088)				(0.236)	(0.584)	(0.300)
SPF: $E^{1yr}\pi$		0.957***			0.277		0.299*
		(0.133)			(0.169)		(0.177)
SoFIE: $E^{1yr}\pi$			0.901***			-0.286	
			(0.268)			(0.522)	
π_{t-1}				0.687***			-0.045
				(0.102)			(0.102)
$U - U^*$	-0.194**	-0.232**	-0.180	-0.142*	-0.208**	-0.191	-0.217**
	(0.079)	(0.105)	(0.274)	(0.073)	(0.081)	(0.231)	(0.094)
Sample	1978-2025	1981-2025	2018-2025	1978-2025	1981-2025	2018-2025	1981-2025
Observations	189	175	28	189	175	28	175
R-squared	0.717	0.267	0.414	0.497	0.487	0.563	0.488

Notes: The table reports regression results where the dependent variable is actual inflation (headline Consumer Price Index, year on year) on unemployment gap $U - U^*$ (unemployment rate minus Noncyclical Rate of Unemployment (NROU) from the Congress Budget Office), lagged inflation, and various measures of expected inflation: Michigan Survey of Consumers (MSC), Survey of Firms' Inflation Expectations (SoFIE), and Survey of Professional Forecasters (SPF). Robust standard errors are reported in parentheses. ***,**,* denote statistical significance at 1, 5, and 10 percent levels.

Table 3: What Horizon of Expectations Is Most Relevant in the Phillips Curve?

VARIABLES	Consistent sample	Full sample	Consistent sample	Consistent sample	Subsample					
					1980s	1990s	2000s	2010s	2020s	p-value equality
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
$E^{1yr}\pi$	1.423***	1.504***	1.476***		1.547***	1.521***	1.607***	1.475***	1.308***	0.98
	(0.186)	(0.088)	(0.135)		(0.108)	(0.406)	(0.294)	(0.468)	(0.385)	
E^{5yr}	0.083			1.073***						
	(0.161)			(0.219)						
$U - U^*$	-0.204**	-0.194**	-0.198**	-0.317***	-0.155	-0.162	-0.143	-0.221**	-0.155	0.99
	(0.085)	(0.079)	(0.086)	(0.119)	(0.136)	(0.242)	(0.239)	(0.094)	(0.297)	
Observations	161	189	161	161	48	40	40	40	21	
R-squared	0.589	0.717	0.589	0.307	0.846	0.560	0.331	0.155	0.507	

Notes: The table reports regression results where the dependent variable is actual inflation (headline Consumer Price Index, year on year) on unemployment gap $U - U^*$ (unemployment rate minus Noncyclical Rate of Unemployment (NROU) from the Congress Budget Office) and expected inflation (Michigan Survey of Consumers) for 1-year-ahead ($E^{1yr}\pi$) and 5-year-ahead ($E^{5yr}\pi$) horizons. Column (10) reports p-value for the hypothesis that coefficients in columns (5)-(9) are equal. Robust standard errors are reported in parentheses. ***,**,* denote statistical significance at 1, 5, and 10 percent levels.

Table 4: The Role of Different Factors in Accounting for Inflation Dynamics

	Dep. Var. : π_t (CPI inflation rate)					
	(1)	(2)	(3)	(4)	(5)	(6)
$U - U^*$	-0.600***	-0.112**	-0.329***	-0.248***	-0.197***	-0.267***
	(0.147)	(0.046)	(0.072)	(0.071)	(0.046)	(0.053)
MSC: $E^{1yr}\pi$		1.355***	1.072***	0.702***	0.322*	0.706***
		(0.116)	(0.103)	(0.228)	(0.176)	(0.100)
GSCPI			0.475***	0.479***	0.248**	0.345***
			(0.092)	(0.080)	(0.105)	(0.083)
π_t^{Food}				0.041**		
				(0.018)		
World Bank food price index					0.021***	
					(0.005)	
World Bank fertilizer price index						0.006***
						(0.001)
Observations	62	62	62	62	62	62
R-squared	0.315	0.802	0.869	0.885	0.920	0.916

Notes: The table reports regression results where the dependent variable is actual inflation (headline Consumer Price Index, year on year) on unemployment gap $U - U^*$ (unemployment rate minus Noncyclical Rate of Unemployment (NROU) from the Congress Budget Office), 1-year-ahead expected inflation (Michigan Survey of Consumers; $E^{1yr}\pi$), and various supply side factors. GSCPI is the Global Supply Chain Pressure Index from the Federal Reserve Bank of New York. Food price and Fertilizer price indices are from the World Bank. The sample period is 2020M1-2025M2. Robust standard errors are reported in parentheses. ***,**,* denote statistical significance at 1, 5, and 10 percent levels.

Appendices

Appendix 1: Surveys and Treatments

Q1 1. Please enter your age:

▼ 21 (4) ... 99 (82)

Q3 2. Please indicate your gender.

- ○ Male (1)
- ○ Female (2)
- ○ Other (3)

Q48 3. What is the highest level of school you have completed, or the highest degree you have achieved?

- ○ Less than high school (1)
- ○ High school diploma or equivalent (2)
- ○ Some college, but no degree (3)
- ○ Bachelor's degree (4)
- ○ Master's degree (5)
- ○ Doctorate or Professional Degree (6)

Q49 4. Please indicate the range of your yearly total income

- ○ Less than $10,000 (1)
- ○ $10,000 - $19,999 (2)
- ○ $20,000 - $34,999 (3)
- ○ $35,000 - $49,999 (4)
- ○ $50,000 - $99,999 (5)
- ○ $100,000 - $199,999 (6)
- ○ More than $220,000 (7)

Q51 5. How would you identify your ethnicity?

- ○ Asian/Asian American (1)
- ○ Black/African American (2)
- ○ White/Caucasian (3)
- ○ Other (4)
- ○ Prefer not to say (5)

Q52 6. Do you consider yourself of Hispanic, Latino or Spanish origin?

- ○ Yes (1)
- ○ No (2)

Q11 7. The next few questions are about inflation. Over the next 12 months, do you think that there will be inflation or deflation?

- ○ Inflation (1)
- ○ Deflation (opposite of inflation) (2)

Display this question:
If 7. The next few questions are about inflation. Over the next 12 months, do you think that there w... = Inflation

JS ✱

Q11.A 8. What do you expect the rate of **inflation** to be over the next 12 months? Please give your best guess. I expect the rate of **inflation** to be percent over the next 12 months. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

Display this question:
If 7. The next few questions are about inflation. Over the next 12 months, do you think that there w... = Deflation (opposite of inflation)

JS ✱

Q11.B 8. What do you expect the rate of **deflation** to be over the next 12 months? Please give your best guess. I expect the rate of **deflation** to be percent over the next 12 months. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

JS ✱

Q15 9. What do you expect the rate of inflation will be in **2030**? Please give your best guess. If you expect inflation, please enter a positive value. If you expect no inflation, please enter zero. If you expect deflation, please enter a negative value. I expect the rate of inflation/deflation to be percent per year. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

QJH9 10. In terms of the Federal Reserve's broad economic objectives, what do you think it views as most important among the following? Please select up to 2.

- ○ Keeping interest rates low to reduce the government's cost of borrowing (1)
- ○ Promoting maximum employment (2)
- ○ Keeping stock prices high (3)
- ○ Maintaining financial stability (4)
- ○ Ensuring price stability (5)
- ○ Maintaining a strong dollar (6)
- ○ Reducing economic inequality (7)
- ○ Fighting climate change (8)

JS

QJH10 11. In terms of prices in the economy, which do you think best represents what the Federal Reserve is trying to do? Select all that apply.

- ○ Keep the inflation rate as close as possible to a specific target at all times (1)
- ○ Make inflation, on average, be approximately equal to a target rate (2)
- ○ Keep prices from rising over time (3)
- ○ Ensure inflation is sufficiently high to erode the value of government debt (4)
- ○ Keep the inflation rate low enough to promote a strong dollar (5)
- ○ None of the above (6)
- ○ I don't know (7)

JS *

QJH11 12. What rate of inflation do you think the Federal Reserve tries to achieve in the longer run? For inflation, please enter a positive value. For deflation, please enter a negative value. For neither inflation, nor deflation, please enter zero. The Federal Reserve tries to achieve inflation/deflation of % per year. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

QJH17 13. How would you rate the credibility of the Federal Reserve in terms of its ability to achieve maximum employment and stable prices?

Very low credibility
Very high credibility

0 10 20 30 40 50 60 70 80 90 100

1 ()	

QJH18 14. What do you think is the chance that inflation will be more than 5% in the next 12 months?

No chance
Sure thing

0 10 20 30 40 50 60 70 80 90 100

Probability ()	

JS

QY1.A 15. Please think about **the next three years**. What **change** in the general level of prices of goods and services (per year) would be the most beneficial for your household? Please enter a positive number if you think an increase in the general level of prices would be most beneficial, a negative number if you think a decrease in the general level of prices would be most beneficial, and zero if you think the current general level of prices would be most beneficial. percent per year .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

JS

QY1.B 15. Please think about **the next three years**. What **change** in the general level of prices of goods and services (per year) would be the most beneficial for the economy? Please write a positive number if you think an increase in the general level of prices would be most beneficial, a negative number if you think a decrease in the general level of prices would be most beneficial, and zero if you think the current general level of prices would be most beneficial. percent per year .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

JS

QY1.C 15. Please think about **the next three years**. What inflation/deflation rate (per year) would be the most beneficial for your household? If you think inflation would be most beneficial, please enter a positive number. If you think deflation would be most beneficial, please enter a negative number. If you think neither inflation nor deflation would be most beneficial, please enter zero. percent per year .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

JS

QY1.D 15. Please think about **the next three years**. What inflation/deflation rate (per year) would be the most beneficial for the economy? If you think inflation would be most beneficial, please enter a positive number. If you think deflation would be most beneficial, please enter a negative number. If you think neither inflation nor deflation would be most beneficial, please enter zero. percent per year .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

QY2 16. Please tell us how you would define price stability in the economy. Please select up to 2.

- ○ low inflation (1)
- ○ stable inflation (2)
- ○ predictable inflation (3)
- ○ a level of inflation consistent with full employment (4)
- ○ a fixed level of prices for goods and services in the economy (5)
- ○ a fixed level of prices for specific goods such as gasoline or milk (6)
- ○ a fixed exchange rate against other currencies (7)
- ○ a fixed exchange rate against gold (8)
- ○ a level of inflation that does not require your attention (9)
- ○ other (10)

QY2.A 17. Please tell us how you think the Federal Reserve defines price stability in the economy. Please select up to 2.

- ○ low inflation (1)
- ○ stable inflation (2)
- ○ predictable inflation (3)
- ○ a level of inflation consistent with full employment (4)
- ○ a fixed level of prices for goods and services in the economy (5)
- ○ a fixed level of prices for specific goods such as gasoline or milk (6)
- ○ a fixed exchange rate against other currencies (7)
- ○ a fixed exchange rate against gold (8)
- ○ a level of inflation that does not require your attention (9)
- ○ other (10)
- ○ I don’t know (11)

QY3A. 18. Please consider a hypothetical scenario. Suppose there is a one-time 1 percentage point **increase** in inflation relative to expectations. How do you think the Federal Reserve would respond to this unexpected development?

- The Federal Reserve would not respond to this one-time increase. (1)
- The Federal Reserve would partially offset this one-time increase by running inflation below average for some time. (2)
- The Federal Reserve would fully offset this one-time increase by running inflation below average for a sufficient amount of time. (3)

Q3YAX 18. Please consider a hypothetical scenario. Suppose there is a one-time 1 percentage point **decrease** in inflation relative to expectations. How do you think the Federal Reserve would respond to this unexpected development?

- The Federal Reserve would not respond to this one-time decrease. (1)
- The Federal Reserve would partially offset this one-time decrease by running inflation above average for some time. (2)
- The Federal Reserve would fully offset this one-time decrease by running inflation above average for a sufficient amount of time. (3)

QY3B 18. Please consider a hypothetical scenario. Suppose there is a one-time 1 percentage point **increase** in the level of prices relative to expectations. How do you think the Federal Reserve would respond to this unexpected development?

- The Federal Reserve would not respond to this one-time increase in the level of prices. (1)
- The Federal Reserve would partially bring back the level of prices to the original level. (2)
- The Federal Reserve would fully bring back the level of prices to the original level. (3)

QY3C 18. Please consider a hypothetical scenario. Suppose there is a one-time 1 percentage point **decrease** in the level of prices relative to expectations. How do you think the Federal Reserve would respond to this unexpected development?

- The Federal Reserve would not respond to this one-time decrease in the level of prices. (1)
- The Federal Reserve would partially bring back the level of prices to the original level. (2)
- The Federal Reserve would fully bring back the level of prices to the original level. (3)

End of Block: Block 3

Start of Block: Block 11

Display this question:

If 18. Please consider a hypothetical scenario. Suppose there is a one-time 1 percentage point incre... = The Federal Reserve would partially offset this one-time increase by running inflation below average for some time.

Q3YA.2 18.1. What share of this one-time 1 percentage point increase do you think the Federal Reserve would try to offset

▼ the Fed will not offset any of the one-time increase (1) ... the Fed will fully offset the one-time 1 percentage point increase (11)

Display this question:
If 18. Please consider a hypothetical scenario. Suppose there is a one-time 1 percentage point decre... = The Federal Reserve would partially offset this one-time decrease by running inflation above average for some time.

Q3YAX.2 18.1. What share of this one-time 1 percentage point decrease do you think the Federal Reserve would try to offset

▼ the Fed will not offset any of the one-time decrease (1) ... the Fed will fully offset the one-time 1 percentage point decrease (11)

Display this question:
If 18. Please consider a hypothetical scenario. Suppose there is a one-time 1 percentage point incre... = The Federal Reserve would partially bring back the level of prices to the original level.

Q3YB.2 18.1. What share of this one-time 1 percentage point increase do you think the Federal Reserve would try to offset

▼ the Fed would not offset any of the one-time increase (1) ... the Fed would fully offset the one-time 1 percentage point increase (11)

Display this question:
If 18. Please consider a hypothetical scenario. Suppose there is a one-time 1 percentage point decre... = The Federal Reserve would partially bring back the level of prices to the original level.

Q3YC.2 18.1. What share of this one-time 1 percentage point decrease do you think the Federal Reserve would try to offset

▼ the Fed would not offset any of the one-time decrease (1) ... the Fed would fully offset the one-time 1 percentage point decrease (11)

QY4A 19. Now please tell us how you think the Federal Reserve **SHOULD** respond to a hypothetical scenario where there is a one-time 1 percentage point **increase** in inflation relative to expectations.

- The Federal Reserve should not respond to this one-time increase. (1)
- The Federal Reserve should partially offset this one-time increase by running inflation below average for some time. (2)
- The Federal Reserve should fully offset this one-time increase by running inflation below average for some time. (3)

QY4B 19. Now please tell us how you think the Federal Reserve **SHOULD** respond to a hypothetical scenario where there is a one-time 1 percentage point **decrease** in inflation relative to expectations.

- ○ The Federal Reserve should not respond to this one-time decrease. (1)
- ○ The Federal Reserve should partially offset this one-time decrease by running inflation above average for some time. (2)
- ○ The Federal Reserve should fully offset this one-time decrease by running inflation above average for some time. (3)

QY4C 19. Now please tell us how you think the Federal Reserve **SHOULD** respond to a hypothetical scenario where there is a one-time 1 percentage point **increase** in the level of prices to expectations.

- ○ The Federal Reserve should not respond to this one-time increase in the level of prices. (1)
- ○ The Federal Reserve should partially bring back the level of prices to the original level. (2)
- ○ The Federal Reserve should fully bring back the level of prices to the original level. (3)

QY4D 19. Now please tell us how you think the Federal Reserve **SHOULD** respond to a hypothetical scenario where there is a one-time 1 percentage point **decrease** in the level of prices to expectations.

- ○ The Federal Reserve should not respond to this one-time decrease in the level of prices. (1)
- ○ The Federal Reserve should partially bring back the level of prices to the original level. (2)
- ○ The Federal Reserve should fully bring back the level of prices to the original level. (3)

Display this question:
If 19. Now please tell us how you think the Federal Reserve SHOULD respond to a hypothetical scenari... = The Federal Reserve should partially offset this one-time increase by running inflation below average for some time.

Q4A.2 19.1. What share of this one-time increase do you think the Federal Reserve should try to offset

▼ the Fed should not offset the increase (1) ... the Fed should fully offset the one-time 1 percentage point increase (11)

Display this question:
If 19. Now please tell us how you think the Federal Reserve SHOULD respond to a hypothetical scenari... = The Federal Reserve should partially offset this one-time decrease by running inflation above average for some time.

Q4B.2 19.1. What share of this one-time decrease do you think the Federal Reserve should try to offset

▼ the Fed should not offset the decrease (1) ... the Fed should fully offset the one-time 1 percentage point decrease (11)

Display this question:
If 19. Now please tell us how you think the Federal Reserve SHOULD respond to a hypothetical scenari... = The Federal Reserve should partially bring back the level of prices to the original level.

Q4YC.2 19.1. What share of this one-time increase do you think the Federal Reserve should try to offset

▼ the Fed should not offset the increase (1) ... the Fed should fully offset the one-time 1 percentage point increase (11)

Display this question:
If 19. Now please tell us how you think the Federal Reserve SHOULD respond to a hypothetical scenari... = The Federal Reserve should partially bring back the level of prices to the original level.

Q4YD.2 19.1. What share of this one-time decrease do you think the Federal Reserve should try to offset

▼ the Fed should not offset the decrease (1) ... the Fed should fully offset the one-time 1 percentage point decrease (11)

QY5A 20. Suppose that you could achieve price stability (as you define it) in the economy by reducing your annual consumption by a certain percentage every year. By how much would you be willing to reduce your consumption to achieve price stability? I would be willing to reduce my annual consumption by % every year to have price stability. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

QY5B 20. Suppose that you could achieve price stability (as you define it) in the economy by reducing your monthly spending by a specific dollar amount. By how much would you be willing to reduce your consumption to achieve price stability? I would be willing to reduce my monthly spending by $ per month to have price stability. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

QY6A 21. In your opinion, what is the best way to achieve price stability after an unexpected **increase** in inflation

- run inflation below average in future periods (1)
- reduce the price level back to the original trajectory (2)
- indifferent between options (a) and (b) (3)
- other (4)

QY6B 22. In your opinion, what is the best way to achieve price stability after an unexpected **decrease** in inflation

- run inflation above average in future periods (1)
- increase the price level back to the original trajectory (2)
- indifferent between these options (3)
- other (4)

isplay this question:
If 21. In your opinion, what is the best way to achieve price stability after an unexpected increase... = run inflation below average in future periods
Or 22. In your opinion, what is the best way to achieve price stability after an unexpected decrease... = run inflation above average in future periods

QY7A 21.1. Suppose that you could switch the way in which price stability is achieved from option **B** ("reduce the price level back to the original trajectory") to option **A** ("run inflation below average in future periods"). But to do so, you would need to reduce your annual consumption by a certain percentage every year. By how much would you be willing to reduce your consumption to make option **A** the policy of the Federal Reserve? I would be willing to reduce my annual consumption spending every year by %. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

Display this question:
If 21. In your opinion, what is the best way to achieve price stability after an unexpected increase... = reduce the price level back to the original trajectory
Or 22. In your opinion, what is the best way to achieve price stability after an unexpected decrease... = increase the price level back to the original trajectory

QY7B 21.1. Suppose that you could switch the way in which price stability is achieved from options **A** ("run inflation below average in future periods") to option **B** ("reduce the price level back to the original trajectory"). But to do so, you would need to reduce your annual consumption by a certain percentage every year. By how much would you be willing to reduce your consumption to make option **B** the policy of the Federal Reserve? I would be willing to reduce my annual consumption spending every year by %. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

QY8 23. Please tell us which of the following would be a better way to achieve price stability in the economy:

- ○ stable and low inflation (1)
- ○ a steady, predictable trajectory for the level of prices (2)
- ○ I am indifferent between (a) and (b) (3)
- ○ other (4)

Display this question:
If 23. Please tell us which of the following would be a better way to achieve price stability in the... = other

QY8.A 23.1. Please tell us how you would like to achieve price stability

_____

QY10 24. What policy framework do you think the Federal Reserve is currently using to achieve price stability?

- ○ Inflation targeting (1)
- ○ Average inflation targeting (2)
- ○ Flexible average inflation targeting (3)
- ○ Price level targeting (4)
- ○ The Federal Reserve does not pursue price stability (5)
- ○ I do not know (7)
- ○ Other (6)

Display this question:
If 24. What policy framework do you think the Federal Reserve is currently using to achieve price st... = Other

QY10.A 24.1. Please tell us what framework the Federal Reserve is currently using to achieve price stability

_____

Display this question:
If 7. The next few questions are about inflation. Over the next 12 months, do you think that there w... = Inflation

JS

YQ11A 25. One framework that central banks sometimes use is known as **Average Inflation Targeting**. Effectively, this means that when inflation is below the central bank's target rate of inflation, that central bank will try to push inflation above the target for some time. And vice versa, when inflation is above the target, the central bank will try to push inflation below the target for some time. Earlier in the survey you indicated that your inflation forecast for the next 12 months is: ${e://Field/forecast12months}%. If the Federal Reserve adopted **Average Inflation Targeting** with an inflation target of 2% per year, what inflation would you expect for the next 12 months and over the next 5 years? Please give your best guess. If you expect inflation, please enter a positive value. If you expect deflation, please enter a negative value. If you expect neither inflation nor deflation, please enter zero. I expect the rate of inflation/deflation to be percent over the next 12 months, and percent per year on average over the next 5 years. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

Display this question:
If 7. The next few questions are about inflation. Over the next 12 months, do you think that there w... = Inflation

JS

YQ11B 25. One framework that central banks sometimes use is known as **Inflation Targeting**. Effectively, this means that when expected inflation is below the central bank's target rate of inflation, the central bank will try to push inflation back up to the target. And vice versa, when the inflation rate runs above the target, the central bank will try to push inflation back down to the target. Earlier in the survey you indicated that your inflation forecast for the next 12 months is: ${e://Field/forecast12months}%. If the Federal Reserve adopted **Inflation Targeting** with the inflation target of 2% per year, what inflation would you expect for the next 12 month? Please give your best guess. If you expect inflation, please enter a positive value. If you expect deflation, please enter a negative value. If you expect neither inflation nor deflation, please enter zero. I expect the rate of inflation/deflation to be percent over the next 12 months, and percent per year on average over the next 5 years. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

Display this question:
If 7. The next few questions are about inflation. Over the next 12 months, do you think that there w... = Inflation

JS

YQ11C 25. One framework that central banks sometimes use is known as **Price Level Targeting**. This is when central banks try to have the price level grow along some fixed trajectory. In practice, this means that when inflation runs higher than the central bank's target rate of inflation, the central bank will try to push prices back down until they return to the target trajectory. And vice versa, when the inflation rate runs below the target rate, the central bank will try to push prices back up until they return to the target trajectory. Earlier in the survey you indicated that your inflation forecast for the next 12 month is ${e://Field/forecast12months}%. If the Federal Reserve adopted **Price Level Targeting** with the target trajectory of price level increasing 2% per year, what inflation would you expect for the next 12 month? Please give your best guess. If you expect inflation, please enter a positive value. If you expect deflation, please enter a negative value. If you expect neither inflation nor deflation, please enter zero. I expect the rate of inflation/deflation to be percent over the next 12 months, and percent per year on average over the next 5 years. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

Display this question:
If 7. The next few questions are about inflation. Over the next 12 months, do you think that there w... = Deflation (opposite of inflation)

JS

YQ11D 25. One framework that central banks sometimes use is known as **Average Inflation Targeting**. Effectively, this means that when inflation is below the central bank's target rate of inflation, that central bank will try to push inflation above the target for some time. And vice versa, when inflation is above the target, the central bank will try to push inflation below the target for some time. Earlier in the survey you indicated that your deflation forecast for the next 12 months is: ${e://Field/forecast12months2}%. If the Federal Reserve adopted **Average Inflation Targeting** with an inflation target of 2% per year, what inflation would you expect for the next 12 months and over the next 5 years? Please give your best guess. If you expect inflation, please enter a positive value. If you expect deflation, please enter a negative value. If you expect neither inflation nor deflation, please enter zero. I expect the rate of inflation/deflation to be percent over the next 12 months, and percent per year on average over the next 5 years. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

Display this question:
If 7. The next few questions are about inflation. Over the next 12 months, do you think that there w... = Deflation (opposite of inflation)

JS

YQ11E 25. One framework that central banks sometimes use is known as **Inflation Targeting**. Effectively, this means that when expected inflation is below the central bank's target rate of inflation, the central bank will try to push inflation back up to the target. And vice versa, when the inflation rate runs above the target, the central bank will try to push inflation back down to the target. Earlier in the survey you indicated that your deflation forecast for the next 12 months is: ${e://Field/forecast12months2}%. If the Federal Reserve adopted **Inflation Targeting** with the inflation target of 2% per year, what inflation would you expect for the next 12 month? Please give your best guess. If you expect inflation, please enter a positive value. If you expect deflation, please enter a negative value. If you expect neither inflation nor deflation, please enter zero. I expect the rate of inflation/deflation to be percent over the next 12 months, and percent per year on average over the next 5 years. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

Display this question:
If 7. The next few questions are about inflation. Over the next 12 months, do you think that there w... = Deflation (opposite of inflation)

JS

YQ11F 25. One framework that central banks sometimes use is known as **Price Level Targeting**. This is when central banks try to have the price level grow along some fixed trajectory. In practice, this means that when inflation runs higher than the central bank's target rate of inflation, the central bank will try to push prices back down until they return to the target trajectory. And vice versa, when the inflation rate runs below the target rate, the central bank will try to push prices back up until they return to the target trajectory. Earlier in the survey you indicated that your deflation forecast for the next 12 month is ${e://Field/forecast12months2}%. If the Federal Reserve adopted **Price Level Targeting** with the target trajectory of price level increasing 2% per year, what inflation would you expect for the next 12 month? Please give your best guess. If you expect inflation, please enter a positive value. If you expect deflation, please enter a negative value. If you expect neither inflation nor deflation, please enter zero. I expect the rate of inflation/deflation to be percent over the next 12 months, and percent per year on average over the next 5 years. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

JS *

Q12D5 26. Suppose that the Federal Reserve wants to **increase** inflation by 5 percentage points. By how much would the Federal Reserve have to increase the growth rate of the economy over the next 12 months to achieve this outcome? Please give your best guess. The growth rate would need to rise by percentage points for inflation to rise by 5 percentage points. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

JS *

Q12D2 26. Suppose that the Federal Reserve wants to **increase** inflation by 2 percentage points. By how much would the Federal Reserve have to increase the growth rate of the economy over the next 12 months to achieve this outcome? Please give your best guess. The growth rate would need to rise by percentage points for inflation to rise by 2 percentage points. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

JS *

Q12D1 26. Suppose that the Federal Reserve wants to **increase** inflation by 1 percentage point. By how much would the Federal Reserve have to increase the growth rate of the economy over the next 12 months to achieve this outcome? Please give your best guess. The growth rate would need to rise by percentage points for inflation to rise by 1 percentage point. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

JS *

Q12B1 26. Suppose that the Federal Reserve wants to **reduce** inflation by 1 percentage point. By how much would the Federal Reserve have to decrease the growth rate of the economy over the next 12 months to achieve this outcome? Please give your best guess. The growth rate would need to fall by percentage points for inflation to fall by 1 percentage point. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

Q12B2 26. Suppose that the Federal Reserve wants to **reduce** inflation by 2 percentage points. By how much would the Federal Reserve have to decrease the growth rate of the economy over the next 12 months to achieve this outcome? Please give your best guess. The growth rate would need to fall by percentage points for inflation to fall by 2 percentage points. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

Q12B5 26. Suppose that the Federal Reserve wants to **reduce** inflation by 5 percentage points. By how much would the Federal Reserve have to decrease the growth rate of the economy over the next 12 months to achieve this outcome? Please give your best guess. The growth rate would need to fall by percentage points for inflation to fall by 5 percentage points. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

Q12A1 26. Suppose that the Federal Reserve wants to **reduce** inflation by 1 percentage point. By how much would the Federal Reserve have to increase the unemployment rate over the next 12 months to achieve this outcome? Please give your best guess. The unemployment rate would need to rise by percentage points for inflation to fall by 1 percentage point. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

Q12A2 26. Suppose that the Federal Reserve wants to **reduce** inflation by 2 percentage points. By how much would the Federal Reserve have to increase the unemployment rate over the next 12 months to achieve this outcome? Please give your best guess. The unemployment rate would need to rise by percentage points for inflation to fall by 2 percentage points. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

Q12A5 26. Suppose that the Federal Reserve wants to **reduce** inflation by 5 percentage points. By how much would the Federal Reserve have to increase the unemployment rate over the next 12 months to achieve this outcome? Please give your best guess. The unemployment rate would need to rise by percentage points for inflation to fall by 5 percentage points. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

Q12C1 26. Suppose that the Federal Reserve wants to **increase** inflation by 1 percentage point. By how much would the Federal Reserve have to decrease the unemployment rate over the next 12 months to achieve this outcome? Please give your

best guess. The unemployment rate would need to fall by percentage points for inflation to rise by 1 percentage point. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

JS *

Q12C2 26. Suppose that the Federal Reserve wants to **increase** inflation by 2 percentage points. By how much would the Federal Reserve have to decrease the unemployment rate over the next 12 months to achieve this outcome? Please give your best guess. The unemployment rate would need to fall by percentage points for inflation to rise by 2 percentage points. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

_____

JS *

Q12C5 26. Suppose that the Federal Reserve wants to **increase** inflation by 5 percentage points. By how much would the Federal Reserve have to decrease the unemployment rate over the next 12 months to achieve this outcome? Please give your best guess. The unemployment rate would need to fall by percentage points for inflation to rise by 5 percentage points. .Skin .TextEntryBox { display: none !important; } .TextEntryBox, .InputText, .Skin .QuestionBody .InputText { display: none !important; }

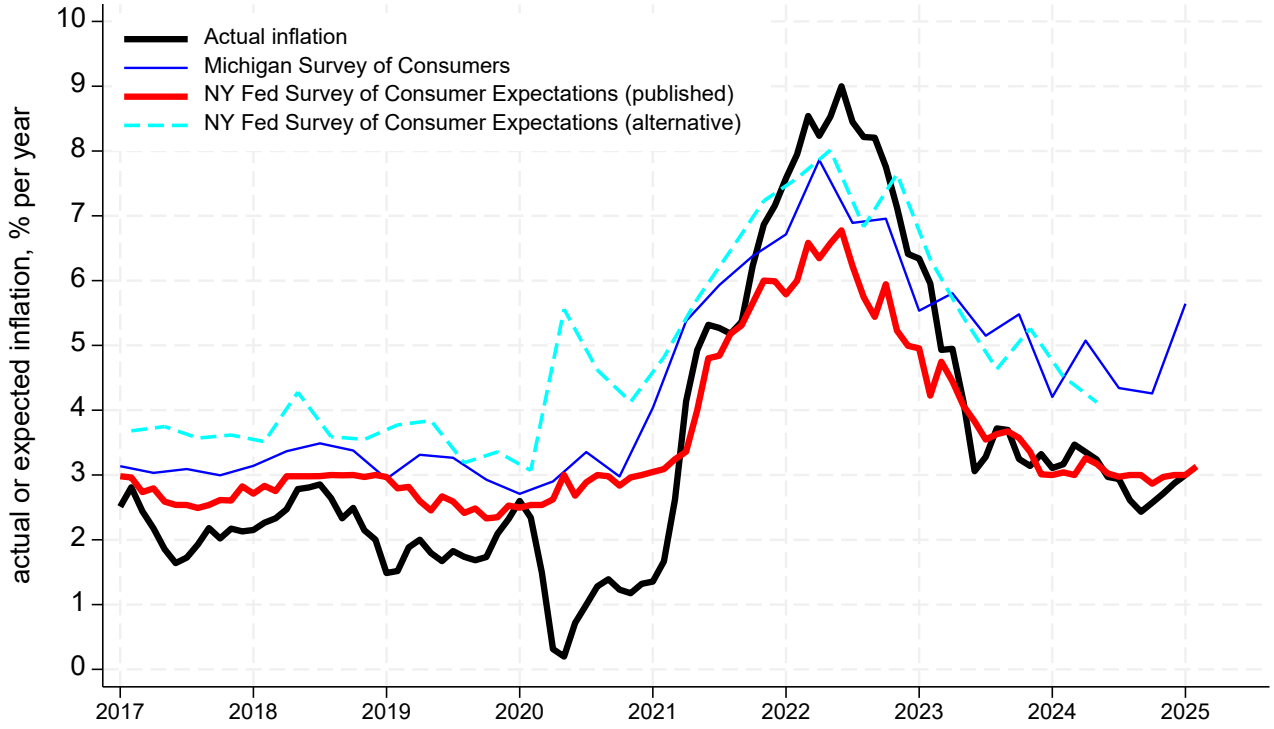
_____

Q200 27. Final question. You don't need to be a wine enthusiast or an avid beer drinker to answer this simple question. When asked for your favorite drink below, please select a carrot juice. This question is to ensure that bots are not completing the survey. Please tell us your preference. Based on the text above, what is your favorite drink?

- ○ wine (1)
- ○ beer (2)
- ○ vodka (3)
- ○ whiskey (4)
- ○ carrot juice (5)
- ○ other (6)

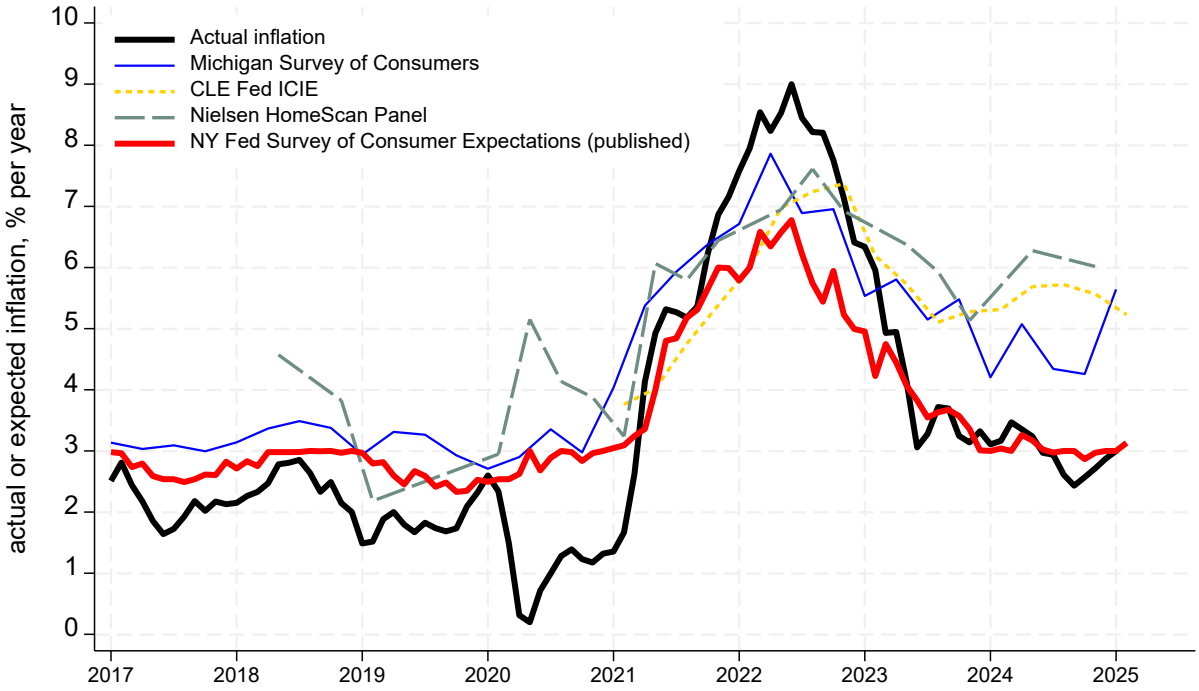
Appendix 2: Additional Results

Appendix Figure 1: Explaining Differences with NY Fed's SCE Expectations



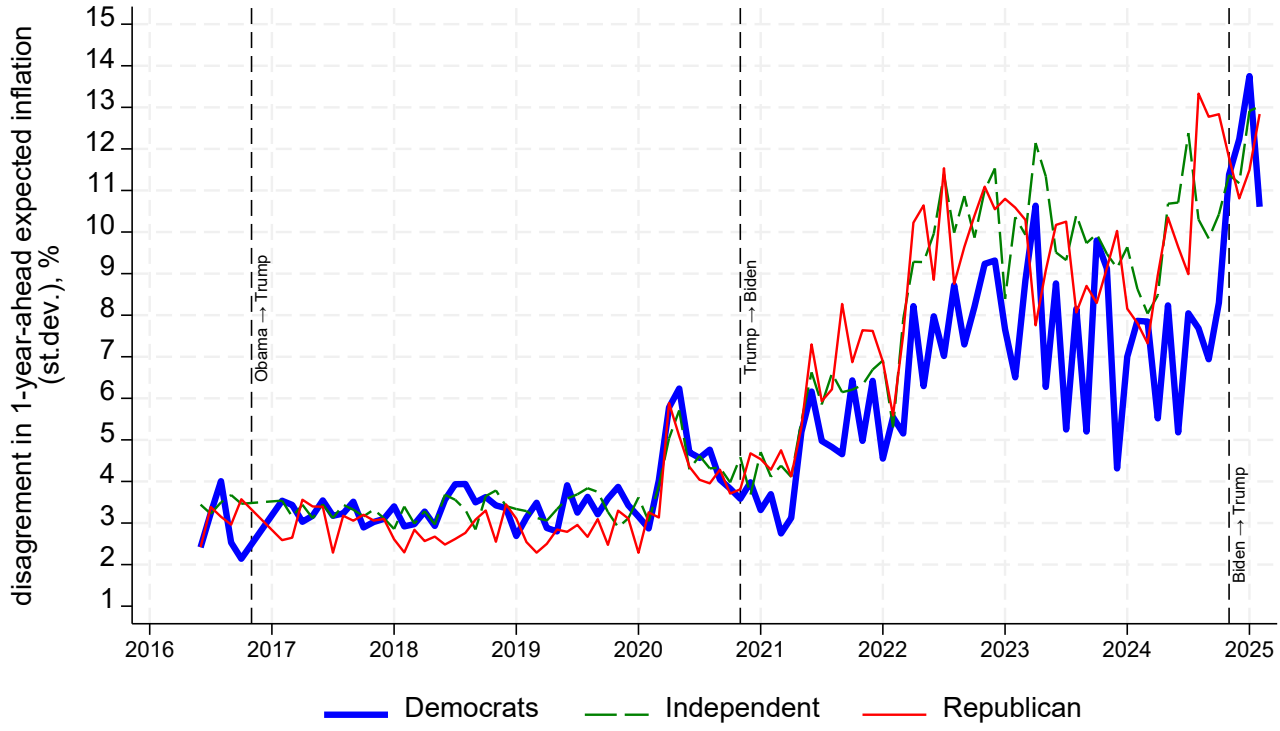
Notes: The figure shows time series of inflation expectations in the Michigan Survey of Consumers and the New York Fed's Survey of Consumer Expectations (SCE). The red line is the series published by the New York Fed. The blue line uses SCE micro-level data to construct and alternative measure of expectations that 1) uses responses of the respondents who participate in the survey of the first time; 2) uses Huber robust mean to deal with outliers.

Appendix Figure 2: Different Surveys of Household Inflation Expectations



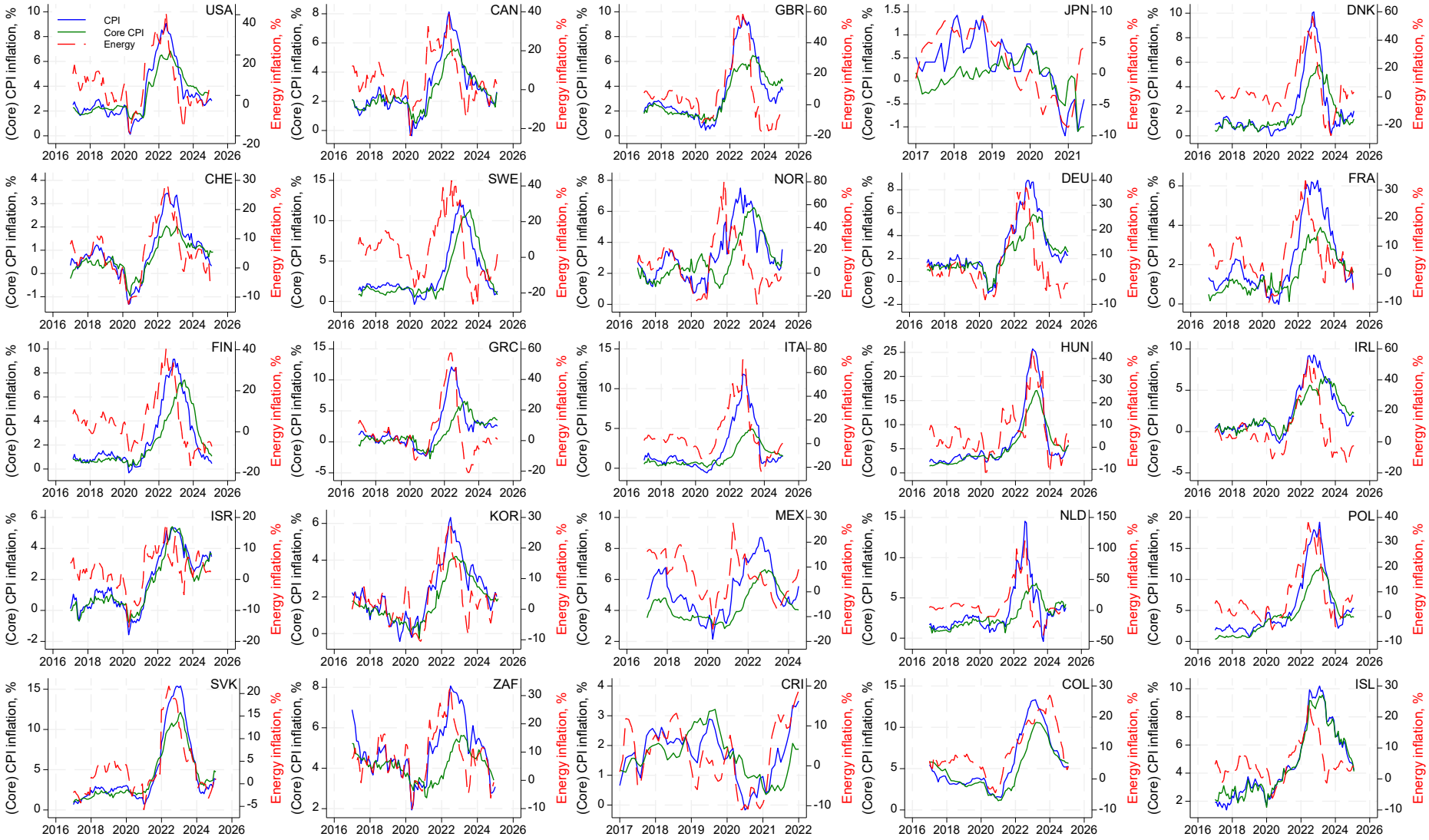
Notes: The figure plots time series for households' one-year ahead inflation expectations from various surveys. CLE Fed ICIE stands for the Indirect Consumer Inflation Expectations run by the Federal Reserve Bank of Cleveland. New York Fed's Survey of Consumer Expectations (published version) uses the median of point predictions. Other surveys use the mean of point predictions.

Appendix Figure 3: Disagreement about Future Inflation within Partisan Groups



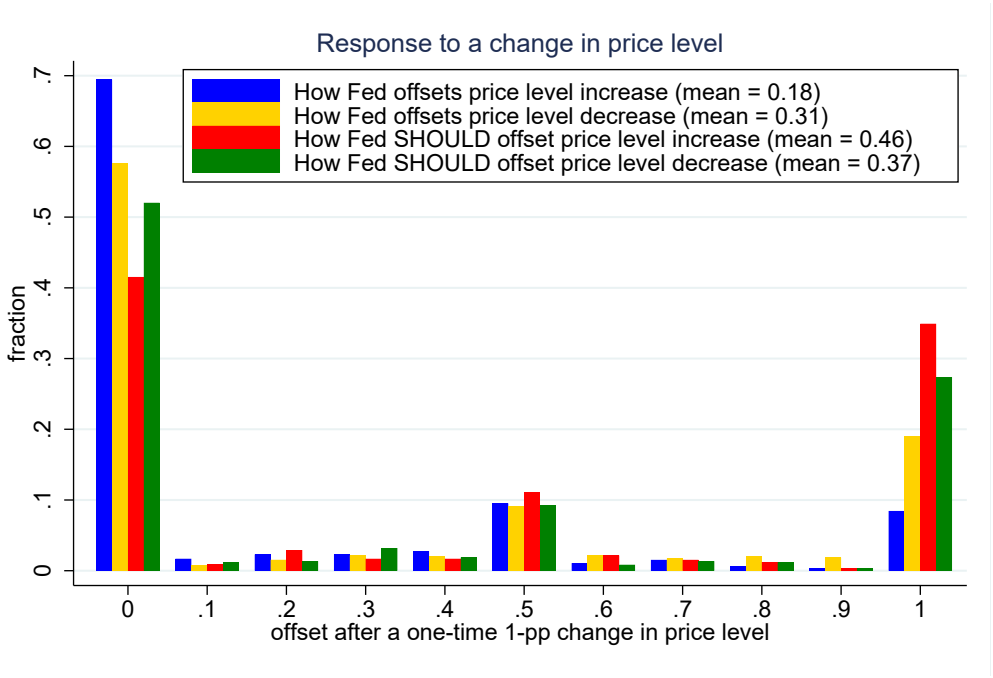
Notes: The figure plots time series of cross-sectional standard deviation in point predictions (disagreement) by political affiliation. The data are from the Michigan Survey of Consumers.

Appendix Figure 4: Inflation and Energy/Electricity Prices across Countries



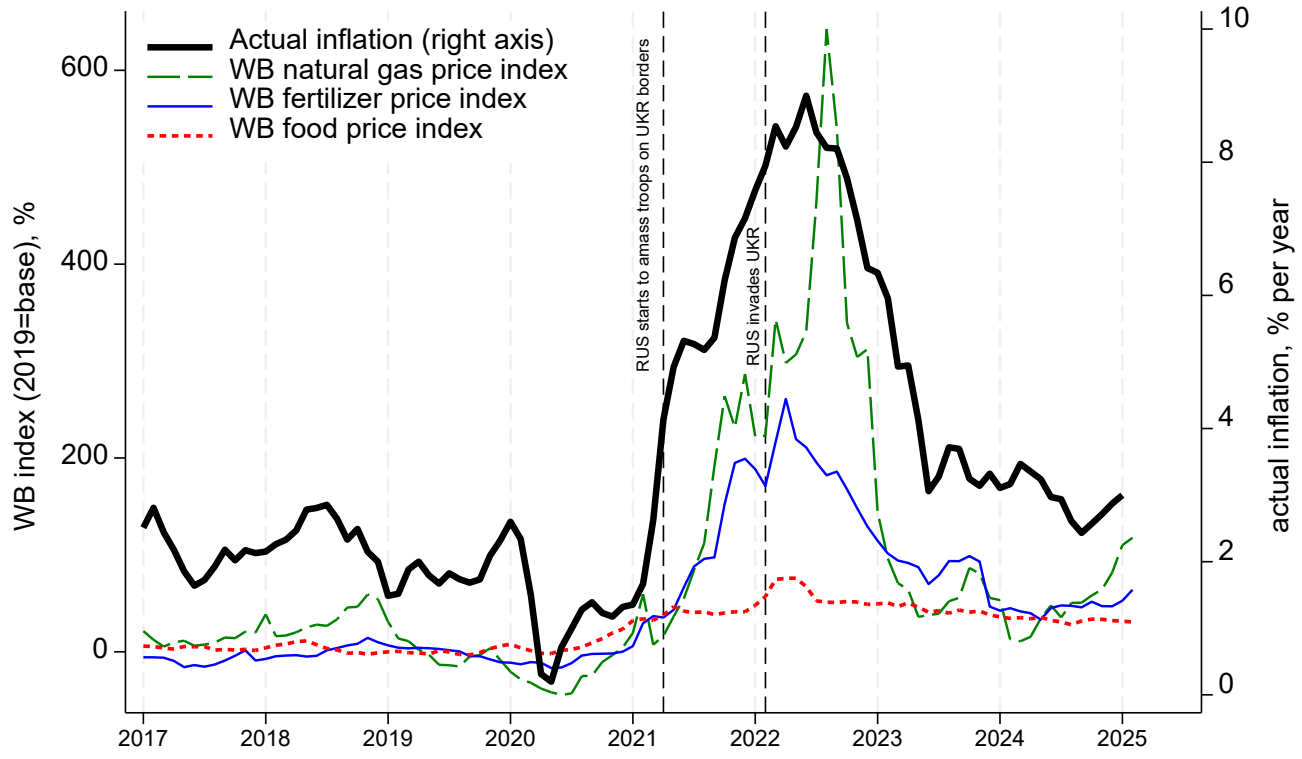
Notes: The figure plots time series of CPI (headline), core CPI and energy inflation (% change from a year ago). Data are from OECD and national statistical offices.

Appendix Figure 5: Mean reversion formulated in terms of price level



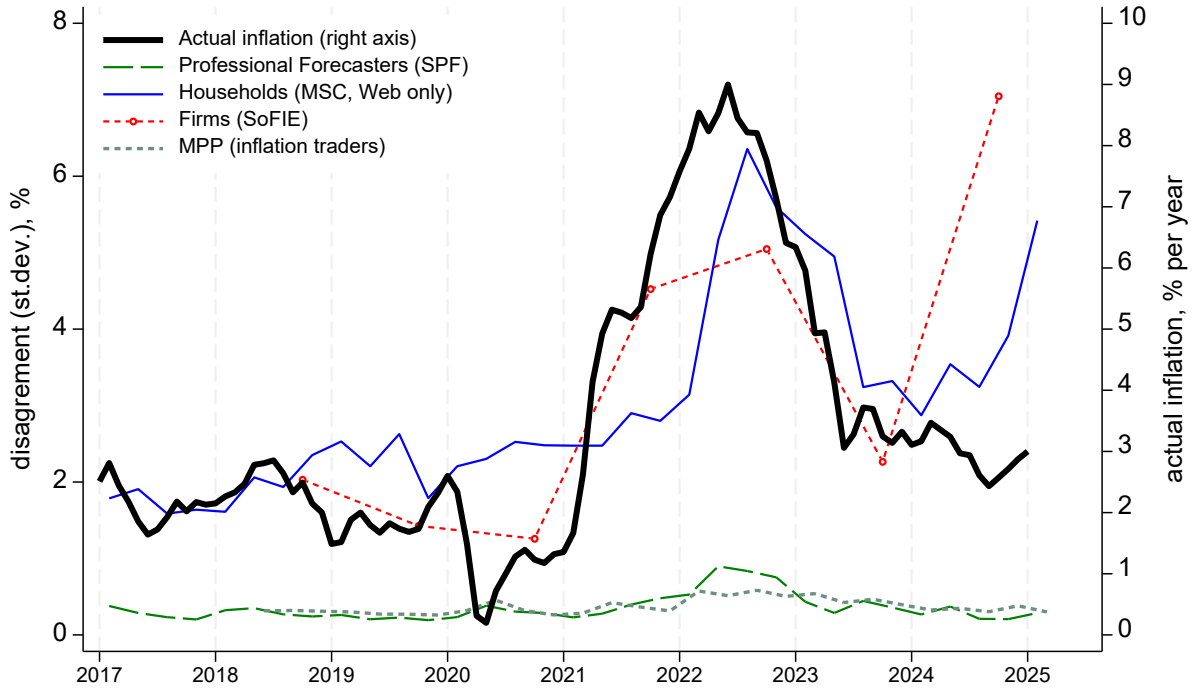
Notes: The figures uses data from the Prolific survey (April 2-3, 2025, representative sample of 2,500 respondents in Prolific, a survey platform). Panel A shows perceptions of price stability. Panel B shows responses to a hypothetical question asking respondents to describe (or prescribe "SHOULD") the behavior of the Federal Reserve to a one-time one-percentage point increase/describe in the price level.

Appendix Figure 6: U.S. Inflation and Selected Commodity Prices



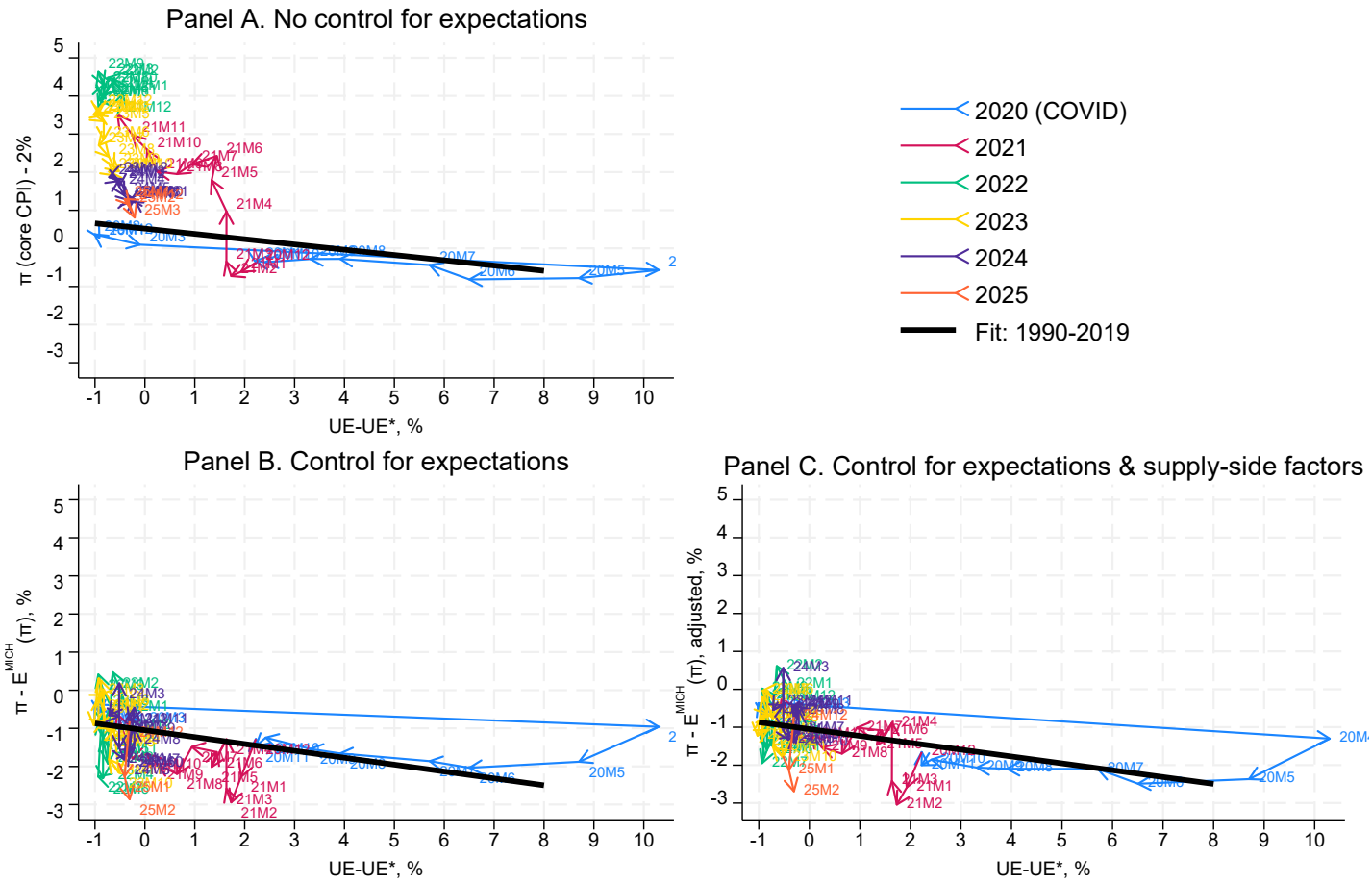
Notes: Price indices for commodity prices are from the World Bank.

Appendix Figure 7: Disagreement about Future Inflation, 5-year-ahead horizon.



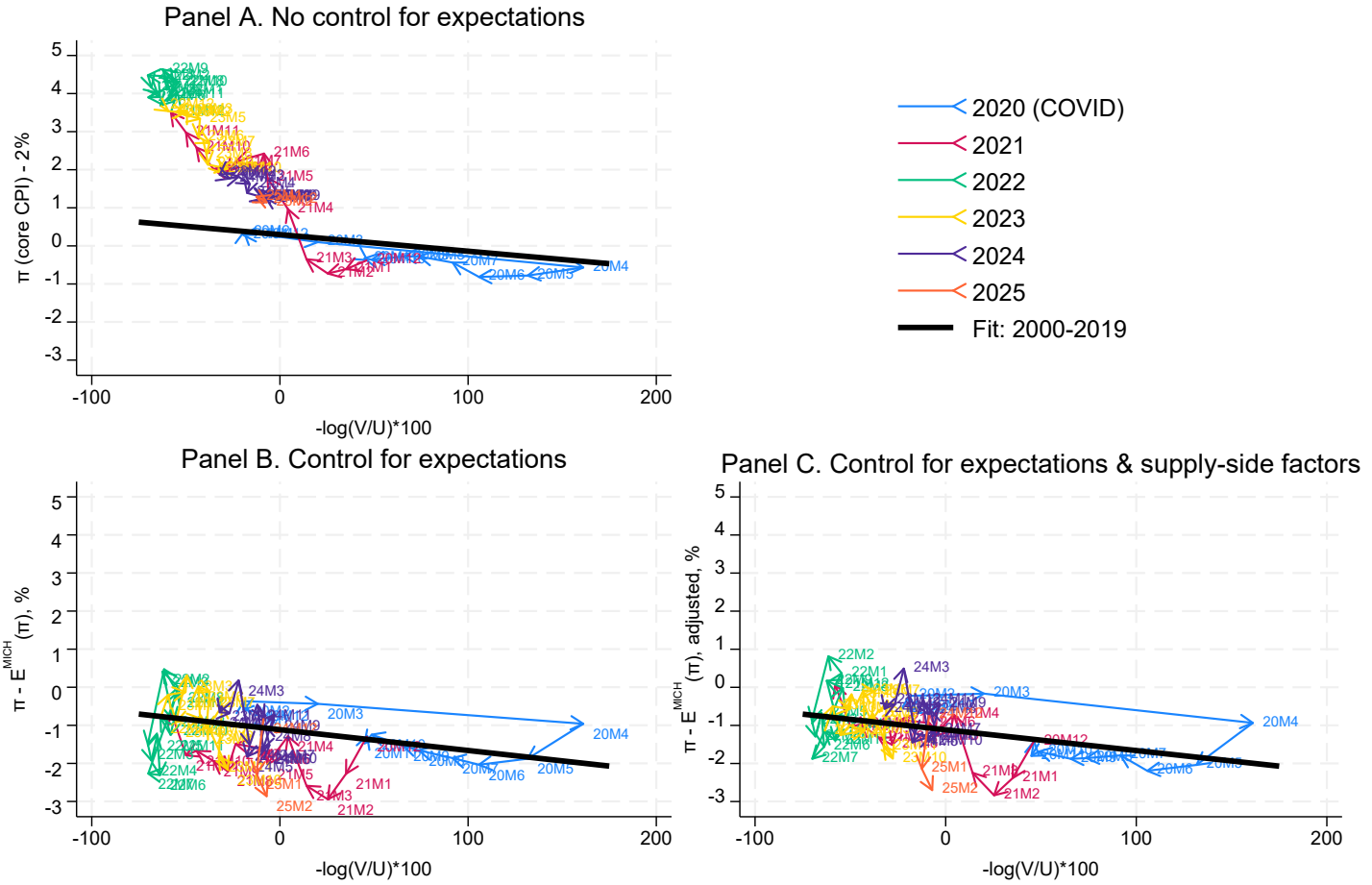
Notes: disagreement is measured with the standard deviation for cross-sections of expectations in a given period. Inflation expectations are from the Michigan Survey of Consumers (MSC), Survey of Firms' Inflation Expectations (SoFIE), MacroPolicy Perspectives (MPP), Survey of Professional Forecaster (SPF). To ensure consistency over time, 5-year ahead inflation expectations for MSC are from the subset of response that were collected using an online survey. Because disagreement for this series is reported only as interquartile range (IQR), we use an approximation for the normal distribution where standard deviation = IQR/1.35.

Appendix Figure 8: Recent *Core* Inflation through the Expectations-Augmented Phillips Curve



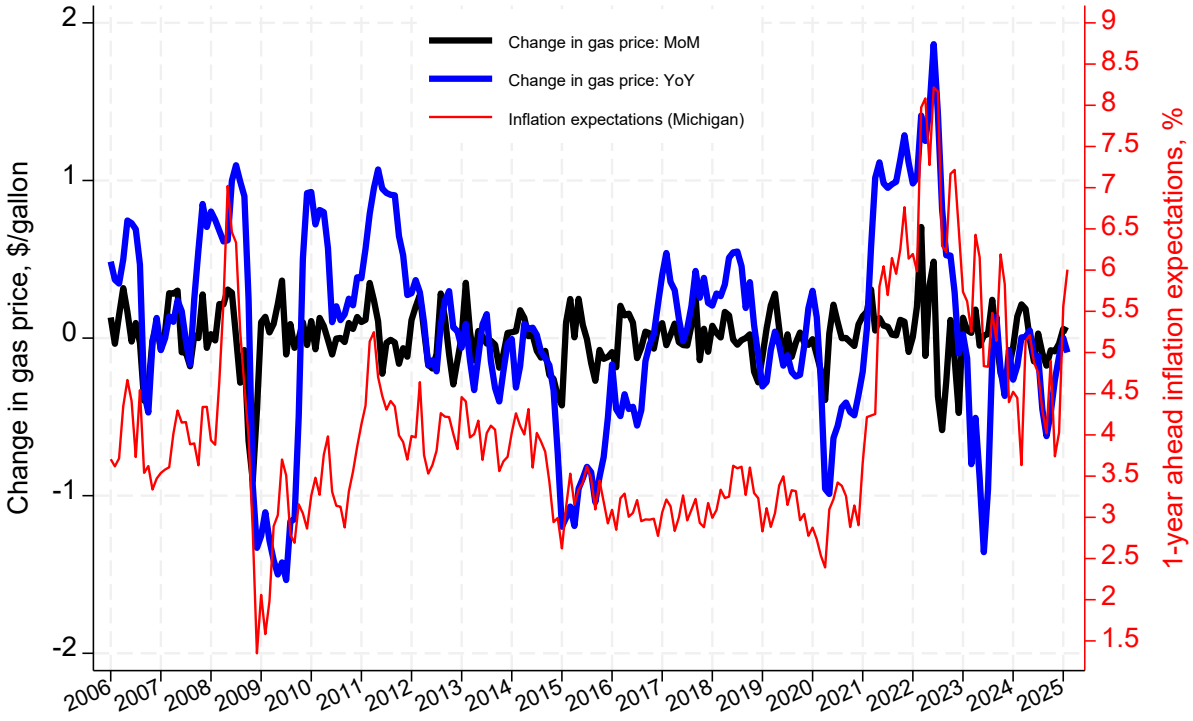
Notes: The figure plots the evolution of inflation, inflation gap (core CPI inflation minus one-year ahead inflation expectations in the Michigan Survey of Consumers), and unemployment gap (unemployment rate minus Noncyclical Rate of Unemployment (NROU) from the Congress Budget Office).

Appendix Figure 9: The Expectations-Augmented Phillips Curve and other labor market measures



Notes: The figure plots the evolution of inflation, inflation gap (actual inflation minus one-year ahead inflation expectations in the Michigan Survey of Consumers), and the log of the vacancy to unemployment ratio.

Appendix Figure 10: Inflation Expectations and Changes in Gasoline Prices



Appendix Table 1: Is the Expectations-Augmented Phillips Curve Non-Linear?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: dependent variable is π_t									
$U - U^*$	-0.600***	-0.533***	-0.119***	-0.112**	-0.094	-0.819***	-0.248***	-0.267***	-0.211***
	(0.147)	(0.145)	(0.044)	(0.046)	(0.076)	(0.158)	(0.059)	(0.053)	(0.045)
$\mathbb{I}(U - U^* < 0) \times (U - U^*)$		-3.675**	-1.477*						-1.819***
		(1.605)	(0.808)						(0.410)
$\mathbb{I}(U - U^* < 0)$		-2.091*	-0.882						-0.648*
		(1.140)	(0.573)						(0.331)
MSC: $E^{1yr}\pi$			1.280***	1.355***	1.303***			0.706***	0.376**
			(0.115)	(0.116)	(0.212)			(0.100)	(0.151)
Gasoline price, $/gallon					0.178				0.866***
					(0.596)				(0.325)
GSCPI						0.915***		0.345***	0.543***
						(0.159)		(0.083)	(0.086)
World Bank natural gas price index							0.013***	0.006***	0.004***
							(0.002)	(0.001)	(0.001)
R-squared	0.315	0.421	0.818	0.802	0.802	0.638	0.800	0.916	0.945
Panel B: dependent variable is $\pi_t - \hat{\beta}E_t^{1yr}\pi_{t+1} - \hat{\alpha}(U_t - U_t^*)$ where α, β are estimated on the 1990-2019 sample									
$U - U^*$	0.004	0.035	0.126***	0.132***	0.151**	-0.117*	0.172***	-0.022	0.033
	(0.068)	(0.059)	(0.044)	(0.046)	(0.076)	(0.065)	(0.040)	(0.053)	(0.045)
$\mathbb{I}(U - U^* < 0) \times (U - U^*)$		-1.958**	-1.477*						-1.819***
		(0.860)	(0.808)						(0.410)
$\mathbb{I}(U - U^* < 0)$		-1.147*	-0.882						-0.648*
		(0.609)	(0.573)						(0.331)
MSC: $E^{1yr}\pi$			0.280**	0.355***	0.303			-0.294***	-0.624***
			(0.115)	(0.116)	(0.212)			(0.100)	(0.151)
Gasoline price, $/gallon					0.178				0.866***
					(0.596)				(0.325)
GSCPI						0.504***		0.345***	0.543***
						(0.079)		(0.083)	(0.086)
World Bank natural gas price index							0.006***	0.006***	0.004***
							(0.001)	(0.001)	(0.001)
R-squared	0.000	0.131	0.213	0.145	0.146	0.431	0.473	0.635	0.763

Notes: Panel A reports regression results where the dependent variable is actual inflation (headline Consumer Price Index, year on year) on unemployment gap $U - U^*$ (unemployment rate minus Noncyclical Rate of Unemployment (NROU) from the Congress Budget Office), expected inflation (Michigan Survey of Consumers) for 1-year-ahead ($E^{1yr}\pi$) and various commodity prices. The dependent variable in Panel B is a prediction error of the Phillips curve estimated on the 1990-2019 sample. $\mathbb{I}(*)$ is an indicator function. Robust standard errors are reported in parentheses. ***,**,* denote statistical significance at 1, 5, and 10 percent levels.