POLITICAL ATTITUDES AND INFLATION EXPECTATIONS: EVIDENCE AND IMPLICATIONS*

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August, 2019

Abstract

We show for the United States and Australia that consumers expect significantly lower inflation when the political party they support holds executive office. This finding cannot be explained by previously documented sources of heterogeneity in consumer inflation expectations. It is consistent with stereotypical thinking (Bordalo et al., 2016), pointing to the use of heuristics in the formation of macroeconomic beliefs. Our findings have implications for consumers' understanding of central bank independence and its connection with inflation stabilization.

Keywords: inflation expectations, stereotype, heuristics, central bank independence.
JEL codes: E31, P16

*We would like to thank Richard Curtin for providing unit record data from the Michigan Survey of Consumers. We would also like to thank two anonymous referees, Carola Binder, Greg Kaplan, Guy Mayraz, Matthew Shapiro, Ken West, Justin Wolfers and seminar participants at Monash University, the University of Wollongong and the 12th Annual Conference of Leading East Asian Universities for helpful comments. Authors: Christian Gillitzer is a lecturer in the School of Economics, The University of Sydney, Sydney, Australia. Email address: christian.gillitzer@sydney.edu.au. Nalini Prasad is a lecturer in the School of Economics, UNSW Sydney, Sydney, Australia. Email: nalini.prasad@unsw.edu.au. Tim Robinson is a senior research fellow at the Melbourne Institute: Applied Economic and Social Research, University of Melbourne, Melbourne, Australia. Email: tim.robinson@unimelb.edu.au.

1 Introduction

Managing inflation expectations is a key aspect of modern central banking. This is demonstrated by the fact that many advanced economies have an independent central bank with an explicit inflation target (Dincer and Eichengreen, 2014). These institutional features are intended to provide a credible anchor for inflation expectations. For consumers, inflation expectations affect their perceptions of real interest rates, which influences intertemporal spending behavior. Despite the importance of consumer inflation expectations, there is no consensus on how they are formed or the information used (Coibion, Gorodnichenko and Kamdar, 2018). We document a new empirical fact and use it to provide new evidence on how consumers form their inflation expectations.

We show that consumers expect significantly lower inflation when the political party they support holds executive office relative to opposition party supporters. Figure 1 previews our empirical results for the United States. It shows mean inflation expectations for Democrats minus Republicans, for survey months in which households in the Michigan Survey of Consumers were asked about their political affiliation. In the months prior to the 2008 presidential election Democrats on average had higher inflation expectations than Republicans. However, after the change in the party of presidency from Republican to Democrat, Democrats reported lower inflation expectations. The reverse occurred at the 2016 presidential election. The data shown in Figure 1 form repeated cross-sections. We also analyze revisions in inflation expectations at the individual level and find robust evidence that consumers revise up their inflation expectations when the party they support loses control of the presidency.

The available data for the United States provide clear evidence that political attitudes affect inflation expectations in the months around elections. Yet, as inflation expectations surveys in the United States have not routinely asked about political preferences, we cannot investigate whether the effect of political attitudes on inflation expectations is persistent. We address this limitation using Australian data from the Melbourne Institute Survey of Consumer Attitudes, Sentiments and Expectations. The survey contains information on respondents' inflation expectations and voting intention for each survey month over a long time period. We find clear evidence that consumers

expect consistently lower inflation when the party they support is in government (Figure 2).[1]

Our findings cannot be explained by previously documented sources of heterogeneity in consumer inflation expectations by gender (Bryan and Venkatu, 2001), age (Malmendier and Nagel, 2016) or socioeconomic characteristics (de Bruin et al., 2010). Compared with these sources of heterogeneity, the 2 percentage point difference in year-ahead inflation expectations between Democrats and Republicans is large.

We show that partisans also expect lower unemployment, improved business conditions and lower gas prices when the party they support holds executive office.[2] This indicates that partisans associate low inflation with better macroeconomic outcomes. Partisans appear to have a simplified view of the world in which economic conditions will be uniformly better when the party they support is in power. Our results are consistent with assessments of presidential (or prime ministerial) quality being easily accessible to partisans and used as a stereotype for inflation. Bordalo et al. (2016) formalize the use of heuristics in judgment, as presented by Kahneman and Tversky (1972), into a model of stereotypical thinking. In terms of Bordalo et al. (2016), consumers' stereotype for low (high) inflation is a high (low) quality leader.

The 2 percentage point difference in consumer inflation expectations between Republicans and Democrats is large considering the Federal Reserve's degree of independence. Furthermore, political beliefs do not appear to noticeably affect inflation expectations of professional forecasters. This indicates that partisans overreact to election news.

Stereotypical thinking leads to large judgment biases whenever stereotypical types are unlikely (Bordalo et al., 2016). This occurs when presidential quality is not very informative about inflation and partisans hold strong beliefs about presidential quality. We calibrate a version of the Bordalo et al. (2016) model and use it to interpret our empirical results. We show that reconciling our findings with limited presidential influence on inflation requires stereotypical thinking bias at or

[1] The magnitude of the difference in expectations is relatively stable except before the introduction of a Value-Added Tax in the year 2000. The VAT is included in the posted price in Australia.

[2] This is consistent with other recent work studying the effect of political attitudes on macroeconomic beliefs: Benhabib and Spiegel (2019), Gillitzer and Prasad (2018), Mian, Sufi and Khoshkhou (2017), Claus and Nguyen (2018) and Meeuwis et al. (2018).

above that found for expectations of professional forecasters.

We consider a range of alternative explanations for our results. They cannot be explained by heterogeneous beliefs about changes in fiscal or monetary policy. We provide evidence that heterogeneous beliefs about regulatory and other policies under the control of the president constitute an unlikely explanation. Other models of expectations formation that have been proposed in the literature are considered. Widely used sticky- and noisy-information models, which predict underreaction to news, cannot explain the sharp revisions in consumer inflation expectations at changes of government. Furthermore, neither model can explain why partisans revise beliefs in *opposite* directions. We test for confirmation bias as an explanation for political heterogeneity in consumer inflation expectations (Rabin and Schrag, 1999) but do not find supportive evidence, and argue that heterogeneous inflation experiences (Cavallo, Cruces and Perez-Truglia, 2017) is an unlikely explanation.

The use of political attitudes as a stereotype for inflation suggests that central bank independence and its connection with price stability is either not understood by or not salient to consumers. This has implications for our understanding of the mechanism through which central bank independence has contributed to the stabilization of inflation at low levels. According to the Barro and Gordon (1983) model, when politicians control monetary policy they face a time-inconsistency problem. Households anticipate the incentive politicians have to overstimulate the economy, which results in an inflationary bias. Central bank independence provides a way to tie the hands of politicians and to solve the time-inconsistency problem. Consistent with the theory, there is evidence that an independent central bank promotes price stability (Cukierman, Webb and Neyapti, 1992). This evidence has been interpreted by many as validating the Barro and Gordon (1983) model (Posen, 1998). The presumed mechanism is a lowering of households' inflation expectations as a direct result of the depoliticization of monetary policy (Posen, 1998). Despite central banks being independent, consumers believe that politicians retain substantial control over inflation. The fact that consumers' inflation expectations are sensitive to political attitudes may help explain why the output cost of disinflations is not lower for more independent central banks—a missing "credibility

bonus" (Posen, 1998).

In summary, we make three main contributions to the literature. First, we show that consumers in both the United States and Australia expect significantly lower inflation when the political party they support holds executive office compared with opposition party supporters. Second, we demonstrate that this fact is consistent with stereotypical thinking in consumers' formation of inflation expectations. Third, we argue that it has implications for our understanding of the mechanism through which central bank independence has promoted inflation stabilization.

The remainder of the paper is organized as follows. Section 2 provides background information, Section 3 describes the data, Section 4 discusses identification issues and Section 5 presents the results. Section 6 explains that our findings are consistent with stereotypical thinking and Section 7 uses a model of stereotypical thinking to interpret our empirical results. We consider alternative explanations in Section 8. Section 9 places our findings in the literature and Section 10 concludes. A Web Appendix available at the authors' websites contains supplementary information referred to in the text.

2 Background

2.1 Institutional setting

The United States Federal Reserve is independent within government. Congress has established maximum employment and stable prices as the objectives for the Federal Reserve (Board of Governors of the Federal Reserve , 2017a). Since January 2012 the Federal Open Markets Committee has publicly stated that 2 percent inflation is most consistent with these objectives (Board of Governors of the Federal Reserve , 2017b). Members of the Board of Governors are appointed to staggered 14-year terms and the chair is appointed to a four-year term. Terms for the chair end more than one year after presidential elections, meaning that an incoming president would have to wait more than one year following their election to change the chair of the Board of Governors.

Australia has a parliamentary political system with two major political parties: the Australian Labor Party (center-left) and the Liberal/National Party (center-right). The Reserve Bank Board

makes decisions about interest rates independent of the political process (Reserve Bank of Australia, 2017). The target for monetary policy is a rate of consumer price inflation between 2 and 3 percent per annum over the medium term (Reserve Bank of Australia, 2017). This target was adopted unofficially by the Reserve Bank in the early 1990s and formalized in August 1996. Consumer price inflation has averaged 2.5 percent since June 1993. The term of office for Governors of the Reserve Bank is seven years and other board members are appointed to staggered five-year terms. Except for the 1996 change of government, a new governor has not been appointed within one year of a change of government. Each incoming governor in our sample previously served as deputy governor, ensuring continuity.

In summary, the institutional setting for monetary policy in both the United States and Australia means that the executive does not control monetary policy and has little direct influence on its stance in the short-term.

2.2 Historical inflation outcomes

For the United States, Blinder and Watson (2016) find no statistically significant difference in the rate of inflation under Democrat and Republican presidents. Table A1 in the Web Appendix extends this to the end of the Obama presidency and replicates the analysis for Australia. Across a range of inflation measures, and for both countries, there is no significant difference in the rate of inflation by party of the presidency or prime minister. This is also true in the post-Volcker period in the United States and the inflation targeting period in Australia. Thus, there is little evidence of a partisan business cycle for inflation in the United States or Australia.

3 Data

We use survey data on consumer inflation expectations from three different sources. For the United States we use data from the Survey of Consumer Attitudes conducted by the University of Michigan and from RAND Corporation's American Life Panel. For Australia, we use data from the Melbourne Institute Survey of Consumer Attitudes, Sentiments and Expectations. Each survey is based on a nationally representative random sample and contains a rich set of demographic

information on respondents. All three sources ask individuals to specify an expected percentage change in the price level. Following Bachmann, Berg and Sims (2015), we omit responses for expected inflation larger than 20 percent in absolute value, so that our results are not affected by outliers.

3.1 Michigan Survey of Consumers

Each month the Michigan survey interviews about 500 respondents. About 60 per cent of interviews each month are with first-time respondents while the remaining 40 percent are with respondents who had been interviewed for the first time six months earlier. The Michigan survey provides information on shorter-term inflation expectations, asking consumers what will happen to "prices in general" over the "next 12 months" and long-term inflation expectation over the "next 5 to 10 years."

The Michigan survey has occasionally asked individuals about their partisanship. Specifically, individuals are asked "generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent or what?" Those identifying as Republicans and Democrats are subsequently asked to classify their affiliation as strong or weak. The data span the 2008 and 2016 United States presidential elections which saw a change in the party of the presidency.[3] Our primary analysis uses the sample of individuals who were interviewed before and after each election to see how the election outcome affected inflation expectations. For the 2016 election, our sample comprises of approximately 820 people who were initially interviewed in the pre-election period from June to October 2016 and then re-interviewed six months later. For the 2008 election, our sample comprises people who were interviewed in the pre-election months of June, September and October 2008 and then re-interviewed six months later. Given that the question about an individual's partisanship was asked in fewer months before the 2008 election, our sample size is smaller at around 450 individuals. For survey months in which political affiliation has been asked, average year-ahead (5-10 year) inflation expectations was 3.3 (3.1 percent) for Republicans and 3.3 percent

[3]There are insufficient data to analyze revisions in beliefs at earlier presidential elections. For the pooled 2008 and 2016 election periods, the proportion of survey respondents by political affiliation is: Strong Republicans 15 percent, Weak Republicans 14 percent, Independents 37 percent, Weak Democrats 12 percent and Strong Democrats 21 percent.

(2.9 percent) for Democrats.

3.2 RAND American Life Panel

We use information from two surveys conducted as part of the RAND American Life Panel before and after the 6 November 2012 United States presidential election, at which Barack Obama, the Democratic Party candidate, retained office by defeating Mitt Romney, the Republican Party candidate.[4] Respondents to each survey were asked for their expectation of the change in prices in general "during the next 12 months". Our sample comprises around 2,000 individuals interviewed within a tight 8-day window before and after the 2012 election. The benefit of this tight window is that it minimizes the possibility of other factors correlated with partisanship that could cause revisions in expected inflation.

In the pre-election survey individuals were asked "generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent or what?" Respondents are further classified as being strong or weak Democrats or Republicans. A unique aspect of the RAND survey is that individuals were also asked in the initial survey about which candidate they thought would win the 2012 presidential election. Specifically: "Regardless of how you intend to vote, who do you think will actually be elected President - Mitt Romney, the Republican, or Barack Obama, the Democrat?" Although the 2012 election did not result in a change in the party of the presidency, the RAND survey data allows us to look at the revision in inflation expectations for respondents who were surprised by Obama's re-election relative to those who expected an Obama victory.

3.3 Melbourne Institute Survey of Consumers

The Melbourne Institute interviews about 1,200 individuals each month. The survey is purely cross-sectional and asks respondents for their expectation of the average change in prices of "things that you buy" over the coming 12 months. This question is slightly different to the question in the United States surveys in asking about the average change in prices of things *you* buy rather than prices *in general*. This raises the potential concern that inflation experiences differ by socioeconomic groupings correlated with political preferences. However, we do not believe this is a concern

[4] Specifically, we use data from the pre-election survey ms303 and the post-election survey ms311.

for three reasons. First, Jacobs, Perera and Williams (2014) document that different socioeconomic groups in Australia have experienced relatively minor differences in inflation rates. Second, there is a sharp revision in inflation expectations at each change of government for ALP voters relative to Liberal/National voters. Inflation experiences for the two groups are unlikely to jump precisely at changes of government. Third, we control in our regression analysis for income, age and other socioeconomic groupings between which inflation experiences could differ.

Each month the Melbourne Institute survey asks respondents which party they would vote for in the event of a federal election. The data span three federal elections that resulted in a change of government, in March 1996, November 2007 and September 2013. Since 1994, mean inflation expectations have been 4.2 percent for Liberal/National voters and 4.6 percent for ALP voters.

4 Identification

We seek to identify the causal effect of political beliefs on inflation expectations. Reverse causality is a potential concern because expectations for inflation may affect political affiliation. However, fewer than 3 percent of respondents to the Michigan Survey of Consumers switched between Democrat and Republican affiliations in the six months between interviews.[5] This indicates that political affiliation is stable and reverse causality is unlikely to be an important concern. In our baseline analysis we measure political affiliation based on first-interview responses because not all follow-up interviews included a question about political affiliation. However, in a robustness analysis, we confirm that the results are similar when the sample is restricted to respondents asked twice about their political affiliation and reporting the same affiliation in each interview.

Although the Australian survey does not have a panel component, we observe a sharp change in inflation expectations for ALP voters relative to Liberal/National voters precisely at each change of government. Furthermore, the difference in expectations is persistent and relatively stable between changes of government. This indicates that we are identifying an affect of voting intention on economic beliefs rather than the reverse.

[5]Table A2 in the Web Appendix shows the full matrix of transitions between political affiliation.

5 Results

Across all three data sources we document that individuals have lower inflation expectations when the political party they support matches the party of the president in the United States or the prime minister in Australia.

5.1 Michigan Survey of Consumers

We estimate the following regression separately for the 2008 and 2016 elections:

$$\Delta\pi^{e}_{i,h} = \alpha_h + \beta_{D,h} DEM_i + \beta_{R,h} REP_i + X_i \Gamma_h + \sum_t \delta_{t,h} d_t + \varepsilon_{i,h}, \tag{1}$$

where $\Delta\pi^{e}_{i,h}$ is the revision in individual i's h-period inflation expectations, DEM_i is a dummy variable equal to one if individual i identifies as a Democrat and REP_i is a dummy variable equal to one if individual i identifies as a Republican, where the base category is people identifying as an Independent. The coefficients $\delta_{t,h}$ are survey month fixed effects capturing all common revisions in inflation expectations for individuals first interviewed in month t; X_i is a vector of covariates for person i which includes an individual's age, age squared, gender, education, martial status, income, race, home ownership status and the region where they live. Income dummy variables by quintiles are included in Equation (1), allowing for the effect of income on inflation expectations to differ non-linearly by income category.

2016 Election.—Table 1 reports estimates of Equation (1) for the 2016 United States presidential election, at which the party of the presidency changed from Democrat to Republican. We find that individuals identifying as Democrats revised up their year-ahead inflation expectations by around 1 percentage point relative to Independents. Conversely, individuals identifying as Republicans revised their year-ahead inflation expectations down by around 1 percentage points relative to Independents (Specification 1).[6]

The disagreement carries through to long-term inflation expectations, with individuals identifying as Democrats revising up their 5-10 year-ahead inflation expectations by around 0.6 percentage

[6]Table A3 in the Web Appendix shows that the results are similar when restricting the sample to respondents reporting the same affiliation in interviews before and after the election.

points and Republicans revising their long-term inflation expectations down by around 0.4 percentage points relative to Independents (Specification 3). The relatively smaller revisions for 5 to 10 year-ahead inflation expectations than year-ahead inflation expectations may reflect the fact that a 5 to 10 year horizon is longer than a four-year presidential term. Using a Wald test we can easily reject at both forecast horizons that Democrats and Republicans had the same inflation expectations revisions.

Next, we re-estimate Equation (1) using finer partisan groupings, classifying the political affiliations of Democrats and Republicans as either strong or weak. We find that disagreement in inflation expectations at both a short and long-term horizon is more pronounced the stronger is an individual's political affiliation (Table 1, Specifications 2 and 4). For year-ahead expectations the difference in the expected inflation between strong Republicans and strong Democrats is 2.6 percentage points, and for 5 to 10 year-ahead inflation expectations it is 1.5 percentage points.

2008 Election.—Specifications (5)-(8) in Table 1 report analogous estimates of Equation (1) for the 2008 United States presidential election, at which the party of the presidency changed from Republican to Democrat. The results are similar to those for the 2016 election. Specifically, we find Democrats revised their inflation expectations down relative to Republicans at both short- and long-term horizons. The largest downward revision in inflation expectations was for strong Democrats. However, our estimates for changes in long-term inflation expectations are less precise compared to those from the 2016 election. While we can reject that the revision in inflation expectations was the same for Republicans and Democrats for year-ahead inflation expectations, we cannot for 5 to 10 year-ahead inflation expectations. This loss of precision is likely to be a result of our sample size being smaller at the 2008 election.

Election expectations.—We expect the size of revisions in inflation expectations to be increasing in the degree to which consumers were surprised by election outcomes. The Michigan survey did not ask respondents who they expected to win but we can estimate the degree on average that Democrats and Republicans were surprised using data from American National Election Studies (ANES) surveys. At the 2016 election 66 percent of Republicans expected a Trump victory com-

pared with only 9 percent of Democrats. At the 2008 election 87 percent of Democrats expected an Obama victory compared with only 38 percent of Republicans (ANES, 2019).

Let p_i be the probability that a consumer with political identification $i \in \{D,R,I\}$ expects the Republican party's candidate to win the presidential election. Prior to an election, expected inflation of those with political affiliation i, E_i, is a weighted average of the outcomes under each party's presidential candidate, $pres \in \{D,R\}$:

$$E_i[\pi] = p_i E_i[\pi|pres = R] + (1-p_i) E_i[\pi|pres = D]. \tag{2}$$

The revision in expected inflation once the election result becomes known depends on the degree to which the election result was a surprise and expected inflation under each party:

$$\Delta E_i[\pi] = \Delta p_i (E_i[\pi|pres = R] - E_i[\pi|pres = D]). \tag{3}$$

Changes in other factors affecting inflation expectations are assumed to shift $E_i[\pi|pres = R]$ and $E_i[\pi|pres = D]$ by the same amount, and therefore are omitted here.

For the 2016 election, we have estimated that Republicans revised their year-ahead inflation expectations down by about 1.1 percentage points and Democrats up by about 0.9 percentage points, relative to independents: $\Delta E_R[\pi] - \Delta E_I[\pi] = -1.1$ and $\Delta E_D[\pi] - \Delta E_I[\pi] = 0.9$. ANES data indicate that $\Delta p_R = 0.34$ and $\Delta p_D = 0.91$ for the 2016 election. If we assume that inflation expectations for independents did not depend on whether Trump or Clinton won then $\Delta E_I[\pi] = 0$. This allows us to infer from Equation (3) that Democrats expected 1.0 percentage point higher inflation under Trump than Clinton and Republicans expected 3.3 percentage point lower inflation.

Calculations for the 2008 election indicate that Republicans would have expected 1.8 percentage point lower inflation under McCain than Obama. However, the 1.6 percentage point downward revision in expected inflation by Democrats is implausibly large given that 87 percent correctly predicted Obama's victory. This suggests that the election result contained news for Democrats expecting an Obama victory. A potential explanation is that the election result was less than certain, in which case the proportion of Democrats in ANES data expecting an Obama victory overstates

the average probability of an Obama victory.[7]

5.2 RAND American Life Panel

The RAND survey allows us to compare the inflation expectations of partisans based on who they expected to win the 2012 United States presidential election. Among respondents surveyed in the 8 days before the election, 95 percent of Democrats expected an Obama victory compared with 26 percent of Republicans.

We first provide graphical evidence, comparing the distribution of year-ahead inflation expectations before and after the election for (i) Democrats who expected an Obama victory, and (ii) Republicans who expected a Romney victory. Figure 3 shows the cumulative distribution function of year-ahead inflation expectations for these two groups of individuals. For Democrats who expected an Obama victory there was very little change in inflation expectations before and after the election. This is consistent with little uncertainty among Democrats about Obama's re-election in the week before the election. In contrast, for Republicans who expected a Romney victory we see the cumulative distribution function shift to the right after the election. This indicates that there was an upward revision in inflation expectations for Republicans surprised by Obama's re-election.

To analyze these revisions in inflation expectations more formally, we estimate the regression

$$\Delta\pi_i^e = \alpha + \beta_D DEM_i + \beta_R REP_i + \gamma_R \left(REP_i \times Rwin_i\right) + \mathbf{X}_i\Gamma + \sum_t \delta_t d_t + \varepsilon_i, \tag{4}$$

where $\Delta\pi_i^e$ is the revision in individual i's expectation for inflation over the coming year, DEM_i is a dummy variable that is equal to one if individual i identifies as a Democrat and REP_i is a dummy variable that is equal to one if individual i identifies as a Republican and the base category is people identifying as an Independent. $Rwin_i$ is a dummy variable that is equal to one for Republican party supporters who expected Romney to win the election; few Democrats expected a Romney victory so we omit this interaction term. The coefficients δ_t are survey day fixed effects capturing all common revisions in expectations for individuals first interviewed on day t and X_i is a vector of socioeconomic control variables for person i. The included controls are gender, age,

[7]For example, if all Democrats assigned a 51 percent probability to an Obama victory, the proportion expecting an Obama victory would be 100 percent in the ANES survey.

income, education level, job status, household size, martial status and race.

Consistent with the results in Figure 3, we find that there was little change in expected inflation for Democrats, who overwhelmingly expected an Obama victory at the 2012 election (Table 2, Specifications 1 and 2). However, Republicans expecting a Romney victory revised up their inflation expectations on average by about 2 percentage points. Looking at revisions in expectations by strength of political affiliation, the upward revision in inflation expectations for Republicans expecting a Romney victory was similar for those reporting a strong or weak Republican affiliation; we continue to see no significant revision for Democrats (Table 2, Specifications 3 and 4). Perhaps surprisingly, there is also statistically significant evidence of a upward revision in inflation expectations for strong Republicans expecting Obama to be re-elected. This could be because Republicans expecting an Obama victory perceived the election result to be uncertain, so the election result contained news.

5.3 Melbourne Institute Survey

Figure 2 showed that Australians supporting the party in government expect lower inflation than supporters of the opposition party. We now control for observed socioeconomic differences between voters which could be correlated with political preferences. For each survey month we estimate the cross-sectional regression

$$\pi^e_{i,t} = \mathbf{X}_{i,t}\Gamma_t + \beta_t ALP_{i,t} + \gamma_t OTHER_{i,t} + \varepsilon_{i,t}, \tag{5}$$

where $\pi^e_{i,t}$ is the expected change in prices over the next year for individual i surveyed in month t, $ALP_{i,t}$ is a dummy variable taking the value of unity if individual i identifies as an ALP voter and $OTHER_{i,t}$ is a dummy variable equal to unity if individual i reports "other" or "don't know" when asked about their voting intention. We also include dummy variables for supporters of minor parties, which for brevity are not shown. All effects are relative to the base category of Liberal/National voters. $X_{i,t}$ is a vector of socioeconomic characteristics for person i and includes an individual's age, gender, household income, education level, employment status, occupation, home ownership status and whether they live in a metropolitan or non-metropolitan area.

The coefficient of interest is β_t, which measures the difference in inflation expectations between ALP and Liberal/National Party voters, conditional on socioeconomic characteristics. Estimates for each survey month are shown in Figure 4, together with two standard error bands. We find that individuals expect inflation to be around one percentage point lower on average when the political party they would vote for holds office at a federal level, relative to supporters of the opposition party, even after controlling for socioeconomic characteristics. The relative change in inflation expectations between ALP and Liberal/National Party voters occurs precisely at changes of government and the difference in inflation expectations between ALP and Liberal/National party voters persists for the entire period of government. Using a Wald test, we can reject at the 1 percent level of significance that the coefficients β_t are the same on average in the six months before and after each change of government.

The Melbourne Institute survey does not contain information on which party people expected to win elections, and there is no equivalent to the ANES survey for Australia. However, information from opinion polls is consistent with ANES data, showing that partisans expect their party to win (Newspoll, 2007).

5.4 Heterogeneity by socioeconomic characteristics

It is well-known that there are persistent differences in inflation expectations correlated with socioeconomic characteristics (de Bruin et al., 2010). Our use of panel data in the United States surveys controls for individual-level heterogeneity in mean inflation expectations. In the cross-sectional analysis we have included many covariates and found evidence of a discrete shift in inflation expectations at elections. This provides evidence that the relationship between political attitudes and inflation expectations is not caused by another factor correlated with socioeconomic differences between voters. However, it could be the case that the effect of political attitudes on inflation expectations is specific to particular socioeconomic groups. We investigate this possibility by interacting the change in year-ahead inflation expectations at the 2008 and 2016 elections for Democrats and Republicans with socioeconomic characteristics, using data from the Michigan Survey of Consumers. We pool data for the 2008 and 2016 elections to preserve degrees of

freedom. We estimate

$$\Delta\pi_i^e = \alpha + \beta SUPPORT_i + \sum_j X_{i,j}\Gamma_j + \gamma_j(X_{i,j} \times SUPPORT_i) + \sum_t \delta_t d_t + \varepsilon_i, \quad (6)$$

where $\Delta\pi_i^e$ is the revision in individual i's year-ahead inflation expectations, $SUPPORT_i$ is a dummy variable equal to one if individual *i's* political affiliation matches the party of the incoming president, minus one if it matches the party of the losing presidential candidate and zero if individual i identifies as an Independent; X_i, refers to one of j sets of socioeconomic control variables for person *i.* We estimate Equation (6) separately for each set of socioeconomic interaction variables (e.g. gender, age). The coefficient of interest is γ_j, indicating whether the effect of political attitudes on inflation expectations differs by socioeconomic grouping j. The coefficients δ_t are survey month fixed effects.

The regression estimates are reported in Table 3. In each specification, we confirm that an individual whose political affiliation matches that of the incoming president reports lower year-ahead inflation expectations than an individual whose political affiliation matches that of the losing presidential candidate. However, we find little evidence that the effect of political attitudes on inflation expectations differs by socioeconomic groupings. In all but one case the coefficient on the interaction terms γ_j is statistically indistinguishable from zero.[8] We also find similar results in the Australian data (see Table A4 in the Web Appendix).

5.5 Comparison with other sources of heterogeneity

Compared with previously documented sources of heterogeneity in consumer inflation expectations, the approximately 2 percentage point difference in inflation expectations between Democrats and Republicans is quantitatively important. The difference in inflation expectations between men and women in the Michigan Survey of Consumers is around 1 percentage point, as is the difference in expectations between low and high income earners, while the difference in expectations between those with and without an high school diploma is around $1\frac{1}{2}$ percentage points (de Bruin et al., 2010). Heterogeneity in inflation expectations between the young (<40 years of age) and old

[8]The exception is Hispanic voters. However, Hispanic voters comprise only around 5 percent of respondents in the survey.

(>60 years of age) in the United States reached a peak of almost 3 percentage points in the 1970s but has otherwise been smaller than heterogeneity by political affiliation (Malmendier and Nagel, 2016). In Australia, the difference in inflation expectations between ALP and Liberal/National voters has averaged around one percentage point, which is larger than the effect of gender, education and income evident in the Australian data (Ballantyne et al., 2016).

6 Discussion

We have found that consumers expect lower inflation when the political party they support holds executive government. This section shows that consumers also expect their political party to deliver better economic outcomes across a range of other macroeconomic indicators. We use this fact to argue that consumers associate low inflation with good economic conditions. We argue that our results are consistent with consumers using their subjective beliefs about presidential quality as a stereotype for inflation, with a low (high) quality president the stereotype for high (low) inflation. Section 7 interprets our empirical results using a model in which stereotypical thinking leads to exaggerated beliefs.

6.1 Relationship with other macroeconomic expectations

We consider consumer expectations for the unemployment rate (ur), business conditions (bc) and interest rates (r). Individuals are asked whether they expect the variable to increase, decrease or remain unchanged over the next year. We construct a categorical variable as follows: a downward revision is coded to minus one, an unchanged expectation to zero and an upward revision to one. We assume that this categorical variable masks a continuous distribution of revisions in expectations, $\Delta e_{i,j}$, $j \in \{ur,\ bc,\ r\}$, and fit the following ordered-logit model for each presidential election:

$$\Delta e_{i,j} = \beta_{D,j} DEM_i + \beta_{R,j} REP_i + X_i \Gamma_j + \Sigma_t \delta_{t,j} d_t + \varepsilon_{i,j}, \tag{7}$$

where DEM_i is a dummy variable equal to one if individual i is a Democrat and REP_i is a dummy variable equal to one if individual i is a Republican; X_i, is a vector of socioeconomic characteristics for person i and d_t is a survey time fixed effect. Results are reported as odds ratios so that a

coefficient greater than one indicates that an individual with partisanship *i* expects a higher unemployment rate, an improvement in business conditions or higher interest rates. A coefficient less than one indicates the opposite effect. People expect lower inflation, lower unemployment and improved business conditions when the party they support is in power (Table 4, and Specification 5 in Table 2). This provides evidence that consumers view lower inflation favorably. These differences do not reflect partisan differences in beliefs about changes in interest rates (Table 4 and Specification 6 in Table 2). We find similar results for Australia (see Section 1 and Figure A1 in the Web Appendix).

Our results and interpretation are consistent with survey evidence gathered by Shiller (1997), who found that consumers associate high inflation with a variety of "bad" outcomes, including an erosion of their living standards, political instability and a loss of national prestige. Mankiw (1997, p. 67) rationalizes these beliefs by arguing that "Bad policymakers tend to produce a variety of bad policies, with inflation being only one of the consequences."

However, since 2008 policymakers in the United States have often been concerned about inflation being too low. This suggests that higher inflation would have been associated with good economic management. Alternatively, several factors indicate consumers did not view higher inflation favorably even during this period. First, the above results indicate that consumers associated better macroeconomic outcomes with lower inflation in 2008 and 2012, when low inflation was of greatest concern to policymakers. Second, Bachmann, Berg and Sims (2015) found, using data from the Michigan survey, that during the zero lower bound (ZLB) period higher consumer inflation expectations had a *negative* effect on consumers' reported readiness to spend on durable goods, which they argue is "...consistent with, if not dispositive of, a Volcker-Taylor view that high inflation portends bad and uncertain economic times" (p. 31). Third, we find similar results for the 2016 election, by which time the Federal Reserve had begun to raise its policy rate, and for Australia, where the policy interest rate was comfortably above the ZLB.

The fact that partisans expect both lower unemployment and lower inflation when the party they support is in power rules out heterogeneous beliefs about fiscal policy of the incoming president

(or prime minister) as an explanation for our results. Fiscal policy affects aggregate demand, and so would be expected to move inflation and unemployment expectations in *opposite* directions. However, it is possible that our results reflect resolution of uncertainty about regulatory or other policies under the president's control. To address this possibility, we look at revisions in gas price expectations, which have been shown to be closely linked to inflation expectations from the Michigan survey (Binder, 2018; Wong, 2015; Coibion and Gorodnichenko, 2015).[9] Higher gas prices have a negative wealth effect for consumers and so are likely to be associated with poor economic conditions. In addition, as the president has little control over gas prices, revisions in gas price expectations are unlikely to be explained by beliefs about specific policies of the president. We find evidence for the 2016 presidential election that Republicans significantly lowered their gas price expectations relative to Democrats following Trump's victory (Table 4).[10] This provides support for our argument that consumers view lower inflation favorably, particularly given the tight connection between consumer inflation expectations and gas prices. We are unable to find significant results for the 2008 election because the survey response rate for the gas price question is low.

Furthermore, if the revisions in beliefs at changes of government were due to ex-ante uncertainty about government policies we would expect to see convergence in beliefs over time as these policies are implemented. The long time series of data for Australia show instead that the sharp shifts in inflation expectations at changes of government persist for each period of government (Figure 2).[11]

Our results indicate that people view low inflation favorably and expect uniformly better macroeconomic outcomes when the party they support is in power. This is consistent with stereotypical thinking—an intuitive generalization that economizes on cognitive resources (Bordalo et al.,

[9] We thank an anonymous referee for this suggestion.

[10] Republicans also revised their 5-year ahead gas price expectations lower compared to Democrats. Our main results shown in Table 1 continue to hold when we control for changes in gas price expectations in Equation (1).

[11] The Michigan survey lacks the same history of beliefs by partisanship. However, the available evidence does not indicate convergence between elections (Figure 1). Since the 2016 Presidential election, the Michigan survey has reported sentiment indices separately by partisanship. Republicans became much more optimistic than Democrats following the Republican victory and this difference has not diminished over time (Curtin, 2018).

2016). The key idea is that when asked to answer a difficult question—in our case inflation expectations—people use stereotypes to fill in hard to recall information. Presidential approval rating surveys indicate partisans are overwhelmingly more likely to believe the president is high quality when their political affiliation matches that of the president (Gallup, 2019). This implies that a low (high) quality leader is the stereotype for high (low) inflation, and bad (good) macroeconomic outcomes more generally.

Bordalo et al. (2016)'s model of stereotypical thinking assumes stereotypes contain a "kernel of truth". There is a basis in historical data for associating low presidential quality with high inflation: inflation was high in the 1970s and the presidents in office during those years—Nixon, Ford and Carter—have been judged by historians to be three of the four lowest ranked post-war presidents.[12] However, the historical association between inflation and presidential quality likely overstates a president's influence on inflation in the post-Volcker period because the Federal Reserve has become more independent. This suggests that, while reflecting a kernel of truth, consumers' beliefs are an overreaction to election news. Consistent with this, we show in the next section that inflation expectations of professional forecasters do not appear to be significantly affected by political beliefs.

6.2 Expectations of professional forecasters

For the United States, the political ideology of professional forecasters is unavailable. We look for indirect evidence by comparing the inflation forecast rank of participants in the Survey of Professional Forecasters (SPF) in pre- and post-presidential election surveys. If the SPF contains participants with a mix of political beliefs, and those political beliefs affect inflation expectations in the same manner as for consumers, then we should expect to see a significant change in forecaster rank following elections.[13] We find no evidence of this for expectations of CPI inflation over the following year (Table 5). There is mixed evidence for long-term CPI inflation expectations (Table

[12] This is consistent with us not finding evidence of a political business cycle because there have been high and low-quality Democrat and Republican presidents. See Table A5 in the Web Appendix for inflation outcomes by president and Table A6 for estimates of the relationship between inflation and a measure of presidential quality.

[13] Although opinion polls correctly predicted the 1992 and 2008 election results, the 2016 result was a surprise and there was considerable uncertainty in 2000.

5). However, while the absence of a change in rank around elections rules out an effect of political beliefs on inflation expectations, a change in rank coinciding with an election could reflect other factors, such as the financial crisis in 2008.

For Australia, we consider inflation expectations of trade union officials. Trade unions are directly affiliated with the ALP and share the ideological views of ALP voters but are well-informed about inflation. In contrast to the beliefs of ALP voters, union officials' inflation expectations *rose* following the ALP election victory in 2007 and were little changed following the Liberal/National victory in 2013 (see Figure A2 in the Web Appendix).

Comparing the reaction of consumers to professional forecasters indicates that consumers overreact to election news. In the next section, we interpret our empirical results through the lens of a model in which stereotypical thinking leads to exaggerated beliefs.

7 Stereotypical thinking

Bordalo et al. (2016) present a model that explains how stereotypical thinking can lead to exaggerated expectations. Their model formalizes Kahneman and Tversky's (1972) representative heuristic by supposing that a stereotypical thinker's attention is drawn to representative outcomes, defined by *relative* differences between groups. This leads to large biases when representative outcomes are not very likely.

We suppose that consumers use their beliefs about presidential quality as a stereotype for inflation. Based on the historical United States data, we also assume that high inflation is more likely under a low than high-quality president, providing a "kernel of truth" for consumer expectations. This assumption is formalized by assuming that the likelihood ratio

$$R(\pi, q_l, q_h) = \frac{f(\pi|q_l)}{f(\pi|q_h)} \tag{8}$$

is monotonically increasing in π, where f is the density function for inflation and q is presidential quality (low or high). Equivalently, $R(\pi, q_h, q_l)$ is decreasing in π. Conditional on the level of

presidential quality, the distribution of inflation outcomes perceived by a stereotypical thinker is

$$f^{\theta}(\pi|q_l) = f(\pi|q_l)\frac{R(\pi,q_l,q_h)^{\theta}}{\int f(\pi|q_l)R(\pi,q_l,q_h)^{\theta}\,d\pi}, \tag{9}$$

where θ parameterizes the degree of stereotypical thinking. Belief distortion is captured by the fraction on the right-hand side of Equation (9); the numerator allows representative outcomes to be overweighted (the extent being parameterized by θ) and the denominator is a normalization. If $\theta = 0$ there is no belief distortion and individuals act as Bayesians; alternatively, when $\theta > 0$, the representative outcomes are overweighted. For $\theta = 1$, the degree of overreaction to news is roughly double that under rational expectations (Bordalo et al., 2018). When thinking about a low-quality president, high inflation outcomes come most easily to mind because they are representative of a low-quality president. Similarly, low inflation outcomes come most easily to mind when thinking about a high-quality president and so are overweighted by a stereotypical thinker; $f^{\theta}(\pi|q_h)$ is analogously defined.

We use the model to interpret our empirical estimates assuming that inflation is normally distributed with a mean of $2-\frac{\delta}{2}$ under a high-quality president and a standard deviation equal to that for United States PCE inflation over the post-1984 period (1.1 percent); under a low-quality president the distribution has a mean $2+\frac{\delta}{2}$ and the same standard deviation. This satisfies the assumption that $R(\pi,q_l,q_h)$ is monotonically increasing in π, and δ denotes the difference in average inflation under a low and high-quality president.

For the 2016 presidential election, we deduced in Section 5.1 that Democrats expected 1 percent higher inflation under Trump than Clinton, and Republicans 3.3 percent lower inflation. Figure 5 shows values of δ and θ consistent with these perceived differences in inflation, supposing partisans believe the candidate they support is high quality and the other candidate is low quality. For example, if $\delta = 0.5$ then the stereotypical thinking parameters consistent with reported expectations is $\theta = 0.5$ for Democrats and $\theta = 2.8$ for Republicans.

Ideally, we would use variation in inflation and an objective measure of presidential quality to estimate δ and then infer the degree of stereotypical thinking, θ. However, increased central

bank independence in the post-Volcker period makes it difficult to isolate the relationship between presidential quality and inflation from other factors affecting inflation. Instead, we calculate the value of δ implied by estimates of θ from elsewhere in the literature. For credit spreads Bordalo, Gennaioli and Shleifer (2018) estimate $\theta = 0.9$; for analyst earnings growth forecasts Bordalo et al. (forthcoming) also estimate $\theta = 0.9$; while for SPF and Blue Chip macroeconomic survey forecasts Bordalo et al. (2018) estimate values for θ from near zero to 2.8 across series. Hence, for professional forecasters, $\theta \simeq 1$ is a central estimate and $\theta \simeq 3$ is an upper bound. We are unaware of estimates of θ for consumer expectations, however, it is plausible that consumers are more susceptible to stereotypical thinking than professional forecasters.[14,15]

For $\theta = 3$, at the upper bound found for professional forecasters, only a $\delta = 0.14$ percentage point effect of presidential quality on inflation is needed to explain belief revisions by Democrats at the 2016 election. For comparison, the standard deviation of year-ahead inflation forecast revisions by SPF participants following the 2016 election was 0.25 percent.[16] However, for Republicans, a $\delta = 0.14$ percentage point effect of presidential quality implies $\theta = 11$.

The large value for Republicans reflects that we have scaled inflation expectations reported in the Michigan survey to account for only a minority of partisans in ANES data expecting a Clinton victory (see Section 5.1). This scaling will overstate the inflation difference if the election result resolved uncertainty and therefore contained news for those reporting they expected a Trump victory (see Section 5.1). Similar calculations can be made for the other elections.

Inflation uncertainty.—Because stereotypical thinking provides a mental short-cut when information is scarce or hard to recall, we expect partisan bias in inflation expectations to be larger among people with a high than low level of inflation uncertainty. We confirm this auxiliary prediction using the methodology developed by Binder (2017*b*) to estimate an individual's level of inflation uncertainty. Using the Australia data, because of its long time series, the average level

[14] According to the "Call for Participants" on the SPF website, "Most of the survey's participants have formal and advanced training in economic theory and forecasting and use econometric models to generate their forecasts."

[15] We cannot apply the methodology of Bordalo et al. (2018) to estimate θ for consumer inflation expectations because we do not observe individual-level fixed-event forecasts.

[16] For the 1992, 2000 and 2008 elections, the standard deviation of year-ahead inflation forecast revisions by SPF participants was 0.24, 0.17 and 0.80 percent per annum, respectively.

of disagreement about inflation between ALP and Liberal/National voters is 1.2 percentage points for those with a high level of uncertainty and 0.6 percentage points for those with a low level of uncertainty (see Figure A3 in the Web Appendix).

8 Alternative explanations

We now discuss other possible explanations for why people expect significantly lower inflation when the political party they support holds executive office.

8.1 Rational inattention

Models of rational inattention have been found to successfully explain various features of forecast errors and disagreement in survey data (Coibion and Gorodnichenko, 2012). Disagreement arises because of either imperfect information or costly information acquisition. Both models generate underreaction to news and assume that people form rational expectations based on available information. However, we observe a sharp revision in inflation expectations at elections for both Democrats and Republicans relative to Independents. Neither type of model can explain why Republicans and Democrats would revise their expectations in *opposite* directions in response to the same news event.

8.2 Selective attention to news

Persistent disagreement between partisans could reflect heterogeneous priors about the mean of inflation when each party is in power. However, the absence of convergence in beliefs is inconsistent with learning from past forecast errors. Rabin and Schrag (1999) provide a potential explanation, presenting a model of confirmation bias in which agents ignore or down-weight information inconsistent with their priors. They show that an individual can believe a false hypothesis with near certainty even after observing an infinite amount of data.

Confirmation bias predicts that consumers are more likely to overlook news about higher prices (or more likely to notice news about lower prices) when the political party they support is in rather than out of power. This implies that information about price changes should cause disagreement about inflation expectations between partisans to rise. We test this proposition using the long time

series of data available for Australia. Inflation expectations for both ALP and Liberal/National voters are positively and significantly related to CPI inflation and other variables containing information about price changes (Table 6, Specifications 1 and 2). However, disagreement about expected inflation between ALP and Liberal/National voters is not significantly related to information about price changes or other variables shown by Mankiw, Reis and Wolfers (2004) to be correlated with disagreement about expected inflation (Table 6, Specifications 3 and 4). These results indicate that ALP and Liberal/National voters process information about price changes similarly, which is inconsistent with confirmation bias.

Reports of news heard provides direct information on heterogeneous processing of information. In the Michigan survey, less than 4 percent of Democrats, Republicans and Independents reported hearing any news about prices before or after the 2008 and 2016 elections. We conclude there is little evidence of heterogeneous information processing and that confirmation bias cannot explain our findings.

8.3 Heterogeneous inflation experiences

A recent literature argues that people overweight personal experiences in forming economic beliefs (Cavallo, Cruces and Perez-Truglia, 2017). Furthermore, heterogeneity in inflation experiences could be correlated with political preferences. However, this is an unlikely explanation for our results. First, governments cannot target inflation rates of different groups. Second, experienced inflation is unlikely to jump at changes of government.

To address the possibility that heterogeneity in inflation expectations is related to lifetime inflation experience we have included age-group interactions in our regression analysis (Table 3 and Table A4 in the Web Appendix). We find no significant heterogeneity in the effect of political beliefs on inflation expectations by age. Reinforcing this, our findings are similar for the United States and Australia despite the different inflation histories in the two countries.

9 Relationship with existing literature

Our findings are new in providing evidence that people use beliefs about presidential (prime ministerial) quality as a stereotype for inflation. If central bank independence is understood and salient to consumers they should not use political attitudes as a stereotype for inflation. The effect of political attitudes on inflation expectations is evident across a range of socioeconomic groupings, suggesting a widespread low level of knowledge about the monetary policy framework. Our results suggest that the channel through which central bank independence has lessened the inflationary bias of discretionary monetary policy is unlikely to be the depoliticization of consumers' inflation expectations. This contrasts with evidence for market-based measures of inflation expectations (Gürkaynak, Swanson and Levin, 2010). One possibility is that consumer inflation expectations have only a limited affect on inflation and central bank independence has promoted stable inflation by lowering market-based measures of inflation compensation. However, this possibility is problematic from a theoretical perspective because in most models it is consumers' expectations that affect spending behavior and wage bargaining decisions. Furthermore, Coibion, Gorodnichenko and Kamdar (2018) argue that consumer inflation expectations are likely to be a better proxy for firms' inflation expectations than those of professional forecasters. The question of whose expectations matter remains an open question.

In recent decades central banks have increasingly emphasized the importance of communication with the public (Blinder et al., 2008). Bernanke (2010) argues that "Improving the public's understanding of the central bank's policy strategy reduces economic and financial uncertainty and helps households and firms make more-informed decisions. Moreover, clarity about goals and strategies can help anchor the public's longer-term inflation expectations more firmly and thereby bolsters the central bank's ability to respond forcefully to adverse shocks." Woodford (2005) provides a model in which the provision of better information about central bank intentions makes monetary policy more effective in influencing private sector expectations. Our results point to there being limits to what better central bank communication can achieve.

The literature using survey data to examine the public's understanding of monetary policy

is relatively recent. Using data from the Michigan Survey of Consumers, Carvalho and Nechio (2014) find that college-educated consumers report expectations for inflation, unemployment and interest rates consistent with a Taylor rule. However, this is not the case for non-college educated consumers. Using the same data, Drager, Lamla and Pfajfar (2016) find that a sizable share of consumers report expectations consistent with the Fisher equation but relatively few with the Taylor rule or Phillips curve. A feature of both these studies is that people may be aware of historical correlations between macroeconomic variables without necessarily understanding how the Federal Reserve sets monetary policy. In a survey of Dutch households, van der Cruijsen, Jansen and de Haan (2015) find limited knowledge about the ECB's goals, while Kumar et al. (2015) find a low level of knowledge about monetary policy objectives among firm managers in New Zealand. Binder (2017*a*) provides a comprehensive review of this literature. Our results provide a more direct test of consumers' understanding of the monetary policy framework.

10 Conclusion

We have documented that consumers in both the United States and Australia report significantly lower inflation expectations when the political party they support holds executive office. This finding is new to the literature and cannot be explained by previously identified sources of heterogeneity in consumer inflation expectations. Our results indicate that people think in terms of stereotypes and associate a high-quality leader with low inflation. This sheds new light on how consumers form their inflation expectations, indicating that departures from rational expectations are important for understanding how consumers form their inflation expectations. More broadly, our results point to the use of heuristics in macroeconomic belief formation.

The fact that people use political attitudes as a stereotype for inflation suggests that central bank independence is either not understood by or not salient to consumers when forming their inflation expectations. This has implications for the mechanism through which central bank independence has solved the inflationary bias of discretionary monetary policy and promoted inflation stabilization. Our findings suggest it has not been via the depoliticization of consumers' inflation expectations.

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Table 1: Political Affiliation and Change in Inflation Expectations:
2016 and 2008 United States Presidential Elections
Michigan Survey of Consumers

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	2016 Election				2008 Election			
	Year-ahead inflation	Year-ahead inflation	5-10 year inflation	5-10 year inflation	Year-ahead inflation	Year-ahead inflation	5-10 year inflation	5-10 year inflation
Republican	-1.136***		-0.373		1.134		-0.486	
	(0.321)		(0.251)		(0.860)		(0.475)	
Democrat	0.921***		0.580**		-1.616*		-1.018**	
	(0.292)		(0.231)		(0.866)		(0.462)	
Strong Republican		-1.425***		-0.643*		1.008		-0.241
		(0.393)		(0.337)		(1.168)		(0.606)
Weak Republican		-1.016**		-0.146		1.258		-0.688
		(0.410)		(0.281)		(0.918)		(0.543)
Weak Democrat		0.269		0.050		-0.413		-0.803
		(0.429)		(0.303)		(1.025)		(0.555)
Strong Democrat		1.189***		0.861***		-2.745***		-1.196**
		(0.329)		(0.246)		(1.027)		(0.578)
H_0: R = D (p-value)	0.00		0.00		0.00		0.27	
H_0: Str. R = Str. D		0.00		0.00		0.00		0.17
N	818	818	803	803	442	442	448	448
R^2	0.093	0.101	0.071	0.081	0.143	0.152	0.095	0.096
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: For the 2016 election, the sample comprises people interviewed in the period June to October 2016 (pre-election) and re-interviewed six months later (post-election). For the 2008 election, the sample comprises people interviewed in June, September and October 2008 (pre-election) and re-interviewed six months later (post-election). Specifications (1)-(2) and (5)-(6) report coefficients from an OLS regression of the change in each survey respondent's year-ahead inflation expectations on political affiliation; (3)-(4) and (7)-(8) do the same for 5-10 year-ahead inflation expectations. The base category is people reporting Independent political affiliation. Each regression includes survey month fixed effects. The demographic controls include: region, gender, age, education, marital status, income, race and housing tenure. Covariates and political affiliation are as reported in the first interview. Robust standard errors are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10 percent levels, respectively.

Table 2: Political Affiliation and Change in Economic Expectations: 2012 United States Presidential Election
RAND Corporation American Life Panel

	(1) Year-ahead inflation	(2) Year-ahead inflation	(3) Year-ahead inflation	(4) Year-ahead inflation	(5) Unemployment rate	(6) Interest rate
	OLS	OLS	OLS	OLS	Ordered Logit	
Democrat	-0.346	-0.365			0.624***	0.801*
	(0.320)	(0.320)			(0.072)	(0.095)
Republican	2.168***	0.558			3.048***	0.983
	(0.339)	(0.497)			(0.373)	(0.123)
Republican: Expect Rwin		2.212***				
		(0.530)				
Strong Democrat			-0.205	-0.224		
			(0.354)	(0.355)		
Weak Democrat			-0.661	-0.661		
			(0.424)	(0.425)		
Weak Republican			0.549	-0.481		
			(0.433)	(0.580)		
Strong Republican			3.040***	1.702**		
			(0.392)	(0.729)		
Weak Rep.: Expect Rwin				1.750**		
				(0.729)		
Strong Rep.: Expect Rwin				1.660**		
				(0.780)		
H_0: R = D (p-value)	0.00				0.00	0.09
H_0: R (Rwin) = D		0.00				
H_0: Str. R = Str. D			0.00			
H_0: Str. R (Rwin) = Str. D				0.03		
N	2,038	2,035	2,038	2,035	2,036	2,036
R^2	0.059	0.066	0.070	0.074		
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The sample comprises people interviewed within an 8 day period prior to the 2012 election and re-interviewed within an 8 day period after the election. Specifications (1)-(4) report coefficients from an OLS regression of the change in each survey respondent's year-ahead inflation expectations on political affiliation. The base category is people reporting an Independent political affiliation. *Expect: RWin* is an indicator for Republican party supporters who expected Romney to win the 2012 election. The dependent variables in (5) and (6) are the change between interviews in expectations about unemployment and interest rates, respectively, with responses either increase, unchanged or decrease. For (5) and (6) the coefficients reported are odds ratio from an ordered logit model, with the dependent variables ordered such that odds ratios greater than one indicate, respectively, higher unemployment and higher interest rates. Each regression includes survey date fixed effects. The demographic controls include: gender, age, education, marital status, income, race, job status and household size. Covariates and political affiliation are as reported in the first interview. Robust standard errors are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10 percent levels, respectively.

Table 3: Political Affiliation and Change in Inflation Expectations: Heterogeneity by Demographic Groups
Michigan Survey of Consumers

Dependent variable: change in year-ahead inflation expectations						
	(1)	(2)	(3)	(4)	(5)	(6)
Support	-1.110***	-0.967***	-1.316***	-1.365**	-1.012***	-1.145***
	(0.305)	(0.247)	(0.225)	(0.551)	(0.199)	(0.208)
Support×Age<40	-0.026					
	(0.527)					
Support×Age>60	-0.211					
	(0.410)					
Support×Female		-0.535				
		(0.386)				
Support×No college			0.276			
			(0.395)			
Support×2nd inc. quartile				0.037		
				(0.705)		
Support×3nd inc. quartile				-0.023		
				(0.634)		
Support×Top inc. quartile				0.440		
				(0.626)		
Support×Black					-0.743	
					(0.927)	
Support×Hispanic					-2.042**	
					(0.871)	
Support×Am. Indian					0.606	
					(2.512)	
Support×Asian					-1.830	
					(1.361)	
Support×Renter						-0.333
						(0.500)
N	1,260	1,260	1,260	1,260	1,260	1,260
R^2	0.108	0.108	0.107	0.108	0.113	0.107
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The sample pools people interviewed for the first time in June, September and October 2008 and June-October 2016, and re-interviewed six months following their first interview. The dependent variable in each regression is the change in survey respondent's year-ahead inflation expectations between interviews. *Support* takes the value one if a survey respondent's political affiliation matches the party of the incoming president, minus one if a survey respondent's political affiliation matches that of the losing presidential candidate and zero for survey respondents with an Independent political affiliation. Main effects are included in each regression (e.g. Age<40, Age>60) but for brevity only interactions with *support* are shown. Each regression includes survey month fixed effects and the demographic controls include: region, gender, age, education, marital status, income, race and housing tenure. Covariates and political affiliation are as reported in the first interview. Robust standard errors are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10 percent levels, respectively.

Table 4: Political Affiliation and Change in Economic Expectations:
2016 and 2008 United States Presidential Elections
Michigan Survey of Consumers

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	2016 Election				2008 Election			
	Unemployment rate	Business conditions	Interest rate	Gas prices	Unemployment rate	Business conditions	Interest rate	Gas prices
Method	O-Logit	O-Logit	O-Logit	OLS	O-Logit	O-Logit	O-Logit	OLS
Republican	0.432***	2.570***	0.753	-9.893**	1.128	0.493***	1.380	4.538
	(0.078)	(0.493)	(0.132)	(4.510)	(0.271)	(0.119)	(0.326)	(12.778)
Democrat	3.821***	0.219***	0.901	5.542	0.637**	1.035	1.398	3.822
	(0.674)	(0.040)	(0.156)	(4.436)	(0.146)	(0.243)	(0.324)	(13.442)
H_0: R = D (p-value)	0.00	0.00	0.34	0.00	0.02	0.00	0.96	0.96
N	801	768	807	288	438	427	434	160
R^2				0.12				0.14
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: For the 2016 election, the sample comprises people interviewed in the period June to October 2016 (pre-election) and re-interviewed six months later (post-election). For the 2008 election, the sample comprises people interviewed in June, September and October 2008 (pre-election) and re-interviewed six months later (post-election). The dependent variables in (1)-(3) and (5)-(7) are the change between interviews in survey respondent's expectations for the unemployment rate, business conditions and interest rates over the next year, with responses either increase, unchanged or decrease; the coefficients reported are odds ratio from an ordered logit model, with the dependent variables ordered such that odds ratios greater than one indicate, respectively, a higher unemployment rate, improved business conditions and higher interest rates. Specifications (4) and (8) report coefficients from an OLS regression of the change in each survey respondent's expectation for gas prices (cents per gallon) over the year-ahead. The base category is people reporting an Independent political affiliation. Each regression includes survey month fixed effects. The demographic controls include: region, gender, age, education, marital status, income, race and housing tenure. Covariates and political affiliation are as reported in the first interview. Robust standard errors are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10 percent levels, respectively.

Table 5: Spearman Rank Correlation of Inflation Forecasters Pre- and Post-Presidential Elections
Survey of Professional Forecasters

		Presidential Election Year				
		1992	2000	2008	2016	r_{avg}
CPI Inflation: 1-year horizon	Rank correlation: r_s	0.58	0.65	0.57	0.69	0.67
	$H_o : r_s = r_{avg}$ (p-value)	0.22	0.44	0.17	0.57	
CPI Inflation: 10-year horizon	Rank correlation: r_s	0.95	0.95	0.60	0.67	0.82
	$H_o : r_s = r_{avg}$ (p-value)	0.99	0.99	0.01	0.04	

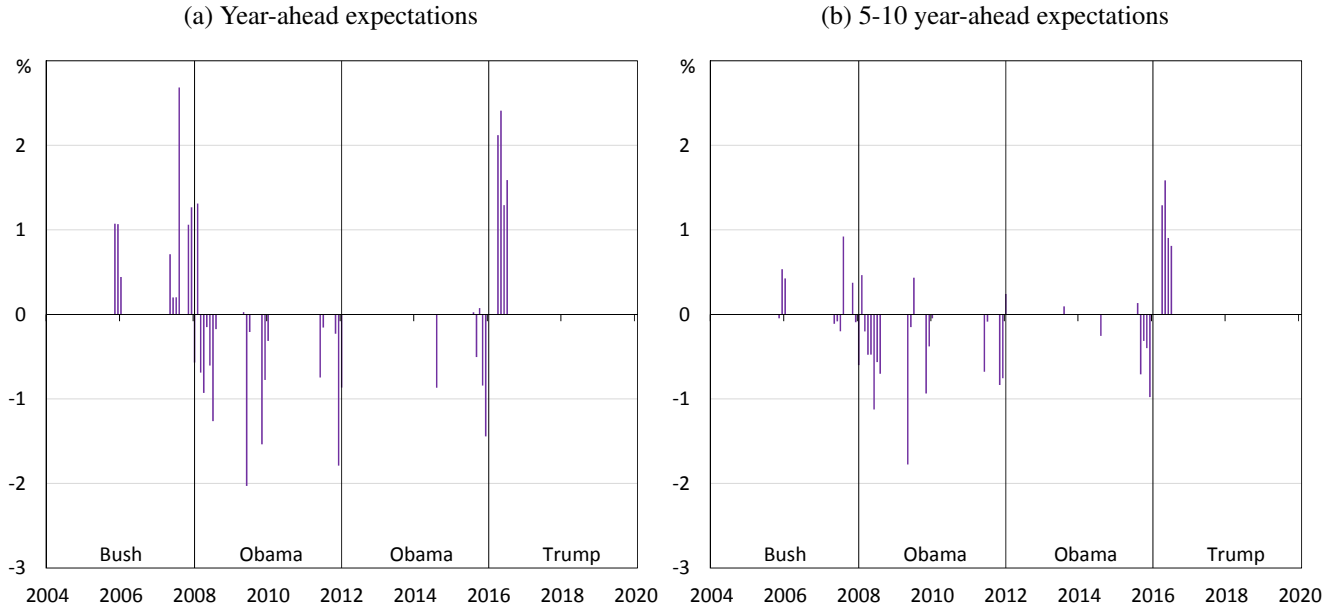
Notes: (CPI Inflation: 1-year horizon) Participants in the Survey of Professional Forecasters are ranked from highest to lowest forecast for CPI inflation over the next calendar year. Each column shows the Spearman rank correlation coefficient between forecasters in the survey prior to the presidential election and the survey following the presidential election. r_{avg} is the average Spearman rank correlation for each pair of adjacent surveys conducted over the period 1989Q1-2018Q1. The p-value reported is for a test with the null hypothesis that the rank correlation at each election is the same as r_{avg}. (CPI Inflation: 10-year horizon) Forecasts are for average CPI inflation over the next 10 years; r_{avg} is over the period 1993Q1-2018Q1.

Table 6: Australia: Disagreement about Inflation Expectations between ALP and Liberal/National Voters
Melbourne Institute Survey of Consumers

	(1)	(2)	(3)	(4)
	ALP voter expectations	Lib/Nat voter expectations	ALP minus Lib/Nat expectations	ALP minus Lib/Nat expectations
ALP government	-0.609***	1.042***	-1.651***	-1.668***
	(0.143)	(0.127)	(0.191)	(0.195)
CPI Inflation	0.090***	0.094***	-0.005	-0.010
	(0.032)	(0.029)	(0.027)	(0.028)
Relative price variability	0.095*	0.095**	-0.001	0.040
	(0.052)	(0.048)	(0.046)	(0.041)
Δ^3unemp. rate	-0.141	-0.035	-0.106	-0.041
	(0.156)	(0.196)	(0.265)	(0.252)
Other voter expectations	0.626***	0.639***	-0.013	0.051
	(0.079)	(0.069)	(0.058)	(0.082)
|CPI Inflation|				-0.060
				(0.050)
Unemp. rate				0.080
				(0.070)
Constant	1.332***	0.329	1.003***	0.158
	(0.304)	(0.284)	(0.293)	(0.694)
N	270	270	270	270
R^2	0.56	0.74	0.58	0.57

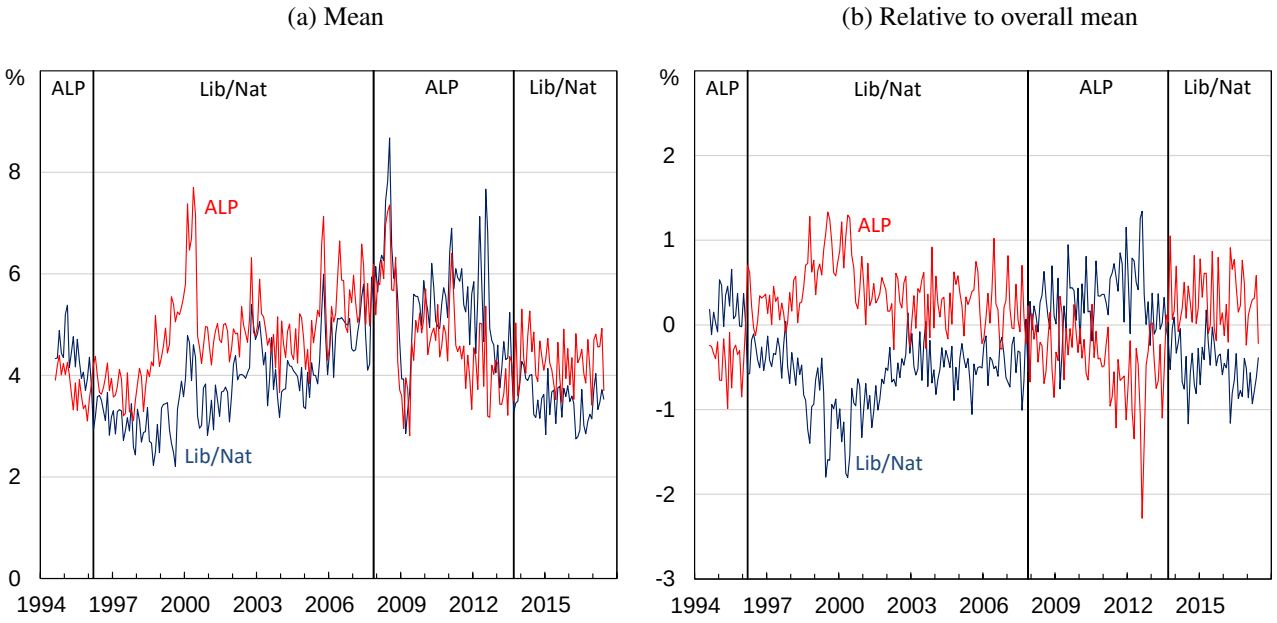
Notes: *ALP government* is a dummy variable that takes the value one when the ALP was in government and zero otherwise. *CPI Inflation* is the annualized CPI inflation rate; CPI data is quarterly and is assumed to be constant in each month of the quarter. *Relative price variability* is the standard deviation of expenditure-level quarterly inflation rates; Δ^3*unemp. rate* is the quarterly percentage point change in the unemployment rate; *Other voter expectations* is the group of voters who report 'Don't know' when asked about their voting intention or express support for an independent candidate; and |CPI Inflation| is the absolute value of the annualized quarterly inflation rate. The sample period is 1994m10-2017m3. Newey-West standard errors using 18 lags are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10 percent levels, respectively.

Figure 1: United States: Mean Inflation Expectations: Democrats minus Republicans
Michigan Survey of Consumers



Notes: Panel (a) shows mean year-ahead inflation expectations for Democrats minus Republicans for survey months in which respondents were asked about their political affiliation; panel (b) does the same for 5-10 year-ahead inflation expectations. Vertical lines indicate the dates of United States presidential elections and labels at the bottom indicate the president in office.

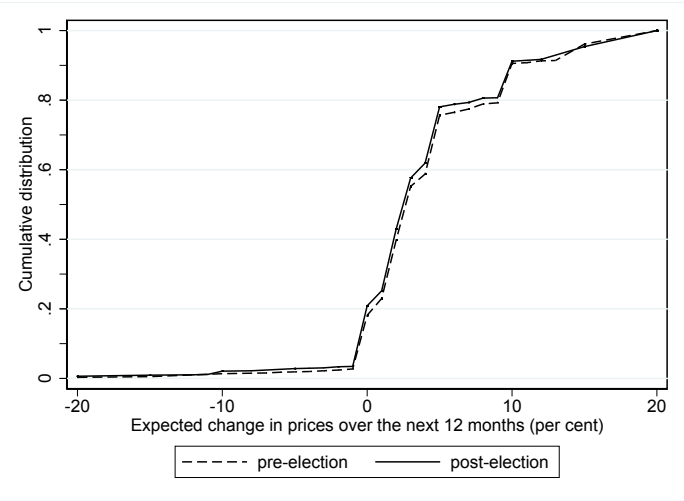
Figure 2: Australia: Mean Year-ahead Inflation Expectations by Voting Intention
Melbourne Institute Survey of Consumers



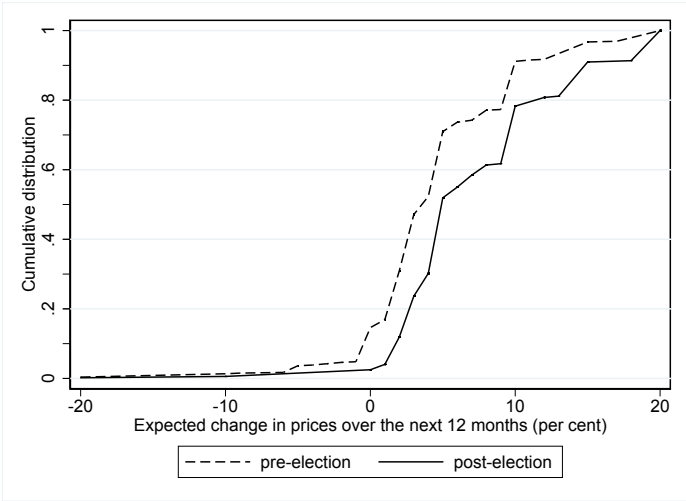
Notes: Panel (a) shows mean year-ahead inflation expectations for ALP and Liberal/National voters; panel (b) shows mean inflation expectations for ALP and Liberal/National voters relative to the overall mean. Vertical lines indicate federal elections at which there was a change of government. Labels at top indicate party of government.

Figure 3: United States: Year-ahead Inflation Expectations
RAND American Life Panel

(a) Democrats expecting Obama victory

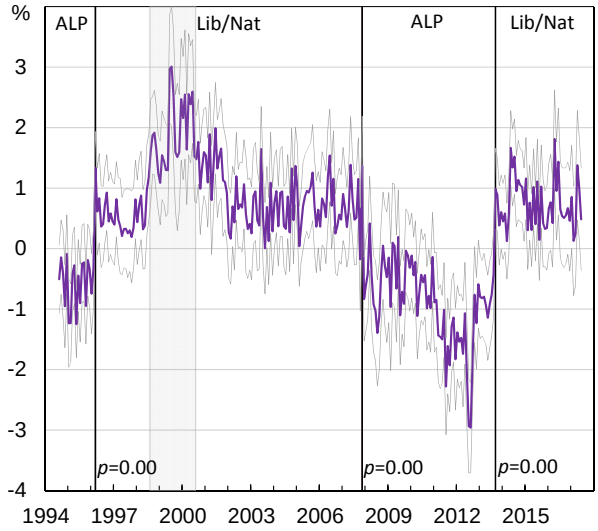


(b) Republicans expecting Romney victory



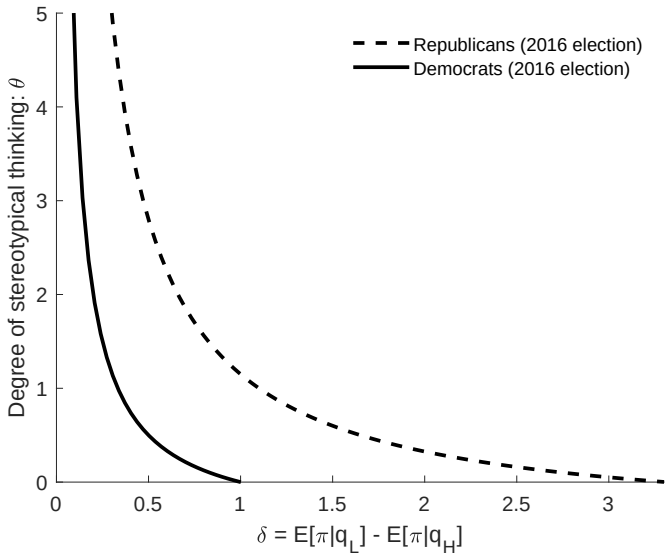
Notes: The sample comprises people surveyed in the 8 days prior to the 2012 United States presidential election and re-interviewed in the 8 days following the election. Panel (a) shows the cumulative distribution function of year-ahead inflation expectations pre- and post-election for Democrats who expected an Obama (Democrat) victory; panel (b) does the same for Republicans expecting a Romney (Republican) victory.

Figure 4: Australia: Conditional Mean Year-ahead Inflation Expectations: ALP minus Liberal/National Voters
Melbourne Institute Survey of Consumers



Notes: For each survey month, the figure shows mean inflation expectations of ALP voters less mean inflation expectations of Liberal/National voters after controlling for observed differences between the two groups of voters; see Equation 5. The control variables are: gender, age, income, education, occupation, home ownership status and metropolitan/non-metropolitan location. Two standard error bands are also shown. Vertical lines indicate federal elections at which there was a change of government. The shaded area shows the period from announcement to introduction of a 10 percent Valued-Added Tax. p-values are for a Wald test with the null hypothesis that the average difference in expectations is the same for the 6 months before and after each change of government.

Figure 5: Degree of Stereotypical Thinking Required to Explain Consumer Inflation Expectations



Notes: The *x*-axis shows hypothetical differences in inflation under low- and high-quality presidents, δ. The *y*-axis shows the degree of stereotypical thinking (θ) required for each value of δ to explain the expected differences in year-ahead inflation under low- and high-quality presidents, for people identifying as Republicans and Democrats at the 2016 election.