Political Advertising, Expectations, and Household Consumption

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Last Updated: April 2026

Abstract

This paper examines the impact of political advertising on household consumption behavior in the United States. Using a regression discontinuity design that exploits variation in advertisement exposure across media market borders, we show that exposure to political advertisements significantly affects household consumption. Weekly county-level nondurable spending increases by 0.24% for every additional one standard deviation of positive economic-themed advertisements. The effect is heterogeneous by county-level demographics, with a stronger consumption response from counties with a higher proportion of older and low-income residents. We also provide evidence on the underlying mechanisms, showing that these effects operate through changes in household sentiment and the economic information conveyed in the advertisements.

Keywords: Political advertisements, consumption, media, partisanship
JEL Codes: E21, E71, D72

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1 Introduction

Intertemporal consumption and saving decisions are shaped by households' expectations about future income and economic conditions. These expectations may be influenced not only by objective economic information but also by persuasive communication influencing household expectations (DellaVigna and Gentzkow, 2010). Consequently, exposure to media may affect economic behavior through channels that go beyond simply transmitting information about economic fundamentals. Whether, and to what extent, information frictions arising from exposure to media translate into changes in consumer behavior remains an open empirical question.

While expectations play a significant role in consumption decisions in macroeconomic models (Coibion and Gorodnichenko, 2012, 2015), some studies suggest that observed differences in expectations (Binder et al., 2024) do not translate into differences in spending behavior (Mian et al., 2023). This raises the possibility that increasing segmentation in information across news media (Larcinese et al., 2011; Pew Research Center, 2025) may alter inflation and other economic expectations without affecting actual consumption. An important question, therefore, is whether media exposure merely shapes stated beliefs or whether it also affects real economic behavior. Quantifying the extent of such effects is essential for understanding the broader economic consequences of persuasive media.

We address this gap in the literature by estimating the impact of political advertisements on aggregate household consumption. Political advertisements differ from traditional news media in two important ways. First, relative to news media, political ads have more frequent and explicit discussion of economic topics such as inflation, employment, and taxation. Second, because the goal of such ads is often to influence public opinion about the state of the economy, these ads are strongly persuasive. Indeed, Couture and Owen (2025a) find that political advertisements have a significant impact on consumer sentiment, with positive economic advertisements improving sentiment and negative economic advertisements reducing it. If these advertisements also affect realized consumption, this would provide evidence

that media exposure influences actual economic behavior, not only stated expectations, and would further support the role of biased information in shaping spending decisions (Bursztyn and Cantoni, 2016).

To examine the potential impact of media on consumption behavior, we combine data from the Wesleyan Media Project on political advertisements with high-frequency debit and credit card spending data. The Wesleyan data provide comprehensive coverage of all political advertisements broadcast on television, including detailed information on timing, media market, and advertisement content. The card-based spending data, sourced from Opportunity Insights, capture county-level dynamics of consumer spending across the United States. Using a regression discontinuity design, we exploit differences in the broadcasting frequency of political ads across media market borders to estimate the effect of advertising exposure on household spending decisions.

We find that political advertisements significantly affect consumer spending, with effects that vary by advertisement tone. For one standard deviation of additional positive advertisements aired in a media market over the previous two weeks, weekly card spending rises by 0.24%. This magnitude corresponds to an average increase of approximately $126,100 in weekly spending in the affected county where residents are exposed to a larger frequency of ads. In contrast, a similar increase in contrasting ads (i.e., advertisements that contrast the negative information about an opponent with positive features of the endorsed candidate) leads to a 0.3% decrease in spending. These effects are roughly ten times larger when the analysis is restricted to primetime ads, which tend to reach broader audiences and are more widely viewed.

We also find significant heterogeneity in consumption responses across demographic characteristics such as age, education, income, and partisanship. The effects of political advertisements are stronger in counties with older populations and lower levels of education, consistent with the evolving differences in television viewership across demographic groups. In particular, exposure to both positive and contrasting political ads generates larger con-

sumption responses in counties with above-median age and below-median education levels. Moreover, because these advertisements are inherently political, we find that both the political alignment of the ads and the majority political affiliation of the county are significant determinants of spending decisions. This pattern seems consistent with evidence that partisan alignments strengthens the persuasive effect of political communication, primarily by reinforcing prior beliefs (see, e.g., Spenkuch and Toniatti 2018; Druckman 2022).

Higher exposure to political ads may provide households with information about future economic policies. At the same time, because political ads are intended to influence voting behavior, they may present selective, incomplete, or persuasive information. For example, an ad may highlight the negative implications of high government budget deficit, such as higher future taxes, while making optimistic or potentially overstated claims about a candidate's ability to reduce deficits. Indeed, a growing literature shows that the frequency and tone of economic news coverage in print and television media (Lamla and Lein, 2014; Larsen et al., 2021; Guillochon, 2024; Binder et al., 2025; Chahrour et al., 2025), as well as on social media (Macaulay and Song, 2023; Couture and Owen, 2025b), play an important role in shaping household expectations. In section 4, we present a simple model with imperfect information that illustrates how both factual information and persuasive messaging, though potentially inaccurate, can affect households' expectations about future real income, which in turn affect current consumption decisions. We refer to these as the "news" channel and the "sentiment" channel, respectively, and empirically evaluate both as potential mechanisms linking political advertisements to consumption.[1]

Consistent with prior evidence, we find that economic sentiment plays an important role in translating ad exposure into changes in spending. Using data from the Gallup monthly poll, we show that higher exposure to positive ads raises sentiment regarding economic conditions and standard of living, whereas greater exposure to contrasting ads lowers sentiments.

[1]Political advertisements could also operate through additional channels, such as influencing beliefs about electoral outcomes, perceptions of candidate competence, and or expectations about the policies likely to be implemented. While our analysis focuses on sentiment and economic information channels, these other mechanisms provide additional pathways through which media exposure may affect economic behavior.

Beyond influencing sentiment, advertisements may also provide households with noisy or selective information about current economic conditions and proposed policy changes affecting household finances. To further characterize the content of the political advertisements, we use large language models to analyze their transcripts and categorize them by their informational content. Our findings show that, among positive ads that influence consumption, those discussing household finances or emphasizing current economic conditions have the strongest impact, whereas advertisements providing economic statistics drive the effect of contrasting ads. We also conduct a range of robustness checks to show that our findings are stable both quantitatively and qualitatively.

Overall, our findings highlight the significant influence that media exposure can exert on consumer behavior, even when the information conveyed is selective or persuasive. We provide strong evidence that information capable of shaping consumer expectations may also affect consumption spending decisions. An important policy implication of our results is that political advertisements, particularly those crafted by incumbents, should be designed and disseminated with caution, as their messaging may generate meaningful economic consequences for households and the broader economy.

2 Data

Our analysis uses two main data sources: political advertisement data at the Nielsen designated market area (DMA)[2] from the Wesleyan Media Project, and county-level consumer spending data from Opportunity Insights. Together, these datasets allow us to study the effects of variation in political ad exposure on local consumption spending at high frequency and with broad geographic coverage.

The Wesleyan Media Project provides detailed information on political advertisements

[2]Nielsen Designated Market Areas or Nielsen DMAs are media markets across which television advertisements are purchased. Nielsen DMAs are not restricted by county or state lines and can include multiple counties from different states. Broadly speaking, these should be thought of as the unit of study across which broadcasts occur.

for elections between 2010 and 2022. We restrict our sample to 2020-2022 due to data availability constraints for consumer spending data. The advertisement dataset provides a nearly complete record of all political advertisements aired on broadcast and cable TV (Hagen and Kolodny, 2008). For each election, we consider advertisements for Presidential, Congressional, and Gubernatorial races, as available. Each advertisement entry includes information on the date and time of airing, the media market, the political affiliation of the sponsor, the tone of the ad (positive, negative, or contrast), and the topics discussed.[3]

Our main independent variable of interest is a weekly measure of advertisement exposure, defined as the total number of ads discussing an economic issue aired in a given media market over the past two weeks.[4] We distinguish ads by tone, resulting in separate measures for positive, negative, and contrasting ads. Table A2 summarizes the total advertisements aired in an average two-week period between 2020-2022 across all Nielsen DMAs, disaggregated by year, ad tone, political party, and primetime status. The volume of ads is much larger during the 2020 presidential election and the 2022 midterm election, while fewer ads were aired in the non-election year of 2021.[5]

Figure A1 shows the distribution of positive, negative, and contrasting ads across counties in our sample. We use total ads in the high ad volume period of October 2020 to illustrate the heterogeneity in advertisements seen across counties. Advertisements concentrate in states where presidential elections are more closely contested relative to states where results are more decisive in favor of one party. There is also significant heterogeneity in positive vs negative ads. While some geographic areas such as counties in Arizona and Florida receive a high volume of all ad tones, counties in Montana and Oregon receive more negative and

[3]Table A1 presents examples of advertisements corresponding to each tone category.

[4]Unlike Spenkuch and Toniatti (2018), we do not have estimates on TV impressions by media market. However, so long as weekly variation in impressions within county-neighbor pairs is not systematically correlated with weekly consumption behavior, our estimates should remain unbiased.

[5]As TV viewership continues to shift from broadcast to streaming, one concern is whether the Wesleyan Media Project fully captures the reach of political advertisement. A study of the 2022 primaries by Effectv, Comcast (2022) shows that 81% of political ads in the U.S. reached voters exclusively through traditional TV, 10% reached voters from a combination of TV and streaming platforms, and only 9% exclusively from streaming. Thus, because political ad reach continues to rely heavily on traditional TV, the Wesleyan data provides a comprehensive coverage of the advertisements most relevant for influencing economic behavior.

contrasting ads than positive ads.

Our county-level measure of consumer spending is sourced from Opportunity Insights, which publicly provides aggregated credit and debit card spending data collected by Affinity Solutions. Affinity compiles transaction data from multiple credit and debit card issuers, though the composition of participating providers changes over time. The dataset represents approximately 10% of all debit and credit card spending in the United States and reports seasonally adjusted changes in spending indexed to January 2020 levels.[6]

Chetty et al. (2024) apply two key adjustments to the Affinity data that reduce county-level coverage. First, they exclude counties with less than $70,000 in average daily card spending. Second, to address structural breaks caused by the entry or exit of participating card providers, they remove counties for which reliable corrections cannot be made.

The spending series is available at a daily frequency from January 2020 until June 2022 and at a weekly frequency thereafter until June 2024. For a consistent measure across years, we use total weekly spending (indexed to January 2020) in a given county as our main variable of interest. Although it excludes cash and other payment methods, we view card-based spending as a reasonable proxy for studying the effect on average consumption behavior for non-durable goods and services. Panel (d) of Figure A1 shows the distribution of weekly consumption in October 2020 across all counties in our sample. The map highlights that our dataset has a wide coverage of high population counties with missing observations concentrated in the low population density parts of mid-western and southern states.

We also use county-level controls for sociodemographic and economic conditions, as well as political affiliation. Demographic characteristics include county population, age distribution, and education levels, drawn from the 2020 Decennial Census and the 2020 American Community Survey. Local economic conditions are measured by annual unemployment rates and average per capita income obtained from the Bureau of Labor Statistics (BLS). Political affiliation is captured using the 2020 presidential election results from the MIT Election

[6]Chetty et al. (2024) show that this is representative of overall card spending.

Data and Science Lab. After combining data on political advertisements, consumption, and demographic controls, the resultant dataset includes weekly data for 1603 unique counties between January 2020 and November 2022.[7]

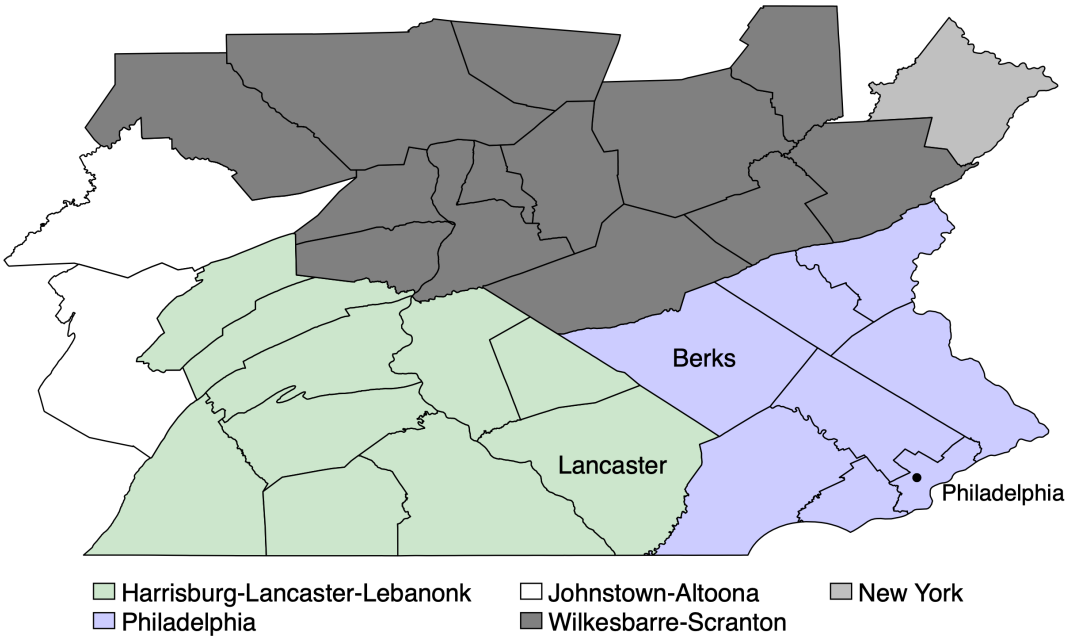
3 Empirical Strategy

We identify the causal effect of political advertisements by exploiting Federal Communications Commission (FCC) regulations that create plausibly exogenous variation in the number of economic advertisements across county borders (see, e.g., Spenkuch and Toniatti 2018; Shapiro 2018). Because the FCC grants media companies exclusive local broadcast rights within media markets, most advertising decisions are made at the Nielsen DMA level (Goldstein and Freedman, 2002), generating discontinuities in ad exposure at Nielsen DMA borders. These border counties account for only about 5% of a Nielsen DMA's population, on average and thus, are unlikely to influence advertising decisions. To minimize endogeneity concerns arising from systematic differences in regulation or political environment across states, we exclude bordering county pairs that cross state lines.

Figure 1 illustrates the distribution of Nielsen DMAs in southeastern Pennsylvania and highlights how Nielsen DMA boundaries are independent of county boundaries. Overall, the state of Pennsylvania contains eleven Nielsen DMAs, several of which are based in neighboring states. Our identification strategy exploits this cross-border variation in advertising exposure arising from counties located in different Nielsen DMAs. Using neighboring county data from the U.S. Census, we identify all counties within each state along with their adjacent neighbors. Each county is then mapped to its corresponding Nielsen DMA, and border pairs that fall within the same Nielsen DMA are excluded from the sample. Finally, we assign a unique identifier to each county-neighbor pair. By construction, every week yields two observations per pair, one corresponding to each county.

[7]For context, the U.S. Census Bureau reported a total of 3,143 counties and county equivalents as of 2020.

Figure 1: Example of Media Market Map (Southeastern Pennsylvania)



To illustrate how our identification strategy isolates the effects of political advertising, consider two neighboring counties in southeastern Pennsylvania: Lancaster and Berks. Both are relatively large, with populations of approximately 553,000 and 428,000, respectively, and share broadly similar demographic characteristics. Median household income is $80,000 in Lancaster and $75,000 in Berks. Despite their geographic proximity, Lancaster belongs to the Harrisburg DMA, while Berks falls within the Philadelphia DMA, exposing residents to different volumes and types of political advertising. During an average two-week period in 2020, consumers in the Harrisburg market were exposed to substantially more negative than positive economic advertisements (639 vs. 434), whereas those in the Philadelphia market encountered a nearly even split (547 positive vs. 493 negative). In both markets, the Democratic Party aired a greater share of positive ads, accounting for roughly 38% of all ads in Harrisburg and 45% in Philadelphia. In comparison, the Republican Party aired a higher total number of ads in Harrisburg, with predominantly negative and contrasting ads in both counties.

Figure A2 Panel (b) plots weekly consumption spending (relative to baseline) for Berks

and Lancaster counties. Two key patterns emerge. First, residents of both counties exhibit broadly similar spending behavior and week-to-week fluctuations. Second, the sharp decline in March 2020 reflects the economic uncertainty associated with the COVID-19 lockdown, with card spending falling by nearly 40% in both counties. By October 2020, spending had almost fully recovered to pre-pandemic levels. While the pandemic caused significant disruptions to consumption, if these disruptions are similar across neighboring counties, they do not affect our results.

The discontinuity in advertisement exposure at media market borders illustrates the core idea of our identification strategy. Adjacent border counties are similar in observable and unobservable characteristics, except for their exposure to political advertisements. Because Nielsen DMA boundaries are determined by the FCC for broadcast purposes and are likely unrelated to local economic or sociodemographic conditions, variation in advertisement intensity near these borders can be considered plausibly exogenous. Accordingly, our empirical design allows us to isolate the causal effect of political advertisements on weekly local consumption behavior. Formally, we estimate the following equation:

$$Y_{c,t} = \alpha_c + \sum_{i \in \{\text{p, n, c}\}} \beta_i \; Ads_{i,c,t} + X'_{c,t}\gamma + \mu_{p,t} + \epsilon_{c,t} \tag{1}$$

where $Y_{c,t}$ represents the average weekly consumption normalized to January 2020 in county c during week t. All changes in spending are winsorized at the 99th percentile to account for outliers. $Ads_{i,c,t}$ represents the number of political advertisements (in thousands) by tone $i \in \{\text{positive, negative, contrasting}\}$ aired in county c during week t and $t-1$. α_c denotes county fixed effect, $\mu_{p,t}$ captures county-neighbor-week fixed effect, and $X'_{c,t}$ is a vector of time-varying county-level controls.[8] County-neighbor-week fixed effects are included to control for local trends in weekly consumption data.[9] As a robustness check, we also limit our

[8]These controls include annual values of the county population, the share of white population, the share of population above 50, education level, income per capita, and unemployment rates.

[9]Figure A2, Panel (a) shows the distribution of weekly consumption spending growth relative to baseline consumption in January 2020 for all county-neighbor-week pairs.

analysis to advertisements two weeks prior to the beginning of the consumption period, which is consistent with the short-lived impact of television advertisements on voting preferences (Gerber et al., 2011) and macroeconomic expectations (Couture and Owen, 2025a). Standard errors are two-way clustered at the state and Nielsen DMA border levels, following Cameron et al. (2011).

4 A Simple Model

Before presenting our results, we introduce a stylized model illustrating how political advertisements may influence consumption through the expectation formation process. There are two potential channels through which political advertising can shape expectations: ads may convey information about future economic conditions and policy, or they may shift sentiments independently of economic fundamentals. To theoretically characterize these mechanisms, we develop a simple framework of news and sentiment shocks following Barsky and Sims (2012). Consider an economy with CRRA preferences where households maximize their lifetime utility

$$E_0 \sum_{t=0}^{\infty} \beta^t \frac{c_t^{1-\gamma}}{1-\gamma} \tag{2}$$

subject to the budget constraint

$$c_t + b_{t+1} = (1 + r^*)b_t + a_t, \tag{3}$$

where a_t is the total income, b_t is a financial asset consumers can use to save, and r^* is the steady state real interest rate in the economy, defined as $r^* = \frac{1}{1+\beta}$. A constant real interest rate implies that the lifetime income of consumers can be represented as $E_t \sum_{t=0}^{\infty} \beta^t a_t$, and the level of consumption at any time t depends on the perceived lifetime income of the household

$$c_t = (1 - \beta)E_t \sum_{j=0}^{\infty} \beta^j a_{t+j}. \tag{4}$$

We introduce intertemporal substitution in the model by breaking the assumption of full information and allowing consumers to form expectations using observed signals about the exogenous drift in income, g_t.

$$a_t = a_{t-1} + g_{t-1} + \epsilon_{a,t} \tag{5}$$

$$g_t = (1 - \rho_a)g^* + \rho_a g_{t-1} + \epsilon_{g,t}, \tag{6}$$

where $\epsilon_{a,t}$ is a standard productivity shock. Now suppose that while households contemporaneously observe shocks to income, they observe only a noisy signal of the process g_t. This assumption implies that households can only imperfectly predict future income growth based on the signal received, s_t. Mapping the model to our empirical framework lends a natural interpretation to s_t as political advertisements. To keep the framework tractable, consider two representative households residing in our illustrative Pennsylvania border counties of Lancaster and Berks, which are each part of different media markets. Further assume that only the household in Lancaster county is exposed to ads and receives a signal through political advertisements, while the household in Berks county does not get any advertisement and thus receives no signal about g_t. The signals for Lancaster (s_t^L) and Berks (s_t^B) counties, respectively, can be represented as

$$s_t^L = g_t + \epsilon_{s,t} \tag{7}$$

$$s_t^B = 0. \tag{8}$$

We adopt the interpretation of shocks from Barsky and Sims (2012) who define $\epsilon_{g,t}$ as the shock to the expected income, which we interpret as a news shock, and $\epsilon_{s,t}$ as a shock to economic sentiments. Households that receive a non-zero signal through political advertisements are unable to distinguish whether the signal reflects genuine news about future economic fundamentals or a shift in sentiment. While accurate information about future economic conditions can improve welfare, highly persuasive advertisements may alter house-

hold sentiment through misleading or distorted information, potentially reducing welfare for households exposed to such ads.

We can use our linearized model to solve for consumption at time t.[10] Let $\hat{g}_t$ be the drift process obtained through Kalman filtering. Using the filtered $\hat{g}_t$, re-write Equation (6) as: $\hat{g}_{t+k} = g^* + \rho_a^k(\hat{g}_t - g^*)$. Iterating forward the productivity function and taking expectations, we get

$$E_t a_{t+j} = a_t + jg^* + \frac{1-\rho_a^j}{1-\rho_a}(\hat{g}_t - g^*)$$
$$\implies c_t = (1-\beta)E_t \sum_{j=0}^{\infty} \beta^j \left(a_t + jg^* + \frac{1-\rho_a^j}{1-\rho_a}(\hat{g}_t - g^*) \right).$$

To solve our model for consumption at time t in Lancaster and Berks counties, further assume that $g_{t-k} = g^* \quad \forall k > 0$. Under this assumption, the consumption of households who are not exposed to political ads and hence, do not receive a signal about the drift term, does not depend on g_t. This simplification results in $\hat{g}_t - g^* = 0$ for Berks county and allows us to compare consumption across the two counties analytically. The consumption of the two counties can then be represented as

$$c_t^L = a_t + \frac{\beta}{1-\beta}g^* + \frac{\beta}{1-\beta\rho_a}(\hat{g}_t - g^*) \tag{9}$$
$$c_t^B = a_t + \frac{\beta}{1-\beta}g^*. \tag{10}$$

In this simplified setting, household consumption in both counties responds to shocks to economic fundamentals ($\epsilon_{a,t}$). However, only households in counties exposed to political

[10] Using the equations for a_t and g_t, and the signal s_t, the model can solved numerically to obtain the path of consumption for each shock. The state space form of the linearized model can be written as

$$X_t = A + BX_{t-1} + \Pi\mathcal{E}_t$$
$$S_t = CX_{t-1} + \epsilon_{s,t},$$

where X_t is the vector of exogenous variables $[a_t \quad g_t]'$, $\mathcal{E}_t$ is the vector of structural innovations $[\epsilon_{a,t} \quad \epsilon_{g,t}]'$, and S_t is the vector containing the signal. By applying Kalman filtering to the state space, we obtain the expected path of g_t given the signal s_t.

advertisements are additionally affected by the news shock ($\epsilon_{g,t}$) and the sentiment shock ($\epsilon_{s,t}$), which influence consumption through the drift term $\hat{g}_t$. Because households cannot distinguish whether an advertisement conveys genuine information about future income or merely shifts beliefs through sentiment, both channels generate changes in consumption among exposed households.

The magnitude of this response is captured by the term $\frac{\beta}{1-\beta\rho_a}$, which is strictly positive. Consequently, a positive advertisement increases consumption for households receiving the signal, while a negative advertisement reduces it. Importantly, although both the news and sentiment channels affect consumption, a stronger role for the sentiment channel, particularly when driven by persuasive or misleading content, can lead to suboptimal consumption choices relative to households that do not receive the signal. In Section 6, we empirically test these two channels and find evidence that both are operative in transmitting the effects of political advertising to household consumption.

5 Results

5.1 Ads and Consumer Spending

We begin by examining the effects of positive, negative, and contrasting advertisements on county-level average weekly consumption. The results are shown in Table 1. Columns 1 and 2 show results for our baseline specification, while Columns 3 and 4 restrict the sample to advertisements aired during primetime hours. Columns 1 and 3 exclude county-level controls, while Columns 2 and 4 include annual demographic controls and the lag of the dependent variable. All columns include county-neighbor-week fixed effects. The inclusion of control variables is our preferred specification, which is used throughout the remainder of the paper.

The results in Table 1 indicate that positive economic advertisements lead to higher consumption. Adding controls variables reduces the estimated impact of advertisements on consumption but does not affect statistical significance. In particular, an increase of 1,000

Table 1: Impact of Advertisements on Consumption

	All Ads		Primetime Ads	
	(1)	(2)	(3)	(4)
Positive Econ	0.007***	0.005***	0.073**	0.061***
	(0.002)	(0.002)	(0.030)	(0.021)
Negative Econ	0.001	0.002	0.007	0.013
	(0.002)	(0.001)	(0.027)	(0.021)
Contrast Econ	-0.010***	-0.009***	-0.105***	-0.097***
	(0.003)	(0.002)	(0.030)	(0.020)
Observations	210,242	202,386	210,242	202,386
R sq.	0.86	0.87	0.86	0.87
Controls	No	Yes	No	Yes

Notes: *** p< 0.01, ** p< 0.05, * p< 0.10. Standard errors in parentheses are clustered at the state and DMA border level. Dependent variable is the percentage change in spending relative to January 2020. All regressions include weekly county-neighbor pair fixed effects. Political advertisements in thousands.

positive economic-themed advertisements over the previous two weeks results in a 0.5% increase in weekly card spending in a county. Thus, a one standard deviation increase in positive advertisements generates a 0.24% increase in weekly card spending. This magnitude corresponds to approximately $126,100 in additional weekly spending, on average, in the treated county.[11] In contrast, a higher frequency of negative advertisements does not appear to affect average weekly consumption, whereas exposure to more contrasting ads lowers spending. Specifically, an increase of 1,000 contrasting advertisements in the past two weeks results in a 0.9% decrease in card spending in a county. This result is consistent with Couture and Owen (2025a), who document that contrasting ads exert a large and statistically significant negative effect on consumer sentiment. In the Wesleyan coding, advertisements are classified as contrasting when they simultaneously portray the opposing candidate negatively and the sponsoring candidate favorably.[12] Our findings suggest that consumers are

[11] This back-of-the-envelope calculation, intended only to help contextualize the results, is based on aggregate daily card spending of $23.6 billion reported by Chetty et al. (2024) for January 2020. Considering the number of U.S. counties and applying our estimate yields an increase of approximately $(\$23.6 \text{ billion} \times 7 \times 0.0024)/3,144 \approx \$126,100$ in weekly spending per county.

[12] See Table A1 for an example of a contrasting ad.

Table 2: Change in Consumption (Placebo)

	All Ads	Primetime Ads
	(1)	(2)
Positive Econ	-0.000	0.000
	(0.007)	(0.087)
Negative Econ	-0.006	-0.099
	(0.007)	(0.070)
Contrast Econ	0.020*	0.082
	(0.011)	(0.129)
Observations	208,810	208,810
R sq.	0.87	0.87

Notes: *** p< 0.01, ** p< 0.05, * p< 0.10. Standard errors in parentheses are clustered at the state and DMA border level. Dependent variable is the percentage change in spending relative to January 2020. All regressions include weekly county-neighbor pair fixed effects. Political advertisements in thousands.

particularly responsive to negative information when it is juxtaposed with the prospect of an improved alternative. The larger estimated effects from contrasting ads relative to positive ads are consistent with the literature showing asymmetric responses to positive and negative news, with negative news eliciting stronger responses from consumers (Nguyen and Claus, 2013).

Our measure of advertisements captures only the total number of recent ads aired in each media market. However, not all advertisements reach the same number of consumers. To account for differences in exposure, we repeat our analysis restricting the sample to primetime economic ads. Primetime advertisements are those aired between 7pm and 11pm, which are more likely to be viewed by households. Columns 3 and 4 of Table 1 present the corresponding results, with and without controls, respectively. While the qualitative impact of primetime ads is similar to those obtained using the full sample, the estimated magnitude are roughly ten times larger for both positive and contrasting ads. This stronger response likely reflects the greater visibility and reach of primetime ads, resulting in a more substantial impact on consumption.

To address potential concerns that our estimation may be driven by unobserved differ-

ences across media markets, such as the difference in non-political advertising, we introduce a placebo test by replacing our economic ads with non-economic ads. We ensure that these advertisements are truly non-economic by restricting our sample to advertisements that did not discuss any issues.[13] The results, which are shown in Table 2, support the idea that our results are not capturing other underlying features across media markets. The estimated effect of positive ads is near zero and not statistically significant, unlike the positive and significant estimates from the baseline specification. The estimates for contrasting ads also differ notably, showing a positive coefficient rather than the expected negative coefficient from our main results. Together, these findings suggest that the effect of political advertisements on consumption spending likely arises when they focus on economic conditions or policy.

Overall, the evidence indicates that political advertisements with economic content exert large and significant effects on households' weekly spending behavior. This contrasts with Spenkuch and Toniatti (2018), who find that advertising does not affect aggregate voter turnout. We argue that the difference in results arises from the nature of the decisions households face. The decision to vote is binary and potentially costly, making it difficult for households to readjust after exposure to additional ads. However, because card-based consumption purchases occur frequently as part of routine household activity, households can adjust their spending to perceived changes in economic conditions with little cost or deliberation. Moreover, Spenkuch and Toniatti (2018) find that higher exposure to ads increase a candidate's vote share in a particular county, aligning with our finding that political advertisements influence the decision of individuals.

[13]For example, here is a positive Placebo ad for senate elections: "Let's get American movement forward. I'm not a politician. I'll work for Colorado. (Name) has worked his way through school. (Name) wasn't always the boss. He started as a union carpenter and worked his way up. Everyone in Washington votes the party line. (Name) won't. He doesn't care about partisanship. He'll represent Colorado". An example of contrasting ad included in Placebo: "All across Pennsylvania, a movement is building. Hundreds of thousands of grassroots folks energized in every corner. In conversations, union halls, diners, and street corners. He's a different kind of character, I'll tell you. A different kind of Democrat, candidate, campaign. Taking on every politician, insider, and out-of-state rich guy trying to take over Pennsylvania. Because he has our back and they don't".

5.2 Heterogeneity Analysis

Section 5.1 examines the average impact of political advertisements on consumer spending. However, this analysis may overlook potential heterogeneity across consumer characteristics. For example, systematic differences may arise based on consumers' political beliefs, influencing how they interpret advertisements from different parties. In this section, we analyze the heterogeneity in consumption responses to political advertisement across political affiliation, income groups, and age. While we cannot observe individual-level variation in consumption, we can examine differences in county-level composition as a proxy.

We start by testing whether the consumption response to political advertisements differs by demographic characteristics of households residing in the treated county. Table 3 presents the result for our baseline specification with sample splits across age, income, and education. Older consumers tend to watch more television (Krantz-Kent, 2018), so counties with older

Table 3: Impact of Advertisements on Consumption by Age, Income, and Education

	Age		Income		Education	
	(1)	(2)	(3)	(4)	(5)	(6)
	Older	Younger	Higher	Lower	Higher	Lower
Positive Econ	0.009**	0.003	0.007	-0.004	0.004	0.006**
	(0.003)	(0.003)	(0.005)	(0.004)	(0.003)	(0.002)
Negative Econ	0.006**	0.002	-0.002	0.003	-0.004	0.005*
	(0.003)	(0.002)	(0.005)	(0.004)	(0.004)	(0.002)
Contrast Econ	-0.016***	-0.009***	-0.015**	-0.008	-0.007**	-0.016***
	(0.004)	(0.003)	(0.007)	(0.007)	(0.003)	(0.003)
Observations	60,016	64,984	25,364	24,454	60,152	60,766
R sq.	0.85	0.89	0.87	0.87	0.89	0.86

Notes: *** p< 0.01, ** p< 0.05, * p< 0.10. Standard errors in parentheses are clustered at the state and DMA border level. Dependent variable is the percentage change in spending relative to January 2020. Columns 1 and 2 split the sample by age where "Older" restricts the sample to counties with higher than average shares of individuals 50 or above, and "Younger" restricts to counties with lower than average shares. Columns 3 and 4 split the sample by income where "Higher" and "Lower" restricts the sample to counties in the top and bottom quartile of median income, respectively. Columns 5 and 6 split the sample by educational qualifications where "Higher" and "Lower" restricts the sample to counties with above and below median proportion of college graduates, respectively. Political advertisements in thousands.

populations might experience a larger effect. To capture the role of age, we divide the sample into counties with an above-average share of residents above 50 and those with a below-average share. The corresponding estimates are reported in Columns 1 and 2. As expected, the impact is larger and more significant for counties with older populations, likely reflecting their greater exposure to television advertisements relative to younger viewers.

Similarly, as income levels are potentially related to differences in television viewership, the effect of political advertisements on consumption behavior could vary between low- and high-income counties. We test this by comparing counties in the top and bottom quartiles of median income. The median income cutoff is defined at the national median income in the 2020 Census. The results, which are shown in Columns 3 and 4, show no significant effects across income groups for positive or negative ads. However, contrasting ads significantly lower spending in high-income counties while having no discernible effect in counties with below-median income.

Lastly, we assess heterogeneity in responses by education level, measured by the proportion of college graduates in each county. Counties with an above-national-median share of college graduates are labeled as higher education, while those with a below-median proportion of graduates are labeled as lower education. Research on TV viewing habits finds that consumers with lower education are more likely to watch television and, consequently, may be more influenced by advertisements. Indeed, the results reported in Columns 5 and 6 show that the effect of both positive and contrasting ads are larger for counties with lower levels of educational attainment.

Besides demographic characteristics, political affiliation of viewers may influence consumption response to political ads. We determine a county's political leaning based on which party's candidate secured the majority of votes in the 2020 presidential election. To fully capture the influence of political advertisements from a consumer's favored candidate versus that from the opposing party, we categorize ads by the sponsoring political party. Table A3 shows how the estimates are impacted by the political affiliation of the adver-

tisement sponsor and the political leaning of the county. Column 1 reports results for the full sample, while Columns 2 and 3 restrict the sample to counties leaning Republican and Democratic, respectively. Because our estimation strategy requires that both counties in a county-neighbor pair share the same political affiliation, the number of observations in Columns 2 and 3 does not sum up to the total in Column 1. Moreover, as democratic voting population is concentrated in fewer larger counties, the sample size for democratic counties in significantly smaller.

On average, we find that Democratic-sponsored contrasting ads have the largest and most statistically significant effect on consumption in the full sample.[14] Restricting the analysis by political affiliation of counties shows that positively toned Republican advertisements are viewed positively and increase spending in Republican-leaning counties but have no statistically significant effect in Democratic-leaning counties. Positive advertisements by Democrats and negative ads by candidates from either party do not influence consumption decisions. Consistent with our baseline results, contrasting ads have negative and significant effects on consumption in both Republican- and Democratic-leaning counties. Interestingly, only Democratic-sponsored contrasting ads reduce average consumption spending in Republican counties; conversely, only Republican-sponsored contrasting ads reduce average consumption in Democratic counties, with both effects similar in magnitude.

The results suggest that political affiliation plays a role, to some extent, in how consumers process information from political advertisements and, in turn, how it shapes their spending behavior. One possible explanation is that when individuals receive positive economic information from their preferred party, they place greater trust in that information and are therefore more likely to be persuaded and adjust their consumption accordingly. In contrast, consumers do not appear to alter their spending in response to negative economic information from either party, possibly interpreting such messages as noise. The one exception arises with contrasting ads from the opposing party, which is associated with a

[14]The overall results are largely driven by Republican-leaning counties, as they make up a large portion of the sample.

Table 4: Change in Consumption by Issue

	Taxes	Deficit/Budget/Debt	Recession/Stimulus	Employment
	(1)	(2)	(3)	(4)
Positive Econ	0.009**	-0.002	-0.002	0.005
	(0.004)	(0.011)	(0.007)	(0.004)
Negative Econ	0.002	0.004	-0.002	-0.006*
	(0.002)	(0.010)	(0.006)	(0.004)
Contrast Econ	-0.011***	-0.011	-0.018***	-0.004
	(0.004)	(0.012)	(0.006)	(0.006)
Observations	202,386	202,386	202,386	202,386
R sq.	0.87	0.87	0.87	0.87

Notes: *** p< 0.01, ** p< 0.05, * p< 0.10. Standard errors in parentheses are clustered at the state and DMA border level. Dependent variable is the percentage change in spending relative to January 2020. All regressions include weekly county-neighbor pair fixed effects.

negative consumption response. It is possible that consumers, when presented with negative information about their preferred candidate's economic policies, become more pessimistic about future economic conditions.[15]

Heterogeneity in our findings may also arise from the nature of economic content covered by political advertisements. We focus on the four most common economic topics identified by the Wesleyan Media Project: taxes, deficit/budget/debt, recession/stimulus, and employment. We then re-estimate our model by restricting the sample to ads addressing each of these topics and their corresponding tone. The results, reported in Table 4, show that the direction of effects on consumption are consistent with conventional economic intuition. Positive ads about taxes (e.g., tax cuts) increase consumption, whereas contrasting ads lower consumption. Consistent with our previous results, negative advertisements have no significant impact on consumption. Despite concerns of debt among U.S. households, ads

[15]The tone, intensity, and frequency of political advertisements may also depend on the political leaning of a state. In particular, battleground states, where elections are more closely competed, may experience larger frequency of political ads than non-battleground states. Indeed, Figure A1 shows that the frequency of ads in a two-week period is higher than average in battleground states like Arizona and North Carolina. Table A4 presents our baseline results for battleground (Column 2) and non-battleground states (Column 3). There is no significant difference in the response of spending to contrasting ads between the two states, while the response to positive ads is weaker for battleground states.

addressing government deficits, budgets, and debt do not influence consumption spending. We find the largest quantitative effects from contrasting ads discussing recession or stimulus payments, which likely draw consumers' attention to broader economic conditions and raise concerns about future economic prospects if the favored candidate does not win the election. Lastly, negative ads focusing on employment reduce consumption, but positive and contrasting advertisements on this topic have no significant effect.

Combined with our main results, Table 4 shows that besides the influence of tone of economic political advertisement on consumption, consumers also pay attention to the content of these advertisements. Our findings contrast the "cheerleading" theory that suggests that reported consumer sentiments does not influence real consumption behavior.

6 Mechanisms

We now explore the potential mechanisms to link exposure to economic-themed political advertisements to household spending behavior. We begin by examining the impact of advertisements on consumer sentiment. Political advertisements may convey credible signals about prospective policy changes thereby shaping households' expectations about the future state of the economy, which may influence their current spending decisions. We then study the economic content of political advertisements more directly by applying Large Language Models (LLMs) to analyze transcripts of economic-themed ads.

6.1 Political Advertisements and Sentiments

We examine the effect of political advertisements on household sentiment using data from the Gallup Daily Poll, which surveyed approximately 1,000 households per day between January 2008 and November 2018, with the largest sample sizes in 2008 and the smallest in 2017 and 2018. The survey includes both forward- and backward-looking questions on economic conditions. We measure economic sentiment using responses to two questions: "Right now,

do you think that economic conditions in this country, as a whole, are getting better or getting worse?" and "Right now, do you feel your standard of living is getting better or getting worse?" Respondents choose from "getting better," "the same," and "getting worse." We recode these responses so that higher values correspond to more optimistic sentiment and normalize each measure to have mean zero and standard deviation one.

To address concerns about insufficient representation within counties, we exclude all county-month observations with fewer than 20 respondents. The resulting dataset consists of county-level averages of economic sentiment, which is then merged with Census data to identify neighboring counties located in different Nielsen DMAs. Consistent with our baseline analysis, we retain only within-state neighboring county pairs that fall into different Nielsen DMAs.[16]

The political advertising data are available beginning in 2011. Our primary independent variable is the average number of economic-themed political advertisements (measured in thousands) aired in each Nielsen DMA over the previous two weeks separated by ad tone. To match the frequency of Gallup survey, we construct a monthly measure of ad exposure by computing a running total of ads aired over the preceding 14 days for each day of the month and then average these daily values.

Columns 1 and 2 of Table 5 report the effects on sentiment regarding economic conditions and standard of living, respectively. The results show systematic differences in sentiment across advertisement tones and are broadly consistent with our main results. In particular, greater exposure to positive advertisements is associated with increases in sentiment about both economic conditions and standard of living, although the estimated effect is statistically significant only for the latter. In contrast, higher exposure to contrasting advertisements leads to a significant decline in both measures of sentiment. The results supports the

[16]While the sentiment analysis closely parallels our baseline empirical strategy, a key difference lies in the choice of fixed effects. Because the survey is nationally representative and many rural counties have low population densities, it is unlikely that two neighboring counties with low population will each have more than 20 respondents in the same month. Consequently, county–neighbor–time fixed effects leave too few observations for precise estimation. We therefore include county–neighbor and time fixed effects separately.

Table 5: Political Ads and Economic Sentiments

	(1) Economic Conditions	(2) Standard of Living
Positive Econ	0.036	0.094**
	(0.024)	(0.034)
Negative Econ	0.007	-0.001
	(0.025)	(0.013)
Contrast Econ	-0.160***	-0.218***
	(0.047)	(0.065)
Observations	8644	4196
Adj R sq.	0.48	0.44

Notes: *** p< 0.01, ** p< 0.05, * p< 0.10. All columns include county-neighbor and time fixed effects where time is measured in month-year. Standard errors are clustered at the state and DMA border level.

existence of a "sentiments channel" discussed in our simple model where economic-themed political advertising shapes household's expectations of economic conditions in ways that are relevant for consumption decisions. For instance, advertisements that present contrasting information about the economy may heighten uncertainty and reduce confidence in economic conditions, prompting households to increase precautionary savings and, consequently, reduce consumption.

6.2 Economic Information in Political Advertisements

In this section, we examine the information contained within political advertisements to better understand which types of messages may affect household spending behavior. While our existing data already captures information on advertisement tone and broad economic themes, it provides limited insight into the specific content that may drive consumption responses. We therefore focus on the information conveyed in the messages of the political advertisements themselves. This can provide evidence for a "news channel" of transmission of ads to expectations.

In particular, we study two broad dimensions of information that may be especially rel-

evant for household spending decisions. First, ads that provide households with concrete and numerical economic information about policies, such as proposed changes to social security spending or insurance costs, may receive larger notice from viewers and, in turn, may influence their economic decisions. Similarly, advertisements framed around household budget considerations may resonate more strongly with viewers by directly linking policy proposals to everyday financial concerns.[17] Second, a broad class of macroeconomic models highlights the role of household myopia in decision-making, whereby information about current economic conditions is overweighted relative to information about more distant future developments. Consequently, advertisements that emphasize near-term economic conditions may have a stronger impact on household spending than those focused on longer-horizon policy changes.[18]

To test these hypotheses, we transcribe and analyze more than four thousand economic-themed political advertisements aired during the 2021–2022 Senatorial, House, and Gubernatorial elections.[19] We then use Large Language Models (LLMs) to classify these transcripts into categories that are more directly related to consumption behavior. In particular, we focus our analysis on three categories: ads that contain numerical information serving as a proxy for economic data, ads that emphasize household-related themes, and ads that empha-

[17] An example of a household budget themed contrasting ad: "Highest income taxes. Highest gas taxes. Sales taxes too high. People are leaving California because of the reckless policies and management of Governor (name). We can do better. (Name) has a record of turning around bad situations. His strong leadership in San Diego brought back transparency in government and substantially decreased homelessness. Now he's proposing the largest middle class tax cut in California history. Leadership, that's what California needs."

[18] An example of a positively toned ad that convey immediate economic action: "Inflation, housing, groceries. The price of everything is going up, but (name) has a plan. For too long, politicians have pointed fingers and passed the buck instead of getting anything done. What's (name) gonna get done? Cut income taxes for 800,000 families and eliminate the sales tax on diapers, school supplies, and medicines. Arizona, these solutions can't wait, and I have a plan. Let's get to work."
An example of a positive toned economic ad promising a resolution further in the future: "(Name) believes it's an outrage that Joe Biden and the Liberals allow illegals in Alabama to get taxpayer-funded benefits like health care and welfare. That stops when I'm governor. (Name) will require proof of citizenship to receive taxpayer benefits. Citizens only. This policy will save Alabama taxpayers millions and send a message that America is a nation of laws."

[19] We restrict the analysis to advertisements aired during the 2021–2022 election cycles, which allows us to capture a range of electoral contexts while keeping the number of ads manageable for transcription and analysis using large language models.

size on immediate conditions or potential action. This approach provides an additional layer of categorization beyond the issue-based groups used in Table 4 and helps address concerns about potential mis-classification in the original ad categories.

To create these additional categories, we rely on Anthropic's Claude Sonnet 4.5.[20] As mentioned above, the purpose of this exercise is to explore additional dimensions in the advertisements' messages that go beyond the issue classifications provided in the Wesleyan Media Project, and that may be particularly relevant for understanding household consumption responses. In doing so, we maintain consistency with the structure of the Wesleyan issue variables, namely indicator variables capturing whether an advertisement contains or discusses a given attribute or topic, while allowing the LLMs flexibility in how such concepts are identified. This approach is intended to reduce the risk of potential biases arising from overly restrictive instructions. Operationally, we provide the LLMs with the full set of advertisement transcripts in spreadsheet format, where each row corresponds to a single ad and the transcript text is contained in a designated column. We then instruct the models to classify each transcript according to a number of relevant content categories, returning binary indicators for each.[21]

Table 6 presents the results from our baseline specification over the 2021-2022 sample period, which includes political advertisements aired during House, Senate, and Gubernatorial elections.[22] Column 1 presents the estimated effects of exposure to positive, negative, and

[20]We test the robustness of our results by repeating this exercise with OpenAI's ChatGPT (version 5.2). Broadly the results are consistent from using categories generated across the two platforms.

[21]For instance, the models were provided with instructions along the lines: "You are provided with a spreadsheet containing political advertisement transcripts, where each row corresponds to one advertisement and the transcript text appears in a designated column. Your task is to analyze each transcript and construct a set of binary variables based on the categories listed below. Code each category as one if the corresponding concept is present in the transcript and zero otherwise. Use your own judgment to interpret the text." The categories included, for example, whether an advertisement was household oriented, contained numerical economic information, or emphasized immediate economic conditions. Prompts were iterated to ensure stable classifications across repeated runs.

[22]The final sample contains 4499 unique advertisements. There are 691, 506, and 292 household themed positive, negative, and contrasting ads, respectively. Among ads containing numerical information, 322, 573, and 181 are positive, negative, and contrasting, respectively. Finally, 778, 472, and 237 positive, negative, and contrasting ads are classified as emphasizing immediate economic impact. Advertisements may belong to multiple categories, and there is substantial overlap between the household-oriented and immediate-impact categories.

Table 6: Political Ads and Economic Information

	(1) All Ads	(2) Numbers	(3) Household	(4) Immediate
Positive	0.006***	0.013	0.009**	0.012***
	(0.002)	(0.010)	(0.004)	(0.004)
Negative	0.000	-0.002	-0.004	-0.005
	(0.002)	(0.003)	(0.003)	(0.006)
Contrast	-0.008*	-0.023**	-0.003	-0.005
	(0.004)	(0.010)	(0.012)	(0.008)
Observations	129,720	129,720	129,720	129,720
R sq.	0.83	0.83	0.83	0.83

Notes: *** p< 0.01, ** p< 0.05, * p< 0.10. Columns (1)-(4) report results from the baseline specification, where the advertisement variable is defined using all advertisements, ads containing numerical economic information, ads explicitly focused on household-related themes, and ads highlighting immediate-impact content, respectively. All columns are estimated on the full sample and include county-neighbor-week fixed effects. Standard errors are clustered at the state and DMA border level.

contrasting economic-themed ads in this sub-sample. Columns 2 to 4 re-estimate the baseline specification using category-specific measures of advertisements, namely those containing numerical information, those emphasizing household-related themes, and those highlighting immediate issues or solutions, respectively. Importantly, each column is estimated using the full sample; only the definition of the advertisement variable differs across specifications.

Table 6 highlights two important findings. First, results from the 2021–2022 sub-sample shown in Column 1 confirm our baseline estimates, alleviating concerns that the disruption to consumption spending in 2020 is driving the main results. Second, the interaction between ad content and tone matters for consumption. Positive ads focused on household-related topics, such as healthcare policy changes, and ads emphasizing on immediate policy implications significantly increase household consumption, whereas positively toned ads that emphasize quantitative information have no significant effect. In contrast, contrasting ads have a stronger negative impact on consumption when they include quantitative messaging. Overall, the interaction between informational content and tone is a central determinant of the consumption response to political advertising.

In addition to these mechanisms, political advertisements may also influence consumption by affecting household beliefs about electoral outcomes. By updating perceptions of candidate strength or viability, advertisements may mold expectations regarding the policies likely to be implemented. Such effects may be particularly relevant in competitive elections, where even small changes in perceived electoral probabilities can reconfigure expectations about future policy. Although this channel is not directly examined within our empirical framework, given the lack of comparable county-level measures of electoral expectations, it offers a compelling complementary pathway linking political messaging to real economic behavior.

7 Robustness to Alternative Spending Data

This section conducts sensitivity analysis of our baseline results using alternative data on consumer spending. We supplement the debit and credit card spending data with weekly store level retail scanner data from NielsenIQ. The data contains price and volume information from over 90 participating retail chains across the country. We sum up all the sales across all stores in each county to obtain an aggregate county level of spending.[23] Because NielsenIQ largely measures spending on essentials like food and medicine, we focus on the general merchandise category, which includes items such as electronics, books, and sporting goods. We also restrict our analysis to 2021 to 2022 to avoid any disruption to in person shopping due to lockdown and social distancing measures introduced during the pandemic.

Table 7 repeats our baseline analysis using the weekly change in county level retail spending measured using the NielsenIQ scanner data. Column 1 and 2 uses the full sample while Columns 3 and 4 restrict the sample to ads aired during the primetime. Columns 2 and 4 include county level controls discussed in Section 3. The findings are not directly comparable to our baseline results as NielsenIQ data measures the sales at a store located within a

[23]To avoid variation from store entry and exit, we restrict the sample to stores that remain in our data for the full sample period.

Table 7: NielsenIQ Results

	All Ads		Primetime Ads	
	(1)	(2)	(3)	(4)
Positive Econ	0.001	0.001	0.019	0.024
	(0.002)	(0.002)	(0.036)	(0.037)
Negative Econ	0.002	0.002	0.011	0.008
	(0.001)	(0.001)	(0.017)	(0.017)
Contrast Econ	-0.006**	-0.006**	-0.060*	-0.056
	(0.003)	(0.003)	(0.034)	(0.034)
Observations	316,260	312,036	316,260	312,036
R sq.	0.66	0.66	0.66	0.66

Notes: *** p< 0.01, ** p< 0.05, * p< 0.10. Data from 2021 to 2022. Standard errors in parentheses are clustered at the state and DMA border level. Dependent variable is the percentage change in general merchandise spending relative to the previous week. All regressions include weekly county-neighbor pair fixed effects. Political advertisements in thousands.

county. Given that residents don't necessarily shop within county borders, this measures can be biased by spending from residents in neighboring counties who were not exposed to the same volume of ads, making our identification strategy less effective. However, Table 1 shows that the results from NielsenIQ data are qualitatively similar to our baseline results. Higher exposure to contrasting ads significantly reduces the amount spent on general merchandise goods while positive ads raise the expenditure, although the effects are not statistically significant.[24] Given the difference in the type of spending captured by the two datasets, the smaller coefficients and lower significance are not surprising.

8 Conclusion

This paper examines how political advertisements influence household consumption behavior. Using county-level data on card-based spending combined with information on political advertisements from the Wesleyan Media Project, we identify the causal effect of exposure

[24] As shown in Table A5, the amount of total spending is not affected, suggesting that political advertising primarily impacts consumption through discretionary spending.

to political ads through discontinuities in ad frequency at media market borders.

We find that exposure to positive economic advertisements increases weekly consumer spending, whereas contrasting ads reduce it. In contrast, we find that negative advertisements have no apparent effect on changing consumption behavior. These findings are consistent with the idea that optimistic perceptions or narratives about the economy can increase spending, while negative (contrasting) information reduces confidence and discourages households' consumption.

Our heterogeneity analysis reveals important variations in these effects. Political affiliation seems to moderate the response to ads. In particular, households tend to react more favorably to positive advertisements from their preferred party, but will reduce their consumption when exposed to a higher number of contrasting ads from the opposing party. Our results also show that demographic characteristics are significant determinants of whether ads influence consumption. For instance, counties with older or with less educated populations show a stronger response to political ads. This result is consistent with the TV viewing patterns across demographic groups. Lastly, the content of the ads plays an important role in shaping consumption. Political advertisements that focus on taxes and recession/stimulus topics exhibit the largest effects on consumption spending, suggesting that consumers not only respond to the tone of these ads, but also to the specific economic topic being discussed.

While our paper focuses on short-run consumption responses to political advertisements, a natural next step is to examine the persistence of these effects and how they evolve over time. Furthermore, as digital and social media platforms become more relevant to political communication, it remains to be seen whether these channels amplify or dampen the mechanisms we document. More generally, future research could deepen our understanding of the mechanisms through which political advertisements influence economic behavior, including channels related to electoral expectations, perceptions of candidates, and the likelihood or uncertainty of policy implementation.

Broadly, our findings underscore the significance of persuasive economic messaging on

expectations and household decision making. Despite the explicit partisan nature of political ads, households use the signals from ad messaging to alter their spending decisions. Our results contrast the literature on "cheerleading" which suggests that partisan changes to economic expectations do not affect real economic activity.

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A Appendix: Additional Tables and Figures

Table A1: Example Advertisements

Ad Tone	Ad Script
Positive	After years of high-energy bills, shuttered factories, and sending jobs overseas, the Build Back Better Act is a healthy dose of common sense right here. That's why (Name) is working hard to pass it. So we can lower energy costs, create jobs, and put our tax dollars to work for the people who actually pay them. Now there's an idea we can all agree on. Senator (Name), thank you for fighting for sensible solutions. Let's finish the job.
Negative	$717 a month. That's how much Joe Biden and (Name)'s inflation tax is costing you. Cortez Masto rubber-stamped Biden's reckless spending and sent inflation to a 40-year high. Now you're paying $8,000 more this year for necessities. (Name) votes with Biden nearly 100% of the time. And Nevadans are paying the price.
Contrast	I'm the proud daughter of a maid and a janitor. They taught me to always show up and work hard. That's how I became chief of police. With rising costs, (Name) isn't showing up to help. And when he does, he hurts Florida. (Name) missed almost every committee meeting for seniors, then voted against lowering prescription prices. But he will show up to gut Social Security and Medicare. I'll show up to protect them.

Notes: The table reports the text of one example of each type of ad tone for broadcast television advertisements during the 2022 senatorial election.

Table A2: Average Advertisements by Type

Ad Type		2020	2021	2022
All	Positive	321	33	251
	Negative	261	26	197
	Contrasting	163	15	133
Democrats	Positive	244	24	134
	Negative	115	12	62
	Contrasting	114	4	55
Republicans	Positive	76	9	114
	Negative	146	14	133
	Contrasting	49	11	78
Primetime	Positive	21	2	15
	Negative	19	1	14
	Contrasting	10	1	8

Notes: The table reports the average number of advertisements over a two week period in each year by tone type (positive, negative or contrasting). We also report ads when the sample is restricted by political party and ads which were aired during primetime.

Table A3: Change in Consumption by Political Affiliation

	All	Republican	Democratic
	(1)	(2)	(3)
Positive Republican	0.010*	0.014**	0.000
	(0.005)	(0.005)	(0.010)
Negative Republican	0.002	0.002	0.001
	(0.003)	(0.004)	(0.008)
Contrast Republican	-0.004	-0.005	-0.011**
	(0.003)	(0.004)	(0.004)
Positive Democrat	0.004*	0.003	0.004
	(0.002)	(0.002)	(0.004)
Negative Democrat	0.001	0.003	-0.003
	(0.003)	(0.004)	(0.004)
Contrast Democrat	-0.013***	-0.014***	-0.004
	(0.003)	(0.004)	(0.003)
Observations	202,386	135,810	16,644
R sq.	0.87	0.86	0.93

Notes: *** p< 0.01, ** p< 0.05, * p< 0.10. Standard errors in parentheses are clustered at the state and DMA border level. Dependent variable is the percentage change in spending relative to January 2020. All regressions include weekly county-neighbor pair fixed effects. Political advertisements in thousands. Columns 2 and 3 restrict to Republican and Democratic counties, respectively.

Table A4: Impact of Advertisements on Consumption - Battleground States

	All	Battleground	Other
	(1)	(2)	(3)
Positive Econ	0.005***	0.003*	0.007***
	(0.002)	(0.002)	(0.002)
Negative Econ	0.002	0.003	0.001
	(0.001)	(0.002)	(0.002)
Contrast Econ	-0.009***	-0.009***	-0.009**
	(0.002)	(0.003)	(0.003)
Observations	202,386	97,850	104,536
R sq.	0.87	0.87	0.87

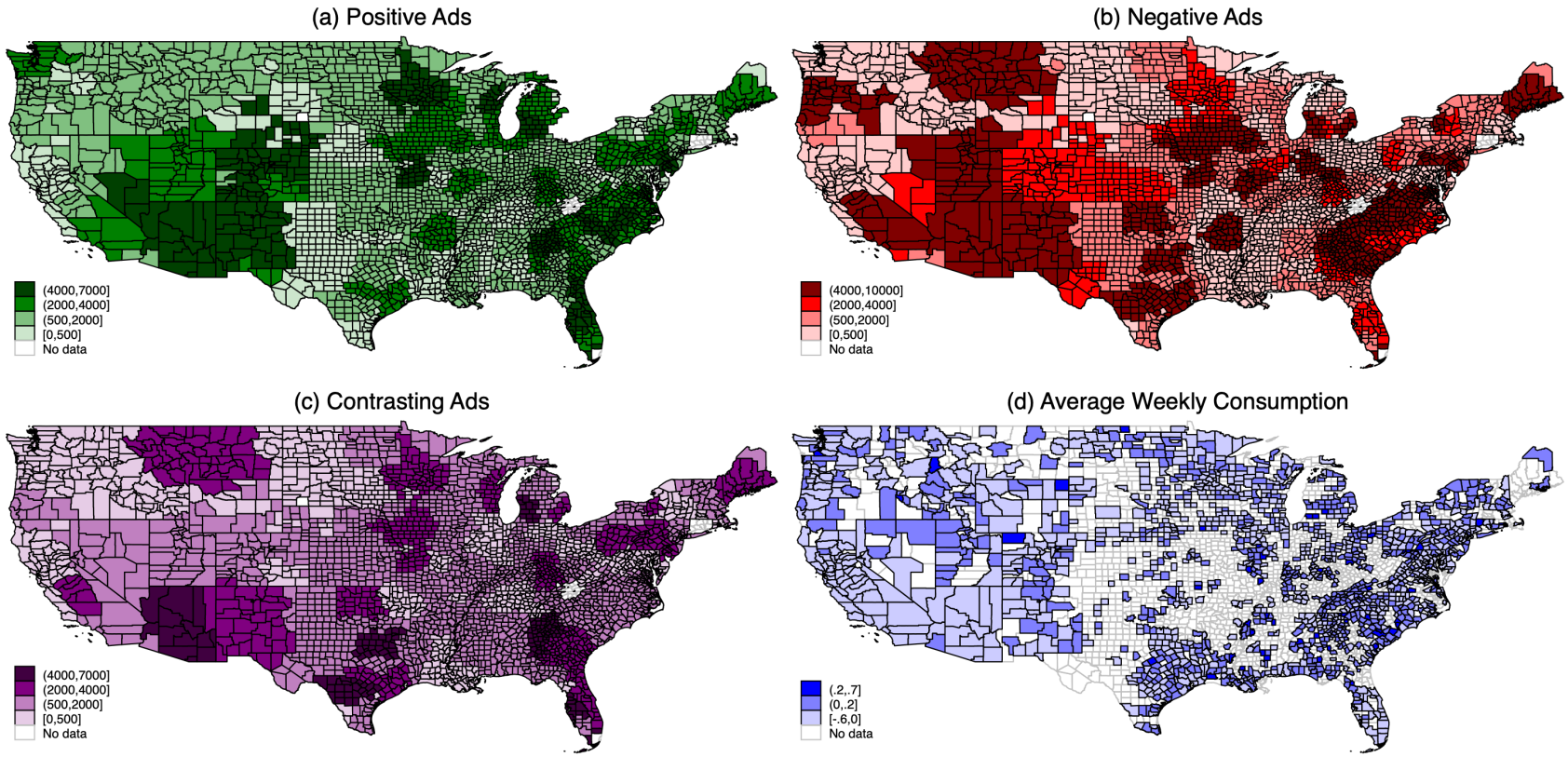
Notes: *** p< 0.01, ** p< 0.05, * p< 0.10. Standard errors in parentheses are clustered at the state and DMA border level. Dependent variable is the percentage change in spending relative to January 2020. All regressions include weekly county-neighbor pair fixed effects. Political advertisements in thousands. Column 2 restricts the sample to the battleground states of AZ, FL, GA, IA, MI, MN, NC, NH, NV, OH, PA, TX, and WI. Column 3 restricts the sample to the other remaining states.

Table A5: NielsenIQ Results - All Spending

	All Ads		Primetime Ads	
	(1)	(2)	(3)	(4)
Positive Econ	0.000	0.000	0.005	0.006
	(0.001)	(0.001)	(0.012)	(0.012)
Negative Econ	-0.000	-0.000	-0.006	-0.007
	(0.001)	(0.001)	(0.006)	(0.006)
Contrast Econ	-0.001	-0.000	0.006	0.007
	(0.001)	(0.001)	(0.013)	(0.013)
Observations	318,564	314,340	318,564	314,340
R sq.	0.69	0.69	0.69	0.69
Controls		✓		✓

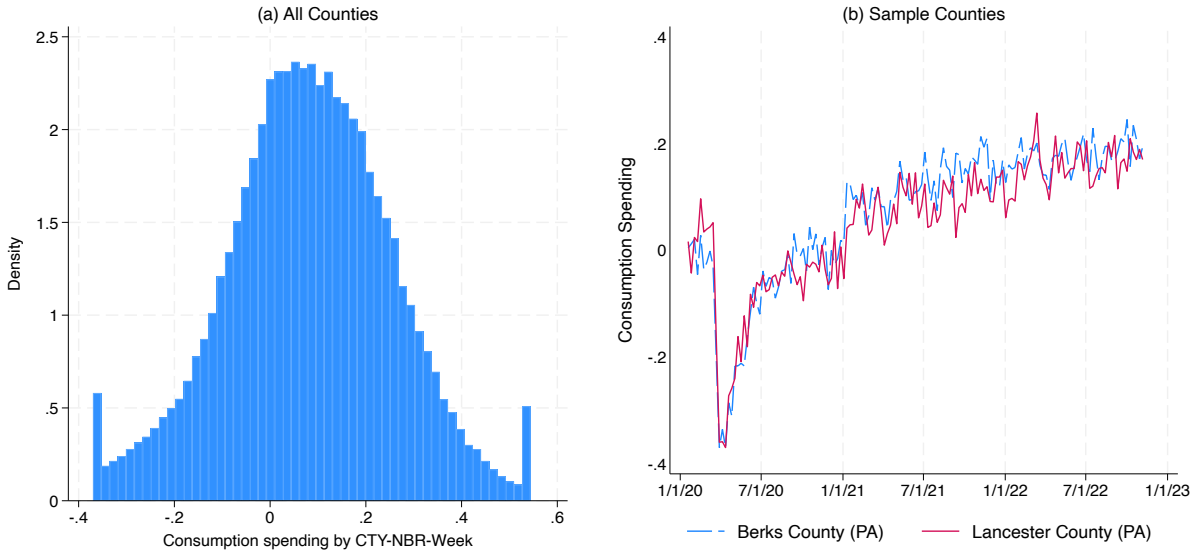
Notes: *** p< 0.01, ** p< 0.05, * p< 0.10. Data from 2021 to 2022. Standard errors in parentheses are clustered at the state and DMA border level. Dependent variable is the percentage change in spending relative to the previous week. All regressions include weekly county-neighbor pair fixed effects. Political advertisements in thousands.

Figure A1: Distribution of Ads and Consumption Across Counties



Notes: Figure shows map of advertisements and weekly consumption across counties in our sample in October 2020. Panel (a), (b), (c) are the total political advertisements in October 2020 which have a positive, negative, and contrasting economic message respectively. Panel (d) shows the average weekly consumption in October 2020 relative to the baseline of January 2020.

Figure A2: Consumption Spending across Counties



Notes: Figure shows distribution of weekly consumption spending growth relative to baseline consumption in January 2020. Panel (a) shows the distribution for all county-neighbor-week pair while Panel (b) shows the time-series for two counties in Pennsylvania: Berks and Lancaster.

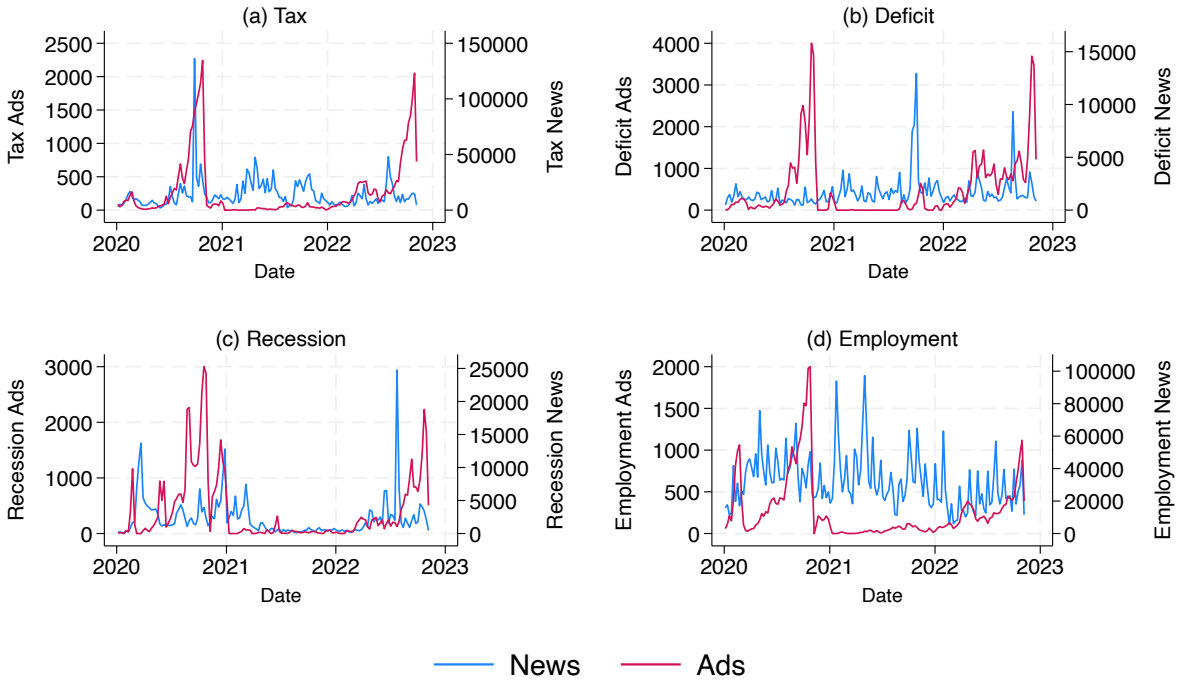
A.1 Political Advertisements and News

One potential interpretation of our findings is that political advertisements simply proxy for underlying economic news. Under this explanation, consumption would respond not to the content of the advertisements themselves but to contemporaneous economic information reported in the media. To assess this possibility, we compare the frequency of political advertisements on key economic topics with the frequency of television news coverage of the same topics: taxes, deficits, recessions, and employment.

While data on local news coverage is sparse, we obtain data on national television news coverage from the Stanford Cable TV News Analyzer which reports the total daily airtime devoted to selected keywords on CNN, Fox News, and MSNBC. For each week, we sum the total minutes during which any of the four economic terms were spoken on any of the three TV stations. Figure A3 plots the weekly count of ads mentioning these topics against weekly measures of the time devoted to them on major cable news networks.

The observed patterns contradict the interpretation that political ads simply mirror economic news coverage. This distinction could matter because it suggests that advertisements may provide households with a different information set than news media, potentially shaping expectations and overall behavior in contrasting ways. Moreover, the timing and intensity of political advertising diverge sharply from television news. Advertisements display sustained and repeated emphasis on economic issues during election periods, whereas news coverage spikes around regular data releases. For instance, Panel (d) of Figure A3 shows that discussion of employment on news channels increases around monthly labor market reports, while the coverage of employment related topics in political advertising peaked ahead of the 2020 presidential election.

Figure A3: Advertisements vs News



Notes: Figure shows comparison of weekly advertisements by topic relative to weekly news coverage of the same topic from January 2021 to November 2022. Panel a, b, c, and d show the frequency of news and ad coverage of tax, deficit, recession, and employment, respectively. Television news coverage measures the total weekly airtime (in minutes) devoted to selected keywords on CNN, Fox News, and MSNBC. Ads capture the total number of ads aired in a week on the four select topics.