Discussion Paper Series

Political Identity and Consumer Behaviour: Musk and Tesla in Germany

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Abstract

We study how a political identity shock affects high-stakes consumption choices. Late in 2024, Elon Musk endorsed Germany's far-right Alternative für Deutschland. We document that after this, Tesla sales rose by up to 30 percent in right-leaning districts relative to left-leaning ones, without measurable substitution to other electric vehicles. Divestment in second-hand markets shows no partisan differences, consistent with resale requiring a larger identity cost from Tesla's image shock than non-purchase. Our lower bound-estimate for the overall loss in Tesla sales is 6500 vehicles in the first half of 2025, worth at least €241 million.

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1 Introduction

In increasingly polarized societies, business leaders and firms have emerged as prominent political actors. From Nike's support of Colin Kaepernick in the United States to IKEA's promotion of LGBTQ+ rights in Poland, corporate voices are now a regular presence in divisive public debates. When firms publicly adopt political positions, they provide salient signals that may shape economic behavior in markets by inducing identity-based sorting. Whether such signals lead to economically meaningful changes in buying and selling decisions that differ systematically across ideological groups remains an open empirical question. Addressing this question is important for understanding how rising political polarization shapes economic behavior.

This paper examines whether Elon Musk's endorsement of Germany's far-right party *Alternative für Deutschland* (AfD) polarized consumer demand for Tesla vehicles across German regions with different political orientations. In December 2024, Elon Musk, the CEO of Tesla, began to publicly support the AfD, tweeting: *"Only the AfD can save Germany"*. The post drew nationwide media attention and sparked widespread debate. We investigate whether Tesla sales and second-hand market offers responded differentially across German regions with higher versus lower levels of AfD support following the endorsement. Germany offers an ideal setting for this analysis, combining a strong car culture with a politically diverse landscape. Unlike in the United States, Musk lacked direct ties to the German government, making his pro-AfD activism a quasi-experimental setting in which his political stance could influence consumers without being confounded by involvement in government policy.

Empirically, we exploit the sharp timing of Musk's AfD endorsement in December 2024 as an unexpected event that plausibly shifted consumer perceptions of Tesla's political image. We first document in Google Trends data that Musk's political alignment with the far-right became salient to the German public at that time. Using monthly registration data for new Tesla vehicles across German counties between January 2024 and July 2025, we implement an event-study design to trace the evolution of revealed demand before and after the endorsement. To capture heterogeneity in consumer response by political identity, we interact month indicators with local vote shares from pre-shock federal and European elections. This approach identifies whether the endorsement led to a relative increase in Tesla sales in politically right-leaning areas and/or a decline in left-leaning ones. Our main finding documents

that, after Musk endorsed the AfD, areas with higher pre-existing AfD shares exhibit a substantial relative increase in Tesla sales that persists until the end of our observation period. By contrast, pre-trends are parallel. The results are robust to alternative estimators and do not emerge in placebo specifications that shift the treatment window one or two years earlier. We also show that the sales of other electric vehicle (EV) brands are not affected, indicating limited short-run substitution to EV alternatives.

In addition to new purchases, political polarization of consumption may manifest as divestment from an ideologically branded durable good. To test whether Musk's endorsement of the AfD affected resale decisions, we analyze data on used-car listings from the second-largest German online platform. We find that resale activity does not differ systematically by local political orientation. Our interpretation of this finding is that the identity-related disutility from Tesla's image shift for left-leaning Tesla owners is not sufficiently strong to justify selling the car. This interpretation is particularly plausible when close peers are already aware that the vehicle was purchased prior to the shift in Elon Musk's public political stance; bumper stickers then serve as a low-cost mechanism for signaling this information to strangers. In a stylized model, we formalize this intuition: given resale value and transaction frictions, divestment from a car with a newly tainted image is more costly than refraining from buying one in the first place.

Finally, we quantify the overall decline in Tesla sales in the post-endorsement period using synthetic difference-in-differences (SDiD) and synthetic control (SC) methods. We estimate a substantial decline in Tesla registrations following the treatment. The SDiD results imply an average reduction of approximately 6,500 vehicles per quarter, corresponding to a total decline of about 13,000 cars over the first two quarters of 2025 (roughly 63% below the counterfactual level). Valued at the lowest-priced Tesla Model 3, this implies a conservative gross revenue shortfall of approximately €481 million. Even under a lower-bound scenario that assumes full substitution to other EVs, halving the estimated effect, the implied revenue loss remains economically large at roughly €240 million. Taken together, these findings suggest that Musk's political activism negatively affected Tesla sales in Germany.

Related Literature. By linking real-world consumption behavior to a well-identified political shock, our analysis contributes to the literature on the role of identity in economic decision-making in polarized societies. An important body of work emphasizes

that consumers use purchases to express social and political identities, consistent with theories of identity-based utility in which individuals derive value not only from material payoffs but also from behavior that aligns with group norms and self-concept (Akerlof and Kranton, 2000; Bénabou and Tirole, 2011).

Several studies in economics and finance document that political identity shapes a range of economic outcomes, from asset prices and portfolio choices to firm valuations (e.g., Kempf and Tsoutsoura, 2024; Mian et al., 2022). While this work has largely focused on investor behavior, we examine how political identity operates on the consumer side, linking a CEO's political signaling to how consumers value the firm's products. In doing so, we also relate to the literature on CEOs, which shows that firm outcomes respond to the personal traits, beliefs, and ideologies of top executives (e.g., Bertrand, 2009; Malmendier and Tate, 2015; Bertrand et al., 2018; Bandiera et al., 2020; Bennedsen et al., 2020). Within this literature, a closely related set of papers examines consumer responses to CEO activism. Hou and Poliquin (2023) document short-lived partisan demand responses to CEO activism on gun control, while Liaukonytė et al. (2023) show that a food company's CEO endorsement of Donald Trump generated a temporary increase in sales in Republican counties, with limited countervailing boycott effects. These findings suggest that political consumer responses are often sharp but transitory, particularly for non-durable goods. In contrast, we study identity-based demand responses to Elon Musk's political activism for a high-value durable good: Tesla cars.

Recent work by Endres et al. (2025) documents that Elon Musk's partisan engagement during the 2024 U.S. presidential election polarized perceptions of the Tesla brand: Democrats viewed the brand more negatively and Republicans more favorably. In a similar spirit, Gillingham et al. (2025)'s paper studies the effect of Musk's acquisition of Twitter on the polarization of Tesla sales. It shows that the takeover of Twitter was followed by a reversal of the upward trend in Tesla sales in Democratic-leaning counties. These partisan Tesla losses are accompanied by gains for other EVs, suggesting substitution by Democratic consumers. Gillingham et al. (2025) interpret the changes in regional demand for Tesla as a partisan response to the political activism implicit in Musk's Twitter leadership that alienated Democratic voters. While closely related and complementary, our (contemporaneous and independent) paper takes a more direct approach in that it uses Musk's overt engagement in German party politics as a shock to the identity value of a Tesla to German consumers. This

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political shock is well-defined both in terms of its content and its timing. The absence of pre-trends in our difference-in-differences (DiD) analysis allows us to invoke standard identifying assumptions. Moreover, by considering both new- and used-vehicle markets, we estimate effects on both consumers' investment and divestment decisions.

Finally, our paper extends a small literature studying the expression of national identity through consumption, such as through car purchases (Fouka and Voth, 2023; Hong et al., 2011) or through grocery shopping. In a parallel to our setting, Nardotto and Sequeira (2025) show that Brexit re-directed supermarket purchases toward UK-made and nationally branded goods. Our results demonstrate that elite political endorsements can reallocate demand across ideological groups by altering the identity value of branded durable goods.

This paper is organized as follows. Section 2 provides background information, Section 3 describes the data, and Section 4 contains the empirical strategy and main results. Section 5 discusses our findings and Section 6 concludes.

2 Background

Consumers derive utility not only from the functional attributes of goods but also from their identity value (Akerlof and Kranton, 2000; Bénabou and Tirole, 2011). When a brand becomes associated with a specific political stance or persona, purchase decisions may thus reflect an individual's desire to affirm or distance themselves from that identity.

There are several reasons why Elon Musk's endorsement of the AfD in Germany provides a particularly relevant case to test whether durable-good purchase decisions respond to firms' or CEOs' political identities. First, cars are well suited to study identity-based consumption. As highly visible, high-value durable goods, they plausibly convey information about owners' values and social identity (Veblen, 1899; Leibenstein, 1950; Frank, 1985; Bagwell and Bernheim, 1996). Second, Tesla vehicles represent a multifaceted identity signal. Beyond its image as a technological and environmental pioneer, Tesla is closely associated with its founder, Elon Musk, whose visibility and public expressions further defines the brand's image. As a result, Musk's political statements likely shift the perceived identity value of owning a Tesla, even when product characteristics remain unchanged. Third, Germany provides a

highly suitable setting for such analysis. It has a deeply rooted car culture in which automobile ownership is both economically and symbolically significant. Its political landscape features sharp ideological contrasts that are regionally differentiated, most notably between supporters of the far-right AfD and the Green Party. Moreover, the AfD's position on environmental issues contrasts sharply with the typical profile of early EV adopters.

Elon Musk became a prominent figure in German political debates ahead of the February 2025 federal election. Musk's interventions started in December 2024, when he used his platform *X* to endorse the AfD (*"Only the AfD can save Germany"*).[1] In the same month, he published a pro-AfD op-ed in *Welt am Sonntag*. In January 2025, Musk reiterated his support of the AfD in a live-stream conversation on *X* with the leader of the AfD, Alice Weidel, and a personal (video) appearance at a major AfD rally. All of these interventions prompted nationwide attention and criticism.[2] Additional pro-AfD statements in February, to congratulate the party on its electoral success, and in August 2025, to support the AfD in a regional election, further reinforced his association with the party.

It is key to our empirical strategy to understand when the average German voter became aware of Musk's political ideology and support for the AfD. To assess public awareness, we collected Google search intensities for the keywords[3] "Musk & AfD" and "Musk & Right-wing" for all of Germany from January 2024 to September 2025. Figure 1 documents that search activity sharply spiked between December 2024 and January 2025, coinciding with Musk's public AfD endorsement and the accompanying media coverage. This surge suggests substantial nationwide awareness and supports the timing of our treatment: the endorsement was widely noticed starting in January 2025. Importantly, Musk's public support of Donald Trump's presidential bid starting in July 2024 generated no comparable increase of Google searches in Germany.

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[1]Table C.1 summarizes the key events of his interference.

[2]Figure B.1 displays online news coverage in Germany, measured as the share of articles mentioning both Musk and the AfD. We observe a spike in coverage at the time of Musk's intervention in the electoral campaign.

[3]The original German version of these keywords is "Musk und AfD" and "Musk und rechts".

Figure 1: Google Search Trends (Germany, January 2024 – September 2025)
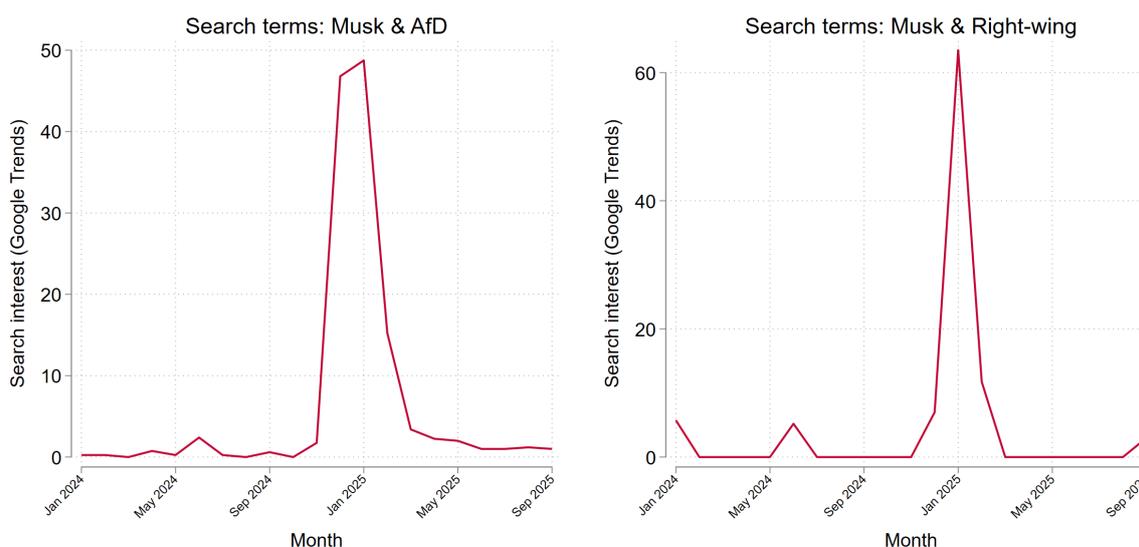
Notes: The left panel shows Google search interest for the term "Musk & AfD," while the right panel shows search interest for the term "Musk & Right-wing," calculated for Germany as a whole. Source: Google Trends (https://trends.google.de/trends/), accessed 9/20/2025.

3 Data

3.1 Variables and Sources

For our empirical analysis, we use several data sources, which we describe below. Table C.2 reports summary statistics of the main variables. First, we collected district-level monthly data on new Tesla and other EV registrations from January 2024 to July 2025, obtained from the Federal Motor Transport Authority (*Kraftfahrt-Bundesamt*, KBA). These data provide a comprehensive and timely measure of EV sales intensity across Germany's 400 administrative districts.

Second, to measure pre-existing political orientation, we use district-level electoral outcomes from the 2021 Federal Election and the 2024 European Election, provided by the Federal Statistical Office of Germany (*Statistisches Bundesamt*). In particular, we compute the AfD vote shares, as well as the Green Party vote shares which represent opposing ends of the ideological spectrum, as well as the distance and ratio between the two.[4]

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[4]For example, the CHES expert survey (Rovny et al., 2025) classifies cultural ideology and environmental positions among German parties. While the AfD is strongly traditional/authoritarian (GAL–TAN score: 9.39) and among the least environmentally oriented parties (environment score: 9.0), the Greens are strongly alternative, libertarian (GAL–TAN score: 1.61) and highly environmentally oriented (environment score: 0.9).

Third, to account for potential confounders, we augment the dataset with time-invariant indicators of districts' socio-economic characteristics and infrastructure quality. These include log of population, log of GDP per capita, unemployment rate, share of high-school graduates, a rurality index, and the number of EV charging stations per capita. These data are made available by the Federal Institute for Research on Building, Urban Affairs and Spatial Development (Bundesinstitut für Bau-, Stadt- und Raumforschung , BBSR).

Finally, to study divestment of used Teslas after Musk's endorsement of the AfD, we make use of private listings from one of the largest second-hand platforms in Germany, *AutoScout24.de*. The data provide information on offers by brand and the date the listing was posted. Using these data, we compute the monthly number of used Teslas offered by private sellers between January 2024 and July 2025.

3.2 Descriptive Statistics on Tesla Sales and Offers

Before turning to the regression analysis, we document basic descriptive patterns in our main outcome variables. First, we illustrate the time-series and cross-sectional variation in Tesla registrations that underlies our empirical strategy. Second, we provide descriptive evidence on the political geography of Tesla demand prior to 2024 and on how post-2024 changes vary across regions.

Outcome variation and data structure. Across the sample period, monthly Tesla registrations average approximately 2,300 vehicles nationwide. At the district level, the mean number of new Tesla registrations per month is around six, with substantial heterogeneity across space and time. Importantly, roughly 40% of districts record zero Tesla registrations in a given month, reflecting an EV penetration that remains low overall, with demand spatially concentrated in more urbanized and higher-income regions. This distributional pattern motivates our district-by-month panel design and the use of PPML estimators suited to count outcomes with a substantial share of zeros.

Political sorting in Tesla demand before 2024. Next, we examine the cross-sectional relationship between Tesla registrations and political preferences at the district level prior to 2024. Figure B.4 plots residualized total Tesla registrations per district - after netting out socio-economic characteristics and state fixed effects - against residualized party vote shares. The graph shows a clear positive association between Tesla regis-

trations and Green Party support, while the number of Teslas is negatively associated with support for the AfD. This pattern indicates that before 2024 Tesla adoption was disproportionately concentrated in districts with more socially and environmentally progressive political orientations.

Aggregate time patterns 2024 - 2025.　Next, we examine the evolution of nationwide Tesla registrations from January 2024 to July 2025 in Figure B.2. Registrations declined at the beginning of 2024, remained relatively stable over much of the rest of the year, and decreased again in early 2025. While suggestive, these trends indicate that the period of Musk's pro-AfD support coincides with a reduction in overall demand for new Teslas.

Spatial heterogeneity in post-treatment changes.　We next explore how changes in Tesla registrations after the endorsement vary across space. Figure 2 maps the change in Tesla registrations between the first half of 2024 and the first half of 2025 (left panel) alongside AfD vote shares in the 2021 federal election (right panel). Districts experiencing relative increases in Tesla registrations over this period are almost exclusively located in districts with strong AfD support. This descriptive pattern suggests meaningful heterogeneity in post-2024 changes in Tesla demands that aligns with pre-existing political orientations.

Used Tesla listings.　Finally, we present descriptive evidence on the offer of used Teslas. Figure B.3 shows trends in the number of privately offered used Teslas over time. At the district level, the average number of used Tesla listings per month is 0.5, while nationwide listings average 186 per month, with a peak of 278 in January 2024. We observe a temporary increase in listings at the beginning of 2025, followed by a decline from April 2025 onward. In the empirical analysis below, we examine used-car listings as a reflection of potentially heterogeneous divestment behavior by political orientation.

Figure 2: Change in Tesla Sales and AfD Support

Change in Tesla Registrations: Jan–Jul 2024 vs Jan–Jul 2025

AfD Vote Share – German Federal Election 2021
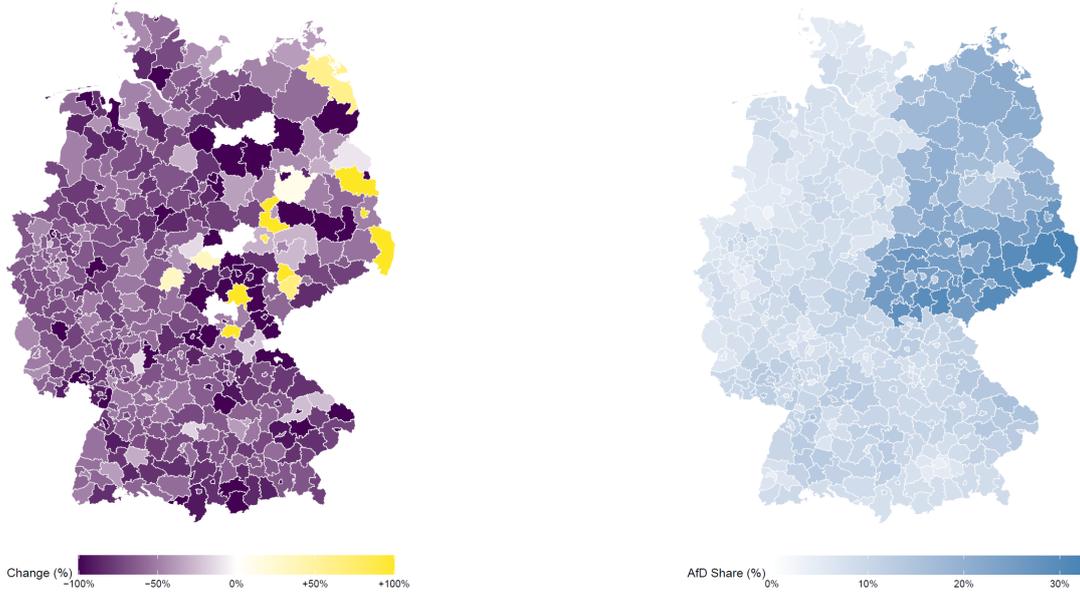
Notes: The left panel shows the change in new Tesla registrations by district between the first half of 2024 and the first half of 2025. The right panel shows district-level vote shares for the *Alternative for Deutschland* in the 2021 federal election.

4 Empirical Design and Results

4.1 Event Study Specification

Motivated by the descriptive evidence, we next outline our main empirical strategy. We estimate an event-study design that allows treatment effects to vary flexibly at the monthly level. Identification leverages the sharp timing of Elon Musk's public endorsement of the AfD, which we interpret as a shock to perceptions of Tesla's political alignment. We compare changes in Tesla registrations before and after the endorsement across politically right- and left-leaning districts, proxied by district-level vote shares for the AfD or, alternatively, the Green Party in recent elections. The key identifying assumption is that, absent the endorsement, trends in Tesla registrations would have evolved similarly across politically different districts. To help assess its plausibility, we examine whether pre-trends are parallel. Formally, we estimate:

$$
\begin{aligned}
Y_{it} &= \mu_i + \tau_t \\
&+ \sum_{m \neq \text{Dec } 2024} \beta_m \left(\text{Month}_m \times \text{POLOR}_i \right) \\
&+ \sum_{m \neq \text{Dec } 2024} \gamma'_m \left(X_i \times \text{Month}_m \right) + \epsilon_{it},
\end{aligned}
\tag{1}
$$

where Y_{it} denotes Tesla registrations (or used car offers) in district i during month t. Month$_m$ are year–month dummy variables. December 2024 serves as the omitted reference category. POLOR$_i$ captures each district's political orientation, measured by the AfD (or Green Party) vote share in previous elections. The interaction terms (Month$_m \times$ POLOR$_i$) allow the effect of political orientation on Tesla registrations to vary flexibly over time.

The model includes district fixed effects μ_i and month fixed effects τ_t. The vector of controls ($X_i \times$ Month$_m$) further interacts observable district characteristics with time dummies to flexibly control for time-varying effects of these factors. Under the identifying assumption of parallel pre-trends, the coefficients $\hat{\beta}_m$ in the months prior to December 2024 should be statistically indistinguishable from zero. A significant deviation of $\hat{\beta}_m$ in the months following December 2024 then indicates a post-treatment divergence in Tesla sales between politically different regions, attributable to Musk's endorsement. Given that many districts have zero registrations in a given month, and the fact the Y_{it} is a count variable, our main estimator is PPML. We present the event-study results graphically in the following and complement them with difference-in-differences estimates, reported in tabular form in the appendix, that aggregate the event-study coefficients into a single post-period effect.

4.2 Main Results

Figure 3 displays the dynamic effects of Elon Musk's December 2024 AfD endorsement on district-level Tesla registrations. Across specifications, the estimated coefficients $\hat{\beta}_m$ are close to zero and statistically insignificant prior to December 2024, indicating parallel evolutaion of Tesla registrations across districts with different degrees of AfD support. After the endorsement, the coefficients turn positive and statistically significant in early 2025, suggesting a sharp and persistent increase in Tesla registrations in districts with higher AfD support. The magnitude of the post-event response is consistent across estimation methods: both the PPML and population-weighted OLS models show a sustained divergence between right-leaning and left-leaning regions.

Figure B.5 further illustrates that the effect is strongest in districts in the top quartile of AfD vote shares, while it is weaker and statistically indistinguishable from zero in moderately right-leaning areas. These dynamics imply that the endorsement

primarily mobilized demand among consumers already sympathetic to Musk's political stance.

Overall, the event-study evidence shows that, following Musk's political endorsement, Tesla demand became increasingly segmented along partisan lines. Moreover, the temporal patterns suggest that the change in demand was not a short-lived reaction but rather a persistent response by consumers.

Figure 3: Political Orientation and Tesla Sales: Event-Study Estimates
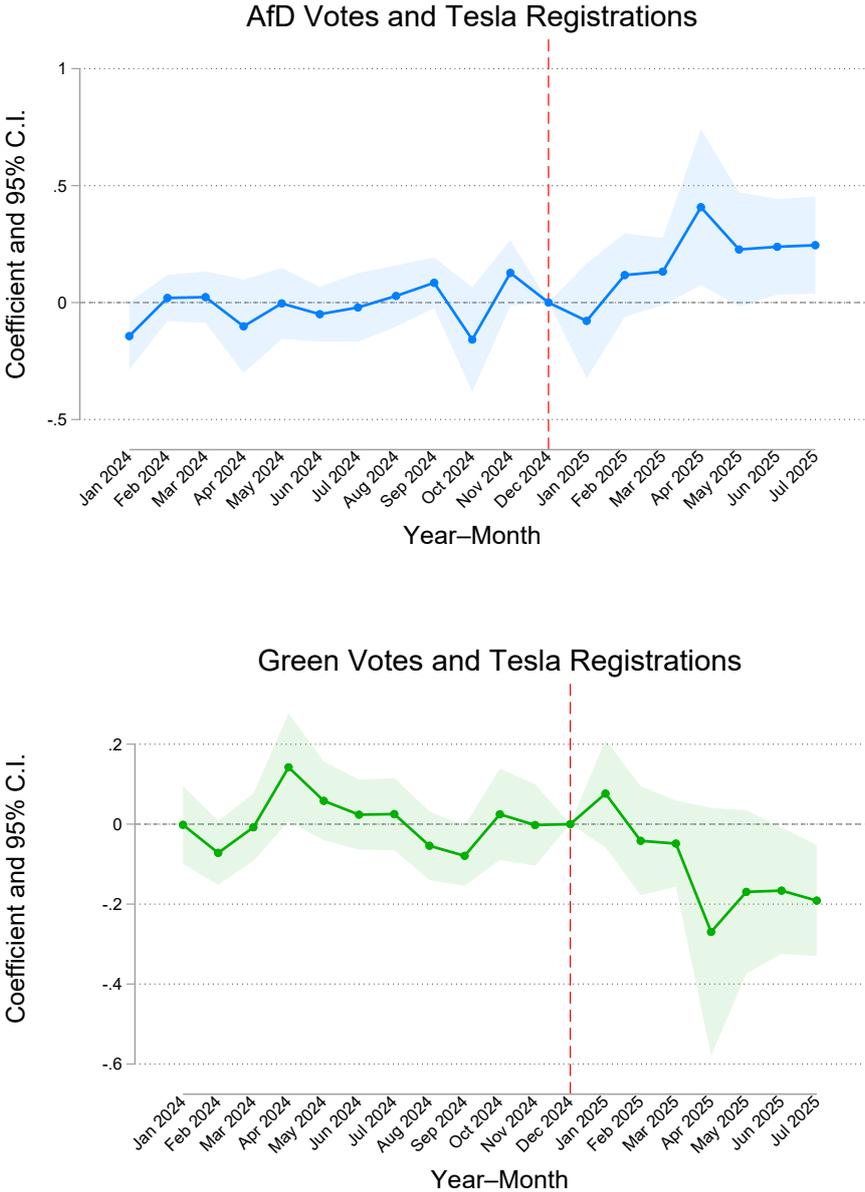
Notes: The upper panel shows event study estimates of the *Alternative for Deutschland* vote shares in the 2021 federal election on new Tesla registrations. The lower panel shows event study estimates of the *Green Party* vote share in the 2021 federal election on new Tesla registrations.

Table C.3 presents difference-in-differences estimates, which corroborate the event-

study results. The coefficient of the interaction term *Post × AfD Share (2021)* in Column (1) is positive and statistically significant at the 1% level. The point estimate of 0.179 implies that, after Musk's political endorsement, Tesla sales increased by about 18% in districts with a one standard deviation higher AfD Support in the 2021 Federal Election. Using the 2024 European Election vote shares yields a similar effect (Column 2). Alternative specifications based on indicator variables for above-median or top-quartile AfD support (Columns 3 and 4) confirm that the treatment effect is concentrated in politically right-leaning regions, with magnitudes of 19% and 30% increases. A 30% increase corresponds to roughly 2 more Teslas per district per month on average. OLS results using the log-transformed Tesla count and a binary indicator for any Tesla registration (Columns 5–6) provide similar evidence: the post-endorsement increase in Tesla sales is significantly stronger in districts with greater AfD support.

Table C.4 presents robustness checks for the difference-in-differences estimates. Specifically, the table reports specifications that (i) replace month fixed effects with a post-treatment indicator, (ii) omit all controls, and (iii) include only interactions of the post indicator with GDP per capita and population. The results are robust. In addition, the table reports placebo estimates that shift the treatment from its true December 2024 date to December 2023 and December 2022. Across both placebo specifications, the post × AfD interaction is statistically insignificant and close to zero, suggesting that the main results are not driven by seasonality in the early months of the year. This supports a causal interpretation of the main estimates. Finally, Table C.5 probes sensitivity to the precise measure of political orientation used. Column (1) confirms the event-study results using the Green Party vote share. Columns (2) and (3) use alternative measures that combine both party vote shares into a single political ideology variable. The positive and significant coefficients on the AfD–Green distance and the AfD share ratio confirm that post-endorsement changes in Tesla demand are systematically larger in politically right-wing districts relative to progressive ones.

4.3 Accounting for Delivery Lags

Because our dependent variable reflects delivery (and subsequent registration) of a Tesla, rather than timing of purchase decisions, the measured timing of demand responses could lag behind the actual shift in consumer sentiment. In the case of Tesla, the interval between placing an order and vehicle delivery is typically two to three

months.[5] To account for delivery lags, we re-estimate the event-study model by shifting the treatment window forward by three months. Figure B.6 reports PPML estimates of the interaction between the post-period indicator and AfD vote shares from the 2021 Federal Election accounting for the lag. The results remain highly consistent and appear now to jump up right after Musk endorsed the AfD.

Figure 4: Other EVs, and Divestment

(a) Other EV registrations
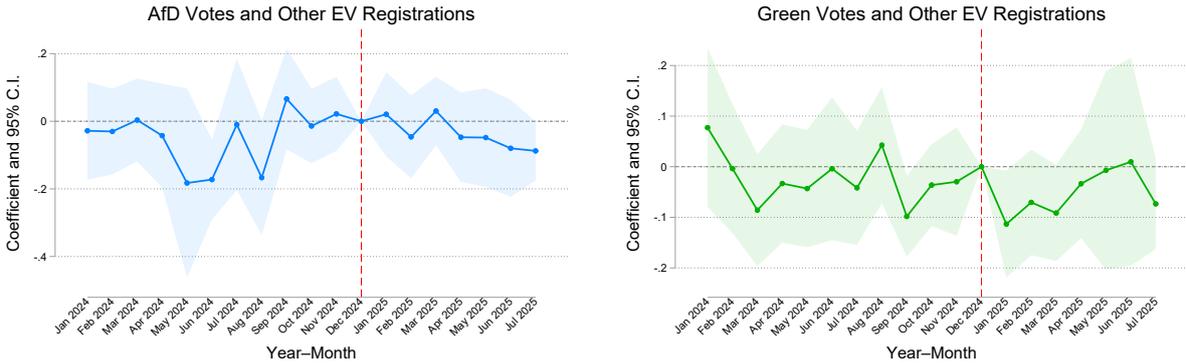
(b) Used Tesla offers
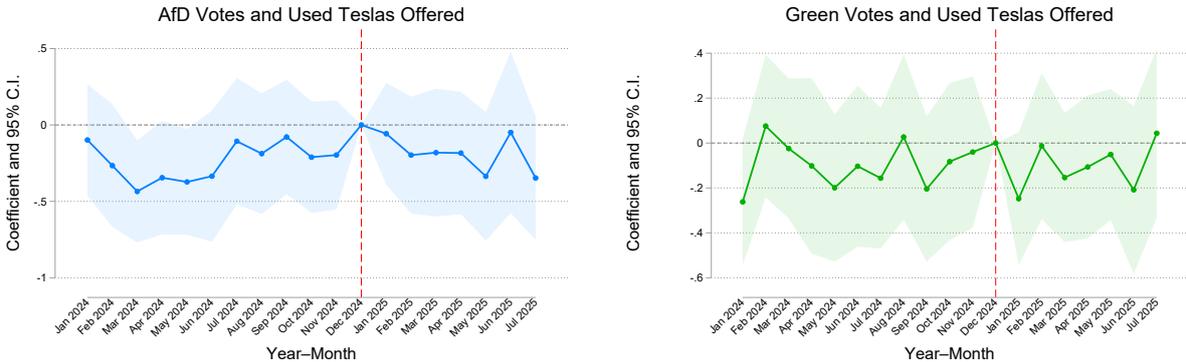
Notes: Panel (a) reports event-study estimates using new registrations of other electric vehicle brands as the outcome variable. Panel (b) examines political polarization in private Tesla listings on a large second-hand market.

4.4 Other EV Registrations

We next examine whether the effect extends to other EV brands. Table C.6 presents DiD estimates, and Figure 4a presents monthly event-study estimates, using registrations of other electric vehicle (EV) brands as the dependent variable. The results in both specifications show no systematic relationship between AfD vote shares and changes in registrations of other EV brands following December 2024. Coefficient

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[5]This estimate is based on information from car retailers such as FINN https://www.finn.com/de-DE/auto/elektro/lieferzeiten-e-autos.

estimates in Table C.6 are insignificant throughout the post-period when considering all brands (Columns 1–3), only German brands (Column 4), or non-German brands (Column 5). Areas with higher Green Party support also did not buy more EVs to make up for the loss in Tesla sales. The absence of effects for competing EV manufacturers suggests the interpretation that the surge in right-leaning districts is specific to Tesla rather than reflecting a general shift in EV demand or macroeconomic trends. It also implies, at least in the short run, no substitution towards other brands.

4.5 Used Tesla Offers

To assess whether the polarization in demand for Teslas not only shapes new Tesla purchases but extends to the divestment of existing vehicles, we complement the registrations data with district-level information on used Tesla listings from a large second-hand online platform. We interpret private listing activity as a proxy for owners' preference for no longer owning a Tesla vehicle. Figure 4b presents event-study estimates that are summarized by the DiD coefficients reported in Table C.7. Overall, we find no evidence of a sustained post-endorsement increase in used Tesla listing intensity in Green-leaning districts, nor a corresponding decline in listings in AfD-leaning areas.

5 Discussion

5.1 Interpreting the Findings Through the Identity Utility of a Tesla

To rationalize the diverging effects on Tesla sales and used car offers, we formalize the dynamic buying and selling decisions of a durable good in the presence of ideological concerns. Suppose that time is discrete and infinite, $t = 0, 1, 2, \ldots$. Consumers are risk neutral and discount the future at rate $\beta \in (0, 1)$. Each consumer belongs to a political type p that can either be left or right ($p \in \{L, R\}$).

Preferences. A Tesla is a durable good that yields a per-period flow utility

$$u_T + \phi_{p,t},$$

where u_T denotes functional (material) utility and $\phi_{p,t}$ captures identity-related utility that consumers obtain from owning a Tesla (such as status and peer image). The

outside option yields flow utility u_0.

The identity utility of owning a Tesla depends on the political orientation and changes following the endorsement shock at time t_0:

$$\phi_{p,t} = \phi_p^0 + \Delta_p \cdot \mathbb{1}\{t \geq t_0\}, \tag{5.1}$$

with $\Delta_R > 0$ and $\Delta_L < 0$.

Prices and costs. Let P_t denote the purchase price of a Tesla, R_t its resale value, and $c > 0$ a transaction and switching cost incurred when selling a used Tesla on the second-hand market.

Purchase decision. A non-owner of type p purchases a Tesla at time t if the present value of ownership exceeds the outside option:

$$-P_t + \sum_{j=0}^{\infty} \beta^j (u_T + \phi_{p,t}) \geq \sum_{j=0}^{\infty} \beta^j u_0.$$

This condition can be written as:

$$-P_t + \frac{u_T + \phi_{p,t} - u_0}{1 - \beta} \geq 0.$$

Substituting the identity-utility process of equation 5.1, the purchase condition becomes:

$$-P_t + \frac{u_T - u_0 + \phi_p^0 + \Delta_p \cdot \mathbb{1}\{t \geq t_0\}}{1 - \beta} \geq 0. \tag{5.2}$$

Because $\Delta_R > 0$ and $\Delta_L < 0$, the political shock lowers the purchase threshold in equation 5.2 for right-leaning consumers while raising it for left-leaning consumers. As a result, new Tesla purchases increase among type-R consumers and decrease among type-L consumers following the endorsement.

Divestment decision. An owner of type p chooses whether to keep or sell the Tesla.

The value of keeping the vehicle is:

$$V_{p,t}^{\text{keep}} = \frac{u_T + \phi_{p,t}}{1 - \beta}.$$

The value of selling is:

$$V_{p,t}^{\text{sell}} = R_t - c + \frac{u_0}{1 - \beta}.$$

The owner sells if $V_{p,t}^{\text{sell}} \geq V_{p,t}^{\text{keep}}$, which is equivalent to:

$$\phi_{p,t} \leq u_0 - u_T + (1 - \beta)(R_t - c).$$

Substituting the identity-utility process of equation 5.1, the divestment condition becomes

$$\phi_p^0 + \Delta_p \cdot \mathbb{1}\{t \geq t_0\} \leq u_0 - u_T + (1 - \beta)(R_t - c). \tag{5.3}$$

The right-hand side of equation 5.3 captures the net flow-equivalent benefit of exiting ownership. The term $u_0 - u_T$ reflects the per-period loss in functional utility from switching to the outside option, which is typically negative. The term $(1 - \beta)(R_t - c)$ represents the flow-equivalent value of the one-time resale payment net of transaction and switching costs. Because resale proceeds are received only once, their contribution is scaled by $(1 - \beta)$ when compared to the ongoing flow utility from ownership.

Divestment therefore occurs only if the identity-related utility from owning a Tesla, $\phi_{p,t}$, becomes sufficiently negative to offset both the functional benefits of continued ownership and the frictions associated with resale. This implies that only very large changes in identity utility for type $p = L$ owners may translate into divestment responses.

Interpretation. To sum up, a political shock that shifts identity utility upward for right-leaning consumers ($\Delta_R > 0$) and downward for left-leaning consumers ($\Delta_L < 0$) generates polarized responses in new purchases. Divestment occurs only if identity disutility becomes sufficiently large to overcome functional utility, resale frictions, and switching costs. Our results suggest that the endorsement did change identity utility for right-leaning voters, resulting in increased Tesla sales. The null-results on used car offers suggest that the identity shock did not create sufficient disutility for left-leaning voters to offset the costs associated with selling the used Tesla.

5.2 Did the Endorsement Make Business Sense?

Our results show that local demand for Tesla vehicles diverged along pre-existing political lines following Elon Musk's public support for the AfD. However, they do not address the question whether Musk's activism helped or hurt German Tesla sales overall. Our empirical set-up limits our ability to provide conclusive causal evidence on this question: we lack a credible country-level counterfactual for Germany.

For suggestive evidence on whether sales overall benefited or suffered, we construct synthetic Tesla sales from sales of other EV brands within-Germany. This comes with three caveats: first, Tesla registrations are highly volatile, which makes it difficult to construct a well-fitting synthetic control and detect effects that are small relative to the volatility of the outcome (Abadie, 2021); second, there is a clear possibility of substitution from Tesla purchases to other EV brands. This implies that in the extreme of one-to-one substitution from a foregone Tesla purchase to another EV, we will overestimate any effect of Musk's AfD endorsement by a factor of two. Third, the identifying assumptions underlying the synthetic control design differ from those in our main analysis. Whereas our difference-in-differences specification relies on parallel trends conditional on political vote share, the synthetic control approach assumes that a weighted combination of control brands can closely reproduce the treated brand's pre-treatment trajectory and would continue to do so in the absence of the endorsement (Abadie, 2021). In the synthetic difference-in-differences framework, identification instead relies on the assumption that untreated outcomes follow a factor structure and that this structure in the pre-treatment period can be balanced by appropriate unit and time weights (Arkhangelsky et al., 2021).

With these caveats in mind, we construct two different synthetic control groups as counterfactuals for Tesla registrations: one using synthetic difference-in-differences (SDiD, Arkhangelsky et al., 2021) and another using synthetic control (SC, Abadie et al., 2010). To smooth short-term fluctuations in Tesla's sales, we aggregate brand-specific sales at the quarter level. Figure 5a presents the results.[6] Overall, we observe a decline in Tesla sales relative to other brands in the post-endorsement period for both SDiD and SC. The ATT suggests a reduction in quarterly registrations of about –6500 and –11,700 (see Table C.8). Placebo randomization inference implies that these

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[6]Figure B.7 combines these results and furthermore reports counterfactual trends from an unweighted DiD specification, which does not align pre-treatment trends well across brands. This justifies our use of synthetic methods that explicitly target pre-treatment fit.

differences are statistically significant from zero. The total drop in Tesla sales for the two post quarters according to SDiD amounts to 13,000. That implies that sales in Q1–Q2/2025 were approximately 63% below the counterfactual level implied by SDiD. Assuming that all lost sales correspond to the lowest-priced Tesla Model 3 (approximately €37,000[7]), a conservative estimate of the resulting gross revenue shortfall is approximately €481 million over the first two quarters of 2025. A lower bound for this effect estimate under complete substitution would be half the effect size, so a reduction in quarterly registrations by about –6500/2 = − 3250 for the SDiD, and a reduction in gross revenue of €241 million. Our reading of these suggestive findings is that Musk's political activism did hurt German Tesla sales.

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[7]Base list price for the entry-level Model 3 in Germany, excluding fees; source: https://www.tesla.com/de_DE/model3/.

Figure 5: Observed and Counterfactual Trends in Tesla Sales

(a) Synthetic DiD

(b) Synthetic Control
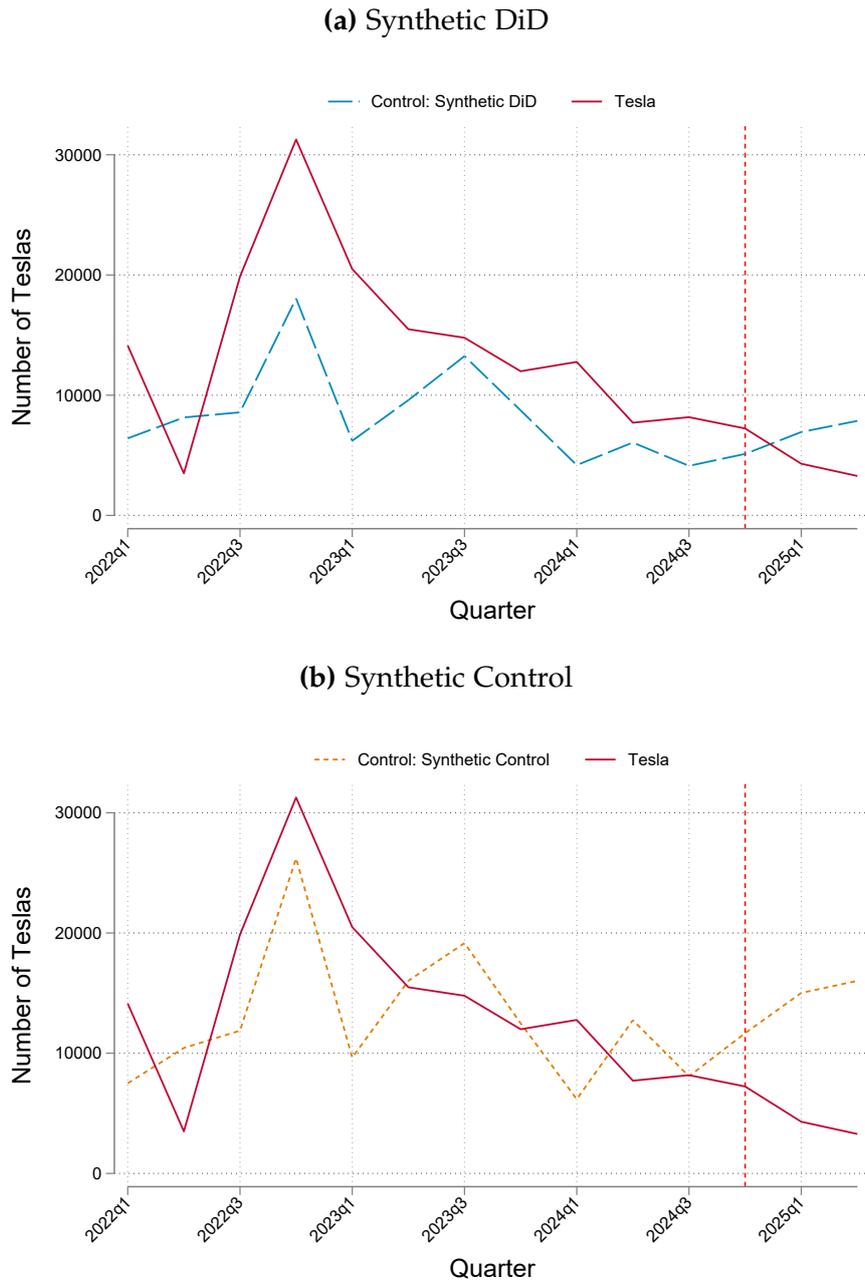
Notes: This figure presents results from the brand–quarter level analysis. Panel (a) plots observed Tesla sales and corresponding counterfactual trajectories constructed using synthetic difference-in-differences (SDiD), while panel (b) plots counterfactual trajectories using synthetic control (SC).

6 Conclusions

This paper provides evidence that corporate political activism can polarize consumer demand for high-value durable goods along partisan lines. Using Elon Musk's endorsement of the AfD in December 2024 as a quasi-experiment, we show that demand for Tesla reallocated along partisan lines: Tesla sales increased disproportion-

ately in politically right-leaning regions relative to left-leaning areas. However, we further document that gains in right-leaning regions did not offset the contraction in other areas; in aggregate, total sales declined by an amount we estimate to be in the hundreds of millions of euros. These findings suggest that the personal political positioning of high-profile business leaders can generate measurable and economically significant consequences in markets for high-value durable goods.

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Appendix (for online publication)

A Difference-in-differences

We also estimate difference-in-differences (DiD) models of the following form:

$$Y_{it} = \alpha + \beta \left(\text{Post}_t \times \text{POLOR}_i \right) + \gamma' \left(X_i \times \text{Post}_t \right) + \mu_i + \tau_t + \epsilon_{it} \qquad \text{(A.1)}$$

where Y_{it} denotes the number of new Tesla registrations in district i during month t. Post_t is an indicator for the post-endorsement period ($t >$ December 2024). POLOR_i captures the district's political orientation, measured by AfD (or Green) vote shares in the 2021 Federal or 2024 European elections. X_i represents a vector of time-invariant socio-economic controls, that we allow to have a differential effect in the post period. μ_i are district fixed effects that absorb time-invariant heterogeneity across regions, while τ_t are month fixed effects that capture aggregate trends common to all districts. The coefficient of interest, β, measures how the post-endorsement change in Tesla registrations varies with local political orientation. Standard errors are clustered at the level of the district. As the dependent variable, the number of Tesla registrations, is a count with many zeros, our main estimator is Poisson pseudo-maximum-likelihood (PPML).
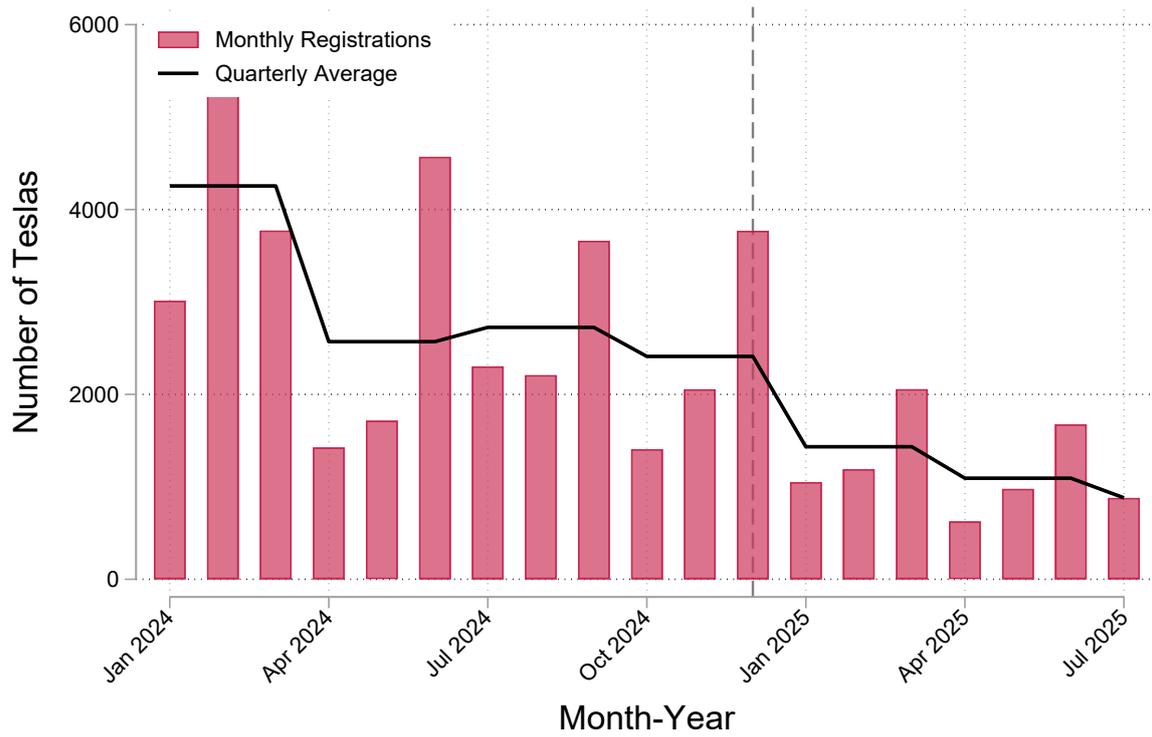
B Additional Figures

Figure B.1: Coverage of "Musk & AfD" in Online News
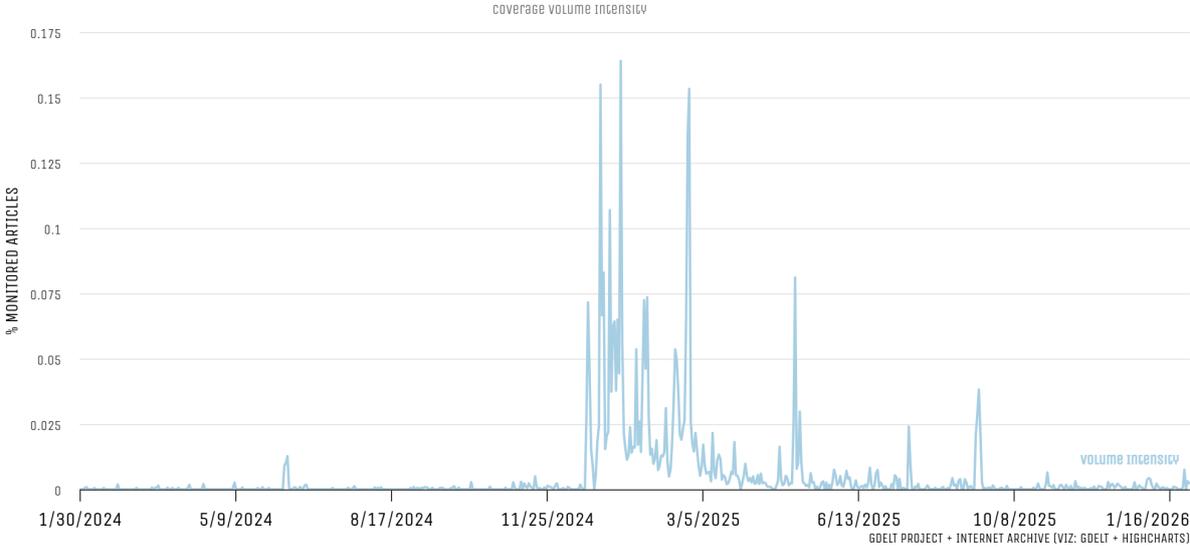
Notes: This figure displays the percent of articles in Online News (in Germany and in German) containing the keywords "Musk & AfD". Source: GDELT Online News Summary (https://api.gdeltproject.org/api/v2/summary/summary), accessed 1/28/2026.

Figure B.2: Tesla Registrations in Germany; January 2024 – July 2025
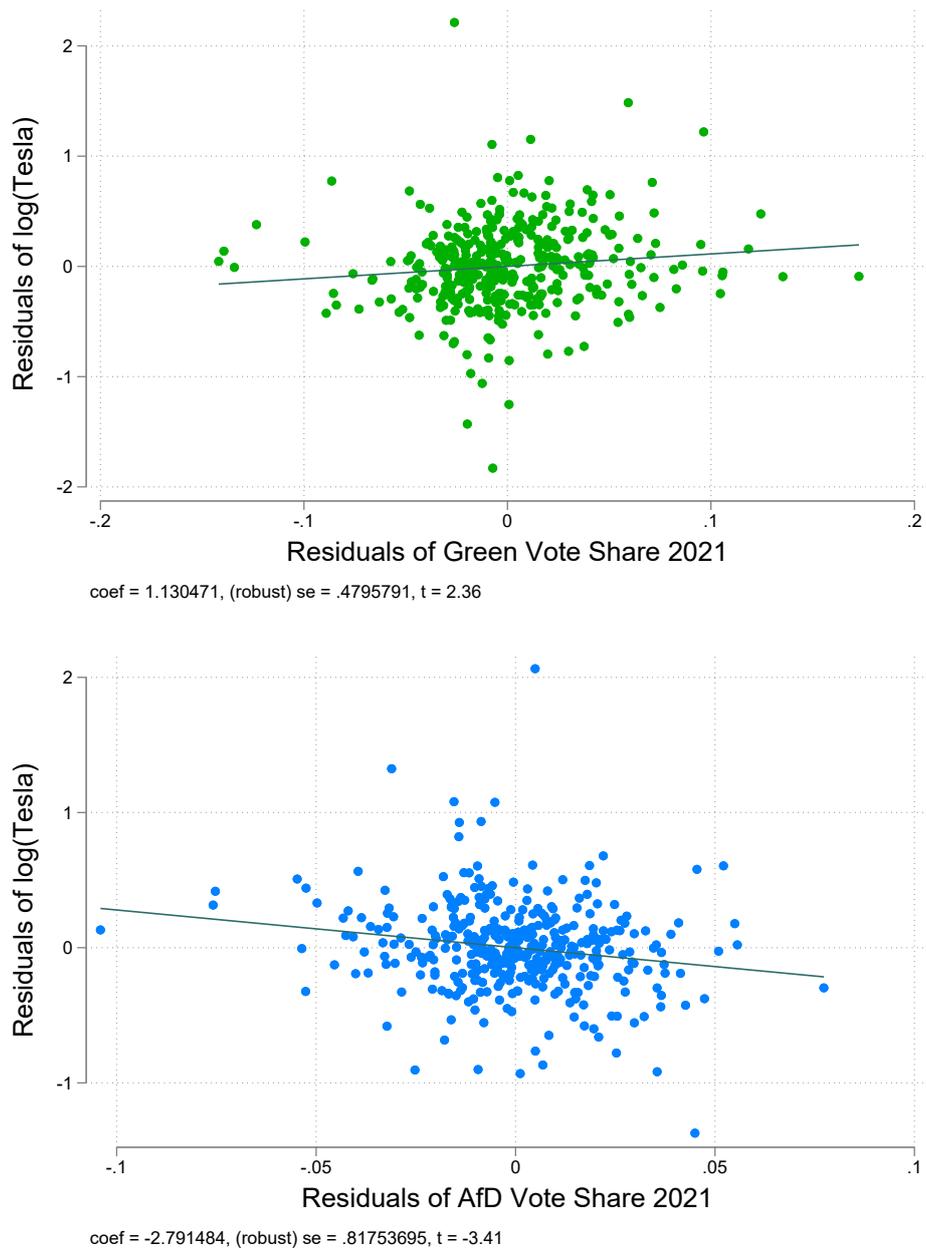

Notes: This figure displays the number of new Tesla registrations by month from January 2024 to July 2025, overlaid by quarterly averages.

Figure B.3: Private Used Tesla Listings in Germany; January 2024 – July 2025
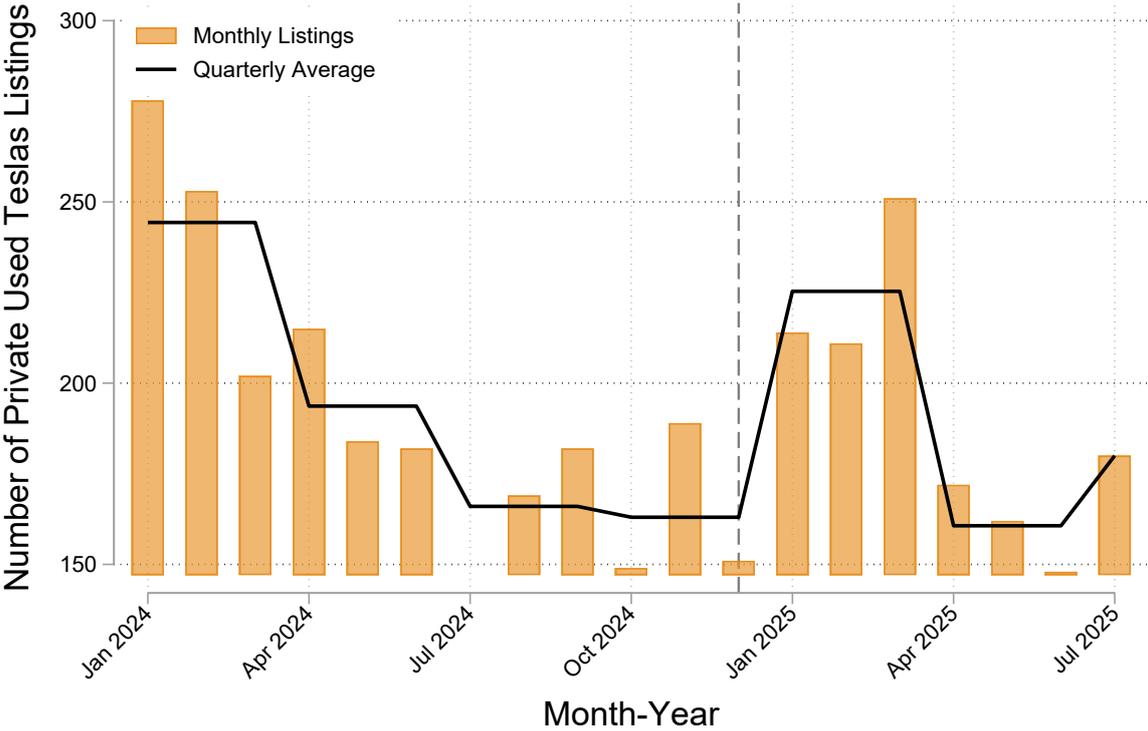
Notes: This figure displays the number of used Teslas listed on a large online used-car platform from January 2024 to October 2025, overlaid by quarterly averages.

Figure B.4: Political Orientation and Tesla Sales Before 2024

coef = 1.130471, (robust) se = .4795791, t = 2.36

coef = -2.791484, (robust) se = .81753695, t = -3.41

Notes: This figure displays residuals from regressions of the (log) total number of Tesla's registered per district in the years 2020-2023 on Green/AfD votes in the federal election of 2021, conditional on socio-economic controls and State fixed effects. Robust standard errors reported.

Figure B.5: AfD Support and Tesla Sales: Robustness
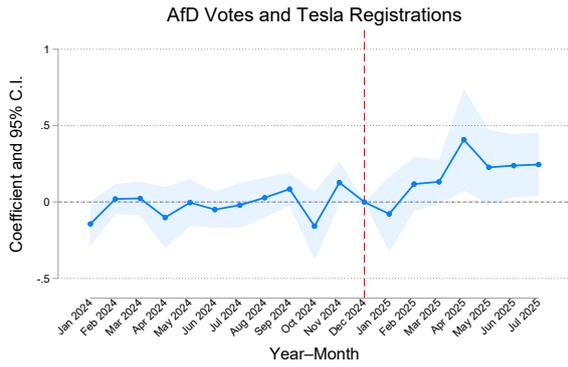
(a) PPML, baseline result
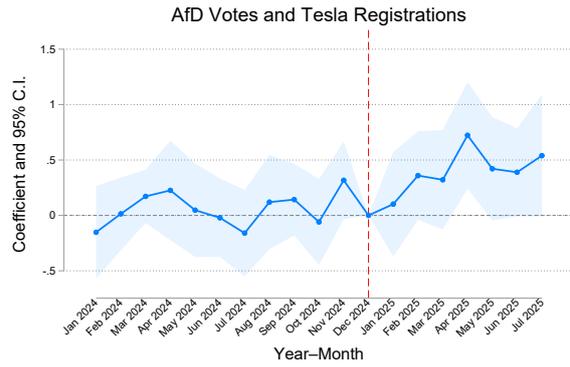
(b) OLS, population-weighted
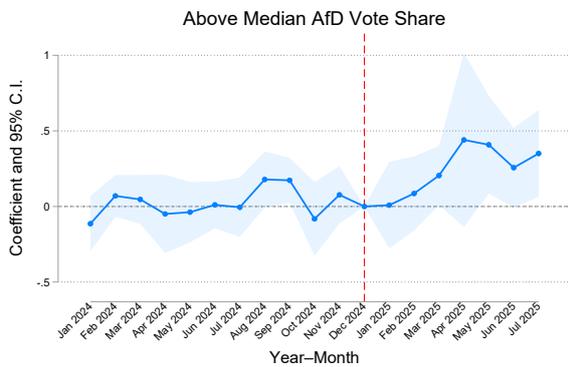
(c) PPML, median
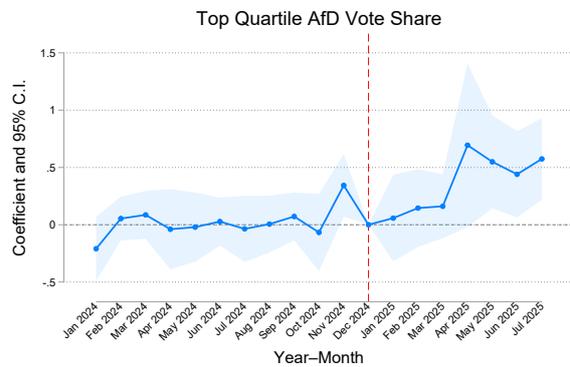
(d) PPML, top quartile

Notes: This figure displays results from event-study estimates. Panel (a) repeats the baseline PPML results for comparison. Panel (b) reports population-weighted OLS estimates. Panels (c) and (d) report PPML estimates, where the treatment group is defined as districts with above-median AfD support and top-quartile AfD support, respectively.

Figure B.6: Accounting for Delivery Lags

AfD Votes and Tesla Registrations 3 months later
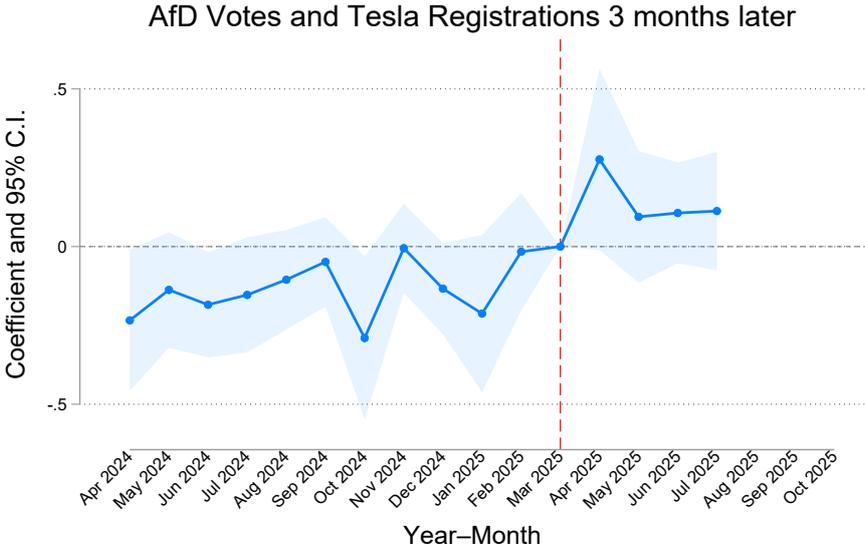
Notes: This figure displays results from event-study estimates where the outcome is moved 3 months forward to account for the lag between ordering and registering a Tesla ("delivery lag").

Figure B.7: Observed and Counterfactual Trends in Tesla Sales: all Methods
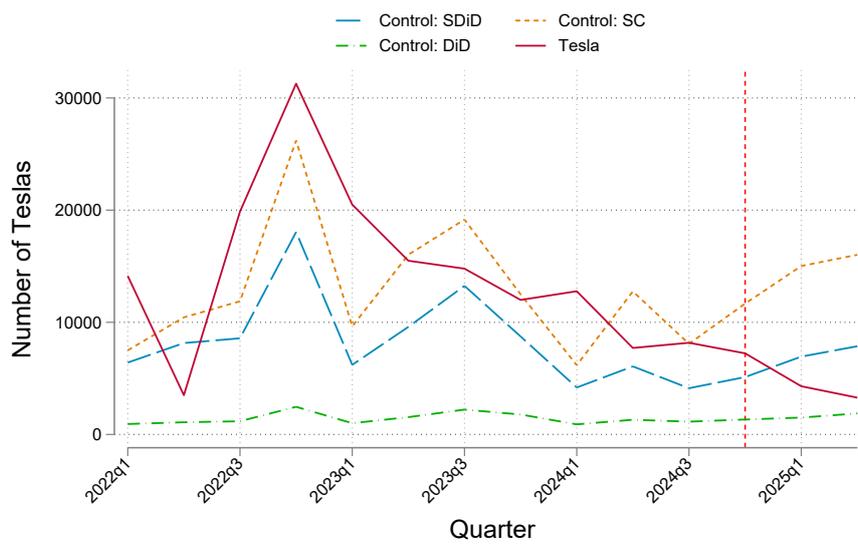
Notes: This figure presents results from the brand–quarter level analysis. It plots observed Tesla sales and corresponding counterfactual trajectories constructed using synthetic difference-in-differences (SDiD), synthetic control (SC), and difference-in-differences (DiD).

C Additional Tables

Table C.1: Timeline of Musk's Political Interventions in Germany

Date	Event
December 2024	Endorses AfD on X Op-ed in *Welt am Sonntag* Gov't accuses Musk of interference
January 2025	X broadcast with Alice Weidel AfD rally appearance
February 2025	Congratulates AfD
August 2025	Pro AfD post on X

Table C.2: Summary Statistics

	Mean	SD	Min	Max	N
Tesla Sales	5.8	13.6	0.0	342.0	7,581
EV Sales (Other)	72.7	165.2	0.0	2745.0	7,580
EV Sales (Non-German Brands)	29.2	72.7	0.0	1502.0	7,580
EV Sales (German Brands)	43.6	116.9	0.0	2414.0	7,580
Number of Private Used Tesla's Offered	0.5	1.1	0.0	19.0	7,524
Share of Private Used Tesla's Offered (x 1000)	1.1	2.9	0.0	66.7	7,505
AfD Vote Share (2021)	0.1	0.1	0.0	0.3	7,581
AfD Vote Share (2024)	0.2	0.1	0.0	0.4	7,581
Green Party Vote Share (2021)	0.1	0.1	0.0	0.4	7,581
AfD–Green Distance	-1.4	10.8	-31.6	27.7	7,581
AfD–Green Ratio	0.5	0.2	0.1	1.0	7,581
Log(Population)	12.0	0.7	10.5	15.1	7,581
Log(GDP)	10.2	0.2	9.9	10.9	7,562
Rurality	29.2	30.1	0.0	100.0	7,581
Unemployment Rate (%)	5.3	2.2	2.0	14.6	7,581
Share of High School Graduates (%)	30.4	8.9	0.0	58.0	7,581
EV Chargers per 100,000 Inhabitants	158.4	90.1	41.7	1133.0	7,581

Table C.3: AfD Support and Tesla Sales

	(1)	(2)	(3)	(4)	(5)	(6)
		Number	of Teslas		log(0.001+Teslas)	Any Tesla
	PPML	PPML	PPML	PPML	OLS	OLS
Post × AfD Share (std; 2021)	0.179***				0.344***	0.050***
	(0.067)				(0.093)	(0.016)
Post × AfD Share (std; 2024)		0.207***				
		(0.074)				
Post × Above Median AfD (2021)			0.191***			
			(0.074)			
Post × Top Quartile AfD (2021)				0.302**		
				(0.119)		
Mean of Outcome	5.8	5.8	5.8	5.8	-0.8	0.6
Observations	7,391	7,391	7,391	7,391	7,562	7,562
Adj. R²					0.561	0.468

Notes: The unit of observation is a district in month t. District and month fixed effects included. All regressions control for Post × Log(Population); × Log(GDP); × Rurality; × Unemployment; × High-School Graduates; × EV Chargers per capita. Standard errors in parentheses, clustered at the district level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C.4: AfD Support and Tesla Sales: Robustness

	(1)	(2)	(3)	(4)	(5)	(6)
			Number of Teslas			
					Placebo Post Period	
			Set of Controls		Post Dec 2022	Post Dec 2023
Post × AfD Share (std; 2021)	0.148**	0.148**	0.173**	0.179***		
	(0.063)	(0.063)	(0.069)	(0.067)		
Post-Event Dummy	-0.845***					
	(0.072)					
Placebo Post × AfD Share (std; 2021)					0.001	0.012
					(0.043)	(0.026)
Controls	None	None	Pop. / (log) GDP	All	All	All
Mean of Outcome	6.0	6.0	5.8	5.8	14.1	12.6
Observations	7,410	7,410	7,391	7,391	7,940	7,940

Notes: PPML regressions. The unit of observation is a district in month t. District and month fixed effects (except in Column (1)) included. The full set of controls includes Post × Log(Population); × Log(GDP); × Rurality; × Unemployment; × High-School Graduates; × EV Chargers per capita. Standard errors in parentheses, clustered at the district level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C.5: AfD / Green Vote Shares and Tesla Sales

	(1)	(2)	(3)
	Number of Teslas		
Post × Green Share (std; 2021)	-0.083*		
	(0.044)		
Post × Distance AfD - Green (2021)		0.015**	
		(0.006)	
Post × Ratio AfD / (AfD + Green) (2021)			0.690**
			(0.310)
Mean of Outcome	5.8	5.8	5.8
Observations	7,391	7,391	7,391

Notes: PPML regressions. The unit of observation is a district in month t. District and month fixed effects included. All regressions control for Post × Log(Population); × Log(GDP); × Rurality; × Unemployment; × High-School Graduates; × EV Chargers per capita. Standard errors in parentheses, clustered at the district level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C.6: Other EV Sales

	(1)	(2)	(3)	(4)	(5)
				Number of Other EV's	
		All Brands		Only German Brands	Only Non-German
Post × AfD Share (std; 2021)	0.007			0.047	-0.005
	(0.041)			(0.034)	(0.069)
Post × Green Share (std; 2021)		-0.025			
		(0.043)			
Post × Distance AfD - Green (2021)			0.002		
			(0.005)		
Mean of Outcome	70.8	70.8	70.8	42.5	28.3
Observations	7,561	7,561	7,561	7,561	7,561

Notes: PPML regressions. The unit of observation is a district in month t. District and month fixed effects included. All regressions control for Post × Log(Population); × Log(GDP); × Rurality; × Unemployment; × High-School Graduates; × EV Chargers per capita. Standard errors in parentheses, clustered at the district level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C.7: Used-Car Market

	(1)	(2)	(3)	(4)	(5)
	\multicolumn{4}{c}{Number of Private Used Tesla's Offered}	Share of Private Used Tesla's Offered (x 1000)
	PPML	PPML	PPML	PPML	OLS
Post × Green Share (std; 2021)	-0.014	-0.005			-25.568
	(0.055)	(0.059)			(794.548)
Post × AfD Share (std; 2021)		0.025			146.438
		(0.084)			(736.877)
Post × Above Median Green (2021)			0.012		
			(0.107)		
Post × Top Quartile Green (2021)				0.074	
				(0.095)	
Mean of Outcome	0.5	0.5	0.5	0.5	
Observations	6,878	6,878	6,878	6,878	2,192
Adj. R²					0.160

Notes: The unit of observation is a district in month t. District and month fixed effects included. All regressions control for Post × Log(Population); × Log(GDP); × Rurality; × Unemployment; × High-School Graduates; × EV Chargers per capita. Standard errors in parentheses, clustered at the district level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C.8: Aggregate Impact on Tesla Sales

	(1) Synthetic DID	(2) SC
Post-Endorsement Effect on Tesla Sales (ATT)	-6466.335***	-11726.210***
	(2017.273)	(2793.783)
Observations	896	896

Notes: The unit of observation is a brand in quarter t. ATT from synthetic difference-in-differences (SDiD) and a synthetic control (SC) specification. Placebo-based standard errors (in parentheses) use 500 replications. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.