Inflation Narratives

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Abstract

We provide evidence on the stories that people tell to explain a historically notable rise in inflation using samples of experts, U.S. households, and managers. We document substantial heterogeneity in narratives about the drivers of higher inflation rates. Experts put more emphasis on demand-side factors, such as fiscal and monetary policy, and on supply chain disruptions. Other supply-side factors, such as labor shortages or increased energy costs, are equally prominent across samples. Households and managers are more likely to tell generic stories related to the pandemic or mismanagement by the government. We also find that households and managers expect the increase in inflation to be more persistent than experts. Moreover, narratives about the drivers of the inflation increase are strongly correlated with beliefs about its persistence. Our findings have implications for understanding macroeconomic expectation formation.

JEL Classification: D83, D84, E31, E52, E71.

Keywords: Narratives, Inflation, Beliefs, Macroeconomics, Fiscal Policy, Monetary Policy.

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1   Introduction

Understanding inflation expectations has recently become a key topic in the U.S. policy debate. The inflation rate in the U.S. has surged from 1.4 percent in January 2021 to 6.2 percent in October 2021—the highest level of inflation since December 1990.[1] Economists and policymakers are increasingly concerned that the rise in inflation might turn out to be persistent.[2] According to standard theories, households' and firms' expectations about long-run inflation are among the most important determinants of what inflation will actually be (Reis, 2020, 2021). It is thus important to understand how households and firms interpret the recent surge in inflation, whether they expect it to be transitory or persistent, and what determines their beliefs.

In the public debate, experts have proposed different explanations for the surge in inflation. The most commonly provided explanations focus on demand-side pressures due to fiscal stimulus, loose monetary policy, or supply-side restrictions due to labor shortages or disruptions of global supply chains—each suggesting a different degree of persistence.[3] Which of these potential drivers of the rise in inflation do households, managers, and experts invoke when explaining the recent rise in inflation? How do differences in narratives about the drivers of inflation shape the perceived persistence of higher inflation rates?

In this paper, we shed light on these questions using surveys with a broadly representative sample of the U.S. population as well as with samples of U.S. firm managers and academic economists. Our surveys are fielded between November 18 and November 21, less than two weeks after the release of the high inflation rates for October 2021. In our surveys, we measure inflation narratives with open-ended text questions in which respondents explain why they think inflation recently increased to 6.2 percent. Subsequently, we measure our respondents' inflation expectations, which allows us to study beliefs about the persistence of the rise in inflation.

We document four sets of results: First, there is substantial heterogeneity in the

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[1] See `https://www.bls.gov/news.release/pdf/cpi.pdf` (accessed 24 November 2021).

[2] See "Opinion: On inflation, it's past time for team 'transitory' to stand down" by Larry Summers, *The Washington Post*, November 15; "Wonking Out: Going Beyond the Inflation Headlines" by Paul Krugman, *The New York Times*, November 19.

[3] For example, factors closely connected to the acute phase of the pandemic and subsequent reopening, such as pent-up demand, supply chain disruptions, and labor shortages will likely be less relevant five years from now.

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stories that people tell about what is driving higher inflation rates, both within and across samples. Experts and laypeople tell different stories. While households, managers, and experts all tend to perceive supply-side factors—such as supply chain disruptions, labor shortages, and the energy crisis—as important drivers, experts more strongly emphasize recent fiscal and monetary policy as drivers of higher inflation. Many households and firm managers, by contrast, tend to rationalize the rise in inflation with low-quality decision-making of the government. Moreover, the nature of inflation narratives differs between households and experts: While experts consider more factors commonly featured in standard models and tell richer stories, households and managers tend to focus on one or a few factors and are less likely to tell stories consistent with standard models in economics.

Second, households and managers expect the increase in inflation and the shocks driving the increase to be more persistent compared to experts. Experts predict an inflation rate of 3.7% over the next 12 months, compared to 4.1% among managers and 4.7% among households. For the five-year ahead forecast, experts predict an inflation rate of 2.6%, while managers and households expect inflation rates of 3.4% and 3.9%, respectively. Moreover, experts expect the shocks driving the increase in inflation to be less persistent compared to households and managers.

Third, respondents who use different narratives to explain the rise of inflation hold different inflation expectations. For example, respondents mentioning energy shortages or low-quality decision-making by the government as drivers of the current rise in inflation have both higher one-year- and higher five-year-ahead inflation expectations. Respondents mentioning expansionary monetary or fiscal policy expect higher inflation in the short term. Moreover, households telling stories featuring multiple drivers of higher inflation perceive a higher persistence of high inflation and are less uncertain about future inflation.

Fourth, we also shed light on the behavioral consequences of higher inflation. Large fractions of households report that the rise in inflation affects their wage bargaining and large fractions of managers report that the rise in inflation affects their wage and price setting. For example, more than 40% of managers have increased or expect to increase the wages they pay, while more than 40% of workers have asked or expect to ask for a wage increase because of the increase in inflation. This suggests an important role for a labor market feedback mechanism that could contribute to further increases in inflation.

Our results have important implications for understanding and modeling expectation formation. In particular, our findings suggest that there is vast heterogeneity in the narratives individuals use to explain observed economic phenomena. This heterogeneity in turn is associated with differences in expectations about macroeconomic developments in the future. Thus, heterogeneity in narratives about the economy seems to contribute to the widely documented disagreement in macroeconomic expectations among households, firms, and professional forecasters (Coibion and Gorodnichenko, 2012; Coibion et al., 2018; Dovern et al., 2012; Giglio et al., 2021). Our results also have implications for monetary policy-making. Specifically, the narratives individuals use to explain movements in inflation seem to be central to whether their inflation expectations remain anchored. Thus, communication strategies could put emphasis on specific narratives that highlight that inflationary pressures are unlikely to persist.

Our work most closely relates to a literature on narratives in economics (Michalopoulos and Xue, 2021; Shiller, 2017, 2020).[4] We collect novel data on the narratives that people use to explain higher inflation and thereby study the role of narratives in a natural high-stakes setting, where an unexpected economic phenomenon can be rationalized with different kinds of narratives.

Our descriptive evidence on the narratives that come to mind also relates to research on the role of attention and memory in belief formation (Bordalo et al., 2016, 2020; Gabaix, 2019; Gennaioli and Shleifer, 2010). We contribute to this literature by providing new descriptives on the narratives that spontaneously come to mind when households, managers, and experts explain a historically notable period of inflationary pressures.[5]

We also contribute to a growing literature on the formation of macroeconomic expectations, and in particular inflation expectations (Armantier et al., 2016; Bachmann et al., 2021, 2015; Binder and Rodrigue, 2018; Cavallo et al., 2017; Coibion et al., 2021, 2018, 2020a,b,c; Goldfayn-Frank and Wohlfart, 2020; Link et al., 2020, 2021; Mankiw

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[4]Story-telling is a pervasive feature of human nature (McAdams, 1988). Psychologists think of stories as "instruments of mind in the construction of reality" that are helpful to organize and explain the world (Bruner, 1991). Narratives also provide a powerful way to store knowledge and interpret new information. Prior work in economics has mostly focused on narratives in the moral and political domain (Barron et al., 2021; Bénabou et al., 2018; Bursztyn et al., 2021, 2020; Eliaz and Spiegler, 2020; Harrs et al., 2021; Hillenbrand and Verrina, 2020).

[5]Our descriptive evidence also relates to work by Stantcheva (2020), who provides descriptive evidence on what people think about when they evaluate economic policies, such as estate taxation or health insurance.

et al., 2003; Reis, 2006; Roth and Wohlfart, 2020; Roth et al., 2021b).[6] The literature has thus far focused on the role of experiences (Malmendier and Nagel, 2016), cognitive abilities (D'Acunto et al., 2019, 2021), exposure to grocery prices (Cavallo et al., 2017; D'Acunto et al., 2021), gas prices (Coibion and Gorodnichenko, 2015), and monetary policy communication (Coibion et al., 2019; Roth et al., 2021a) as drivers of inflation expectations. Our data allows us to examine the role that narratives play in shaping beliefs about the persistence of inflation over time in the context of a surge in inflation. Our paper is also related to recent work by Andre et al. (2021) which documents strong heterogeneity in households' subjective models of the macroeconomy. Specifically, Andre et al. (2021) document large disagreement about the perceived consequences of specific macroeconomic shocks for inflation and unemployment. By contrast, our paper focuses on heterogeneity in the stories that people tell to explain a given increase in the inflation rate and how these stories relate to expectations about the further development of inflation.

Finally, we also relate to a literature that investigates the beliefs of academic economists (e.g., Andre and Falk, 2021; Andre et al., 2021; DellaVigna and Pope, 2018; Gordon and Dahl, 2013; Sapienza and Zingales, 2013). We document substantial heterogeneity in economists' explanations for a strong rise in inflation.

Our paper proceeds as follows: In Section 2, we present the data and the design. In Section 3, we present the main evidence on inflation narratives and inflation expectations. In Section 4, we describe behavioral adjustments in response to higher inflation among households and managers. Finally, Section 5 concludes.

2 Setting, Data and Design

2.1 Setting

We fielded surveys between November 18 and November 21, 2021, in the context of strongly increasing inflationary pressures. On November 10, the latest inflation statistics revealed that the 12-months inflation rate in the U.S. surged to 6.2 percent in October 2021, a rate that was last experienced in 1990. Economists and policymakers

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[6]For a review of the literature on information provision experiments in the context of macroeconomics, see Haaland et al. (2021).

are increasingly concerned that the rise in inflation might turn out to be persistent.

At the time of writing, the increase in inflationary pressures is often attributed to special conditions arising from the pandemic. On the supply side, the pandemic caused severe supply chain disruptions as well as labor shortages, e.g. due to workers who are worried about health risks dropping out of the labor force. These supply-side drivers are exacerbated by a global energy crisis and the associated strong increases in prices of oil and natural gas. On the demand-side, the fiscal stimulus aimed at lifting the economy out of the pandemic recession and loose monetary policy have been argued to be important drivers of the rising levels of inflation. A further demand-side factor is related to forced savings during the pandemic and the pent-up demand that was unleashed after the reopening of the economy in the course of 2021. Finally, a special feature of the pandemic is a shift away from service-based towards durable consumption, which resulted in particularly striking excess demand for a subset of products, such as cars.

2.2   Samples

In this context, we study which narratives about the recent rise of inflation are prevalent among households, managers, and experts. Below, we describe how we recruit each sample.

Households   We collect a sample of 1,029 respondents between November 18 and November 21, 2021, with the survey company Lucid, which is commonly used in economic research (Haaland et al., 2021). As shown in Table A.1, our sample is broadly representative of the U.S. population in terms of gender, age, region, and total household income. For example, 51.4% of our respondents are female, compared to 51% in the 2019 American Community Survey (ACS). The median net household income in our sample is $62,500 compared to $65,712 in the ACS. Our sample is also reasonably close to the population in terms of education: 42% of the respondents in our sample have at least a bachelor's degree, compared to 31% in the ACS.[7]

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[7]The representativeness in terms of education is thus comparable to the New York Fed's Survey of Consumer Expectations, the leading survey measuring households' inflation expectations in the United States (Armantier et al., 2013).

Managers   We recruit a sample of 163 managers in collaboration with the survey company Lucid between November 18 and November 21 2021. This survey company also specializes in business-to-business solutions and offers a series of premium samples, including samples of managers.[8] As shown in Table A.1, the managers in our sample are 43 years old on average, 84% have completed at least a bachelor's degree, and 83% have completed college-level economics classes. The manager sample thus has significantly higher levels of education compared to the household sample. 69.3% and 65% of managers report taking decisions related to wage-setting and price-setting in their businesses, respectively. The median manager works in a firm with 375 employees.

Experts   We invite academic economists who published articles with the JEL code "E: Macroeconomics and Monetary Economics" in twenty top economics journals between 2015 and 2019 (Section B of the Online Appendix provides more details). The expert survey was run concurrently with the household and manager surveys (November 18 to November 21, 2021). In total, 104 experts completed our survey, out of which 55% are based in the U.S.[9] Most of our experts are professors or researchers at renowned U.S. institutions.

2.3   Survey

In what follows we describe the main elements of the survey. Section C of the Online Appendix provides the full set of instructions for the different samples.

Overview   For households and managers, the survey starts with two attention checks, designed to screen out inattentive participants, and a few questions on background characteristics. We then provide respondents with a definition of inflation and briefly elicit respondents' baseline knowledge of inflation. Then, respondents' narratives about the rise in inflation are measured in an open-ended question. Subsequently, we elicit economic expectations, in particular quantitative beliefs about future inflation, and ask respondents to assign weights to the importance of different drivers of inflation. Finally, we elicit additional background variables. These include the behavioral adjustments

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[8]To verify people's occupation we ask a simple question at the start of the survey. Only respondents who choose a managerial position are allowed to complete the survey.

[9]Beliefs of experts that are based outside the U.S. are very similar to the beliefs of experts based in the U.S.

respondents may have undertaken or plan to undertake in response to the increase in inflation (see Section 4 for details). To keep the expert survey short, experts only complete the three main parts of the survey: inflation narratives, future inflation expectations, and the structured question on the importance of different drivers of inflation.

Inflation narratives   We measure the stories people tell to explain the rise of inflation using an open-ended question. We first inform all respondents that the inflation rate in the U.S. typically ranges between 1.5 and 2.5 percent but has recently increased to 6.2 percent. Subsequently, we ask our respondents to tell us in an open-text box which factors they think caused the increase in the inflation rate with the following question: "Which factors do you think caused the increase in the inflation rate? Please respond in full sentences."

There are several advantages of open-ended measurement of narratives compared to using more structured questions. First, open-ended responses offer a lens into people's spontaneous thoughts without priming them on any particular issue, e.g. through the available response options. Second, open-ended responses are more natural to respondents and may be better suited to capture typical reasoning in real-world situations. Third, open-ended responses may reveal misunderstanding or confusion on the part of participants and allow for qualitative insights that cannot be achieved with structured measures. Furthermore, respondents who speed through the survey and provide low-quality answers would not necessarily be detected with structured measures while it is relatively straightforward to identify "junk" responses with open-ended responses.[10]

Inflation expectations   We elicit probabilistic inflation expectations over one-year and five-year horizons, closely following the question format used in the New York Fed's Survey of Consumer Expectations (SCE; see Armantier et al. 2017 for an overview of the survey). Specifically, we ask our respondents to indicate the percent chances they attach to inflation falling into ten bins that are mutually exclusive and collectively ex-

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[10]One concern about open-ended measurement is that it may cause some additional measurement error, e.g. because some respondents are unwilling to exert effort to explain the rise in inflation. Another potential downside relates to the complications of interpreting and categorizing unstructured text data, which requires judgment calls on the part of researchers. We address these concerns through simple validation of the open-ended data with structured measures.

haustive.[11] The elicitation of a subjective probability distribution allows us to compute each respondent's perceived mean and standard deviation of future inflation.[12]

Structured beliefs about the drivers of inflation   While the narratives elicited in the open-ended question offer a unique lens into people's reasoning about high inflation rates, they are not informative about the relative quantitative importance they attach to different potential drivers of inflation. To elicit respondents' beliefs about the quantitative importance of different factors, we show our respondents a list of eight potential drivers of the recent increase in the inflation rate. Respondents are asked to allocate 100 points between them to indicate how much they think each factor contributed to the increase in inflation.[13]

The list of potential drivers of higher inflation presented to respondents includes: (i) monetary policy by the Fed stimulating demand, (ii) government spending programs increasing demand, (iii) higher demand due to the reopening of the economy (e.g. including pent-up demand resulting from forced savings during the recession), (iv) the global energy crisis increasing production costs, (v) labor shortages increasing wages, (vi) supply chain disruptions increasing production costs, (vii) expectations of higher inflation in the next years and the associated preemptive wage and price adjustments, as well as (viii) a residual category including all factors respondents consider important that were not part of the list.[14]

We designed these categories with several goals in mind: First, we wanted to include channels that are central to major macroeconomic theories, such as New Keynesian approaches. Second, we wanted the categories to be mutually exclusive and as exhaustive as possible given constraints on the number of response options. Third, we needed to find a wording that was at the same time precise and comprehensible to laypeople.

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[11]This framing was optimized after extensive testing (Armantier et al., 2017) and builds on best-practice recommendations on the measurement of subjective expectations by Manski (2017).

[12]Means of density forecasts are easy to interpret, whereas point forecasts may capture mean, mode or some other moment of our participants' subjective probability distributions (Engelberg et al., 2009).

[13]Naturally, respondents could think that specific factors do not operate in isolation, but interact with other factors in driving higher inflation rates. For instance, a respondent could think that supply-side factors drive higher inflation rates, but only because the Fed is leaving interest rates at zero. If respondents thought about the drivers of higher inflation in this way, they could simply split the contribution of each interaction effect between the different interactants. We decided not to make this issue explicit in the instructions to avoid confusion among respondents in our household and manager samples.

[14]The factors are displayed in random order, except for the residual category, which is always displayed last.

We note, however, that measuring the perceived quantitative importance of drivers poses complications in the household survey. Specifically, households may be less aware of many of the potential drivers for inflation, which means that the question provides more additional information to households compared to experts. This may push households to attach more quantitative importance to channels they otherwise would not have thought about. This implies that households' responses will be less comparable to those of experts and should generally be taken with a grain of salt.

2.4 Classifying inflation narratives

The core measures of narratives used in our paper are based on the open-ended question on the perceived causes of higher inflation. To illustrate the richness of the data, this subsection starts with a series of examples of open-text responses. We then explain how we code the open-ended data into different classes of narratives.

Example responses for experts We start by presenting a few typical responses by academic experts. Experts' responses focus on a combination of supply- and demand-side mechanisms and are usually quite rich and complex in nature. For example, the following expert mentions both supply chain disruptions and pent-up demand:

> Supply chain issues is probably the most important factor. Pent up demand from the pandemic, combined with historically high household savings/wealth, which has made consumers less price-sensitive, is probably the second most important factor. This has allowed firms to increase prices without losing customers.

Similarly, a different expert identifies a combination of supply-side and demand-side factors as drivers:

> There are clearly three main factors driving this inflation: constrained conditions in the international supply chain, high personal savings stock and savings rates, and a reluctance of workers to return to old jobs – especially in the distribution of goods – that are less desirable in the context of a global pandemic. [...]

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Moreover, many experts also emphasize the role of fiscal stimulus programs in conjunction with supply-side disruptions:

> The inflation was caused by an aggregate stimulus of unprecedented size in the face of persistent supply constraints whose severity was not anticipated by policy-makers.

Some experts focus on only one particular driver of inflation. For example, the following expert emphasizes the role of monetary policy:

> Money printing (cheap Fed rates and quantitative easing). Inflation is a monetary phenomenon and will always be so.

These examples illustrate the type of responses provided by experts and point to the heterogeneity in the stories experts tell to explain the recent rise in inflation.

Example responses for households and managers   Households and managers also use a rich set of different narratives about the recent rise of inflation. Compared to experts, these narratives strongly differ in their complexity, but also in their focus on different aspects of the world. For instance, the explanations households provide more often focus on one particular factor, such as fiscal stimulus programs. As one household respondent writes:

> The fact the government handed 'free' money like it was candy, we are all now paying for that free money they gave us.

Other responses among households focus more on supply-side issues. For example, this respondent mentions supply-side narratives:

> Well I think the main reason is the virus that shut down almost the entire work force. And know there are shortages not only in product but in producing and delivering. And also the increasing of the wages so the companies also have to raise the prices of their goods to compensate for the more money that they are paying now.

Moreover, many households use narratives that are absent in economics textbooks but have arguably been prevalent in the media:

> [...] I'm sure business owners are just trying to recoup monies lost during the last year by raising their prices. [...]

A common narrative among households is that low-quality decisions by the U.S. government led to the increase in inflation. Some of these responses continue to specify the concrete causes for the rise of inflation while others just vaguely blame the U.S. government. For example, one respondent explains the rise of inflation as follows:

> I think having Biden as president caused all of the inflation and its going to get a lot worse.

Coding scheme   To quantitatively analyze the rich details of the open-ended data, we develop a tailored coding scheme and hand-code each response. We define codes that correspond to different, mutually exclusive narratives about the rise of inflation. The codes cover most of the major drivers of inflation brought forward by the theoretical literature. However, we also include a series of narratives that are not covered by standard theories but are often mentioned by households. Each open-text response can be assigned to multiple codes.

Table 1 provides an overview of the coding scheme and illustrative examples for each narrative code. The codes we include refer to a set of demand-side drivers, a set of supply-side drivers, and a set of other narratives. Among the demand-side drivers, we include codes for higher government spending, loose monetary policy, pent-up demand due to forced savings during the lockdowns, a shift in demand (e.g. away from close-contact services during the pandemic), and a residual category including all other demand-side drivers. Among the supply-side drivers, we include codes for the energy crisis and associated higher energy costs, labor shortages leading to higher wage costs, supply chain disruptions, and a residual category referring to all other supply-side explanations. The other codes include expectations of high inflation in the coming years and the associated preemptive price and wage adjustments, companies trying to increase their profits, and mismanagement by the U.S. government and other political issues. We also have codes for the pandemic (in cases where the response does not point out a specific supply-side or demand-side channel), high levels of government debt, tax changes, stories concerning price increases of individual goods, and narratives emphasizing base effects (e.g., artificially low prices during the pandemic).

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As a validation check, we correlate the hand-coded inflation narratives with the structured measure of the perceived quantitative importance of different drivers of inflation. Reassuringly, the manually assigned codes correlate very strongly with the quantitative weight a respondent attaches to a driver (see Figure A.8).

3 Inflation Narratives and Expectations

3.1 Inflation narratives

3.1.1 Word clouds

We start our analysis of inflation narratives by comparing the words that households, managers, and experts use in their open-text responses. Figure 1 displays word clouds, a simple technique to visualize text data. The word clouds display the 30 most frequently used words within each sample. The font size of each word is proportional to its relative frequency, allowing us to gain a first impression of the language respondents use and the factors they think about. Here and below, we mostly focus our discussions on the responses of experts and households, as firm managers tell very similar stories as households.

The word clouds reveal clear differences in the language respondents use. Among experts (Panel c), technical terms such as "demand", "supply", "supply chain", "fiscal", or "monetary" dominate, whereas word usage is spread more evenly for households (Panel a) and managers (Panel b). This is reflected in a more homogeneous distribution of font sizes. Unsurprisingly, households and managers use less technical terms and instead refer more often to concrete stakeholders and decision-makers such as "people", "government", or "biden." Systematic differences between households and managers are harder to detect. By and large, they use similar words and these words are similarly spread.

Of course, a simple count of words is blind to the context in which the words are used, and the fact that households, managers, and experts use different languages does not establish that they also tell different stories. To shed light on the complete arguments that respondents make, we next draw on the manually-coded classifications, which assign each response to one or more narrative codes.

3.1.2 Frequency of narratives

Based on our coding scheme described in Section 2.4, we study which narratives people put forward to explain the increase in inflation in 2021. Figure 2 shows how frequently different narratives are mentioned across our three samples. Table 1 provides an overview of the coding scheme and illustrative examples for each narrative. Again, the discussion focuses mostly on households and experts, as the narratives of managers are very similar to those of households.

Within all groups, households, managers, and—to a smaller degree—experts, respondents disagree about the drivers of inflation. Among households, most narratives are mentioned by less than 25% of respondents, showing that they associate very distinct factors with the rise of inflation. Even factors that have been prominently discussed in the news such as increased government spending or supply chain disruptions are mentioned by only 16% and 25% of households, respectively. Among experts, these patterns are less pronounced. Most narratives are either mentioned by at least 20% of experts or by almost none of them.

There are also important differences in narratives between households (managers) and experts. First, experts are much more likely to mention narratives that are centered around demand-side or supply-side shocks, which are central to textbook models. 90% of experts refer to at least one supply-side factor, and 83% refer to at least one demand-side factor. These fractions are much lower among households: 56% of households refer to at least one supply-side factor, and only 31% refer to at least one demand-side factor. Regarding the specific supply- and demand-side shocks, 36.9% and 45.9% of experts indicate, respectively, loose monetary policy or government spending programs as drivers of the recent surge in inflation, while those fractions are only 5% and 15.9% among households. Similarly, pent-up demand due to forced savings during lock-downs and a shift in demand (e.g. away from close contact-services during the pandemic) are mentioned by 21.6% and 14.4% of experts, respectively, compared to 3.1% and .8% of households. Among the supply-side factors, the disruption of supply chains is the most frequently mentioned cause of higher inflation among experts (55%), while it is mentioned by only 25.2% of households. By contrast, the fractions mentioning labor shortages and energy shortages are similar between experts and households (e.g., 23.4% of experts mention labor shortages compared to 25.5% of households).

Second, there are substantial differences across samples in how often factors are

mentioned that are not clearly linked to either the demand- or the supply-side. Households frequently mention the pandemic without citing any specific channel (15.5%), mismanagement by the government (24.1%), or corporations trying to increase their profits (8%). Almost none of the experts provide these narratives. The unspecific "corona" narrative likely reflects households' much coarser understanding of the inflation rise. By contrast, many experts mention the pandemic in passing but mostly focus on the precise channels through which the corona shock affected the economy. The prevalence of politically loaded narratives illustrates how politicized the debate about inflation is. Many household narratives bluntly blame the government for the rise in inflation. Finally, the "profit" narrative showcases another mode of thinking that is completely absent among experts. It comes in two variants: Some households argue that companies need to make up for the losses they experienced during the pandemic by increasing prices now. Others attribute the rise of inflation to corporate greed and price gouging.

A third clear difference between household and expert responses is the number of narrative elements they mention. Experts refer to on average 2.8 factors, while households and managers refer to on average 1.7 factors (see Figure A.1 for histograms). Experts thus provide richer accounts of the rise in inflation and are less likely to provide monocausal explanations.

Besides these differences, we also observe similarities between the different samples. Most importantly, across all samples, only a small fraction attribute the rise in inflation to a de-anchoring of inflation expectations, high levels of government debt, or the effect of a low base level of prices during the height of the pandemic one year earlier.

Our first main result can be summarized as follows:

Result 1. There is substantial heterogeneity in the stories that people tell to explain higher inflation rates. Experts focus more on textbook explanations related to higher production costs or higher demand. Laypeople also frequently mention supply-side accounts of higher inflation but put less emphasis on the demand-side and often provide generic narratives related to the pandemic or political issues. Experts on average provide richer narratives than households and firm managers.

Correlates of households' inflation narratives   How do the narratives used to explain higher inflation vary across groups of households? Figure A.5 reveals striking

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differences in the narratives mentioned by groups with different partisan affiliations. Most importantly, Republican-leaning respondents are about three times as likely as Democrat-leaning respondents to attribute higher inflation to government spending programs (26.3% vs 7.3%). Similarly, 41.8% of Republican-leaning households attribute higher inflation to government mismanagement compared to only 9.8% of Democrat-leaning households.

Figure A.4 highlights how holding particular narratives is associated with news consumption. Consuming more frequently inflation-related news is associated with a significantly higher tendency to mention the specific demand- and supply-side accounts of higher inflation brought forward in the public debate. This suggests that news is an important source of the narratives people tell to rationalize observed economic phenomena.

Finally, Table A.3 presents multivariate regressions of dummies for holding a given narrative on a set of background characteristics. For instance, men are significantly more likely to mention narratives related to monetary policy and less likely to mention narratives related to supply chain disruptions or labor shortages. Older respondents and individuals with a college degree are more likely to talk about supply chain issues. Individuals with a college-level education in economics are more likely to tell accounts of loose monetary policy.

3.1.3   Interconnectedness of narratives

The raw frequencies of the different narrative codes analyzed above conceal which of these narratives occur together and form clusters. Figure 3 therefore presents "associative networks" that display all narratives that are mentioned by at least 1% of the respondents within each sample and connect narratives that are often associated with each other and mentioned together. The size of each narrative ("nodes" in network parlance) is proportional to its relative frequency, and the thickness of the connecting lines ("edges") reflects the frequency at which the narratives co-occur. The networks reproduce many patterns that are familiar from earlier analyses. For example, most narratives nodes are smaller among households or managers than among experts, and the associative networks of experts are denser. Both facts reflect that experts tell more complex stories and integrate and combine more factors.

The co-occurrence patterns, however, also reveal a few new insights. First, many

experts mention *both* supply-side and demand-side factors. Out of all experts who mention at least one supply *or* one demand narrative, 77% also mention both a demand *and* a supply narrative. The corresponding figures for households and managers are much lower at 33% and 35%. A similar phenomenon can be observed for demand-side factors. While experts commonly mention monetary and fiscal policy together (32% of those who mention one code mention both codes), households and managers rarely do so (14% and 11%), suggesting that they have a more fragmented understanding of the economy and in particular of its demand-side.[15]

Moreover, each common connection between the narrative nodes represents a distinct story that respondents tell. Households, for example, often mention "supply chain issues" and "labor shortages" together when reasoning about the lack of employees in the transportation industry. The following household response illustrates this well.

> [...] Right now, there are tankers filled with goods off each coast because there's a shortage of people to offload them, and then, once unloaded, a shortage of truck drivers to disperse them throughout the country.

The combination of narrative codes also highlights once more how politicized households' views on inflation are. For example, "politics" and "government spending" are often mentioned together. Indeed, households rarely discuss the inflationary pressures of the stimulus packages without blaming policymakers.

> President with a spending agenda. Can't "make" money to compensate. The liberal, left needs to cut back on their budget spending.

For a similar reason, "politics" and "energy" co-occur frequently. The cancellation of the Keystone pipeline is on top of mind for these respondents, many of whom disagree with the decision to stop the project.

> When Joe Biden was elected he signed a number of edicts that have ruined our economy. The worst was shutting down the pipeline so that we are now having to buy foreign oil and that has driven the price of gasoline through the roof. [...]

---

[15]The differences are less pronounced for supply-side channels. For example, 34% of experts who mention supply chain disruptions or labor shortages mention both codes. This share is very similar among households, namely 28%.

Another common connection is the one between "government spending" and "labor shortage". Many respondents express the idea that a too generous welfare state and the stimulus payments entice workers to stay at home.

> People could get paid by the government and make more that they could if they were working. This, in turn, meant that jobs were not getting done because the workforce was not available.

3.2 Inflation expectations

Expectations about what inflation will be in the medium run are among the most important determinants of current inflation according to standard models. It is therefore of key interest to understand whether individuals view the inflation increase in 2021 as persistent. Before studying the association between narratives and beliefs about inflation persistence, we briefly document inflation expectations across our three samples over different horizons.

Figure 4 displays mean forecasts of inflation over the next 12 months (Panel A) and of inflation five years from now (Panel B) across samples. Over the next 12 months, experts predict an inflation rate of 3.7%, compared to 4.1% among managers and 4.7% among households. Over the time between 49 and 60 months after the survey, experts predict an inflation rate of 2.6%, while managers and households expect inflation rates of 3.4% and 3.9%, respectively. This illustrates that households, firm managers, and experts all expect inflation to revert back to levels below 6.2% in the future. However, while experts believe that inflation in five years will only be somewhat higher than the Fed's target of 2 percent, households and managers expect inflation to be persistently higher. The finding that managers' expectations are between those of households and experts is consistent with recent evidence (Link et al., 2020).

Our second main result is given as follows:

Result 2. Laypeople expect the rise in inflation to be more persistent than experts. Managers' expectations lie between those of experts and households.

3.3 Correlation between narratives and inflation expectations

In this section, we explore how narratives about the rise of inflation are correlated with respondents' inflation expectations. We focus on our household sample, which provides sufficient power for this analysis due to its large sample size. The evidence presented in this section is purely correlational and does not allow for causal conclusions. However, it enables us to examine whether holding a narrative that inflation is caused by a more transitory factor—such as e.g. labor shortages associated with perceived health risks—is associated with a lower perceived persistence of higher inflation rates.

Figure 5 displays coefficient estimates from a multivariate regression of inflation expectations on dummy variables indicating whether a respondent mentions a specific narrative. The narratives that households use to rationalize the increase in inflation are strongly correlated with expectations about the future development of inflation. Households attributing the rise in inflation to low interest rates or stimulus payments expect significantly higher inflation over the next year, but not in five years, consistent with the idea that expansionary monetary and fiscal policy are viewed as temporary. Similarly, households blaming a shortage of workers predict higher inflation over the next 12 months, but not in five years, in line with the idea that e.g. perceived health risks keeping workers away from the labor force will be less relevant in the medium-run. By contrast, individuals telling narratives of energy shortages predict significantly higher inflation both over the next 12 months and five years later, consistent with a perception that energy shortages are going to prevail, e.g. due to a shift toward more climate-friendly energy sources. Similarly, those mentioning political issues, such as mismanagement by the government, predict significantly higher inflation both over the next 12 months and five years later, consistent with a more fundamental view that the government will adversely affect macroeconomic outcomes.

Figure A.7 displays similar correlations between households' perceived uncertainty of future inflation and the narratives they use to explain the recent inflation hike. Individuals telling stories focused on higher government spending or mismanagement by the government are less uncertain about future inflation both at the one-year and at the five-year horizon, potentially reflecting strong views driven by partisan affiliation. Similarly, individuals mentioning supply chain disruptions are less uncertain about inflation in one year and in five years.

We also explore how the complexity of respondents' narratives is related to their

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inflation expectations. Figures A.2 and A.3 show that households' expectations about future inflation monotonically increase in the number of narratives they name as drivers of inflation. Conversely, those mentioning a higher number of narratives are significantly less uncertain about future inflation. Thus, households telling stories that the inflation increase is driven by multiple shocks are more likely to believe in the persistence of higher rates and are relatively more certain about future inflation.

Our third main result is given as follows:

Result 3. Narratives about the drivers of inflation are significantly correlated with individuals' perceived persistence of higher inflation rates and their uncertainty about future inflation. This suggest that narratives play a potentially important role in macroeconomic expectation formation.

3.4 Beliefs about the quantitative importance of inflation drivers

In this section, we provide evidence on the perceived quantitative importance of different drivers for inflation, based on our structured survey question. This question provides respondents with a structured list of factors coinciding with the textbook channels mentioned in the open-ended responses by the experts. Respondents allocate 100 points across the factors according to each factor's perceived contribution to the rise in inflation. Figure 6 presents the average responses.

Experts Experts on average perceive the disruption of global supply chains as the most important factor in driving higher inflation rates (22.1%). This is followed by high demand due to fiscal policy (17%), monetary policy (12.9%), or the reopening of the economy (13.6%). Similarly, a shortage of workers and the global energy crisis are seen as contributing 13.9% and 12.3%, respectively. Experts only attach a very low importance of 5.1% to expectations of higher inflation and the associated preemptive increases in prices and wages.

The mean perceived contributions mask substantial heterogeneity within the expert sample. As can be seen in Table A.2 and Figure A.12, disagreement is highest for the perceived contributions of fiscal stimulus (standard deviation of 14.3 percentage points), loose monetary policy (14.1 percentage points), and disruption of global supply chains (14.7 percentage points).

Households and managers The interpretation of households' and managers' responses to the structured questions is more complicated. Specifically, the question does not feature non-standard factors that are commonly mentioned by households and managers in the open-ended responses (e.g. mismanagement by the government, profit gouging, a generic account mentioning the pandemic). Moreover, the question format necessarily draws households' and managers' attention to potential textbook drivers of inflation they otherwise may not have been aware of. Thus, the question format naturally pushes households and managers towards attaching higher importance to standard textbook accounts in the face of appealingly sounding response options. As a result, the results from households and managers from this particular question need to be interpreted cautiously.

Households and managers hold very similar views about the quantitative importance of different drivers of inflation, so we focus our discussion on households. As highlighted in Figure 6, households consider the disruption of global supply chains, a shortage of workers, high demand due to fiscal stimulus and high demand due to the reopening of the economy as the quantitatively most important factors (about 15% perceived contribution for each). Households attach lower importance to low interest rates (10%) or the global energy crisis (12%). Finally, households on average believe that 9% of the inflation increase is driven by higher medium-term inflation expectations and the associated price and wage adjustments.

Perceived future relevance of drivers We also study beliefs about the importance of different factors in driving *future* inflation. Specifically, Figure A.6 displays the fractions of experts, households, and managers who say that a specific factor will still be relevant for inflation over the 12 months after the survey. Consistent with their lower perceived persistence of high inflation rates (Figure 4), experts expect some of the factors to be less important in driving inflation over the next year compared to households and managers. For example, experts expect pent-up demand, the global energy crisis, expectations, and global supply chain disruptions to be less relevant for the development of inflation than households.

4 Behavioral Adjustments in Response to Inflation

As a final step of the analysis, we also shed light on the behavioral consequences of higher inflation. For this purpose, we ask households and managers whether the rise of inflation affects their economic decisions.

4.1 Saving and asset holdings

We ask our respondents whether the recent hike in inflation increases or decreases how much money their household spends. Similarly, we elicit whether the recent rise in inflation increases or decreases the fraction of savings their household plans to hold in different assets (Cash, checking accounts and savings accounts; Stocks and stock mutual funds; Home equity; Cryptocurrency; Bonds and bond mutual funds).

Figure A.9 shows that a large fraction of households intend to increase or have increased their spending in light of the increase in inflation. This probably mostly reflects increases in the cost of living directly resulting from higher inflation. Moreover, households do not on average expect to adjust the allocation of their asset holdings in response to the increase in inflation, with the largest group of households reporting no adjustment (see Figure A.10).

4.2 Wage-setting and price-setting

The pass-through of higher inflation expectations to wages is a key channel through which temporary increases in inflation can become persistent. Therefore, we elicit how the recent increase in inflation affects households' decisions whether to ask their employer for a higher wage. Figure A.9 reveals that a sizable fraction of workers (44 percent) plan to ask or have already asked for higher wages due to the increase in inflation. The largest fraction of workers states that the rise in inflation did not affect whether they will ask for a wage increase (48%), while the remaining 8 percent are less likely to ask for higher wages due to the increase in inflation.

We ask respondents from our manager survey whether the recent increase in inflation affects whether their company raises the wages it pays and whether it raises product prices. Figure A.11 reveals that large fractions of managers plan to increase or have

increased their prices (56 percent) or wages (41 percent) in response to higher inflation. Large fractions of managers expect not to differentially adjust their wages or prices as a result of inflationary pressures (39 percent for prices and 52 percent for wages), and only small fractions are less likely to increase prices and wages. Our final main result is thus given as follows:

Result 4. Substantial fractions of managers and households report that the recent increases in inflation affect their price and wage setting decisions. This highlights a potential channel through which higher inflation could become more persistent.

Given that these results on behavioral adjustments are based on self-reports of past and intended future behavior, they should however be interpreted cautiously.

5   Conclusion

We provide evidence on the narratives people use to explain the rise in inflation in the U.S. in late 2021. Drawing on a representative sample of the U.S. population, U.S. managers, and experts, we document substantial heterogeneity in narratives about the drivers of higher inflation rates. Experts put more emphasis on demand-side factors, such as fiscal and monetary policy, and on supply chain disruptions. Other supply-side factors, such as labor shortages or increased energy costs, are equally prominent across samples. Households and managers are more likely to tell generic stories related to the pandemic or mismanagement by the government. Households and managers expect the increase in inflation and the shocks driving the increase to be more persistent compared to experts. Moreover, the different narratives are related to beliefs about the persistence of higher inflation rates.

Our results have important implications for understanding expectation formation. In particular, our findings suggest that there is vast heterogeneity in the narratives individuals invoke to explain observed economic phenomena. This heterogeneity in turn is associated with differences in expectations about macroeconomic developments in the future. Thus, heterogeneity in narratives about the economy seems to contribute to the widely documented disagreement in macroeconomic expectations among households, firms, and professional forecasters (Coibion and Gorodnichenko, 2012; Coibion et al., 2018; Dovern et al., 2012; Giglio et al., 2021). Our results also have implications

for monetary policy-making. Specifically, the narratives individuals invoke to explain movements in inflation seem to be central to whether their inflation expectations remain anchored. Thus, communication strategies could put emphasis on specific narratives that highlight that inflationary pressures are unlikely to persist.

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Main Figures and Tables

Table 1: Classification of open-ended responses

Category	Explanation	Example
Demand		
Government spending	Mentions increases in government spending (e.g. stimulus payments)	"[...] Stimulus checks were given to all middle income families; A second round of stimulus checks were also given to all families by the new administration [...]"
Monetary policy	Federal Reserve keeping interest rates near zero	"[...] An increase in the money supply or the amount of money circulating among people [...]"
Pent-up demand	Reopening of the economy and the associated higher incomes, new spending opportunities, and optimism about the future	"[...] now that the lockdowns have ended, the demand is there and more people are trying to get their lives back to normal."
Demand shift	Shift of demand across sectors (particularly increases in durables)	"[...] Shifts in what people are buying due to the pandemic - more goods, especially durables, fewer services. [...]" (*taken from the expert sample*)
Residual demand	Increase in demand that cannot be attributed to monetary/fiscal channel, pent-up demand channel	"That people are buying a lot more products [...]"
Supply		
Energy	The global energy crisis, leading to shortages of e.g. oil and natural gas.	"I think the rising cost of gas has caused the inflation rate to rise on other products. [...]"
Labor shortage	Shortage of workers, e.g. due to some workers dropping out of the labor force	"[...] People are less motivated to work currently, causing businesses to hike up rates, and offer a higher wage to attract employees. [...]"
Supply chain	Disruption of global supply chains	"[...] containers sitting at docks waiting for pick up [...]"
Residual supply	Negative supply effects other than labor shortage, supply chain, energy.	"[...] less production in goods [...]"
Other		
Expectations	Expectations about high inflation in the coming years, making firms and workers preemptively increase prices and bargain for higher wages	"[...] The minimun wage has not increased but it is already being factored into commen prices in creasing corperate bottom lines."
Profits	Companies are trying to make up for the money they lost during the pandemic. Greedy companies exploit opportunity to increase profits.	"I think that companies used the Covid pandemic to increase their profits so they could make up for lost profit during the shut down. [...]"
Politics	Negative comments about quality of government, normative statements about policy.	"I think Joe Biden and the Democratic Party are at fault for the inflation increasing so rapidly. [...]"
Corona	If Covid/pandemic, etc. is mentioned without mentioning a channel through which it affected inflation.	"there is no doubt that the Corona epidemic has negatively affected all economies of the world [...]"
Debt	Mentions government debt.	"[...] With the debt as high as it is, the only recourse is for inflation increase. [...]"
Taxes	Mentions tax changes	"[...] The large Tax cuts issued by the Trump Administration had a Major role also"
Micro	Refers to consumer goods/services and their prices. Except gasoline/energy, those are coded as "energy".	"[...] food staples seem especially to be increasing in price: eggs, milk, butter, English muffins, spaghetti sauce, fresh vegetables and fruit [...]"
Base	Mentions that inflation is high due to base effects of a very low inflation rate during the pandemic, leading almost mechanically to high inflation rates now.	"The first reason inflation is as high as 6.2% at an annual rate is a base effect due to low levels of inflation during the COVID-19 crisis [...] (*taken from the expert sample*)"
Guess	Indication of uncertainty and guess	"I don't know"

Notes: This table provides an overview of the different categories in our coding scheme, an explanation for each code, and example extracts from open-text responses that belong to the corresponding category. The examples for the codes "Demand shift" and "Base" are taken from the expert sample. All other responses come from the household sample.

Figure 1: World clouds of the open-text narratives
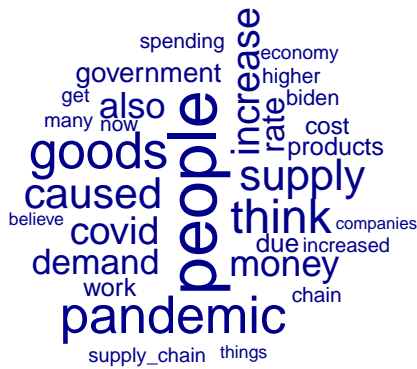
(a) **Households**

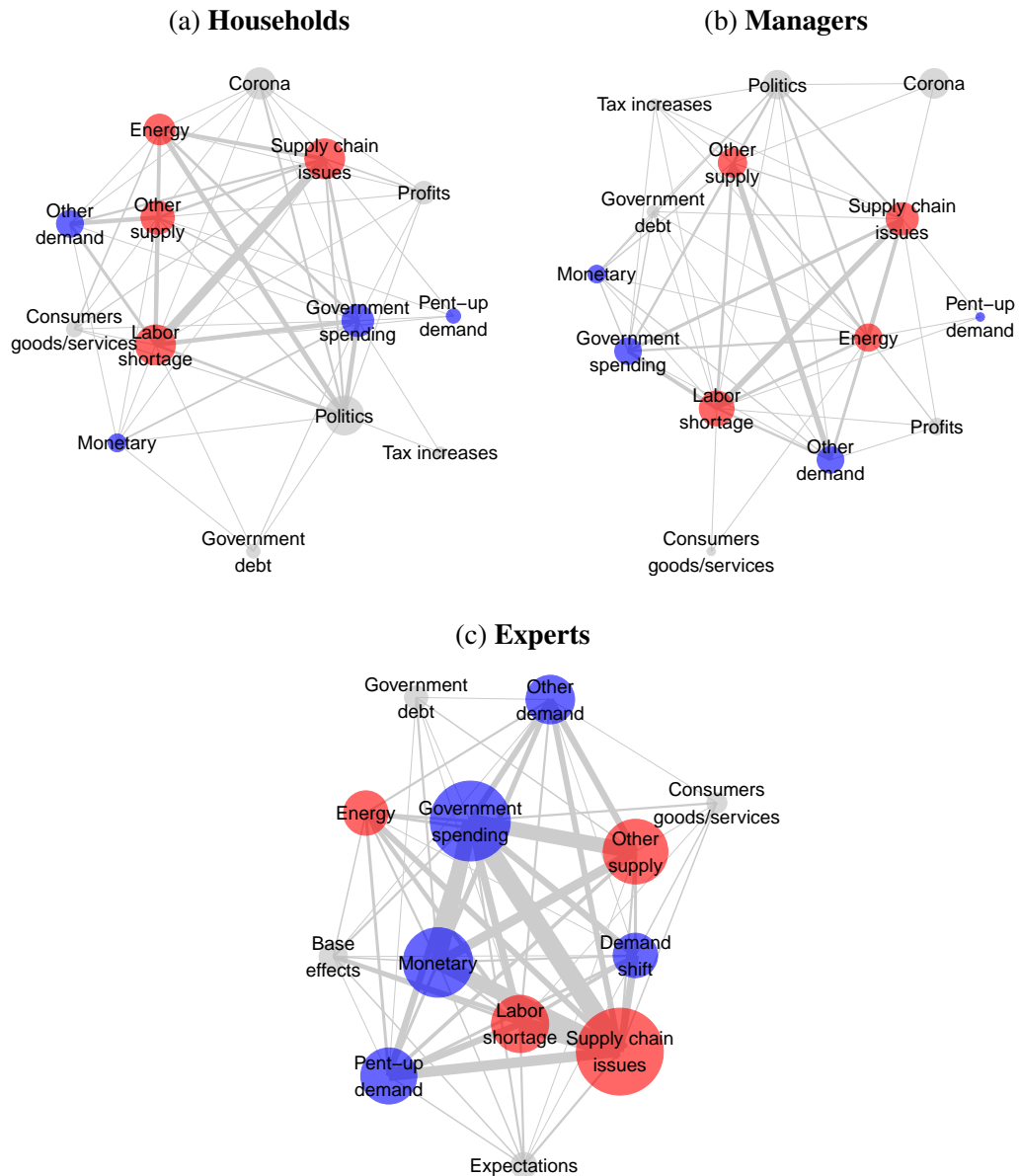(b) **Managers**

(c) **Experts**

Notes: Wordclouds of households' (Panel a), managers' (Panel b), and experts' (Panel c) explanations for the rise of inflation. They display the 30 most frequently used words and bigrams (two word combinations) of each sample. The font size is proportional to the relative frequency with which a word occurs within a sample and is comparable across panels. For example, "supply" among experts has the highest relative frequency (1.8% of all words among experts). The words "believe" and "things" among households have the lowest relative frequency (0.2% of all words among households). Stop words (the *snowball* list) and the words "inflation", "inflation_rate", "price", and "prices" are removed. The underscore "_" denotes bigrams.

Figure 2: Open-ended responses
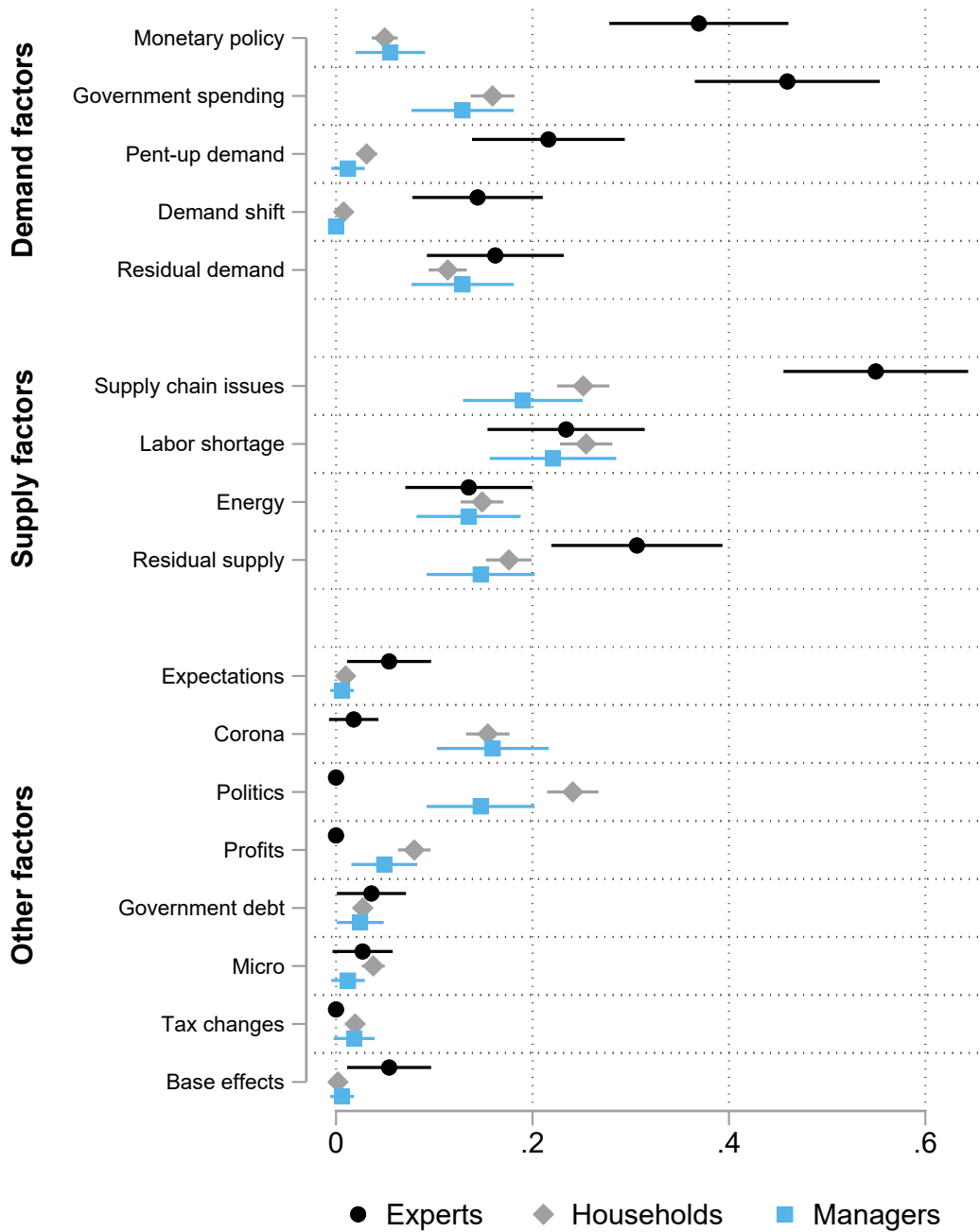
Note: This figure shows how often different factors are mentioned in the responses to the following question "Which factors do you think caused the increase in the inflation rate?". See Table 1 for how the open-ended responses are classified. Lines indicate 95 percent confidence intervals.

Figure 3: Associative networks in the open-text narratives

(a) **Households**

(b) **Managers**

(c) **Experts**

Notes: Network of factors mentioned in households' (Panel a), managers' (Panel b), and experts' (Panel c) open-text explanations of why inflation increased. **Node color**: Red indicates supply-side factors, blue indicates demand-side factors, and all other factors are displayed in gray. **Node size**: The size of the nodes is proportional to the relative frequency with which a factor is mentioned within each sample. **Edge thickness**: The thickness of the edges is proportional to the relative frequency with which two factors co-occur in the same response. **Node position**: The position of nodes results from the Fruchterman-Reingold algorithm which attempts to plot more connected nodes closer to each other. Nodes with a frequency of less than 1% and edges with a frequency of less than 0.5% are discarded. See Table 1 for how the open-ended responses are classified.

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Figure 4: Short and long term inflation expectations
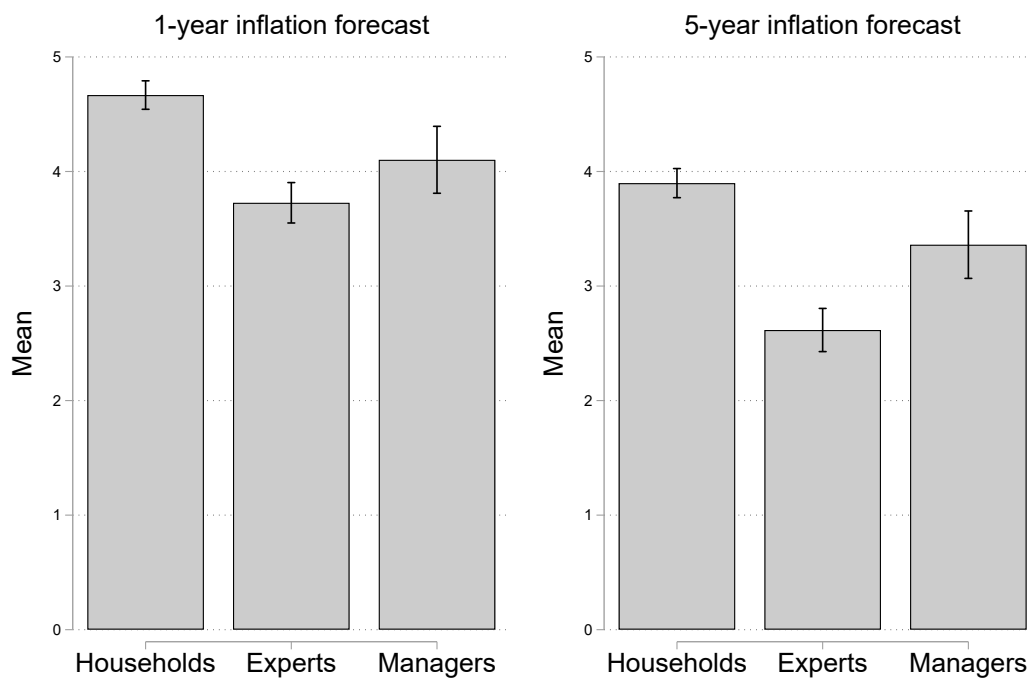
Note: This figure shows differences in 1-year and 5-year inflation expectations between households, experts, and managers. The expectations were elicited using a 10-bin probabilistic elicitation scheme, after informing all respondents about the current inflation rate rate. The mean expectation was calculated by taking a weighted average of the mid-points of the bin ranges. The error bars indicate the standard error of the mean.

Figure 5: Correlations between inflation expectations and inflation narratives
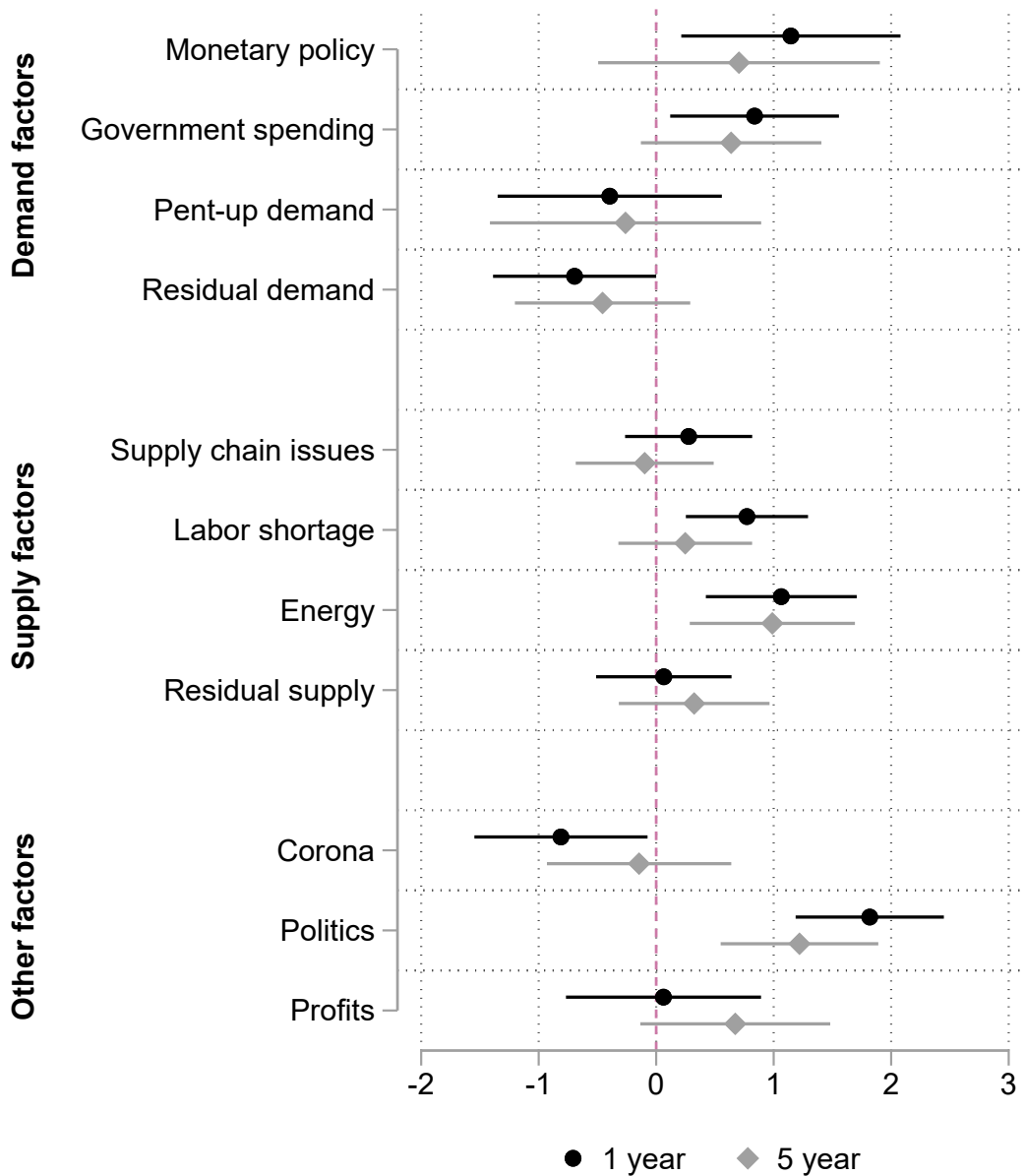
Note: The circles (diamonds) show the mean values of the estimated multiple regression coef-
ficients from a regression of one-year (five-year) inflation expectations on a set of indicator
variables about which factors were mentioned in the open-ended question about reasons for
the recent increase in inflation. Lines indicate 95 percent confidence intervals. See Table 1
for how the open-ended responses are classified. Response categories with few responses
are included in the regression but not shown in the figure. The inflation expectations were
elicited using a 10-bin probabilistic elicitation scheme. The mean expectation was calculated
by taking a weighted average of the mid-points of the bin ranges.

Figure 6: Beliefs about the importance of different factors
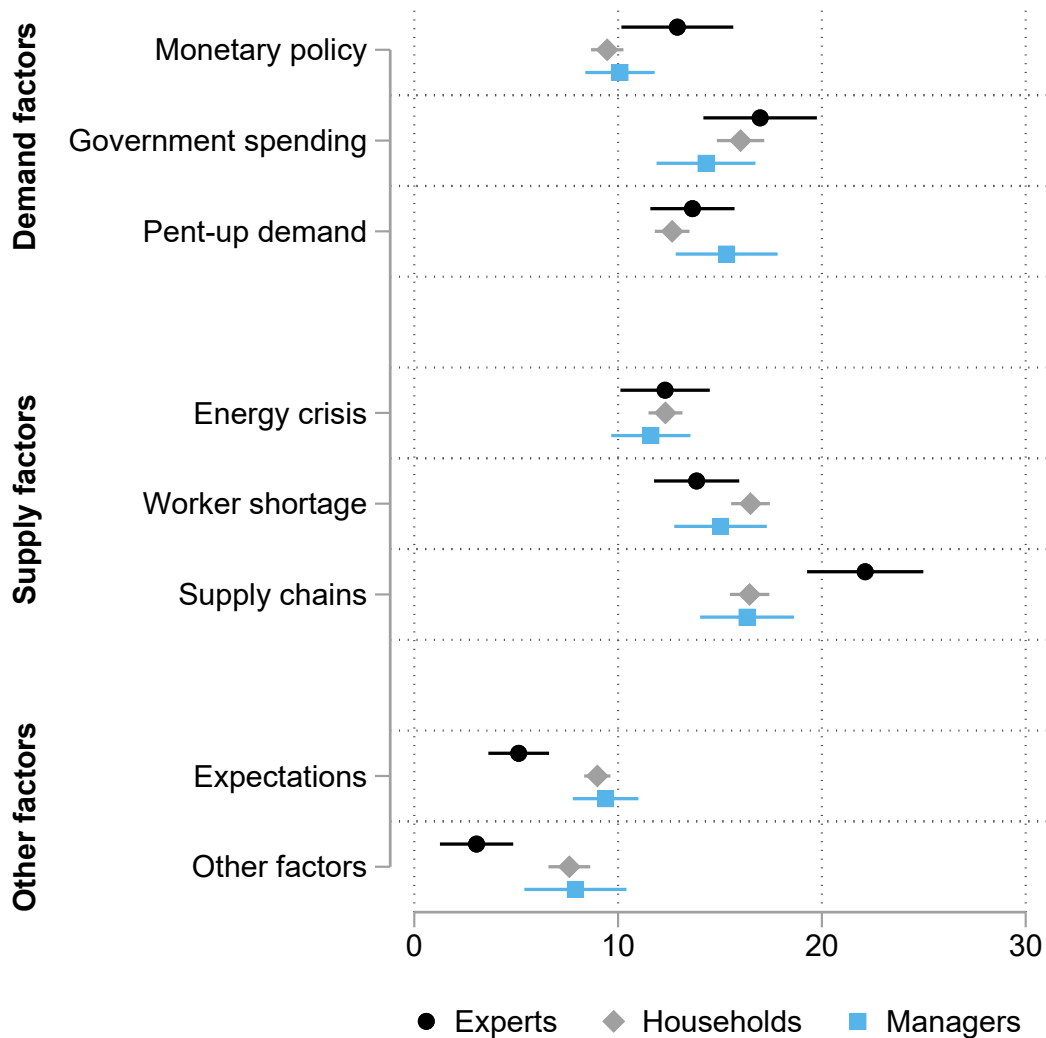
Note: This figure shows structured beliefs about the importance of different factors in driving the recent increase in inflation. To assign the percent importance of each factor, respondents could allocate 100 points between a pre-determined structured list of eight factors: 1: "High demand for goods and services among households and high investment demand among firms due to the **Federal Reserve keeping interest rates near zero**," 2: "High demand for goods and services due to **government spending programs and stimulus payments** to households," 3: "High demand for goods and services due to the **reopening of the economy** and the associated higher incomes, new spending opportunities, and optimism about the future," 4: "**The global energy crisis**, leading to shortages of e.g. oil and natural gas," 5: "High production costs among firms due to a **shortage of workers**, e.g. due to some workers dropping out of the labor force," 6: "High production costs among firms due to the **disruption of global supply chains**," 7: "**Expectations about high inflation in the coming years**, making firms and workers preemptively increase prices and bargain for higher wages," and 8: "Other factors." 95 percent confidence intervals are indicated.

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Inflation Narratives

Peter Andre, Ingar Halaand, Christopher Roth, and Johannes Wohlfart

A   Additional tables and figures

Table A.1: Summary statistics

	(1) Households	(2) Managers
Male	0.486	0.601
Age (years)	53.792	43.656
Full-time employee	0.364	0.877
College degree	0.423	0.840
Income	67455.839	101610.429
College-level economics	0.567	0.828
Northeast	0.199	0.258
Midwest	0.246	0.215
South	0.398	0.301
West	0.156	0.227
Observations	1,029	163

Note: This table displays the mean value of basic covariates separately for the household and manager sample. "Male" is a binary variable with value one for male respondents. "Age (years)" is the age of the respondent. "Full-time employee" is a binary dummy variable taking value one if the respondent is working full-time. "Income" is coded continuously as midpoint of the income bracket's midpoint (Less than $15,000, $15,000 to $24,999, $25,000 to $49,999, $50,000 to $74,999, $75,000 to $99,999, $100,000 to $149,999, $150,000 to $200,000, $200,000 or more). "College degree" is a binary dummy variable taking value one if the respondent has at least a bachelor's degree. "College-level economics" is a binary dummy variable taking the value one if the respondent took any course in economics, finance or business in college or grad school. "Northeast", "Midwest", "West" and "South" are binary dummy variables with value one if the respondent lives in the respective region.

Table A.2: Beliefs about drivers: Structured measures

	(1) Households	(2) Experts	(3) Managers
High demand due to low interest rates	9.47	12.91	10.10
	(13.03)	(14.12)	(10.99)
High demand due to government spending	16.01	16.97	14.32
	(19.00)	(14.32)	(15.69)
High demand due to the reopening of the economy	12.65	13.65	15.33
	(13.93)	(10.62)	(16.17)
The global energy crisis	12.32	12.31	11.61
	(13.60)	(11.28)	(12.55)
A shortage of workers	16.50	13.86	15.03
	(15.51)	(10.75)	(14.68)
The disruption of global supply chains	16.45	22.13	16.33
	(15.85)	(14.66)	(14.88)
Expectations about high future inflation	8.98	5.13	9.39
	(10.55)	(7.66)	(10.40)
Observations	1029	104	163

Note: The table shows the mean value (and the standard deviation in parentheses) of the structured beliefs measures across the different samples.

Table A.3: Correlations between narratives and different background variables

	(1) Monetary policy	(2) Government spending	(3) Pent-up demand	(4) Residual demand	(5) Supply chain	(6) Labor shortage	(7) Energy crisis	(8) Residual supply	(9) Politics
Male	0.032**	0.027	-0.017*	-0.040**	-0.077***	-0.107***	-0.008	-0.024	0.038
	(0.013)	(0.021)	(0.009)	(0.019)	(0.024)	(0.025)	(0.020)	(0.022)	(0.023)
Age	-0.019*	-0.004	0.003	-0.033**	0.074***	-0.009	-0.001	-0.021	0.029*
	(0.010)	(0.014)	(0.004)	(0.016)	(0.018)	(0.017)	(0.012)	(0.017)	(0.015)
College degree	0.000	0.006	0.025*	0.011	0.086**	0.012	0.054*	-0.013	-0.013
	(0.020)	(0.028)	(0.014)	(0.026)	(0.035)	(0.034)	(0.028)	(0.030)	(0.030)
College-level econ	0.039***	0.008	0.005	0.004	-0.015	-0.049	0.010	0.031	-0.047
	(0.015)	(0.025)	(0.011)	(0.022)	(0.030)	(0.030)	(0.025)	(0.027)	(0.028)
Full-time employee	-0.022	-0.037	-0.033**	-0.030	-0.125***	-0.069**	-0.075***	-0.050*	-0.023
	(0.015)	(0.024)	(0.013)	(0.023)	(0.031)	(0.031)	(0.022)	(0.028)	(0.028)
Income	0.017	-0.016	0.003	-0.002	0.040	-0.040	-0.012	0.019	-0.040
	(0.017)	(0.026)	(0.014)	(0.023)	(0.033)	(0.031)	(0.023)	(0.027)	(0.028)
Manager	0.007	0.014	-0.011	0.020	-0.024	0.054	0.030	-0.019	-0.018
	(0.022)	(0.030)	(0.012)	(0.030)	(0.037)	(0.037)	(0.030)	(0.033)	(0.032)
Democrats	-0.039***	-0.174***	0.027**	0.071***	0.060**	-0.024	-0.142***	0.072***	-0.291***
	(0.013)	(0.023)	(0.011)	(0.019)	(0.026)	(0.027)	(0.021)	(0.022)	(0.025)
News consumption	0.043***	0.065***	0.034***	-0.007	0.133***	0.122***	0.086***	-0.013	0.051**
	(0.012)	(0.021)	(0.010)	(0.019)	(0.025)	(0.025)	(0.020)	(0.023)	(0.023)
N	1,177	1,177	1,177	1,177	1,177	1,177	1,177	1,177	1,177
Base rate	0.050	0.16	0.029	0.12	0.24	0.25	0.15	0.17	0.23

Note: This table uses data from the household and manager samples and shows OLS regressions where the dependent variables are the factors mentioned in the open-ended responses (taking the value one for respondents who mentioned the factor in the open-ended responses and zero otherwise) and the independent variables are dummy variables for different demographics. "Male" is a binary variable with value one for male respondents. "Age" is a binary variable with value one for respondents with age above 45 years of age. "College degree" is a binary dummy variable taking value one if the respondent has at least a bachelor's degree. "College-level econ" is a binary dummy variable taking the value one if the respondent took any course in economics, finance or business in college or grad school. "Full-time employee" is a binary dummy variable taking value one if the respondent is working full-time. "Income" is a binary variable with value one for respondents with annual household income above $75,000. "Manager" is a binary variable with value one for respondents from the manager sample. "Democrats" is a binary variable with value one for respondents who lean towards the Democratic Party. "News consumption" is a binary variable with value one for respondents who consume inflation-related news multiple times per week or more. "Base rate" shows how often each factor is mentioned overall in the household and manager samples.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.

3

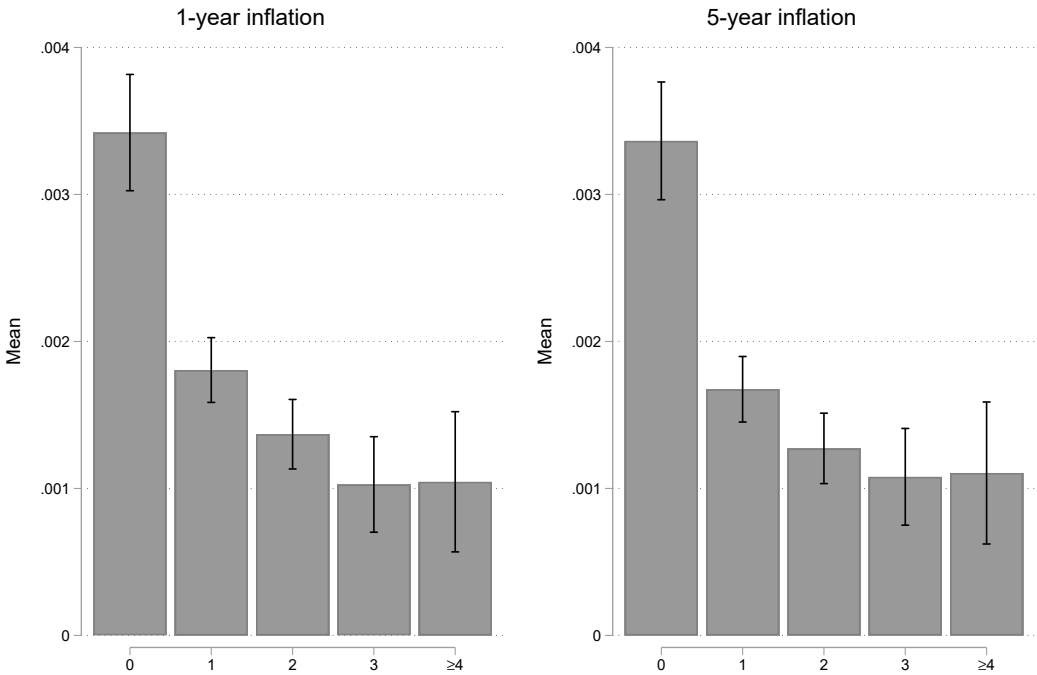Figure A.1: Number of factors mentioned in the open-ended responses
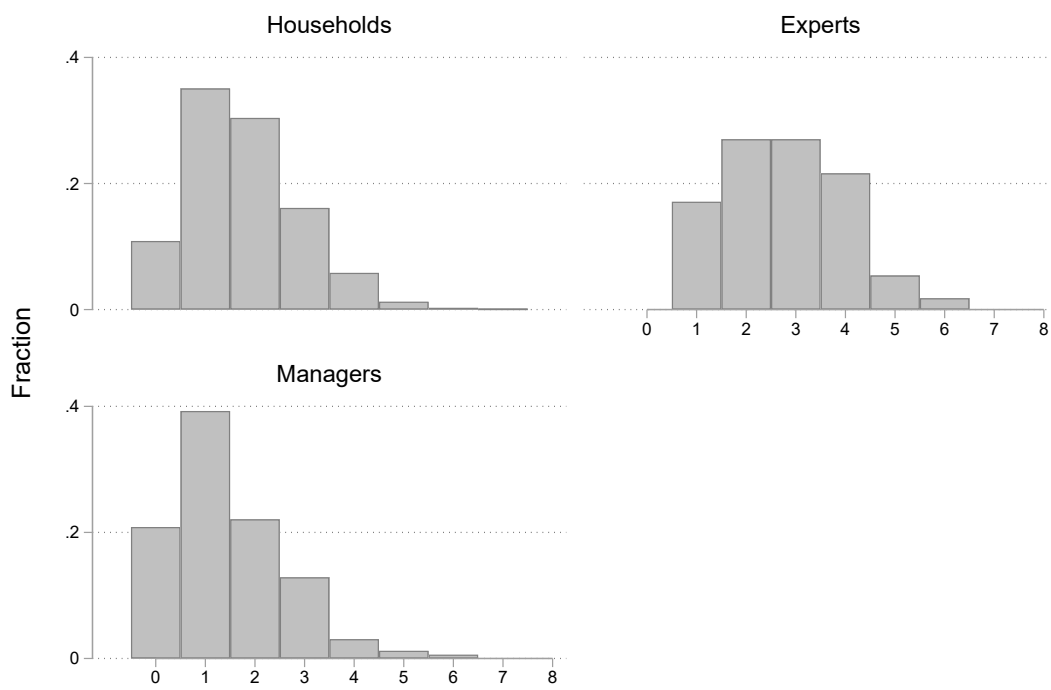
Note: This figure shows histograms of the number of factors mentioned in the open-ended responses across the different samples. See Table 1 for how the factors are classified.

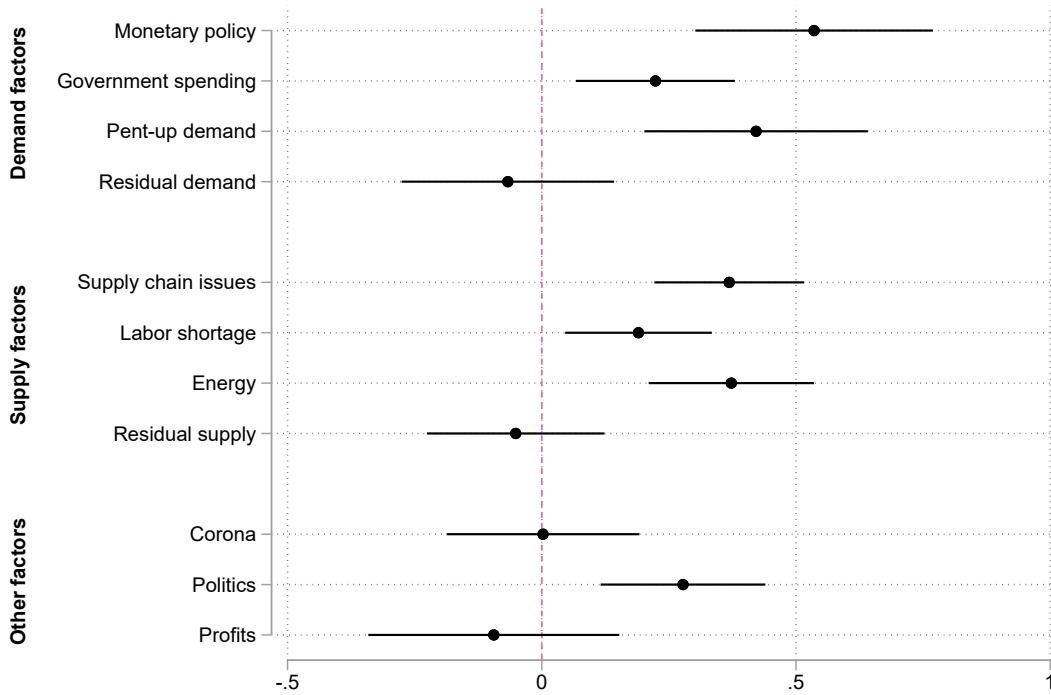Figure A.2: Correlations between number of factors mentioned and inflation expectations
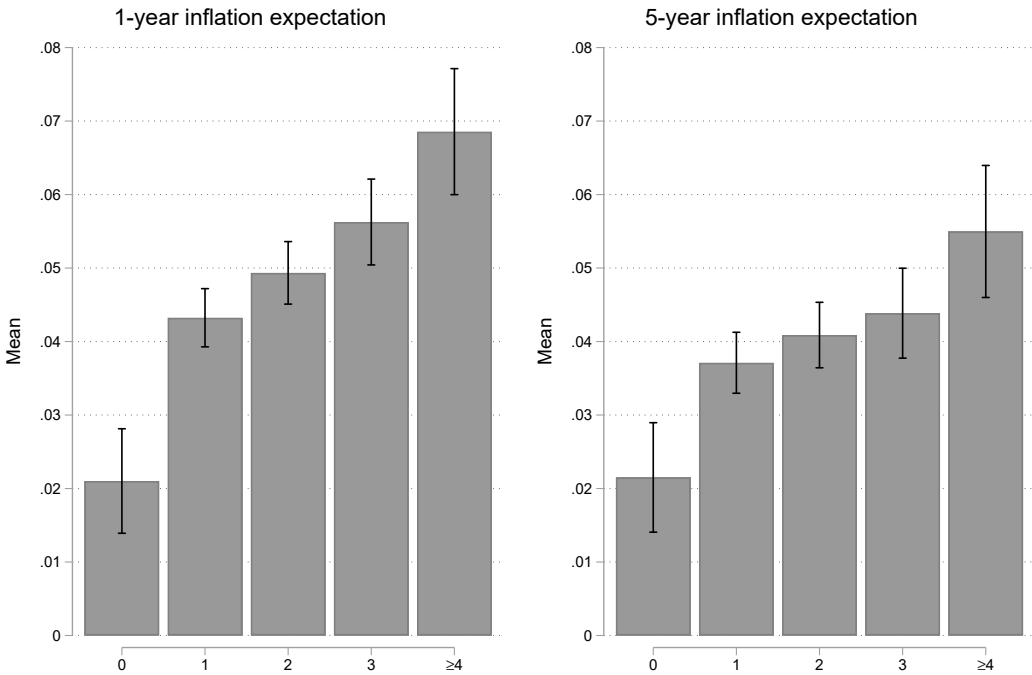
1-year inflation expectation   5-year inflation expectation

Note: This figure uses respondents from the household sample and shows correlations between the number of factors mentioned in the open-ended responses and inflation expectations. See Table 1 for how the factors are classified. 95 percent confidence intervals are indicated.

Figure A.3: Correlations between number of factors mentioned and uncertainty of inflation expectations

Note: This figure uses respondents from the household sample and shows correlations between the number of factors mentioned in the open-ended responses and uncertainty of inflation expectations. See Table 1 for how the factors are classified. 95 percent confidence intervals are indicated.

Figure A.4: Correlations between news consumption and inflation narratives

Figure A.5: Political heterogeneity in inflation narratives
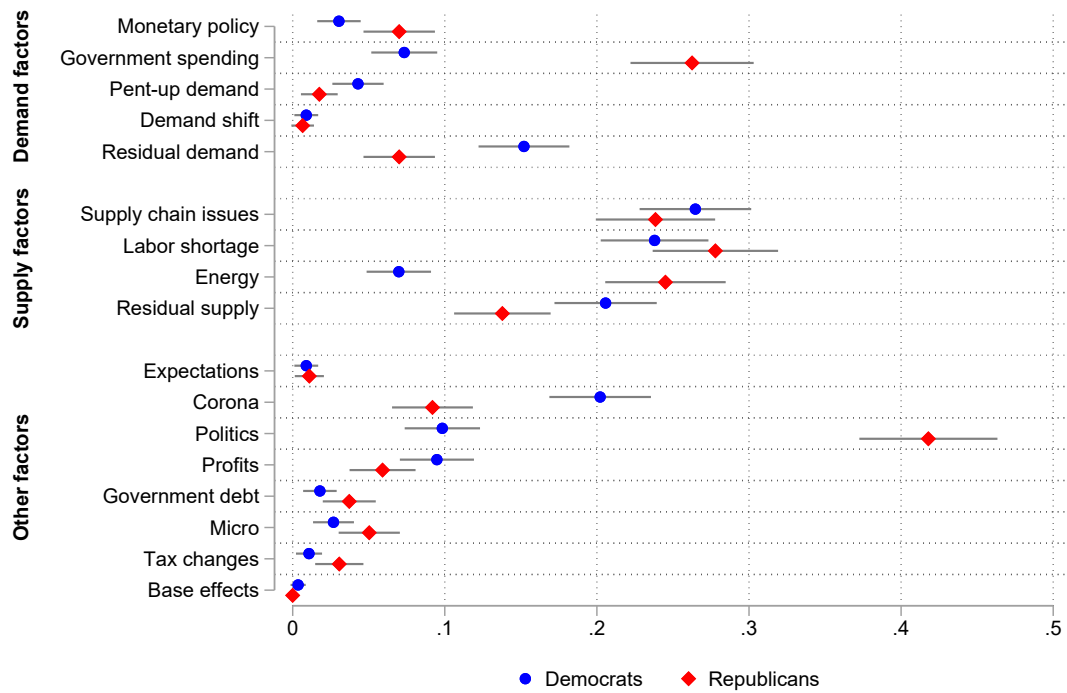
Note: This figure shows how often different factors are mentioned in the responses to the following question "Which factors do you think caused the increase in the inflation rate?" separately for Republicans and Democrats (using the sample of households). See Table 1 for how the open-ended responses are classified. Lines indicate 95 percent confidence intervals.

Figure A.6: Beliefs about the persistence of different factors
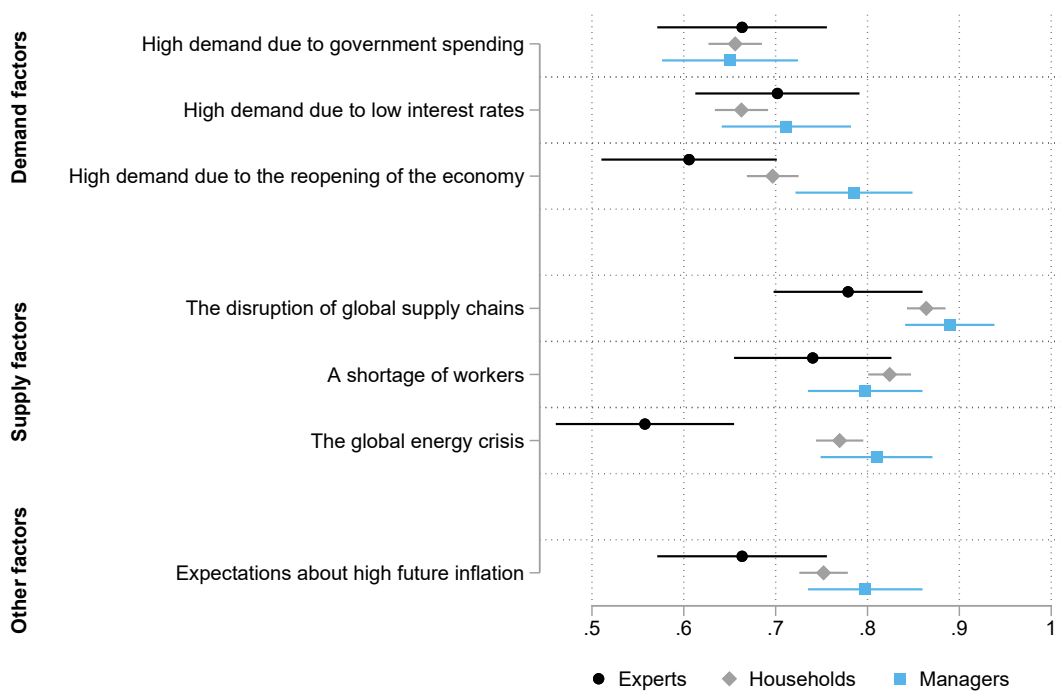
Note: This figure shows the fraction of respondents across the different samples who said that each factor in the structured list indicated in the figure would "remain relevant" for inflation over the next 12 months. 95 percent confidence intervals are indicated.

Figure A.7: Correlations between the uncertainty of inflation expectations and inflation narratives
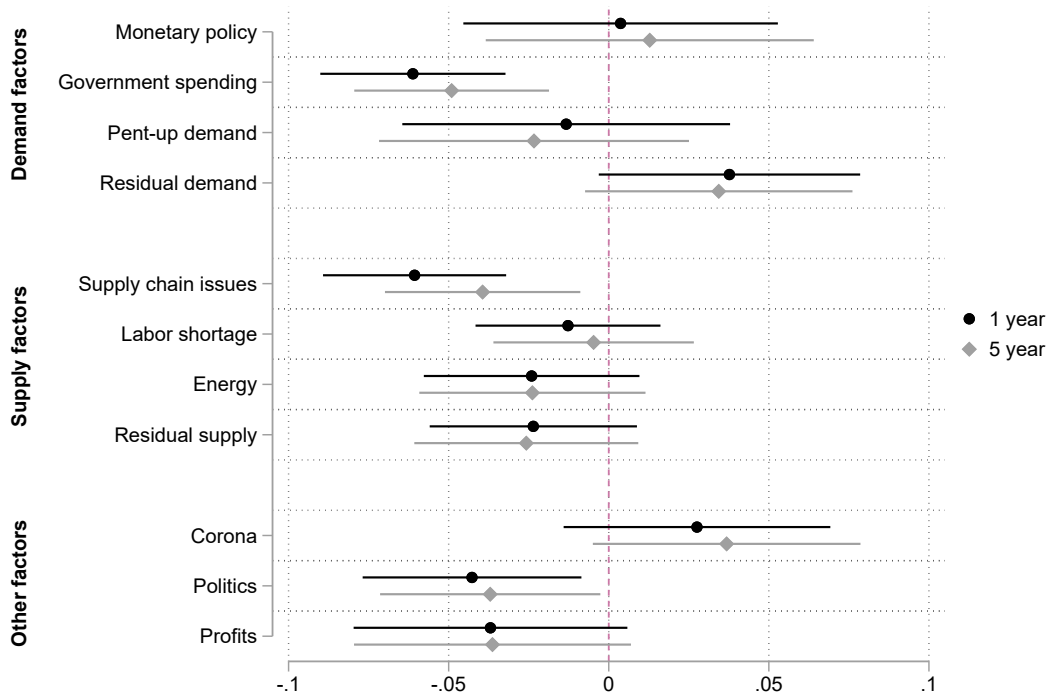

Note: The circles (diamonds) show the mean values of the estimated multiple regression coefficients from a regression of one-year (five-year) uncertainty of inflation expectations on a set of indicator variables about which factors were mentioned in the open-ended question about reasons for the recent increase in inflation. Lines indicate 95 percent confidence intervals. See Table 1 for how the open-ended responses are classified. Response categories with few responses are included in the regression but not shown in the figure. The inflation expectations were elicited using a 10-bin probabilistic elicitation scheme. We derived the uncertainty of inflation expectation by calculating the standard deviation of each individual forecast.

Figure A.8: Correlations between open-ended responses and structured measures
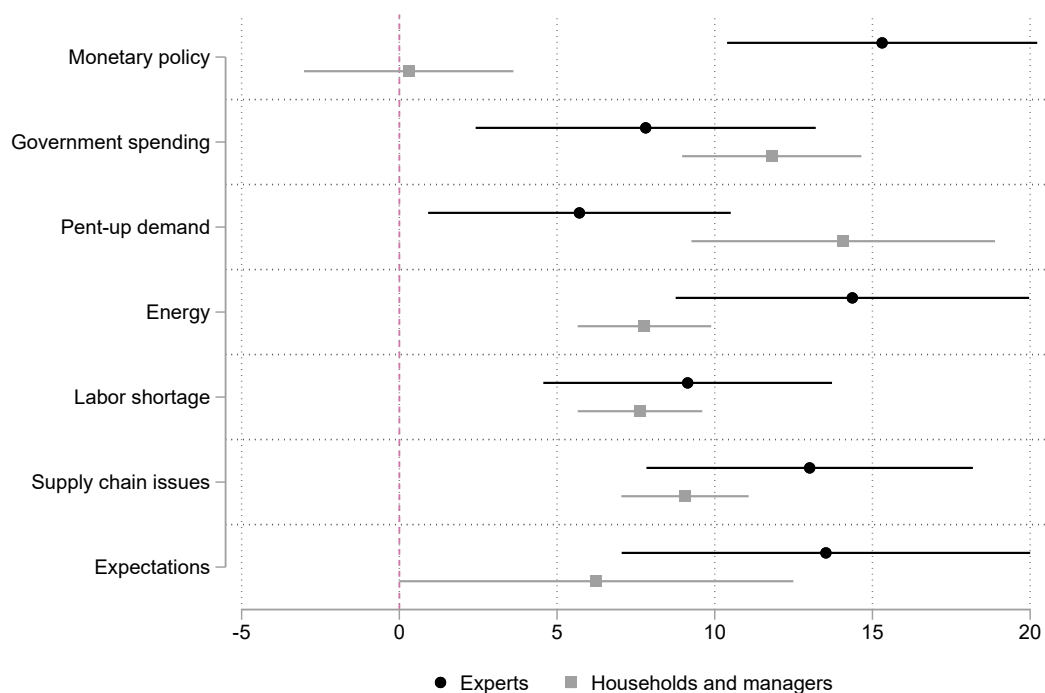
Note: This figure shows correlations between the factors mentioned in the open-ended responses and the subjective importance assigned to the same factors from a structured list of eight different factors (the respondents had to assign 100 percent importance to the eight factors). Specifically, we regress the percent importance assigned to a factor on an indicator variable for whether the same factor was mentioned in the open-ended response about why inflation has increased and the regression coefficients are displayed in the figure. See Table 1 for how the open-ended responses are classified.

Figure A.9: Household responses to increasing inflation

Panel A: Savings behavior

Panel B: Bargaining behavior
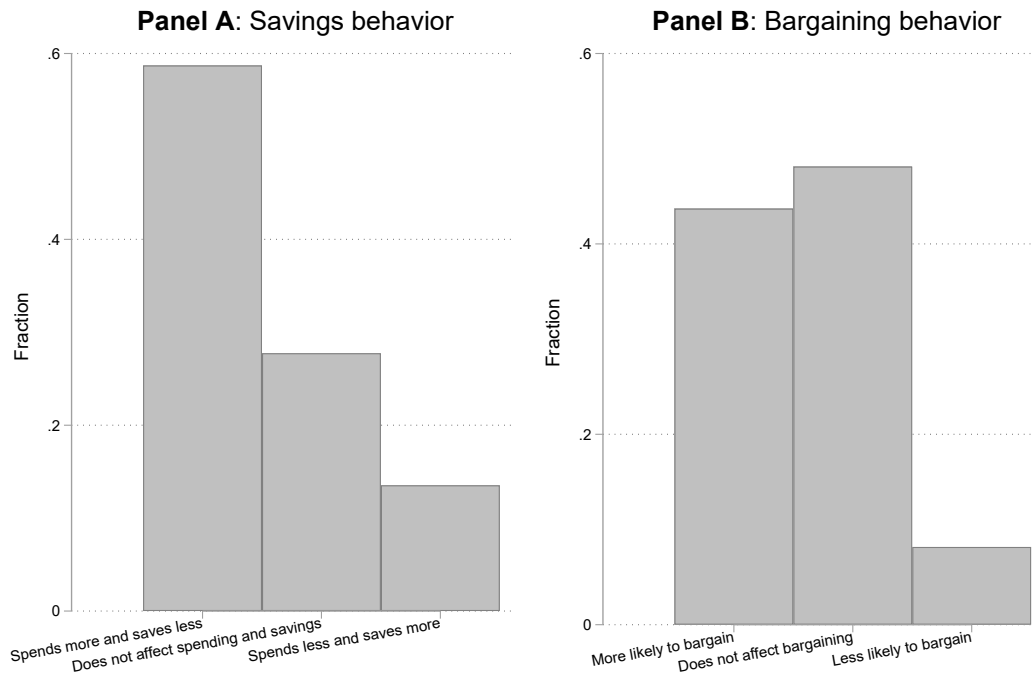
Note: This figure uses data from the household sample. **Panel A** shows a histogram of responses to the question "Does the recent increase in inflation affect how much money your household spends and saves?" with the response options 1: "Because inflation increased, my household spends more and saves less," 2: "The increase in inflation does not affect how much my household spends and saves," and 3: "Because inflation increased, my household spends less and saves more." **Panel B** shows a histogram of responses to the question "Does (or did) the recent increase in inflation affect whether you ask your employer for a higher wage?" with the response options 1: "Because inflation increased, I have asked or plan to ask for a higher wage," 2: "The increase in inflation does not affect whether I ask for a higher wage," and 3: "The increase in inflation has made it less likely that I will ask for a higher wage."

Figure A.10: Household investment responses to increasing inflation
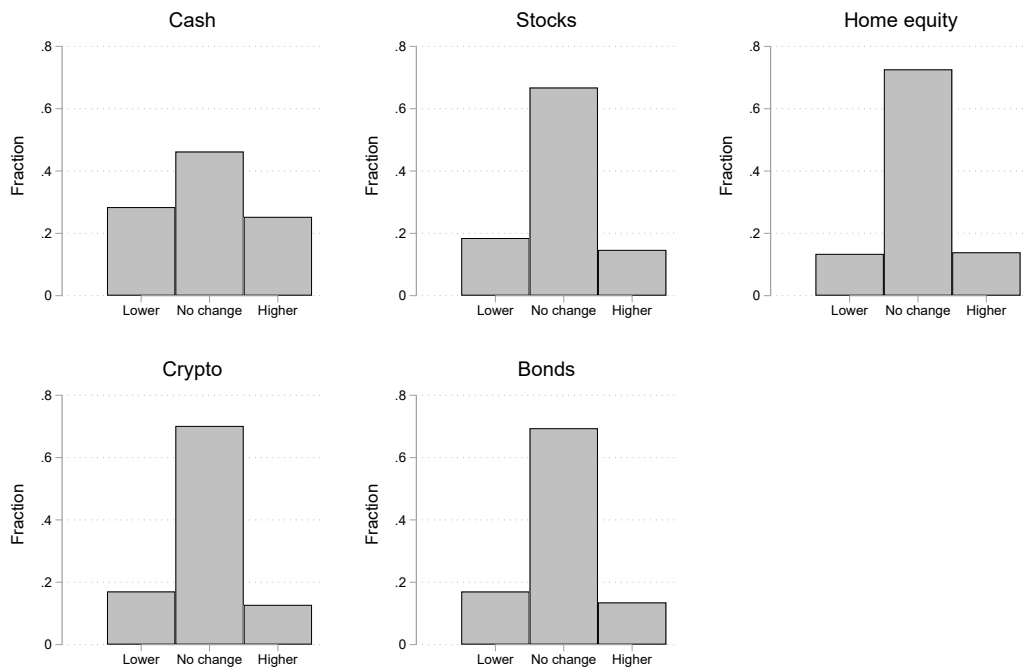
Note: This figure uses data from the household sample. For each of the asset classes indicated in the figure ("Cash, checking accounts and savings accounts," "Stocks and stock mutual funds," "Home equity, e.g. first and second homes or home equity funds," "Cryptocurrency," and "Bonds and bond mutual funds, e.g. bonds in publicly held corporations or Treasury Bills"), respondents were asked "Does the recent increase in inflation affect what share of its savings your household plans to hold in ...?" with the following answer choices: "Lower share," "No change", and "Higher share."

Figure A.11: Firm responses to increasing inflation

Panel A: Pricing decisions   **Panel B**: Wage setting
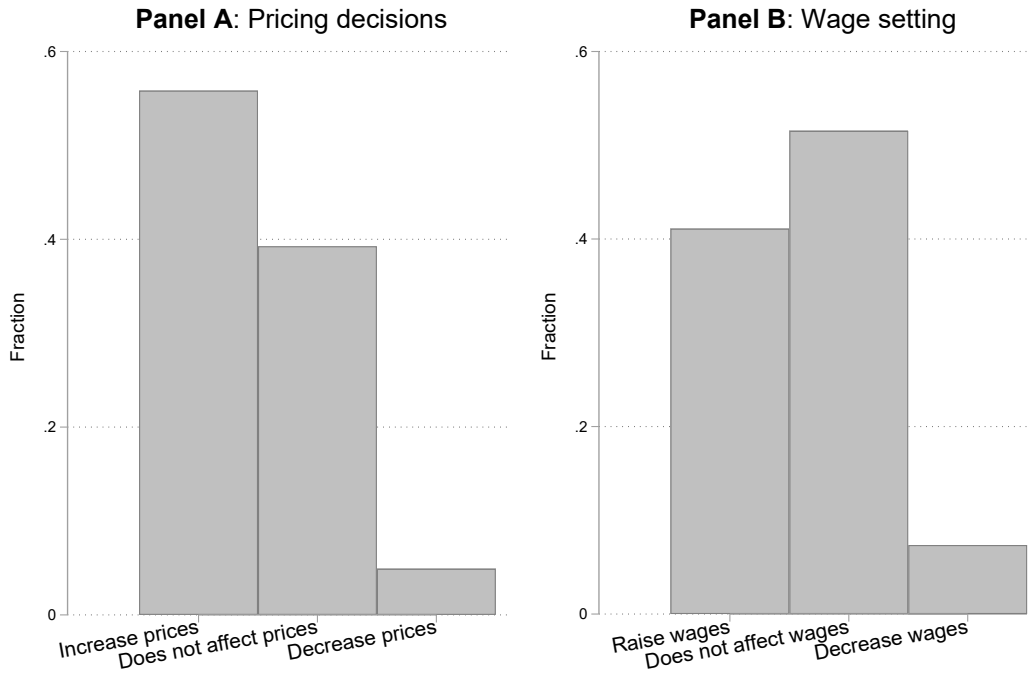
Note: This figure uses data from the manager sample. **Panel A** shows a histogram of responses to the question "Does (or did) the recent increase in inflation affect whether your company raises the prices of its products?" with the response options 1: 'Because inflation increased, my company has raised or plans to raise prices for its products. ," 2: "The increase in inflation does not affect whether my company increases prices for its products," and 3: "Because inflation increased, my company has decreased or plans to decrease prices for its products." **Panel B** shows a histogram of responses to the question "Does (or did) the recent increase in inflation affect whether your company raises the wages it pays?" with the response options 1: 'Because inflation increased, my company has raised or plans to raise wages," 2: " The increase in inflation does not affect whether my company raises wages.," and 3: "Because inflation increased, my company has decreased or plans to decrease wages."

Figure A.12: Beliefs about the importance of different factors
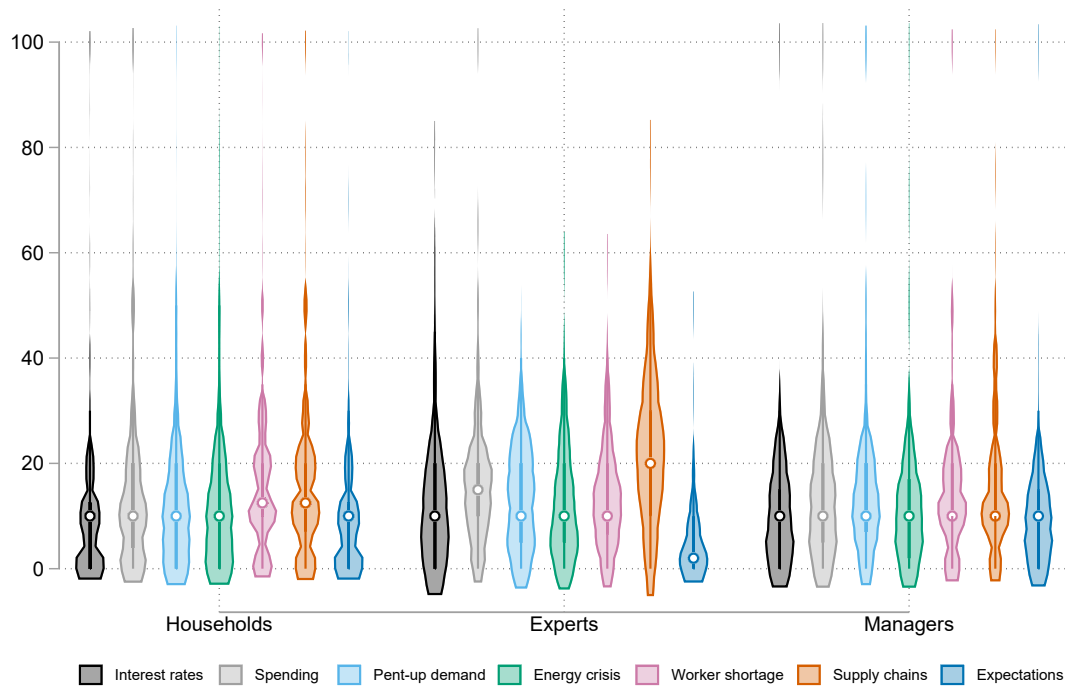
Note: The figure shows violin plots for beliefs about the importance of different drivers separately for experts, households, and firm managers. To assign the percent importance of each factor, respondents could allocate 100 points between a pre-determined structured list of eight factors: 1: "High demand for goods and services among households and high investment demand among firms due to the **Federal Reserve keeping interest rates near zero**," 2: "High demand for goods and services due to **government spending programs and stimulus payments** to households," 3: "High demand for goods and services due to the **reopening of the economy** and the associated higher incomes, new spending opportunities, and optimism about the future," 4: "**The global energy crisis**, leading to shortages of e.g. oil and natural gas," 5: "High production costs among firms due to a **shortage of workers**, e.g. due to some workers dropping out of the labor force," 6: "High production costs among firms due to the **disruption of global supply chains**," 7: "**Expectations about high inflation in the coming years**, making firms and workers preemptively increase prices and bargain for higher wages," and 8: "Other factors."

B   Details on Expert Sample

We identify the email addresses of all economists who published in 20 top economics journals on JEL code "E: Macroeconomics and Monetary Economics" in the years 2015-2019. We consider the following journals: Journal of Political Economy, Quarterly Journal of Economics, Econometrica, Review of Economic Studies, American Economic Review, Journal of Economic Literature, Journal of Economic Perspectives, Journal of the European Economic Association, Journal of Financial Economics, Review of Financial Studies, Journal of Finance, Review of Economics and Statistics, International Economic Review, Journal of Monetary Economics, Review of Economic Dynamics, Economic Journal, American Economic Journal: Macroeconomics, American Economic Journal: Applied Economics, Journal of Economic Growth, and Brookings Papers an Economic Activity.

We sent a link to our study to all of these economists by email. We did not send any reminders. In total, we contacted 1,925 economists. 104 economists responded to our survey, corresponding to a response rate of 5.4%.

C   Screenshots

C.1   Household survey

Why has the inflation rate increased?

In previous years, the US inflation rate has mostly varied between 1.5% and 2.5%. At this rate, a bundle of goods and services that costs $1,000 in one year, would cost between $1,015 and $1,025 in the next year.

Recently, however, the inflation rate has increased. It is now at 6.2%. At this rate, a bundle of goods and services that costs $1,000 in one year, would cost $1,062 in the next year.

Which factors do you think caused the increase in the inflation rate? Please respond in full sentences.

→

What this study is about

This study is about your views on and beliefs about the inflation rate in the US.

The study begins with an informed consent form and a few introductory questions. Afterward, we will provide you with more details on your task in this study.

→

On which device are you taking this survey?

Mobile phone

Tablet

Computer (desktop or laptop)

→

Before you proceed to the study, please complete the captcha below.

I'm not a robot
reCAPTCHA
Privacy - Terms

→

The next question is about the following problem. In questionnaires like ours, sometimes there are participants who do not carefully read the questions and just quickly click through the survey. This compromises the results of research studies. To show that you are reading the survey carefully, please choose both "Very strongly interested" and "Not at all interested" as your answer to the **below** question.

Given the above, how interested are you in politics?

Very strongly interested

Very interested

A little bit interested

Not very interested

Not at all interested

→

Please explain: What is your opinion about the yearly switch to daylight saving time? Do you like or dislike it? Please use about 15-30 words.

→

What is your age?

18 - 24

25 - 34

35 - 44

45 - 54

55 - 64

65 or older

Which gender describes you most accurately?

Male

Female

What is the highest level of school you have completed or the highest degree you have received?

Less than primary school

Less than high school degree

High school graduate (high school diploma or equivalent including GED)

Some college but no degree

Associate degree in college (2-year)

Bachelor's degree in college (4-year)

Master's degree

Doctoral degree

Professional degree (JD, MD)

What was your household income in 2020 in US dollars before taxes and deductions?

Less than 15,000

Between 15,000 and 25,000

Between 25,000 and 50,000

Between 50,000 and 75,000

Between 75,000 and 100,000

Between 100,000 and 150,000

Between 150,000 and 200,000

More than 200,000

Prefer not to say

In which region do you currently reside?

Northeast (CT, ME, MA, NH, RI, VT, NJ, NY,PA),

Midwest (IL, IN, MI, OH, WI, IA, KS, MN, MO, NE, ND, SD)

South (DE, DC, FL, GA,MD, NC, SC, VA, WV, AL, KY, MS, TN, AR, LA, OK, TX)

West (AZ, CO, ID, NM, MT, UT,NV, WY, AK, CA, HI, OR, WA)

Which of these describes your current employment situation most accurately?

Employed full-time

Employed part-time

Self-employed

Unemployed and looking for a job

Unemployed but not looking for a job

Retired

Student

Other

→

About this study

This study is about your views on and beliefs about the inflation rate in the US.

People can have very different opinions and thoughts on these issues. Every opinion counts. Your opinion does, too! Your response is thus very valuable.

Please share with us what you think about the inflation rate.

→

What is the inflation rate?

On this page, we briefly explain in more detail what we mean when we refer to the inflation rate. Please read the definition carefully.

The inflation rate measures how much prices in the economy rise from year to year. It is defined as the **yearly growth of the general price level of goods and services** (Consumer Price Index).

For instance, an inflation rate of 2% means that, on average, prices for goods and services rise by 2% over 12 months. That is, a typical bundle of goods and services that costs $1,000 at the beginning of a year costs $1,020 at the end of that year.

If the inflation rate is negative, it is referred to as **deflation**. This means that goods and services become less expensive from one year to the next.

→

A few opening questions

What do you think was the rate of inflation in the US over the last 12 months? Please respond in %.

[   ] %

Do you think that the inflation rate over the last 12 months is higher, lower, or about the same as inflation one year ago (from 24 months to 12 months ago)?

Higher today

About the same

Lower today

Which response option describes best **how frequently you thought about inflation** in the last three months?

Never

Once a month

Once every other week

Once a week

Multiple times a week

Daily

Which response option describes best **how frequently you saw/read/heard news about inflation** in the last three months?

Never

Once a month

Once every other week

Once a week

Multiple times a week

Daily

→

Important

On the next page, you will encounter an open question in which we will ask you to describe your thoughts and views, using your own words.

From our experience, it can take about **2 minutes** to complete this question. Your responses are very valuable for this research project. Therefore, **please take your time to respond carefully.**

We are interested in what you think, so please describe your views and opinions.

$\rightarrow$

Why has the inflation rate increased?

In previous years, the US inflation rate has mostly varied between 1.5% and 2.5%. At this rate, a bundle of goods and services that costs $1,000 in one year, would cost between $1,015 and $1,025 in the next year.

Recently, however, the inflation rate has increased. It is now at 6.2%. At this rate, a bundle of goods and services that costs $1,000 in one year, would cost $1,062 in the next year.

Which factors do you think caused the increase in the inflation rate? Please respond in full sentences.

→

Your forecasts for the future

Recall that, in previous years, the US inflation rate has mostly varied between 1.5% and 2.5%. Recently, however, the inflation rate has increased. It is now at 6.2%.

Do you think the higher inflation rate is temporary or persistent?

Temporary: 12 months from now, the inflation rate will be **3% or lower** again.

Persistent: 12 months from now, the inflation rate will still be **higher than 3%**.

→

Your forecasts for the future

In some of the following questions we will ask you about the percentage chance that a certain event will occur in the future. Your answers can range from 0 to 100, where 0 means an event is certain not to happen and 100 means an event is certain to happen.

For example:

- 2 or 5 percent mean that something "has a very low probability" of happening.
- 18 percent mean that something "has a low probability" of happening.
- 47 or 52 percent mean that something "has an even probability" to occur or not occur.
- 83 percent mean that something "has a high probability" of happening.
- 95 or 98 percent mean that something will "almost certainly" occur.

→

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Your forecasts for the future

In some of the following questions we will ask you about the percentage chance that a certain event will occur in the future. Your answers can range from 0 to 100, where 0 means an event is certain not to happen and 100 means an event is certain to happen.

For example:

- 2 or 5 percent mean that something "has a very low probability" of happening.
- 18 percent mean that something "has a low probability" of happening.
- 47 or 52 percent mean that something "has an even probability" to occur or not occur.
- 83 percent mean that something "has a high probability" of happening.
- 95 or 98 percent mean that something will "almost certainly" occur.

→

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Your forecasts for the future

Recall that, in previous years, the US inflation rate has mostly varied between 1.5% and 2.5%. Recently, however, the inflation rate has increased. It is now at 6.2%.

Next, we would like you to think about the different things that may happen to inflation **over the next 12 months**. We realize that this question may take a little more time. **In your view, what would you say is the percent chance that, over the next 12 months...**

(Please note: The numbers need to add up to 100%.)

The rate of inflation will be 12% or higher.	0	%
The rate of inflation will be between 8% and 12%.	0	%
The rate of inflation will be between 4% and 8%.	0	%
The rate of inflation will be between 2% and 4%.	0	%
The rate of inflation will be between 0% and 2%.	0	%
The rate of deflation (the opposite of inflation) will be between 0% and 2%.	0	%
The rate of deflation (the opposite of inflation) will be between 2% and 4%.	0	%
The rate of deflation (the opposite of inflation) will be between 4% and 8%.	0	%
The rate of deflation (the opposite of inflation) will be between 8% and 12%.	0	%
The rate of deflation (the opposite of inflation) will be 12% or higher.	0	%
Total	0	%

→

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Your forecasts for the future

Recall that, in previous years, the US inflation rate has mostly varied between 1.5% and 2.5%. Recently, however, the inflation rate has increased. It is now at 6.2%.

Now, we would like you to think about the different things that may happen to inflation over the time between **four and five years from now** (that is, between 49 and 60 months from now). **In your view, what is the percent chance that, over the time between 49 and 60 months from now…**

(Please note: The numbers need to add up to 100%.)

The rate of inflation will be 12% or higher.	0	%
The rate of inflation will be between 8% and 12%.	0	%
The rate of inflation will be between 4% and 8%.	0	%
The rate of inflation will be between 2% and 4%.	0	%
The rate of inflation will be between 0% and 2%.	0	%
The rate of deflation (the opposite of inflation) will be between 0% and 2%.	0	%
The rate of deflation (the opposite of inflation) will be between 2% and 4%.	0	%
The rate of deflation (the opposite of inflation) will be between 4% and 8%.	0	%
The rate of deflation (the opposite of inflation) will be between 8% and 12%.	0	%
The rate of deflation (the opposite of inflation) will be 12% or higher.	0	%
Total	0	%

→

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Your forecasts for the future

The **unemployment rate** is a measure of the amount of unemployment in a country. It is defined as the fraction of people who are unemployed out of all people that are willing to work, or, put differently, the percentage of people who are willing to work that do not have a job. **The current unemployment rate in the US is at 4.6%.**

What do you think will be the unemployment rate in 12 months from now?

☐ %

What do you think will be the unemployment rate in five years (that is, in 60 months) from now?

☐ %

→

Your forecasts for the future

Nominal incomes in the US, that is, the amounts of US Dollars that people earn, tend to rise each year. According to the Pew Research Center, the typical (median) US household income rose by an annual average rate of 2.1% between 2015 and 2018.

Please imagine that inflation returns to lower levels and is at 2% over the twelve months of 2022.
In this case, what do you think will be the rate of (nominal) income growth during 2022?

☐ %

Now, please imagine that inflation remains at its current level and is at 6.2% over the twelve months of 2022.
In this case, what do you think will be the rate of (nominal) income growth during 2022?

☐ %

→

30

Your forecasts for the future

Nominal incomes in the US, that is, the amounts of US Dollars that people earn, tend to rise each year. According to the Pew Research Center, the typical (median) US household income rose by an annual average rate of 2.1% between 2015 and 2018.

Please imagine that inflation returns to lower levels and is at 2% over the twelve months of 2022.
In this case, what do you think will be the rate of (nominal) income growth during 2022?

[   ] %

Now, please imagine that inflation remains at its current level and is at 6.2% over the twelve months of 2022.
In this case, what do you think will be the rate of (nominal) income growth during 2022?

[   ] %

$\longrightarrow$

Your forecasts for the future

The Federal Reserve's task is to achieve maximum sustainable employment and keep prices stable ("dual mandate"). In response to the recent rise in inflation to 6.2%, the Federal Reserve might change its monetary policy and increase interest rates in the US economy.

Do you think that the Federal Reserve is willing to bring inflation back to lower levels by increasing interest rates?

Yes

No

Do you think that the Federal Reserve would be able to bring inflation back to lower levels by increasing interest rates?

Yes

No

→

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What explains the rise in inflation?

There are several potential explanations as to why the inflation rate recently has increased to 6.2%. Below, we show you a list of eight possible factors driving the recent increase in the inflation rate. We are interested in how much you think each of the eight factors below has contributed to the current increase in inflation. We, therefore, ask you to allocate 100 points between the eight factors.

Think of these 100 points as percentages. For example, if you think one factor was solely responsible for the increase in inflation, assign that factor 100 points and zero points to all the other factors. If you think that all factors were equally important, assign 12.5 points to each of the eight factors.

How much do you think each of the factors in the list below contributed to the recent increase in the inflation rate? Please allocate 100 points between the different factors proportional to their importance in driving the recent increase in inflation.

Please note: The points need to total 100.

High production costs among firms due to a **shortage of workers**, e.g. due to some workers dropping out of the labor force.	0	%
High production costs among firms due the **disruption of global supply chains**.	0	%
High demand for goods and services due to **government spending programs and stimulus payments** to households.	0	%
The global energy crisis, leading to shortages of e.g. oil and natural gas.	0	%
High demand for goods and services due to the **reopening of the economy** and the associated higher incomes, new spending opportunities, and optimism about the future.	0	%
High demand for goods and services among households and high investment demand among firms due to the **Federal Reserve keeping interest rates near zero**.	0	%
Expectations about high inflation in the coming years, making firms and workers preemptively increase prices and bargain for higher wages.	0	%
Other factors not in the list above	0	%
Total	0	%

→

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In the last question you told us how important you consider different factors to be in contributing to the recent increase in inflation.

We are now interested in the future development of inflation over the next 12 months.

Which of the following factors do you think will be relevant for the future development of inflation over the next 12 months?

	Will be relevant	Will **not** be relevant
High production costs among firms due the **disruption of global supply chains**.	○	○
High demand for goods and services among households and high investment demand among firms due to the **Federal Reserve keeping interest rates near zero**.	○	○
The global energy crisis, leading to shortages of e.g. oil and natural gas.	○	○
High production costs among firms due to a **shortage of workers**, e.g. due to some workers dropping out of the labor force.	○	○
High demand for goods and services due to the **reopening of the economy** and the associated higher incomes, new spending opportunities, and optimism about the future.	○	○
Expectations about high inflation in the coming years, making firms and workers preemptively increase prices and bargain for higher wages.	○	○
High demand for goods and services due to **government spending programs and stimulus payments** to households.	○	○

→

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Consequences for your economic decisions

Does the recent increase in inflation to 6.2% affect your economic decisions? Below, we list a few decisions that you might plan to make (or have already made) in response to the rise in inflation.

Does the recent increase in inflation affect how much money your household spends and saves?

Because inflation increased, my household **spends more and saves less**.

The increase in inflation **does not affect** how much my household spends and saves.

Because inflation increased, my household **spends less and saves more**.

Does the recent increase in inflation affect what *share of its savings* your household plans to hold in ...?

	Higher share	No change	Lower share
Cash, checking accounts and savings accounts	○	○	○
Stocks and stock mutual funds	○	○	○
Home equity, e.g. first and second homes or home equity funds	○	○	○
Cryptocurrency	○	○	○
Bonds and bond mutual funds, e.g. bonds in publicly held corporations or Treasury Bills	○	○	○

Does (or did) the recent increase in inflation affect whether you ask your employer for a higher wage?

Because inflation increased, I have asked or plan to ask for a **higher wage**.

The increase in inflation **does not affect** whether I ask for a higher wage.

The increase in inflation has made it **less likely** that I will ask for a higher wage.

→

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Have you experienced longer waiting time or higher prices for large durable goods, such as home appliances or cars, over the last six months?

Yes

No

What is the average distance you usually drive by car each day?

0 - 5 miles

5 - 10 miles

10 - 20 miles

20 - 50 miles

50 - 100 miles

100 - 200 miles

More than 200 miles

What fraction of its total disposable income does your household typically spend on utilities, such as energy and heating?

0% - 2%

2% - 5%

5% - 10%

10% - 20%

20% - 30%

30% - 50%

More than 50%

What fraction of its total disposable income does your household typically spend on gasoline?

0% - 2%

2% - 5%

5% - 10%

10% - 20%

20% - 30%

30% - 50%

More than 50%

Does your household hold a mortgage?

Yes

No

How important was the American Rescue Plan passed by Congress in March 2021 for the economic situation of your household?

Very important

Important

Somewhat important

Rather unimportant

Not important at all

What impact did the American Rescue Plan passed by Congress in March 2021 have on the local economy in your region of residence?

Very large impact

Large impact

Some impact

Small impact

No impact at all

What impact did the reopening of the economy have on the economic situation of your household?

Very large impact

Large impact

Some impact

Small impact

No impact at all

Have there been delays or problems related to shortages of input goods at the place where you work?

Yes

No

I don't know

Have there been delays or problems related to shortages of input goods at the place where you work?

Yes

No

I don't know

Have there been delays or problems related to shortages of workers at the place where you work?

Yes

No

I don't know

Did your household save up more money than usual during the lockdowns because of limited spending opportunities (e.g. closed restaurants)?

Yes

No

How often do you ask your employer for a higher wage?

Several times per year

Once per year

Once every other year

At least once every fifth year

More rarely than every fifth year

Never

→

Final questionnaire

Do you think of yourself as closer to the Republican or Democratic party?

Republican

Democratic

What was the highest level of any course in economics, finance or business you ever took?

I never took a course in economics, finance or business

High school level

College level

Graduate level

What is your year of birth?

Who among the members of your household is doing most of the grocery shopping in your household?

Myself

My partner

Someone else

→

Which of the newspapers below have you read at least once during the last 12 months? Please check all that apply.

Breitbart

BuzzFeed News

Boston Herald

Chicago Sun-Times

Daily Mail

Drudge Report

InfoWars

Los Angeles Times

New Republic

Newsmax

New York Daily News

New York Post

Palmer Report

The Denver Post

The Huffington Post

The Mercury News

The New York Times

The Wall Street Journal

The Washington Post

The Washington Times

USA Today

I have not read any of the newspapers above during the last 12 months

→

In newspapers, which section are you most interested in?

Editioral & opinion pages

Political and economic news

Entertainment

Advice columns

Lifestyle

Which of these platforms are you most likely to use as news sources?

Television

News websites

Radio

Social media

Print newspapers

→

C.2   Expert survey

Thanks a lot for participating in this short survey! This study is about your beliefs about the inflation rate in the US. It is conducted by researchers from the University of Cologne.

Please consent to the processing of your data and our privacy policy. No conclusions about your person will be drawn. You can withdraw your consent at any time.

▼ *Click on the triangle to display the full privacy policy.*

The goal of this research study is to better understand how people think about inflation. Survey respondents will answer a series of questions on their views.

Your participation is completely voluntary. You can withdraw at any time, and for any reason, simply by closing your browser.

This study has been reviewed and given favourable opinion by the Institutional Review Board of the German Association for Experimental Economics Research.

If you require further information, please contact roth@wiso.uni-koeln.de.

Which rights do I have?
You have the right to obtain information about the personal data stored about you (Art. 15 GDPR). Should incorrect data be processed, you have the right to rectification (Art. 16 GDPR). When the legal requirements are met, you have the right to request the deletion or restriction of the processing and submit an objection against the processing of your data (Art. 17, 18 and 21 GDPR).

You have the right to complain to the competent data protection authorities.

The consent given here can be withdrawn at any time with effect for the future.

Thank you for taking the time to read this Participant Information Leaflet.

☐ **I consent**

We are very grateful for your participation and highly value your careful and honest response.

We prepared a similar set of questions for respondents from the US general population. Therefore, some of the questions in this survey were designed such that laypeople can understand them.

→

Important

On the next page, you will encounter an open question in which we will ask you to describe your thoughts and views, using your own words.

From our experience, it can take about **2 minutes** to complete this question. Your responses are very valuable for this research project. Therefore, **please take your time to respond carefully.**

→

Why has the inflation rate increased?

The US inflation rate has mostly varied between 1.5% and 2.5%. Recently, however, the inflation rate has increased. It is now at 6.2%.

Which factors do you think caused the increase in the inflation rate? Please respond in full sentences.

→

Your forecasts for the future

Recall that, in previous years, the US inflation rate has mostly varied between 1.5% and 2.5%. Recently, however, the inflation rate has increased. It is now at 6.2%.

Do you think the higher inflation rate is temporary or persistent?

○ **Temporary**: 12 months from now, the inflation rate will be **3% or lower** again.

○ **Persistent**: 12 months from now, the inflation rate will still be **higher than 3%**.

→

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Your forecasts for the future

Recall that, in previous years, the US inflation rate has mostly varied between 1.5% and 2.5%. Recently, however, the inflation rate has increased. It is now at 6.2%.

Next, we would like you to think about the different things that may happen to inflation **over the next 12 months**. **In your view, what would you say is the percent chance that, over the next 12 months...**

(Please note: The numbers need to add up to 100%.)

The rate of inflation will be 12% or higher.	0	%
The rate of inflation will be between 8% and 12%.	0	%
The rate of inflation will be between 4% and 8%.	0	%
The rate of inflation will be between 2% and 4%.	0	%
The rate of inflation will be between 0% and 2%.	0	%
The rate of deflation (the opposite of inflation) will be between 0% and 2%.	0	%
The rate of deflation (the opposite of inflation) will be between 2% and 4%.	0	%
The rate of deflation (the opposite of inflation) will be between 4% and 8%.	0	%
The rate of deflation (the opposite of inflation) will be between 8% and 12%.	0	%
The rate of deflation (the opposite of inflation) will be 12% or higher.	0	%
Total	0	%

→

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Your forecasts for the future

Recall that, in previous years, the US inflation rate has mostly varied between 1.5% and 2.5%. Recently, however, the inflation rate has increased. It is now at 6.2%.

Now, we would like you to think about the different things that may happen to inflation over the time between **four and five years from now** (that is, between 49 and 60 months from now). **In your view, what is the percent chance that, over the time between 49 and 60 months from now…**

(Please note: The numbers need to add up to 100%.)

The rate of inflation will be 12% or higher.	0	%
The rate of inflation will be between 8% and 12%.	0	%
The rate of inflation will be between 4% and 8%.	0	%
The rate of inflation will be between 2% and 4%.	0	%
The rate of inflation will be between 0% and 2%.	0	%
The rate of deflation (the opposite of inflation) will be between 0% and 2%.	0	%
The rate of deflation (the opposite of inflation) will be between 2% and 4%.	0	%
The rate of deflation (the opposite of inflation) will be between 4% and 8%.	0	%
The rate of deflation (the opposite of inflation) will be between 8% and 12%.	0	%
The rate of deflation (the opposite of inflation) will be 12% or higher.	0	%
Total	0	%

→

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What explains the rise in inflation?

There are several potential explanations as to why the inflation rate recently has increased to 6.2%. Below, we show you a list of eight possible factors driving the recent increase in the inflation rate. We are interested in how much you think each of the eight factors below has contributed to the current increase in inflation. We, therefore, ask you to allocate 100 points between the eight factors.

Think of these 100 points as percentages. For example, if you think one factor was solely responsible for the increase in inflation, assign that factor 100 points and zero points to all the other factors. If you think that all factors were equally important, assign 12.5 points to each of the eight factors.

How much do you think each of the factors in the list below contributed to the recent increase in the inflation rate? Please allocate 100 points between the different factors proportional to their importance in driving the recent increase in inflation.

Please note: The points need to total 100.

High demand for goods and services due to the **reopening of the economy** and the associated higher incomes, new spending opportunities, and optimism about the future.	0	%
High demand for goods and services among households and high investment demand among firms due to the **Federal Reserve keeping interest rates near zero**.	0	%
The global energy crisis, leading to shortages of e.g. oil and natural gas.	0	%
High demand for goods and services due to **government spending programs and stimulus payments** to households.	0	%
High production costs among firms due to a **shortage of workers**, e.g. due to some workers dropping out of the labor force.	0	%
High production costs among firms due the **disruption of global supply chains**.	0	%
Expectations about high inflation in the coming years, making firms and workers preemptively increase prices and bargain for higher wages.	0	%
Other factors not in the list above	0	%
Total	0	%

→

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In the last question, you told us how important you consider different factors to be in contributing to the recent increase in inflation.

We are now interested in the future development of inflation over the next 12 months.

Which of the following factors do you think will be relevant for the future development of inflation over the next 12 months?

	Will be relevant	Will **not** be relevant
High production costs among firms due to a **shortage of workers**, e.g. due to some workers dropping out of the labor force.	○	○
High demand for goods and services due to the **reopening of the economy** and the associated higher incomes, new spending opportunities, and optimism about the future.	○	○
The global energy crisis, leading to shortages of e.g. oil and natural gas.	○	○
High demand for goods and services due to **government spending programs and stimulus payments** to households.	○	○
High demand for goods and services among households and high investment demand among firms due to the **Federal Reserve keeping interest rates near zero**.	○	○
Expectations about high inflation in the coming years, making firms and workers preemptively increase prices and bargain for higher wages.	○	○
High production costs among firms due the **disruption of global supply chains**.	○	○

→

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Last page

About the survey

This research survey is conducted with both academic experts and laypeople from the general US population. Based these data, we will soon provide evidence on beliefs about the drivers of the recent rise in inflation.

Keep me posted

If you wish to be informed via email when the results of the study are available, please click yes.

☐ Yes, keep me posted.

Optional feedback

Feel free to share any comments or feedback with us!

→

C.3   Manager survey

Please indicate your occupation:

Construction, extraction, and maintenance

Service

Sales and office

Unemployed

Farming, fishing, and forestry

Production, transportation, and material moving

Management (e.g. HR manager or sales manager)

Government

Retired

→

Are you (partially) responsible for wage-setting decisions in your company?

Yes

No

Are you (partially) responsible for price-setting decisions in your company?

Yes

No

How many employees work in your establishment?

1-4

5-9

10-19

20-49

50-99

100-249

250-499

500-999

1000 or more

Which of the following industries most closely matches the one in which you are employed?

Health care or social assistance

Real estate or rental and leasing

Wholesale trade

Mining

Arts, entertainment or recreation

Educational services

Admin, support, waste management or remediation services

Management of companies or enterprises

Transportation or warehousing

Utilities

Professional, scientific or technical services

Information

Finance or insurance

Forestry, fishing, hunting or agriculture support

Construction

Manufacturing

Retail trade

Accommodation or food services

Unclassified establishments

Other services (except public administration)

→

The next question is about the following problem. In questionnaires like ours, sometimes there are participants who do not carefully read the questions and just quickly click through the survey. This compromises the results of research studies. To show that you are reading the survey carefully, please enter 333 as your answer to the below question. Given the above, what is your favorite number?

Consequences for your economic decisions

Does the recent increase in inflation to 6.2% affect the economic decisions of your company? Below, we list a two decisions that your company might plan to make (or has already made) in response to the rise in inflation.

Does (or did) the recent increase in inflation affect whether your company raises the wages it pays?

Because inflation increased, my company has raised or plans to raise wages.

The increase in inflation does not affect whether my company raises wages.

Because inflation increased, my company has decreased or plans to decrease wages.

Does (or did) the recent increase in inflation affect whether your company raises the prices of its products?

Because inflation increased, my company has raised or plans to raise prices for its products.

The increase in inflation does not affect whether my company increases prices for its products.

Because inflation increased, my company has decreased or plans to decrease prices for its products.

→

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