Arezki, Rabah; Djankov, Simeon; Nguyen, Ha; Yotzov, Ivan

Working Paper

The Political Costs of Oil Price Shocks

CESifo Working Paper, No. 9763

Provided in Cooperation with:
Ifo Institute – Leibniz Institute for Economic Research at the University of Munich

Suggested Citation: Arezki, Rabah; Djankov, Simeon; Nguyen, Ha; Yotzov, Ivan (2022) : The Political Costs of Oil Price Shocks, CESifo Working Paper, No. 9763, Center for Economic Studies and ifo Institute (CESifo), Munich

This Version is available at:
https://hdl.handle.net/10419/263693

CESifo WORKING PAPERS

9763
2022

May 2022

The Political Costs of Oil Price Shocks

Rabah Arezki, Simeon Djankov, Ha Nguyen, Ivan Yotzov

CESifo

Impressum:

CESifo Working Papers
ISSN 2364-1428 (electronic version)
Publisher and distributor: Munich Society for the Promotion of Economic Research - CESifo GmbH
The international platform of Ludwigs-Maximilians University's Center for Economic Studies and the ifo Institute
Poschingerstr. 5, 81679 Munich, Germany
Telephone +49 (0)89 2180-2740, Telefax +49 (0)89 2180-17845, email office@cesifo.de
Editor: Clemens Fuest
https://www.cesifo.org/en/wp
An electronic version of the paper may be downloaded
· from the SSRN website: www.SSRN.com
· from the RePEc website: www.RePEc.org
· from the CESifo website: https://www.cesifo.org/en/wp

CESifo *Working Paper No. 9763*

The Political Costs of Oil Price Shocks

Abstract

We explore the effect of oil import price shocks on political outcomes using a worldwide dataset on elections of chief executives. Oil import price shocks cause a reduction in the odds of reelection of incumbents, an increase in media chatter about fuel prices, and an increase in non-violent protests. These results are present in democracies but absent in autocracies. To explain the dichotomy, we show that the pass-through from international to domestic fuel prices is limited in autocracies with adverse consequences on levels of debt and international reserves. The results point to the interdependence of goods markets and politics.

JEL-Codes: D720, E210, P160, Q430.

Keywords: elections, democracy, autocracy, incumbent, oil prices, economic shocks.

Rabah Arezki
Kennedy School of Government
Harvard University / Cambridge / MA / USA
rarezki.econ@gmail.com

Simeon Djankov
Financial Markets Group
London School of Economics / UK
s.djankov@lse.ac.uk

Ha Nguyen
Office of the Middle East and North Africa
World Bank Group / Washington DC / USA
hanguyen@worldbank.org

Ivan Yotzov
Department of Economics
University of Warwick / UK
i.yotzov@warwick.ac.uk

April 2022

Rabah Arezki is a Senior Fellow at Harvard University's Kennedy School of Government. Simeon Djankov is Director for Policy with the Financial Markets Group at the London School of Economics. Ha Nguyen is a Senior Economist in the Chief Economist Office of the Middle East and North Africa at the World Bank. Ivan Yotzov is PhD candidate at the University of Warwick.
This paper replaces an earlier working paper by Arezki et al. (2021) entitled "Reversal of fortune for political incumbents: Evidence from oil shocks". We thank Olivier Blanchard, John Earle, Jeremy Evans, Thomas Fujiwara, Nick Lore-Edwards, Tarek Masoud, and Ekaterina Zhuravskaya for comments. The findings, interpretations, and conclusions expressed in this paper do not necessarily reflect the views of the World Bank, or the governments they represent. The World Bank does not guarantee the accuracy of the data included in this work.

1 Introduction

We examine systematically the effects of oil import price shocks on the reelection odds of political incumbents around the world. Several historical examples suggest a link. The increase in gasoline prices stemming from the 1979 oil crisis overshadowed the United States presidential debate the following year. Ronald Reagan and then-President Jimmy Carter were going head-to-head in the election. Carter's loss coincided with a peak in oil prices. Other modern US presidential incumbents such as Presidents Ford and George H.W. Bush also lost their reelection bids following oil price spikes.

We use the Database of Political Institutions, which covers 183 countries and over 1,000 chief executive elections over the past 35 years. Depending on the political system, the dataset includes elections of the chief executive in parliamentary or presidential systems. As oil imports leave a country vulnerable to changes in international crude oil prices, we create an oil import price index by interacting the fluctuations in *international* oil prices with the *country-specific* intensity of oil imports relative to GDP. An increase in the oil import price index one year before an election, reflecting rising oil import prices and exposure to oil imports, significantly reduces the likelihood of reelection for the incumbent chief executive. Specifically, a 1% increase in the index decreases the likelihood of incumbent reelection by 2.5 percentage points.

To substantiate these findings, we employ a novel database of polling data for 198 national elections in 48 countries. Using voting intentions for the incumbent party in the months leading up to the election, we confirm that oil import price increases operate by reducing the popularity of the sitting chief executive. The results remain robust to various robustness checks. For example, our results are robust to controlling for pre-determined elections, additional macroeconomic variables, different lags for oil shocks, and alternative standard error clustering. Importantly, our results are robust to using oil supply shocks from Baumeister and Hamilton (2019) as an instrument for the oil price index measure as well as controlling for fuel export price shocks.

Further, we show that the negative effect of oil import price shocks on the odds of incumbent reelection is present in democratic countries but absent from autocracies. Indeed, in democracies, a 1% increase in the oil import price index is associated with a 3.6 percentage point decline in the likelihood of reelection. In addition, we document that democracies' media chatter about gasoline price increase picks up significantly

in response to increases in oil prices — verifying that increases in international oil prices translate to the domestic population's concerns about gasoline price increases. However, media chatter about oil prices is absent from autocracies. We also find that in democracies, oil price increases are associated with a higher likelihood of protests, specifically of protests related to price increases. These additional results are consistent with the reduction in the likelihood of incumbent reelection in democracies as opposed to autocracies.

To explain the dichotomy, we show that in autocracies, perhaps as part of a social contract between citizens and political elites, the pass-through from international to domestic fuel prices is limited. We document that autocracies have a higher degree of domestic price controls and subsidies on oil and gas. Hence international oil price fluctuations are less likely to pass through to their domestic prices than they do in democracies. In turn, oil import price shocks have limited effects on output, inflation, and unemployment in autocracies. Nevertheless, the subsidies and the lack of price pass-through come at a cost. We document that in autocracies, oil import price increases lead to significant erosion in the levels of foreign reserves, an increase in external debt levels, and no effect on exchange rates. In contrast, in democracies, oil import price increases lead to exchange rate depreciation and have no significant effect on the levels of foreign reserves and external debt. Our findings point to the intertwined nature of goods markets and politics.

This paper is related to several strands of the literature. First, our paper contributes to the literature on retrospective voting, which examines how voting behavior is shaped by past government performance and whether events out of the control of the incumbent can affect election outcomes.[1] A common finding is that exogenous shocks can influence voter behavior towards the incumbent government. These findings have been documented for different countries and using a variety of natural experiments, including lottery winnings (Bagues and Esteve-Volart, 2016), natural disasters (Chang and Berdiev, 2015, Cole et al., 2012, Gasper and Reeves, 2011, Healy and Malhotra, 2010, Lazarev et al., 2014, Quiroz Flores and Smith, 2013, Ramos and Sanz, 2020), global economic growth (Leigh, 2009), college football results (Healy et al., 2010), and even shark attacks (Achen and Bartels, 2017).[2] The interpretation

[1] For a recent survey of the literature see Healy and Malhotra (2013)

[2] Evidence of retrospective voting is also not without criticism in some cases. For example, Fowler and Hall (2018) challenge the results from Achen and Bartels (2017) on shark attacks and voting behavior in the US. Additionally, Fowler and Montagnes (2015) argue that the finding in Healy et al. (2010) that college football game outcomes influence voting is most likely a false positive result.

of these findings can have important implications for democratic performance.[3] For example, some suggest blind retrospection, whereby voters cannot separate government competence from other, irrelevant events (e.g., Achen and Bartels, 2017). On the other hand, studies have shown that the government's response to shocks can (at least partly) offset the baseline voter response (e.g., Cole et al., 2012, Gasper and Reeves, 2011, Healy and Malhotra, 2010). These latter findings suggest that government performance is an important factor in voting decisions after an exogenous shock, such as a natural disaster. Our paper contributes to this literature by documenting how a shock based on oil price fluctuations and import intensities can robustly affect election outcomes. In contrast to existing studies that typically focus on individual countries, we leverage a near universal dataset including 183 countries.

Second, our paper relates to studies that explore the impact of news media and social media on political outcomes. This literature has grown tremendously over the past decade.[4] Access to different media outlets can affect voting behavior by shifting preferences and allowing the expression and dissemination of more radical content. Such effects have been shown in elections in the United States (Ash et al., 2021, Fujiwara et al., 2021), Italy (Durante et al., 2019), and Russia (Enikolopov et al., 2011). In addition to the sharing and spreading of content, social media plays an important role as a coordination device for mass mobilization and protests (e.g., Arezki et al., 2020, Enikolopov et al., 2020, Qin et al., 2021). Our paper shows that oil price shocks are followed by media chatter in democratic countries, suggesting that news media could play an important role in transmitting the effect of oil prices on election outcomes.

Third, our paper is related to the vast literature on the political effects of commodity price boom and bust.[5] Importantly, most of these studies exclusively consider commodity exporters. These studies can be divided into those studying the effects of commodity price shocks on conflict and those on elections or democratic transitions. The former studies document a relationship between natural resources and conflict. The strength of the results depends on the region, time, and specific natural resources considered (see, for example, Bruckner and Ciccone, 2010, Bazzi

[3]Theoretically, the implications of these results for voter rationality and democratic performance are ambiguous. Ashworth et al. (2018) show that a voter response to random shocks is not necessarily evidence of irrationality, since exogenous shocks can reveal information about government competence. Furthermore, Ashworth and Bueno de Mesquita (2014) argue that there is a fundamental interaction between voters and politician. Indeed, the authors show that voter rationality does not guarantee better democratic performance.

[4]For surveys of this literature, see Gentzkow et al. (2019), Zhuravskaya et al. (2020), and DellaVigna and La Ferrara (2015).

[5]See van der Ploeg (2011) for a survey of this literature.

and Blattman, 2014, Dube and Vargas, 2013). The studies of commodity price shocks on elections and democratic transitions also provide mixed conclusions — Bruckner et al. (2012), Caselli and Tesei (2016), Andersen and Aslaksen (2013), and Burke and Leigh (2010). Wolfers (2007) finds that voters in US oil-producing states tend to re-elect incumbent governors when oil prices rise and vote them out when oil prices drop. He interprets this as evidence that voters cannot distinguish incumbent competence from luck. Our paper is related but distinct from this literature. In contrast to much of the literature that focuses on commodity exporters, our paper shows that oil price fluctuations can have important consequences depending on the intensity of oil *imports* which concern a wider set of countries worldwide.

Finally, the paper contributes to the debate between ideological versus economic factors of election outcomes. A large public choice literature suggests voters support the candidate that gives them the highest monetary return (e.g., Downs, 1957, Kramer, 1971, Fowler, 2020). According to Downs (1957), individuals only base their voting decisions on which party will bring them the highest (expected) utility.[6] On the other hand, studies have argued the importance of partisan voting, where the electorate votes based on party affiliation, not policy evaluation (e.g., Campbell et al., 1960, Hinich and Munger, 1994, Bartels, 2000, Huddy et al., 2015).[7] Our findings suggest voters, on the aggregate, seem to favor the economic explanation. We find that economic factors, even exogenous ones, can sway their votes. Nevertheless, we show that ideology plays an important role in these results: left-wing incumbents are punished more severely due to oil import price increases than right-wing governments.

The remainder of the paper is as follows. Section 2 presents the data. Section 3 shows the main election results and Section 4 discusses the different mechanisms in autocracies versus democracies. Finally, Section 5 presents robustness checks, and Section 6 concludes.

2 Data

2.1 Election data

We use two separate databases on elections. The first is the Database of Political Institutions (DPI) from the Inter-American Development Bank, which includes insti-

[6] Although Downs (1957) does allow for ideologies to emerge in his framework, this is only as a solution to an imperfect information problem, not a fundamental determinant of voter behavior.

[7] In a slightly different context, Healy et al. (2014) find evidence of strong partisan bias in blame attribution for the 9/11 attacks.

tutional and electoral results for 183 countries from 1975 to 2020. In particular, the DPI includes information at the yearly frequency on (i) the type of political system (parliamentary versus presidential), (ii) the name, party, and ideological orientation of the chief executive, (iii) the year and month of the presidential and/or legislative elections, and (iv) the years left in the current term of the government. In this paper, we focus on years with a chief executive election.[8] Furthermore, we construct two variables for our analysis. The first is a variable of 'incumbent change', which indicates whether the party of the chief executive changes following an election year. This variable is constructed using the information on the name of the chief executive party in the DPI. Note that we focus on incumbent change at the party level to avoid mechanical turnover in the case of term limits. Second, we construct a variable indicating whether an election is pre-determined. This indicator takes a value of one if the election takes place in the last year of the government's term and zero for snap elections, which occur at unexpected times during the government's tenure.

For the empirical analysis, we focus on elections for the period going from 1985 to 2020, where the dataset covers a large number of countries.[9] In total, there are 1,042 chief executive elections in our sample (Figure 1). Of these, 814 (228) are pre-determined (snap) election. The numbers of presidential and parliamentary elections are relatively balanced, with 551 presidential and 491 parliamentary votes. Finally, in 583 cases (56% of all elections), the incumbent party remains in power.

One limitation of the DPI is that it is at the yearly frequency. Thus, any within-year variation is missed including in the case of multiple elections within a single year. It also includes cases where an election is classified as 'pre-determined' but occurs only several months before intended in the same year.[10] These are rare events. Nonetheless, we use another dataset at the monthly frequency as a robustness check.

The second elections dataset covers election polls and outcomes for 198 elections across 48 countries worldwide from 1980 to 2020. Only elections with available polling data are included. This dataset is constructed by Fetzer and Yotzov (2020). On average, each country has four elections. There are 146 parliamentary and 52 presidential elections. The list of countries and the number of elections in each country are presented in Figure 2 and Table A1. The polling data originate from multiple polling agencies for each country. Official election results are available from multiple

[8]The chief executive is defined as the prime minister in parliamentary systems (e.g. UK) and the president in presidential political systems (e.g. US).

[9]Our main results are robust to using the full sample starting in 1975.

[10]For instance, there was a parliamentary election in Turkey in both June and November of 2015.

sources. For each election, voting intentions by political party (i.e., polls) are gathered, alongside election outcomes. As with the DPI data, it is important to consider the incumbent changes at the political party level rather than for individual politicians since term limits could create a mechanical turnover of individuals. In total, the dataset has over 12,009 polling observations, which are aggregated into 2,097 election-month polling observations for the incumbent party. Hence, on average, each election has about 11 election-month polling observations. In addition to data on voting intentions, this dataset also includes a variable on 'incumbent change', matching the definition in the DPI.

2.2 Oil import price index

The main explanatory variable is an oil import price index. This variable is based on changes in international oil prices, weighted by the average country-specific oil import values. International oil prices are obtained from the World Bank's "Pink Sheet" data. These data contain real and nominal crude oil prices. For our main analysis, we use real oil prices. Data on the value of oil imports and GDP in US dollars are obtained from the IMF's World Economic Outlook. The country-year weights are constructed by taking three-year rolling averages of oil imports to GDP. Combining these weights with oil prices, we construct our main index for country i and year t as:

$$OilPriceIndex_{i,t} = \Delta[\ln(CrudeOilPrice)_t \times \Omega_{i,t}]$$

The weights $\Omega_{i,t}$ are calculated as:

$$\Omega_{i,t} = \frac{1}{3}\left[\left(\frac{Oil\ Import}{GDP}\right)_{t-1} + \left(\frac{Oil\ Import}{GDP}\right)_{t-2} + \left(\frac{Oil\ Import}{GDP}\right)_{t-3}\right]$$

The countries in our sample differ considerably in the amount of oil imported, and these weights capture the 'exposure' to fluctuations in international oil prices. For example, oil imports by Belgium and The Netherlands were around 6% of GDP, on average, across election years. In Colombia, however, this value was only 0.6% of GDP. A positive and large $OilPriceIndex_{i,t}$ implies higher oil import prices and large exposure to oil imports. Our main hypothesis is that oil import price increases in countries that import more oil should have a stronger negative impact on the electoral outcomes of incumbents. We also use as robustness checks weights calculated as five-

year moving averages and average fixed weights over the entire sample.

2.3 Additional data

We use several additional datasets for our analysis. First, we use the Polity IV database of regime characteristics. Specifically, we use the polity2 score classifying countries' polity. This variable is constructed on a scale between -10 and +10. Countries with a score above zero are classified as democracies, and otherwise countries are defined as autocracies.[11]

Second, we use data on protests from the Mass Mobilization Project. This dataset covers 157 countries over the period going from 1990 to 2020. The Mass Mobilization (MM) data are an effort to understand citizen movements against governments, what citizens want when they demonstrate against governments, and how governments respond to citizens. Start and end dates of protests are provided, as well as information on protester demands (e.g., labor wage dispute, removal of politicians, price increases). We use that dataset to assess whether oil price increases are associated with higher public discontent in the form of protests.

Third, we create an index of media chatter about gas prices to document whether there are elements of debate around oil price increases. To do this, we use newspaper articles gathered from Factiva, a global news monitoring and search engine, over the period 1985-2020 for 78 countries.[12] Our methodology follows Arezki et al. (2020). The index counts the number of news articles that use words from each of the following three categories: (1) gas; gasoline, (2) price; prices, (3) rise; rose; rises; increase; increases; increased; increasing; hike; hikes. The index normalizes the article counts by the total number of English articles by country-year:

$$GasPriceChatter_{i,t} = 100 \times \frac{GasPriceArticles_{i,t}}{TotalArticles_{i,t}}$$

We use this index to analyze whether oil price increases are reflected in relatively more media coverage, thus entering the public conscience to a larger extent.

[11] The main results use a contemporaneous measure of polity2 to distinguish between democracies and autocracies. Our results are robust to using a moving average measure or a measure based on the average value over the entire sample period.

[12] In addition to the keyword searches, we focus on (1) country-years with more than five articles discussing gas price increases and (2) countries with more than 15 years with available articles (out of 36 years). Both steps are to avoid our estimation being influenced by years with very low coverage or highly unbalanced panels.

3 Main election results

Our baseline specification for assessing the effects of oil price increases on the odds of reelection is:

$$\begin{aligned}\mathbb{1}(Incumbent\ Stays)_{i,t} = \alpha_i + \beta_t + \mu OilPriceIndex_{i,t-1} \\ + \lambda OilPriceIndex_{i,t-2} \\ + \theta OilPriceIndex_{i,t-3} + \epsilon_{i,t}\end{aligned}$$

where i denotes country and t denotes year. $1(IncumbentStays)_{i,t}$ takes the value of 1 if the incumbent party wins the election. Country fixed effects, α_i, capture time-invariant differences across countries, such as political systems. At the same time, year fixed effects, β_t, capture global shocks over time, such as the Global Financial Crisis or the oil price collapse of 2015/2016. We include three lags of our oil price index in the main specification, mainly to account for serial autocorrelation in the measure. Finally, the standard errors in our main results are clustered at the country level to address the correlation of the oil price index within each country. We show that the results are robust to two-way clustering across countries and years in a robustness check.

Oil import price increases reduce the odds of incumbents' reelection. Table 1 presents the main results using all elections in the DPI. Columns (1)-(3) use an oil price index specification based on respectively three-year, five-year, and fixed weights. Across all three columns, we observe a negative and significant coefficient on the first lag of our oil index, suggesting that increases in crude oil prices for oil importers decrease the likelihood of incumbent reelection. The results from Column 1 suggest that a 1% increase in the index causes a 2.5 percentage point decrease in the reelection probability (or a 4% decrease from the mean). Finally, none of the second or third lags of the oil price index is statistically significant in any of the three specifications. This result suggests that voters only punish incumbents for relatively recent shocks and corroborates existing evidence that the electorate has a limited memory when deciding how to vote (e.g., Cole et al., 2012).

Oil price import shocks also change voters' voting intention. We focus on voting intentions for the incumbent party in the months before an election and estimate the

following specification at the monthly frequency:

$$VotingIntention_{i,e,m}^{Incumbent} = \alpha_i + \eta_e + \beta_m + OilPriceIndex_{i,m-12} + \epsilon_{i,e,m}$$

On the left-hand side is the average voting intention for the incumbent party in country i, election e, and month m. We regress this on a set of country, election, and month fixed effects and the 12th lag of an oil price index constructed using monthly oil price data. The results from this specification are reported in Table 2. The coefficient in Column 1 suggests that a 1% increase in the lagged oil price index is associated with a 0.4 percentage point reduction in the voting intentions for the incumbent party. This effect may appear small in magnitude, but small margins can have large effects on the overall election outcomes in close elections.

4 Oil import price shocks in democracies vs. autocracies

4.1 Political costs of oil import price shocks in democracies vs. autocracies

In this section, we explore whether the political cost of oil price increases is larger in democracies relative to autocracies. We separate our sample into democratic versus autocratic countries, using the polity2 measure from Polity IV. Table 3 shows a striking difference in the effects of oil import price on incumbent electoral outcomes across this split. In democracies (Columns 1-3), we see similar robust negative effects of oil import price increases as our baseline. These coefficients are slightly larger in magnitude than in Table 1. In contrast, in autocracies (Columns 4-6), we see no negative effect of oil import price increases on the likelihood of incumbent reelection. Figure 3 presents a visual characterization of the main heterogeneity from Table 3. We plot a binned scatterplot of the main relationship between the lagged oil price index and the likelihood of incumbent reelection. The relationship is flat for autocracies while negative for democracies. Our main results do not appear to be driven by any potential outlier in the sample of elections.

In addition, democracies face a larger likelihood of protests than autocracies in response to oil import price increases. To examine the effects on protests, we leverage

the Mass Mobilization Project data. We estimate the following empirical specification:

$$\begin{aligned}\mathbb{1}(Protest)_{i,t} = \alpha_i + \beta_t + \mu OilPriceIndex_{i,t-1} \\ + \lambda OilPriceIndex_{i,t-2} \\ + \theta OilPriceIndex_{i,t-3} + \epsilon_{i,t}\end{aligned}$$

On the left-hand side is an indicator for whether there is a protest in a given country-year pair. In this setup, we test for the effects of oil prices on protests across all years, not only election years. We regress this on our lagged oil price index, country fixed effects, and year fixed effects. Separately, we test the effect of oil price increases on the likelihood of a protest focused specifically on price increases.[13] Table 4 presents the main results, split between democracies and autocracies. Columns 1-2 use an indicator for any protest as the dependent variable, while Columns 3-4 use an indicator for protest on price increases. The results on protest likelihood support our findings on election outcomes. In democracies, an increase in the oil price index is associated with a higher likelihood of a protest (Column 1), and specifically on protests related to price increases (Column 3). On the other hand, these effects are absent in autocracies (Columns 2 and 4). We view the results for democracies as evidence that oil price fluctuations can affect public attitudes, which may affect election outcomes for incumbents.

Another piece of evidence which can help corroborate the above finding: we uncover a significant effect of oil price changes on media chatter about gas prices in democracies but not in autocracies. To do so, as outlined in Section 2.3, we create an index of gas price chatter using newspaper data for a sample of 78 countries. Using these data, we estimate the following specification:

$$\begin{aligned}GasPriceChatter_{i,t} = \alpha_i + \beta_t + \mu OilPriceIndex_{i,t-1} \\ + \lambda OilPriceIndex_{i,t-2} \\ + \theta OilPriceIndex_{i,t-3} + \epsilon_{i,t}\end{aligned}$$

Table 5 presents the main results from this specification. Columns 1, 3, and 5 show a strong positive relationship between the oil import price index and gas price chatter, suggesting that lagged oil price increases in democratic countries are associated with

[13] This category of protests accounts for "demands over subsidies, tax increases or levies, the cost of food, utilities or other such necessities."

more relative media chatter about gas prices. Meanwhile, Columns 2, 4, and 6 suggest no effect of oil price shocks on media chatter in autocracies. In democracies, it is possible that more exposure to chatter about gas prices could make voters more concerned about price changes and the (mis)handling of the situation. Moreover, the lack of an effect in autocracies could also suggest that there may be an information failure in these countries, preventing the electorate from forming accurate evaluations of the incumbents. Alternatively, in autocracies, the population might be unable to express their discontent with the incumbent government in the face of such economic shocks (e.g., Quiroz Flores and Smith, 2013).

4.2 On the dichotomy of oil import price shocks in democracies vs. autocracies

This interesting dichotomy between democracies and autocracies merits much more discussion. First, the differential political costs of oil price shocks are not because democracies import more oil. In our dataset, autocratic countries import no less oil than democracies do. The mean (median) oil import-GDP is 4.3% (3.3%) in democracies and 5.1% (3.3%) in autocracies. Also, note that incumbents do not as easily lose reelection in autocracies as in democracies. The average likelihood of reelection in autocratic countries is around 85%, compared to 51% in democracies.

More importantly, we find evidence that autocracies are more likely to use gasoline subsidies, thus preventing the pass-through of international price fluctuations to the wider economy. Using data from Ross et al. (2017) on implicit gasoline taxes and subsidies, we find supporting evidence for this hypothesis. As seen in Figure 4, a much larger share of autocracies uses implicit gasoline subsidy (value below 0) compared to democracies. This difference is also confirmed by basic regressions (Table 6). Further evidence for this lack of pass-through in autocratic countries is shown in Table 7, in which we consider the effects of the oil import price index on changes in country-specific gasoline prices. The latter data are from Ross et al. (2017). The table confirms that crude oil prices have a positive and significant contemporaneous effect on gasoline prices in democracies, but this effect is absent from autocracies.

The relatively stronger pass-through of international oil prices in democracies has important economic implications. We test the effects of our oil price index on three standard macroeconomic variables: GDP growth, inflation, and unemployment. If higher prices for oil importers lead to a recession, this will provide a potential link to explain voter behavior on Election Day. Table 8 tests this hypothesis, separating

the sample by democracies versus autocracies. In democracies, a positive oil import price index is associated with higher inflation (Column 2). The effect of a positive oil import price shock on GDP growth is negative and on unemployment is positive but not statistically significant. Interestingly, we do not find similar effects of oil price shocks in autocratic countries – the coefficients on $OilPriceIndex_{t-1}$ are, in fact, the opposite sign than those for democracies. Thus, the spillover of international oil prices to the wider economy in democratic countries can provide a mechanism to explain why citizens may choose to vote against the incumbent government.

Thus far, the evidence suggests subsidies in autocracies might have insulated the economy and the incumbents from oil import price increases. However, such measures do not come without costs. To investigate this further, we consider the effects of oil price shocks on real exchange rates, reserves, and the levels of external debt. These results are reported in Table 9. Columns 1 and 2 show that oil price increases are associated with currency depreciation for democracies but not autocracies. This finding is consistent with the evidence on inflation from Table 8. In contrast, oil import price increases lead to significant declines in total reserves (Column 4) and significant increases in external debt (Column 6) in autocracies. Therefore, non-democratic countries appear to use their reserves and external borrowing to cushion the effects of price increases and prevent political unrest.

Of course, these measures are limited and might prove unsustainable, eventually leading to protests and regime changes. In Figure 5, we present the test of whether autocracies with a lower level of foreign reserves are more vulnerable to political unrest in response to an oil import price increase. Specifically, we regress the likelihood of protests on our main oil price index interacted with the lagged level of reserves to GDP. We classify foreign reserves into four groups, from lowest (lower than the 25-percentile threshold) to highest (higher than the 75-percentile threshold). The coefficient plot (the left-hand side panel) shows no meaningful heterogeneity in the effect for democracies. However, in autocracies, oil import price increases are associated with a higher likelihood of protest for low levels of foreign reserves and a lower likelihood of protest for higher levels of reserves (the right-hand side panel).

5 Robustness checks and extensions

In this section, we discuss several extensions to our main results on election outcomes, as well as a number of robustness checks. These are all based on the sample of

democratic countries. As we show in Table 3, the effects of oil prices have significant effects on election outcomes exclusively in democratic countries.

5.1 Extensions

In this subsection, we discuss four extensions. First, we show that oil import price increases hurt left-leaning incumbents more than right-leaning incumbents. The DPI provides a variable on 'Chief Executive Party Orientation', which classifies parties as (1) right-wing, (2) left-wing, or (3) center.[14] In Table A2, we analyze the effects of oil prices depending on the political ideology of the incumbent and incoming chief executives. Columns 1 and 2 of Table A2 suggest a clear distinction between the two ideologies: left-wing incumbents are negatively affected by increases in the oil price index, while right-wing incumbents are not. There are several potential explanations for this effect. First, partisan voting or some version of party loyalty may be more prevalent among the right-wing electorate.[15] Alternatively, left-leaning voters could expect more government interventions. Hence, left-wing incumbents could be more susceptible to these oil shocks. Unfortunately, the aggregate cross-country nature of our data prevents us from distinguishing between these hypotheses. Finally, in Column 3, we use an alternative dependent variable: an indicator for whether the incoming chief executive party is left-wing (as opposed to right-wing). Indeed, our results show that oil price increases in the year before an election significantly reduce the likelihood of a left-wing incumbent coming to power.

Second, we control oil export intensity. Naturally, our sample contains both oil importers and oil exporters. However, by focusing solely on imports, we may be over-emphasizing the effects of international oil price fluctuations, as an increase in the price for exporters would constitute a commodity windfall. This issue is examined extensively in the literature (see Section 1) but is not the focus of our paper. To control for this, we construct a similar oil price index with weights based on three-year moving average fuel exports as a fraction of GDP (using data from the World Development Indicators). Table A3 presents the results using this measure side-by-side with our original import-based index. The effect of the import-based index is quantitatively unchanged and highly significant. At the same time, we note that oil

[14] Note that not all parties are classified in one of these three orientations. Of 701 elections in our sample of democratic countries, there are 223 right-wing incumbents, 216 left-wing incumbent, 67 centrists, and 195 unclassified.

[15] A similar argument is made by Balaguer-Coll et al. (2015) in their study of Spanish local election outcomes. The authors find that right-wing parties are more likely to be re-elected.

price increases for oil exporters positively affect the likelihood of incumbent reelection. However, this effect is smaller in magnitude and only significant at the 10% level.

Third, we control for the overall import commodity price index. An argument is that international oil prices can be correlated with the prices of other commodities. Therefore, the result could pick up the electoral impact via changes in other import commodities' prices and not oil prices per se. Table A4 shows that the oil price index is still highly significant after controlling for overall import commodity price index (using data covering 45 commodities from Gruss and Kebhaj, 2019). The finding suggests the impact on electoral outcome mainly operates via international oil price fluctuations.

Finally, in Table A5, we test for the presence of nonlinearities in our estimated effects. Specifically, we include square terms of our oil price index. The results show no evidence of nonlinearity in the effects on election outcomes.

5.2 Robustness checks

Our results on the effects of oil price changes on reelection outcomes are robust to a battery of checks. We begin with addressing the potential concern about endogeneity that our oil price index does not capture an exogenous source of variation. That may occur if a given country can significantly influence international oil prices or strategically changes its oil imports prior to an election. Another concern about endogeneity is that a third factor may be causing both oil price fluctuations and influencing the election outcomes. We address these concerns in several ways. First, we instrument our oil price index using data on oil supply shocks from Baumeister and Hamilton (2019). We construct an 'oil supply shock' index similar to our main 'oil price index', by interacting the oil supply shock series with fixed oil import weights. We proceed to estimate the following instrumental variable specification:

$$\mathbb{1}(IncumbentStays)_{i,t} = \alpha_i + \beta_t + \gamma \widehat{OilPriceIndex}_{i,t-1} + \epsilon_{i,t}$$
$$OilPriceIndex_{i,t-1} = \alpha_i + \beta_t + \eta OilSupplyShock_{i,t-2} + \epsilon_{i,t-1}$$

In the above, the lagged oil price index is instrumented using the second lag of the oil supply shocks.[16] Table A6 presents the results of this specification. Columns 1-2

[16]The reason for using the second lag of the oil supply shocks is that it provides much stronger first stage explanatory power.

present the second stage results, using a fixed average weight and a fixed weight based on import values from the year 2000 only. Columns 3-4 present the corresponding first stage results. The first stage has the expected sign – a positive oil supply shock is associated with a decrease in our oil price index. This relationship is highly statistically significant. The second stage results likewise confirm our main result that an oil price increase is associated with a lower likelihood of incumbent reelection.

Second, we show that our results on oil price fluctuations are robust to controlling for several macroeconomic variables, including GDP growth, inflation, and unemployment. Table A7 presents this analysis. In our main specification from Section 3, we control for the first and second lags of GDP growth, unemployment, and inflation. The main finding on $OilPriceIndex_{i,t-1}$ remains unchanged —although slightly less precisely estimated in the case of the five-year index specification.

Five separate robustness checks show that the main results are not driven by a specific set of countries or years. In Table A8, we drop decades of elections from our estimation of our main specification. The results are robust both in significance and magnitude to dropping each of the four decades of data, suggesting that our findings are not driven by a particular period of our sample. Table A9 estimates our main specification separately for different income groups (based on the World Bank income group classification). Our main finding is present in both income groups, although the estimates are slightly stronger (in magnitude and significance) in poorer countries. Table A10 shows our results are robust to dropping G10 countries from our sample.[17] These large, developed economies may disproportionately influence oil markets, but our results are robust to their exclusion. Table A11 shows that the main findings are robust to dropping countries that import very little oil. Specifically, in Columns 2-4, we drop country-years in which the oil import/GDP values were below the 5th, 10th, and 25th percentile, respectively, of the sample values. Doing so does not affect the magnitude of the point estimates or the significance of our results by much. Table A12 shows that the results are not driven by any specific region of the world. We estimate our main specification in Columns 1-7 by dropping one of the seven World Bank regions.[18] The results are very similar across all seven columns,

[17]The G10 countries are Belgium, Canada, The Netherlands, France, Germany, UK, US, Sweden, Switzerland, Italy, and Japan.

[18]The seven regions are: East Asia and Pacific (EAP), Europe and Central Asia (ECA), Latin America and Caribbean (LAC), Middle East and North Africa (MENA), North America (NA), South Asia (SA), and Sub-Saharan Africa (SSA).

suggesting that the main finding is not driven by any specific part of the world.

One more concern we have not addressed thus far is that oil import price shocks that lead to economic downturns may also cause unexpected, or 'snap', elections. This situation may happen if the discontent with the incumbent is strong enough, for example. In these elections, the incumbent is potentially less likely to be re-elected. Furthermore, it may be that our main results are exclusively driven by these snap elections. In the DPI, we separate snap elections from pre-determined votes, depending on whether the election occurs at the end of the government's current term. In Table A13, we present our main result for the sub-sample of pre-determined elections only. Indeed, our main results are robust to using solely these pre-determined elections.

Finally, Table A14 shows that our results are robust to clustering standard errors at both the country and year levels. This robustness check addresses the concern about the correlation in the oil price index across countries due to the use of international crude oil prices in its construction.

6 Conclusions

The paper explores the effect of oil import price shocks on political outcomes using a worldwide dataset on elections of chief executives. We find that oil import price shocks cause a reduction in the odds of reelection of incumbents, an increase in media chatter about fuel prices, and an increase in non-violent protests. These results are present in democracies but absent from autocracies. To explain the dichotomy, we show that the pass-through from international to domestic fuel prices is limited in autocracies with adverse consequences on levels of debt and international reserves. The absence of self-correcting mechanisms in autocracies to adjust to shocks on both the political and economic fronts may explain how seemingly stable state of affairs eventually translate into disorderly adjustments and rare but fatal regime collapse.

Consideration about the political cost of oil prices goes beyond fluctuations due to international price fluctuations. Governments around the world must decide on whether to adjust gasoline taxes with potential political cost. The political cost of taxes on gasoline is even more relevant given that the negative externality on climate change associated with the use of fossil fuels calls for carbon pricing (van den Bremer and van der Ploeg, 2021). The policy debate has quickly shifted from the need for carbon pricing to how to address its distributional implications, such as equity

considerations and political feasibility (Klenert et al., 2018). The introduction of a gas tax in France is a case in point. The tax was the cause of nationwide protests that lasted from late 2018 to the spring of 2021. The 'yellow vest' protests, which resulted in removal of the tax, are a stark reminder of the importance of distributional considerations and the need to garner popular support for bold climate policy action.

References

Achen, C. and L. Bartels (2017). *Democracy for Realists: Why Elections Do Not Produce Responsive Government*. Princeton University Press.

Andersen, J. J. and S. Aslaksen (2013). Oil and political survival. *Journal of Development Economics 100*, 89–106.

Arezki, R., A. A. Dama, S. Djankov, and H. Nguyen (2020). Contagious protests. *World Bank Working Paper*.

Arezki, R., S. Djankov, H. Nguyen, and I. Yotzov (2020). Reform chatter and democracy. *World Bank Policy Research Working Paper*.

Arezki, R., S. Djankov, H. Nguyen, and I. Yotzov (2021). Reversal of fortune for political incumbents: Evidence from oil shocks. *CAGE working paper 572*.

Ash, E., S. Galleta, M. Pinna, and C. Warshaw (2021). The effect of fox news channel on us elections: 2000-2020. *SSRN Working Paper*.

Ashworth, S. and E. Bueno de Mesquita (2014). Is voter competence good for voters?: Information, rationality, and democratic performance. *The American Political Science Review 108*(3), 565–587.

Ashworth, S., E. Bueno de Mesquita, and A. Friedenberg (2018). Learning about voter rationality. *American Journal of Political Science 62*(1), 37–54.

Bagues, M. and B. Esteve-Volart (2016). Politicians' luck of the draw: Evidence from the spanish christmas lottery. *Journal of Political Economy 124*(5), 1269–1294.

Balaguer-Coll, M. T., M. I. Brun-Martos, A. Forte, and E. Tortosa-Ausina (2015). Local governments' re-election and its determinants: New evidence based on a bayesian approach. *European Journal of Political Economy 39*, 94–108.

Bartels, L. M. (2000). Partisanship and voting behavior, 1952-1996. *American Journl of Political Science*.

Baumeister, C. and J. Hamilton (2019). Structural interpretation of vector autoregressions with incomplete identification: Revisiting the role of oil supply and demand shocks. *American Economic Review 109*(5), 1873–1910.

Bazzi, S. and C. Blattman (2014). Economic shocks and conflict: Evidence from commodity prices. *American Economic Journal: Macroeconomics 6*(4), 1–38.

Bruckner, M. and A. Ciccone (2010). International commodity prices, growth and the outbreak of civil war in sub-saharan africa. *The Economic Journal 120*(544), 519–534.

Bruckner, M., A. Ciccone, and A. Tesei (2012). Oil price shocks, income, and democracy. *The Review of Economics and Statistics 94*(2), 389–399.

Burke, P. J. and A. Leigh (2010). Do output contractions trigger democratic change? *American Economic Journal: Macroeconomics 2*(4), 124–157.

Campbell, A., P. E. Converse, W. E. Miller, and D. E. Stokes (1960). *The American Voter*. The University of Chicago Press.

Caselli, F. and A. Tesei (2016). Resource windfalls, political regimes, and political stability. *The Review of Economics and Statistics 98*(3), 573–590.

Chang, C.-P. and A. N. Berdiev (2015). Do natural disasters increase the likelihood that a government is replaced? *Applied Economics 47*(17), 1788–1808.

Cole, S., A. Healy, and E. Werker (2012). Do voters demand responsive governments? evidence from indian disaster relief. *Journal of Development Economics 97*, 167–181.

DellaVigna, S. and E. La Ferrara (2015). Economic and social impacts of the media. *Handbook of Media Economics 1*, 723–768.

Downs, A. (1957). An economic theory of politicl action in a democracy. *Journal of Political Economy 65*(2), 135–150.

Dube, O. and J. F. Vargas (2013). Commodity price shocks and civil conflict: Evidence from colombia. *The Review of Economic Studies 80*(4), 1384–1421.

Durante, R., P. Pinotti, and A. Tesei (2019). The political legacy of entertainment tv. *American Economic Review 109*(7), 2497–2530.

Enikolopov, R., A. Makarin, and M. Petrova (2020). Social media and protest participation: Evidence from russia. *Econometrica 88*(4), 1479–1514.

Enikolopov, R., M. Petrova, and E. Zhuravskaya (2011). Media and political persuasion: Evidence from russia. *American Economic Review 101*(7), 3253–3285.

Fetzer, T. and I. Yotzov (2020). Electoral surprises and business cycles. Unpublished manuscript.

Fowler, A. (2020). Partisan intoxication or policy voting? *Quarterly Journal of Political Science 15*(2), 141–179.

Fowler, A. and A. B. Hall (2018). Do shark attacks influence presidential elections? reassessing a prominent finding on voter competence. *The Journal of Politics 80*(4), 1423–1437.

Fowler, A. and B. P. Montagnes (2015). College football, elections, and false-positive results in observational research. *PNAS 112*(45), 13800–13804.

Fujiwara, T., K. Müller, and C. Schwarz (2021). The effect of social media on elections: Evidence from the united states. *NBER Working Paper*.

Gasper, J. T. and A. Reeves (2011). Make it rain? retrospection and the attentive electorate in the context of natural disasters. *American Journal of Political Science 55*(2), 340–355.

Gentzkow, M., B. Kelly, and M. Taddy (2019). Text as data. *Journal of Economic Literature 57*(3), 535–574.

Gruss, B. and S. Kebhaj (2019). Commodity terms of trade: a new database. IMF Working Paper 19/21.

Healy, A., A. G. Kuo, and N. Malhotra (2014). Partisan bias in blame attribution: When does it occur? *Journal of Experimental Political Science 1*(2), 144–158.

Healy, A. and N. Malhotra (2010). Random events, economic losses, and retrospective voting: Implications for democratic competence. *Quarterly Journal of Political Science 5*(2), 193–208.

Healy, A. and N. Malhotra (2013). Retrospective voting reconsidered. *The Annual Review of Political Science*.

Healy, A. J., N. Malhotra, and C. H. Mo (2010). Irrelevant events affect voters' evaluations of government performance. *PNAS 107*(29), 12804–12809.

Hinich, M. and M. C. Munger (1994). *Ideology and the Theory of Political Choice*. University of Michigan Press.

Huddy, L., L. Mason, and L. Aaroe (2015). Expressive partisanship: Campaign involvement, political emotion, and artisan identity. *American Political Science Review 109*(1), 1–17.

Klenert, D., L. Mattauch, E. Combet, O. Edenhofer, C. Hepburn, R. Rafaty, and N. Stern (2018). Making carbon pricing work for citizens. *Nature climate change 8*, 669–677.

Kramer, G. H. (1971). Short-term fluctuations in us voting behavior, 1896-1964. *The American Political Science Review 65*(1), 131–143.

Lazarev, E., A. Sobolev, I. V. Soboleva, and B. Sokolov (2014). Trial by fire: A natural disaster's impact on support for the authorities in rural russia. *World Politics 66*(4), 641–668.

Leigh, A. (2009). Does the world economy swing national elections? *Oxford Bulletin of Economics and Statistics 71*(2), 163–181.

Qin, B., D. Strömberg, and Y. Wu (2021). Social media and collective action in china. *CEPR Discussion Paper*.

Quiroz Flores, A. and A. Smith (2013). Leader survival and natural disasters. *British Journal of Political Science 43*(4), 821–843.

Ramos, R. and C. Sanz (2020). Backing the incumbent in difficult times: The electoral impact of wildfires. *Comparative Political Studies 53*(3-4), 469–499.

Ross, M. L., C. Hazlett, and P. Mahdavi (2017). Global progress and backsliing on gasoline taxes and subsidies. *Nature energy 2*(16201).

van den Bremer, T. S. and F. van der Ploeg (2021). The risk-adjusted carbon price. *American Economic Review 111*(9), 2782–2810.

van der Ploeg, F. (2011). Natural resources: Curse of blessing? *Journal of Economic Literature 49*(2), 366–429.

Wolfers, J. (2007). Are voters rational? evidence from gubernatorial elections. *Working Paper*.

Zhuravskaya, E., M. Petrova, and R. Enikolopov (2020). Political effects of the internet and social media. *Annual Review of Economics 12*, 415–438.

7 Figures

Figure 1: Number of election by year (Database of Political Institutions)

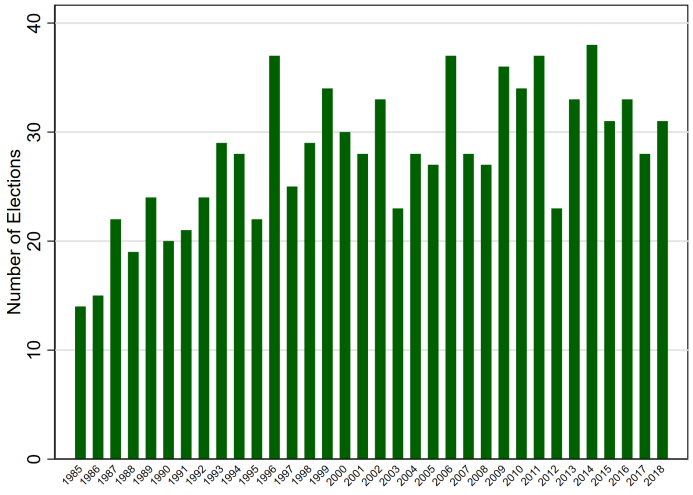


Figure 2: Number of election by year (Election polls dataset)

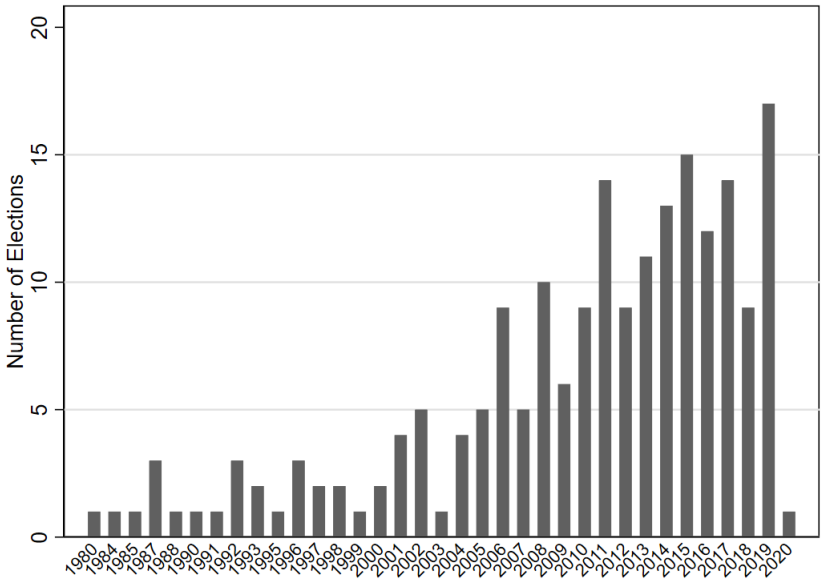
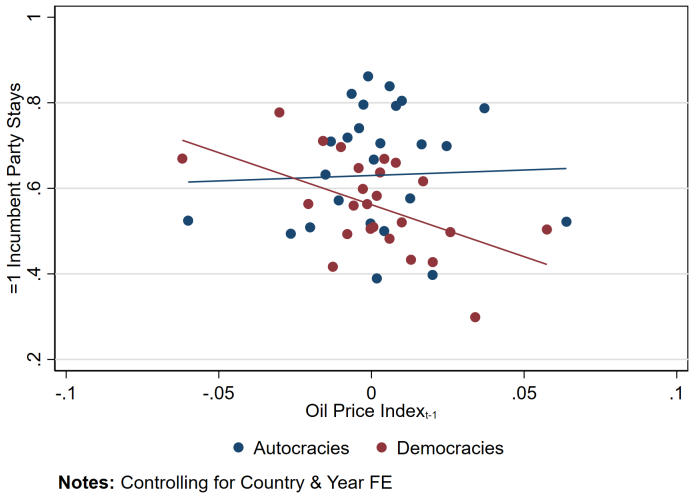


Figure 3: Changes in crude oil prices and electoral turnover: Democracies vs. autocracies



Notes: Binned scatterplot with 25 equal-sized bins. The full sample contains 1,194 elections. Year and Country fixed effects are residualized to produce the figure.

Figure 4: Net implicit gasoline tax (subsidy) and democracy measure

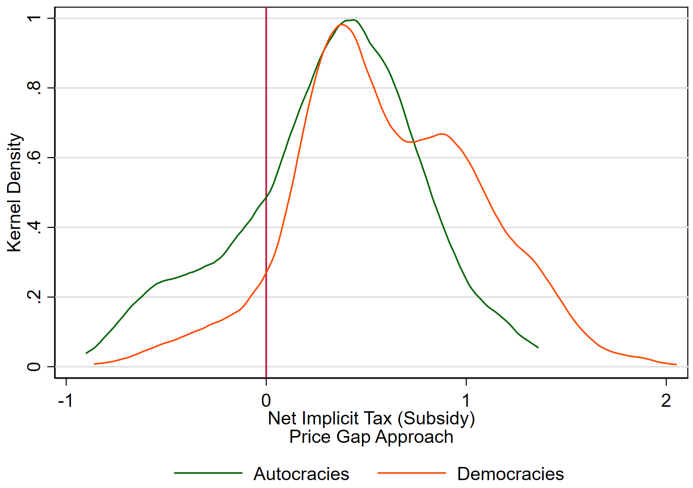
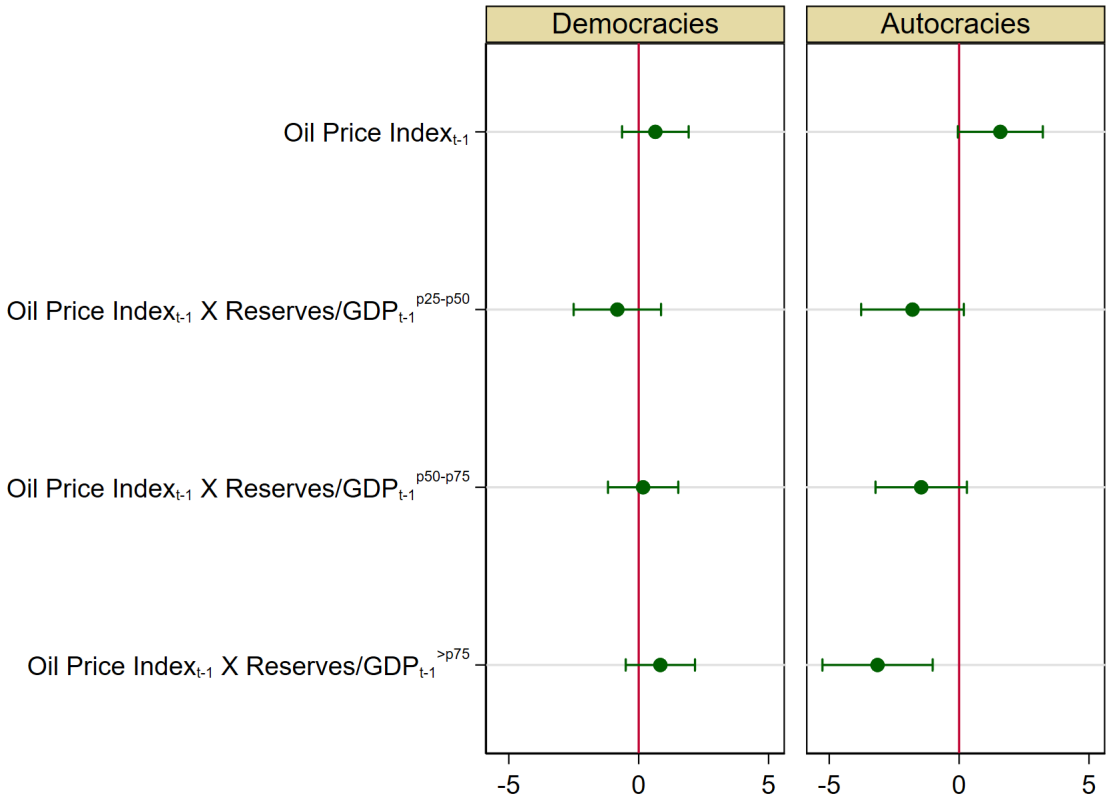


Figure 5: Changes in crude oil prices and protest likelihood: Heterogeneity by the level of total reserves



Notes: The dependent variable is the likelihood of protests. The omitted category is $OilPriceIndex_{t-1} \times Reserves/GDP_{t-1}^{p<25}$. Country and year fixed effects are included. Reserve/GDP dummies are also included. Bars show 90% confidence intervals. Standard errors are clustered at the country level.

8 Tables

Table 1: Changes in Crude Oil Prices and Electoral Turnover (All Elections)

	(1)	(2)	(3)
Dependent variable:	=1 Incumbent Stays		
Oil Shock Specification:	3-Year MA	5-Year MA	Fixed Weights
Oil Price Index$_{t-1}$	-2.495***	-2.470**	-6.494**
	(0.854)	(1.153)	(2.711)
Oil Price Index$_{t-2}$	0.025	0.074	-0.620
	(0.874)	(1.526)	(2.656)
Oil Price Index$_{t-3}$	0.010	0.052	-4.507
	(0.792)	(1.289)	(3.223)
Year FE	✓	✓	✓
Country FE	✓	✓	✓
R^2	0.311	0.313	0.303
Mean Dependent Variable	0.566	0.555	0.568
Number of Elections	737	696	790
Number of Countries	127	126	128

Notes: In column (1) , oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. In column (2), oil import exposure is the 5-year rolling average, from t-5 to t-1, of oil imports as a share of GDP. In column (3), oil import exposure is a fixed weight of oil imports as a share of GDP over the sample period. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 2: Changes in Crude Oil Prices and Voting intentions for Incumbent Party

	(1)	(2)	(3)	(4)
Dependent variable:	Voting Intention			
Oil Shock Specification:	3-Year MA	3-Year MA	5-Year MA	5-Year MA
Oil Price Index$_{t-12}$	-45.233**	-16.793*	-56.277*	-28.627*
	(20.746)	(9.049)	(33.872)	(14.701)
Month FE	✓	✓	✓	✓
Country FE	✓		✓	
Election FE		✓		✓
R2	0.702	0.934	0.702	0.934
Mean Dependent Variable	33.456	33.456	33.389	33.389
Observations	2,310	2,310	2,288	2,288
Number of Elections	182	182	180	180

Notes: In columns (1) and (4) , oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. In columns (2) and (5), oil import exposure is the 5-year rolling average, from t-5 to t-1, of oil imports as a share of GDP. In columns (3) and (6), oil import exposure is a fixed weight of oil imports as a share of GDP over the sample period. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3: Changes in Crude Oil Prices and Electoral Turnover: Democracies vs. Autocracies

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	=1 Incumbent Stays			=1 Incumbent Stays		
Oil Shock Specification:	3-Year MA	5-Year MA	Fixed Weights	3-Year MA	5-Year MA	Fixed Weights
Sample:	Democracies			Autocracies		
Oil Price Index$_{t-1}$	-3.599***	-3.973**	-6.339*	2.155	4.391*	2.106
	(1.131)	(1.944)	(3.397)	(1.853)	(2.397)	(6.748)
Oil Price Index$_{t-2}$	-0.056	0.988	-1.570	-2.370**	-2.214	8.424
	(1.267)	(2.253)	(3.797)	(1.028)	(2.585)	(7.281)
Oil Price Index$_{t-3}$	-0.047	0.341	-5.225	1.310	0.831	-4.413
	(1.060)	(1.768)	(4.371)	(0.972)	(2.158)	(4.812)
Year FE	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓
R^2	0.288	0.280	0.273	0.624	0.636	0.577
Mean Dependent Variable	0.513	0.503	0.512	0.882	0.875	0.862
Number of Elections	618	589	650	93	80	109
Number of Countries	107	107	107	29	26	32

Notes: In columns (1) and (4) , oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. In columns (2) and (5), oil import exposure is the 5-year rolling average, from t-5 to t-1, of oil imports as a share of GDP. In columns (3) and (6), oil import exposure is a fixed weight of oil imports as a share of GDP over the sample period. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 4: Changes in Crude Oil Prices and Likelihood of Protests

	(1)	(2)	(3)	(4)
Dependent variable:	=1 Protest		=1 Protest on Price Increases	
Oil Shock Specification:	3-Year MA		3-Year MA	
Sample:	Democracies	Autocracies	Democracies	Autocracies
Oil Price Index$_{t-1}$	0.997**	-0.107	0.628*	0.109
	(0.415)	(0.514)	(0.327)	(0.321)
Oil Price Index$_{t-2}$	-0.118	-0.612	-0.188	-0.737**
	(0.494)	(0.574)	(0.295)	(0.343)
Oil Price Index$_{t-3}$	-0.270	0.760	0.404	0.302
	(0.439)	(0.486)	(0.344)	(0.259)
Year FE	✓	✓	✓	✓
Country FE	✓	✓	✓	✓
R^2	0.314	0.405	0.175	0.215
Mean Dependent Variable	0.696	0.545	0.183	0.108
Observations	2,516	917	2,516	917
Number of Countries	114	63	114	63

Notes: Oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. Democracies are defined as country-years with a *polity2* score above 0 in the Polity IV database. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 5: Changes in Crude Oil Prices and Gas Price Chatter

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	Gas Price Chatter		Gas Price Chatter		Gas Price Chatter	
Oil Shock Specification:	3-Year MA		5-Year MA		Fixed Weights	
Sample:	Democracies	Autocracies	Democracies	Autocracies	Democracies	Autocracies
Oil Price Index$_{t-1}$	0.688**	0.660	1.234**	0.496	2.858**	1.760
	(0.341)	(0.544)	(0.552)	(0.524)	(1.088)	(2.718)
Oil Price Index$_{t-2}$	-0.208	-0.165	-0.750	-0.332	2.304**	1.917
	(0.349)	(0.259)	(0.611)	(0.246)	(0.957)	(2.362)
Oil Price Index$_{t-3}$	0.359	-0.315	0.365	0.234	2.488***	1.691
	(0.286)	(0.188)	(0.741)	(0.382)	(0.901)	(2.737)
Year FE	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓
R^2	0.443	0.452	0.457	0.453	0.458	0.462
Mean Dependent Variable	0.118	0.136	0.116	0.138	0.120	0.132
Observations	1,225	184	1,191	175	1,265	194
Number of Countries	59	15	59	15	59	15

Notes: This table presents the effects of the oil price index on gas price media chatter. *Gas Price Chatter* is defined as the number of articles discussing gas price increases scaled by the total number of articles in a country-year. In column (1)-(2) , oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. In column (3)-(4), oil import exposure is the 5-year rolling average, from t-5 to t-1, of oil imports as a share of GDP. In column (5)-(6), oil import exposure is a fixed weight of oil imports as a share of GDP over the sample period. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 6: Net implicit gasoline tax (subsidy) and democracy measure

Dependent variable:	(1)	(2)	(3)
	Net Implicit Tax/Subsidy		
	Price Gap Approach	Ad-Valorem Approach	Ad-Valorem WTI Approach
=1 Democracy	0.292***	0.394***	0.402***
	(0.078)	(0.117)	(0.119)
Constant	0.315***	1.516***	1.542***
	(0.067)	(0.102)	(0.104)
R^2	0.072	0.057	0.058
Mean of Dependent Variable	0.533	1.809	1.842
Observations	1,775	1,775	1,775
Number of Countries	145	145	145

Notes: The dependent variable in Column 1 is the net implicit tax (subsidy), estimated as the difference between the local gasoline price and the international benchmark price (at the New York harbor), in constant 2015 US dollars per liter. The dependent variable in Column 2 is the net implicit tax (subsidy) estimated using an ad valorem approach, given by the local price as a percentage of the benchmark international price. The dependent variable in Column 3 is the net implicit tax (subsidy) estimated using an ad valorem approach, given by the local price as a percentage of the benchmark international price (at US Gulf Coast). In Columns (1)-(3) a higher value corresponds to a lower subsidy/higher implicit tax. These data are taken from Ross et al. (2017). *Democracy* is a dummy variable defined as country-year with a *polity2* score above 0. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 7: Changes in Crude Oil Prices and Country Gasoline Prices

	(1)	(2)	(3)
Dependent variable:	$\Delta \ln(GasolinePrice, 2015USD)$		
Oil Shock Specification:	3-Year MA	5-Year MA	Fixed Weights
Oil Price Index$_t$	-0.244	-0.353	-1.412*
	(0.201)	(0.303)	(0.838)
Oil Price Index$_t \times$ Democracy	0.476**	0.985***	3.547***
	(0.224)	(0.366)	(0.797)
Constant	0.019*	0.019*	0.018
	(0.011)	(0.011)	(0.012)
Year FE	✓	✓	✓
Country FE	✓	✓	✓
Linear Combination	0.233	0.632	2.134
S.E.	(0.102)	(0.188)	(0.719)
R^2	0.646	0.650	0.660
Observations	1,575	1,567	1,578
Number of Countries	139	139	140

Notes: The oil price index is constructed using weights of three-year moving average oil imports to GDP ratios. The dependent variable is the log change in yearly gasoline prices converted in 2015 US dollars taken from Ross et al. (2017). The rows "Linear combination" and "S.E." report the sum of Oil Price Index$_t$+ Oil Price Index$_t \times$ Democracy and the respective standard error on this linear combination. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 8: Changes in Crude Oil Prices and Macroeconomic Variables: Democracies vs. Autocracies

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	GDP Growth	Inflation	Unemployment	GDP Growth	Inflation	Unemployment
Oil Shock Specification:		3-Year MA			3-Year MA	
Sample:		Democracies			Autocracies	
Oil Price Index$_{t-1}$	-3.984	105.529**	5.279	5.658	-16.359	-0.788
	(3.441)	(43.086)	(3.795)	(6.129)	(24.256)	(2.957)
Oil Price Index$_{t-2}$	-1.473	-48.518	0.894	-5.806	27.931	2.389
	(2.919)	(58.722)	(2.145)	(6.289)	(24.044)	(3.430)
Oil Price Index$_{t-3}$	-3.719	48.299	3.736	1.335	62.399	7.522*
	(4.466)	(32.199)	(5.543)	(5.571)	(39.846)	(3.927)
Year FE	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓
R^2	0.275	0.260	0.739	0.341	0.542	0.879
Mean Dependent Variable	3.642	9.330	8.769	4.127	14.902	7.857
Observations	2,848	2,834	2,000	1,131	1,126	387
Number of Countries	122	122	80	80	78	33

Notes: Oil import exposure in Columns (1) to (6) is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 9: Changes in Crude Oil Prices, Total Reserves, Exchange rates, and External debt

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	Δ ln(Exchange Rate)		Δ ln(Total Reserves)		Δ ln(External Debt)	
Oil Shock Specification:	3-Year MA		3-Year MA		3-Year MA	
Sample:	Democracies	Autocracies	Democracies	Autocracies	Democracies	Autocracies
Oil Price Index$_{t-1}$	0.348*	-0.045	0.412	-2.270**	0.083	0.448*
	(0.197)	(0.262)	(0.392)	(0.965)	(0.253)	(0.230)
Oil Price Index$_{t-2}$	-0.004	0.409	-0.635	1.811	0.016	-0.364
	(0.205)	(0.366)	(0.460)	(1.101)	(0.275)	(0.355)
Oil Price Index$_{t-3}$	0.516**	0.111	0.168	-0.764	-0.126	0.646**
	(0.239)	(0.288)	(0.279)	(0.809)	(0.292)	(0.301)
Year FE	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓
R^2	0.241	0.419	0.108	0.124	0.169	0.220
Observations	2,801	1,124	2,677	968	1,718	981
Number of Countries	120	77	114	67	81	69

Notes: The dependent variable in Columns 1 and 2 is the log change of the official exchange rate expressed in local currency units (LCU) per US dollar. The data are taken from the World Development Indicators and represent annual period averages. The dependent variable in Columns 3 and 4 is the log change in the stock of total reserves (including gold), expressed in current US dollars. In Columns 5 and 6, the dependent variable is the log change in the stock of external debt, expressed as a % of GNI. The data are taken from the World Development Indicators. In Columns 1-6 , oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Online Appendix
The Political Costs of Oil Price Shocks

Rabah Arezki, Simeon Djankov, Ha Nguyen, Ivan Yotzov

April 2022

Table A1: Election and Polling Data by Country

Country	Number of Elections
argentina	4
australia	12
austria	5
belgium	1
brazil	2
bulgaria	4
canada	5
chile	3
colombia	4
croatia	3
cyprus	3
czech republic	8
denmark	3
ecuador	4
estonia	2
finland	3
france	4
germany	4
greece	5
hungary	4
iceland	4
india	2
ireland	2
italy	3
japan	3
korea, republic of	2
malta	2
mexico	1
netherlands	2
new zealand	6
paraguay	2
peru	4
philippines	3
poland	8
portugal	11
romania	3
serbia	3
slovakia	3
slovenia	4
south africa	2
spain	8
sweden	4
switzerland	3
taiwan, province of china	4
turkey	5
united kingdom	9
united states	10
uruguay	2
Total	198

Table A2: Changes in Crude Oil Prices and Electoral Turnover, by Party Orientation

	(1)	(2)	(3)
Dependent variable:	=1 Incumbent Stays		=1 Left-Wing
Oil Shock Specification:	3-Year MA		3-Year MA
Sample:	Democracies		Democracies
Incumbent Party Orientation:	Left-Wing	Right-Wing	
Oil Price Index$_{t-1}$	-6.468***	0.086	-3.247**
	(1.956)	(2.687)	(1.312)
Oil Price Index$_{t-2}$	-2.106	-5.537	2.648
	(3.393)	(4.462)	(1.654)
Oil Price Index$_{t-3}$	3.314	0.752	-0.524
	(2.544)	(2.258)	(1.619)
Year FE	✓	✓	✓
Country FE	✓	✓	✓
R^2	0.470	0.390	0.463
Mean Dependent Variable	0.542	0.571	0.458
Number of Elections	168	189	369
Number of Countries	46	48	71

Notes: Columns (1) and (2) present the effect of our oil price index on incumbent re-election depending on party orientation of the incumbent. Column (3) presents the effect of our oil price index on the likelihood that the *incoming* chief executive is left-wing (versus right-wing). Oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A3: Changes in Crude Oil Prices and Electoral Turnover: Import vs. fuel export shocks

	(1)	(2)	(3)
Dependent variable:	=1 Incumbent Stays		
Oil Shock Specification:	3-Year MA		
Sample:	Democracies		
Oil Price Index$_{t-1}^{Imports}$	-3.599***		-4.047***
	(1.131)		(1.417)
Oil Price Index$_{t-2}^{Imports}$	-0.056		1.663
	(1.267)		(2.026)
Oil Price Index$_{t-3}^{Imports}$	-0.047		0.388
	(1.060)		(1.698)
Oil Price Index$_{t-1}^{FuelExports}$		1.762**	2.097**
		(0.820)	(1.016)
Oil Price Index$_{t-2}^{FuelExports}$		-1.909	-1.927
		(1.217)	(1.223)
Oil Price Index$_{t-3}^{FuelExports}$		1.504	0.959
		(1.173)	(1.166)
Year FE	✓	✓	✓
Country FE	✓	✓	✓
R^2	0.288	0.315	0.326
Mean Dependent Variable	0.513	0.522	0.523
Number of Elections	618	458	430
Number of Countries	107	88	87

Notes: The $OilPriceIndex^{Imports}$ is constructed using weights of three-year moving average oil imports to GDP ratios. The $OilPriceIndex^{FuelExports}$ index is constructed using weights of three-year moving average fuel exports to GDP ratios. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A4: Changes in Crude Oil Prices and Electoral Turnover: Robustness to import commodity price index

	(1)	(2)	(3)
Dependent variable:	=1 Incumbent Stays		
Oil Shock Specification:	3-Year MA	5-Year MA	Fixed Weights
Sample:	Democracies		
Oil Price Index$_{t-1}$	-3.350***	-3.420*	-2.488
	(1.077)	(2.018)	(4.089)
Oil Price Index$_{t-2}$	0.124	1.289	-7.951*
	(1.305)	(2.393)	(4.780)
Oil Price Index$_{t-3}$	-0.355	0.163	-10.876**
	(1.097)	(1.880)	(4.727)
Commodity Index$_{t-1}$	-2.216	-3.031	-4.656
	(2.883)	(3.148)	(2.860)
Commodity Index$_{t-2}$	-0.596	-0.938	6.984**
	(2.266)	(2.615)	(3.200)
Commodity Index$_{t-3}$	2.218	0.233	7.244**
	(2.537)	(2.827)	(2.897)
Year FE	✓	✓	✓
Country FE	✓	✓	✓
R^2	0.290	0.284	0.286
Mean Dependent Variable	0.507	0.497	0.507
Number of Elections	605	577	633
Number of Countries	106	106	106

Notes: In column (1) , oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. In column (2), oil import exposure is the 5-year rolling average, from t-5 to t-1, of oil imports as a share of GDP. In column (3), oil import exposure is a fixed weight of oil imports as a share of GDP over the sample period. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A5: Changes in Crude Oil Prices and Electoral Turnover: Testing for nonlinearities

	(1)	(2)	(3)
Dependent variable:	=1 Incumbent Stays		
Oil Shock Specification:	3-Year MA	5-Year MA	Fixed Weights
Sample:	Democracies		
Oil Price Index$_{t-1}$	-2.640***	-2.989***	-6.167*
	(0.991)	(1.054)	(3.445)
Oil Price Index$^2_{t-1}$	-6.168	-12.721	60.126
	(11.901)	(29.928)	(120.216)
Year FE	✓	✓	✓
Country FE	✓	✓	✓
R^2	0.280	0.276	0.267
Mean Dependent Variable	0.516	0.513	0.515
Number of Elections	644	618	662
Number of Countries	107	107	107

Notes: In column (1) , oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. In column (2), oil import exposure is the 5-year rolling average, from t-5 to t-1, of oil imports as a share of GDP. In column (3), oil import exposure is a fixed weight of oil imports as a share of GDP over the sample period. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A6: Changes in Crude Oil Prices and Electoral Turnover (IV specification)

	(1)	(2)	(3)	(4)
Dependent variable:	=1 Incumbent Stays		Oil Price Index$_{t-1}$	
Oil Index Specification:	Fixed Weight	Fixed 2000 Weight	Fixed Weight	Fixed 2000 Weight
Oil Price Index$_{t-1}$	-10.519*	-11.071**		
	(5.532)	(5.040)		
Oil Supply Shock$_{t-2}$			-0.024***	-0.022***
			(0.003)	(0.002)
Year FE	✓	✓	✓	✓
Country FE	✓	✓	✓	✓
R^2	0.004	0.001	0.855	0.828
C-D F Statistic	231.1	234.3		
Mean Dependent Variable	0.515	0.516		
Number of Elections	662	659	662	659
Number of Countries	107	106	107	106

Notes: In columns (1) and (3), oil import exposure is a fixed weight of average oil imports as a share of GDP over the sample period. In columns (2) and (4), oil import exposure is a fixed weight of oil imports as a share of GDP in 2000. Data on oil supply shocks is taken from Baumeister & Hamilton (2019). Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A7: Changes in Crude Oil Prices and Electoral Turnover: Robustness to other macro variables

	(1)	(2)	(3)
Dependent variable:	=1 Incumbent Stays		
Oil Shock Specification:	3-Year MA	5-Year MA	Fixed Weights
Sample:	Democracies		
Oil Price Index$_{t-1}$	-4.962***	-4.360	-9.737**
	(1.535)	(2.751)	(4.487)
Oil Price Index$_{t-2}$	1.252	1.629	-4.188
	(1.939)	(3.365)	(4.603)
Oil Price Index$_{t-3}$	0.952	1.048	-6.356
	(1.639)	(2.651)	(5.710)
GDP Growth$_{t-1}$	0.024**	0.018	0.024**
	(0.012)	(0.012)	(0.010)
GDP Growth$_{t-2}$	0.009	0.017	0.009
	(0.012)	(0.013)	(0.012)
Unemployment Rate$_{t-1}$	0.009	0.018	0.012
	(0.027)	(0.028)	(0.024)
Unemployment Rate$_{t-2}$	-0.017	-0.026	-0.021
	(0.025)	(0.027)	(0.022)
Inflation Rate$_{t-1}$	0.008***	0.008**	0.008***
	(0.003)	(0.003)	(0.002)
Inflation Rate$_{t-2}$	-0.009***	-0.008**	-0.008***
	(0.003)	(0.003)	(0.002)
Year FE	✓	✓	✓
Country FE	✓	✓	✓
R^2	0.281	0.267	0.265
Mean Dependent Variable	0.518	0.508	0.515
Number of Elections	442	419	458
Number of Countries	72	72	72

Notes: In column (1) , oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. In column (2), oil import exposure is the 5-year rolling average, from t-5 to t-1, of oil imports as a share of GDP. In column (3), oil import exposure is a fixed weight of oil imports as a share of GDP over the sample period. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A8: Changes in Crude Oil Prices and Electoral Turnover: Robustness to dropping decades

	(1)	(2)	(3)	(4)
Dependent variable:	=1 Incumbent Stays			
Oil Shock Specification:	3-Year MA			
Sample:	Democracies			
Omitted Decade:	2010s	2000s	1990s	1980s
Oil Price Index$_{t-1}$	-3.592**	-3.112**	-3.733***	-3.803***
	(1.704)	(1.563)	(1.159)	(1.146)
Oil Price Index$_{t-2}$	-0.744	0.344	0.506	-0.078
	(1.755)	(1.445)	(1.422)	(1.276)
Oil Price Index$_{t-3}$	1.033	-0.890	-0.215	0.074
	(1.716)	(1.244)	(1.210)	(1.051)
Year FE	✓	✓	✓	✓
Country FE	✓	✓	✓	✓
R^2	0.321	0.370	0.338	0.280
Mean Dependent Variable	0.527	0.491	0.524	0.505
Number of Elections	400	397	454	582
Number of Countries	90	98	105	107

Notes: In columns (1) to (4) , oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A9: Changes in Crude Oil Prices and Electoral Turnover by Income Groups

	(1)	(2)
Dependent variable:	=1 Incumbent Stays	
Oil Shock Specification:	3-Year MA	
Sample:	Democracies	
Income Group:	High Income	Low Income
Oil Price Index$_{t-1}$	-3.380*	-3.944**
	(1.792)	(1.703)
Oil Price Index$_{t-2}$	0.836	0.223
	(2.220)	(1.833)
Oil Price Index$_{t-3}$	-0.960	-0.665
	(1.747)	(1.395)
Year FE	✓	✓
Country FE	✓	✓
R^2	0.268	0.460
Mean Dependent Variable	0.533	0.467
Number of Elections	420	195
Number of Countries	64	43

Notes: In columns (1) and (2) , oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A10: Changes in Crude Oil Prices and Electoral Turnover: Dropping G10 countries

	(1)	(2)	(3)
Dependent variable:	=1 Incumbent Stays		
Oil Shock Specification:	3-Year MA	5-Year MA	Fixed Weights
Sample:	Democracies		
Oil Price Index$_{t-1}$	-3.652***	-3.659*	-6.026
	(1.177)	(2.032)	(3.703)
Oil Price Index$_{t-2}$	0.159	1.266	-1.757
	(1.264)	(2.289)	(4.352)
Oil Price Index$_{t-3}$	0.029	0.132	-5.206
	(1.117)	(1.890)	(4.775)
Year FE	✓	✓	✓
Country FE	✓	✓	✓
R^2	0.285	0.283	0.265
Mean Dependent Variable	0.496	0.488	0.495
Number of Elections	528	506	553
Number of Countries	96	96	96

Notes: This table excludes elections from G10 countries: Belgium; Canada; The Netherlands; France; Germany; UK; US; Sweden; Switzerland; Italy; Japan. In column (1) , oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. In column (2), oil import exposure is the 5-year rolling average, from t-5 to t-1, of oil imports as a share of GDP. In column (3), oil import exposure is a fixed weight of oil imports as a share of GDP over the sample period. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A11: Changes in Crude Oil Prices and Electoral Turnover: Dropping small oil import/GDP values

	(1)	(2)	(3)	(4)
Dependent variable:	=1 Incumbent Stays			
Oil Shock Specification:	3-Year MA			
Sample:	Democracies			
Oil Import/GDP Value:	Full Sample	>5 Pct	>10 Pct	>25 Pct
Oil Price Index$_{t-1}$	-3.599***	-3.523***	-3.152***	-3.067**
	(1.131)	(1.183)	(1.190)	(1.192)
Oil Price Index$_{t-2}$	-0.056	-0.471	-0.683	-0.873
	(1.267)	(1.288)	(1.298)	(1.223)
Oil Price Index$_{t-3}$	-0.047	0.310	0.686	1.153
	(1.060)	(1.074)	(1.082)	(1.150)
Year FE	✓	✓	✓	✓
Country FE	✓	✓	✓	✓
R^2	0.288	0.290	0.296	0.364
Mean Dependent Variable	0.513	0.515	0.513	0.499
Number of Elections	618	584	550	443
Number of Countries	107	106	104	97

Notes: In columns (1) to (4) , oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A12: Changes in Crude Oil Prices and Electoral Turnover: Robustness to dropping regions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent variable:	=1 Incumbent Stays						
Oil Shock Specification:	3-Year MA						
Sample:	Democracies						
Omitted Region:	EAP	ECA	LAC	MENA	NA	SA	SSA
Oil Price Index$_{t-1}$	-3.570***	-3.181**	-3.627***	-3.585***	-3.508***	-3.515***	-4.316***
	(1.259)	(1.432)	(1.191)	(1.148)	(1.118)	(1.139)	(1.434)
Oil Price Index$_{t-2}$	-0.420	-0.478	1.053	-0.706	-0.087	-0.020	0.471
	(1.374)	(1.360)	(1.524)	(1.333)	(1.259)	(1.294)	(1.576)
Oil Price Index$_{t-3}$	0.501	-0.579	-0.589	0.299	-0.038	-0.038	0.076
	(1.326)	(1.157)	(1.253)	(1.084)	(1.053)	(1.066)	(1.262)
Year FE	✓	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓	✓
R^2	0.296	0.334	0.304	0.289	0.291	0.281	0.289
Mean Dependent Variable	0.504	0.507	0.541	0.507	0.511	0.522	0.499
Number of Elections	528	400	484	600	601	594	501
Number of Countries	93	73	86	103	105	102	80

Notes: **EAP**: East Asia and Pacific; **ECA**: Europe and Central Asia; **LAC**: Latin America and Caribbean; **MENA**: Middle East and North Africa; **NA**: North America; **SA**: South Asia; **SSA**: Sub-Saharan Africa. In columns (1) to (7) , oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A13: Changes in Crude Oil Prices and Electoral Turnover: Predetermined elections only

	(1)	(2)	(3)
Dependent variable:	=1 Incumbent Stays		
Oil Shock Specification:	3-Year MA	5-Year MA	Fixed Weights
Sample:	Democracies		
Oil Price Index$_{t-1}$	-4.885***	-6.116***	-9.134**
	(1.597)	(2.273)	(4.484)
Oil Price Index$_{t-2}$	-0.051	0.366	-5.380
	(1.686)	(2.600)	(5.320)
Oil Price Index$_{t-3}$	-0.146	1.889	-2.493
	(1.333)	(2.094)	(4.727)
Year FE	✓	✓	✓
Country FE	✓	✓	✓
R^2	0.342	0.336	0.315
Mean Dependent Variable	0.512	0.499	0.509
Number of Elections	473	447	503
Number of Countries	97	95	98

Notes: In column (1) , oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. In column (2), oil import exposure is the 5-year rolling average, from t-5 to t-1, of oil imports as a share of GDP. In column (3), oil import exposure is a fixed weight of oil imports as a share of GDP over the sample period. Standard errors are clustered at the country level and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A14: Changes in Crude Oil Prices and Electoral Turnover: Alternative standard error clustering

	(1)	(2)	(3)
Dependent variable:	=1 Incumbent Stays		
Oil Shock Specification:	3-Year MA	5-Year MA	Fixed Weights
Sample:	Democracies		
Oil Price Index$_{t-1}$	-3.599***	-3.973*	-6.339*
	(1.146)	(2.190)	(3.301)
Oil Price Index$_{t-2}$	-0.056	0.988	-1.570
	(1.168)	(2.161)	(3.205)
Oil Price Index$_{t-3}$	-0.047	0.341	-5.225
	(1.089)	(1.982)	(5.803)
Year FE	✓	✓	✓
Country FE	✓	✓	✓
R^2	0.288	0.280	0.273
Mean Dependent Variable	0.513	0.503	0.512
Number of Elections	618	589	650
Number of Countries	32	30	34

Notes: In column (1) , oil import exposure is the 3-year rolling average, from t-3 to t-1, of oil imports as a share of GDP. In column (2), oil import exposure is the 5-year rolling average, from t-5 to t-1, of oil imports as a share of GDP. In column (3), oil import exposure is a fixed weight of oil imports as a share of GDP over the sample period. Standard errors are clustered at the country and year levels and reported in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.