# The Causal Effects of Tariff Uncertainty on Consumers' Macroeconomic Expectations and Spending Plans

Bernardo Candia, James Mitchell, and Damjan Pfajfar

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Bernardo Candia†
James Mitchell‡
Damjan Pfajfar§

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### Abstract

We use a large-scale randomized controlled trial to study the causal effects of tariff beliefs on US consumers' macroeconomic expectations and spending plans. We find that it is important to distinguish between the first- and second-moment effects of tariff rate changes. Exogenous variation in tariff-level expectations and perceived future tariff uncertainty differentially affects consumers' expectations and perceived uncertainty about inflation, GDP growth, and unemployment. Furthermore, higher expectations of tariff rates induce an intertemporal substitution effect, increasing consumers' likelihood of buying durable goods. But higher tariff-rate uncertainty reduces consumers' readiness to spend on durable goods, consistent with precautionary saving motives.

**Keywords**: Consumers' macroeconomic expectations, tariffs, tariff uncertainty, spending plans, randomized controlled trial.

**JEL classification**: E31, E52, E58, D84.

# 1. Introduction

According to the Budget Lab at Yale, the effective tariff rate in the US rose from around 2 percent in January 2025 to around 17 percent by November 2025, the highest since 1935.[1] Trade policy uncertainty, as quantified by tracking news articles mentioning trade and uncertainty terms (see Caldara et al., 2020), also reached multi-decade highs through 2025, peaking in the aftermath of Liberation Day on April 2, 2025.[2] These changes in both the level and the uncertainty of tariffs have renewed interest in how tariffs affect the macroeconomy. One important way in which policy changes, such as tariffs, affect the macroeconomy is via macroeconomic expectations (see, for example, Coibion et al., 2020, D'Acunto et al., 2021, and Coibion et al., 2021). Indeed, inflation expectations increased markedly after the announcement of tariffs (Hajdini et al., 2025). At the same time, in anticipation of higher tariffs, US consumers rushed to buy large household appliances and cars, which were likely to face higher tariffs in the future. As a result, the trade deficit widened dramatically in 2025Q1. However, it is not straightforward to identify the causes of such consumer behavior using official macroeconomic data or standard surveys alone.

This paper, therefore, turns to the use of randomized controlled trials (RCTs) to study the effects of consumers' beliefs about trade policy and, in particular, their assessments of how tariffs affect both their own macroeconomic expectations (for inflation, GDP growth, and the unemployment rate) and their own spending plans. RCTs allow us to independently identify the effects of tariff shocks on consumers' expectations and plans, something macroeconomists can otherwise struggle with, given that the economy often experiences multiple shocks simultaneously.

Existing empirical work on the effects of tariffs on macroeconomic expectations and outcomes is plagued by difficulties in distinguishing between first- and second-moment effects. For example, policy uncertainty indexes commonly used in this literature, such as the aforementioned trade policy uncertainty, tend to rise when there are level changes in tariff policy, making it difficult to distinguish between the first- and second-moment implications of tariffs (Caldara et al., 2020).[3] Structural models also need to make specific assumptions to identify these effects separately. Following a growing literature on inflation expectations (see Georgarakos et al., 2024) we rely on RCTs. We distinguish between consumers' expectations of increases in tariff rates themselves and increases in the uncertainty about future tariffs, and consider how they separately affect consumers' macroeconomic expectations and spending plans.

Our survey-based RCT allows us to generate exogenous, independent variation in consumers' tariff expectations and in their perceived uncertainty about future tariffs. Our approach echoes that of Coibion et al. (2024), tailoring design to identify the causal effects of changes in the first and second moments of tariff expectations on consumers' macroeconomic expectations and spending plans. We do so by providing information about trade policy to random subsets of consumers. Specifically, we provide information about actual and targeted tariff rates on imports, the uncertainty of tariff

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[1]See https://budgetlab.yale.edu/research/state-us-tariffs-november-17-2025.

[2]See https://www.policyuncertainty.com/trade_cimpr.html.

[3]See Bloom (2014) for a collection of reasons that can cause uncertainty about the economy.

outcomes, the share of US consumer spending on imports, and an extreme tariff scenario. We show that these treatments serve as a powerful tool for generating variation in the first and second moments of tariff expectations among treated consumers relative to those in the control group. Moreover, consistent with Weber et al. (2025), we document that consumers who report being inattentive to news about tariffs respond significantly more to information treatments than those who report paying attention to news about trade policy.

Exploiting the exogenously generated variation in the first and second moments of tariff expectations, we examine their causal effect on consumers' macroeconomic expectations. We focus on the effects of tariff beliefs on consumers' expectations for the levels and the uncertainty of future inflation, GDP growth, and the unemployment rate. We find that, after controlling for tariff uncertainty, a 1 percentage-point increase in the level of tariffs increases (mean) inflation expectations by 90 basis points. We also see statistically significant, but weaker, effects on both GDP growth and the unemployment rate. As consumers expect that tariffs will increase inflation, GDP growth, and the unemployment rate, one possible explanation is that they "interpret" tariffs as a combination of an adverse aggregate supply shock and a positive productivity shock. Turning to the effects of tariff expectations on consumers' macroeconomic uncertainty, we find that a 1 percent increase in tariff uncertainty is associated with a 0.81 percent increase in inflation uncertainty. We also find statistically significant, but smaller-sized, effects on GDP growth and unemployment uncertainty. A 1 percent increase in tariff uncertainty raises GDP growth uncertainty by 0.56 percent and unemployment uncertainty by 0.32 percent. Moreover, we document that, with the exception of inflation, first-moment tariff shocks affect only mean macroeconomic expectations, while second-moment tariff expectations affect only consumers' perceptions of macroeconomic uncertainty, not their level. For inflation, however, we find stronger effects of first- and second-moment tariff shocks, and that first-moment tariff shocks increase both the level and the expected variation of consumers' inflation forecasts.

Our survey design also allows us to examine the effect of tariff expectations on consumers' planned spending. First, we analyze the relationship between tariff expectations and spending plans using hypothetical questions, in which respondents report whether the possibility of higher tariffs in the near future would make them more or less likely to make certain consumption decisions. Consistent with an intertemporal substitution effect, in which consumers move their spending on durable goods forward in anticipation of higher future prices, we find that 40 percent of consumers report being more likely to bring forward purchases of goods produced abroad. However, this is not the only mechanism at play. Around the same share of consumers report that they prefer to wait and see what happens to prices in the future, and 50 percent report being more likely to save, consistent with a strong precautionary saving motive due to higher tariff uncertainty.

Then, we use exogenous variation coming from our information treatments to study how tariff expectations affect consumers' spending plans. Our main finding is that higher tariff uncertainty, while holding the expected level of tariffs constant, strongly affects consumers' consumption attitudes. A 1 percent increase in tariff uncertainty reduces the probability of a household planning to

purchase a durable good over the next 12 months by 0.23 percentage points. The effect of higher tariff uncertainty is even stronger for cars and big-ticket items. Moreover, after controlling for tariff uncertainty, we find that the level of tariff expectations is positively associated with consumers' readiness to spend on durable goods, indicating the importance of intertemporal substitution. Finally, we provide suggestive evidence that these results are driven by several distinct demographic segments: males; those with low education; those with low income; self-identified Republicans; and news-attentive respondents.

**Related literature**

There has been renewed interest in understanding the role of uncertainty in macroeconomic dynamics since Bloom's (2009) influential paper. Much of this work has focused on how to measure uncertainty (for example, Jurado et al., 2015, Baker et al., 2016, Bloom et al., 2018, Berger et al., 2019), the macroeconomic effects of uncertainty shocks (Basu and Bundick, 2017, Fernández-Villaverde et al., 2015), and how uncertainty affects the economic decisions of both firms (Guiso and Parigi, 1999, Bloom et al., 2007, Gulen and Ion, 2016, Caldara et al., 2020) and households (Ben-David et al., 2018, Christelis et al., 2020, D'Acunto et al., 2020, Dietrich et al., 2022; Coibion et al., 2024, Georgarakos et al., 2024). In this paper, we add to the literature on the relationship between trade policy (uncertainty) and macroeconomic outcomes by highlighting the importance of the expectations channel.

Identifying exogenous variations in uncertainty is challenging because, in reality, major uncertainty episodes – and changes in tariff policy – typically affect both first and second moments simultaneously. The standard approach to disentangling these effects imposes exclusion restrictions among these moments (for example, Bloom, 2009, Baker et al., 2016). Caldara et al. (2020) use timing restrictions in VAR models to show that the 2018 spike in tariff uncertainty reduced US investment. Boer and Rieth (2024) argue that there is little theoretical guidance for such restrictions, and they are empirically invalid for identifying uncertainty shocks (see also Kilian et al., 2025). Boer and Rieth (2024) combine theory-consistent and narrative sign restrictions in Bayesian structural VARs to separately identify tariff-level and uncertainty shocks, thereby addressing the simultaneity problem inherent in standard approaches. Their findings reveal that tariff shocks are more important than uncertainty shocks, and that both depress trade, investment, and output. Our RCT-based approach complements this previous work. We resolve the endogeneity problem by using information treatments as a source of exogenous variation in the first and second moments of tariff expectations. Moreover, we are the first to analyze the impact of tariff uncertainty on consumers' decisions. We document distinct effects of changes in tariff levels and tariff uncertainty on spending plans. Higher (level) tariff expectations induce an intertemporal substitution effect, increasing the likelihood that households plan to buy durable goods, whereas higher tariff uncertainty reduces durable purchases, motivated by precautionary motives. In addition, given our large sample size, we can explore the heterogeneous effects of tariff beliefs across various household demographics.

This paper also adds to the literature by analyzing how macroeconomic shocks are perceived by the general public. Uncertainty shocks, in general, are often seen as akin to demand shocks

(cf. Leduc and Liu, 2016): Is this the case with tariff uncertainty? Barnichon and Singh (2025) conclude that it is. Exploiting 150 years of tariff policy in the US, they find that positive (exogenous) tariff shocks lower both economic activity and inflation. Using local projections on cross-country panel data, Halbersleben et al. (2025) also find that tariff increases resemble a negative aggregate demand shock on impact. But over time, aggregate supply adjusts, and both economic activity and inflation pick up. Schmitt-Grohé and Uribe (2025) find that tariff increases can be inflationary, but only temporarily, and even then only if the tariff shock is permanent. This contrasts with the theoretical literature (e.g., see Werning et al., 2025) that views tariff shocks as negative "supply shocks," thereby predicting that inflation should rise in response to higher tariffs. Our empirical approach is to ask US consumers for their opinions and to use our survey to weigh in on the ongoing debate over whether tariff shocks are better understood as demand or supply shocks. Previous research, for example, Andre et al. (2022) studies perceptions about the effects of macroeconomic shocks on inflation and unemployment by providing consumers and experts with information about various shocks and past realizations of macroeconomic variables. Andre et al. (2022) conclude that consumers' perceptions about the effects of different macroeconomic shocks portray a large degree of heterogeneity and rely on narratives about supply- and demand-side mechanisms.

This paper is closely related to the literature examining the effects of tariffs on the macroeconomy, a topic that has attracted heightened interest following the Liberation Day tariffs announcement on April 2, 2025. For example, recent theoretical work that abstracts from monetary easing provides mixed results on the effect of tariffs on GDP. Bergin and Corsetti (2023) find that unilateral tariffs are expansionary, while Barattieri et al. (2021) find a recessionary effect. Auclert et al. (2025) and Monacelli (2025) derive conditions under which a tariff shock causes a domestic recession, where parameters like the elasticity of intertemporal substitution or the import substitution elasticity play a fundamental role. Clausing and Obstfeld (2025) show that broad tariffs act like a large negative supply shock, increasing prices and reducing macroeconomic activity. In summary, this theoretical work suggests that the effects of tariffs *depend* on modeling assumptions, notably whether the tariff changes are permanent or temporary. They also depend on other assumptions, such as the import elasticity, on whether other countries retaliate, and so on. We add to this literature by first reporting consumers' perceptions of the effects of tariffs on the economy and, second, documenting the causal effect of tariffs on their macroeconomic expectations and spending plans.

Other papers have focused on the effect of tariffs on prices. Previously, several papers analyzed the effect of US tariffs imposed on Chinese exports in 2018, showing a large pass-through of those tariffs into US consumer prices (for example, see Cavallo et al., 2021, Fajgelbaum et al., 2024, Fajgelbaum and Khandelwal, 2022). Amiti et al. (2019) find that the 2018 tariffs led to a substantial increase in the prices of intermediate and final goods and to a complete pass-through of the tariffs into the domestic prices of imported goods. More recently, Cavallo et al. (2025) use high-frequency retail microdata to measure the impact of the 2025 US tariffs on both import and domestic prices, finding a retail tariff pass-through of 20 percent and an increase of 70 basis points in the all-items consumer price index due to higher tariffs. In this paper, we emphasize another mechanism in which

tariffs can affect inflation dynamics: the expectations channel. Available evidence suggests that inflation expectations actually affect inflation (see Coibion and Gorodnichenko, 2026 for a survey). For instance, Coibion and Gorodnichenko (2025) argue that both the surge and the subsequent disinflation can be largely explained by unanchored short-run inflation expectations in combination with supply shocks. In turn, we find that tariff beliefs affect both inflation expectations and inflation uncertainty, implying that incoming tariffs can raise inflation expectations, affecting pricing decisions and raising actual inflation.

Finally, our paper is part of a growing literature that uses RCTs in large-scale surveys to answer wider macroeconomic questions. This literature has focused on how new information shapes expectations and how these expectations affect economic decisions (for example, see Armona et al., 2019, D'Acunto et al., 2020, Roth and Wohlfart, 2020, Fuster et al., 2021, Beutel and Weber, 2025, Dräger et al., 2024, van Rooij et al., 2024, Candia, 2024). More recently, RCTs have examined how expectations of economic uncertainty affect the economic actions of households and firms. For example, for firms, Kumar et al. (2023) find that New Zealand companies with exogenously higher macroeconomic uncertainty tend to reduce their prices, employment, and investment. For consumers, Coibion et al. (2024), using the ECB's Consumer Expectations Survey, find that consumers with exogenously higher uncertainty about future growth reduce their total monthly spending in subsequent months. Closely related to this paper is Georgarakos et al. (2024), who use the same ECB survey of European consumers to examine how inflation expectations and inflation uncertainty affect consumers' decisions. They show that higher inflation uncertainty leads households to reduce durable goods spending, and tilt their portfolio toward safer assets, and it encourages consumer job search. More importantly for us, they document that the level of inflation expectations has a different effect on economic decisions than inflation uncertainty, highlighting the need to control for those effects separately. Relative to these studies, using a nationally representative survey of US consumers, we are the first to provide causal evidence on how tariff expectations and perceptions of tariff uncertainty affect consumers' macroeconomic outlooks and spending plans.

The paper is organized as follows. Section 2 describes the survey and how it is used to measure expectations. Section 3 explains how we measure the effects on consumers' expectations of the randomized provision of information on tariff expectations. Section 4 presents our results on the causal effects of tariff beliefs on consumers' macroeconomic expectations, while Section 5 assesses their effects on consumers' readiness to spend on durable goods. Section 6 concludes. An online Appendix contains supplementary results, as referenced in the main paper.

## 2. Tariffs, Uncertainty, and Consumers' Expectations: Survey Design

In this section, we first describe the Cleveland Fed's Survey of Consumers, then outline the RCT implementation, explaining how we elicit priors and posteriors for tariff expectations and uncertainty, as well as other macroeconomic expectations, and we describe and motivate our information treatments. We also discuss the drivers of consumers' tariff beliefs.

## 2.1. The Cleveland Fed's Survey of Consumers

Our survey was fielded as part of a daily online survey of consumer expectations conducted by the Federal Reserve Bank of Cleveland and administered by Qualtrics Research Services (see Coibion et al., 2023c, Dietrich et al., 2023, Knotek et al., 2025). Consumers participating in this survey are representative of several actively managed, double-opt-in market research panels, complemented by social media (Qualtrics, 2019). The main survey has been fielded daily since March 2020. We ran a specially designed survey on tariffs from October 29, 2025, through December 31, 2025. In the survey, consumers are asked a variety of questions about their sociodemographic characteristics, economic expectations, spending, and their beliefs about the effects of tariffs on the economy. In total, our tariff-focused sample comprises 11,923 responses, averaging 189 per day. Each daily wave contains a repeated cross-section of observations; respondents are not followed over time. We reweight our respondents to ensure our sample is representative of the US population, balancing across seven dimensions: gender, income, education, race, age, ethnicity, and geographic location.[4]

## 2.2. RCT Implementation

To assess how tariff beliefs affect consumers' macroeconomic expectations and spending plans, we design our RCT to identify exogenous variation in both the first and second moments of consumers' tariff expectations. We start by measuring respondents' prior beliefs, then randomly assign consumers to control and treatment groups: only those in the treatment group receive a treatment on tariffs and trade policy. Finally, after providing the information, we elicit their posterior beliefs.

Specifically, after a set of introductory demographic and socio-economic questions, we ask respondents a range of questions about their expectations for what will happen both to the macro-economy and to tariffs over the next 12 months.[5] The survey elicits both their point and subjective probabilistic expectations for GDP growth, inflation, and the unemployment rate, as well as tariffs, over the next 12 months. The probabilistic questions involve asking respondents to provide histogram (what we call "bins") forecasts indicating the probability that they think inflation (or deflation) and GDP growth (the unemployment rate) will fall within a set of 10 (7) bins. For tariffs, we ask respondents to attach probabilities that tariff rates in 12 months' time will fall within one of seven bins: 0-10, 10-20, 20-30, 30-50, 50-75, and 75+ percent. From these histogram questions for the macroeconomic variables and tariffs, respondent-specific forecasts of the mean and standard

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[4]We follow the latest guidance on survey design (see Stantcheva, 2022) to ensure that our respondents in the analysis pay attention to the survey. This involved adding two questions to the survey to assess respondents' attentiveness. For instance, right after the demographic and socio-economic questions, we ask: "You don't need to be a wine enthusiast or an avid beer drinker to answer this simple question. When asked for your favorite drink, you need to select carrot juice. This question is to make sure you are paying attention." We provide the following alternatives: wine, beer, voda, whiskey, carrot juice, other. If the consumer provides a different answer than "carrot juice," we drop that consumer from the sample. We also drop all respondents who spent less than 6 minutes taking our survey (which was designed to take 10 minutes). Such survey "speeders" constitute less than 1 percent of our sample.

[5]To ensure that all consumers understand what a tariff is, perhaps because consumers hold differing views about what tariffs are, our survey reminds respondents that: "Economists typically define a tariff as a tax imposed on imports of goods into a country."

deviation of their underlying subjective density forecasts are calculated as in Georgarakos et al. (2024).

Given multiple changes to tariff policy in the months preceding our survey, we additionally test whether consumers differentiate between announced (targeted) and actual tariff rates.[6] We find little evidence that they do. In fact, we show that the (cross-consumer) $R^2$ between expectations of targeted and actual tariff rates (in 12 months' time) is 0.95 (see Appendix Figure A.1). Henceforth, we focus our analysis on consumers' expectations of targeted tariffs, noting that we draw similar conclusions if we instead consider consumer expectations of actual tariff rates.

As seen in Table 1, consumers' expectations for tariff rates have a median of 31 percent, with the 10th and 90th percentiles at 15 percent and 63 percent, respectively. At the time of our survey, the Yale Budget Lab estimated that consumers faced an overall average effective tariff rate of around 18 percent, the highest rate since 1934. Consumers in our survey, therefore, on average overestimate this specific tariff rate. But, at the time of our survey, tariff rates on some individual goods, such as coffee, were much higher; so it may well be that (some) consumers are reacting to their perceptions of specific tariffs. Table 1 also shows that consumers had different expectations: there is considerable disagreement across consumers' expectations for future tariffs.

The next stage in the survey is to randomly allocate respondents into one of five treatment groups. Appendix Table A.1 confirms that the different treatment groups are comparable along all major observable characteristics. We then provide different types of information to the different groups, distinguishing between first- and second-moment treatments. These effects are separately identified because the treatments affect consumers' beliefs about the level and uncertainty of tariffs differently. The first group is the control group, which receives no additional information. The second group (treatment 1) is provided with up-to-date estimates of the targeted and actual tariff rate.

> T1 (tariff rate): *According to the Yale Budget Lab, the targeted tariff rate on imports to the United States for October 2025 was 18.0 percent, but the actual tariff rate on imports was only around 11.5 percent.*

The third group (treatment 2) is given information that highlights how tariff outcomes are uncertain.

> T2 (tariff uncertainty): *According to the Yale Budget Lab, the United States' current tariff schedule on imported goods starts at a baseline of 10 percent and rises as high as 100 percent on some goods (e.g., pharmaceuticals).*

The fourth group (treatment 3) is given macroeconomic information that could, in principle, be used by a respondent to assess the likely exposure of the US macroeconomy to tariffs.

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[6]Our survey asks: "What do you think is the average tariff rate on imported goods the US government aims to collect via tariffs?" This is followed by asking: "Now, think about the actual tariff rate on imported goods that the US government actually collects via tariffs. This might differ from the targeted rate for various reasons, such as shipment delays, tax avoidance strategies, or legal issues. What do you think is the current average actual tariff rate (in percent) on imports in the U.S.? Note that the actual tariff rate should be equal to or lower than the target tariff rate." When respondents answer this question, we remind each respondent, on the screen, of their prior answer to the target tariff rate question.

T3 (share imports): *Overall, about 9 percent of US consumer spending is on imports of goods from abroad.*

The fifth group (treatment 4) is provided only with information on the most extreme tariff outcomes, aimed at highlighting tail risks.

T4 (extreme): *According to the Yale Budget Lab, the United States' current tariff schedule rises as high as 100 percent on some goods (e.g., pharmaceuticals).*

Following the information treatments, we again elicit respondents' subjective probability distributions for the three macroeconomic variables (GDP, inflation, and the unemployment rate) and tariffs. As is increasingly common in the RCT literature (see Georgarakos et al., 2024), to avoid irritating respondents by asking the same question twice, we do so by first asking: "Below you see three possible scenarios, starting with a low x rate in the next 12 months (LOW) and ending with a high prediction (HIGH). What do you think will be the approximate x rate in each of the scenarios? Where x is the inflation, GDP growth, unemployment, targeted tariff, or actual tariff rate. In follow-up questions, respondents are asked to provide probabilities for each of the three scenarios. This question format, introduced in Altig et al. (2022) and used by Georgarakos et al. (2024), lets us quantify the first and second moments of consumers' macroeconomic and tariff expectations. For the treatment groups, this question provides their posterior beliefs.

To examine if and how this additional question affects consumers' expectations for tariffs, Figure 1 follows Georgarakos et al.'s (2024) analysis of inflation expectations by comparing the control group's tariff rate responses across these pre- and post-treatment questions. For the control group, since they are not provided with any additional information, the priors and posteriors for this question should be similar if the question format is inconsequential. We begin by examining the distribution of the forecast mean tariff rate. Panel A of Figure 1 plots the distribution for both the pre-treatment bins-based question (in yellow) and the post-treatment scenario-based question (in white). The average implied mean forecast across respondents from the pre-treatment question (bins) is 35.6 percent, which is similar to the average implied mean forecast of 33.3 percent from the post-treatment question (scenario). The two questions also deliver similar standard deviation estimates (22 vs. 19 percent, respectively), although the pre-treatment question contains a relatively larger right tail. As shown in Panel D of Figure 1, there is also a strong positive correlation between the implied mean forecasts coming from the two different survey questions.

We next repeat this analysis on the control group's uncertainty forecasts, as extracted from their subjective probability distributions. Panel B of Figure 1 plots the distribution of implied uncertainty, computed as the standard deviation from the bins-based question (in blue) and the scenario-based question (in white). We see that the implied mean uncertainty from the pre-treatment question is somewhat higher on average than for the post-treatment question (14 percent vs. 10 percent). We also find that the distribution of responses is more dispersed pre-treatment. But the post-treatment question yields a higher proportion of responses concentrated at low values of implied uncertainty. Despite these differences, there remains a statistically significant positive correlation between the implied uncertainty forecasts from both question formats. Finally, Panel C of Figure

1 plots the correlation between the first and second moments of inflation expectations for both the bins-based question (in blue) and the scenario-based question (in yellow). We see that, regardless of the question design, the relationship is positive. However, at high levels of tariff expectations, the relationship becomes flatter, with the threshold appearing lower for the bins-based question.

### 2.3. Drivers of Consumers' Tariff Beliefs

To understand the socio-economic and demographic drivers of consumers' heterogeneous tariff rate expectations, we relate consumers' expected tariff rates and their uncertainty to a wide range of observable consumer characteristics.

Looking first in Table 2 at the drivers of consumers' point expectations for future tariff rates (column 1), several results stand out. First, men tend to have lower tariff expectations than women, although the gender difference is relatively small (1 percentage point). Second, older respondents and those with higher incomes also expect lower tariff rates. Third, being a non-native English speaker and Hispanic are positively correlated with higher expected tariffs. Fourth, we find that political affiliation is systematically related to consumers' tariff expectations: Democrats expect higher tariffs, while self-identified Republicans expect lower tariffs than independent respondents. Fifth, individuals employed in non-profit organizations anticipate a higher level of tariffs in the future. Sixth, there is regional variation. Relative to the northeastern region, individuals in the Midwest—the most exposed area of the US to international trade, given its more manufacturing-based economy—expect lower tariff rates. In comparison, respondents living in the southern US expect higher tariff rates. Finally, respondents who have been more attentive to news about tariffs expect higher tariff rates, once other observables are taken into account.

Column (2) in Table 2 presents analogous results for tariff uncertainty. Results differ somewhat from those for the tariff level. For example, we find no evidence that political affiliation is related to tariff uncertainty: neither Democrats nor Republicans report expected tariff uncertainty that is statistically significantly different from that of independent respondents. However, we find interesting results in other dimensions. First, younger respondents and men are more uncertain. Second, non-native English speakers and Hispanic respondents report higher tariff uncertainty than native English speakers and non-Hispanic respondents, respectively. Third, being employed by the government is positively correlated with higher expectations of uncertainty. Finally, individuals with a college degree or more expect higher tariff uncertainty than those with a high school diploma or less. In short, our results indicate significant variation in the expected level of tariffs and in the uncertainty around tariffs, which can be accounted for by socioeconomic and demographic factors.

## 3. The Effects of Information Treatments on Tariff Expectations

To assess the effect of the information treatment on the first and second moments of consumers' tariff expectations, we test how they update their expectations. We postulate that consumers act like Bayesians: the posterior beliefs of consumer $i$ should be a weighted average of their initial beliefs

(priors) and the signal they receive, $Post_i = (1 - G) \times Prior_i + G \times Signal_i$, where $G$ captures the informativeness of the treatment ($G$ is the Kalman gain).

To evaluate the effects of the information treatments on tariff expectations, we accordingly regress posterior beliefs ($Post_{i,t}$) on prior beliefs ($Prior_{i,t}$) at time $t$ using the following specification:

$$Post_{i,t} = a_0 + b_0 Prior_{i,t} + \sum_{j=1}^{4} a_j \times I\{i \in treat_j\}$$

$$+ \sum_{j=1}^{4} b_j \times I\{i \in treat_j\} \times Prior_{i,t} + error_{i,t}, \tag{1}$$

where $I\{i \in treat_j\}$ is an indicator variable equal to 1 if respondent $i$ is in treatment group $j$. Prior beliefs are measured using the implied mean (first moment) and the implied standard deviation (second moment) from the histogram (that is, bins)-based question. Posterior beliefs are measured using the implied mean and the implied standard deviation from the three scenario-based questions about possible tariff rates over the next 12 months.[7] In equation (1), $b_0$ represents the relationship between priors and posteriors for the omitted control group. $b_j \in [-b_0, 0]$ captures how informative treatment $j$ is perceived to be. If $b_0 + b_j = 0$, consumers place all the weight on the information provided in treatment $j$. Thus, the more negative $b_j$ is, the more informative the signal is perceived to be. Finally, $a_j$ captures the strength of the signal relative to the average prior belief. Notice that $|b_j|/b_0$ measures the weight that consumers place on the signal, that is, the Kalman gain, G. From this regression, one would expect $a_0 = 0$ and $b_0 = 1$, since the control group does not receive additional information, but prior and posterior beliefs are elicited using two different question designs, so $b_0$ may differ from 1. We run separate regressions for beliefs about future tariff levels and for uncertainty about them. We use Huber regressions to systematically deal with outliers and influential observations.

We present results from these regressions in Table 3: for mean expectations in column 1 and uncertainty about future tariffs in column 2. Overall, the treatments are effective in moving both the first and second moments of tariff expectations. Considering first the effects of treatments on the expected level of future tariff rates, treatment 1 produces the largest revisions in beliefs toward the signal, with a weight of 38 percent placed on the newly received information. Thus, informing consumers about the current targeted tariff rate on imports leads them to revise their beliefs about future tariff levels. However, treatments 2 and 4, which include information about the uncertainty of tariff outcomes and an extreme tariff outcome, also affect consumers' tariff forecasts. The Kalman gain for those treatments is around 20 percent. Providing information about the relevance of imports to the US economy (treatment 3) results in minor, although statistically significant, revisions to consumers' beliefs about future tariffs.

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[7]For prior beliefs, we use mid-points of the bins to compute the implied mean. For the top bin (tariff rate will be greater than 75 percent), we use 87.5 percent as the mid-point.

Turning to the effects on tariff uncertainty (in column 2), we see that providing information that highlights tariff-rate uncertainty produces the largest revisions to the second moment of tariff expectations, with consumers placing an 83 percent weight on the signal in treatment 2. Informing consumers about an extreme tariff outcome also leads them to significantly revise their beliefs, with a Kalman gain of 27 percent. Finally, beliefs among consumers receiving information about either the current targeted tariff rates (treatment 1) or the relevance of imports for the US economy (treatment 4) are very similar to those in the control group, suggesting that providing this information does not affect consumers' uncertainty about tariffs.[8] Note that the F-statistics for the slope coefficient, being different from those of the control group, are high for both moments (237 for the level of tariffs and 128.5 for tariff uncertainty), indicating that our RCT generates sufficient exogenous variation in tariff expectations and tariff uncertainty.[9]

We should expect consumers who have been more attentive and informed about tariffs to be less responsive to our information treatments about trade policy. For example, Weber et al. (2025) show that both consumers and firms become less responsive to information treatments on inflation and monetary policy during periods of high inflation, due to greater awareness of publicly available news about inflation. To assess consumers' prior knowledge and understanding of tariffs, we ask respondents: "Have you heard any news about tariff policy in the last month?" If they reply "yes," they are next asked: "About how many news articles, TV or radio reports, or other pieces of news about tariff policy did you read or hear in the last month?" More than 75 percent of respondents heard at least some news about tariffs (see Figure A.2). To test whether attentive consumers respond less to new information, we examine the heterogeneity in the treatment effectiveness across consumers who heard more or less news about tariffs. We split the sample into two sub-samples, based on whether the consumer reported hearing more than or fewer than two news reports about tariffs in the prior month. Appendix Table A.2 reports the results of the treatments on the first and second moments of tariff expectations for each subsample. Non-attentive consumers, that is, consumers who heard two or fewer news items about tariffs during the last month, respond significantly more to information involving tariffs than attentive consumers. For this subsample, all the treatments affect the first moments of respondents' expectations. In contrast, for consumers informed about tariffs, only treatments 1 and 2 are effective in shifting beliefs about future tariff levels.

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[8]Appendix Figure A.4 provides a visual representation of the effects of the treatments on the first (Panel A) and second (Panel B) moments of tariff expectations. Consistent with Bayesian learning, the slopes for each treatment group are flatter than those for the control group.

[9]The results above provide a simple benchmark for assessing the effect of information treatments on individuals' beliefs. It is also interesting to evaluate the average effects of information treatments on individuals' tariff expectations. To do so, we regress the change in both the expected level of tariffs and the uncertainty associated with those expectations (relative to their pre-treatment belief) on a dummy variable for their treatment group. The coefficients on dummy treatments should be interpreted as the average effect of receiving the corresponding information treatment on individual tariff expectations relative to the control group. Appendix Table A.7 shows the results for tariff expectations (column 1) and the perceived uncertainty (column 2). We find that, on average, treatment 1 reduces tariff expectations and tariff uncertainty, whereas treatments 2 and 4 increase both. These results suggest that our information treatments were successful in affecting consumers' beliefs in an expected direction but, so far, these effects do not allow for any heterogeneity based on the position of the prior.

We also consider whether treatment effects vary along different observable characteristics of consumers, including gender (Appendix Table A.3), education (Appendix Table A.4), income (Appendix Table A.5), and political affiliation (Appendix Table A.6). Although there are some differences across groups – for instance, all the treatments significantly affect the first moments of Republicans' expectations, while only treatment 1 significantly affects Democrats' expectations – one pattern is clear: treatment 1 produces the largest revisions in beliefs about the expected level of tariffs and treatment 2 produces the largest revisions to the second moment of tariff expectations, without meaningful variation in those treatment effects across observable characteristics.

All told, our information treatments serve as a powerful tool for generating exogenous variation in the first and second moments of tariff expectations. In the next section, we use the resulting exogenously generated variation in beliefs to study how macroeconomic expectations and spending plans respond to tariff expectations.

## 4. The Effects of Tariff Uncertainty on Consumers' Macroeconomic Expectations

To measure the effect of tariff expectations on consumers' macroeconomic expectations, we proceed in two steps. First, we use quantitative questions about the expected consequences of higher tariffs on inflation, GDP growth, and the unemployment rate. Then, we use priors and posteriors for those macroeconomic variables elicited through the bins-based and scenario-based questions, respectively, along with exogenously generated variation from the RCT to provide causal evidence on how tariff expectations affect the macroeconomic outlook.

Before providing information treatments, we elicit consumers' views on how tariffs will affect the macroeconomy. Specifically, the survey asks respondents to indicate first qualitatively and then quantitatively what they think the consequences of higher tariffs will be for inflation, economic activity (as measured by real GDP), and the unemployment rate over the next 12 months. These responses first require respondents to indicate whether each macroeconomic variable will increase or decrease. A slider is then used so respondents can indicate their quantitative expectations for how much they think the variable will increase (or decrease). While these questions do not necessarily enable causal inference, the use of such hypothetical questions has been found to be a useful complement to more experimental methods (for example, see Georgarakos et al., 2024, Pfajfar and Winkler, 2025).

Figure 2 shows that consumers appear to agree more on what tariffs will do to prices than to economic activity. Around 92 percent of respondents expect tariffs to raise consumer prices over the next 12 months. However, for GDP growth and the unemployment rate, there is considerably more disagreement, with consumers more divided on whether tariffs will cause GDP and the unemployment rate to rise or fall. For GDP growth, the disagreement is especially acute, with around two-thirds of the sample expecting tariffs to raise GDP growth. For the unemployment rate, 75 percent expect it to rise. These results indicate an apparent violation of Okun's law of

consumers' beliefs: the majority of consumers, conditional on tariffs rising, expect both GDP and the unemployment rate to rise; see Panel A of Figure 3.

But, unconditionally, as Panel B of Figure 3 shows, Okun's law still holds: on average, consumers who expect higher GDP growth also expect a lower unemployment rate. The estimated Okun's law coefficient at $-0.16$ is, however, noticeably smaller than Okun's original value of $-2$. This, again, may reflect the economic environment at the time of our survey. Through 2025, overall GDP growth remained strong despite a rise in the unemployment rate from multi-decade lows. Our finding, conditional on higher tariffs, of a close to one-to-one coefficient between higher unemployment and higher GDP, is consistent with multi-country trade models, such as Dinopoulos et al. (2024), wherein higher tariffs can raise both aggregate income and the unemployment rate. It suggests that, on average, consumers' views on the effects of tariffs cannot be explained by a single aggregate demand or supply shock dominating. One possible explanation is that consumers view tariff shocks as a combination of a negative supply shock—that increases inflation and unemployment and decreases GDP—and, at the same time, a positive productivity shock that reverses the effect on GDP growth.[10] Using the Michigan survey of consumers, Dräger et al. (2016) also document considerable disagreement on how consumers perceive relationships between different macroeconomic variables. In turn, recent work suggests that consumers often have a supply-side view of the economy when evaluating the effects of macroeconomic shocks (Andre et al., 2022). Our results corroborate these previous findings, but also reveal that, specifically in the face of tariff shocks, consumers do not "interpret" these shocks as pure supply shocks, but possibly view them as a combination of supply and productivity shocks.

We study further the heterogeneity of consumers' expectations by showing how divided they are across partisan lines in Appendix Figure A.3. Self-identified Republicans are seen to be relatively more optimistic about trade policy than self-identified Democrats: 77 percent of Republicans expect higher GDP growth and 61 percent expect a higher unemployment rate as a consequence of higher tariffs, while for Democrats, the shares are 60 percent and 86 percent, respectively. Even though there is some variation depending on the political affiliation, most people expect, at the same time, higher GDP growth and a higher unemployment rate: 73 percent of Republicans who expect a higher unemployment rate due to tariffs also expect a positive impact on GDP growth, while 57 percent of Democrats who expect a higher unemployment rate also expect a positive impact of tariffs on GDP growth.

We now turn to identifying the causal effect of tariff expectations on the macroeconomic outlook. As our RCT design generates significant exogenous variation in beliefs about expected tariffs and their uncertainty, we can estimate the causal effects of first- and second-moment changes in tariff expectations on the first and second moments of various consumer macroeconomic expectations. Following Coibion et al. (2024) and Georgarakos et al. (2024), our baseline econometric specification is given by:

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[10]There are several alternative explanations to rationalize these perceptions.

$$Expect_{i,t}^{Post} = \alpha_1 Post_{i,t}^{mean} + \beta_1 Post_{i,t}^{uncert} + \lambda Expect_{i,t}^{Prior} + controls_{i,t} + error_{i,t} \qquad (2)$$

where $Expec_{i,t}^{Post}$ is the post-treatment first or second moment of a macroeconomic expectation (inflation rate, unemployment rate, GDP growth), $Expect_{i,t}^{Prior}$ is the pre-treatment macroeconomic expectation of consumers, $controls_{i,t}$ includes prior belief about first and second moments about tariff expectations (measured pre-information treatment) and household characteristics (income, gender, education, English fluency, age, age squared, region, employment status, Hispanic, political affiliation, number of children, and number of tariff-related news articles consumed). $Post_{i,t}^{mean}$ is the posterior (immediately after treatment) belief of consumer $i$ for the tariff rate over the next 12 months and $Post_{i,t}^{uncert}$ is the posterior (after treatment) uncertainty of consumer $i$ about the tariff rate over the next 12 months. It is important to control for both the first and the second moments of tariff expectations, given their strong correlation (see Figure 1). We instrument for each set of posterior beliefs using the treatments as follows:

$$Post_{i,t}^{mean} = a_0 + \sum_{j=1}^{4} a_j \times I\{i \in treat_j\} + \sum_{j=1}^{4} b_j \times I\{i \in treat_j\} \times Prior_{i,t}^{mean}$$

$$+ \sum_{j=1}^{4} c_j \times I\{i \in treat_j\} \times Prior_{i,t}^{uncert} + controls_{i,t} + error_{i,t},$$

$$Post_{i,t}^{uncert} = \tilde{a}_0 + \sum_{j=1}^{4} \tilde{a}_j \times I\{i \in treat_j\} + \sum_{j=1}^{4} \tilde{b}_j \times I\{i \in treat_j\} \times Prior_{i,t}^{mean}$$

$$+ \sum_{j=1}^{4} \tilde{c}_j \times I\{i \in treat_j\} \times Prior_{i,t}^{uncert} + controls_{i,t} + error_{i,t}. \qquad (3)$$

The first-step stage specification essentially consists of regressing posteriors on priors, along with an interaction between priors and treatment-group indicators. Following Coibion et al. (2023b), we use a Huber regression in the first stage, then a jackknife procedure to remove outliers and influential observations.

Table 4 reports the estimation results for (2), instrumenting via (3). Panel A shows the first and second moment effects of tariffs on the expected values of inflation, GDP growth, and the unemployment rate in columns (1) through (3), respectively. The effects on macroeconomic uncertainty are then given in columns (4) through (6). Analyzing columns (1) through (3) in Panel A first, we see that a 1 percentage point increase in the level of tariffs increases (mean) expectations of inflation in 12 months' time by about 90 basis points, and this effect is statistically significant. We also see statistically significant, but somewhat weaker, effects on both GDP growth and the unemployment rate. Again, these effects are inconsistent with consumers viewing a change in tariffs as a pure shift

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in either aggregate demand or aggregate supply, accompanied by a stable and traditional Okun's law relationship. Consumers, on average, expect GDP growth and the unemployment rate to rise. However, these results are consistent with the analysis we provided in Figure 3. Interestingly, in columns (1) through (3) of Table 4, we see that tariff uncertainty does not have an effect on consumers' point expectations for the macroeconomy when controlling for the first moment effect, with the estimates for $\beta_1$ close to zero for all three macroeconomic variables.

Turning to the effects of tariff expectations on the second moments of consumers' macroeconomic expectations (see columns 4-6 in Panel A of Table 4), we find that a 1 percent increase in tariff uncertainty is associated with a 0.81 percent increase in inflation uncertainty. We also find statistically significant but smaller effects on GDP growth and unemployment uncertainty, with a 1 percent increase in tariff uncertainty raising GDP growth uncertainty by 0.56 percent and unemployment uncertainty by 0.32 percent. Moreover, increases in consumers' expectations of the level of tariffs affect only consumers' inflation uncertainty—but not their uncertainty about GDP growth or unemployment—with a 1 percentage point increase in tariff expectations increasing inflation uncertainty by about 1.8 percent. This provides evidence that an exogenous shock, in our case an increase in tariffs, increases both inflation and inflation uncertainty, as first proposed by Friedman (1977).[11]

Panels B and C of Table 4 re-estimate the same specification as in Panel A, but drop either the first- or second-moment tariff information. This lets us isolate the importance of controlling for both channels simultaneously. If one does not, one would conclude that the first- and second-moment tariff expectations have statistically significant positive effects on the means and variances of all three macroeconomic variables. In fact, first-moment tariff expectations affect only the mean macroeconomic expectations, whereas second-moment tariff expectations contribute to consumers' perceptions of the uncertainty associated with their forecasts for inflation, GDP growth, and the unemployment rate. Finally, in Panel D of Table 4, we estimate the same specification as in Panel A but by OLS. In contrast to IV regression, we now find that both the first and the second moments of tariff expectations positively affect the uncertainty of all three macroeconomic variables. This result highlights the importance of distinguishing between the first and second moments of tariff expectations, given their high correlation.

To assess the extent to which these results are masking heterogeneities across consumer types, we re-estimate (2) for subsamples of respondents. We focus on sample splits by gender (male vs. female), education (some college but not a degree or less vs. college or more), income (top half vs. bottom half), self-identified political affiliation (Democrat vs. Republican), and attentiveness to news about tariffs (heard two or fewer news articles vs. heard more than two news items about tariffs over the previous month). Table 5 reveals some interesting variation in the point estimates. For example, consumers with lower education and Democrats expect higher unemployment rates and higher GDP growth in response to exogenously higher tariff expectations. In contrast, consumers

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[11]Friedman (1977) argued that higher rates of inflation are coupled with higher levels of inflation uncertainty, which may lead to a reduction in the efficiency of the price system and thus a reduction in output. Levi and Makin (1980) and Mullineaux (1980) found empirical support for Friedman's conjecture.

with at least a college degree and those consumers that self-identify as Republicans do not associate changes in tariff levels with changes in unemployment or GDP growth. These differences are statistically significant. Moreover, there are also interesting differences in the point estimates for tariff uncertainty. For instance, Democrats increase their GDP growth and unemployment uncertainty in response to exogenously higher tariff uncertainty, whereas the estimated effects for Republicans are not significant. There are also significant differences in how GDP growth and unemployment uncertainty respond to changes in tariff expectations, depending on educational level.

These results have important economic implications. Evidence from surveys with randomized information treatments clearly shows that macroeconomic expectations affect consumers' decisions and outcomes (see Candia et al., 2020 and Coibion and Gorodnichenko, 2026). Most of this research agenda has focused on inflation expectations. For example, Coibion et al. (2023a), using a survey of Dutch households, found a negative causal effect of inflation expectations on durable spending, driven by households becoming less optimistic about their real income when they revise their inflation expectations. Similarly, Coibion et al. (2022) find that households with exogenously higher inflation expectations are less likely to have purchased a durable good. More recently, Georgarakos et al. (2024), using a survey of European households, isolate the first and second moments of inflation expectations, finding that higher inflation uncertainty affects consumption, portfolio allocation, and labor decisions. Regarding GDP growth expectations, Coibion et al. (2024) show that higher uncertainty about future economic growth leads households to reduce their total monthly spending in subsequent months. To the extent that tariff beliefs shape macroeconomic expectations, they should affect macroeconomic dynamics. Now we turn to examining how tariff beliefs affect consumers' spending plans.

## 5.  The Effects of Tariff Uncertainty on Consumers' Spending Plans

In this section, we examine how households' spending decisions are affected by changes in tariff expectations. We proceed in two steps. First, we analyze the link between tariff expectations and spending using hypothetical questions, in which consumers report whether the possibility of near-term tariff increases would make them more or less likely to take certain consumption decisions. Then, we use the exogenously generated variation from the information treatments in our RCT to provide causal evidence on how tariff expectations affect households' spending plans.

To assess how consumers' beliefs about tariffs affect their spending plans, we start by asking the following hypothetical question (before the information treatment provision): "Please think about the ways in which higher tariffs in the future may (or may not) affect your decisions today. If you heard today that in 3 months' time, taxes on all imported goods will be 20 (up to 50) percent higher than you currently expect, what would you do to prepare right now?" Consumers are asked whether: (1) they would "Get ahead of the tariffs, by bringing forward my purchases of goods made in other countries"; (2) they would "Wait and see what happens to prices"; (3) "Save"; (4) "Buy US alternatives instead of foreign goods." As discussed above, these hypothetical questions have

been found in prior research to yield results similar to those of experimental or quasi-experimental methods. We summarize the results in Figure 4.

We see that over 40 percent of consumers report that an increase in their tariff expectations of 20 percent higher than currently expected would make them more likely to bring forward purchases of goods produced abroad, and the share of consumers reporting this behavior increases to 50 percent when they are told that it can be up to 50 percent higher than previously expected. The share of consumers reporting no change is about 30 percent for both questions. This result highlights an intertemporal substitution effect, in which households bring forward their purchases to avoid higher future prices.

However, there is also a precautionary motive at play. About 40 percent of consumers report they are more likely to wait and see what happens to prices, and more than 50 percent report they prefer to save in anticipation of future higher tariffs, indicating that higher tariff uncertainty may reduce economic activity. Finally, there is a mechanism of substitution among goods coming from different origins. Around 50 percent of consumers report they are more willing to buy US alternatives instead of foreign goods.

We then focus on exogenous variation in the information treatments to provide causal evidence on how tariff beliefs affect households' spending plans. Our RCT design allows us to disentangle the role of the first and second moments of tariff expectations. After the information treatments, consumers are asked whether they have any plans to buy a new home, a car, or other big-ticket durable item, such as a large home appliance. We regress a dummy variable if the consumer reported that they plan to purchase a durable good $\mathbf{1}(PlanDur)_{i,t}$ on their tariff beliefs:

$$\mathbf{1}(PlanDur)_{i,t} \times 100 = \alpha_1 Post_{i,t}^{mean} + \beta_1 Post_{i,t}^{uncert} + \mathbf{1}(PastSpend)_{i,t} + controls_{i,t} + error_{i,t}, \quad (4)$$

where $(PastSpend)_{i,t}$ is an indicator variable for consumer $i$ reporting having purchased any large durable good (house, car, or other big-ticket item) over the previous 12 months. We include the same set of controls as in equation (2), augmented with priors and posteriors for the first- and second-moment distributions of consumers' macroeconomic expectations (inflation, GDP growth, and the unemployment rate). We use this procedure to be more confident that our estimated coefficient on tariff beliefs does not stem from cross-learning arising from revisions to other macroeconomic expectations. We use the same instrumenting strategy for tariff expectations.

Table 6 reports results across durable good categories. We find that a 1 percent increase in tariff uncertainty reduces the probability of a household planning to purchase a durable good (house, car, or other big-ticket item) over the next 12 months by 0.23 percentage points, for a given level of tariff expectations (see column 1 in Panel A of Table 6). This result is economically significant: around 42 percent of the sample in the control group plans to buy a large durable good over the next 12 months; so a 1 percent increase in tariff uncertainty decreases the unconditional likelihood of a household planning to purchase a large durable good by 0.55 percent. The effects are even stronger for cars and other big items, where a 1 percent increase in tariff uncertainty reduces the

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unconditional probability that a household plans to buy any of those durable goods by around 1 percent. For homes, we find weaker, although statistically significant, effects of tariff uncertainty on the intention to buy a house, consistent with the fact that the link between higher tariffs and home prices is less clear, given that houses are not imported. Thus, our results suggest that tariff uncertainty negatively affects durable spending plans.[12]

We next study the effect of the level of tariff expectations on durable spending plans. We find positive estimated effects across all categories. A 1 percentage-point increase in tariff expectations increases the probability of a household planning to buy a durable good by 0.80 percentage points. The effects are particularly large for cars, where a 1 percentage-point increase in tariff expectations, which is only about one-twentieth of one standard deviation (see Table 1), increases the unconditional likelihood of a household planning to buy a car by more than 3 percentage-points. These results are consistent with an intertemporal substitution effect, in which consumers anticipate higher future prices, due to tariffs, and shift their spending on durable goods forward in time.

Panels B and C of Table 6 re-estimate the same specification as in Panel A, but drop either first- or second-moment tariff information. When we estimate the specification with only the level of tariff expectations (Panel B), we cannot reject the null that the effects are zero for durable goods and cars. For cars, the estimated coefficient is negative. For home and big items, we still find statistically significant positive effects, although smaller than those coefficients reported in Panel A. When we estimate the same specification, now controlling only for tariff uncertainty (Panel C), the estimated coefficients are negative across all categories, though smaller than those in the specification controlling for the first and second moments of tariff beliefs. These results highlight the importance of distinguishing between the first and second moments of tariff expectations, given their high correlation, in order to isolate the intertemporal substitution channel from the precautionary motive. Finally, in Panel D of Table 6, we estimate the same specification as in Panel A by OLS. For durable goods, homes, and cars, we find no effect of either the first or second moments of tariff expectations on spending plans. For big items, we now find a negative effect of tariff expectations and a positive effect of tariff uncertainty, that is, exactly the opposite of what we found using the instrumental variable approach. These results indicate that the exogenous variation in the first and second moments of tariff beliefs coming from the RCT design is key for identification.

Do tariff beliefs affect everyone equally? To answer this question, we examine how the estimated coefficients vary across population subgroups. We focus again on sample splits by gender (male vs. female), education (some college but not a degree or less vs. college or more), income (top half vs. bottom half), political affiliation (Democrat vs. Republican) and attentiveness to news about tariffs (heard two news items or fewer vs. heard more than two news items about tariffs over the previous month). The full set of results is presented in Table 7. Even though, in general, we cannot reject the null that the coefficients are the same across these subgroups, we find suggestive evidence

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[12]One potential concern is that what households report they plan to do in the survey differs from what they actually do. However, available evidence suggests that surveys provide valuable information. For example, Coibion et al. (2022) document a strong positive relationship between self-reported spending data from surveys and scanner-collected data compiled by Nielsen, and Candia et al. (2026) show a strong positive relationship between planning employment, output, and pricing decisions and actual outcomes.

that the results on the estimated coefficients for first and second moments of tariff expectations in Table 6 are driven by several distinct demographic groups: males; those with low education; those with low income; self-identified Republicans; and news-attentive respondents. For example, male respondents tend to be more sensitive to the level and uncertainty of future tariff rates than female respondents.

In summary, our results suggest that exogenously higher tariff rate expectations lead households to accelerate their spending on durable goods, consistent with an intertemporal substitution effect. In contrast, higher tariff uncertainty induces households to postpone their durable purchases, consistent with a precautionary motive. As tariff increases are often accompanied by increased tariff uncertainty, it is plausible that both effects will be at play in most circumstances after a tariff increase: the "net" effect of these policy changes could go in either direction. However, because these effects often occur simultaneously, it is likely that this "net" effect will be attenuated relative to our estimates of the individual impacts of changes to tariff rate levels and tariff uncertainty.

## 6. Conclusion

This paper contributes to an understanding of the macroeconomic effects of tariff policy changes by providing new empirical evidence. It does so by directly asking more than 11,000 nationally representative consumers in the US what they expect to happen both to the macroeconomy and to their own spending plans. Our specific contribution is to use informational treatments within an RCT experiment to generate exogenous variation in consumers' expectations of tariff rates, both to the level of these expectations and to perceptions of tariff rate uncertainty.

Our findings point to the importance of distinguishing between the first- and second-moment effects of tariff rate changes, as their macroeconomic effects, notably on consumers' inflation forecasts and their spending plans, are distinct. This result is indicative of the different underlying economic mechanisms at play as the US changed tariff rate policy through 2025.

Consumers perceive an especially strong relationship between tariffs and inflation: a 1 percentage-point increase in the level of tariffs increases (mean) inflation expectations by 90 basis points, while a 1 percentage-point increase in tariff uncertainty is associated with a 0.81 percentage-point increase in inflation. But first-moment shocks to tariffs, absent second-moment effects, have weaker effects on consumers' perceptions of the uncertainty around their GDP growth and the unemployment rate expectations. Consumers expect isolated increases in tariff rate levels to increase both GDP growth and the unemployment rate. These results therefore suggest that, on average, consumers do not have a single narrative in mind, whereby tariff shocks are seen as pure aggregate demand or aggregate supply shocks. One possible explanation is that consumers "interpreted" the tariff changes of 2025 as a combination of an adverse aggregate supply and a positive productivity shock — hence inflation expectations rose, but so did GDP growth and the unemployment rate expectations in violation of Okun's law. Behind these "average" effects, we observe considerable heterogeneity across consumers in terms of the expected economic effects of changes to tariffs. Notably, we find that consumers'

beliefs are divided along partisan lines. Self-identifying Republicans are far more optimistic about how the macroeconomy will react.

The importance of disentangling first- from second-moment tariff rate expectations is most salient when turning to how consumers expect to adjust their own spending plans. We find that increases in tariff rate uncertainty, holding the expected level of tariffs constant, strongly discourage consumers from buying durables, especially cars and big-ticket items. In contrast, if there were no accompanying increase in tariff rate uncertainty, expectations of higher tariff rate levels encourage consumers to increase consumption, consistent with an intertemporal substitution effect. The relative strength of these two opposing mechanisms will therefore dictate whether consumers bring forward or delay their consumption of durable goods. Our results thereby highlight the importance of how tariff rate policy changes are communicated, given that communication can affect the relative importance of first- and second-moment shocks to consumers' tariff rate expectations.

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Table 1: Descriptive statistics for pre-treatment expectations

| One-year-ahead expectation | Dependent Variable | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Implied mean | | | | | Implied uncertainty | | | | |
| | mean (1) | p10 (2) | p50 (3) | p90 (4) | s.d. (5) | mean (6) | p10 (7) | p50 (8) | p90 (9) | s.d. (10) |
| Targeted Tariffs | 34.55 | 15.00 | 31.25 | 62.50 | 19.49 | 14.11 | 2.89 | 10.00 | 29.31 | 10.30 |
| Inflation | 4.10 | -0.59 | 3.15 | 11.30 | 4.70 | 3.74 | 0.60 | 2.33 | 8.27 | 3.06 |
| GDP growth | 1.12 | -4.55 | 0.75 | 6.80 | 4.79 | 4.40 | 0.98 | 3.90 | 8.30 | 3.11 |
| Unemployment rate | 6.48 | 3.65 | 5.95 | 11.00 | 2.46 | 1.66 | 0.40 | 1.41 | 3.14 | 1.10 |

**Notes**: p10, p50, p90 stand for the $10^{\text{th}}$, $50^{\text{th}}$, and $90^{\text{th}}$ percentiles. Implied uncertainty is measured with the standard deviation implied by the reported subjective distribution.

Table 2: Predictors of tariff expectations

| | Dependent Variable | |
|---|---|---|
| | Implied mean | log(Implied uncertainty) |
| | (1) | (2) |
| Age | -0.132*** | -0.008*** |
| | (0.049) | (0.003) |
| Age$^2$/100 | -0.033 | -0.005** |
| | (0.050) | (0.003) |
| Male | -0.998*** | 0.050*** |
| | (0.282) | (0.015) |
| Log(household income) | -1.917*** | -0.020** |
| | (0.174) | (0.009) |
| Education (omitted: $\leqslant$ high school) | | |
| Some college but not degree | -1.444*** | -0.061*** |
| | (0.360) | (0.020) |
| College+ | 1.243*** | 0.132*** |
| | (0.381) | (0.021) |
| English native | -2.407*** | -0.324*** |
| | (0.297) | (0.016) |
| Hispanic | 0.950** | 0.071*** |
| | (0.419) | (0.022) |
| No. kids | 1.502*** | 0.087*** |
| | (0.155) | (0.009) |
| No. news articles read | 0.130*** | -0.006*** |
| | (0.038) | (0.002) |
| Political affiliation (omitted: independent) | | |
| Democrat | 1.849*** | 0.027 |
| | (0.350) | (0.018) |
| Republican | -1.448*** | -0.024 |
| | (0.350) | (0.019) |
| Other | 1.466* | 0.029 |
| | (0.803) | (0.040) |
| Employment status (omitted: no job) | | |
| Government | 0.488 | 0.215*** |
| | (0.563) | (0.028) |
| Private sector | -0.351 | 0.067** |
| | (0.387) | (0.021) |
| Non-profit organization | 1.706** | 0.066* |
| | (0.736) | (0.039) |
| Self-employed | -0.896 | 0.018 |
| | (0.602) | (0.031) |
| Civil status (omitted: married) | | |
| Single | -0.154 | -0.019 |
| | (0.403) | (0.022) |
| Other | -0.068 | -0.046** |
| | (0.372) | (0.020) |
| Region (omitted: Northeast) | | |
| South | 1.794*** | 0.111*** |
| | (0.381) | (0.020) |
| Midwest | -2.038*** | -0.017 |
| | (0.405) | (0.022) |
| West | -0.548 | 0.074*** |
| | (0.452) | (0.024) |
| Observations | 11,690 | 11,733 |
| $R^2$ | 0.112 | 0.258 |

**Notes**: Huber robust regression. Heteroskedasticity robust standard errors are reported in parentheses. ***, **, * denote statistical significance at 1, 5 and 10 percent levels. Tariff expectations are those for the targeted tariff rate.

Table 3: The effect of treatments on posterior belief

| | Dependent variable: Posterior belief | |
| | Implied mean | log(Implied uncertainty) |
| | (1) | (2) |
|---|---|---|
| *Prior* | 0.329*** | 0.280*** |
| | (0.015) | (0.018) |
| {*Treat 1*}× {*Prior*} | -0.125*** | 0.037 |
| | (0.020) | (0.027) |
| {*Treat 2*}× {*Prior*} | -0.067*** | -0.223*** |
| | (0.020) | (0.024) |
| {*Treat 3*}× {*Prior*} | -0.045** | -0.033 |
| | (0.021) | (0.026) |
| {*Treat 4*}× {*Prior*} | -0.056*** | -0.075*** |
| | (0.022) | (0.025) |
| {*Treat 1*} | 1.158 | -0.226*** |
| | (0.828) | (0.074) |
| {*Treat 2*} | 5.195*** | 0.758*** |
| | (0.828) | (0.066) |
| {*Treat 3*} | 1.082 | 0.072 |
| | (0.847) | (0.071) |
| {*Treat 4*} | 6.528*** | 0.370*** |
| | (0.853) | (0.070) |
| Observations | 11,794 | 11,490 |
| $R^2$ | 0.175 | 0.101 |
| F-stat | 237 | 128.5 |

**Notes**: The table reports results for regressing posterior beliefs on prior beliefs, treatment groups and interactions. Huber robust regression. Heteroskedasticity robust standard errors are reported in parentheses. ***, **, * denote statistical significance at 1, 5 and 10 percent levels.

Table 4: Effects of First and Second Moments for Expected Tariff Rate on Consumers' Macroeconomic Expectations

| | Dependent Variable | | | | | |
|---|---|---|---|---|---|---|
| | Expected mean | | | 100xlog(Expected uncertainty) | | |
| | Inflation (1) | GDP growth (2) | Unemp. (3) | Inflation (4) | GDP growth (5) | Unemp. (6) |
| **Panel A. Controlling for first and second moments, IV** | | | | | | |
| Posterior mean | 0.91*** | 0.64*** | 0.58*** | 1.82* | 1.44 | 1.07 |
| | (0.15) | (0.15) | (0.12) | (0.99) | (1.01) | (0.85) |
| 100xlog(Post.uncert.) | 0.01 | -0.01 | -0.02 | 0.81*** | 0.56*** | 0.32* |
| | (0.03) | (0.03) | (0.02) | (0.20) | (0.20) | (0.17) |
| Observations | 11,163 | 11,162 | 11,144 | 11,157 | 11,161 | 11,120 |
| $R^2$ | 0.24 | 0.30 | 0.48 | 0.28 | 0.40 | 0.46 |
| 1st stage F-stat (mean) | 35.05 | 33.31 | 33.35 | 34.22 | 33.20 | 33.01 |
| 1st stage F-stat (uncert) | 29.68 | 28.09 | 27.51 | 29.06 | 26.75 | 34.09 |
| KP Wald test | 6.220 | 5.050 | 4.943 | 4.304 | 3.977 | 4.571 |
| **Panel B. Controlling only for first moment, IV** | | | | | | |
| Posterior mean | 1.06*** | 0.56*** | 0.49*** | 4.38*** | 3.20*** | 2.03*** |
| | (0.07) | (0.06) | (0.05) | (0.40) | (0.38) | (0.37) |
| Observations | 11,667 | 11,646 | 11,657 | 11,640 | 11,665 | 11,663 |
| $R^2$ | 0.18 | 0.30 | 0.47 | 0.26 | 0.31 | 0.36 |
| 1st stage F-stat (mean) | 44.35 | 44.45 | 42.31 | 43.75 | 44.48 | 44.62 |
| **Panel C. Controlling only for second moment, IV** | | | | | | |
| 100xlog(Post.uncert.) | 0.20*** | 0.09*** | 0.07*** | 1.17*** | 0.81*** | 0.42*** |
| | (0.02) | (0.01) | (0.01) | (0.08) | (0.08) | (0.07) |
| Observations | 11,336 | 11,363 | 11,351 | 11,342 | 11,342 | 11,369 |
| $R^2$ | -0.02 | 0.19 | 0.31 | 0.18 | 0.36 | 0.41 |
| 1st stage F-stat (uncert.) | 36.87 | 36.69 | 35.22 | 35.09 | 35.63 | 35.49 |
| **Panel D. Controlling for first and second moments, OLS** | | | | | | |
| Posterior mean | 0.48*** | 0.47*** | 0.63*** | 0.80*** | 1.03*** | 1.14*** |
| | (0.05) | (0.04) | (0.03) | (0.23) | (0.22) | (0.19) |
| 100xlog(Post.uncert.) | 0.01 | 0.01* | 0.00 | 0.45*** | 0.48*** | 0.51*** |
| | (0.01) | (0.01) | (0.00) | (0.04) | (0.04) | (0.03) |
| Observations | 2,241 | 2,239 | 2,240 | 2,240 | 2,241 | 2,236 |
| $R^2$ | 0.31 | 0.31 | 0.51 | 0.39 | 0.42 | 0.50 |

Notes: The table reports estimated coefficients on posterior beliefs about tariffs in specification (2). The first stage is given by specification (3). For Panel B specifications (2) and (3) exclude beliefs for uncertainty. For Panel C specifications (2) and (3) exclude beliefs for mean forecast. Panel D estimates specification (2) by OLS for the control group. Heteroskedasticity robust standard errors are reported in parentheses. ***, **, * denote statistical significance at 1, 5 and 10 percent levels.

## Table 5: Subsample analysis for macroeconomic expectations

| subsample | Posterior mean | | 100xlog(Posterior uncertainty) | | N obs. |
|---|---|---|---|---|---|
| | coef. | s.e. | coef. | s.e. | |
| | (1) | (2) | (3) | (4) | (5) |
| **Panel A. Expected mean** | | | | | |
| **Inflation** | | | | | |
| Male | 0.678*** | (0.198) | 0.030 | (0.037) | 5,749 |
| Female | 1.090*** | (0.208) | -0.002 | (0.040) | 5,414 |
| p-value (equality) | 0.152 | | 0.561 | | |
| Some college or less | 0.957*** | (0.163) | 0.013 | (0.031) | 5,362 |
| College + | 0.749** | (0.317) | 0.013 | (0.057) | 5,801 |
| p-value (equality) | 0.560 | | 0.997 | | |
| Low income | 0.795*** | (0.186) | 0.053 | (0.040) | 5,166 |
| High income | 0.896*** | (0.227) | 0.010 | (0.039) | 5,996 |
| p-value (equality) | 0.731 | | 0.441 | | |
| Democrat | 1.119*** | (0.211) | 0.028 | (0.046) | 4,214 |
| Republican | 0.723** | (0.366) | 0.006 | (0.057) | 3,709 |
| p-value (equality) | 0.348 | | 0.763 | | |
| No attentive to tariffs | 0.969*** | (0.262) | 0.029 | (0.048) | 5,989 |
| Attentive to tariffs | 0.954*** | (0.190) | -0.016 | (0.036) | 5,174 |
| p-value (equality) | 0.964 | | 0.452 | | |
| **GDP growth** | | | | | |
| Male | 0.544** | (0.216) | -0.012 | (0.041) | 5,741 |
| Female | 0.765*** | (0.187) | -0.022 | (0.037) | 5,421 |
| p-value (equality) | 0.440 | | 0.854 | | |
| Some college or less | 0.818*** | (0.165) | -0.036 | (0.032) | 5,367 |
| College + | -0.049 | (0.350) | 0.097 | (0.064) | 5,795 |
| p-value (equality) | 0.025 | | 0.061 | | |
| Low income | 0.484*** | (0.177) | 0.016 | (0.039) | 5,166 |
| High income | 0.711*** | (0.219) | -0.011 | (0.039) | 5,996 |
| p-value (equality) | 0.419 | | 0.620 | | |
| Democrat | 0.859*** | (0.213) | -0.018 | (0.046) | 4,208 |
| Republican | 0.019 | (0.350) | 0.080 | (0.057) | 3,718 |
| p-value (equality) | 0.040 | | 0.179 | | |
| No attentive to tariffs | 0.736*** | (0.233) | 0.014 | (0.042) | 6,009 |
| Attentive to tariffs | 0.644*** | (0.199) | -0.047 | (0.040) | 5,153 |
| p-value (equality) | 0.764 | | 0.298 | | |
| **Unemployment rate** | | | | | |
| Male | 0.346** | (0.174) | -0.002 | (0.032) | 5,736 |
| Female | 0.733*** | (0.133) | -0.021 | (0.028) | 5,408 |
| p-value (equality) | 0.076 | | 0.666 | | |
| Some college or less | 0.673*** | (0.119) | -0.027 | (0.024) | 5,354 |
| College + | 0.122 | (0.279) | 0.051 | (0.051) | 5,790 |
| p-value (equality) | 0.070 | | 0.166 | | |
| Low income | 0.591*** | (0.136) | -0.020 | (0.030) | 5,165 |
| High income | 0.559*** | (0.173) | -0.011 | (0.030) | 5,979 |
| p-value (equality) | 0.886 | | 0.844 | | |
| Democrat | 0.542*** | (0.157) | 0.033 | (0.034) | 4,202 |
| Republican | 0.185 | (0.272) | 0.021 | (0.046) | 3,705 |
| p-value (equality) | 0.256 | | 0.840 | | |
| No attentive to tariffs | 0.427** | (0.180) | 0.020 | (0.035) | 6,000 |
| Attentive to tariffs | 0.791*** | (0.155) | -0.060** | (0.030) | 5,144 |
| p-value (equality) | 0.126 | | 0.084 | | |

(continued on next page)

| subsample | Posterior mean | | 100xlog(Posterior uncertainty) | | |
|---|---|---|---|---|---|
| | coef. | s.e. | coef. | s.e. | N obs. |
| | (1) | (2) | (3) | (4) | (5) |
| **Panel B. 100xlog(Expected uncertainty)** | | | | | |
| **Inflation** | | | | | |
| Male | 0.570 | (1.372) | 0.941*** | (0.263) | 5,739 |
| Female | 2.685** | (1.147) | 0.725*** | (0.237) | 5,418 |
| p-value (equality) | 0.237 | | 0.542 | | |
| Some college or less | 2.791*** | (1.038) | 0.690*** | (0.210) | 5,358 |
| College + | 0.708 | (1.860) | 0.781** | (0.351) | 5,799 |
| p-value (equality) | 0.328 | | 0.824 | | |
| Low income | 1.553 | (1.026) | 0.768*** | (0.227) | 5,164 |
| High income | 1.268 | (1.530) | 0.997*** | (0.282) | 5,993 |
| p-value (equality) | 0.877 | | 0.847 | | |
| Democrat | 2.056* | (1.156) | 0.917*** | (0.277) | 4,214 |
| Republican | 1.192 | (2.690) | 0.817* | (0.438) | 3,704 |
| p-value (equality) | 0.768 | | 0.847 | | |
| No attentive to tariffs | 2.395 | (1.519) | 0.855*** | (0.286) | 6,002 |
| Attentive to tariffs | 2.518** | (1.278) | 0.560** | (0.265) | 5,155 |
| p-value (equality) | 0.950 | | 0.450 | | |
| **GDP growth** | | | | | |
| Male | 0.980 | (1.339) | 0.576** | (0.255) | 5,731 |
| Female | 0.624 | (1.186) | 0.804*** | (0.241) | 5,430 |
| p-value (equality) | 0.843 | | 0.514 | | |
| Some college or less | 2.974*** | (1.106) | 0.311 | (0.220) | 5,369 |
| College + | -1.394 | (1.901) | 1.021*** | (0.350) | 5,792 |
| p-value (equality) | 0.047 | | 0.086 | | |
| Low income | 0.785 | (1.057) | 0.678*** | (0.223) | 5,175 |
| High income | 0.501 | (1.439) | 0.773*** | (0.267) | 5,986 |
| p-value (equality) | 0.874 | | 0.786 | | |
| Democrat | 0.475 | (1.216) | 0.993*** | (0.257) | 4,216 |
| Republican | 3.750 | (2.704) | 0.070 | (0.456) | 3,702 |
| p-value (equality) | 0.269 | | 0.078 | | |
| No attentive to tariffs | 2.395 | (1.519) | 0.855*** | (0.286) | 6,002 |
| Attentive to tariffs | 2.518** | (1.278) | 0.560** | (0.265) | 5,155 |
| p-value (equality) | 0.950 | | 0.450 | | |
| **Unemployment rate** | | | | | |
| Male | 0.334 | (1.167) | 0.444** | (0.225) | 5,716 |
| Female | 0.029 | (0.986) | 0.644*** | (0.210) | 5,404 |
| p-value (equality) | 0.842 | | 0.517 | | |
| Some college or less | 1.698* | (0.904) | 0.193 | (0.189) | 5,334 |
| College + | -1.107 | (1.611) | 0.738** | (0.307) | 5,786 |
| p-value (equality) | 0.129 | | 0.131 | | |
| Low income | 0.926 | (0.904) | 0.260 | (0.205) | 5,160 |
| High income | -0.318 | (1.387) | 0.668*** | (0.259) | 5,960 |
| p-value (equality) | 0.452 | | 0.216 | | |
| Democrat | 0.433 | (1.080) | 0.737*** | (0.243) | 4,194 |
| Republican | -0.538 | (2.228) | 0.431 | (0.390) | 3,687 |
| p-value (equality) | 0.695 | | 0.505 | | |
| No attentive to tariffs | -0.633 | (1.262) | 0.697*** | (0.248) | 5,999 |
| Attentive to tariffs | 2.478** | (1.194) | 0.013 | (0.248) | 5,121 |
| p-value (equality) | 0.073 | | 0.051 | | |

**Notes**: The table reports estimated coefficients on posterior beliefs about tariffs in specification (2) for various subsamples. The first stage is given by specification (3). Heteroskedasticity robust standard errors are reported in parentheses. p-value (equality) reports p-value of equality of estimated coefficients across subsamples. ***, **, * denote statistical significance at 1, 5, and 10 percent levels.

Table 6: The effects of tariff expectations on durable goods spending plans

| | Dependent variable: Plan to buy | | | |
| --- | --- | --- | --- | --- |
| | Durable | Home | Car | Big Item |
| | (1) | (2) | (3) | (4) |
| **Panel A. Controlling only for second moment, IV** | | | | |
| Posterior mean | 0.80* | 0.41* | 0.76** | 0.59* |
| | (0.47) | (0.23) | (0.35) | (0.36) |
| 100xlog(Post.uncert.) | -0.23*** | -0.08** | -0.25*** | -0.19*** |
| | (0.09) | (0.03) | (0.06) | (0.06) |
| Observations | 11,139 | 11,192 | 11,166 | 11,181 |
| $R^2$ | 0.16 | 0.16 | 0.03 | 0.04 |
| $1^{st}$ stage F-stat (mean) | 23.21 | 23.95 | 22.68 | 24.39 |
| $1^{st}$ stage F-stat (uncert) | 17.00 | 18.99 | 17.32 | 17.22 |
| KP Wald test | 5.217 | 6.633 | 5.511 | 5.428 |
| **Panel B. Controlling only for first moment, IV** | | | | |
| Posterior mean | 0.17 | 0.23** | -0.05 | 0.34* |
| | (0.22) | (0.11) | (0.20) | (0.18) |
| Observations | 11,639 | 11,640 | 11,663 | 11,661 |
| $R^2$ | 0.32 | 0.34 | 0.15 | 0.24 |
| $1^{st}$ stage F-stat (mean) | 26.78 | 27.37 | 26.87 | 29.40 |
| **Panel C. Controlling only for second moment, IV** | | | | |
| 100xlog(Post.uncert.) | -0.10** | -0.03** | -0.14*** | -0.04 |
| | (0.04) | (0.02) | (0.03) | (0.03) |
| Observations | 11,322 | 11,372 | 11,335 | 11,335 |
| $R^2$ | 0.31 | 0.35 | 0.11 | 0.25 |
| $1^{st}$ stage F-stat (uncert) | 19.18 | 23.87 | 20.13 | 22.46 |
| **Panel D. Controlling for first and second moments, OLS** | | | | |
| Posterior mean | -0.08 | -0.07 | -0.02 | -0.20** |
| | (0.11) | (0.01) | (0.09) | (0.10) |
| 100xlog(Post.uncert.) | -0.00 | 0.01 | -0.01 | 0.04** |
| | (0.02) | (0.01) | (0.02) | (0.02) |
| Observations | 2,232 | 2,241 | 2,238 | 2,239 |
| $R^2$ | 0.33 | 0.38 | 0.18 | 0.26 |

**Notes**: The table reports estimated coefficients on posterior beliefs about tariffs in specification (4). The first stage is given by specification (3). For Panel B specifications (4) and (3) exclude beliefs for uncertainty. For Panel C specifications (4) and (3) exclude beliefs for mean forecast. Panel D estimates specification (4) by OLS for the control group. The dependent variables take values 0 (no plan to buy) and 100 (plan to buy). Heteroskedasticity robust standard errors are reported in parentheses. ***, **, * denote statistical significance at 1, 5, and 10 percent levels.

Table 7: Subsample analysis for durable goods spending plans

| subsample | Posterior mean | | 100xlog(Posterior uncertainty) | | N obs. |
| --- | --- | --- | --- | --- | --- |
| | coef. | s.e. | coef. | s.e. | |
| | (1) | (2) | (3) | (4) | (5) |
| **Panel A. Durable** | | | | | |
| Male | 0.701 | (0.584) | -0.159 | (0.111) | 5,722 |
| Female | 0.022 | (0.461) | -0.076 | (0.085) | 5,417 |
| p-value (equality) | 0.340 | | 0.529 | | |
| Some college or less | 0.454 | (0.409) | -0.191** | (0.075) | 5,351 |
| College + | -1.080 | (0.941) | 0.264 | (0.170) | 5,788 |
| p-value (equality) | 0.134 | | 0.015 | | |
| Low income | 0.970** | (0.397) | -0.183** | (0.080) | 5,176 |
| High income | -1.242 | (0.758) | 0.124 | (0.129) | 5,963 |
| p-value (equality) | 0.009 | | 0.042 | | |
| Democrat | -0.519 | (0.583) | 0.037 | (0.105) | 4,199 |
| Republican | 0.576 | (0.812) | -0.199 | (0.135) | 3,704 |
| p-value (equality) | 0.272 | | 0.158 | | |
| No attentive to tariffs | -0.037 | (0.632) | -0.118 | (0.113) | 6,002 |
| Attentive to tariffs | 0.943** | (0.475) | -0.182** | (0.093) | 5,137 |
| p-value (equality) | 0.207 | | 0.630 | | |
| **Panel B. Home** | | | | | |
| Male | 0.254 | (0.253) | -0.062 | (0.038) | 5,758 |
| Female | 0.309 | (0.195) | -0.086** | (0.035) | 5,434 |
| p-value (equality) | 0.877 | | 0.652 | | |
| Some college or less | 0.293* | (0.169) | -0.094*** | (0.026) | 5,401 |
| College + | 0.135 | (0.491) | 0.010 | (0.077) | 5,791 |
| p-value (equality) | 0.750 | | 0.201 | | |
| Low income | 0.475*** | (0.173) | -0.114*** | (0.033) | 5,187 |
| High income | 0.125 | (0.339) | -0.024 | (0.048) | 6,005 |
| p-value (equality) | 0.360 | | 0.120 | | |
| Democrat | -0.228 | (0.284) | -0.018 | (0.041) | 4,210 |
| Republican | 0.202 | (0.285) | -0.033 | (0.043) | 3,726 |
| p-value (equality) | 0.276 | | 0.805 | | |
| No attentive to tariffs | 0.408 | (0.322) | -0.094** | (0.048) | 6,013 |
| Attentive to tariffs | 0.273 | (0.192) | -0.073** | (0.034) | 5,179 |
| p-value (equality) | 0.727 | | 0.729 | | |
| **Panel C. Car** | | | | | |
| Male | 1.066* | (0.546) | -0.325*** | (0.099) | 5,730 |
| Female | 0.107 | (0.362) | -0.119* | (0.063) | 5,436 |
| p-value (equality) | 0.137 | | 0.078 | | |
| Some college or less | 0.368 | (0.316) | -0.221*** | (0.053) | 5,369 |
| College + | 0.361 | (0.879) | -0.092 | (0.157) | 5,797 |
| p-value (equality) | 0.996 | | 0.436 | | |
| Low income | 0.672*** | (0.306) | -0.188*** | (0.060) | 5,186 |
| High income | -0.078 | (0.661) | -0.135 | (0.104) | 5,980 |
| p-value (equality) | 0.304 | | 0.656 | | |
| Democrat | -0.167 | (0.474) | -0.083 | (0.083) | 4,216 |
| Republican | 0.704 | (0.691) | -0.253** | (0.205) | 3,706 |
| p-value (equality) | 0.272 | | 0.205 | | |
| No attentive to tariffs | 0.181 | (0.606) | -0.227** | (0.096) | 6,006 |
| Attentive to tariffs | 0.729** | (0.350) | -0.194*** | (0.069) | 5,160 |
| p-value (equality) | 0.410 | | 0.828 | | |
| **Panel D. Big Item** | | | | | |
| Male | 0.628 | (0.411) | -0.115 | (0.071) | 5,747 |
| Female | -0.146 | (0.368) | -0.088 | (0.064) | 5,434 |
| p-value (equality) | 0.150 | | 0.745 | | |
| Some college or less | 0.218 | (0.277) | -0.153*** | (0.047) | 5,392 |
| College + | -0.156 | (0.894) | 0.098 | (0.159) | 5,789 |
| p-value (equality) | 0.686 | | 0.130 | | |
| Low income | 0.514* | (0.265) | -0.127** | (0.055) | 5,189 |
| High income | -0.303 | (0.636) | -0.004 | (0.099) | 5,992 |
| p-value (equality) | 0.232 | | 0.274 | | |
| Democrat | 0.307 | (0.473) | -0.056 | (0.075) | 4,213 |
| Republican | 0.041 | (0.546) | -0.121 | (0.088) | 3,715 |
| p-value (equality) | 0.699 | | 0.569 | | |
| No attentive to tariffs | -0.006 | (0.445) | -0.035 | (0.071) | 6,023 |
| Attentive to tariffs | 0.813** | (0.399) | -0.202*** | (0.073) | 5,158 |
| p-value (equality) | 0.168 | | 0.099 | | |

**Notes**: The table reports estimated coefficients on posterior beliefs about tariffs in specification (2) for various subsamples. The first stage is given by specification (4). The dependent variables take values 0 (no plan to buy) and 100 (plan to buy). Heteroskedasticity robust standard errors are reported in parentheses. p-value (equality) reports p-value of equality of estimated coefficients across subsamples. ***, **, * denote statistical significance at 1, 5, and 10 percent levels.

Figure 1. Distribution of Tariff Rate Expectations for the Control Group
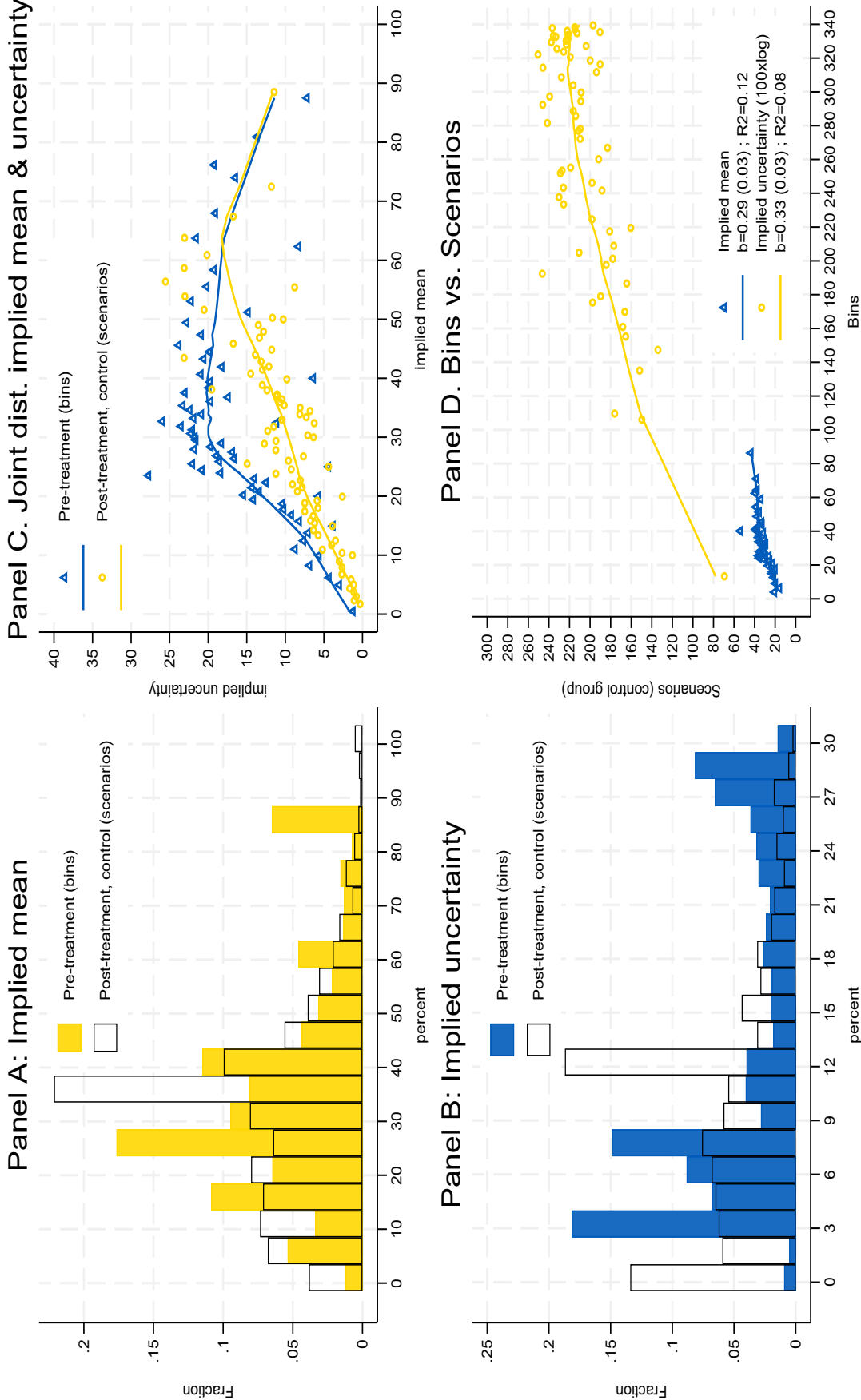


**Notes:** Panels A and B plot the distribution for beliefs elicited with different survey questions. Panel C shows binscatters for first vs. second moments of tariff expectations by survey question. Panel D shows binscatters of responses for bins-based questions by moment of tariff expectations. Huber robust weights are used in Panels C and D.

Figure 2. Consequences of higher tariffs on:
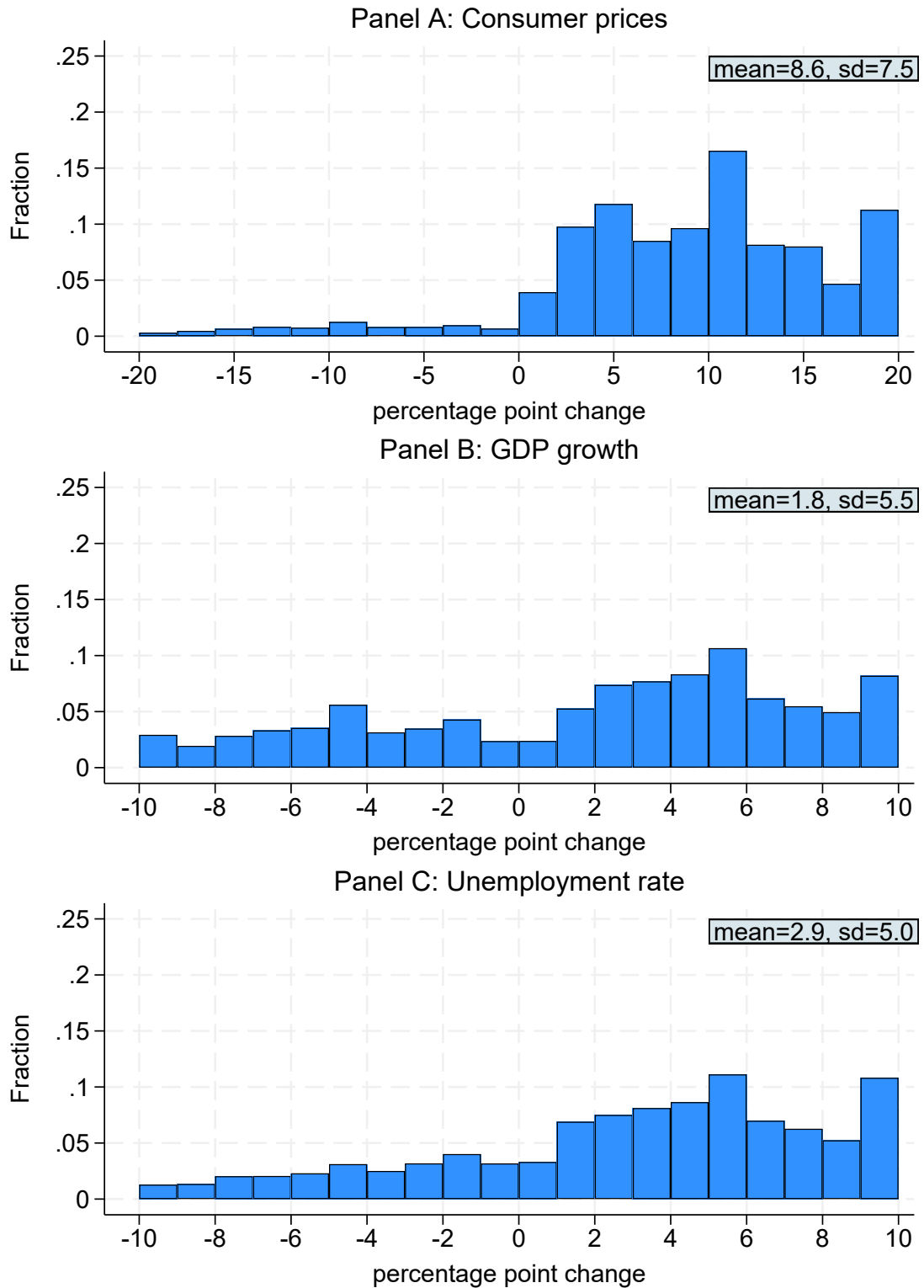
## Panel A: Consumer prices



mean=8.6, sd=7.5

## Panel B: GDP growth



mean=1.8, sd=5.5

## Panel C: Unemployment rate



mean=2.9, sd=5.0

**Notes**: The figure reports the histogram of consequences of higher tariffs on consumer prices (Panel A), GDP growth (Panel B) and the unemployment rate (Panel C). Respondents are asked: "By how much do you think consumer prices/GDP growth/the unemployment rate will decrease/increase as a consequence of higher tariffs over the next twelve months?"

Figure 3. GDP growth vs. Unemployment rate
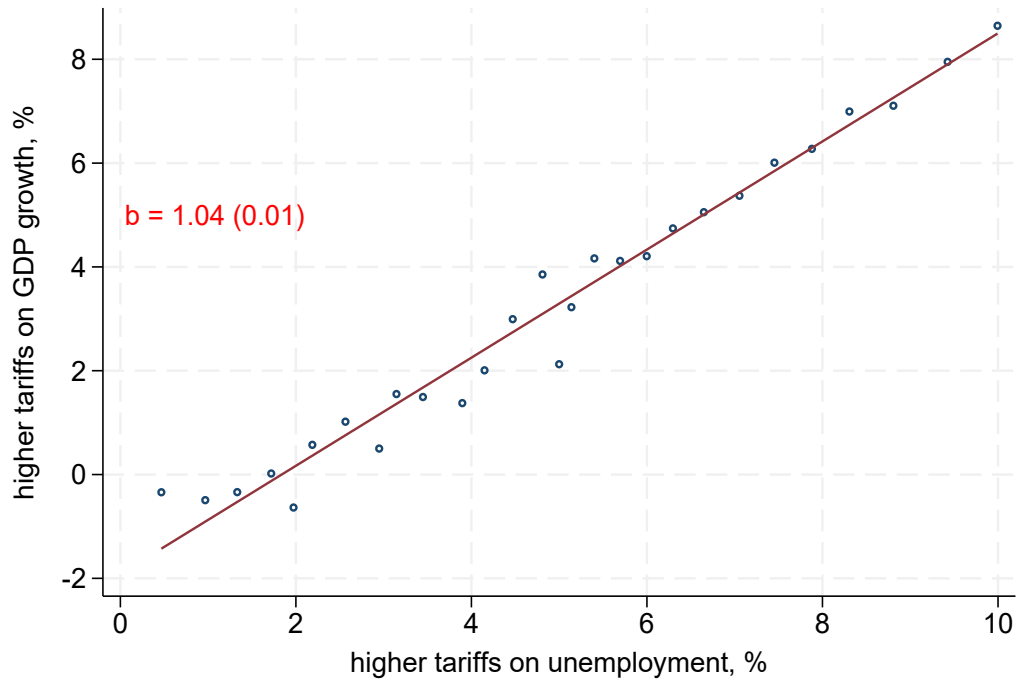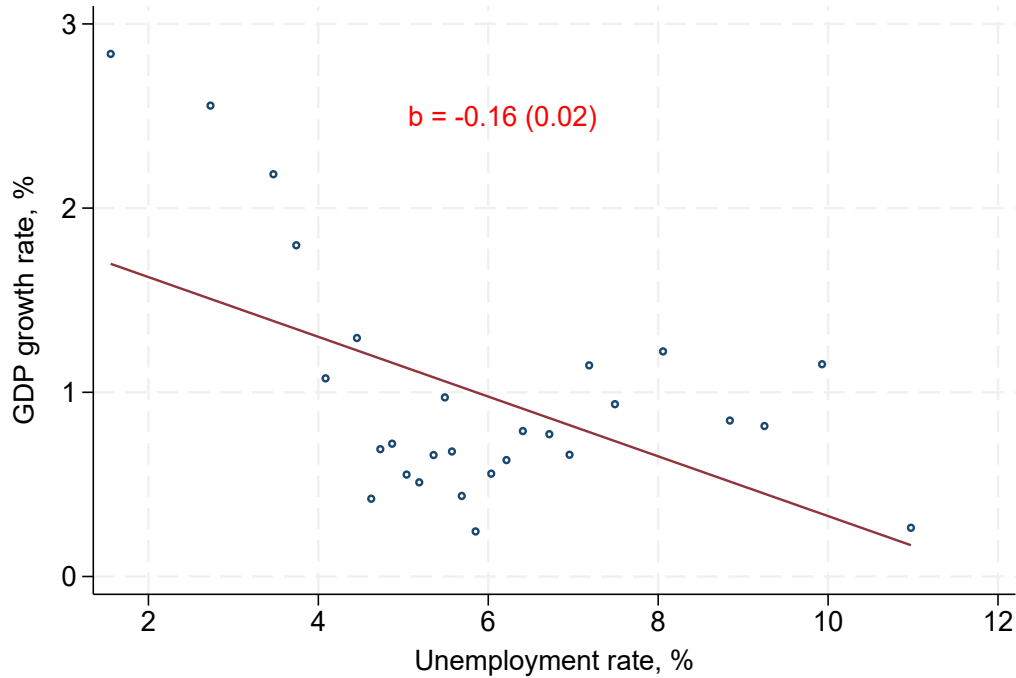
**Notes**: Panel A plots the binscatter between GDP growth and unemployment expectations over the next 12 months. Panel B plots the binscatter between GDP growth and unemployment resulting from higher tariffs. Uses Huber robust regression to downweight the importance of outliers and influential observations. Robust standard error is in parentheses. Respondents are asked: "By how much do you think consumer prices/GDP growth/the unemployment rate will decrease/increase as a consequence of higher tariffs over the next twelve months?"

Figure 4. Distribution of Tariff Expectations
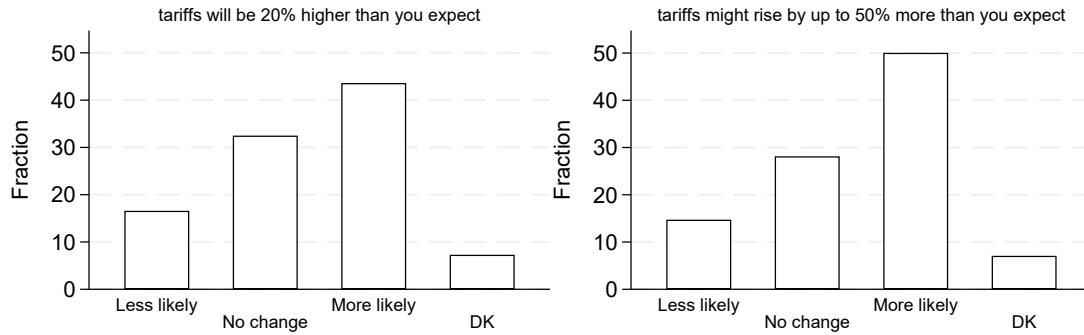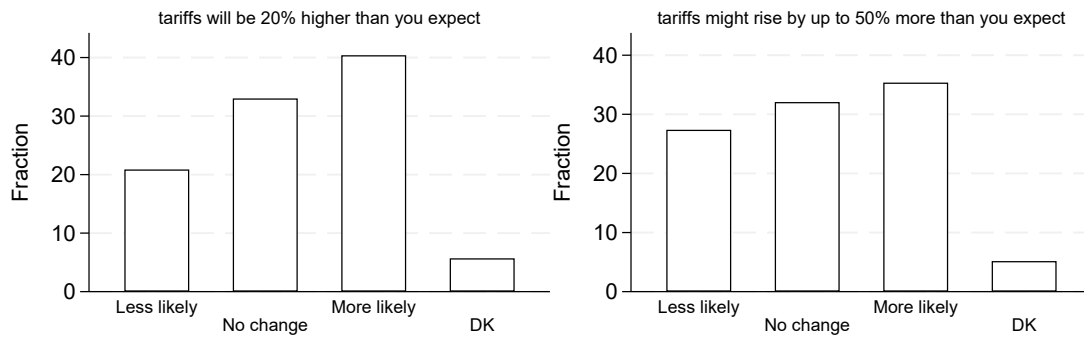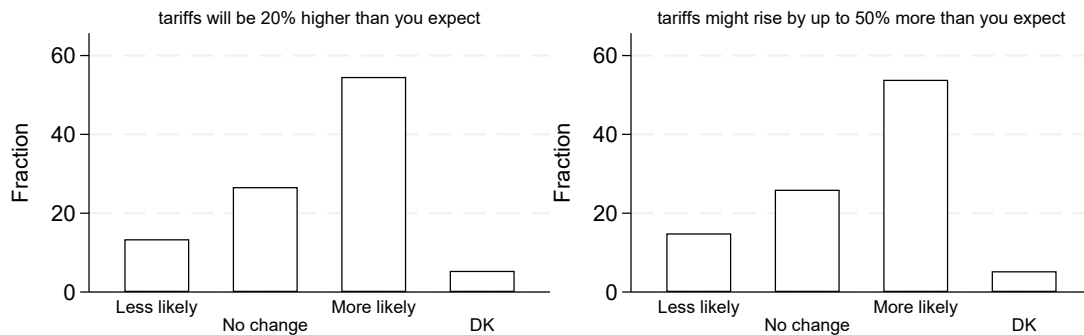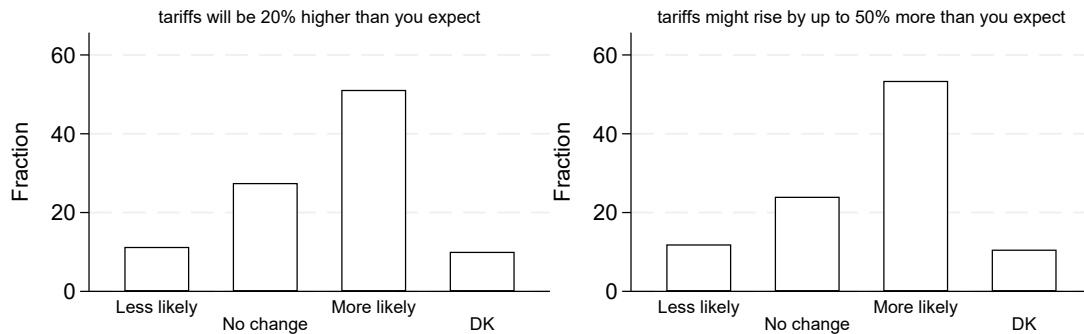
**Notes**: Consumers were asked: "Please think about the ways in which higher tariffs in the future may (or may not) affect your decisions today. If you heard today that in 3 months' time, taxes on all imported goods will be 20 (up to 50) percent higher than you currently expect, what would you do to prepare right now?" Consumers are asked whether: (1) they would "Get ahead of the tariffs, by bringing forward my purchases of goods made in other countries"; (2) they would "Wait and see what happens to prices"; (3) "Save"; (4) "Buy US alternatives instead of foreign goods."

# Online Appendix for "The Causal Effects of Tariff Uncertainty on Consumers' Macroeconomic Expectations and Spending Plans" by Candia, Mitchell, and Pfajfar

This appendix contains additional tables and figures, as referenced in the main paper.

Table A.1: Predictors of treatment status

| | Control | Treatment 1 | Treatment 2 | Treatment 3 | Treatment 4 |
|---|---|---|---|---|---|
| | | | Dependent variable: indicator variable for treatment status | | |
| | (1) | (2) | (3) | (4) | (5) |
| Age | -0.000 | -0.001 | 0.003** | -0.001 | -0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Age2/100 | 0.000 | 0.000 | -0.003** | 0.002 | 0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Male | 0.009 | -0.006 | -0.009 | -0.002 | 0.009 |
| | (0.008) | (0.008) | (0.008) | (0.008) | (0.008) |
| Log(household income) | -0.002 | -0.002 | 0.001 | 0.005 | -0.002 |
| | (0.005) | (0.005) | (0.005) | (0.005) | (0.004) |
| Education (omitted: high school or less) | | | | | |
| Some college but not degree | -0.003 | 0.001 | -0.005 | 0.003 | 0.003 |
| | (0.011) | (0.011) | (0.011) | (0.011) | (0.011) |
| College+ | 0.004 | 0.003 | -0.008 | 0.001 | 0.000 |
| | (0.011) | (0.011) | (0.011) | (0.010) | (0.010) |
| English native | 0.006 | -0.007 | -0.003 | 0.007 | -0.003 |
| | (0.008) | (0.008) | (0.008) | (0.008) | (0.008) |
| Hispanic | 0.018 | -0.027** | 0.000 | -0.009 | 0.018 |
| | (0.012) | (0.011) | (0.012) | (0.011) | (0.012) |
| No. kids | -0.002 | -0.004 | -0.001 | 0.006 | 0.000 |
| | (0.004) | (0.004) | (0.004) | (0.004) | (0.004) |
| No. news articles read | -0.001 | 0.001 | 0.001 | 0.001 | -0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Political affiliation (omitted: independent) | | | | | |
| Democrat | -0.001 | 0.002 | 0.013 | -0.005 | -0.009 |
| | (0.010) | (0.009) | (0.010) | (0.010) | (0.010) |
| Republican | 0.011 | 0.018* | -0.010 | -0.007 | -0.013 |
| | (0.010) | (0.010) | (0.010) | (0.010) | (0.010) |
| Other | -0.046** | 0.017 | 0.006 | 0.067*** | -0.045** |
| | (0.019) | (0.021) | (0.021) | (0.022) | (0.019) |
| Employment status (omitted: no job) | | | | | |
| Government | -0.017 | 0.029* | -0.019 | 0.022 | -0.015 |
| | (0.015) | (0.016) | (0.015) | (0.015) | (0.015) |
| Private sector | 0.007 | -0.009 | -0.004 | 0.008 | -0.003 |
| | (0.011) | (0.011) | (0.011) | (0.011) | (0.011) |
| Non-profit organization | 0.001 | 0.013 | -0.016 | 0.012 | -0.010 |
| | (0.019) | (0.020) | (0.020) | (0.020) | (0.019) |
| Self-employed | -0.019 | -0.000 | 0.011 | 0.010 | -0.002 |
| | (0.016) | (0.017) | (0.017) | (0.016) | (0.016) |
| Civil status (omitted:married) | | | | | |
| Single | 0.011 | -0.005 | -0.008 | 0.001 | 0.001 |
| | (0.011) | (0.011) | (0.011) | (0.011) | (0.011) |
| Other | 0.012 | 0.006 | -0.008 | 0.001 | -0.010 |
| | (0.010) | (0.010) | (0.010) | (0.010) | (0.010) |
| Region (omitted: Northeast) | | | | | |
| South | 0.001 | 0.005 | -0.009 | 0.014 | -0.011 |
| | (0.010) | (0.010) | (0.010) | (0.010) | (0.010) |
| Midwest | -0.004 | -0.001 | -0.001 | 0.020* | -0.014 |
| | (0.012) | (0.012) | (0.012) | (0.012) | (0.012) |
| West | 0.006 | -0.003 | -0.009 | 0.016 | -0.010 |
| | (0.012) | (0.012) | (0.012) | (0.012) | (0.012) |
| p-value(F-stat) | 0.286 | 0.341 | 0.650 | 0.312 | 0.831 |
| Observations | 11,880 | 11,880 | 11,880 | 11,880 | 11,880 |
| $R^2$ | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 |

**Notes**: Huber robust regression. Heteroskedasticity robust standard errors are reported in parentheses. ***, **, * denote statistical significance at 1, 5, and 10 percent levels.

Table A.2: The effect of treatments on posterior belief by attentiveness

| | Dependent variable: Posterior belief | | | |
| | Not attentive to news | | Attentive to news | |
| | Implied mean | log(Implied uncertainty) | Implied mean | log(Implied uncertainty) |
| | (1) | (2) | (3) | (4) |
| *Prior* | 0.316*** | 0.302*** | 0.352*** | 0.252*** |
| | (0.019) | (0.025) | (0.025) | (0.027) |
| {*Treat 1*}× {*Prior*} | -0.138*** | 0.008 | -0.115*** | 0.069* |
| | (0.026) | (0.037) | (0.034) | (0.040) |
| {*Treat 2*}× {*Prior*} | -0.080*** | -0.246*** | -0.054* | -0.189*** |
| | (0.027) | (0.032) | (0.032) | (0.036) |
| {*Treat 3*}× {*Prior*} | -0.061** | -0.048 | -0.021 | 0.001 |
| | (0.028) | (0.036) | (0.035) | (0.038) |
| {*Treat 4*}× {*Prior*} | -0.105*** | -0.087** | 0.017 | -0.042 |
| | (0.028) | (0.036) | (0.034) | (0.037) |
| {*Treat 1*} | 2.728** | -0.126 | -0.352 | -0.332*** |
| | (1.147) | (0.105) | (1.220) | (0.105) |
| {*Treat 2*} | 6.000*** | 0.817*** | 4.314*** | 0.680*** |
| | (1.130) | (0.093) | (1.222) | (0.096) |
| {*Treat 3*} | 1.348 | 0.089 | 0.670 | 0.015 |
| | (1.174) | (0.104) | (1.249) | (0.100) |
| {*Treat 4*} | 7.878*** | 0.376*** | 4.622*** | 0.323*** |
| | (1.155) | (0.102) | (1.267) | (0.098) |
| Observations | 6,395 | 6,192 | 5,399 | 5,298 |
| $R^2$ | 0.149 | 0.097 | 0.219 | 0.110 |
| F-stat | 108.6 | 63.68 | 138.6 | 66.41 |

**Notes**: The table reports results for regressing posterior beliefs on prior beliefs, treatment groups and interactions. Huber robust regression. Heteroskedasticity robust standard errors are reported in parentheses. ***, **, * denote statistical significance at 1, 5, and 10 percent levels.

Table A.3: The effect of treatments on posterior belief by gender

| | Dependent variable: Posterior belief | | | |
| | Male | | Female | |
| | Implied mean | log(Implied uncertainty) | Implied mean | log(Implied uncertainty) |
| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| *Prior* | 0.329*** | 0.304*** | 0.323*** | 0.260*** |
| | (0.020) | (0.025) | (0.022) | (0.026) |
| {*Treat 1*}× {*Prior*} | -0.124*** | 0.063* | -0.118*** | 0.007 |
| | (0.028) | (0.037) | (0.030) | (0.039) |
| {*Treat 2*}× {*Prior*} | -0.078*** | -0.230*** | -0.054* | -0.212*** |
| | (0.028) | (0.035) | (0.030) | (0.034) |
| {*Treat 3*}× {*Prior*} | -0.019 | -0.015 | -0.067** | -0.053 |
| | (0.030) | (0.036) | (0.031) | (0.037) |
| {*Treat 4*}× {*Prior*} | -0.073** | -0.061* | -0.043 | -0.094*** |
| | (0.031) | (0.036) | (0.031) | (0.036) |
| {*Treat 1*} | 2.013* | -0.274*** | -0.088 | -0.176* |
| | (1.111) | (0.105) | (1.243) | (0.104) |
| {*Treat 2*} | 6.004*** | 0.783*** | 4.174*** | 0.716*** |
| | (1.104) | (0.098) | (1.244) | (0.090) |
| {*Treat 3*} | 0.507 | 0.031 | 1.511 | 0.113 |
| | (1.142) | (0.102) | (1.262) | (0.099) |
| {*Treat 4*} | 6.802*** | 0.335*** | 6.343*** | 0.422*** |
| | (1.157) | (0.101) | (1.267) | (0.097) |
| Observations | 6,046 | 5,984 | 5,735 | 5,581 |
| $R^2$ | 0.172 | 0.122 | 0.179 | 0.086 |
| F-stat | 116.7 | 77.29 | 123.6 | 54.62 |

**Notes**: The table reports results for regressing posterior beliefs on prior beliefs, treatment groups and interactions. Huber robust regression. Heteroskedasticity robust standard errors are reported in parentheses. ***, **, * denote statistical significance at 1, 5, and 10 percent levels.

Table A.4: The effect of treatments on posterior belief by education

| | Dependent variable: Posterior belief | | | |
| | Some college or less | | College + | |
| | Implied mean | log(Implied uncertainty) | Implied mean | log(Implied uncertainty) |
| | (1) | (2) | (3) | (4) |
| *Prior* | 0.342*** | 0.259*** | 0.299*** | 0.347*** |
| | (0.019) | (0.024) | (0.024) | (0.027) |
| {*Treat 1*}× {*Prior*} | -0.128*** | 0.025 | -0.119*** | 0.059 |
| | (0.026) | (0.035) | (0.033) | (0.039) |
| {*Treat 2*}× {*Prior*} | -0.068*** | -0.215*** | -0.073** | -0.207*** |
| | (0.025) | (0.031) | (0.034) | (0.038) |
| {*Treat 3*}× {*Prior*} | -0.049* | -0.023 | -0.031 | -0.060 |
| | (0.027) | (0.034) | (0.034) | (0.039) |
| {*Treat 4*}× {*Prior*} | -0.052* | -0.052 | -0.068** | -0.113*** |
| | (0.027) | (0.034) | (0.035) | (0.037) |
| {*Treat 1*} | 1.526 | -0.181* | 0.508 | -0.316*** |
| | (1.083) | (0.094) | (1.230) | (0.114) |
| {*Treat 2*} | 5.493*** | 0.753*** | 4.856*** | 0.676*** |
| | (1.058) | (0.082) | (1.274) | (0.111) |
| {*Treat 3*} | 1.131 | 0.043 | 0.815 | 0.148 |
| | (1.099) | (0.091) | (1.290) | (0.113) |
| {*Treat 4*} | 7.246*** | 0.346*** | 5.405*** | 0.415*** |
| | (1.114) | (0.090) | (1.270) | (0.109) |
| Observations | 5,847 | 5,633 | 5,947 | 5,857 |
| $R^2$ | 0.199 | 0.102 | 0.132 | 0.122 |
| F-stat | 163.5 | 72.01 | 76.87 | 77 |

**Notes**: The table reports results for regressing posterior beliefs on prior beliefs, treatment groups and interactions. Huber robust regression. Heteroskedasticity robust standard errors are reported in parentheses. ***, **, * denote statistical significance at 1, 5, and 10 percent levels.

Table A.5: The effect of treatments on posterior belief by income

| | Low income | | High income | |
|---|---|---|---|---|
| | Implied mean | log(Implied uncertainty) | Implied mean | log(Implied uncertainty) |
| | (1) | (2) | (3) | (4) |
| *Prior* | 0.341*** | 0.297*** | 0.319*** | 0.270*** |
| | (0.024) | (0.029) | (0.019) | (0.023) |
| {*Treat 1*}× {*Prior*} | -0.132*** | -0.002 | -0.120*** | 0.067* |
| | (0.032) | (0.042) | (0.027) | (0.035) |
| {*Treat 2*}× {*Prior*} | -0.058* | -0.213*** | -0.075*** | -0.231*** |
| | (0.031) | (0.038) | (0.027) | (0.031) |
| {*Treat 3*}× {*Prior*} | -0.069** | -0.029 | -0.028 | -0.036 |
| | (0.033) | (0.041) | (0.028) | (0.033) |
| {*Treat 4*}× {*Prior*} | -0.059* | -0.057 | -0.062** | -0.088*** |
| | (0.033) | (0.040) | (0.029) | (0.032) |
| {*Treat 1*} | 1.657 | -0.137 | 0.834 | -0.301*** |
| | (1.280) | (0.111) | (1.081) | (0.100) |
| {*Treat 2*} | 4.362*** | 0.714*** | 5.763*** | 0.791*** |
| | (1.261) | (0.103) | (1.093) | (0.086) |
| {*Treat 3*} | 2.261* | 0.064 | 0.350 | 0.079 |
| | (1.342) | (0.111) | (1.095) | (0.093) |
| {*Treat 4*} | 7.430*** | 0.326*** | 6.078*** | 0.404*** |
| | (1.307) | (0.110) | (1.130) | (0.092) |
| Observations | 5,449 | 5,309 | 6,345 | 6,181 |
| $R^2$ | 0.174 | 0.095 | 0.176 | 0.109 |
| F-stat | 112.9 | 58.78 | 125 | 70.66 |

**Notes**: The table reports results for regressing posterior beliefs on prior beliefs, treatment groups and interactions. Huber robust regression. Heteroskedasticity robust standard errors are reported in parentheses. ***, **, * denote statistical significance at 1, 5, and 10 percent levels.

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Table A.6: The effect of treatments on posterior belief by political affiliation

| | Dependent variable: Posterior belief | | | |
| --- | --- | --- | --- | --- |
| | Democrats | | Republicans | |
| | Implied mean | log(Implied uncertainty) | Implied mean | log(Implied uncertainty) |
| | (1) | (2) | (3) | (4) |
| *Prior* | 0.293*** | 0.291*** | 0.354*** | 0.277*** |
| | (0.025) | (0.032) | (0.025) | (0.029) |
| {*Treat 1*} × {*Prior*} | -0.106*** | 0.018 | -0.120*** | 0.055 |
| | (0.035) | (0.045) | (0.034) | (0.043) |
| {*Treat 2*} × {*Prior*} | -0.032 | -0.250*** | -0.116*** | -0.223*** |
| | (0.034) | (0.042) | (0.035) | (0.038) |
| {*Treat 3*} × {*Prior*} | -0.035 | -0.031 | -0.072** | -0.056 |
| | (0.036) | (0.045) | (0.036) | (0.041) |
| {*Treat 4*} × {*Prior*} | -0.007 | -0.109** | -0.093** | -0.082** |
| | (0.035) | (0.043) | (0.039) | (0.042) |
| {*Treat 1*} | 1.036 | -0.157 | 0.872 | -0.301** |
| | (1.444) | (0.130) | (1.306) | (0.119) |
| {*Treat 2*} | 4.006*** | 0.831*** | 6.363*** | 0.736*** |
| | (1.405) | (0.122) | (1.346) | (0.105) |
| {*Treat 3*} | 0.545 | 0.057 | 2.276* | 0.109 |
| | (1.506) | (0.129) | (1.365) | (0.114) |
| {*Treat 4*} | 4.535*** | 0.456*** | 7.160*** | 0.350*** |
| | (1.437) | (0.123) | (1.464) | (0.117) |
| Observations | 4,439 | 4,336 | 3,901 | 3,798 |
| $R^2$ | 0.163 | 0.092 | 0.178 | 0.113 |
| F-stat | 78.05 | 43.14 | 80.59 | 47.19 |

**Notes**: The table reports results for regressing posterior beliefs on prior beliefs, treatment groups and interactions. Huber robust regression. Heteroskedasticity robust standard errors are reported in parentheses. ***, **, * denote statistical significance at 1, 5, and 10 percent levels.

Table A.7: Average consumer responses to treatments

| | Dependent variable: Change in | |
| --- | --- | --- |
| | Implied mean | log(Implied uncertainty) |
| | (1) | (2) |
| {*Treat 1*} | -2.572*** | -0.115*** |
| | (0.479) | (0.028) |
| {*Treat 2*} | 2.418*** | 0.163*** |
| | (0.466) | (0.029) |
| {*Treat 3*} | -0.564 | -0.017 |
| | (0.468) | (0.029) |
| {*Treat 4*} | 5.021*** | 0.179*** |
| | (0.480) | (0.029) |
| Observations | 11,727 | 11,601 |
| $R^2$ | 0.024 | 0.014 |

**Notes**: The table reports the average change in tariff expectations (column 1) and tariff uncertainty (column 2) of individuals in each treatment group relative to those in the control group. Huber robust regression. Robust standard errors are reported in parentheses. ***, **, * denote statistical significance at 1, 5, and 10 percent levels.

Figure A.1. Correlation between actual and targeted tariff rate expectations
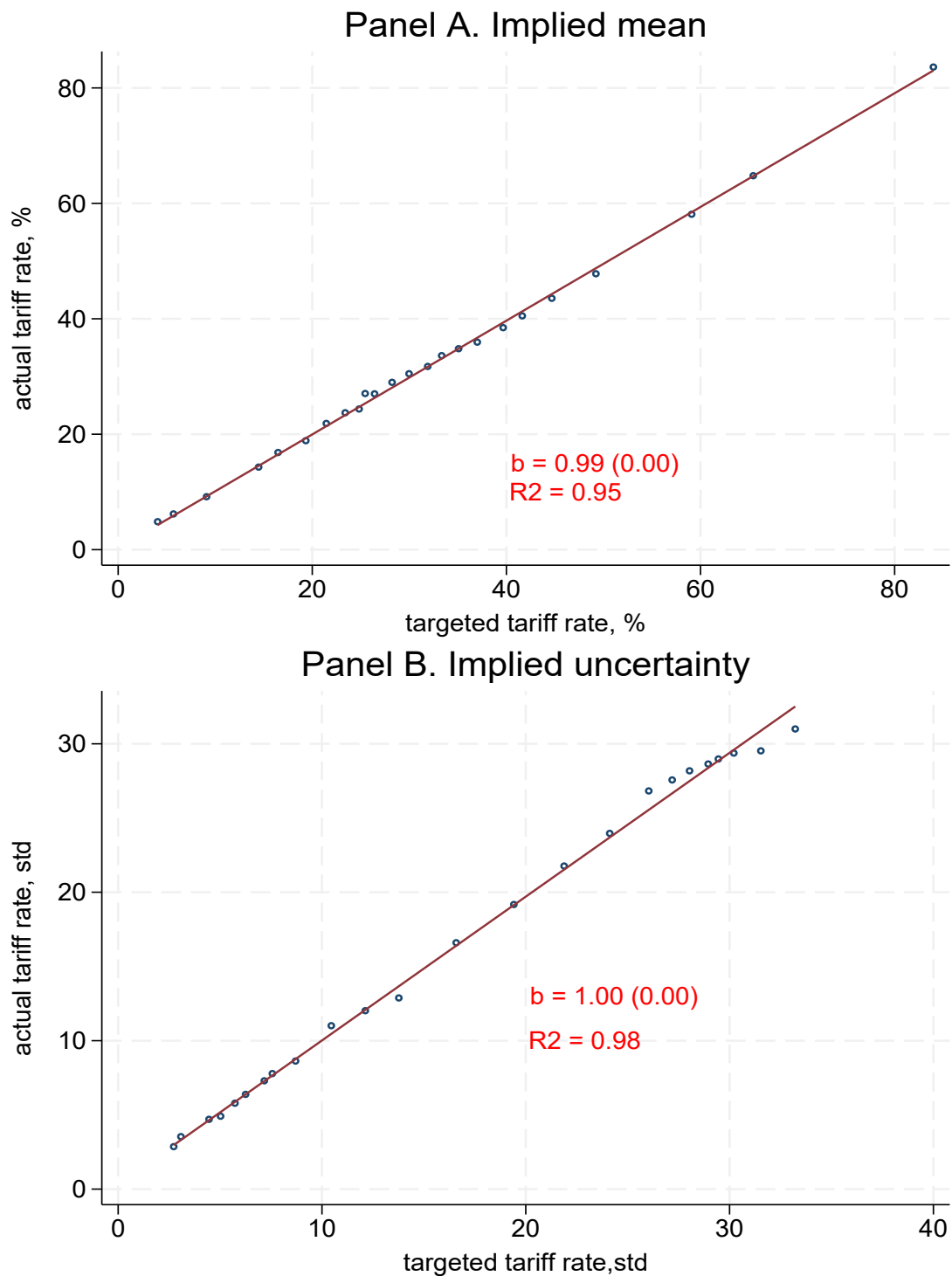


## Panel A. Implied mean

b = 0.99 (0.00)
R2 = 0.95

## Panel B. Implied uncertainty

b = 1.00 (0.00)
R2 = 0.98

**Notes**: Panel A plots the binscatter between expectations of targeted and actual tariff rates. Panel B plots the binscatter between expectations of targeted and actual tariff rates uncertainty, measured with the standard deviation implied by the reported subjective probability distribution. Uses Huber robust regression to downweight the importance of outliers and influential observations. Robust standard error is in parentheses.

Figure A.2. Proportion of respondents that heard news articles, TV or radio reports, or other pieces of news about tariffs in the last month
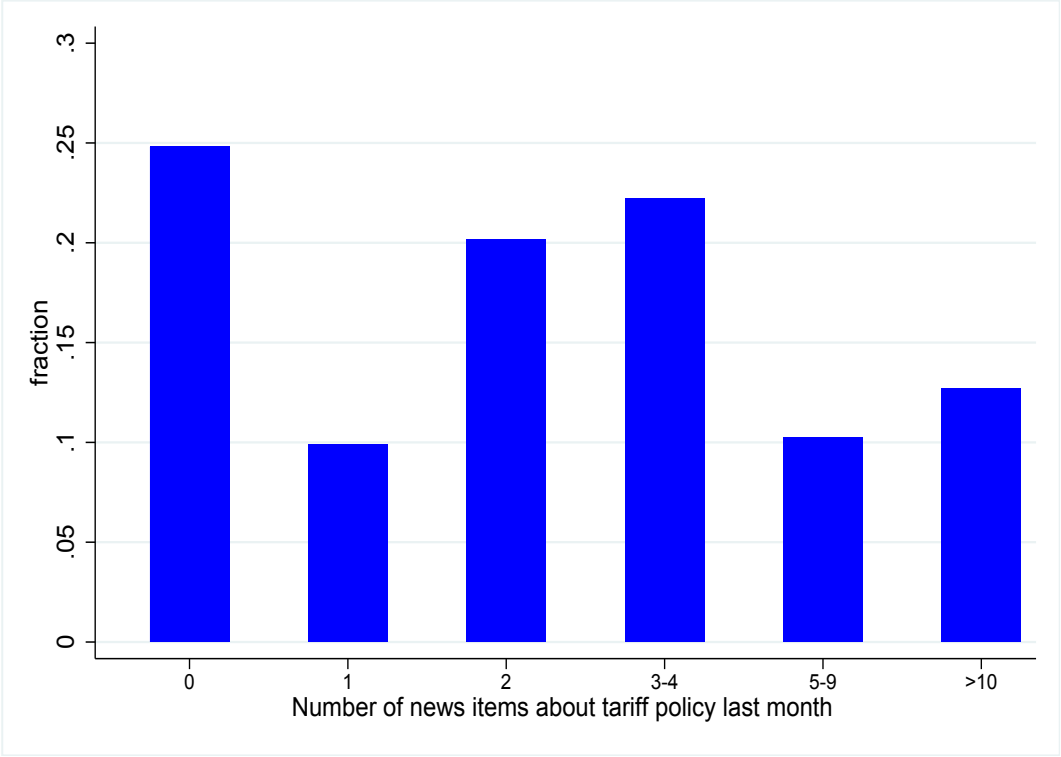


**Notes**: The survey question is: "About how many news articles, TV or radio reports, or other pieces of news about tariff policy did you read or hear in the last month?"

Figure A.3. Consequences of higher tariffs on
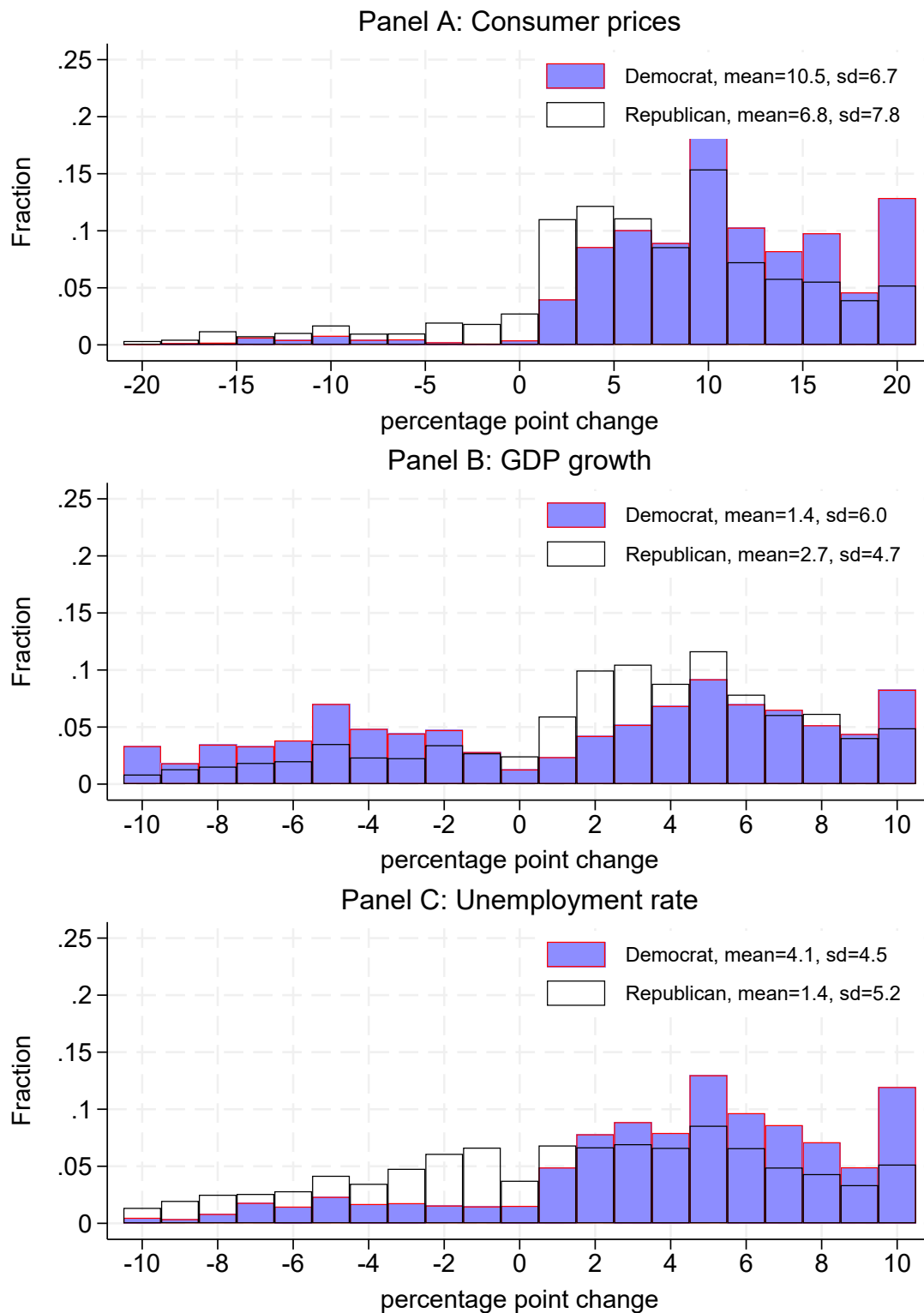
## Panel A: Consumer prices



## Panel B: GDP growth



## Panel C: Unemployment rate



**Notes**: The figure reports the histogram of consequences of higher tariffs on consumer prices (Panel A), GDP growth (Panel B) and the unemployment rate (Panel C) by political affiliation. Respondents are asked: "By how much do you think consumer prices/GDP growth/the unemployment rate will decrease/increase as a consequence of higher tariffs over the next twelve months?"

Figure A.4. Treatment effect on tariff expectations
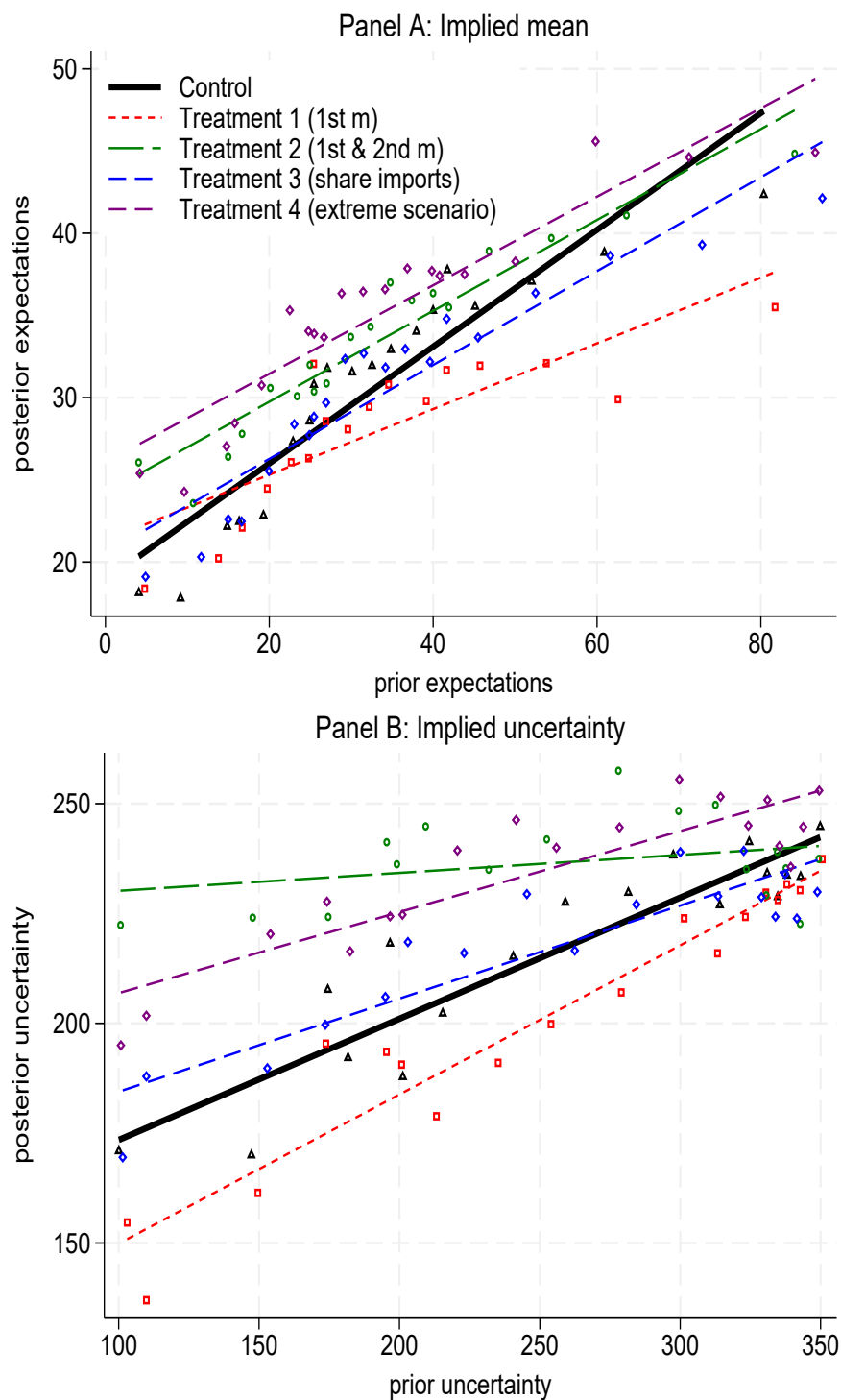
**Notes**: Uncertainty is measured with the standard deviation implied by the reported subjective probability distribution. Priors are elicited using bins-based questions. Posteriors are elicited using scenario-based questions.