

Pain at the Pump, Pain at the Polls? Global Evidence on Election Timing, State Capacity, and Gasoline Prices

Matthew D. Fails
Department of Political Science
Oakland University
371 Varner Drive
Rochester, Michigan 48309
USA
fails@oakland.edu

Forthcoming at the *Journal of Political Institutions and Political Economy*

Abstract

Why do environmentally and economically costly fossil fuel subsidies persist? One explanation may be election timing, since rising gasoline prices can harm a leader's reelection prospects. Drawing on theories of retrospective economic voting, I argue that incumbents reduce the risk of electoral backlash by controlling gasoline prices as an election nears, especially when they cannot offset rising prices with more comprehensive social assistance policies. I evaluate this argument using monthly gasoline price data from 1990-2015 for more than 90 democracies. I find that when incumbents are uncertain about their electoral prospects, the impact of a pending election on gasoline prices is negative in democracies with low state capacity, and the effect is economically meaningful in terms of reduced per-liter cost. The findings contribute to our understanding of the political determinants of fossil fuel subsidies, opportunistic business cycles, and the political and distributional challenges of adopting effective climate policy.

Keywords: fossil fuel subsidies, gasoline prices, climate policy, economic voting

Introduction

Governments regularly intervene to control the retail price of gasoline. Though the principal determinant of gasoline prices is movement in the global oil market –which no government can dictate – policymakers can minimize the extent to which rising supply costs are passed on to consumers. For instance, over recent decades dozens of countries have simply declared administrative price freezes, which can last anywhere from a few months to a few years at a time. Others use price stabilization funds to offset rising supply costs and keep pump prices lower. Still others cut or eliminate fuel taxes, force domestic fuel suppliers to hold down wholesale prices, limit or ban refined petroleum exports, or even force nationally-owned producers and refineries to operate at a loss (Kojima 2013; Couharde and Mouhoud 2020; Coady et al. 2017). Despite the diversity of methods, each constitutes a fossil fuel subsidy as they are government measures that reduce the cost of consumption (Drake and Skovgaard 2024: 1).

Publicly financed fossil fuel subsidies, including for the transportation fuels emphasized in this paper but also for coal and natural gas used for electricity generation, have predictable economic, environmental, and human costs. Fossil fuel subsidies encourage overconsumption, increase emissions of greenhouse gasses, and delay investments in clean energy (Drake and Skovgaard 2024; Arzaghi and Squalli 2023; McCulloch, Moerenhout and Yang 2021; Haring et al. 2023; Coady et al. 2019; Vieites et al. 2023; Sterner 2009). Economically, the most conservative estimates suggest that fossil fuel subsidies cost upwards of \$500 billion annually (Skovgaard and Van Asselt 2019, 2). Subsidized transportation fuels also lead to a variety of public health challenges, including higher rates of obesity (Colgan and Hinthorn 2021).¹ Even

¹ Transportation fuels include gasoline, diesel, and even liquified petroleum gasses such as butane and propane, which are used in certain settings. More detailed discussion of my specific measurement emphasis on gasoline prices can be found in the research design section.

when governments refrain from directly controlling prices, most continue to under-tax fossil fuel (and especially gasoline) consumption relative to the total negative externalities generated (Coady et al. 2019).

Given their wide-ranging costs, world leaders and intergovernmental agencies agree that effective climate policy requires phasing out these subsidies. Taking such actions, however, imposes steep economic costs on consumers and political costs on incumbents. It is unsurprising, then, that successful subsidy reform is rare and remains a critical gap in mitigating global climate change (Martinez-Alvarez et al. 2022; Nascimento et al., 2022; Rentschler and Bazilian 2017, 892). Alarming, the global scale of subsidies appears to be moving in the wrong direction; recent data show that total fossil fuel subsidies doubled from 2020 to 2021 as the global economy recovered from the COVID-19 pandemic (Organization for Economic Cooperation 2022), and likely crept higher still as energy prices spiked in 2022.

This paper focuses on the persistence of one particularly large and consequential class of fossil fuel subsidies, namely the various support mechanisms described above which governments can use to control retail gasoline prices. Gasoline subsidies account for a large share of transportation fuel subsidies, which in total account for nearly one-quarter of all energy related emissions globally (Mahdavi, Martinez-Alvarez, and Ross 2022). I rely on theories of economic retrospective voting (e.g. Healy and Malhotra 2013; Lewis-Back and Stegmaier 2000) to argue that democratic policymakers are especially willing to control gasoline prices when an election nears. Gasoline prices are easily observable and salient indicators of voter's personal economic fortunes and a government's broader economic competence. Both mechanisms suggest that rising prices can trigger electoral backlashes that threaten re-election prospects. Thus,

governments concerned about their electoral fortunes should be more willing to control gasoline prices as an election draws near.

However, this process will not unfold identically across all democracies. Instead, the effect will be concentrated in settings where voters do not believe the regime has sufficient capacity to offset the increased prices with more targeted or comprehensive social assistance policies. By contrast, voters that believe government can credibly provide alternative compensation programs are less likely to punish leaders electorally when retail gasoline prices rise. If the risk of electoral punishment is lower, the need for governments to control prices at election time also diminishes. As such, my theory can be viewed as a version of the “attentive electorate” thesis, which argues that though voters punish incumbents for economic misfortune (including from natural disasters which no government can control), they are also attentive to the actions of leaders to provide relief (e.g. Gasper and Reeves 2011; Bechtel and Hainmueller 2011; Heersink et al. 2022; Cole, Healey, and Werker 2012). The main theoretical modification is that rather than emphasize voter’s evaluations of direct action to compensate for economic hardship, I emphasize voter’s beliefs about the potential for compensating social assistance policies, as approximated by levels of state capacity.

I test this argument using monthly gasoline price data from the years 1990 – 2015 for more than 90 democratic regimes. I identify 376 elections where incumbents were not confident of victory before voting began; that is, where the prospects of an electoral backlash are largest. The monthly nature of the data allows me to construct a finely-grained measure of election proximity, which I then show has a negative and statistically significant impact on gasoline prices in democracies with low levels of state capacity. The impact of election proximity is economically meaningful in terms of the reduction in per-liter prices, and the results are robust to

a wide variety of measurement and modeling strategies. Given the generally rising oil and gasoline prices throughout much of the time period observed, evidence that prices *decrease* as an election nears provides strong support for the argument.

My findings contribute to three separate research agendas. First, the findings clarify how political institutions shape the size of fossil fuel subsidies and their persistence. Most prior work treats subsidies as tools of political survival. Blankenship and Urpelainen (2019: 424), for instance, note that governments use fuel subsidies “...to distribute resources to powerful interests in exchange for political support.” Consequently, many studies tend to emphasize domestic political institutions, especially regime type.² For instance, a number of studies argue that fuel prices will be lower in autocracies, since subsidies are highly visible to citizens, help reduce potentially destabilizing unrest, and are comparatively easily to implement, “even by inept autocratic leaders” (Strand 2013: 5; see also Victor 2009). By contrast, consumer prices are higher – and thus fuel subsidies lower – in democratic regimes. This logic rests on a number of familiar political economy arguments, including the larger winning coalitions in democracies which push leaders to favor broader and more comprehensive portfolios of public goods (McAlexander, Yang, and Urpelainen 2023: 4; van Beers and Strand 2013: 5-6; Bueno de Mesquita et al. 2005).

Though theoretically intuitive, the cross-national empirical evidence for this claim is mixed. Several papers, including Kim and Urpelainen (2016) and Overland (2010), report evidence that autocratic regimes have lower gasoline prices. Two recent articles (McAlexander, Yang, and Urpelainen 2023; Hankla, Rioja, and Valev 2023) examine how changes in global oil

² Zhang’s (2023) emphasis on transnational policy diffusion in fuel tax policy is a notable exception to this emphasis on domestic factors.

prices “pass through” to retail gasoline prices and find that democratic regimes are more responsive to these benchmark price changes – evidence that is consistent with the general argument that authoritarian regimes are more likely to subsidize prices. Yet others, most notably Mahdavi, Martinez-Alvarez, and Ross (2022), find no significant difference in the size of fuel subsidies between autocratic and democratic regimes.

My findings contribute to this literature by shifting the focus to price differences *within* regime types, which are larger (and arguably more theoretically interesting) than differences between autocratic and democratic average values. A cursory examination of the data is illustrative; while authoritarian regimes have lower average gasoline prices than democracies (\$0.85 versus \$1.23 USD per liter, respectively), the standard deviation is virtually identical in both groups, as are the minimum and maximum prices. Moreover, the range of values within regime types is quite large; in democracies, there is a roughly four-fold gap between the lowest ten percent and highest ten percent of prices.³

I build on a few recent studies that also examine variations within broad categories of political regimes, most notably McAlexander, Yang, and Urpelainen (2023). These authors show that democracies with low levels of institutional capacity are more likely to control gasoline prices, presumably because they are unable to adopt more efficient policy alternatives to cheaper fuel. Others studies emphasize different moderating factors or focus on variation within authoritarian regimes, and thus are less relevant to the study below. Martinez-Alvarez, Hazlett, Mahdavi and Ross (2023) emphasize leader transitions, although they find little evidence that new leaders or leaders with certain characteristics are more likely to reduce fossil fuel subsidies. Mahdavi, Martinez-Alvarez, and Ross (2022) test for an election timing effect on fuel prices and

³ See the sections below for a description of the data sources.

report null results, although they assume that any election timing effect would be universal across regime types and not conditioned by a moderating variable – two key differences from the argument I develop below. Finally, Hankla, Rioja, and Valev (2023) focus on variation within autocracies and argue that regimes with a weaker hold on political power have a greater incentive to control consumer prices.

Second, the findings contribute to an emerging literature in political science that studies when and where national climate policies can succeed. On the one hand, domestic politics in many democracies seem primed for aggressive climate action, including the adoption of national climate policies which phase out fossil fuel production and consumption to work toward net-zero targets. Pro-environmental Green parties have proliferated and mainstream parties have committed to addressing climate change (Furceri, Ganslmeier and Ostry 2023). Public concern for the climate emergency even persisted through the COVID-19 health and economic crises (Bergquist et al. 2023). However, climate policy adoption has been relatively slow; more than half of G-20 countries are behind in meeting their emissions reduction targets established in recent climate accords and important policy gaps remain (Nascimento et al, 2022).

A growing literature explains this by identifying the intersecting economic and political costs of effective climate policy. Such policies can, at least in the short term, lead to higher energy prices, job losses, and other spatially concentrated and highly visible negative externalities (e.g. Aklin and Mildemberger 2020; Stokes 2016; Zhang 2023). Democratic leaders thus face an intertemporal dilemma (Jacobs 2016), as effective climate policy is critical for long-run wellbeing but creates immediate distributional and electoral challenges for risk-averse elected leaders (Colgan, Green, and Hale 2021; Finnegan 2023). This tradeoff can explain a number of empirical puzzles beyond the slow rate of policy adoption, including the incomplete

implementation of climate policy. For instance, an early contribution to this literature is Bättig and Bernauer (2009), who show that democratic regimes struggle to move from political commitments to actual reductions in emissions, since the latter requires real economic consequences that might imperil the political survival of elected leaders.

My work builds on several papers which argue that leaders are especially hesitant to incur these costs at election time. For instance, Fankhauser, Gennaioli, and Collins (2015) find that democracies are less likely to adopt climate legislation immediately before an election and suggest that the mechanism is incumbent's fear of electoral backlash. Furceri, Ganslmeier, and Ostry (2023) find that passing climate change legislation has a larger negative effect on government's popularity and vote share when elections are near. Schulze (2021, 50) shows that democracies facing upcoming elections focus on "soft climate policies" – positive financial incentives for carbon-saving behavior, including subsidies for renewable energy sources – since "hard climate policies" like fossil fuel bans or tax increases would lead to economic costs that harm their electoral prospects.⁴

Finally, my emphasis on election timing means that this paper also contributes to the broad literature on opportunistic business cycles (Nordhaus 1975; Tufte 1978; Keech 1980). Empirical studies in this tradition typically emphasize how election timing influences macroeconomic outcomes. Where scholars have focused specifically on government subsidies, they tend to rely on disaggregated government spending categories (Drazen and Eslava 2010). However, aggregate categories of government spending on public services are likely to contain measurement error, including from the underlying reporting of data. Moreover, emphasizing

⁴ Though not emphasizing election timing, Finnegan (2023) is closely related, as he argues that leaders subject to high levels of political competition are especially fearful of letting energy prices rise.

government spending data assumes that citizens actually receive these intended benefits (Mazaheri 2017: 187), while measures like economic growth or inflation make an even larger assumption that voters view the economy in shared, objective terms sufficient to give credit or assign blame (Anderson 2007: 279).

By contrast, gasoline prices are observable, comparable across countries, directly impact voters' daily lives, and shape sociotropic evaluations of economic performance (Cheon, Urpelainen, and Lackner 2013). Subsidies that reduce retail prices are, relatively speaking, easier to implement for governments seeking to improve economic conditions before an election (Strand 2013). In sum, my focus on gasoline prices helps capture the kind of fiscal expansion – and subsequent improvement to citizen's economic well-being – that is at the heart of most business cycle theories.

Election Timing, State Capacity, and Gasoline Prices

My argument relies on the theory of retrospective economic voting, where voters use their personal pocketbook assessments and broader attitudes about the performance of the economy at large to evaluate incumbents (Fiorina 1981; Healy and Malhotra 2013). The canonical version emphasizes a punishment-reward mechanism; voters reward incumbents with reelection when the economy is performing well but punish incumbents by reducing their electoral support during economic hardship. Electoral punishment is not simply a desire to be vindictive when economic times are tough. To the contrary, voters use past performance to make a prospective decision about the economic competence of an incumbent versus an untested challenger. Of course, incumbents cannot control economic circumstances that precede an election, nor are they responsible for random events that reduce economic performance including

natural disasters and bad weather. Nevertheless, voters frequently punish incumbents in what Achen and Bartels (2016) call blind retrospection (see also Cole, Healy, and Werker 2012; Gasper and Reeves 2011).

This retrospective logic is particularly relevant to rising gasoline prices, which are easily visible. Voters can assess trends in retail fuel prices without any sophisticated political knowledge (Ansolobehere, Meredith, and Snowberg 2014). Gasoline consumption is also inelastic to price changes, so even comparatively small increases can have large impacts on household budgets (Kim and Yang 2022: 314). A number of studies have linked rising gasoline prices to lower incumbent approval ratings and vote shares (Harbridge, Krosnick, and Wooldridge 2016; Kim and Yang 2022; Ansolobehere, Meredith, and Snowberg 2014). Finnegan (2023: 1258) summarizes the argument bluntly: “vote-seeking politicians are reticent about drawing the ire of voters who prefer low energy prices.”

When domestic prices are already controlled – through price freezes, low taxes, or any other support mechanism – this same retrospective logic suggests that politicians will be hesitant to withdraw these supports as an election nears. Gasoline consumption subsidies hold retail prices at rates well below international benchmarks, so even modest reform efforts can raise pump prices dramatically. Doubling or even tripling of prices is possible, along with subsequent ripples across prices of other goods and services (Perry 2020; Coady et al. 2017). Moreover, these effects are near instantaneous, with prices rising overnight in many instances.

This risk is compounded by the unique political dynamics that tend to accompany suddenly rising gas prices. Large fuel price increases have sparked dozens of riots and other forms of political unrest over recent decades, including in rich countries and poor countries, democracies and non-democracies, and energy exporters and importers (McCulloch et al. 2023;

Valdamannati and de Soysa 2020). The risk of protest is especially high when citizens blame rising prices on government inaction (von Uexkull, Rod, and Svensson 2024). Rising gasoline prices can also serve as a focal point to unify otherwise fractious political opposition. Transport union members, whose profits are threatened by rising prices, can paralyze daily life in urban centers by striking (Houeland 2021). Each of these presents additional headwinds for incumbents seeking re-election.

However, the extent to which these negative economic trends translate into punishment for incumbents – and thus shape their incentive to control prices as an election nears – is not identical across all regimes. Here my theory draws on an extension to the economic retrospective voting model, typically described as the “attentive electorate” hypothesis. In this version, economic hardship does not reflexively translate into punishment at the polls. Instead, voters “assign praise or blame based on the authority and actions of the politician” (Gasper and Reeves 2011, 342).

Much of the evidence on attentive electorates comes from studies of government responses to natural disasters. Healy and Malhotra (2010), for instance, show that incumbent party presidential vote share can actually increase in the wake of tornado damage, so long as leaders make disaster declarations that release federal funds for rebuilding. Gasper and Reeves (2011) similarly show that voters who experience damaging severe weather condition their political response on whether governments intervened to mitigate the damage. Cole, Healy, and Werker (2012) provide evidence of similar processes in India, where vigorous response by the ruling party to bad weather that damaged crop yields reduced electoral punishment. Bechtel and Hainmueller (2011) provide further comparative evidence by showing that an effective response to devastating flooding by the ruling party in Germany lead to electoral gains that lasted multiple

election cycles.⁵ A particularly relevant study is Stokes (2016), who studies the electoral response to wind energy projects that offered diffuse benefits as part of an energy transition strategy but spatially-concentrated costs via reduced housing values, noise, and aesthetic concerns. Stokes shows that voters only punish the governing party responsible for the policy's implementation.

I modify this attentive electorate model in one important way. Rather than emphasize voters' evaluations of direct action to compensate for economic hardship, I emphasize the *potential* for compensating social assistance in the face of rising gasoline prices. One way to think about this potential is through the lens of credibility; survival-minded governments will signal their intention to assist citizens with the economic costs of rising gasoline prices. However, voters know that the various approaches to reducing fuel prices are administratively easy, requiring only a small fraction of the resources and capabilities required to offset rising costs with other redistributive programs or further investments in the quantity and quality of public goods like health care, education, housing stock, or transportation (Strand 2013). The key decision for voters is therefore whether they believe that such government promises of additional social assistance programs are credible.

Voters who assess such promises as credible are like the voters who avoid blind retrospective punishment, though the mechanism is an assessment of the potential for compensatory action rather than the direct observation of disaster declarations or the like. Such voters are less likely to engage in the punishment process implied by economic retrospective voting. From an incumbent's perspective, the reduced risk of an electoral backlash means that

⁵ The ability to undertake these more sophisticated decisions can also be moderated by political institutions, such as variations in the clarity of responsibility for policymaking (Powell and Whitten 1993), and whether voters and incumbents are co-partisans (Heersink et al. 2022).

the incentives to engage in the costly process of controlling gasoline prices are diminished. By contrast, voters who view such promises as lacking credibility are more likely to engage in this retrospective punishment. The absence of credible alternatives means that voters place a particularly high value on maintaining one specific policy that they believe their government can accomplish, namely keeping gasoline prices low. It is in these settings that governments should take particular care to control gasoline prices as an election nears. This constitutes the core testable hypothesis in this paper, namely that the effect of a pending election on governments' control of gasoline prices will be largest when incumbents cannot credibly commit to alternative compensatory programs.

Two separate literatures support this argument. The first is comprised of survey analysis that directly assesses citizens' attitudes toward fossil fuel subsidy removal. For instance, Kyle (2018) studies gasoline subsidies in Indonesia and shows that local corruption, as a signal of administrator's competence and impartiality, decreases public support for reform. This pattern is evident even amongst rural villagers who benefit the least from administratively set prices and would benefit the most from their replacement with more comprehensive and targeted social protection. Similarly, Hoy et al. (2023) examine survey data from 12 middle income countries and find that support for proposed fuel subsidy reform plummets amongst citizens who doubt the government's ability to implement alternative compensation programs. Broadly similar findings are also reported in McCulloch, Moerenhout, and Yang's (2021) study in Nigeria, Haring et al.'s (2023) cross-national survey, and Alkon and Urpelainen's (2018) focus on electricity subsidies in rural India. Each of these studies suggests that voters evaluate subsidy policy with specific reference to what governments can (and often cannot) provide in their place.

Second, the argument is consistent with several prominent political economy arguments that emphasize the connection between credibility and the persistence of inefficient policies. Acemoglu and Robinson (2001), for example, show formally that inefficient redistributive schemes such as farm subsidies persist because the current political system cannot credibly commit to future policy alternatives. Similarly, Keefer (2007) argues that political elites' inability to make credible commitments to voters leads to an excessive reliance on clientelist policies, including high levels of corruption, weak rule of law, and greater public spending.

How do voters assess the regimes' ability to provide compensating policies? I argue that the level of state capacity acts as a strong signal of the credibility of government commitments. In terms of the conditional hypothesis examined below, the level of state capacity should moderate the effect of election timing on government control of gasoline prices. Rising prices are more likely to trigger an electoral backlash when state capacity is low, so it is in these settings that incumbents should be particularly likely to control prices when an election nears.

In the simplest terms, state capacity represents the ability to “get things done” (Lindvall and Teorell 2016, 8). More specifically, state capacity refers to the power to achieve objectives (Lindvall and Teorell 2016, 7) or the material resources and organization necessary for states to implement policies and achieve goals (Cingolani 2013). These are mid-range views of the concept, between narrow versions emphasizing territoriality and the monopoly of violence and highly specific conceptualizations that examine individual policy areas or sectors and thus risk conflating the capacity to act with the decision to do so (Hanson and Sigman 2021, 1497). Yet even this view of state capacity contains multiple dimensions. States possess extractive capacities that facilitate the collection of revenue from their societies. Coercive capacities ensure that internal populations are protected, order is maintained, and laws are complied with.

Administrative capacities capture the organizational sophistication necessary to develop and implement policies and regulate other activities. As Hanson and Sigman note, these dimensions are “mutually constitutive and interrelated” and that “...significant strength in any one dimension likely requires at least some strength in the others” (2021: 1499,1508).

High levels of state capacity thus allow leaders to “do more with less” (Gilbreath and Turmanidze 2017: 219). This includes providing more benefits to supporters in the first place (as in Bueno de Mesquita et al. 2005), but should also allow leaders to boost goods to supporters to offset unanticipated economic shocks. By contrast, low levels of state capacity hamper leaders’ ability to extract resources and deliver public goods to their supporters. This too is rooted in existing political economy work. For instance, Bustikova and Corduneanu-Huci (2017) demonstrate that weak state capacity prevents political elites from credibly committing to the creation of public goods. As a result, low levels of state capacity are associated with greater reliance on clientelism, including higher rates of bribery and lower levels of government effectiveness.

Finally, it is important to note that this conditional expectation does not imply that voters and leaders in high-capacity democracies are ambivalent to higher gasoline prices. Rather, it implies that such voters view government promises to replace inefficient subsidies with comprehensive social assistance programs as more credible, and that such leaders have additional extractive and administrative capacities at their disposal to cushion the economic shock of rising fuel prices without alienating their supporters. Given this argument, higher prices are less likely to provoke the same kind of electoral backlash. When the likelihood of an electoral backlash is reduced, government’s pressure to keep prices low *as an election*

approaches is reduced. I leave a detailed analysis of the direct impact of state capacity on fuel prices for future work.

To the best of my knowledge, no prior study examines the interplay of election timing, state capacity, and fuel prices (or subsidies) across a large sample of countries. Mahdavi, Martinez-Alvarez, and Ross (2022) test a simple version of an election timing effect on a measure of the per-liter gasoline tax, using dummy variables to measure the four quarters before (and after) an election, but report null findings. However, their analysis differs considerably, most notably by assuming that any election timing effect would be universal across regime types and not conditioned by a moderating variable. As such, this analysis is a novel contribution to the literature.

Empirical Approach and Results

To test this argument, I assemble a dataset consisting of all electoral and liberal democratic regimes, as defined by Lührmann, Lindberg, and Tannenberg (2017), observed monthly. The time span of the dataset is determined by the availability of data measuring the dependent variable, namely the price of a liter of regular-graded gasoline, converted to constant US dollars. Fuel price data is from Martinez-Alvarez, Hazlett, Mahdavi, and Ross (2023), and includes monthly prices from 1990 through 2015, though gaps in coverage exist. In some analyses described below and in the Online Appendix, I included additional monthly data that extends the time frame through the end of 2018, thus including the post-2015 slump in the global price for oil and its refined products.⁶ Prices are reported for gasoline only, not other fuels used

⁶ Additional data obtained from globalpetrolprices.com. I follow the authors' approach to convert from prices in local currencies.

for transportation, such as ethanol or diesel fuel. However, gasoline is the most commonly used transportation fuel across countries, and pricing dynamics of other grades and fuels tend to be similar (Hankla, Rioja, and Valeev 2023: 81). Measuring fuel prices directly accords with the theoretical argument above, but also captures the end results of a wide-ranging set of interventions that governments can pursue to control retail prices. Nevertheless, I show in the Online Appendix that the results are identical if these retail prices are replaced with a measure of the price gap between retail prices and the international benchmark price for a liter of gasoline (Ross, Hazlett, and Mahdavi 2017).⁷

The sample is further constructed by revisiting the theoretical argument about when governments control fuel prices. The essential component is that an election must present sufficient possibility of an electoral backlash. This means, at a bare minimum, that the incumbent leader or ruling party is uncertain about their ability to prevail before the vote is held. Though all democratic regimes, as measured using the data described above, have free, fair, and multiparty elections for the executive and legislature, they do not all present equal levels of uncertainty over the outcome. In fact, according to expert-coded data from Hyde and Marinov (2012), specifically their variable *NELDA12*, incumbents were confident of victory before the balloting occurred in more than 40% of all elections held in democracies between 1990 and 2004 (though this share drops sharply in the remaining ten years in the sample). There is little reason to believe that incumbents who are confident of victory would devote the resources necessary to control

⁷ The global petroleum market is tightly integrated, thanks to the proliferation of oil producers, the fungibility of oil (where different grades can be blended to compensate for quality differences), and high trading volumes in interconnected markets. Domestic retail prices should, in the absence of government intervention, converge to a global benchmark, with only small exceptions for local transportation costs and differences in fuel quality (Kojima 2013: 5). My regression approach includes country fixed effects, so no matter if the retail price or the price gap to international benchmarks is used, the focus is on within-country variation.

gasoline prices. By contrast, leaders who are uncertain about their electoral prospects are, by definition, more focused on minimizing an electoral backlash brought on by high fuel prices. It is only in these elections where we expect governments to be most willing to control gasoline prices, especially when they cannot credibly commit to alternative compensatory programs. Put directly, the sample includes only those elections where incumbents were not confident of their victory ahead of election day. In conjunction with the other variables employed in the regression, this results in 376 executive or legislative elections.⁸

After identifying these elections, I construct a continuous measure of election proximity. I start by using Hyde and Marinov's (2012) data to identify the month that an election occurred. I then identify each month's position in an election cycle (i.e., the first month after an election, the second month after an election, etc.) and the total length of the election cycle, defined as the number of months between elections. Dividing the former by the latter creates a measure of *election proximity*; the value is 0 in an election month, 1.0 in the last month of the election cycle, and 0.5 at the midpoint. Thus, higher values indicate that an election is closer. Han (2022) and Michelitch and Utych (2018) use similar approaches with annual data. The baseline sample contains data for 91 democracies and more than 13,000 monthly observations across these 376 distinct elections and their corresponding *election proximity* values. Further details on the sample and descriptive statistics are reported in the Online Appendix.

I use Hanson and Sigman's (2021) latent variable approach to measure the second key independent variable, *state capacity*. Hanson and Sigman (2021) conceptualize state capacity as

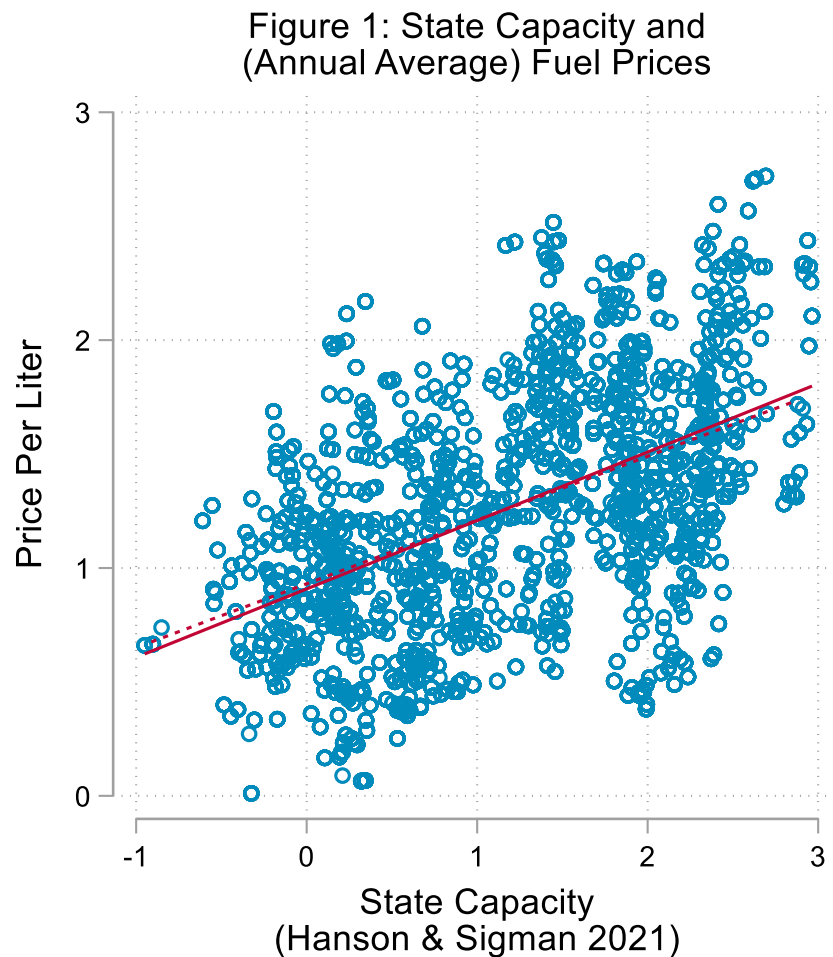
⁸ In the results presented below, I examine executive and legislative elections separately and find the expected effect in each sub-sample. I also examine the results when including all elections – that is, including those where incumbents were confident of victory ahead of time – in the sample and find, rather predictably, null results.

comprising extractive capacities that facilitate the collection of revenue, coercive capacities that maintain order, and administrative capacities sufficient to regulate activities and implement policies. Empirically, they collect data on more than 20 distinct indicators of these dimensions, including the frequency of census administration, measures of military expenditure, total tax revenues collected, and expert assessments of bureaucratic quality, to name only a few. Hanson and Sigman (2021) use Bayesian latent variable analysis to extract a single estimate from these inputs. This estimate serves as the main measure of *state capacity*; in the context of the argument above, higher values indicate a greater ability for states to credibly commit to and implement more targeted, comprehensive, and administratively complex social programs. This measure of *state capacity* is available annually through 2015. In the Online Appendix, I demonstrate that the results are robust to two alternative measures of the concept from the Varieties of Democracy project (Coppedge et. al, 2023), specifically an expert-coded measure of a state's fiscal capacity and a measure of the impartiality of the bureaucracy.⁹

My main empirical approach relies on two-way fixed effects regressions. Before proceeding, however, I use the data outlined above to address a few implications of the argument in descriptive fashion. First, I examine the relationship between the main measure of *state capacity* and gasoline prices. A key part of my argument is the positive correlation between these variables. Regimes with higher levels of state capacity are better able to provide a wide array of social assistance policies. Consequently, the political need to control gasoline prices should be lower, and thus retail prices should be higher. Figure 1 reports a simple examination of this

⁹ Each of these alternative measures of state capacity is included in Hanson and Sigman's (2021) latent variable approach. However, each variable is also available for a longer time period; therefore using these alternative measures independently also expands estimation sample to include three additional years of fuel price data (2016-2018). Results are reported in the Online Appendix, and are substantively identical to those reported in the main manuscript.

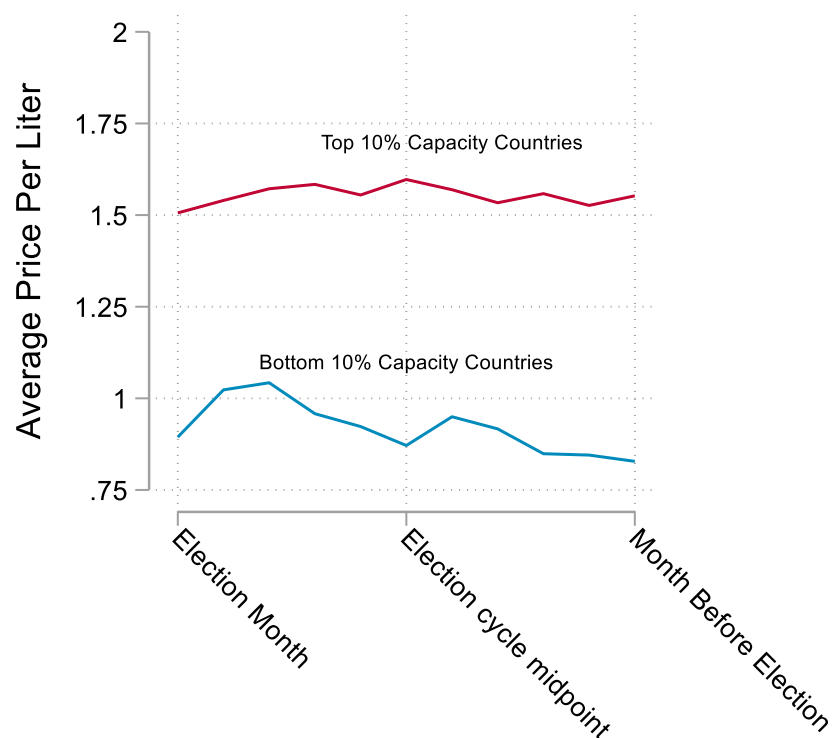
connection, namely a scatterplot of *state capacity* and *price per liter* (aggregated up to annual country averages) for the main estimation sample. Two linear fit lines are included. The solid line reflects the relationship between the variables measured annually, while the dashed line corresponds to simple country averages of each variable over the entire time period. As expected, higher levels of state capacity are associated with higher gasoline prices.



A second descriptive exercise tackles the core expectation in the argument directly, namely that low-capacity governments worried about an electoral backlash are more likely to control fuel prices as an election draws near. Specifically, Figure 2 uses the main regression estimation sample to identify “low” and “high” capacity countries, defined as the bottom and top

ten-percent of observations in terms of *state capacity*. Then, for each group, I calculate the average *price per liter* and plot these averages as the measure of *election proximity* increases. This is a blunt test – the figure averages prices across a wide array of countries included in each group and does not account for any potential confounding variables that might influence fuel prices or other country-specific factors. Yet the results are consistent with the expectations in the paper; for low-capacity democracies, average prices tend to decline as an election nears. For high-capacity democracies, by contrast, average prices are quite stable across election cycles.

Figure 2: Election Timing, State Capacity, and Fuel Prices



I test the hypothesis more precisely by estimating two-way fixed effect regressions with the measures of *election proximity*, *state capacity*, and their multiplicative interaction term as covariates. Standard errors are clustered on countries. The first model is the naïve regression that includes only these three covariates. I then estimate two additional regressions that include measures of potential confounders. The first includes a measure of GDP per capita, since subsidies may be larger in poorer settings, and oil income per capita, since hydrocarbon endowments can facilitate subsidies. These measures are obtained from the World Development Indicators and Ross and Mahdavi (2015), respectively.¹⁰ A second model adds a measure of *electoral democracy*, from Teorell et al. (2019), which accounts for the variations in political rights within this broadly inclusive sample of democracies. Country and time fixed effects account for unobserved heterogeneity between units and common time period shocks that may impact fuel prices, such as changes in the global oil market.

¹⁰ The Online Appendix demonstrates that the results are consistent when substituting the measure of oil income with a measure of proven oil reserves. This substitution also enlarges the time sample by three additional years.

Table 1: Two-Way Fixed Effects Regressions

	(1)	(2)	(3)
Election Proximity	-0.049** (0.022)	-0.061*** (0.022)	-0.060*** (0.022)
State Capacity	0.125 (0.098)	0.172 (0.115)	0.138 (0.109)
Election Proximity x State Capacity	0.026* (0.014)	0.035** (0.015)	0.034** (0.015)
(log) GDP per capita		-0.197 (0.202)	-0.209 (0.193)
(log) Oil income per capita		-0.024 (0.027)	-0.007 (0.024)
Electoral Democracy			2.176*** (0.624)
Countries/Observations	91/13,319	88/12,462	88/12,462

NOTE: Dependent variable is measure of gasoline price per liter. Standard errors clustered on countries in parentheses. Sample is democratic regimes, observed monthly from 1990-2015. Country and year-month fixed effects and constant also included. *State Capacity* is Hanson & Sigman's (2021) latent variable measure.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The results are reported in Table 1. Across each model reported, the interaction term is positive and statistically significant, while the measure of *election proximity* has a negative and statistically significant coefficient. This suggests that pending elections have negative impacts on gasoline prices in low-capacity settings. The gradual inclusion of additional control variables does not alter these conclusions. To further explore the results, Figure 3 plots the marginal effect of *election proximity* on the per liter price of gasoline, across the range of observed values *state capacity*. Figure 3 uses the estimates from Table 1 (model 3). The histogram reports observed values of the moderating variable.

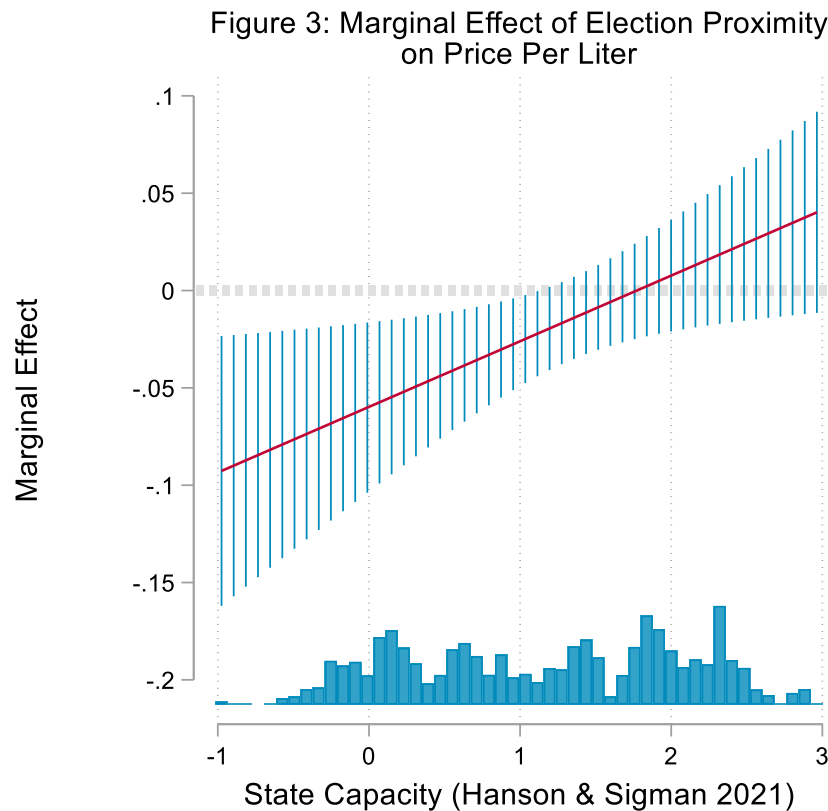


Figure 3 demonstrates that in low-capacity democracies, the marginal effect of *election proximity* is negative. Substantively, this implies that gasoline prices decrease as an election draws near. The effect is statistically significant for values of the moderating variable that encompass roughly half of the estimation sample. Though the analysis focuses only on the observed price shifts, and not the choice of specific policy levers such as increasing subsidies, reducing taxes, or otherwise intervening in markets, these results must nevertheless be set against a time period where for the vast majority of observed months, gasoline prices were trending upward. Evidence that prices *decrease* when elections near is consistent with the theoretical argument advanced above on the strategic need to control prices to avoid electoral backlash. The results are also economically meaningful – at low levels of the moderating variable, the expected per-liter price reduction is between 5 and 15 cents per liter. On the high end, this represents more

than ten percent of the average per-liter price across the entire sample. Put differently, amongst low-capacity democracies, a pending election is associated with up to a ten-percent decline in consumer gasoline prices.

Table 2: Two-Way Fixed Effects Regressions, Robustness Analyses

	(1)	(2)	(3)	(4)	(5) Executive Elections	(6) Legislative Elections
Election Proximity	-0.059** (0.022)	-0.060*** (0.022)	-0.058** (0.023)	-0.060*** (0.022)	-0.052* (0.031)	-0.060*** (0.022)
State Capacity	0.152 (0.107)	0.143 (0.112)	0.147 (0.110)	0.138 (0.110)	0.085 (0.129)	0.270** (0.131)
Election Proximity x State Capacity	0.033** (0.015)	0.034** (0.015)	0.033** (0.016)	0.034** (0.015)	0.044* (0.025)	0.029** (0.014)
(log) GDP per capita	-0.206 (0.192)	-0.248 (0.196)	-0.223 (0.199)	-0.209 (0.192)	0.407 (0.262)	-0.409 (0.265)
(log) Oil income per capita	-0.012 (0.023)	-0.009 (0.027)	-0.004 (0.022)	-0.007 (0.024)	-0.068* (0.039)	0.030 (0.025)
Electoral Democracy	2.189*** (0.622)	2.117*** (0.637)	2.215*** (0.632)	2.144*** (0.792)	2.262*** (0.653)	2.260** (0.926)
Presidential	-0.184** (0.082)					
Proportional Representation		0.051 (0.086)				
Executive Ideology			-0.041*** (0.015)			
Regime corruption				-0.036 (0.293)		
Observations	88/12,462	87/12,283	86/11,917	88/12,462	55/4,544	65/7,917

NOTE: Dependent variable is measure of gasoline price per liter. Standard errors clustered on countries in parentheses. Sample is democratic regimes, observed monthly from 1990-2015. Country and year-month fixed effects and constant also included. *State Capacity* is Hanson & Sigman's (2021) latent variable measure. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

These results are robust to a wide array of modifications to measurement and modeling choices. Table 2 presents these results as regression coefficients only, as space constraints preclude the inclusion of the relevant marginal effects plot for each robustness check. Models 1 through 4 examine the robustness of the findings to the inclusion of additional control variables capturing plausible confounding variables. These include measures identifying presidential systems, regimes that use proportional representation electoral rules for legislatures, the ideological orientation of executives, and the level of corruption.¹¹ These additional variables generate a few interesting findings. Presidential regimes tend to have lower prices per liter, perhaps because directly elected executives are particularly vulnerable to economic dissatisfaction amongst voters (Gasper and Reeves 2011). Executives from leftist political parties are also associated with lower fuel prices. Models 5 and 6 return to the main specification from Table 1, but focus only on executive and legislative elections, respectively. Across each of these specifications, the core empirical result – the positive and statistically significant interaction term and the negative and statistically significant coefficient for *election proximity* – is consistent.

The Online Appendix contains a variety of additional robustness analyses, including replicating the results presented above with two alternative measures of *state capacity*. I also present regression results that include alternative measures of oil production, such as the per-capita value of oil and gas exports and proven oil reserves, and regressions that substitute Ross, Hazlett, and Mahdavi’s “price-gap” measure of implicit gasoline subsidy as the dependent variable. Section 5 in the Online Appendix provides further rationale for excluding from the sample those elections where incumbents were confident of victory ahead of time, and

¹¹ See the descriptive statistics table in the Online Appendix for a full description of these variables and their sources.

demonstrates that including such elections in the sample produces null results. Finally, I test for non-linearities in the interaction effect, following Hainmueller, Mummolo, and Xu's (2019) approach. Interested readers should consult the Online Appendix for a full presentation, though none of these alternative approaches overturns the findings presented above.

Conclusion

Publicly funded fossil fuel subsidies impose large economic and environmental costs yet have been difficult to phase out. This paper has explained the persistence of one large class of such subsidies, namely the various support mechanisms that governments employ to control the retail price of gasoline. Drawing on theories of retrospective economic voting, this paper developed a modified version of the attentive electorate hypothesis, where rising gasoline prices raise the risk of an electoral backlash, especially when voters do not believe the government has sufficient capacity to take compensating action. Analysis of monthly gasoline price data allowed a precise examination of how election proximity is associated with reduced prices in such regimes. The negative effect is economically meaningful and robust to a wide array of measurement and modeling variations.

These results help resolve long-standing debates in the literature about how political institutions shape the size and persistence of this important class of fossil fuel subsidies. At the same time, they also encourage future studies on follow-up questions, such as whether certain kinds of regimes (for instance, domestic oil producers) are more likely to adopt a specific subsidy strategy like limiting pass-through of rising supply costs than other approaches, whether efforts to reduce fuel prices before elections actually improve incumbent's electoral fortunes, and if so, how and under what circumstances.

My findings also speak to the discipline's growing recognition that competitive democratic elections may present barriers to adopting effective climate policy, especially because energy transition policies have distributive consequences. A number of studies now convincingly link costly climate policy to losses for incumbent governments (e.g. Stokes 2016), though the political consequences do not stop there. For instance, Voeten (2024) examines how a policy change that increased taxes on fossil fuel energy to fund subsidies for green energy alternatives resulted in an increasing vote share for radical right parties, especially amongst voters who already spent a large share of household income on energy bills. As such parties typically oppose energy transition policies, adopting climate policy legislation risks undermining future success by further empowering such actors. The key innovation in my paper is the precise focus on election timing. Nevertheless, the findings should be viewed as contributing to the field's understanding of how electoral politics and climate policy interact.

My results provide additional evidence of key tenets of this literature, including how the distributive consequences of energy transition policies shape national, sub-national, and even international climate policy. Colgan, Green, and Hale's (2021) approach, for example, argues that energy transition policies create distributive challenges between actors whose assets accelerate climate change and those whose assets are vulnerable to climate change. It is these distributional struggles, as opposed to a failure of collective action, that shapes climate policy. In their model, obstructionist behavior by actors whose assets are disproportionately harmed by energy transition policies – e.g. oil field owners – can prevent the adoption of effective climate policy.

Scholars have already applied a similar logic to the study of gasoline subsidies. For example, Blankenship and Urpelainen (2019) argue that retail gasoline subsidies persist in part because of their more diffuse usage across a large number of middle-class households. Reform would concentrate the losses in a politically important group of voters. My results are consistent with this argument; a pending election provides a built-in opportunity for such climate “obstructionism,” as office-seeking politicians are especially hesitant to cause economic harm to a broad group of voters.

This winner-versus-loser distributional challenge is further compounded by the intertemporal nature of effective climate policy. Addressing climate change requires the imposition of costly policies today, with the full benefits only emerging years or decades into the future. Of course, climate change is not the only social problem with this temporal dimension (Jacobs 2016) and decades of scholarship has connected incumbents’ reelection pressures to the underinvestment in long-term policies to improve societal welfare (e.g, Keech 1980). Nevertheless, the scope of the climate change problem, and the consequences of failing to mitigate the worst consequences, requires that scholars and policymakers alike have a clear view of these challenges.

References

- Acemoglu, Daron, and James A. Robinson. 2001. "Inefficient Redistribution." *American Political Science Review* 95(3): 649-661.
- Achen, Christopher H., and Larry M. Bartels. 2016. *Democracy For Realists: Why Elections Do Not Produce Responsive Government*. Princeton, NJ: Princeton University Press.
- Aklin, Michaël, and Matto Mildenberger. 2020. "Prisoners of the Wrong Dilemma: Why Distributive Conflict, Not Collective Action, Characterizes the Politics of Climate Change." *Global Environmental Politics* 20(4): 4-27.
- Alkon, Meir, and Johannes Urpelainen. 2018. "Trust in government and subsidy reform: evidence from a survey of Indian farmers." *Studies in Comparative International Development* 53: 449-476.
- Anderson, Christopher J. 2007. "The end of economic voting? Contingency dilemmas and the limits of democratic accountability." *Annual Review of Political Science* 10: 271-296.
- Ansolabehre, Stephen, Marc Meredith, and Erik Snowberg. 2014. "Macro-Economic Voting: Local Information and Micro-Perceptions of the Macro-Economy." *Economics & Politics* 26(3): 380-410.
- Arzaghi, Mohammad, and Jay Squalli. 2023. "The Environmental Impact of Fossil Fuel Subsidy Policies." *Energy Economics*: 106980.
- Bättig, Michèle B., and Thomas Bernauer. 2009. "National institutions and global public goods: are democracies more cooperative in climate change policy?." *International organization* 63(2): 281-308.
- Bechtel, Michael M., and Jens Hainmueller. 2011. "How lasting is voter gratitude? An analysis of the short-and long-term electoral returns to beneficial policy." *American journal of political science* 55(4): 852-868.
- Bergquist, Parrish, Gabriel De Roche, Erick Lachapelle, Matto Mildenberger, and Kathryn Harrison. 2023. "The politics of intersecting crises: The effect of the COVID-19 pandemic on climate policy preferences." *British Journal of Political Science* 53(2): 707-716.
- Blankenship, Brian, and Johannes Urpelainen. 2019. "How Do Sectoral Interests Shape Distributive Politics? Evidence from Gasoline and Diesel Subsidy Reforms." *Review of Policy Research* 36.4: 420-447.
- Bueno de Mesquita, Bruce, Alastair Smith, Randolph Siverson, and James Morrow. 2005. *The Logic of Political Survival*. Cambridge, MA: The MIT Press.
- Bustikova, Lenka, and Cristina Corduneanu-Huci. 2017. "Patronage, trust, and state capacity: The historical trajectories of clientelism." *World Politics* 69.2: 277-326.
- Cerda, Rodrigo, and Rodrigo Vergara. 2008. "Government subsidies and presidential election outcomes: evidence for a developing country." *World Development* 36.11: 2470-2488.
- Cheon, Andrew, Johannes Urpelainen, and Maureen Lackner. 2013. "Why do governments subsidize gasoline consumption? An empirical analysis of global gasoline prices, 2002–2009." *Energy Policy* 56: 382-390.
- Cingolani, Luciana. 2013. "The State of State Capacity: a review of concepts, evidence and measures."
- Coady, David, et al. 2017. "How large are global fossil fuel subsidies?" *World Development* 91: 11-27.

- Coady, David, Ian Parry, Nghia-Piotr Le, and Baoping Shang. 2019. "Global Fossil Fuel Subsidies Remain Large: An Update Based on Country-Level Estimates." *IMF Working Paper WP/19/89*.
- Cole, Shawn, Andrew Healy, and Eric Werker. 2012. "Do voters demand responsive governments? Evidence from Indian disaster relief." *Journal of development economics* 97(2): 167-181.
- Colgan, Jeff D. 2014. "The Emperor Has No Clothes: The Limits of OPEC in the Global Oil Market." *International Organization* 68: 599-632.
- Colgan, Jeff D., and Miriam Hinthorn. 2021. "Is cheap gasoline killing us? Fuel subsidies and under-taxation as a driver of obesity and public health problems worldwide." *Energy Research & Social Science* 82: 102316.
- Colgan, Jeff D., Jessica F. Green, and Thomas N. Hale. 2021. "Asset revaluation and the existential politics of climate change." *International Organization* 75(2): 586-610.
- Coppedge, Michael et al. 2022. "V-Dem Codebook v12." Varieties of Democracy (V-Dem) Project.
- Couharde, Cecile, and Sara Mouhoud. 2020. "Fossil Fuel Subsidies, Income Inequality, and Poverty: Evidence from Developing Countries." *Journal of Economic Surveys* 34 (5): 981-1006.
- Drake, Evan, and Jakob Skovgaard. 2024. "Do Political Institutions Influence the Dismantling of Fossil Fuel Subsidies? Lessons from the OECD Countries and a Comparative Analysis of Canadian and German Production Subsidies." *Journal of Comparative Policy Analysis: Research and Practice* 2024:1-16.
- Drazen, Allan, and Marcela Eslava. 2010. "Electoral manipulation via voter-friendly spending: Theory and evidence." *Journal of Development Economics* 92.1: 39-52.
- Finnegan, Jared J. 2023. "Changing Prices in a Changing Climate: Electoral Competition and Fossil Fuel Taxation." *Comparative Political Studies* 56(8): 1257-1290.
- Fiorina, Morris P. 1981. *Retrospective Voting in American National Elections*. New Haven, CT: Yale University Press.
- Frankhauser, Sam, Caterina Gennaioli, and Murray Collins. 2015. "The Political Economy of Passing Climate Change Legislation: Evidence from a Survey." *Global Environmental Change* 35: 52-61.
- Furceri, Davide, Michael Ganslmeier, and Jonathan Ostry. 2023. "Are climate change policies politically costly?" *Energy Policy* 178: 113575.
- Gilbreath, Dustin, and Koba Turmanidze. 2017. "The self-defeating game: how state capacity and policy choice affect political survival." *Caucasus Survey* 5.3: 216-237.
- Hainmueller, Jens, Jonathan Mummolo, and Yiqinq Xu. 2019. "How Much Should We Trust Estimates from Multiplicative Interaction Models? Simple Tools to Improve Empirical Practice." *Political Analysis* 27(2): 163-192.
- Han, Kangwook. 2022. "Political Budgetary Cycles in Autocratic Redistribution." *Comparative Political Studies* 55(5): 727-56.
- Hankla, Charles, Felix Rioja, and Neven Valev. 2023. "The Political Economy of "Green" Regulation: Evidence from Fuel Price Markets." *Comparative Politics*
- Hanson, Jonathan K., and Rachel Sigman. 2021. "Leviathan's Latent Dimensions: Measuring State Capacity for Comparative Political Research." *Journal of Politics* 83(4): 1495-1510.

- Harbridge, L., Krosnick, J. A., & Wooldridge, J. M. (2016). "Presidential approval and Gas prices: Sociotropic or Pocketbook Influence? In Jon A. Krosnick, I-Chant A. Chiang, and Tobias H. Stark (Eds.) *Political psychology: New explorations*, 246–275. Taylor and Francis.
- Harring, Niklas, Erik Jonsson, Simon Matti, Gabriela Mundaca, and Sverker C. Jagers. 2023. "Cross-National Analysis of Attitudes Toward Fossil Fuel Subsidy Removal." *Nature Climate Change* 13: 244-249.
- Healy, Andrew, and Neil Malhotra. 2010. "Random events, economic losses, and retrospective voting: Implications for democratic competence." *Quarterly journal of political science* 5(2): 193-208.
- Healy, Andrew, and Neil Malhotra. 2013. "Retrospective voting reconsidered." *Annual review of political science* 16: 285-306.
- Heersink, Boris, Jeffery A. Jenkins, Michael P. Olson, and Brenton D. Peterson. 2020. "Natural disasters, 'partisan retrospection,' and US presidential elections." *Political Behavior*: 1-22.
- Houeland, Camilla. 2021. "Labour Resistance Against Fossil Fuel Subsidies Reform: Neoliberal Discourses and African Realities." In *The Palgrave Handbook of Environmental Labour Studies*, N. Räthzel et al., eds., 493-516.
- Hyde, Susan D., and Nikolay Marinov. 2012. "Which Elections Can Be Lost?" *Political Analysis* 20(2): 191–210.
- Jacobs, Alan M. 2016. "Policy making for the long term in advanced democracies." *Annual Review of Political Science* 19: 433-454.
- Keech, William R. 1980. "Elections and macroeconomic policy optimization." *American Journal of Political Science* 24(2): 345-367.
- Keefer, Philip. 2007. "Clientelism, Credibility, and the Policy Choices of Young Democracies." *American Journal of Political Science* 51(4): 804-821.
- Kim, Sung Eun, and Johannes Urpelainen. 2016. "Democracy, Autocracy and the Urban Bias: Evidence from Petroleum Subsidies." *Political Studies* 64(3): 552-572.
- Kim, Sung Eun, and Joonseok Yang. 2022. "Gasoline in the Voter's Pocketbook: Driving Times to Work and the Electoral Implications of Gasoline Price Fluctuations." *American Politics Research* 50(3): 312-319.
- Kojima, Masami. 2013. "Petroleum product pricing and complementary policies: experience of 65 developing countries since 2009." *World Bank Policy Research Working Paper* 6396 (2013).
- Kyle, Jordan. 2018. "Local Corruption and Popular Support for Fuel Subsidy Reform in Indonesia." *Comparative Political Studies* 51(11): 1472-1503.
- Lewis-Beck, Michael S., and Mary Stegmaier. 2000. "Economic determinants of electoral outcomes." *Annual review of political science* 3(1): 183-219.
- Lindvall, Johannes, and Jan Teorell. 2016. *State capacity as power: a conceptual framework*. Department of Political Science, Lund University
- Lührmann, Anna, Staffan Lindberg, and Marcus Tannenbergh. 2018. "Regimes of the World: Opening New Avenues for The Comparative Study of Political Regimes." *Politics & Governance* 6(1): 60-77.
- Mahdavi, Paasha, Cesar B. Martinez-Alvarez, and Michael L. Ross. 2022. "Why Do Governments Tax or Subsidize Fossil Fuels?" *Journal of Politics* DOI: 10.1086/719272

- Martinez-Alvarez, Cesar, Chad Hazlett, Paasha Mahdavi, and Michael L. Ross. 2022. "Political Leadership Has Limited Impact on Fossil Fuel Taxes and Subsidies." *Proceedings of the National Academy of Sciences* 119(47): e2208024119
- Mazaheri, Nimah. 2017. "Oil, dissent, and distribution." *World Development* 99: 186-202.
- McAlexander, Richard J., Joonseok Yang, and Johannes Urpelainen. 2023. "Political regime, institutional capacity, and inefficient policy: Evidence from gasoline subsidies." *Review of Policy Research* 1-22.
- McCulloch, Neil, Davide Natalini, Naomi Hossain, and Patricia Justino. 2022. "An Exploration of the Association Between Fuel Subsidies and Fuel Riots." *World Development* 157: 105935.
- McCulloch, Neil, Tom Moerenhout, and Joonseok Yang. 2021. "Fuel Subsidy Reform and the Social Contract in Nigeria: A Micro-Economic Analysis." *Energy Policy* 156: 112336.
- Michelitch, Kristin, and Stephen Utych. 2018. "Electoral Cycle Fluctuations in Partisanship: Global Evidence from Eighty-Six Countries." *Journal of Politics* 80(2): 412-427.
- Nascimento, Leonardo et al. 2022. "Twenty Years of Climate Policy: G20 Coverage and Gaps." *Climate Policy* 22(2): 158-174.
- Nordhaus, William D. 1975. "The Political Business Cycle." *The Review of Economic Studies* 42(2): 169-190.
- Organization for Economic Cooperation. 2022. "Support for Fossil Fuels Almost Doubled in 2021, Slowing Progress Toward International Climate Goals." <https://www.oecd.org/environment/support-for-fossil-fuels-almost-doubled-in-2021-slowing-progress-toward-international-climate-goals-according-to-new-analysis-from-oecd-and-iea.htm>
- Overland, Indra. 2010. "Subsidies for fossil fuels and climate change: a comparative perspective." *International Journal of Environmental Studies*, 67(3), 303-317.
- Parry, Ian, Simon Black, and Nate Vernon. 2021. "Still Not Getting Energy Prices Right: A Global and Country Update of Fossil Fuel Subsidies." *IMF Working Paper* 21-236.
- Perry, Keston K. 2020. "For Politics, People, or the Planet? The Political Economy of Fossil Fuel Reform, Energy Dependence and Climate Policy in Haiti." *Energy Research & Social Science* 63: 101397.
- Powell Jr, G. Bingham, and Guy D. Whitten. 1993. "A cross-national analysis of economic voting: taking account of the political context." *American journal of political science* 37(2): 391-414.
- Rentschler, Jun, and Morgan Bazilian. 2017. "Reforming Fossil Fuel Subsidies: Drivers, Barriers and the State of Progress." *Climate Policy* 17(7): 891-914.
- Ross, Michael L., Hazlett, Chad., & Mahdavi, Paasha. 2017. "Global progress and backsliding on gasoline taxes and subsidies." *Nature Energy*, 2(1), 16201.
- Ross, Michael, and Paasha Mahdavi. 2015. "Oil and Gas Data, 1932-2014." <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/ZTPW0Y>.
- Schulze, Kai. 2021. "Policy Characteristics, Electoral Cycles, and the Partisan Politics of Climate Change." *Global Environmental Politics* 21(2): 44-72.
- Skovgaard, Jakob, and Harro van Asselt. 2019. "The politics of fossil fuel subsidies and their reform: Implications for climate change mitigation." *Wiley Interdisciplinary Reviews: Climate Change* 10.4: e581.
- Sterner, Thomas. 2009. "Fuel Taxes: An Important Instrument for Climate Policy." *Energy Policy* 35: 3194-3202.

- Stokes, Leah. 2016. "Electoral Backlash against Climate Policy: A Natural Experiment on Retrospective Voting and Local Resistance to Public Policy." *American Journal of Political Science* 60(4): 958-974.
- Strand, Jon. 2013. *Political economy aspects of fuel subsidies: A conceptual framework*. The World Bank.
- Teorell, Jan, et al. 2019. "Measuring Polyarchy Across the Globe, 1900–2017." *Studies in Comparative International Development* 54(1): 71-95.
- Tufte, Edward R. 1978. *Political Control of the Economy*. Princeton, NJ: Princeton University Press.
- Vadlamannati, Krishna Chaitanya, and Indra de Soysa. 2020. "Oil Price Volatility and Political Unrest: Prudence and Protest in Producer and Consumer Societies, 1980-2013." *Energy Policy* 145: 111719.
- van Beers, Cees, and Jon Strand. 2013. "Political Determinants of Fossil Fuel Pricing." *World Bank Working Paper* 6470.
- Victor, David G. 2009. "The politics of fossil-fuel subsidies." Available at SSRN: <https://ssrn.com/abstract=1520984> or <http://dx.doi.org/10.2139/ssrn.1520984>
- Vieites, Yan, Bernardo Andretti, Mariana Weiss, Jorge Jacob, and Michelle Hallack. 2023. "Effectively communicating the removal of fossil energy subsidies: Evidence from Latin America." *Global Environmental Change* 81: 102690.
- Voeten, Erik. 2024. "The energy transition and support for the radical right: Evidence from the Netherlands." *Comparative Political Studies*: DOI: 10.1177/00104140241237468.
- von Uexkull, Nina, Espen Geelmuyden Rød, and Isak Svensson. 2024. "Fueling protest? Climate change mitigation, fuel prices and protest onset." *World Development* 177: 106536.