1 University of Michigan Survey of Consumers Gas Expectations and Partisan Affiliation

This memo summarizes the correlational relationship between observed gas prices and predicted gas prices among respondents of the University of Michigan’s Surveys of Consumers Microdata. University of Michigan only began to reliably ask about respondents’ political affiliation starting in late 2017.1

The key takeaways are as follows:

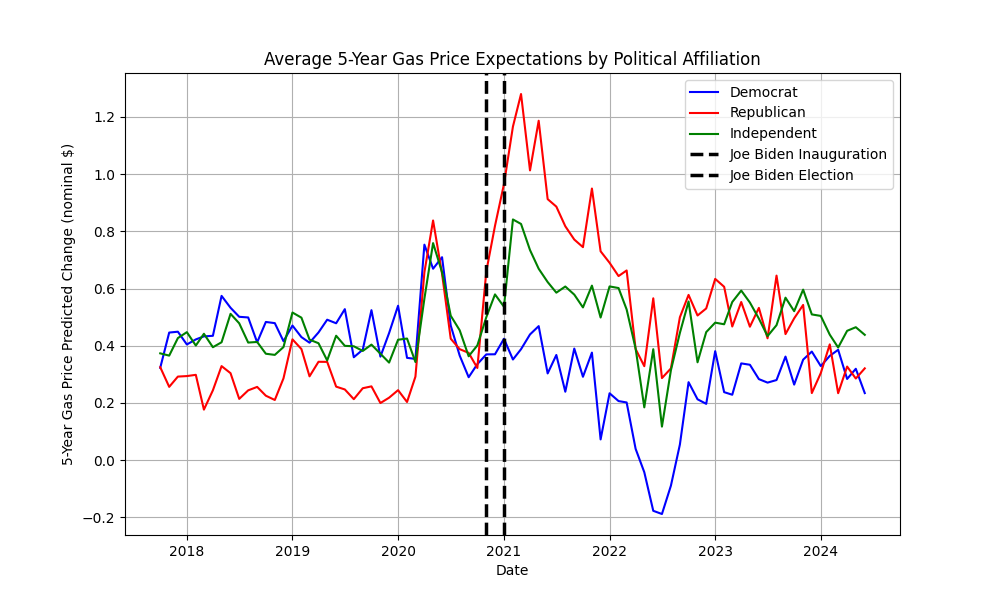
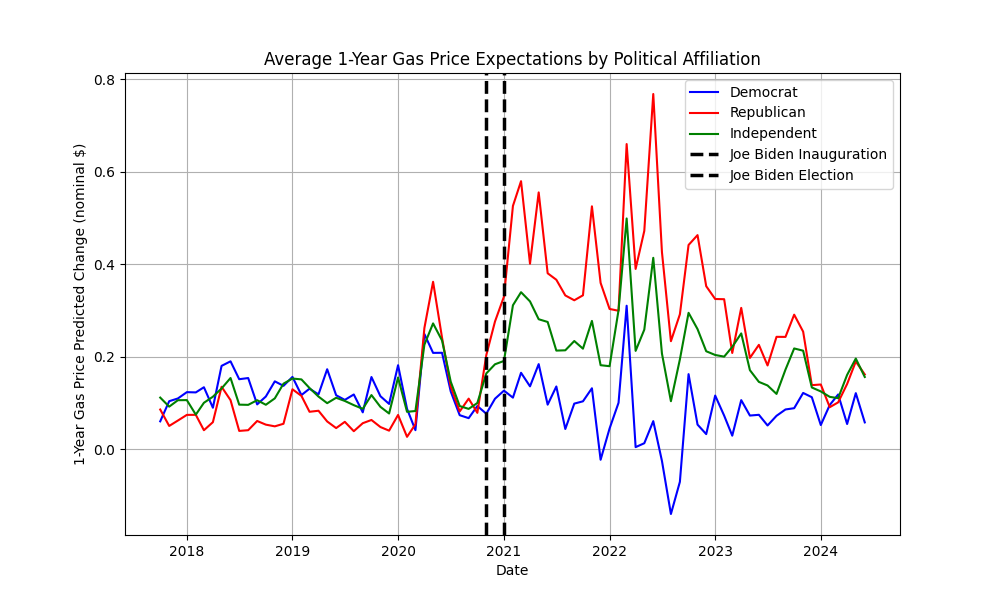
1. When regressing expected gasoline price changes by partisan affiliation over 1 year and 5 year windows on the monthly change in gasoline prices, Republicans are roughly 1.3 and 2.7 times, respectively, more sensitive to changes in the observed gasoline price.
2. [Fill in the rest here for the other versions of the model you ran]

1.1 Average Gas Price Expectations Over Time By Partisan Affiliation

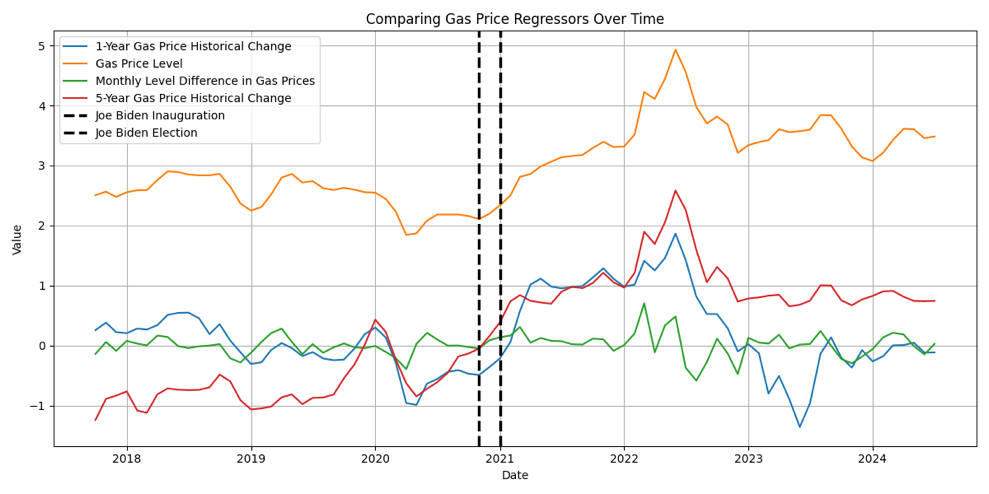
[I would simply add a description of the data—what the variables in UMich are, where you get gas price data].

These plots are simple averages of gas price expectations by partisan affiliation collapsed on month-year. Independents, Republicans, and Democrats’ gas price expectations were similar matching until around Joe Biden’s election/inauguration (denoted by the two red vertical dashed lines), when Republicans’ expecta- tions spiked and, to a lesser extent, so did Independents’. During the Biden presidency, each of the three groups followed roughly similar trends, at different levels.

1The 1-year gas and 5-year gas price expectations are based on the questions ’GAS1’ and ’GAS5’ on the survey, asking respondents to predict how much gas prices will have changed within the next 1 and 5 years, respectively.  
Information on respondents’ partisan affiliation is taken from the question ’POLAFF’.  
Information on the survey variables can be found here.

All gas price data is taken from the Energy Information Administration (EIA). 

1.2 Comparing Regressors

For context, here is a basic time-series comparing the regressors used in the various models above: 

1.3 Gas Price Monthly Difference Model

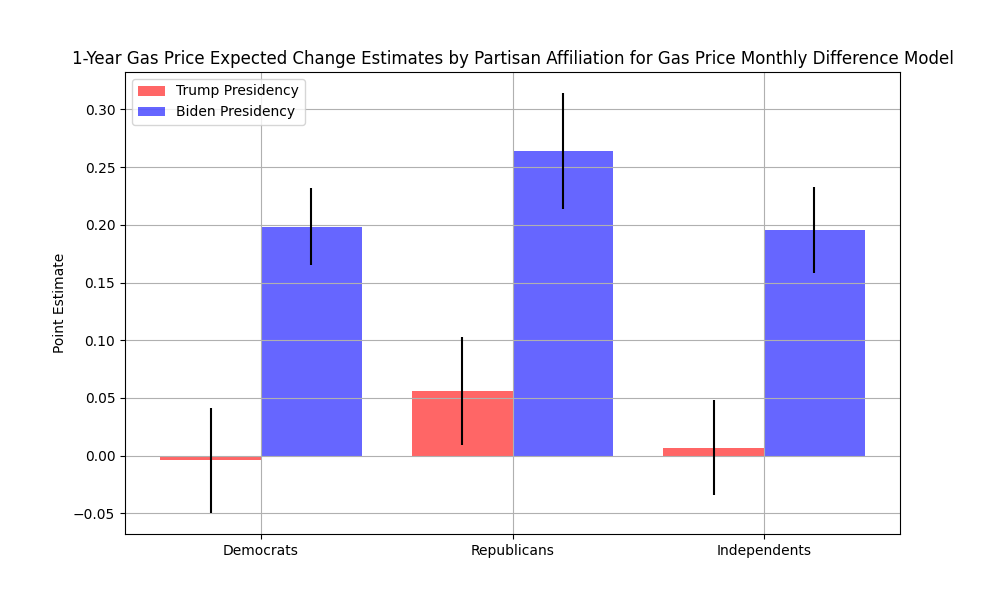
For all of the following models, I run separate regressions for sub-samples organized around 1) partisan affiliation (democrats, republicans, and independents), 2) by whether Joe Biden is president or not (the Biden sub-sample begins January, 2021, and 3) for individuals’ 1-year and 5-year gas expectations. Therefore, between models, only the regressor changes.

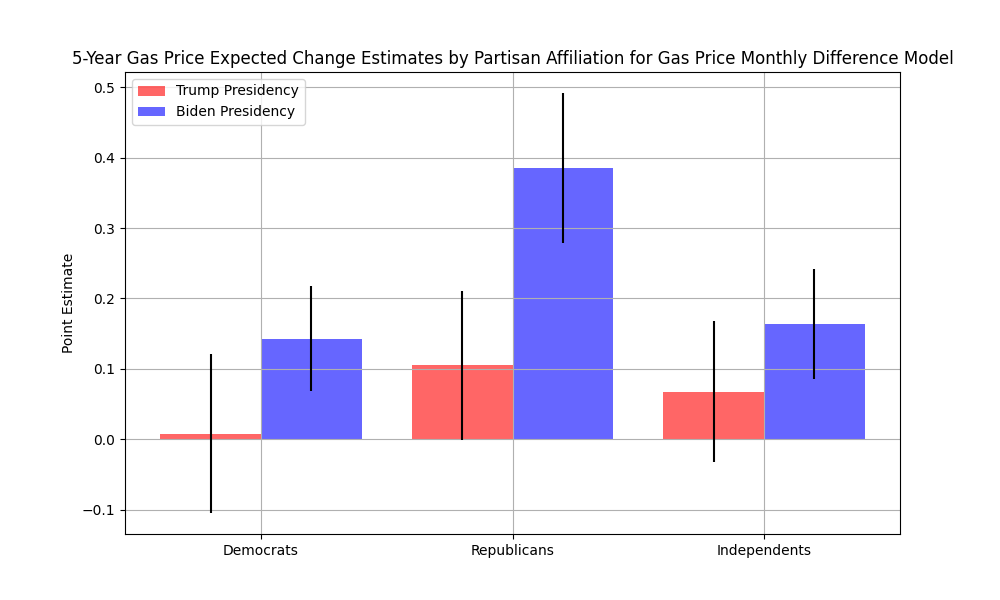
The gas price monthly difference model is represented by this equation:  
∆Expected\_GAS\_PX\_i,, horizon = β0, party, biden, horizon + β1, party, biden, horizon∆GAS PX + εparty, biden, horizon (1)

where ∆GAS PXe, horizon is the individuals’ expected price change in gasoline and ∆GAS PX is the change in nominal gas price level from the previous month. For both 1-year and 5-year gas price expectations, I use the month-by-month change in gas prices as the independent variable.

The results show that when asked about expected gasoline prices one year into the future, nearly everyone was more sensitive to an increase in monthly gasoline prices during Biden than during Trump. To be sure, some of this is mechanical, as gasoline prices were more volatile under Biden than Trump, but what’s notable is that Republicans sensitivity was substantially greater than that of Democrats or Independents.

This dynamic is even more striking when respondents were asked about expected gasoline price changes five years into the future. During the Trump presidency, respondents of all stripes largely thought the changes would be statistically indistinguishable from zero. Under Biden, Democrats and Independents believed a 10 cent change in monthly gasoline prices would mean gas prices five years out would be roughly 1.5 cents higher. For Republicans, though, this figure was nearly 4 cents—nearly 2.7 times higher than Democrats and Independents. Interestingly, this is roughly what you and Ryan found for overall sentiment in your Asymmetric Amplification work—Republicans were more than 2.5x as biased in their assessment of the overall economy.



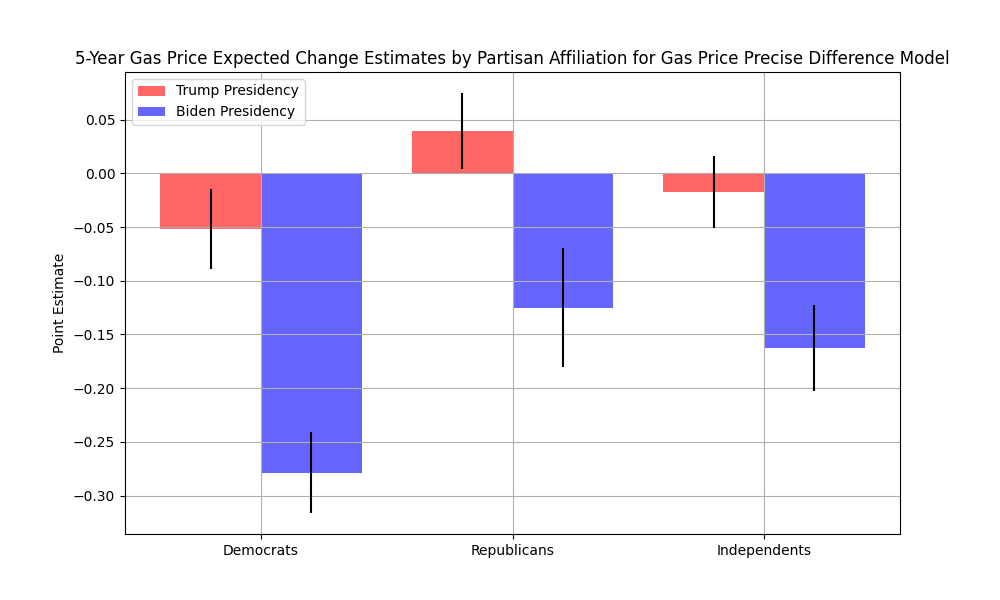
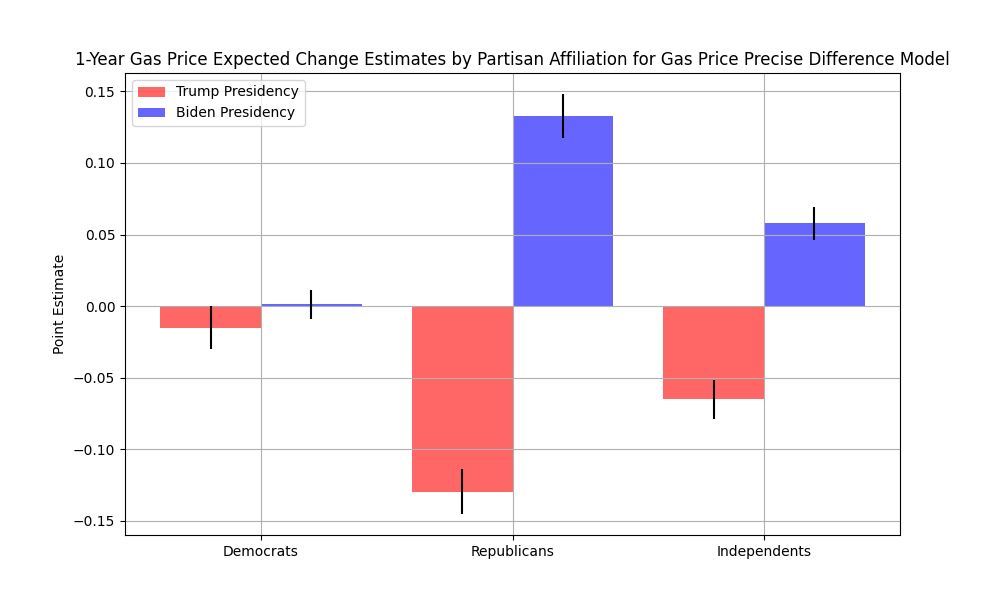


1.4 Gas Price Precise Difference Model

The gas price precise difference model is represented by this equation:  
∆GAS PXe, horizon = β0, party, biden, horizon + β1, party, biden, horizon∆GAS PXhorizon + εparty, biden, horizon (2)

where ∆GAS PXhorizon is the observed historical gas price change matched to the horizon of gas price expectations. Thus, for 1-year gas price expectations, I find the historical 12-month gas price level change and for 5-year expectations, I find the historical 5-year gas price level change. Therefore, if individuals’ predicted price changes perfectly matched what happened historically, β1 would be 1.

These findings are more drastic: Democrats exhibit largely no responsiveness to one-year gas price changes for either the Biden or Trump Presidency, while Republicans flip the sign of their sensitivity from the Trump to Biden presidency and Independents appear to be somewhere in between Republicans and Democrats in the strength of their correlation. For 5-year gas price changes, the results are complicated by the sign of 5-year gas price changes: during the Trump presidency, 5-year historical gas price changes were almost entirely negative. It’s not clear why the coefficients for the Biden Presidency 5-year expectations are so significantly negative–this requires further data analysis.



1.5 Gas Price Levels Model

The gas price levels model is represented by this equation:

∆GAS PXe, horizon = β0, party, biden, horizon + β1, party, biden, horizonGAS PX + εparty, biden, horizon (3) where GAS PX is the level gas price the month that an individual is predicting the future gas prices.

The gas price levels model tells a similar story to the gas precise difference model – Republicans flip the correlational direction between their expected change and observed gas prices when Joe Biden became President.

