Political Leadership Has Limited Impact on Fossil Fuel Taxes and Subsidies^{*}

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Abstract

For countries to rapidly decarbonize they need strong leadership, according to both academic studies and popular accounts. But leadership on climate issues is difficult to measure and its importance is unclear. We use original data to investigate the role of 623 presidents, prime ministers, and monarchs in 155 countries in their countries' climate policies, focusing on the reform of gasoline taxes and subsidies. Our findings suggest that the role of leadership is surprisingly limited and often ephemeral. In most countries, leader tenures fail to explain variation in gasoline taxes and subsidies. The personal traits of leaders—including their age, gender, education, and ideology—are also uncorrelated with changes in taxes and subsidies. Rulers who govern during an economic crisis perform no better or worse than other rulers. Even Presidents and Prime Ministers who were recognized by the United Nations for environmental leadership had no more success than other leaders in reducing subsidies or raising fuel taxes. Where leaders appear to play an important role—primarily in countries with large subsidies—their reforms often failed, with subsidies returning to pre-reform levels within the first 12 months 62% of the time, and within five years 87% of the time. Our findings suggest that leaders of all types find it exceptionally hard to have a lasting impact on gasoline taxes and subsidies.

Introduction

Effective climate policies require strong leadership, according to both academic studies and popular accounts (Andresen and Agrawala, 2002; Karlsson et al., 2011; Masson-Delmotte et al., 2018; Stiglitz et al., 2017; Victor, 2019; Coalition, 2021). Yet ambitious declarations are often followed by tepid reforms, and even these are sometimes reversed by subsequent governments. The impact of leadership is difficult to measure, and prior studies suggest its significance varies by issue area (Ferraz and Finan, 2011; Ahlquist and Levi, 2011; Krcmaric, Nelson and Roberts, 2020; Berry and Fowler, 2021; Dube and Harish, 2020). Past studies on climate leadership have focused on global diplomacy, not domestic policies (Skodvin and Andresen, 2006; Karlsson et al., 2011; Busby and Urpelainen, 2020).

Political leadership may be especially important for politically-sensitive issues like carbon pricing. Governments can reduce carbon pollution by removing fossil fuel subsidies and using taxes to raise the cost of consumption, but higher prices often meet strong opposition and are difficult to sustain (Rabe, 2018; Cullenward and Victor, 2020). Despite the endorsement of the G20 heads of government, the Intergovernmental Panel on Climate Change, the International Monetary Fund, and many other organizations, progress toward subsidy reform has been slow and erratic (Ross, Hazlett and Mahdavi, 2017; IEA, 2017).

We analyze the relationship between the tenures of presidents, prime ministers, and monarchs on the one hand, and their countries' gasoline taxes and subsidies on the other, using original tax and subsidy data at the monthly level for 155 countries between 1990 and 2015. To do so, we examine how much of the monthly variation in gasoline taxes/subsidies can most optimistically be explained by leadership, allowing each leader's tenure to influence the level and rate of change of taxes/subsidies as best fits the data. That model's explanatory power is then compared to the explanatory power of many models that are identical except that the order of leaders (and their tenures) within each country has been permuted, providing a distribution of the explanatory power (R^2) under the null hypothesis that the tenure timing does not explain prices. Our supposition is that, if leaders' tenures can explain variation in fuel price reforms, this may be due either to leaders having influence over pricing, or to confounding factors that tend to generate reforms that are more synchronized with tenures than expected by chance. By contrast, if tenure timing does not explain any appreciable variation in fuel pricing, we expect this is either (i) because leaders have had little influence on pricing, or (ii) because other forces generate reforms that are more often out of synchrony with tenures, approximately counteracting the leader effects. We judge the latter scenario to be unlikely and thus would (and do) interpret the lack of any association between tenures and fuel pricing as mostly likely being due to leaders having very little effect on pricing.

Gasoline taxes and subsidies are a uniquely valuable tool for comparing the climate mitigation policies of countries and leaders, both across countries and over time. Most types of mitigation policies are highly country-specific: reforms that are critical in one country might be meaningless in another; even within a single country, reforms that matter at one point might lose significance over time (Aldy and Pizer, 2020). But all countries sell gasoline, and all governments tax or subsidize it. Changes in these taxes and subsidies can reveal the degree to which governments are encouraging or discouraging gasoline consumption. Since gasoline is sold in retail markets, taxes and subsidies on gasoline are easier to measure than taxes and subsidies on other fossil fuels like coal and fossil gas. In 2020, petroleum accounted for 54% of all fossil fuel subsidies (FossilFuelSubsidyTracker.org; March 29, 2022).

Prior research suggests that gasoline taxes and subsidies are largely driven by long-term changes in economic development and fossil fuel wealth; the role of political factors is highly contingent and linked to shifting opportunities and constraints (Clements et al., 2013; Skov-gaard and van Asselt, 2018; Inchauste and Victor, 2017; Mahdavi, Martinez-Alvarez and Ross, 2022). Here we investigate the role of political leadership in navigating these opportunities and constraints, looking at both the full set of countries and in important subgroups.

Our analysis yields four broad findings. First, in most categories of countries, leadership has no observable relationship with gasoline taxes and subsidies, which we interpret as evidence that leaders do not substantially affect these taxes and subsidies. There are two apparent exceptions: countries with presidential political systems, and countries that have maintained large fuel subsidies over a long period of time. In these subgroups, either individual leaders are affecting taxes and subsidies, or unobserved confounders make it appear this way.

Second, we find no observable characteristics that explain why different leaders adopt different policies. Characteristics that are usually associated with support for more aggressive climate policies—age, gender, education, and political affiliation—do not account for differences in the records of leaders. Even presidents and prime ministers who are recognized by the United Nations for their environmental leadership perform no differently than their peers.

Third, governing during an economic crisis does not change these results. We find that the records of leaders who face fiscal crises are no different than leaders who do not.

Finally, in the subgroups of countries where leadership tenures are mostly strongly associated with pricing—countries with large and persistent subsidies—most reforms are surprisingly ephemeral. On average, leaders in these countries adopted significant reforms about once every 43 months. Most of the reforms, however, were soon reversed by political protests, fluctuating exchange rates, inflation, and changes in global oil prices. After twelve months, 62% of these reforms had been reversed; after 5 years, 87% were reversed.

We interpret these findings as evidence that in most countries, leaders have had little effect on gasoline taxes and subsidies. In countries where there is evidence they had an impact, that impact is usually ephemeral. We argue that this shows how profoundly difficult it is for leaders of all types to reform taxes and subsidies on fossil fuels.

Leadership and carbon price reforms

Earlier research suggests that gasoline taxes and subsidies are closely associated with slowmoving economic factors, principally income per capita and fossil fuel wealth. The role of politics has been less clear. Once a country's economic attributes are accounted for, there is no consistent link between gasoline taxes and subsidies, on the one hand, and political factors like government effectiveness or democratic institutions, on the other. Instead, most of the intertemporal variation in gas taxes and subsidies at the country level is associated with unobserved time-varying factors (Mahdavi, Martinez-Alvarez and Ross, 2022). These results are consistent with case study-based evidence that highlights the importance of idiosyncratic opportunities and fleeting local conditions (Clements et al., 2013; Skovgaard and van Asselt, 2018; Rabe, 2018; Inchauste and Victor, 2017).

Among these local conditions, case studies often highlight the commitments and strategies of political leaders. In many countries, the head of government has considerable authority over gasoline taxes and subsidies (Kojima, 2016). Yet it is not clear when and how a chief executive's leadership matters. All kinds of carbon pricing—including carbon taxes, cap-andtrade programs, and fossil fuel subsidy reform—are politically challenging to implement since they ask citizens to incur highly-visible near-term costs in exchange for the promise of more opaque long-term benefits (Cullenward and Victor, 2020; Finnegan, 2022). Voters are also highly sensitive to changes in energy prices, especially for gasoline, which must be purchased regularly and whose price is widely displayed (Ansolabehere and Konisky, 2014; Inchauste and Victor, 2017). Between 2006 and 2019, attempts to raise gasoline prices were followed by protests in at least 24 countries (Mahdavi, Martinez-Alvarez and Ross, 2022; Natalini, Bravo and Newman, 2020).

In theory, skillful leaders can facilitate carbon price reforms by strategically framing the public debate, exploiting windows of opportunity, designing policies that provide targeted benefits to vulnerable populations, and adopting communications strategies that clarify the costs of the status quo and the benefits of reform (Rentschler and Bazilian, 2017). Yet we have little evidence on the effectiveness of these approaches. Almost all prior research has been based on small samples of case studies with limited time frames. This makes it difficult to know much about the effectiveness of leadership on carbon pricing in general, and why some leaders appear to be more successful than others.

Data

Our analysis is based on original data on monthly gasoline taxes and subsidies in 155 countries from January 1990 to June 2015. Our data covers all sovereign states with populations greater than one million in 2012, except for four countries that lacked reliable data: Cuba, Eritrea, North Korea, and Turkmenistan (see Table S1).

We draw on a wide range of primary sources, including documents from government ministries, central banks, statistical agencies, regulatory bodies, state-owned oil companies, and official government decrees. In 17 countries we employed local researchers to gather primary data that were not otherwise available. Our secondary sources include archives maintained by the European Commission, the International Road Transport Union, the Food and Agriculture Organization, CITAC Africa, the Organization of Arab Petroleum Exporting Countries, the International Monetary Fund and the World Bank. Whenever possible we cross-validate our data using multiple sources.

We calculate the net size of taxes and subsidies using the price gap method, estimating the difference between the observed retail price and an inferred supply cost (Koplow, 2009). This reveals a country's net implicit tax, which can be either positive (when the retail gasoline price is above the supply cost, indicating a net tax) or negative (when the price is below the supply cost, indicating a net subsidy). The net implicit tax at the country-month level is our main dependent variable. It indicates the aggregate effect of all measures taken by governments—including all direct and indirect taxes, subsidies, tariffs, non-tariff barriers, and regulations along the supply chain—that ultimately affect consumer prices.

Our data on political leadership—including presidents, prime ministers, and monarchs—is drawn from Goemans, Gleditsch and Chiozza (2009), Scartascini, Cruz and Keefer (2018), and Baturo (2016). We treat all consecutive months that a leader remains in office as a single "leader tenure" observation, even if covers multiple terms. When a leader leaves office and later returns, we count it as a separate leader tenure observation. After dropping tenures that lasted fewer than 6 months—due to the brevity of their tenure or left or right censoring—our effective sample consists of 623 leaders who served a total of 672 tenures in office, lasting an average of 113 months.¹

For many countries, our fine-grained data reveals sharp changes in the net implicit tax over time, both within and across the terms of successive leaders. For example, we show these trends across presidents in two major oil-producing countries, Iran and Nigeria, in Figure 1. Among all countries over the 1990-2015 period, the average leader saw the real value of the net implicit tax rise by 0.0028 US dollars per month during their tenure, with a standard deviation of 0.38 US dollars. The value is similar in each of the subgroups we examine—democracies and autocracies, presidential and parliamentary democracies, oil exporters and importers, and persistent taxers and persistent subsidizers—although the shape of the distribution differs slightly across the subgroups (see **Figures S1-S3** in the Online Appendix).

¹We also restricted our sample to countries with more than one political leader during the period of analysis.

Figure 1: Gasoline prices in real USD per liter in Iran (top) and Nigeria (bottom), 1990-2015. Price lines are shaded and colored to distinguish different leader tenures in each country.



Methods

We use three strategies to evaluate the relationship between political leadership and net implicit gas taxes.

First, we ask if accounting for the tenures of all country leaders helps explain variation in net implicit fuel taxes within countries over time. As a first reference point, we consider a simple model in which each county has its own intercept and linear time trend, called the country-fixed effects (CFE) model, to see how much of the variation in taxes/subsidies can be explained (the R^2) by this "baseline" model. We then construct the leader fixed effects (LFE) model, in which the period of tenure for each leader (president, prime minister, or other national ruler) is given both its own intercept shift and its own linear time trend.

The inferential question is whether these leader fixed effects explain additional variation in the underlying data generating process above and beyond what is expected by chance. A conventional approach to significance testing would examine whether the degrees of freedom used by this model explain more variation than expected by chance alone (i.e. an F-test for the exclusion of all leader-fixed-effect compared to a model with only country fixed effect). However, such a test faces several statistical challenges. First, the number of terms added to the LFE model (XXX) is large relative to the number of residual degrees of freedom in the CFE (XXX),raising concerns as to whether the requirements to use an asymptotic test such as the F-test have been met. Second, conventional we expect a great deal of clustering and autocorrelation in these residuals, i.e. non-independence of outcomes within country and within tenure. We could address this through with approaches such as a cluster-robust modification of the Wald test for the exclusion of all the tenure-timing variables. However, even though clusterrobust standard errors are quite generaly, they still require the assumption of "no between cluster dependence" assumption they invoke would not be credible in the context of oil pricing. While some suitable choice of error covariance may be possible, rather than risk adopting an incorrect one, we instead preferred the fewness of assumptions, simplicity, and transparency of an alternative, permutation-based approach to inference, which we described next.

Consider the null hypothesis that "leader fixed effects explain no variation in prices above and beyond country fixed effects", we can generate the distribution of R^2 values for models like ours that would be generated if this were true through a simple permutation exercise: keeping the CFEs in the model as they are, we can construct false leader fixed effects that could nevertheless "accidentally" explain variation in the outcome under the null hypothesis, by permuting the underlying order of leader tenures within each country. This generates a sequence of tenures that have the same distribution of length, by country, but come in the incorrect order. Repeating this exercise one thousand times, each time permuting the sequence of within-country tenures in a different random order, we obtain a distribution of R^2 under the null hypothesis that LFEs have no real explanatory power.² Such permutation based reasoning has a long history in statistics (e.g. XXXX) and is sometimes taught prior to or in place of asymptotic approaches such as the F-test (e.g. XXX). It has recently been employed in a similar

²Note that in fact the CFE model is nested within the LFE model: any set of country fixed effects could be reconstructed from some choice of leader fixed effects. This will be dealt with invisibly during the regression by simply dropping either the CFEs or the fixed effects for one tenure in each country. The difference is immaterial, as the exact same predicted outcomes and R^2 will be found. In practice this means that we need not "keep the CFEs" in the model and can instead simply permute the leader tenures to produce LFE models under each permutation.

context of judging the explanatory power of leader fixed effects by Berry and Fowler (2021).³

After analyzing the full set of countries in our sample, we repeat this exercise separately for eight sub-groups of countries where the roles of leaders might systematically differ: autocracies and democracies, parliamentary democracies and presidential democracies, oil importers and oil exporters, and countries that generally tax gasoline and countries that generally subsidize it. We describe the 19 countries in latter group as "persistent subsidizers" and scrutinize them more carefully below.⁴

For robustness we also estimate OLS models that—in addition to leader-tenure fixed effects and these effects interacted with a tenure-time counter—include a series of time-varying covariates that prior research suggests are important confounders: income per capita, income growth, government debt, fossil fuel dependence and value-added tax rates (Mahdavi, Martinez-Alvarez and Ross, 2022).

Second, we evaluate whether a country's net implicit tax varies according to a leader's gender, age, college education, or political ideology. There are good reasons why these traits should matter: according to global public opinion research, women, younger people, people with more education, and people who hold left-of-center political views tend to express greater concern about climate change (Poortinga et al., 2019; Milfont et al., 2021). If leaders with these same traits also care more about climate change they might give greater priority to carbon pricing.

We begin by comparing the distribution of changes in the monthly net implicit tax under leaders with different age, gender, education, and ideological traits using kernal density plots. We then add dummy variables representing these traits to the same OLS model we employ above.

Relatedly, we also ask if the nine Presidents and Prime Ministers in our data set who were recognized by the United Nations Environment Programme between 2010 and 2017 as "Champions of the Earth"—the United Nations' highest environmental award—had different records

³Our approach differs slightly in that we generate the null distribution of R^2 values and determine what fraction fall above the R^2 of the true model, rather than creating a binary indicator of whether the R^2 of a permuted model exceeds that of the true model on each permutation and averaging. The resulting p-values will be approximately the same, however this approach allows us to visualize the whole distribution of R^2 values under the null.

⁴The persistent subsidizers are defined as the countries whose median implicit tax is below zero across the 1990-2015 period. Nineteen countries meet this definition: Algeria, Angola, United Arab Emirates, Bahrain, Ecuador, Egypt, Indonesia, Iran, Iraq, Kuwait, Libya, Myanmar, Nigeria, Oman, Qatar, Saudi Arabia, Sudan, Venezuela, and Yemen.

than other leaders. If strongly pro-environment leaders made greater progress in trimming gasoline subsidies and increasing gasoline taxes, we should observe this difference in the mean monthly change in net implicit fuel taxes during their tenures.

Third, we investigate whether governing during a fiscal crisis makes a difference. In several countries these crises seemed to trigger reforms: Yemeni President Hadi decontrolled gasoline prices in early 2015, after global oil prices had collapsed and his country was falling into civil war; Greek Prime Minister Papandreou hiked fuel prices in 2011, in the depths of the Greek financial crisis, to generate badly-needed revenues. Still, it is difficult to know if these crisis-induced reforms are part of a larger pattern: there may be many economic crises that are not followed by reform, and many reforms that are not preceded by crises. To address this question we focus on the 19 persistent subsidizers: since their gasoline prices are fixed by government fiat, we can measure the size and timing of their policy shifts with more precision; and because their subsidies are so costly, their leaders have strong incentives to push for reforms. We employ a broad measure of fiscal crises created by the International Monetary Fund to identify periods of "extreme funding difficulties" (Gerling et al., 2017, 8), and add it to our baseline OLS model.

After evaluating these results, in the Discussion we look more closely at subsidy reform in the 19 countries that maintained subsidies for most of this period. Our analysis suggests that leadership in these states is highly salient. If strong leadership leads to subsidy reforms, we should observe many cases of successful reform—and both case studies and news reports describe moments of reform in many of these states. We hence use our data to evaluate how frequently these leaders adopted price reforms, and once adopted, how many of these reforms endured.

Still, we believe that a fine-grained descriptive analysis of the relationship between leadership and carbon pricing can deepen our understanding of when and how these policies do or do not change.

Results

We begin by investigating the association between leader tenures and changes in the net implicit tax using permutation inference. Our results are displayed in Figure 2 and summarized in Table 1. Each subfigure shows the distribution of R^2 values from 1000 estimates with differently scrambled sets of leader tenure orderings, with the vertical blue line indicating the R^2 when the true sequence of leader tenures was used. The area under the curve to the right of the vertical line indicates how often an R^2 at or above this value would have been observed under the null hypothesis (i.e., if these additional terms had no explanatory role), which can be interpreted as a p-value.

Accounting for leadership tenure produces no significant rise in the R^2 in the full population of states, or in six of the eight subcategories. In the remaining two subcategories, however, we can reject the null hypothesis: among presidential democracies the inclusion of leader effects boosts the adjusted R^2 from 80.3% to 90% (p=0.002); and among the persistent subsidizers it increases the adjusted R^2 from 60% to 79% (p=0.004).

Next we look at the relationship between the characteristics of leaders and their records on net implicit taxes. The kernel density plots in Figure 4 compare the mean monthly change in net implicit taxes for leaders according to their age, gender, education, and ideology. In each case the differences are small and not statistically significant. When analyzing these traits using OLS regressions, we find similar results: none of these personal characteristics are significantly associated with changes in a country's net implicit tax for the full sample under analysis (Table 2). The results are broadly similar in the eight subgroups, although leader age is marginally significant in the autocracy subgroup and ideology is marginally significant among the presidential democracies (Tables S2-S8).

Nine Presidents and Prime Ministers in our data were recognized by UNEP as Champions of the Earth. During their tenures in office, the net implicit tax on gasoline decreased at an average rate of -0.0008 USD per month; for the remaining 549 leaders, it increased by an average of 0.00005 USD per month, although the difference is not statistically significant at the conventional levels. In other words, the net implicit tax *fell* among the Champions while it rose among the other leaders. Figure 3 displays the records of these nine Champions compared to the rest of the distribution. Just one of them (India's Narendra Modi) was among the top one-third of the distribution. We infer that the nine Champions did not have better records on fuel taxes than other leaders.

Table 1: Variation explained in country-fixed effects (CFE) only models versus CFE plus leaderspell fixed effects (LFE) models. Each row represents a sample or subsample of data, comparing the adjusted R^2 of the CFE-only model (col 2) to the LFE+CFE model (col 3), along with the p-values of the null hypothesis as described above (col 4).

Sample	${ m R}^2_{ m CFE}$	${ m R}^2_{ m CFE+LFE}$	P-Value
All countries	0.874	0.928	0.178
Democracies	0.874	0.943	0.217
Autocracies	0.818	0.862	0.178
Presidential (Democracies)	0.803	0.895	0.002***
Parliamentary (Democracies)	0.854	0.944	0.742
Oil Importers	0.848	0.909	0.236
Oil Exporters	0.945	0.964	0.119
Persistent Taxers	$0.\overline{676}$	0.729	0.233
Persistent Subsidizers	0.590	0.794	0.004^{***}

 $^{***}p < 0.001, \ ^{**}p < 0.01, \ ^*p < 0.05$

Figure 2: Each subfigure shows the distribution of R^2 values from 1000 estimates with differently scrambled sets of leader tenure orderings. The vertical blue line indicates the R^2 when the true sequence of leader tenures is used. The area under the curve to the right of the vertical line shows how often an R^2 at or above this value would have been observed under the null hypothesis (i.e., if these additional terms had no explanatory role), which is the p-value, printed in the top-left of each figure.



Figure 3: Distribution of leader average changes in fuel taxes. Each point refers to a leader's rate of change in taxes, defined as the total change in fuel taxes from tenure start to end divided by the number of months in office (Δ USD/liter/month). Points are sorted from largest positive change (top) to largest negative change (bottom). For leaders with multiple tenures, suffixes are added based on term: e.g., Michelle Bachelet I refers to the Chilean president's 2006-2010 term and Michelle Bachelet II refers to the 2014-2018 term.



Average rate of change in fuel taxes, by leader term

Finally, we add the 'fiscal crisis' measure to our baseline model (see column 4 in Table 2). The fiscal crisis measure is not significantly associated with changes in the net implicit tax. The results are similar for each of the eight subgroups (Tables S2-S8). We interpret this as evidence that the records of leaders who face fiscal crises are no different than leaders who do not.

Figure 4: Mean monthly change in net implicit taxes for leaders. Distributions are disaggregated by leader age (top left), gender (top right), education (bottom left), and ideology (bottom right).



Figure 5: Mean monthly change in net implicit taxes for leaders in persistent-subsidizing countries versus in persistent-taxing countries.



Table 2: Model results for all countries. The outcome is the net implicit tax on gasoline. The sample includes all countries with more than one political leader throughout the period of analysis. Coefficient estimates indicate the expected change in net implicit taxes for one-unit changes in each covariate.

	Model 1	Model 2	Model 3	Model 4
(Intercept)	-6.6267	-0.3088	0.6004	-0.3061
	(3.5754)	(3.2097)	(4.2624)	(3.2109)
GDP Per Capita	1.5174	0.0957	0.0543	0.0953
	(0.8086)	(0.7339)	(0.8715)	(0.7346)
GDP Per Capita Sq.	-0.0781	-0.0047	-0.0019	-0.0047
	(0.0428)	(0.0403)	(0.0455)	(0.0403)
GDP Growth	-0.0008	-0.0015	-0.0035^{*}	-0.0015
	(0.0009)	(0.0012)	(0.0013)	(0.0012)
Central Government Debt	-0.0005	-0.0008	-0.0013	-0.0008
	(0.0005)	(0.0006)	(0.0007)	(0.0006)
FF Income Dependence	-0.0061	-0.0117^{**}	-0.0115^{**}	-0.0117^{**}
	(0.0034)	(0.0023)	(0.0019)	(0.0023)
Value-Added Tax Rate	0.0029	0.0095	0.0048	0.0095
	(0.0043)	(0.0072)	(0.0074)	(0.0072)
Leader's Age			0.0013	
			(0.0010)	
Leader's Gender (M)			0.0194	
			(0.0552)	
Leader's Schooling			-0.0669	
			(0.0334)	
Executive Political Ideology			-0.0209	
			(0.0112)	
Economic Crisis Year				-0.0006
				(0.0153)
\mathbb{R}^2	0.9531	0.9060	0.9078	0.9060
$\operatorname{Adj.} \mathbb{R}^2$	0.9509	0.9051	0.9068	0.9051
Country Intercepts	Ν	Υ	Υ	Υ
Country Trends	Ν	Υ	Υ	Υ
Leader Intercepts	Υ	Ν	Ν	Ν
Leader Trends	Υ	Ν	Ν	Ν
Num. obs.	26171	26171	22660	26171
RMSE	0.1101	0.1531	0.1496	0.1531
N Clusters	121	121	114	121

***p < 0.001;**p < 0.01;*p < 0.05

Discussion and conclusion

We infer from these analyses that political leadership plays a surprisingly small and ephemeral role in the reform of gasoline taxes and subsidies.

In the full population of states we detect no association between a country's political leadership and changes in gasoline taxes and subsidies. We interpret this as evidence that presidents, prime ministers and monarchs are highly constrained in their ability to change gasoline taxes and subsidies. Still, we cannot exclude the possibility that leaders are influencing gas taxes and subsidies in ways that are masked by unobserved factors.

We also detect no association between the personal characteristics of leaders—their age, gender, education, and political ideology—and changes in their countries' gasoline taxes and subsidies. This might be surprising: countries should be more likely to cut gasoline subsidies and raise gasoline taxes when their governments are headed by leaders dedicated to strong action on climate. Although we have no way to measure the ex ante views of leaders on climate mitigation, we find it striking that Presidents and Prime Ministers who have the same traits as citizens with strong pro-climate views—younger, female, more educated, and more politically left-of-center—have the same records as leaders who are older, male, less educated, and right-of-center.

Even when governments are headed by leaders recognized by UNEP for their environmental achievements, they make no more progress on gas taxes and subsidies than other countries. In fact, their records were slightly worse. Conversely, many of the largest reductions in gasoline subsides and increases in gasoline taxes in our data occurred during the terms of leaders who could be politically identified as either unconcerned about reducing fossil fuel use, like Indonesia's Widodo (2014-) and South Korea's Park Geun-hye (2013-2017), or hostile to environmental interests like Slovakia's Fico (2006-2010), Japan's Shinzo Abe (2006-07, 2012-2020), and Spain's Rajoy Brey (2011-18). This may suggest that progress on gasoline pricing has not come from leaders dedicated to reduced greenhouse gas emissions, but from leaders who raise gas taxes or cut gas subsidies for other reasons, such as balancing their government's finances.

We also failed to find evidence that leaders make more (or less) progress when they confront an economic crisis. If this were generally true, we should observe that the set of leaders who served during periods of financial crisis would have different records than the set of leaders who did not. In fact, we detect no difference. This may be surprising, since some of the largest increases in fuel taxes between 1990 and 2015 occurred during fiscal crises, like in Yemen and Greece. But our data also revealed leaders who, during crises, were associated with very large *decreases* in gas taxes and increases in subsidies, as in Nicaragua in 1990 and the Democratic Republic of Congo in 2001. And most of the fiscal crises recorded by the IMF were not accompanied by significant changes in gas taxes or subsidies.

In two subgroups of countries—presidential democracies and persistent subsidizers— leadership tenure appears to be salient, suggesting that changes in leadership help account for changes in fuel taxes. Yet even in these states, the heightened role of leadership did not, in general, result in systematically different gasoline taxes or subsidies (Figure 5).

We suspect this seemingly-paradoxical result—a larger executive role in setting gas taxes and subsidies, but no observable change in the country's net implicit tax trajectory—suggests how extraordinarily difficult it is for leaders to reform fuel taxes and subsidies. Leaders in these subgroups of countries appear to have greater administrative control over their nations' gasoline taxes and subsidies, and hence a greater capacity to affect the timing and scale of any changes in fuel taxes and subsidies. In presidential democracies—unlike parliamentary democracies—the chief executive has full authority over the executive branch and its regulatory powers. In the persistent subsidizers, leaders have even greater control over pricing: all of these countries are oil exporters, and all kept gasoline prices fixed for long periods, adjusting them on average once every 17 months.

Yet even in these subgroups, leaders faced the same political constraints as their counterparts in other types of countries. For example, many presidents in presidential democracies tried and failed to change their countries' gasoline pricing: in France, President Emmanuel Macron tried to raise gasoline taxes in November 2018, only to reverse himself after the nationwide "gilets jaunes" protests; in Brazil, substantial increases in gas taxes under President Lula da Silva (2003-2010) were rolled back by his hand-picked successor, President Dilma Rousseff; in Ghana, gradual but steady reforms under President Kufuor (2001-2009) were largely reversed by his successor, President John Atta Mills.

Among the persistent subsidizers, there was a similar pattern. In states with fixed gasoline prices, subsidies can place heavy pressures on public finances. Yet all of the persistent subsidizers

Figure 6: Reform duration in persistent subsidizers. Kaplan-Meier survival plot for the duration of large reforms, defined as any month-to-month change in the nominal price of gasoline that exceeds 10%.



were also oil exporters, where the leader's survival may partly rest on the perception of citizens that they are getting a fair share of their countries' petroleum wealth, including through lowprice fossil fuels (Ross, 2012; Fails, 2019). When leaders try to pare these subsidies back, the result is often widespread protest – for example, in Bolivia in 2010, Nigeria in 2012, Indonesia in 2008 and 2013, Mexico in 2017, Iran in 2019, and Kazakhstan in 2021 (Mahdavi, Martinez-Alvarez and Ross, 2022). In many of these cases, leaders were forced to roll back their reforms.

To empirically capture these reversals we tabulate the frequency and duration of the reforms in the persistent subsidizers, where the use of fixed prices enables us to identify the timing of price changes with greater precision. We define large reforms as any increase in the nominal gasoline price of 10% or more from the previous month. A reform fails if the price returns to its former level. We observe 118 reforms over 5,120 months among the persistent subsidizers, equivalent to one reform about every 43 months. Reforms appear to fail, however, at a remarkably high rate. The average reform lasted just 18 months. After one year, 62% of all reforms had ended. After five years, 87% had failed.

Reforms fail for three reasons, as displayed in Figure 6. In Figure 6A, the green line shows the survival of reforms measured in nominal prices. A nominal price reform failure occurs when a leader or their successor rolls back a price increase to (or below) its prior nominal value. For example, the protests noted above in Ecuador (1999), Bolivia (1997 and 2004), Indonesia (2009), and Nigeria (2012) caused leaders to reverse their policies and restore prices to their prior nominal value. These nominal price reversals account for a relatively small fraction of all reform failures: about 90% of all reforms survived at least one year in nominal terms, and 85% lasted at least five years.

Figure 6b shows the survival of reforms in real prices, capturing both nominal reform failures and reforms that were undone by inflation or falling exchange rates. For example, in April 1999 Iran's President Khatami raised petrol prices from 200 to 350 rials per liter, a large and politically-contentious reform. In nominal terms the reform was never reversed, but in real terms it lasted only 35 months because of a massive currency devaluation in March 2002. Overall, the one-year real price survival rate is 78% and the five-year survival rate is 60%.

Figure 6c shows the third metric, which is the survival of reforms measured by the net implicit tax. This metric accounts for the same factors as the first two but also captures reforms that were rendered moot by increases in the global oil price. For example, just six months after Iranian President Khatami's April 1999 reforms, the rising global oil price had wiped out any gains, forcing the government to once again subsidize gas at (and above) the pre-reform rate. By this metric, the one-year survival rate of reforms drops to 38% and the five-year survival rate drops to 13%. Collectively these measures imply that, within five years after enactment, 15% percent of reforms were explicitly reversed under political pressure, 25% percent were indirectly reversed by inflation and exchange rate fluctuations, and 47% percent were indirectly reversed by rising global oil prices.

Even this high failure rate understates the challenge of price reforms. The timing of the reforms in our data is not random, but chosen by political leaders who believed the conditions were ripe for success. If strategically timed reforms fail at such a high rate, then reforms initiated under normal, non-strategic conditions should fail at an even higher rate. In fact, many leaders probably anticipate these obstacles and decline to even attempt reforms. In the United States, for example, no President since Bill Clinton in 1994 has made a serious effort to raise the federal gasoline tax. Even President Joseph Biden—who had the most ambitious climate agenda of any US President—chose not to support higher fuel taxes.

Overall, our analysis suggest that the role of leadership in reforming fossil fuel taxes and subsidies is surprisingly limited: it only appears to matter in a minority of countries, and among those countries, leader-initiated reforms fail at a very high rate. Even leaders who share the personal traits of pro-climate citizens have records that are no better or worse than other leaders.

The most natural interpretation of our results is that all types of leaders, working in all categories of countries, find it profoundly difficult to enact policies that raise the price of fossil fuels. Raising carbon prices is not impossible, but we cannot find any conditions that make success more likely. Leaders who are committed to deep decarbonization—and do not want their policies reversed by protesters, inflation, or their successors in office—could have more success with less contentious policies.

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Supporting Information

Political Leaders Have Limited Impact on Fossil Fuel Taxes and Subsidies

To be published as Online Appendix

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1 Supplementary Data Description

1.1 Fuel Tax Data Collection Methods

1.1.1 Selection Dates and Grades

For countries with data reported more frequently than monthly intervals (daily, weekly or biweekly), we used the price from the first day or week of the month as the monthly price. When data on multiple gasoline grades were available we use regular-graded gasoline (typically between 87 and 90 octane) to reflect the type most likely to be purchased by the average consumer. In countries where the availability of grades changes over time we selected the grade with the longest coverage. When data were available for different parts of a country we selected the region that includes the capital city.

1.1.2 Converting to Local Currency

To convert local currencies to US dollars we use monthly exchange rates from the IMF International Financial Statistics. For converting from nominal to real 2015 US dollars we use monthly inflation rates from the US Federal Reserve Economic Database (FRED) Consumer Price Index for All Urban Consumers: All Items Less Food and Energy (CPILFESL) series. In countries that experienced currency changes or revaluations—for example, Romania (July 2005), Turkey (January 2005), Ghana (August 2007)—all prices have been back-converted to the more recent currency price. For example, the Turkish lira was revalued in January 2005 by dividing by 1,000,000 to usher in the 'Second Turkish lira'. All pre-2005 prices are thus divided by 1,000,000 to be in Second Turkish lira per litre.

1.1.3 Benchmark Prices

To estimate net fuel taxes and subsidies we compute the gap between the local price and the international benchmark price, less a small adjustment to account for distribution costs. To simplify our analysis we assume local distribution costs are fixed for all countries and years at 10 US cents per litre in constant 2015 US dollars; this estimate is drawn from ref. 19, which uses a similar figure for the cost of bringing refined gasoline to retailers. Though distribution and other local costs may vary by location, we expect those unobserved differences to change slowly, and thus may affect cross-country comparisons but not within-country comparisons over time.

For our benchmark we use the spot price for conventional refined gasoline at the New York Harbor as reported by the US Energy Information Administration. For oil-importing countries, the benchmark price represents the marginal cost of supplying gasoline to consumers. For oil-producing countries, who in many cases can supply gasoline to their citizens at a lower cost, the difference between the retail price and the benchmark represents the opportunity cost to the government: if it sets a retail price below the international benchmark, it is forgoing revenue it would otherwise accrue by selling its gasoline at a market price. In both cases we treat the difference between the retail price and the benchmark as the net tax or subsidy.

1.1.4 Consumption Weighting

We weight net gasoline taxes and subsidies by consumption using data on annual motor gasoline consumption from the US Energy Information Agency International Energy Statistics. A weight wit is given by a country's consumption share, calculated as the total consumption by each country i divided by total global consumption in month t (assuming constant consumption share across all 12 months in a given year). A global consumption-weighted mean net tax is then given by

$$tax_t = \left(\sum_{i=1}^{N} w_{it} price_{it}\right) - benchmark_t$$

at each month t. The most recent Energy Information Administration data on motor gasoline consumption are from 2012; we extrapolate consumption shares up to 2015 by assuming that shares (but not consumption) remain fixed across the 2012–2015 period.

1.2 List of countries and monthly observations of fuel taxes data

	Country	Monthly Obs.	Start Date	End Date
1	AFG	130	2004-03	2015-10
2	AGO	189	2000-01	2015-09
3	ALB	80	2008-07	2015-07
4	ARE	311	1990-01	2015-11
5	ARG	262	1994-01	2015-11
6	ARM	162	2001-01	2015-03
7	AUS	218	1990-03	2015-09
8	AUT	249	1995-01	2015-09
9	AZE	252	1994-03	2015-08
10	BDI	240	1994-12	2015-09
11	BEL	261	1994-01	2015-09
12	BEN	178	2000-01	2015-10
13	BFA	211	1998-02	2015-09
14	BGD	295	1990-04	2015-10
15	BGR	238	1995-02	2015-07
16	BHR	311	1990-01	2015-11
17	BIH	161	2002-01	2015-07
18	BLR	111	2006-09	2015-11
19	BLZ	182	2000-01	2015-02
20	BOL	309	1990-01	2015-09
21	BRA	304	1990-04	2015-08
22	BWA	211	1998-04	2015-10
23	CAF	229	1995-02	2015-10
24	CAN	305	1990-01	2015-10
25	CHE	275	1993-01	2015-11
26	CHL	305	1990-04	2015-08
27	CHN	310	1990-01	2015-10
28	CIV	146	2001-01	2015-08
29	CMR	270	1991-11	2015-10
30	COD	205	1996-12	2015-10
31	COG	172	2001-01	2015-10
32	COL	199	1999-01	2015-07
33	CRI	260	1994-02	2015-09
34	CYP	137	2004-05	2015-09
35	CZE	189	2000-01	2015-09
36	DEU	261	1994-01	2015-09
37	DNK	261	1994-01	2015-09
38	DOM	167	2001-01	2015-09

 $\mbox{Table S1:}$ List of countries and monthly observations used in the analysis.

	Country	Monthly Obs.	Start Date	End Date
39	DZA	227	1996-08	2015-06
40	ECU	310	1990-01	2015-10
41	EGY	305	1990-05	2015-09
42	ESP	261	1994-01	2015-09
43	EST	189	2000-01	2015-09
44	ETH	158	2000-07	2013-08
45	FIN	249	1995-01	2015-09
46	FRA	261	1994-01	2015-09
47	GAB	175	2000-12	2015-10
48	GBR	261	1994-01	2015-09
49	GEO	85	2008-07	2015-07
50	GHA	290	1990-01	2014-03
51	GIN	124	2005-01	2015-04
52	GMB	154	2002-01	2015-04
53	GNB	118	1999-12	2015-04
54	GNQ	262	1994-01	2015-10
55	GRC	258	1994-01	2015-09
56	GTM	307	1990-01	2015-08
57	GUY	287	1991-10	2015-08
58	HND	165	2000-01	2013-09
59	HRV	185	2000-03	2015-07
60	HTI	195	1998-10	2014-12
61	HUN	281	1992-01	2015-09
62	IDN	310	1990-01	2015-10
63	IND	258	1994-04	2015-10
64	IRL	270	1991-10	2015-09
65	IRN	311	1990-01	2015-11
66	IRQ	307	1990-01	2015-11
67	ISR	308	1990-01	2015-08
68	ITA	261	1994-01	2015-09
69	JAM	134	2004-02	2015-09
70	JOR	312	1990-01	2015-12
71	JPN	301	1990-08	2015-10
72	KAZ	73	2009-07	2015-07
73	KEN	210	1997-10	2015-03
74	KGZ	152	2003-01	2015-08
75	KHM	242	1994-07	2015-03
76	KOR	310	1990-01	2015-10
77	KWT	303	1990-01	2015-11
78	LAO	172	2000-09	2014-12
79	LBN	167	2002-01	2015-11
80	LBR	71	2008-07	2014-12
81	LBY	236	1996-01	2015-09

	Country	Monthly Obs.	Start Date	End Date
82	LKA	308	1990-03	2015-10
83	LSO	140	2004-01	2015-10
84	LTU	186	2000-01	2015-09
85	LUX	261	1994-01	2015-09
86	LVA	180	2000-01	2014-12
87	MAR	238	1996-01	2015-10
88	MDA	194	1999-01	2015-02
89	MDG	248	1994-10	2015-10
90	MEX	157	2002-07	2015-07
91	MKD	105	2006-04	2014-12
92	MLI	170	2001-07	2015-10
93	MLT	136	2004-06	2015-09
94	MMR	28	2012-04	2014-07
95	MNG	238	1995-12	2015-09
96	MOZ	151	2003-02	2015-08
97	MRT	201	1997-03	2015-06
98	MUS	284	1992-01	2015-08
99	MWI	232	1995-07	2015-08
100	MYS	298	1991-01	2015-10
101	NAM	305	1990-03	2015-11
102	NER	170	2001-08	2015-09
103	NGA	300	1990-01	2015-03
104	NIC	297	1990-08	2015-08
105	NLD	261	1994-01	2015-09
106	NOR	306	1990-01	2015-07
107	NPL	234	1996-05	2015-10
108	NZL	309	1990-01	2015-10
109	OMN	312	1990-01	2015-12
110	PAK	113	2006-05	2015-11
111	PAN	209	1998-01	2015-08
112	PER	271	1993-01	2015-07
113	PHL	310	1990-01	2015-10
114	PNG	113	2006-01	2015-07
115	POL	132	2004-05	2015-08
116	PRT	261	1994-01	2015-09
117	PRY	309	1990-01	2015-09
118	QAT	311	1990-01	2015-11
119	ROM	201	1998-01	2014-12
120	RUS	223	1997-01	2015-07
121	RWA	184	2000-01	2015-04
122	SAU	311	1990-01	2015-11
123	SDN	214	1997-03	2014-12
124	SEN	304	1990-01	2015-10

	Country	Monthly Obs.	Start Date	End Date
125	SGP	190	2000-01	2015-10
126	SLE	204	1993-10	2015-02
127	SLV	141	2004-01	2015-09
128	SRB	110	2006-06	2015-07
129	SUR	310	1990-01	2015-10
130	SVK	136	2004-06	2015-09
131	SVN	189	2000-01	2015-09
132	SWE	249	1995-01	2015-09
133	SWZ	190	2000-01	2015-10
134	SYR	164	2002-01	2015-08
135	TCD	154	2003-01	2015-10
136	TGO	209	1998-01	2015-08
137	THA	283	1991-08	2015-10
138	TJK	164	2002-02	2015-09
139	TLS	159	2002-05	2015-09
140	TTO	308	1990-01	2015-08
141	TUN	209	1990-01	2015-07
142	TUR	252	1994-01	2015-07
143	TWN	286	1992-01	2015-10
144	TZA	155	2002-01	2015-03
145	UGA	177	2000-01	2015-06
146	UKR	145	2003-03	2015-07
147	URY	306	1990-04	2015-09
148	USA	302	1990-08	2015-10
149	UZB	87	2008-10	2015-12
150	VEN	311	1990-01	2015-11
151	VNM	247	1995-03	2015-09
152	YEM	213	1998-01	2015-09
153	ZAF	311	1990-01	2015-11
154	ZMB	175	2001-01	2015-10
155	ZWE	79	2009-02	2015-09

1.3 Leadership data

1.3.1 Sample of Leaders

We processed a data sample of 937 government tenures corresponding to 842 presidents, prime ministers, and monarchs for the period 1990 to 2015 from the Archigos dataset for a total of 48984 country-leader-month observations (*sample 1*). For the construction of the dataset, we removed observations under two conditions: they either do not have gasoline pricing data or they lack leader information. Most of the observations falling in the second category correspond to times of regime change in countries in transition, for example Armenia, Azerbaijan, Bosnia and Herzegovina, Belarus, Czechia, Slovakia, Estonia, Kazakhstan, Kyrgyzstan, Lithuania, Latvia, Moldova, North Macedonia, Montenegro, Tajikistan, Serbia, Croatia, and Serbia (the successor states of the Soviet Union and Yugoslavia), as well as the early months for Namibia and Timor-Leste, which gained independence recently. There are three countries for which Archigos does not have leadership information for 2015: Guatemala, Romania, and Haiti.

Once we include only country-leader-month units with data on the dependent and independent variables, we have a sample of 34627 observations, with 669 leaders in 726 government tenures (*sample 2*). For the statistical analysis, we further subset the data to include only leaders whose tenure lasted for more than 6 months; this results in 34438 observations for 612 unique leaders in 661 tenures (*sample 3*). Whereas most of the leaders had only one tenure, some were in office more than once. These include, for example, Girija Prasad Koirala (Prime Minister of Nepal) and Eddie Fenech Adami (Premier of Malta).

To calculate the total change in the fuel tax from the beginning to the end of each tenure, we did the following. First, we divided all leaders with more than 12 months in office (669 individuals in 726 tenures) into two categories: (1) leaders with some gasoline pricing data at both the beginning and end of their tenures (at least one month of net implicit tax in the quarter after entry and before exit, including those still in office by the end of the period of analysis) and (2) leaders whose starting date happens before January 1990 or for whom we don't have gasoline pricing data for the quarter of exit. The first group includes 441 political leaders while the second group includes 283 political leaders.

For the first group, we calculated the average gasoline price and net implicit tax for the last quarter of tenure and subtracted from it the average price and net implicit tax corresponding to the first quarter in office. For the second group, we filtered to only the country-leader-month observations with gasoline data and use these to calculate an "effective" change from the first three monthly observations to the last three available, including non-consecutive months.

The following tables present the 936 tenures we employed in our analysis, including the name of the leader (from the *Archigos* dataset), country, first month of tenure, last month of tenure, length of the spell in our dataset, the total change in the tax from the beginning to the end of the period and the rate of change, which is the total change divided by the number of tenure months.

Leader ID	Country	From	То	Spell Length	Change Tax	Rate Change	Cens
Najibullah-AFG	AFG	1986-05-04	1992-04-16	28	NA	NA	Left
Mojadidi-AFG	AFG	1992-04-28	1992-06-28	2	NA	NA	NA
Burhanuddin Rabbani-AFG	AFG	1992-06-28	1996-09-27	51	NA	NA	NA
Mullah Omar-AFG	AFG	1996-09-27	2001-11-13	62	NA	NA	NA
Hamid Karzai-AFG	AFG	2001-12-22	2014-09-29	154	0.3316	0.0022	NA
Ahmadzai-AFG	AFG	2014-09-29	2015-12-31	15	-0.1849	-0.0123	Right
Dos Santos-AGO	AGO	1979-09-10	2015-12-31	312	-0.1527	-5E-04	Both
Alia-ALB	ALB	1985-04-13	1992-04-03	28	NA	NA	Left
Berisha-ALB	ALB	1992-04-09	1997-07-24	63	NA	NA	NA
Fatos Nano-ALB	ALB	1997-07-24	1998-10-02	15	NA	NA	NA
Majko-ALB	ALB	1998-10-02	1999-10-29	12	NA	NA	NA
Meta-ALB	ALB	1999-10-29	2002-02-22	28	NA	NA	NA
Majko-ALB	ALB	2002-02-22	2002-07-31	5	NA	NA	NA
Fatos Nano-ALB	ALB	2002-07-31	2005-09-11	38	NA	NA	NA
Berisha-ALB	ALB	2005-09-11	2013-09-15	96	-0.2491	-0.0026	NA
Rama-ALB	ALB	2013-09-15	2015-12-31	27	-0.2922	-0.0108	Right
An-Nahayan-ARE	ARE	1971-12-02	2004-11-03	179	-0.1714	-0.001	Left
Khalifa Al Nahavan-ARE	ARE	2004-11-03	2015-12-31	133	0.1679	0.0013	Right
Menem-ARG	ARG	1989-07-08	1999-12-10	120	0.0563	5E-04	Left
de la Rua-ARG	ARG	1999-12-10	2001-12-21	24	0.004	2E-04	NA
Adolfo Rodriguez Saa-ARG	ARG	2001-12-23	2002-01-01	1	NA	NA	NA
Eduardo Duhalde-ARG	ARG	2002-01-02	2003-05-25	16	0.1502	0.0094	NA
Nestor Kirchner-ARG	ARG	2003-05-25	2007-12-10	55	-0.3799	-0.0069	NA
Fernandez de Kirchner-ARG	ARG	2007-12-10	2015-12-10	96	1.0763	0.0112	Right
Ter-Petrosvan-ARM	ARM	1991-10-16	1998-02-03	77	NA	NA	NA
Kocharian-ARM	ARM	1998-02-04	2008-04-09	122	0.1769	0.0015	NA
Sarkisvan-ARM	ARM	2008-04-09	2015-12-31	92	-0.0336	-4E-04	Right
Hawke-AUS	AUS	1983-03-11	1991-12-19	24	-0.0207	-9E-04	Left
Keating-AUS	AUS	1991-12-19	1996-03-11	51	-0.0426	-8E-04	NA
Howard-AUS	AUS	1996-03-11	2007-12-03	141	0.097	7E-04	NA
Rudd-AUS	AUS	2007-12-03	2010-06-24	30	-0.1203	-0.004	NA
Gillard-AUS	AUS	2010-06-24	2013-06-27	36	0.0433	0.0012	NA
Rudd-AUS	AUS	2013-06-27	2013-09-18	3	NA	NA	NA
Abbott-AUS	AUS	2013-09-18	2015-09-15	24	-0.1515	-0.0063	NA
Malcolm Turnbull-AUS	AUS	2015-09-15	2015-12-31	3	NA	NA	Right
Vranitzky-AUT	AUT	1986-06-16	1997-01-28	85	-0.0122	-1E-04	Left
Klima-AUT	AUT	1997-01-28	2000-02-04	37	-0.2208	-0.006	NA
Schussel-AUT	AUT	2000-02-05	2007-01-11	83	0.1738	0.0021	NA
Gusenbauer-AUT	AUT	2007-01-11	2008-12-02	23	0.1061	0.0046	NA
Favmann-AUT	AUT	2008-12-02	2015-12-31	84	-0.0584	-7E-04	Right
Mutalibov-AZE	AZE	1991-09-08	1992-03-06	7	NA	NA	NA
Mamedov-AZE	AZE	1992-03-06	1992-05-14	2	NA	NA	NA
Gambarov-AZE	AZE	1992-05-19	1992-06-16	1	NA	NA	NA
Abulfaz Elchibey-AZE	AZE	1992-06-16	1993-06-18	12	NA	NA	NA
H. Alivev-AZE	AZE	1993-06-24	2003-08-04	122	-0.1728	-0.0014	NA
Ilhma Alivey-AZE	AZE	2003-08-04	2015-12-31	148	0.016	1E-04	Right
Buvova-BDI	BDI	1987-09-03	1993-07-10	43	NA	NA	Left
Ndadaye-BDI	BDI	1993-07-10	1993-10-21	3	NA	NA	NA
Kinigi-BDI	BDI	1993-10-27	1994-02-05	4	NA	NA	NA
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Ntarymira-BDI	BDI	1994-02-05	1994-04-06	2	NA	NA	NA
Ntibantunganya-BDI	BDI	1994-04-06	1996-07-25	27	-0.1195	-0.0044	NA
Buyoya-BDI	BDI	1996-07-25	2003-04-30	81	-0.1941	-0.0024	NA
Ndayizeye-BDI	BDI	2003-04-30	2005-08-26	28	0.0211	8E-04	NA
Nkurunziza-BDI	BDI	2005-08-26	2015-12-31	124	0.056	5E-04	Right
Martens-BEL	BEL	1981-12-17	1992-03-07	27	NA	NA	Left
Dehaene-BEL	BEL	1992-03-07	1999-07-12	88	-0.0684	-8E-04	NA
Verhofstadt-BEL	BEL	1999-07-12	2008-03-20	104	0.5504	0.0053	NA
Leterme-BEL	BEL	2008-03-20	2008-12-30	9	NA	NA	NA
van Rompuy-BEL	BEL	2008-12-30	2009-11-25	11	NA	NA	NA
Leterme-BEL	BEL	2009-11-25	2011-12-06	25	0.0866	0.0035	NA
Di Rupo-BEL	BEL	2011-12-06	2014-10-11	34	-0.0497	-0.0015	NA
Charles Michel-BEL	BEL	2014-10-11	2015-12-31	14	-0.0284	-0.002	Right
Kerekou-BEN	BEN	1972-10-27	1991-04-04	16	NA	NA	Left
Soglo, N-BEN	BEN	1991-04-04	1996-04-04	60	NA	NA	NA
Kerekou-BEN	BEN	1996-04-04	2006-04-06	120	0.173	0.0014	NA
Yayi Boni-BEN	BEN	2006-04-06	2015-12-31	116	0.1615	0.0014	Right
Campaore-BFA	BFA	1987-10-15	2014-10-31	298	-0.0126	0	Left
Traore-BFA	BFA	2014-10-31	2014-11-01	1	NA	NA	NA
Kafando-BFA	BFA	2014-11-18	2015-12-29	13	0.0234	0.0018	Right
Ershad-BGD	BGD	1982-03-27	1990-12-06	12	-0.2042	-0.017	Left
Ahmed-BGD	BGD	1990-12-06	1991-03-20	3	NA	NA	NA
Khaleda Zia-BGD	BGD	1991-03-20	1996-03-30	60	0.2075	0.0035	NA
M. H. Rahman-BGD	BGD	1996-03-30	1996-06-23	3	NA	NA	NA
Hasina Wazed-BGD	BGD	1996-06-23	2001-07-15	61	0.0066	1E-04	NA
Latifur Rahman-BGD	BGD	2001-07-15	2001-10-10	3	NA	NA	NA
Khaleda Zia-BGD	BGD	2001-10-10	2006-10-29	60	-0.1473	-0.0025	NA
Iajuddin-BGD	BGD	2006-10-29	2007-01-12	3	NA	NA	NA
Fakhruddin-BGD	BGD	2007-01-12	2009-01-06	24	0.349	0.0145	NA
Hasina Wazed-BGD	BGD	2009-01-06	2015-12-31	83	0.0526	6E-04	Right
Mladenov-BGR	BGR	1989-11-10	1990-07-06	7	NA	NA	Left
Lukanov-BGR	BGR	1990-07-06	1990-12-07	5	NA	NA	NA
Popov-BGR	BGR	1990-12-07	1991-11-08	11	NA	NA	NA
Filip Dimitrov-BGR	BGR	1991-11-08	1992-12-30	13	NA	NA	NA
Berov-BGR	BGR	1992-12-30	1994-10-17	22	NA	NA	NA
Indzhova-BGR	BGR	1994-10-17	1995-01-25	3	NA	NA	NA
Videnov-BGR	BGR	1995-01-25	1997-02-13	25	0.0199	8E-04	NA
Sofivanski-BGR	BGR	1997-02-13	1997-05-21	3	NA	NA	NA
Kostov-BGR	BGR	1997-05-21	2001-07-21	50	0.0081	2E-04	NA
Saksgoburggotski-BGR	BGR	2001-07-24	2005-08-16	49	0.2147	0.0044	NA
Stanishev-BGR	BGR	2005-08-16	2009-07-27	47	0.1862	0.004	NA
Boyko Borisov-BGR	BGR	2009-07-27	2013-03-13	44	-0.0228	-5E-04	NA
Raykoy-BGR	BGR	2013-03-13	2013-05-29	2	NA	NA	NA
Oresharski-BGR	BGR	2013-05-29	2014-08-05	15	-0.0129	-9E-04	NA
Bliznashki-BGR	BGR	2014-08-05	2014-11-07	3	NA	NA	NA
Boyko Borisov-BGR	BGR	2014-11-07	2015-12-31	13	0.0023	2E-04	Right
Isa Ibn Al-Khalifah-BHR	BHR	1971-08-15	1999-03-06	111	0.0723	7E-04	Left
H. I. Ibn Al-Khalifah-BHR	BHR	1999-03-06	2015-12-31	201	-0.2729	-0.0014	Right
Izetbegovic-BIH	BIH	1990-12-20	1998-10-13	95	NA	NA	NA
Radisic-BIH	BIH	1998-10-13	1999-06-15	8	NA	NA	NA

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Jelavic-BIH	BIH	1999-06-15	2000-02-14	8	NA	NA	NA
Alija Izetbegovic-BIH	BIH	2000-02-14	2000-10-14	8	NA	NA	NA
Radisic-BIH	BIH	2000-10-14	2001-06-14	8	NA	NA	NA
Krizanovic-BIH	BIH	2001-06-14	2002-02-14	8	NA	NA	NA
Belkic-BIH	BIH	2002-02-14	2002-10-28	8	NA	NA	NA
Sarovic-BIH	BIH	2002-10-28	2003-04-02	6	NA	NA	NA
Borislav Paravac-BIH	BIH	2003-04-10	2003-06-27	2	NA	NA	NA
Dragan Covic-BIH	BIH	2003-06-27	2004-02-28	8	NA	NA	NA
Sulejman Tihic-BIH	BIH	2004-02-28	2004-10-28	8	NA	NA	NA
Borislav Paravac-BIH	BIH	2004-10-28	2005-06-28	8	NA	NA	NA
Miro Jovic-BIH	BIH	2005-06-28	2006-02-28	8	NA	NA	NA
Sulejman Tihic-BIH	BIH	2006-02-28	2006-11-06	9	NA	NA	NA
Radmanovic-BIH	BIH	2006-11-06	2007-07-06	8	NA	NA	NA
Zeljko Komsic-BIH	BIH	2007-07-06	2008-03-06	8	NA	NA	NA
Silajdzic-BIH	BIH	2008-03-06	2008-11-06	8	NA	NA	NA
Radmanovic-BIH	BIH	2008-11-06	2009-07-06	8	NA	NA	NA
Zeljko Komsic-BIH	BIH	2009-07-06	2010-03-06	8	NA	NA	NA
Silajdzic-BIH	BIH	2010-03-06	2010-11-10	8	NA	NA	NA
Radmanovic-BIH	BIH	2010-11-10	2011-07-10	8	NA	NA	NA
Zeljko Komsic-BIH	BIH	2011-07-10	2014-03-10	32	-0.0175	-5E-04	NA
Bakir Izetbegovic-BIH	BIH	2014-03-10	2014-11-17	8	NA	NA	NA
Ivanic-BIH	BIH	2014-11-17	2015-07-17	8	NA	NA	NA
Dragan Covic-BIH	BIH	2015-07-17	2015-12-31	5	NA	NA	Right
Shushkevich-BLR	BLR	1991-09-18	1994-01-26	29	NA	NA	NA
Hrvb-BLR	BLR	1994-01-28	1994-07-20	6	NA	NA	NA
Lukashenko-BLR	BLR	1994-07-20	2015-12-31	257	-0.2318	-9E-04	Right
Price-BLZ	BLZ	1989-11-07	1993-07-03	43	NA	NA	Left
Esquivel-BLZ	BLZ	1993-07-03	1998-08-28	61	NA	NA	NA
Musa-BLZ	BLZ	1998-08-28	2008-02-08	114	0.1281	0.0011	NA
D.Barrow-BLZ	BLZ	2008-02-08	2015-12-31	94	0.1417	0.0015	Right
Paz Zamora-BOL	BOL	1989-08-06	1993-08-06	44	0.1075	0.0024	Left
Gonzalo S. de Lozada-BOL	BOL	1993-08-06	1997-08-06	48	-0.1779	-0.0037	NA
Banzer Suarez-BOL	BOL	1997-08-06	2001-08-07	48	0.0503	0.001	NA
Jorge Quiroga Ramirez-BOL	BOL	2001-08-07	2002-08-06	12	-0.0647	-0.0054	NA
Gonzalo S. de Lozada-BOL	BOL	2002-08-08	2003-10-17	14	-0.098	-0.007	NA
Carlos Mesa-BOL	BOL	2003-10-17	2005-06-09	20	-0.0286	-0.0014	NA
Enrique Rodriguez-BOL	BOL	2005-06-09	2006-01-22	7	NA	NA	NA
Juan Morales-BOL	BOL	2006-01-22	2015-12-31	119	0.214	0.0018	Right
Sarnay-BRA	BRA	1985-03-21	1990-03-15	3	NA	NA	Left
Mello-BRA	BRA	1990-03-15	1992-10-02	31	-0.2984	-0.0096	NA
Franco, Itamar-BRA	BRA	1992-10-02	1994-12-31	26	0.1544	0.0059	NA
Cardoso-BRA	BRA	1995-01-01	2003-01-01	97	-0.3419	-0.0035	NA
Lula da Silva-BRA	BRA	2003-01-01	2011-01-01	96	0.505	0.0053	NA
Rousseff-BRA	BRA	2011-01-01	2015-12-31	59	-0.5089	-0.0086	Right
Masire-BWA	BWA	1980-07-13	1998-03-31	99	NA	NA	Left
Mogae-BWA	BWA	1998-03-31	2008-04-01	121	0.0369	3E-04	NA
Ian Khama-BWA	BWA	2008-04-01	2015-12-31	92	-0.1158	-0.0013	Right
Kolingba-CAF	CAF	1981-09-01	1993-10-22	46	NA	NA	Left
Patasse-CAF	CAF	1993-10-22	2003-03-15	113	0.0458	4E-04	NA
François Bozize-CAF	CAF	2003-03-15	2013-03-24	120	-0.0962	-8E-04	NA
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Djotodia-CAF	CAF	2013-03-24	2014-01-10	10	NA	NA	NA
Catherine Samba-Panza-CAF	CAF	2014-01-23	2015-12-31	23	0.0094	4E-04	Right
Mulroney-CAN	CAN	1984-09-17	1993-06-25	42	-0.1391	-0.0033	Left
Kim Campbell-CAN	CAN	1993-06-25	1993-11-04	5	NA	NA	NA
Chretien-CAN	CAN	1993-11-04	2003-12-12	121	-0.0534	-4E-04	NA
Paul Martin-CAN	CAN	2003-12-12	2006-02-06	26	0.05	0.0019	NA
Harper-CAN	CAN	2006-02-06	2015-11-04	117	-0.0025	0	NA
Justin Trudeau-CAN	CAN	2015-11-04	2015-12-31	1	NA	NA	Right
Koller-CHE	CHE	1990-01-01	1990-12-31	12	NA	NA	NĂ
Cotti-CHE	CHE	1991-01-01	1991-12-31	12	NA	NA	NA
Felber-CHE	CHE	1992-01-01	1992-12-31	12	NA	NA	NA
Ogi-CHE	CHE	1993-01-01	1993-12-31	12	0.1648	0.0137	NA
Stich-CHE	CHE	1994-01-01	1994-12-31	12	0.1275	0.0106	NA
Villiger-CHE	CHE	1995-01-01	1995-12-31	12	-0.005	-4E-04	NA
Delamuraz-CHE	CHE	1996-01-01	1996-12-31	12	-0.0328	-0.0027	NA
Koller-CHE	CHE	1997-01-01	1997-12-31	12	0.014	0.0012	NA
Cotti-CHE	CHE	1998-01-01	1998-12-31	12	0.0565	0.0047	NA
Dreifuss-CHE	CHE	1999-01-01	1999-12-31	12	-0.039	-0.0033	NA
Ogi-CHE	CHE	2000-01-01	2000-12-31	12	-0.056	-0.0047	NA
Leuenberger-CHE	CHE	2001-01-01	2001-12-31	12	0.0521	0.0043	NA
Villiger-CHE	CHE	2002-01-01	2002-12-31	12	0.1107	0.0092	NA
Pascal Couchepin-CHE	CHE	2003-01-01	2003-12-31	12	0.0362	0.003	NA
Joseph Deiss-CHE	CHE	2004-01-01	2004-12-31	12	0.1055	0.0088	NA
Schmid-CHE	CHE	2005-01-01	2005-12-31	12	-0.1382	-0.0115	NA
Leuenberger-CHE	CHE	2006-01-01	2006-12-31	12	0.075	0.0062	NA
Calmy-Rey-CHE	CHE	2007-01-01	2007-12-31	12	0.0974	0.0081	NA
Pascal Couchepin-CHE	CHE	2008-01-01	2008-12-31	12	-0.1581	-0.0132	NA
Hans-Rudolf Merz-CHE	CHE	2009-01-01	2009-12-31	12	0.1986	0.0166	NA
Doris Leuthard-CHE	CHE	2010-01-01	2010-12-31	12	0.12	0.01	NA
Calmy-Rey-CHE	CHE	2011-01-01	2011-12-31	12	0.034	0.0028	NA
Eveline Widmer-SCHE	CHE	2012-01-01	2012-12-31	12	-0.0358	-0.003	NA
Ueli Maurer-CHE	CHE	2013-01-01	2013-12-31	12	0.0761	0.0063	NA
Didier Burkhalter-CHE	CHE	2014-01-01	2014-12-31	12	-0.0969	-0.0081	NA
Simonetta Sommaruga-CHE	CHE	2015-01-01	2015-12-31	12	0.0315	0.0026	Right
Pinochet-CHL	CHL	1973-09-11	1990-03-11	3	NA	NA	Left
Aylwin-CHL	CHL	1990-03-11	1994-03-11	48	0.0619	0.0013	NA
Frei Ruiz-Tagle-CHL	CHL	1994-03-11	2000-03-11	72	-0.0057	-1E-04	NA
Ricardo Lagos Escobar-CHL	CHL	2000-03-12	2006-03-11	72	0.2281	0.0032	NA
Michelle Bachelet-CHL	CHL	2006-03-11	2010-03-11	48	-0.1052	-0.0022	NA
Sebastian Pi <f1>era-CHL</f1>	CHL	2010-03-11	2014-03-11	48	0.0408	9E-04	NA
Michelle Bachelet-CHL	CHL	2014-03-11	2015-12-31	21	-0.213	-0.0101	Right
Deng Xiaoping-CHN	CHN	1980-09-10	1997-02-19	86	-0.1161	-0.0013	Left
Jiang Zemin-CHN	CHN	1997-02-19	2003-03-15	73	0.0172	2E-04	NA
Hu Jintao-CHN	CHN	2003-03-15	2012-11-15	116	0.208	0.0018	NA
Xi Jinping-CHN	CHN	2012-11-15	2015-12-31	37	0.1629	0.0044	Right
Houphouet-Boigny-CIV	CIV	1960-08-07	1993-12-07	48	NA	NA	Left
Konan Bedie-CIV	CIV	1993-12-07	1999-12-25	72	NA	NA	NA
Guei-CIV	CIV	1999-12-25	2000-10-25	10	NA	NA	NA
Laurent Gbagbo-CIV	CIV	2000-10-26	2011-04-11	126	0.181	0.0014	NA
Ouattara-CIV	CIV	2011-04-11	2015-12-31	56	-0.2886	-0.0052	Right

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Biya-CMR	CMR	1982-11-06	2015-12-31	312	-0.2983	-0.001	Both
Mobutu-COD	COD	1965-11-25	1997-05-16	89	NA	NA	Left
Laurent Kabila-COD	COD	1997-05-16	2001-01-16	44	0.9751	0.0222	NA
Joseph Kabila-COD	COD	2001-01-17	2015-12-31	179	-4.6265	-0.0258	Right
Nguesso-COG	COG	1979-02-08	1992-08-20	32	NA	NA	Left
Lissouba-COG	COG	1992-08-31	1997-10-15	62	NA	NA	NA
Nguesso-COG	COG	1997-10-15	2015-12-31	218	0.1663	8E-04	Right
Vargas-COL	COL	1986-08-07	1990-08-07	8	NA	NA	Left
C. Gaviria Trujillo-COL	COL	1990-08-07	1994-08-07	48	NA	NA	NA
Pizano-COL	COL	1994-08-07	1998-08-07	48	NA	NA	NA
Arango-COL	COL	1998-08-07	2002-08-07	48	-0.005	-1E-04	NA
Alvaro Uribe Velez-COL	COL	2002-08-08	2010-08-07	96	0.4013	0.0042	NA
Santos Calderon-COL	COL	2010-08-07	2015-12-31	64	-0.2148	-0.0034	Right
Arias-CRI	CRI	1986-05-08	1990-05-08	5	NA	NA	Left
Calderon Fournier-CRI	CRI	1990-05-08	1994-05-08	48	0.0137	3E-04	NA
Figueres Olsen-CRI	CRI	1994-05-08	1998-05-08	48	0.1351	0.0028	NA
Rodriguez Echeverria-CRI	CRI	1998-05-08	2002-05-08	48	0.0372	8E-04	NA
de la Espriella-CRI	CRI	2002-05-09	2006-05-08	48	0.0523	0.0011	NA
Arias-CRI	CRI	2006-05-08	2010-05-08	48	4E-04	0	NA
Laura Chinchilla MCRI	CRI	2010-05-08	2014-05-08	48	-0.1163	-0.0024	NA
Solis Rivera-CRI	CRI	2014-05-08	2015-12-31	19	0.1275	0.0067	Right
Vassiliou-CYP	CYP	1988-02-28	1993-02-28	38	NA	NA	Left
Clerides-CYP	CYP	1993-02-28	2003-02-28	120	NA	NA	NA
Tassos N. Papadopoulos-CYP	CYP	2003-02-28	2008-02-28	60	0.1497	0.0025	NA
Dimitris Christofias-CYP	CYP	2008-02-28	2013-02-28	60	-4E-04	0	NA
Anastasiades-CYP	CYP	2013-02-28	2015-12-31	34	-0.1392	-0.0041	Right
Klaus-CZE	CZE	1993-01-01	1997-12-17	60	NA	NA	NA
Tosovsky-CZE	CZE	1997-12-17	1998-07-17	7	NA	NA	NA
Zeman-CZE	CZE	1998-07-17	2002-07-12	48	-0.1022	-0.0021	NA
Spidla-CZE	CZE	2002-07-12	2004-07-26	24	0.0358	0.0015	NA
Stanislav Gross-CZE	CZE	2004-07-26	2005-04-25	9	NA	NA	NA
Paroubek-CZE	CZE	2005-04-25	2006-09-04	17	0.0483	0.0028	NA
Topolanek-CZE	CZE	2006-09-04	2009-05-08	32	-0.0549	-0.0017	NA
Fischer-CZE	CZE	2009-05-08	2010-07-13	14	-0.0955	-0.0068	NA
Necas-CZE	CZE	2010-07-13	2013-07-10	36	-0.1523	-0.0042	NA
Rusnok-CZE	CZE	2013-07-10	2014-01-29	6	NA	NA	NA
Sobotka-CZE	CZE	2014-01-29	2015-12-31	23	-0.1471	-0.0064	Right
Kohl-DEU	DEU	1982-10-01	1998-10-27	106	-0.1275	-0.0012	Left
Schroder-DEU	DEU	1998-10-27	2005-11-22	85	0.1235	0.0015	NA
Merkel-DEU	DEU	2005-11-22	2015-12-31	121	-0.1115	-9E-04	Right
Schluter-DNK	DNK	1982-09-10	1993-01-25	37	NA	NA	Left
Nyrup Rasmussen-DNK	DNK	1993-01-25	2001-11-27	106	-0.0167	-2E-04	NA
Fogh Rasmussen-DNK	DNK	2001-11-27	2009-04-05	89	0.3633	0.0041	NA
Lars L. Rasmussen-DNK	DNK	2009-04-05	2011-10-03	30	0.1398	0.0047	NA
Thorning-Schmidt-DNK	DNK	2011-10-03	2015-06-28	44	-0.2954	-0.0067	NA
Lars L. Rasmussen-DNK	DNK	2015-06-28	2015-12-31	6	NA	NA	Right
Balaguer-DOM	DOM	1986-08-16	$1996-08-1\overline{6}$	80	NA	NA	Left
Fernandez Reyna-DOM	DOM	1996-08-16	2000-08-16	48	NA	NA	NA

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Hipolito Mejia-DOM	DOM	2000-08-17	2004-08-16	48	-0.124	-0.0026	NA
Fernandez Reyna-DOM	DOM	2004-08-16	2012-08-16	96	0.1837	0.0019	NA
Medina-DOM	DOM	2012-08-16	2015-12-31	40	-0.0172	-4E-04	Right
Benjedid-DZA	DZA	1979-02-07	1992-01-11	25	NA	NA	Left
Boudiaf-DZA	DZA	1992-01-14	1992-06-29	5	NA	NA	NA
Kafi-DZA	DZA	1992-07-02	1994-01-31	19	NA	NA	NA
Zeroual-DZA	DZA	1994-01-31	1999-04-27	63	0.1421	0.0023	NA
Bouteflika-DZA	DZA	1999-04-27	2015-12-31	200	-0.4509	-0.0023	Right
Borja Cevallos-ECU	ECU	1988-08-10	1992-08-10	32	0.0015	0	Left
Duran Ballen-ECU	ECU	1992-08-10	1996-08-10	48	0.0072	2E-04	NA
Bucaram Ortiz-ECU	ECU	1996-08-10	1997-02-06	6	NA	NA	NA
Alarcon Fabian-ECU	ECU	1997-02-11	1998-08-10	18	0.0478	0.0027	NA
Mahuad-ECU	ECU	1998-08-10	2000-01-21	17	-0.2436	-0.0143	NA
Gustavo Noboa-ECU	ECU	2000-01-22	2003-01-15	36	0.1057	0.0029	NA
Lucio Gutierrez-ECU	ECU	2003-01-15	2005-04-20	27	-0.0562	-0.0021	NA
Alfredo Palacio-ECU	ECU	2005-04-20	2007-01-15	21	-0.0016	-1E-04	NA
Rafael Correa-ECU	ECU	2007-01-15	2015-12-31	107	0.2025	0.0019	Right
Mubarak-EGY	EGY	1981-10-14	2011-02-11	254	-0.6603	-0.0026	Left
Tantawi-EGY	EGY	2011-02-11	2011-02-11	16	-0.0005	-0.0020	NA
Morsi-EGV	EGY	2011-02-11	2012-00-00	13	0.0705	0.0054	NA
Mansour-EGY	EGY	2012-00-00	2010-01-00	11	NA	NA	NA
al-Sici-ECV	EGY	2010-01-04	2014-00-00	18	0.3521	0.0196	Right
Conzoloz Morquoz ESP	FSP	1082 12 02	1006 05 05	77	0.006	0.0130	Loft
Agnar ESP	FSP	1982-12-02	2004 04 17	05	0.050	0.0012	NA NA
Redriguez Zapatoro ESD	FSD	2004 04 17	2004-04-17	90	-0.1070	-0.0018	NA
Rodriguez Zapatero-ESP	ESP	2004-04-17	2011-12-20	92	0.2372	0.0020	NA Disht
Rajby Diey-ESF	EST	2011-12-20	2013-12-31	40	-0.1021 NA	-0.0034 NA	N A
Val: EST	ESI	1991-09-00	1992-01-23	0	NA	NA NA	NA NA
	ESI	1992-01-30	1992-10-08	9	INA NA	NA	NA NA
Tanand EST	ESI	1992-10-28	1994-11-08	20	INA NA	NA NA	NA NA
Iarand-ESI Val: ECT	ESI	1994-11-08	1995-04-17	0	INA NA	NA	INA NA
Vani-ESI	ESI	1995-04-17	1997-03-17	23	INA NA	NA NA	INA NA
Silmann-EST	ESI	1997-03-17	1999-03-25	24	NA 0.0188	INA CE 04	NA NA
Laar-ESI Kallaa ECT	ESI	1999-03-25	2002-01-28	34	0.0188	0E-04	INA NA
Kallas-EST	EST	2002-01-28	2003-04-10	15	0.0929	0.0062	NA
Parts-EST	EST	2003-04-10	2005-04-13	24	0.1837	0.0077	NA
Ansip-EST	EST	2005-04-13	2014-03-26	107	0.3937	0.0037	NA D:14
Roivas-EST	EST	2014-03-26	2015-12-31	21	-0.207	-0.0099	Right
Mengistu Marriam-ETH	ETH	1977-02-11	1991-05-21	17	NA	NA 5D.04	Left
Meles Zenawi-ETH	ETH	1991-05-27	2012-08-20	255	0.116	5E-04	NA
Desalegn-ETH	ETH	2012-08-20	2015-12-31	40	0.0461	0.0012	Right
Koivisto-FIN	FIN	1981-09-11	1994-03-01	51	NA	NA	Left
Marthi Ahtisaari-FIN	FIN	1994-03-01	2000-03-01	72	-0.3319	-0.0046	NA
Halonen-FIN	FIN	2000-03-01	2012-03-01	144	0.2898	0.002	NA
Sauli Niinist <f6>-FIN</f6>	FIN	2012-03-01	2015-12-31	45	-0.1571	-0.0035	Right
Mitterand-FRA	FRA	1981-05-21	1995-05-17	65	0.2866	0.0044	Left
Chirac-FRA	FRA	1995-05-17	2007-05-16	144	-0.2225	-0.0015	NA
Sarkozy-FRA	FRA	2007-05-16	2012-05-15	60	-0.0311	-5E-04	NA
Hollande-FRA	FRA	2012-05-15	2015-12-31	43	-0.1715	-0.004	Right
Bongo-GAB	GAB	1967-11-28	2009-06-08	234	0.1527	7E-04	Left
Rose F. Rogombe-GAB	GAB	2009-06-10	2009-10-16	4	NA	NA	NA

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Ali Bongo Ondimba-GAB	GAB	2009-10-16	2015-12-31	74	-0.1325	-0.0018	Right
Thatcher-GBR	GBR	1979-05-04	1990-11-28	11	NA	NA	Left
Major-GBR	GBR	1990-11-28	1997-05-02	78	0.1393	0.0018	NA
Blair-GBR	GBR	1997-05-02	2007-06-27	121	0.2164	0.0018	NA
Brown-GBR	GBR	2007-06-27	2010-05-11	35	-0.3087	-0.0088	NA
Cameron-GBR	GBR	2010-05-11	2015-12-31	67	-0.0735	-0.0011	Right
Gamsakhurdia-GEO	GEO	1991-04-12	1992-01-06	10	NA	NA	NA
Ioseliani-GEO	GEO	1992-01-06	1992-03-10	2	NA	NA	NA
Shevardnadze-GEO	GEO	1992-03-10	2003-11-23	140	NA	NA	NA
Burdjanadze-GEO	GEO	2003-11-23	2004-01-25	2	NA	NA	NA
Saakashvili-GEO	GEO	2004-01-25	2007-11-25	46	NA	NA	NA
Burdzhanadze-GEO	GEO	2007-11-25	2008-01-20	2	NA	NA	NA
Saakashvili-GEO	GEO	2008-01-20	2013-11-17	70	-0.2654	-0.0038	NA
Margvelashvili-GEO	GEO	2013-11-17	2015-12-31	25	-0.1583	-0.0063	Right
Rawlings-GHA	GHA	1981-12-31	2001-01-07	133	-0.234	-0.0018	Left
John Agyekum Kufuor-GHA	GHA	2001-01-08	2009-01-07	96	0.4194	0.0044	NA
Atta Mills-GHA	GHA	2009-01-07	2012-07-24	42	-0.1077	-0.0026	NA
John Mahama-GHA	GHA	2012-07-24	2015-12-31	41	0.1842	0.0045	Right
Conte-GIN	GIN	1984-04-03	2008-12-22	228	0.2924	0.0013	Left
Dadis Camara-GIN	GIN	2008-12-23	2009-12-05	12	-0.1894	-0.0158	NA
Sekouba Konate-GIN	GIN	2009-12-05	2010-12-21	12	0.0188	0.0016	NA
Conde-GIN	GIN	2010-12-21	2015-12-31	60	0.3647	0.0061	Right
Jawara-GMB	GMB	1965-02-18	1994-07-22	55	NA	NA	Left
Jammeh-GMB	GMB	1994-07-22	2015-12-31	257	0.3748	0.0015	Right
Vieira-GNB	GNB	1980-11-14	1999-05-07	113	NA	NA	Left
Sanha-GNB	GNB	1999-05-14	2000-02-17	9	NA	NA	NA
Kumba Iala-GNB	GNB	2000-02-18	2003-09-14	43	0.1608	0.0037	NA
Henrique Pereira Rosa-GNB	GNB	2003-09-28	2005-10-01	25	0.0141	6E-04	NA
Vieira-GNB	GNB	2005-10-01	2009-03-02	41	0.2857	0.007	NA
Raimundo Perreira-GNB	GNB	2009-03-02	2009-09-08	6	NA	NA	NA
Sanha-GNB	GNB	2009-09-08	2011-12-31	27	0.0074	3E-04	NA
Raimundo Pereira-GNB	GNB	2012-01-09	2012-04-12	4	NA	NA	NA
Mamadu Ture Kuruma-GNB	GNB	2012-04-12	2012-05-11	1	NA	NA	NA
Manuel S. Nhamadjo-GNB	GNB	2012-05-11	2014-06-23	25	-3E-04	0	NA
Vaz-GNB	GNB	2014-06-23	2015-12-31	18	-0.0928	-0.0052	Right
Nguema Mbasogo-GNQ	GNQ	1979-08-03	2015-12-31	312	-0.6219	-0.002	Both
Zolotas-GRC	GRC	1989-11-28	1990-04-10	4	NA	NA	Left
Mitsotakis-GRC	GRC	1990-04-11	1993-10-13	42	NA	NA	NA
A. Papandreou-GRC	GRC	1993-10-13	1995-11-20	25	0.0538	0.0022	NA
Tsokhatzopulos-GRC	GRC	1995-11-20	1996-01-22	2	NA	NA	NA
Simitis-GRC	GRC	1996-01-22	2004-03-10	98	-0.1977	-0.002	NA
K. Karamanlis-GRC	GRC	2004-03-10	2009-10-06	67	0.3551	0.0053	NA
Georgios Papandreou-GRC	GRC	2009-10-06	2011-11-11	25	0.6312	0.0252	NA
Loukas Papadimos-GRC	GRC	2011-11-11	2012-05-16	6	NA	NA	NA
Panagiotis Pikrammenos-GRC	GRC	2012-05-16	2012-06-20	1	NA	NA	NA
Antonis K. Samaras-GRC	GRC	2012-06-20	2015-01-26	31	-0.1087	-0.0035	NA
Alexis Tsipras-GRC	GRC	2015-01-26	2015-12-31	11	NA	NA	Right
Cerezo-GTM	GTM	1986-01-14	1991-01-14	13	0.0819	0.0063	Left
Serrano Elias-GTM	GTM	1991-01-14	1993-05-31	28	-0.1305	-0.0047	NA
Espina Salguero-GTM	GTM	1993-05-31	1993-06-01	1	NA	NA	NA

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Leon Carpio-GTM	GTM	1993-06-01	1996-01-14	31	0.0144	5E-04	NA
Arzu Yrigoyen-GTM	GTM	1996-01-14	2000-01-14	48	0.0013	0	NA
Alfonso P. Cabrera-GTM	GTM	2000-01-15	2004-01-14	48	0.0035	1E-04	NA
Berger Perdomo-GTM	GTM	2004-01-14	2008-01-14	48	0.0392	8E-04	NA
Colom Caballeros-GTM	GTM	2008-01-14	2012-01-14	48	-0.001	0	NA
Perez Molina-GTM	GTM	2012-01-14	2015-09-02	44	-0.0617	-0.0014	NA
Hoyte-GUY	GUY	1985-08-06	1992-10-09	34	-0.0199	-6E-04	Left
Jagan Cheddi-GUY	GUY	1992-10-09	1997-03-06	53	0.0065	1E-04	NA
Samuel Hinds-GUY	GUY	1997-03-06	1997-12-19	9	NA	NA	NA
Janet Jagan-GUY	GUY	1997-12-19	1999-08-11	20	-0.0132	-7E-04	NA
Bharrat Jagdeo-GUY	GUY	1999-08-11	2011-12-03	148	0.1153	8E-04	NA
Ramotar-GUY	GUY	2011-12-03	2015-05-16	41	0.1867	0.0046	NA
David Granger-GUY	GUY	2015-05-16	2015-12-31	7	NA	NA	Right
Azcona Hoyo-HND	HND	1986-01-27	1990-01-27	1	NA	NA	Left
Callejas-HND	HND	1990-01-27	1994-01-27	48	NA	NA	NA
Reina-HND	HND	1994-01-27	1998-01-27	48	NA	NA	NA
Flores Facusse-HND	HND	1998-01-27	2002-01-27	48	0.0174	4E-04	NA
Ricardo Maduro-HND	HND	2002-01-27	2006-01-27	48	-0.0322	-7E-04	NA
Zelaya-HND	HND	2006-01-27	2009-06-28	41	-0.0588	-0.0014	NA
Micheletti-HND	HND	2009-06-28	2010-01-27	7	NA	NA	NA
Lobo-HND	HND	2010-01-27	2014-01-27	48	0.089	0.0019	NA
Hern <e1>ndez-HND</e1>	HND	2014-01-27	2015-12-31	23	NA	NA	Right
Tudjman-HRV	HRV	1990-05-30	1999-11-26	115	NA	NA	NA
Pavletic-HRV	HRV	1999-11-26	2000-02-02	3	NA	NA	NA
Mesic-HRV	HRV	2000-02-18	2010-02-18	120	0.2467	0.0021	NA
Josipovic-HRV	HRV	2010-02-18	2015-02-18	60	0.168	0.0028	NA
K. Grabar-Kitarovic-HRV	HRV	2015-02-19	2015-12-31	10	NA	NA	Right
Avril-HTI	HTI	1988-09-17	1990-03-10	3	NA	NA	Left
Pascal-Troillet-HTI	HTI	1990-03-13	1991-02-07	11	NA	NA	NA
Aristide-HTI	HTI	1991-02-07	1991-09-30	7	NA	NA	NA
Cedras-HTI	HTI	1991-09-30	1994-10-14	37	NA	NA	NA
Aristide-HTI	HTI	1994-10-15	1996-02-07	16	NA	NA	NA
Preval-HTI	HTI	1996-02-07	2001-02-07	60	-0.1469	-0.0024	NA
Aristide-HTI	HTI	2001-02-08	2004-02-29	36	-0.0021	-1E-04	NA
Boniface Alexandre-HTI	HTI	2004-02-29	2006-05-14	27	0.0638	0.0024	NA
Preval-HTI	HTI	2006-05-14	2011-05-14	60	-0.4033	-0.0067	NA
Martelly-HTI	HTI	2011-05-14	2014-12-31	43	-0.038	-9E-04	NA
Szuros-HUN	HUN	1989-10-18	1990-05-02	5	NA	NA	Left
Antall-HUN	HUN	1990-05-03	1993-12-12	43	-0.0776	-0.0018	NA
Boross-HUN	HUN	1993-12-12	1994-07-15	7	NA	NA	NA
Horn-HUN	HUN	1994-07-15	1998-07-06	48	-0.1494	-0.0031	NA
Orban-HUN	HUN	1998-07-06	2002-05-27	46	-0.0991	-0.0022	NA
Peter Medgyessy-HUN	HUN	2002-05-27	2004-09-29	28	0.123	0.0044	NA
Ferenc Gyurcsany-HUN	HUN	2004-09-29	2009-04-14	55	-0.3708	-0.0067	NA
Bajnai-HUN	HUN	2009-04-14	2010-05-29	13	0.0942	0.0072	NA
Orban-HUN	HUN	2010-05-29	2015-12-31	67	-0.2773	-0.0041	Right
Suharto-IDN	IDN	1966-03-12	1998-05-21	101	-0.1629	-0.0016	Left
Habibie-IDN	IDN	1998-05-21	1999-10-20	17	8E-04	0	NA
Wahid-IDN	IDN	1999-10-20	2001-07-23	21	-0.0953	-0.0045	NA
Megawati Sukarnoputri-IDN	IDN	2001-07-24	2004-10-20	39	-0.1111	-0.0028	NA

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Bambang Yudhoyono-IDN	IDN	2004-10-20	2014-10-20	120	-0.0328	-3E-04	NA
Joko Widodo-IDN	IDN	2014-10-20	2015-12-31	14	-0.017	-0.0012	Right
Pratap Singh-IND	IND	1989-12-02	1990-11-10	11	NA	NA	NA
Shekhar-IND	IND	1990-11-10	1991-06-21	7	NA	NA	NA
Rao-IND	IND	1991-06-21	1996-05-16	59	-0.1515	-0.0026	NA
Vajpayee-IND	IND	1996-05-16	1996-06-01	1	NA	NA	NA
Gowda-IND	IND	1996-06-01	1997-04-21	10	NA	NA	NA
Gujral-IND	IND	1997-04-21	1998-03-19	11	NA	NA	NA
Vajpayee-IND	IND	1998-03-19	2004-05-22	74	-0.1361	-0.0018	NA
Manmohan Singh-IND	IND	2004-05-22	2014-05-26	120	-0.1062	-9E-04	NA
Narendra Modi-IND	IND	2014-05-29	2015-12-31	19	0.0981	0.0052	Right
Haughey-IRL	IRL	1987-03-10	1992-02-11	26	-0.0408	-0.0016	Left
Reynolds-IRL	IRL	1992-02-11	1994-12-15	34	-0.5551	-0.0163	NA
Bruton-IRL	IRL	1994-12-15	1997-06-26	30	-0.1739	-0.0058	NA
Ahern-IRL	IRL	1997-06-26	2008-05-07	131	0.3782	0.0029	NA
B. Cowen-IRL	IRL	2008-05-07	2011-03-09	34	0.0974	0.0029	NA
E. Kenny-IRL	IRL	2011-03-09	2015-12-31	57	-0.3177	-0.0056	Right
Rafsanjani-IRN	IRN	1989-08-17	1997-08-03	92	-0.5885	-0.0064	Left
Khatami-IRN	IRN	1997-08-03	2005-08-03	96	-0.2821	-0.0029	NA
Ahmadinejad-IRN	IRN	2005-08-03	2013-08-03	96	-0.0101	-1E-04	NA
Rouhani-IRN	IRN	2013-08-03	2015-12-31	28	0.5207	0.0186	Right
Saddam Hussein-IRQ	IRQ	1979-07-16	2003-04-09	160	-0.0196	-1E-04	Left
Jay Garner-IRQ	IRQ	2003-04-21	2003-05-12	1	NA	NA	NA
Paul Bremer-IRQ	IRQ	2003-05-12	2004-06-28	13	-0.0938	-0.0072	NA
Iyad Allawi-IRQ	IRQ	2004-06-28	2005-05-03	11	NA	NA	NA
al-Jaafari-IRQ	IRQ	2005-05-03	2006-05-20	12	0.1315	0.011	NA
al-Maliki-IRQ	IRQ	2006-05-20	2014-09-08	100	0.1657	0.0017	NA
al-Abadi-IRQ	IRQ	2014-09-08	2015-12-31	15	0.1326	0.0088	Right
Shamir-ISR	ISR	1986-10-20	1992-07-12	31	0.1324	0.0043	Left
Rabin-ISR	ISR	1992-07-12	1995-11-04	40	-0.0071	-2E-04	NA
Peres-ISR	ISR	1995-11-04	1996-06-18	7	NA	NA	NA
Netanyahu-ISR	ISR	1996-06-18	1999-07-06	37	-0.0326	-9E-04	NA
Barak-ISR	ISR	1999-07-06	2001-03-07	20	-0.0101	-5E-04	NA
Ariel Sharon-ISR	ISR	2001-03-08	2006-01-04	58	-0.0606	-0.001	NA
Olmert-ISR	ISR	2006-01-04	2009-03-31	38	0.1893	0.005	NA
Netanyahu-ISR	ISR	2009-03-31	2015-12-31	81	0.0463	6E-04	Right
Andreotti-ITA	ITA	1989-07-23	1992-06-28	30	NA	NA	Left
Amato-ITA	ITA	1992-06-28	1993-04-29	10	NA	NA	NA
Ciampi-ITA	ITA	1993-04-29	1994-05-11	13	0	0	NA
Berlusconi-ITA	ITA	1994-05-11	1995-01-17	8	NA	NA	NA
Dini-ITA	ITA	1995-01-17	1996-05-18	16	0.1269	0.0079	NA
Prodi-ITA	ITA	1996-05-18	1998-10-21	29	-0.2611	-0.009	NA
D'Alema-ITA	ITA	1998-10-21	2000-04-26	18	-0.2028	-0.0113	NA
Amato-ITA	ITA	2000-04-26	2001-06-11	14	-0.1083	-0.0077	NA
Berlusconi-ITA	ITA	2001-06-11	2006-05-17	59	0.2992	0.0051	NA
Prodi-ITA	ITA	2006-05-17	2008-05-08	24	0.3135	0.0131	NA
Berlusconi-ITA	ITA	2008-05-08	2011-11-16	42	-0.0232	-6E-04	NA
Monti-ITA	ITA	2011-11-16	2013-04-28	17	0.0309	0.0018	NA
Letta-ITA	ITA	2013-04-28	2014-02-22	10	NA	NA	NA
Renzi-ITA	ITA	2014-02-22	2015-12-31	22	-0.3667	-0.0167	Right

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Manley-JAM	JAM	1989-02-10	1992-03-30	27	NA	NA	Left
Patterson-JAM	JAM	1992-03-30	2006-03-30	168	0.0409	2E-04	NA
Simpson-Miller-JAM	JAM	2006-03-30	2007-09-11	18	-0.0337	-0.0019	NA
Golding-JAM	JAM	2007-09-11	2011-10-23	49	0.2146	0.0044	NA
Holness-JAM	JAM	2011-10-23	2012-01-05	3	NA	NA	NA
Simpson-Miller-JAM	JAM	2012-01-05	2015-12-31	47	0.148	0.0031	Right
H. Ibn T. El-Hashim-JOR	JOR	1952-08-11	1999-02-07	110	0.0065	1E-04	Left
A. Ibn H. El-Hashimi-JOR	JOR	1999-02-07	2015-12-31	202	0.0064	0	Right
Kaifu-JPN	JPN	1989-08-09	1991-11-06	23	-0.0121	-5E-04	Left
Miyazawa-JPN	JPN	1991-11-06	1993-08-09	21	0.2302	0.011	NA
Hosokawa-JPN	JPN	1993-08-09	1994-04-25	8	NA	NA	NA
Hata-JPN	JPN	1994-04-25	1994-06-29	2	NA	NA	NA
Murayama-JPN	JPN	1994-06-29	1996-01-11	19	-0.2431	-0.0128	NA
Hashimoto-JPN	JPN	1996-01-11	1998-07-30	30	-0.5324	-0.0177	NA
Obuchi-JPN	JPN	1998-07-30	2000-04-02	21	0.0905	0.0043	NA
Yoshiro Mori-JPN	JPN	2000-04-05	2001-04-26	12	-0.0632	-0.0053	NA
Junichiro Koizumi-JPN	JPN	2001-04-26	2006-09-26	65	-0.1483	-0.0023	NA
Shinzo Abe-JPN	JPN	2006-09-26	2007-09-26	12	-0.1314	-0.011	NA
Yasuo Fukuda-JPN	JPN	2007-09-26	2008-09-24	12	0.0601	0.005	NA
Taro Aso-JPN	JPN	2008-09-24	2009-09-16	12	-0.2573	-0.0214	NA
Hatoyama Yukio-JPN	JPN	2009-09-16	2010-06-08	9	NA	NA	NA
Naoto Kan-JPN	JPN	2010-06-08	2011-09-02	15	0.0627	0.0042	NA
Yoshihiko Noda-JPN	JPN	2011-09-02	2012-12-26	15	-0.1015	-0.0068	NA
Shinzo Abe-JPN	JPN	2012-12-26	2015-12-31	36	-0.1358	-0.0038	Right
Nazarbayev-KAZ	KAZ	1990-04-24	2015-12-31	309	0.0939	3E-04	Right
Moi-KEN	KEN	1978-08-22	2002-12-30	156	-0.0337	-2E-04	Left
Mwai Kibaki-KEN	KEN	2002-12-31	2013-04-09	124	-0.1733	-0.0014	NA
Uhuru Kenyatta-KEN	KEN	2013-04-09	2015-12-31	32	0.0539	0.0017	Right
Akayev-KGZ	KGZ	1990-10-27	2005-03-25	174	0.0366	2E-04	NĂ
Bakiyev-KGZ	KGZ	2005-03-25	2010-04-07	61	0.0224	4E-04	NA
Otunbayeva-KGZ	KGZ	2010-04-07	2011-12-01	20	-0.1746	-0.0087	NA
Atambayev-KGZ	KGZ	2011-12-01	2015-12-31	48	0.1506	0.0031	Right
Hun Sen-KHM	KHM	1985-01-14	1993-09-21	45	NA	NA	Left
Ranariddh-KHM	KHM	1993-09-21	1997-07-06	46	0.2704	0.0059	NA
Hun Sen-KHM	KHM	1997-07-06	2015-12-31	221	0.174	8E-04	Right
Roh Tae Woo-KOR	KOR	1988-02-25	1993-02-25	38	0.3192	0.0084	Left
Kim Young Sam-KOR	KOR	1993-02-25	1998-02-25	60	-0.1187	-0.002	NA
Kim Dae Jung-KOR	KOR	1998-02-25	2003-02-25	60	0.2251	0.0038	NA
Roh Moo Hyun-KOR	KOR	2003-02-25	2008-02-25	60	0.1999	0.0033	NA
Lee Myung Bak-KOR	KOR	2008-02-25	2013-02-25	60	-0.0027	0	NA
Park Geun-hye-KOR	KOR	2013-02-25	2015-12-31	34	-0.1029	-0.003	Right
Jabir As-Sabah-KWT	KWT	1978-01-01	1990-08-02	8	NA	NA	Left
Saddam Hussein-KWT	KWT	1990-08-02	1991-04-20	8	NA	NA	NA
Jabir As-Sabah-KWT	KWT	1991-04-20	2006-01-15	177	-0.231	-0.0013	NA
Sabah Al Ahmad Al Sabah-KWT	KWT	2006-01-29	2015-12-31	119	0.1807	0.0015	Right
Phomivan-LAO	LAO	1975-12-02	1992-11-25	35	NA	NA	Left
Phounsavanh-LAO	LAO	1992-11-25	1998-02-24	63	NA	NA	NA
Siphandon-LAO	LAO	1998-02-24	2006-06-08	100	0.1872	0.0019	NA
Sayasone-LAO	LAO	2006-06-08	2015-12-31	114	0.2718	0.0024	Right
Elias Hrawi-LBN	LBN	1989-11-23	1998-11-24	107	NA	NA	Left

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Emile Lahoud-LBN	LBN	1998-11-24	2007-11-23	108	-0.2142	-0.002	NA
Siniora-LBN	LBN	2007-11-23	2008-05-25	6	NA	NA	NA
Suleiman-LBN	LBN	2008-05-25	2014-05-24	72	0.4605	0.0064	NA
Salam-LBN	LBN	2014-05-24	2015-12-31	19	-0.0375	-0.002	Right
Doe-LBR	LBR	1980-04-12	1990-09-09	9	NA	NA	Left
Sawyer-LBR	LBR	1990-11-22	1994-03-07	41	NA	NA	NA
Kpormapkor-LBR	LBR	1994-03-07	1995-09-01	18	NA	NA	NA
Sankawulo-LBR	LBR	1995-09-01	1996-09-03	12	NA	NA	NA
Ruth Perry-LBR	LBR	1996-09-03	1997-08-02	11	NA	NA	NA
Taylor-LBR	LBR	1997-08-02	2003-08-11	72	NA	NA	NA
Moses Zeh Blah-LBR	LBR	2003-08-11	2003-10-14	2	NA	NA	NA
Bryant-LBR	LBR	2003-10-14	2006-01-16	27	NA	NA	NA
Johnson Sirleaf-LBR	LBR	2006-01-16	2015-12-31	119	-0.0268	-2E-04	Right
Qaddafi-LBY	LBY	1969-09-01	2011-08-23	260	-0.8654	-0.0033	Left
Mustafa Jalil-LBY	LBY	2011-08-23	2012-08-08	12	-0.0131	-0.0011	NA
Mohammed Magariaf-LBY	LBY	2012-08-09	2013-05-28	9	NA	NA	NA
Giuma Ahmed Atigha-LBY	LBY	2013-05-28	2013-06-25	1	NA	NA	NA
Nouri Abusahmain-LBY	LBY	2013-06-25	2014-08-04	14	-0.0173	-0.0012	NA
Akila Saleh Issa-LBY	LBY	2014-08-05	2015-12-31	16	0.2381	0.0149	Right
Premadasa-LKA	LKA	1989-01-02	1993-05-01	41	0.2599	0.0063	Left
Wijetunge-LKA	LKA	1993-05-01	1994-11-12	18	0.027	0.0015	NA
Kumaratunga-LKA	LKA	1994-11-12	2005-11-19	132	-0.7168	-0.0054	NA
Rajapakse-LKA	LKA	2005-11-19	2015-01-09	110	0.2019	0.0018	NA
Maithripala Sirisena-LKA	LKA	2015-01-09	2015-12-31	11	NA	NA	Right
Lekhanya-LSO	LSO	1986-01-24	1991-05-02	17	NA	NA	Left
Ramaema-LSO	LSO	1991-05-02	1993-04-02	23	NA	NA	NA
Mokhehle-LSO	LSO	1993-04-02	1994-08-17	16	NA	NA	NA
Letsie III-LSO	LSO	1994-08-17	1994-09-14	1	NA	NA	NA
Mokhehle-LSO	LSO	1994-09-14	1998-05-29	44	NA	NA	NA
Mosisili-LSO	LSO	1998-05-29	2012-06-08	169	0.124	7E-04	NA
Thabane-LSO	LSO	2012-06-08	2015-03-17	33	0.1215	0.0037	NA
Pakalitha Mosisili-LSO	LSO	2015-03-17	2015-12-31	9	NA	NA	Right
Landsbergis-LTU		1990-03-11	1992-11-25	33	NA	NA	NA
Brazauskas-LTU	LTU	1992-11-25	1998-02-25	63	NA	NA	NA
Adamkus-LTU	LTU	1998-02-26	2003-02-25	60	0.0627	0.001	NA
Paksas-LTU	LTU	2003-02-26	2004-04-06	14	-0.0064	-5E-04	NA
Paulauskas-LTU	LTU	2004-04-06	2004-07-12	3	NA	NA	NA
Adamkus-LTU	LTU	2004-07-12	2009-07-12	60	0.3579	0.006	NA
Grybauskaite-LTU	LTU	2009-07-12	2015-12-31	77	-0.2895	-0.0038	Right
Santer-LUX	LUX	1984-07-20	1995-01-20	61	0.1911	0.0031	Left
Juncker-LUX	LUX	1995-01-20	2013-12-04	227	-4E-04	0	NA
Xavier Bettel-LUX	LUX	2013-12-04	2015-12-31	24	-0.2076	-0.0087	Right
Godmanis-LVA	LVA	1990-05-03	1993-08-03	40	NA	NA	NA
Birkays-LVA	LVA	1993-08-03	1994-09-19	13	NA	NA	NA
Gailis-IVA	LVA	1994-09-19	1995-12-21	15	NA	NA	NA
Skele-LVA	LVA	1995-12-21	1997-08-07	20	NA	NA	NA
Krasts-LVA	LVA	1997-08-07	1998-11-26	15	NA	NA	NA
Kristopans-LVA	LVA	1998-11-26	1999-07-16	8	NA	NA	NA
Skele-LVA	LVA	1999-07-16	2000-05-05	10	NA	NA	NA
Berzins-LVA	LVA	2000-05-05	2002-11-07	30	-0.0202	-7E-04	NA

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Repse-LVA	LVA	2002-11-07	2004-03-09	16	0.1034	0.0065	NA
Indulis Emsis-LVA	LVA	2004-03-09	2004-12-02	9	NA	NA	NA
Aigars Kalvitis-LVA	LVA	2004-12-02	2007-12-20	36	0.1203	0.0033	NA
Godmanis-LVA	LVA	2007-12-20	2009-03-12	15	-0.2169	-0.0145	NA
Dombrovskis-LVA	LVA	2009-03-12	2014-01-22	58	0.0897	0.0015	NA
Lamdota Straujuma-LVA	LVA	2014-01-22	2014-12-31	11	NA	NA	NA
Hassan II-MAR	MAR	1961-02-26	1999-07-23	115	-0.1827	-0.0016	Left
Muhammad VI-MAR	MAR	1999-07-23	2015-12-31	197	-0.2309	-0.0012	Right
Snegur-MDA	MDA	1990-09-03	1997-01-15	77	NA	NA	NA
Lucinschi-MDA	MDA	1997-01-15	2001-04-07	51	-0.0828	-0.0016	NA
Tarlev-MDA	MDA	2001-04-07	2008-03-31	83	0.3802	0.0046	NA
Greceanii-MDA	MDA	2008-03-31	2009-09-14	18	-0.058	-0.0032	NA
Vlad Filat-MDA	MDA	2009-09-25	2013-04-25	43	0.1268	0.0029	NA
Iurie Leanca-MDA	MDA	2013-04-25	2015-02-18	22	-0.0387	-0.0018	NA
Chiril Gaburici-MDA	MDA	2015-02-18	2015-06-22	4	NA	NA	NA
Natalia Gherman-MDA	MDA	2015-06-22	2015-07-30	1	NA	NA	NA
Valeriu Strelet-MDA	MDA	2015-07-30	2015-10-30	3	NA	NA	NA
Ratsiraka-MDG	MDG	1975-06-15	1993-03-27	39	NA	NA	Left
Zafy-MDG	MDG	1993-03-27	1996-09-05	42	-0.0219	-5E-04	NA
Ratsirahonana-MDG	MDG	1996-09-05	1997-02-09	5	NA	NA	NA
Ratsiraka-MDG	MDG	1997-02-09	2002-07-06	65	0.3586	0.0055	NA
Marc Ravalomanana-MDG	MDG	2002-07-06	2009-03-17	80	0.1665	0.0021	NA
Rajoelina-MDG	MDG	2009-03-17	2014-01-25	58	-0.131	-0.0023	NA
Rajaonarimampianina-MDG	MDG	2014-01-25	2015-12-31	23	-0.0135	-6E-04	Right
Salinas-MEX	MEX	1988-12-01	1994-11-30	59	NA	NA	Left
Zedillo-MEX	MEX	1994-12-01	2000-11-30	72	NA	NA	NA
Vicente Fox Quesada-MEX	MEX	2000-12-01	2006-11-30	72	-0.3358	-0.0047	NA
Calderon-MEX	MEX	2006-12-01	2012-12-01	73	-0.1646	-0.0023	NA
Enrique Pena Nieto-MEX	MEX	2012-12-01	2015-12-31	36	0.3201	0.0089	Right
Nikola Kljusev-MKD	MKD	1991-01-27	1992-08-17	20	NA	NA	NĂ
Crvenkovski-MKD	MKD	1992-08-17	1998-11-30	75	NA	NA	NA
Georgievski-MKD	MKD	1998-11-30	2002-11-01	48	NA	NA	NA
Crvenkovski-MKD	MKD	2002-11-01	2004-05-12	18	NA	NA	NA
Radmila Sekerinska-MKD	MKD	2004-05-12	2004-06-02	1	NA	NA	NA
Hari Kostov-MKD	MKD	2004-06-02	2004-11-18	5	NA	NA	NA
Radmila Sekerinska-MKD	MKD	2004-11-18	2004-12-17	1	NA	NA	NA
Vlado Buckovski-MKD	MKD	2004-12-17	2006-08-27	20	0	0	NA
Gruevski-MKD	MKD	2006-08-27	2014-12-31	100	-0.0595	-6E-04	NA
Traore-MLI	MLI	1968-11-19	1991-03-26	15	NA	NA	Left
Amadou Toure-MLI	MLI	1991-03-26	1992-06-06	15	NA	NA	NA
Konare-MLI	MLI	1992-06-06	2002-06-08	120	-0.0025	0	NA
Amadou Toure-MLI	MLI	2002-06-09	2012-03-22	117	0.0483	4E-04	NA
Amadou Sanogo-MLI	MLI	2012-03-22	2012-04-12	1	NA	NA	NA
Dioncounda Traore-MLI	MLI	2012-04-12	2013-09-04	17	0.131	0.0077	NA
Ibrahim Boubacar Keita-MLI	MLI	2013-09-04	2015-12-31	27	0.0493	0.0018	Right
Adami-MLT	MLT	1987-05-12	1996-10-28	82	NA	NA	Left
Sant-MLT	MLT	1996-10-28	1998-09-06	23	NA	NA	NA
Adami-MLT	MLT	1998-09-06	2004-03-23	66	NA	NA	NA
Gonzi-MLT	MLT	2004-03-23	2013-03-11	108	0.3921	0.0036	NA
Muscat-MLT	MLT	2013-03-11	2015-12-31	33	-0.1297	-0.0039	Right

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Saw Maung-MMR	MMR	1988-09-18	1992-04-23	28	NA	NA	Left
Than Shwe-MMR	MMR	1992-04-23	2011-03-30	227	NA	NA	NA
Thein Sein-MMR	MMR	2011-03-30	2015-12-31	57	-0.0744	-0.0013	Right
Batmonh-MNG	MNG	1984-08-23	1990-03-12	3	NA	NA	Left
Ochirbat-MNG	MNG	1990-03-12	1997-06-20	87	-0.0269	-3E-04	NA
Bagabandi-MNG	MNG	1997-06-20	2005-06-24	96	0.1124	0.0012	NA
Enkhbayar-MNG	MNG	2005-06-24	2009-06-18	48	0.3262	0.0068	NA
Elbegdorj-MNG	MNG	2009-06-18	2015-12-31	78	0.0173	2E-04	Right
Chissano-MOZ	MOZ	1986-11-06	2005-02-02	182	0.3397	0.0019	Left
Guebuza-MOZ	MOZ	2005-02-02	2015-01-15	119	0.4829	0.0041	NA
Filipe Nyusi-MOZ	MOZ	2015-01-15	2015-12-31	11	NA	NA	Right
Sidi Ahmed Taya-MRT	MRT	1984-12-12	2005-08-03	188	-0.345	-0.0018	Left
Ould Mohamed Vall-MRT	MRT	2005-08-03	2007-04-19	20	0.1576	0.0079	NA
Ould Cheikh Abdellahi-MRT	MRT	2007-04-19	2008-08-06	16	-0.1586	-0.0099	NA
Ould Abdel Aziz-MRT	MRT	2008-08-06	2009-04-15	8	NA	NA	NA
dit M'Bare-MRT	MRT	2009-04-15	2009-08-05	4	NA	NA	NA
Ould Abdel Aziz-MRT	MRT	2009-08-05	2015-12-31	76	0.3515	0.0046	Right
Anerood Jugnauth-MUS	MUS	1982-06-16	1995-12-22	72	-0.1427	-0.002	Left
Ramgoolam NMUS	MUS	1995-12-22	2000-09-17	57	-0.2201	-0.0039	NA
Anerood Jugnauth-MUS	MUS	2000-09-18	2003-09-30	36	-0.0308	-9E-04	NA
Paul Berenger-MUS	MUS	2003-09-30	2005-07-05	22	-0.095	-0.0043	NA
Navin Ramgoolam-MUS	MUS	2005-07-05	2014-12-17	113	0.5403	0.0048	NA
Anerood Jugnauth-MUS	MUS	2014-12-17	2015-12-31	12	-0.1028	-0.0086	Right
Banda-MWI	MWI	1964-07-06	1994-05-21	53	NA	NA	Left
Muluzi-MWI	MWI	1994-05-21	2004-05-24	120	-0.0693	-6E-04	NA
Bingu wa Mutharika-MWI	MWI	2004-05-24	2012-04-07	95	0.9308	0.0098	NA
Joyce Hilda Banda-MWI	MWI	2012-04-07	2014-05-31	25	0.328	0.0131	NA
Peter Mutharika-MWI	MWI	2014-05-31	2015-12-31	19	-0.3208	-0.0169	Right
Mahatir Bin Mohammad-MYS	MYS	1981-07-16	2003-10-31	166	-0.2246	-0.0014	Left
Ahmad Badawi-MYS	MYS	2003-10-31	2009-04-03	66	0.0621	9E-04	NA
Najib Tun Razak-MYS	MYS	2009-04-03	2015-12-31	80	0.1033	0.0013	Right
Nujoma-NAM	NAM	1990-03-21	2005-03-21	181	-0.0285	-2E-04	NĂ
Pohamba-NAM	NAM	2005-03-21	2015-03-21	120	0.189	0.0016	NA
Hage Geingob-NAM	NAM	2015-03-21	2015-12-31	9	NA	NA	Right
Seibou-NER	NER	1987-11-10	1993-04-16	40	NA	NA	Left
Ousmane-NER	NER	1993-04-16	1996-01-27	33	NA	NA	NA
Mainassara-NER	NER	1996-01-27	1999-04-11	39	NA	NA	NA
Wanke-NER	NER	1999-04-11	1999-12-22	8	NA	NA	NA
Mamadou Tandja-NER	NER	1999-12-22	2010-02-08	122	0.3419	0.0028	NA
Djibo-NER	NER	2010-02-08	2011-04-07	14	0.1878	0.0134	NA
Issoufou-NER	NER	2011-04-07	2015-12-31	56	-0.0369	-7E-04	Right
Babangida-NGA	NGA	1985-08-27	1993-08-26	44	0.1408	0.0032	Left
Shonekan-NGA	NGA	1993-08-26	1993-11-17	3	NA	NA	NA
Abacha-NGA	NGA	1993-11-17	1998-06-08	55	-0.0832	-0.0015	NA
Abubakar-NGA	NGA	1998-06-09	1999-05-29	11	NA	NA	NA
Obasanjo-NGA	NGA	1999-05-29	2007-05-29	96	-0.0378	-4E-04	NA
Yar'Adua-NGA	NGA	2007-05-29	2010-02-09	33	-0.1191	-0.0036	NA
Goodluck Jonathan-NGA	NGA	2010-02-09	2015-05-29	63	0.2004	0.0032	NA
Muhummadu Buhari-NGA	NGA	2015-05-29	2015-12-31	7	NA	NA	Right
Daniel Ortega-NIC	NIC	1979-07-18	1990-04-25	4	NA	NA	Left

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Violeta Chamorro-NIC	NIC	1990-04-25	1997-01-10	81	-5.0813	-0.0627	NA
Aleman-NIC	NIC	1997-01-10	2002-01-10	60	-0.2704	-0.0045	NA
Enrique Bolanos-NIC	NIC	2002-01-11	2007-01-10	60	0.0257	4E-04	NA
Daniel Ortega-NIC	NIC	2007-01-10	2015-12-31	107	0.0711	7E-04	Right
Lubbers-NLD	NLD	1982-11-04	1994-08-22	56	0.0753	0.0013	Left
Kok-NLD	NLD	1994-08-22	2002-07-22	95	-0.3478	-0.0037	NA
Jan Peter Balkenende-NLD	NLD	2002-07-22	2010-10-14	99	0.3707	0.0037	NA
M. Rutte-NLD	NLD	2010-10-14	2015-12-31	62	-0.2632	-0.0042	Right
Syse-NOR	NOR	1989-10-16	1990-11-03	11	NA	NA	Left
Brundtland-NOR	NOR	1990-11-03	1996-10-25	71	-0.0179	-3E-04	NA
Jagland-NOR	NOR	1996 - 10 - 25	1997-10-17	12	-0.1136	-0.0095	NA
Bondevik-NOR	NOR	1997-10-17	1998-08-30	10	NA	NA	NA
Lahnstein-NOR	NOR	1998-08-30	1998-09-23	1	NA	NA	NA
Bondevik-NOR	NOR	1998-09-24	2000-03-17	18	-0.0397	-0.0022	NA
Stoltenberg-NOR	NOR	2000-03-17	2001-10-19	19	-0.2332	-0.0123	NA
Bondevik-NOR	NOR	2001-10-19	2005-10-17	48	0.4194	0.0087	NA
Stoltenberg-NOR	NOR	2005-10-17	2013-10-16	96	0.4628	0.0048	NA
Solberg-NOR	NOR	2013-10-16	2015-12-31	26	-0.2946	-0.0113	Right
Birendra-NPL	NPL	1972-01-31	1990-11-09	11	NA	NA	Left
Krishna Prasad Bhatterai-NPL	NPL	1990-11-09	1991-05-26	6	NA	NA	NA
Girija Prasad Koirala-NPL	NPL	1991-05-26	1994-11-30	42	NA	NA	NA
Man Mohan Adhilari-NPL	NPL	1994-11-30	1995-09-12	10	NA	NA	NA
Sher Bahadur Deuba-NPL	NPL	1995-09-12	1997-03-12	18	-0.0325	-0.0018	NA
Lokendra Bahadur Chand-NPL	NPL	1997-03-12	1997-10-07	7	NA	NA	NA
Surya Bahadur Thapa-NPL	NPL	1997-10-07	1998-04-15	6	NA	NA	NA
Girija Prasad Koirala-NPL	NPL	1998-04-15	1999-05-31	13	0.0214	0.0016	NA
Krishna Prasad Bhatterai-NPL	NPL	1999-05-31	2000-03-22	10	NA	NA	NA
Girija Prasad Koirala-NPL	NPL	2000-03-22	2001-07-26	16	0.0472	0.003	NA
Sher Bahdur Deuba-NPL	NPL	2001-07-26	2002-10-04	15	-0.0632	-0.0042	NA
Lokendra Bahadur Chand-NPL	NPL	2002-10-11	2003-06-05	8	NA	NA	NA
Surya Bahadur Thapa-NPL	NPL	2003-06-05	2004-06-03	12	-0.0604	-0.005	NA
Sher Bahdur Deuba-NPL	NPL	2004-06-03	2005-02-01	8	NA	NA	NA
Gyanendra-NPL	NPL	2005-02-01	2006-04-30	14	0.0072	5E-04	NA
Girija Prasad Koirala-NPL	NPL	2006-04-30	2008-08-18	28	0.132	0.0047	NA
Prachanda-NPL	NPL	2008-08-18	2009-05-25	9	NA	NA	NA
Madhav Kumar Nepal-NPL	NPL	2009-05-25	2011-02-06	21	0.0885	0.0042	NA
Nath Khanal-NPL	NPL	2011-02-06	2011-08-29	6	NA	NA	NA
Bhattarai-NPL	NPL	2011-08-29	2013-03-14	19	0.0514	0.0027	NA
Khil Raj Regmi-NPL	NPL	2013-03-14	2014-02-11	11	NA	NA	NA
Sushil Koirala-NPL	NPL	2014-02-11	2015-10-10	20	-0.0456	-0.0023	NA
Khadga Prasad Sharma Oli-NPL	NPL	2015-10-10	2015-12-31	2	NA	NA	Right
Palmer-NZL	NZL	1989-08-08	1990-09-04	9	NA	NA	Left
Moore-NZL	NZL	1990-09-04	1990-10-27	1	NA	NA	NA
Bolger-NZL	NZL	1990-10-27	1997-12-08	86	0.0511	6E-04	NA
Jenny Shipley-NZL	NZL	1997-12-08	1999-12-10	24	-0.2039	-0.0085	NA
Helen Clark-NZL	NZL	1999-12-10	2008-11-19	107	-0.008	-1E-04	NA
John Key-NZL	NZL	2008-11-19	2015-12-31	85	0.3139	0.0037	Right
Qabus Bin Said-OMN	OMN	1970-07-23	2015-12-31	312	-0.3334	-0.0011	Both
Benazir Bhutto-PAK	PAK	1988-12-02	1990-08-06	8	NA	NA	Left

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Jatoi-PAK	PAK	1990-08-06	1990-11-06	3	NA	NA	NA
Sharif-PAK	PAK	1990-11-06	1993-04-18	29	NA	NA	NA
Mazari-PAK	PAK	1993-04-18	1993-05-26	1	NA	NA	NA
Sharif-PAK	PAK	1993-05-26	1993-07-18	2	NA	NA	NA
Qureshi-PAK	PAK	1993-07-19	1993-10-19	3	NA	NA	NA
Benazir Bhutto-PAK	PAK	1993-10-19	1996-11-05	37	NA	NA	NA
Khalid-PAK	PAK	1996-11-05	1997-02-17	3	NA	NA	NA
Sharif-PAK	PAK	1997-02-17	1999-10-12	32	NA	NA	NA
Musharraf-PAK	PAK	1999-10-14	2008-08-18	106	-0.2581	-0.0024	NA
Soomro-PAK	PAK	2008-08-18	2008-09-09	1	NA	NA	NA
Zardari-PAK	PAK	2008-09-09	2013-06-05	57	-0.3406	-0.006	NA
Nawaz Sharif-PAK	PAK	2013-06-05	2015-12-31	30	0.0821	0.0027	Right
Noriega-PAN	PAN	1983-08-15	1990-01-03	1	NA	NA	Left
Endara-PAN	PAN	1990-01-04	1994-09-01	56	NA	NA	NA
Balladares-PAN	PAN	1994-09-01	1999-09-01	60	-0.0085	-1E-04	NA
Mireya Moscoso-PAN	PAN	1999-09-01	2004-09-01	60	-0.074	-0.0012	NA
Martin Torrijos-PAN	PAN	2004-09-01	2009-07-01	58	0.0106	2E-04	NA
Martinelli-PAN	PAN	2009-07-01	2014-07-01	60	0.0768	0.0013	NA
Varela Rodriguez-PAN	PAN	2014-07-01	2015-12-31	17	0.0228	0.0013	Right
Garcia Perez-PER	PER	1985-07-28	1990-07-28	7	NA	NA	Left
Fujimori-PER	PER	1990-07-28	2000-11-22	124	0.0135	1E-04	NA
Valentin Paniagua-PER	PER	2000-11-23	2001-07-28	8	NA	NA	NA
Alejandro Toledo-PER	PER	2001-07-28	2006-07-28	60	-0.0328	-5E-04	NA
Garcia Perez-PER	PER	2006-07-28	2011-07-28	60	-0.2155	-0.0036	NA
Ollanta Humala-PER	PER	2011-07-28	2015-12-31	53	-0.1282	-0.0024	Right
Aquino-PHL	PHL	1986-02-25	1992-06-30	30	0.1929	0.0064	Left
Ramos-PHL	PHL	1992-06-30	1998-06-30	72	-0.2181	-0.003	NA
Estrada-PHL	PHL	1998-06-30	2001-01-20	31	-0.0492	-0.0016	NA
Gloria Macapagal-Arroyo-PHL	PHL	2001-01-21	2010-06-30	113	0.2664	0.0024	NA
Benigno Aquino III-PHL	PHL	2010-06-30	2015-12-31	66	0.0619	9E-04	Right
Namaliu-PNG	PNG	1988-07-04	1992-07-17	31	NA	NA	Left
Wingti-PNG	PNG	1992-07-17	1994-08-30	25	NA	NA	NA
Chan-PNG	PNG	1994-08-30	1997-07-22	35	NA	NA	NA
Skate-PNG	PNG	1997-07-22	1999-07-14	24	NA	NA	NA
Morauta-PNG	PNG	1999-07-14	2002-08-05	37	NA	NA	NA
Somare-PNG	PNG	2002-08-06	2011-08-02	108	0.2727	0.0025	NA
O'Neil-PNG	PNG	2011-08-02	2015-12-31	52	-0.3277	-0.0063	Right
Jaruzelski-POL	POL	1981-10-18	1990-12-22	12	NA	NA	Left
Walesa-POL	POL	1990-12-22	1995-12-23	60	NA	NA	NA
Kwasniewski-POL	POL	1995-12-23	2005-12-23	120	0.007	1E-04	NA
Kaczynski-POL	POL	2005-12-23	2010-04-10	52	0.1864	0.0036	NA
Komorowski-POL	POL	2010-04-10	2010-07-08	3	NA	NA	NA
Schetyna-POL	POL	2010-07-08	2010-08-06	1	NA	NA	NA
Komorowski-POL	POL	2010-08-06	2015-08-06	60	-0.2722	-0.0045	NA
Soares-PRT	PRT	1986-03-09	1996-03-09	75	0.1398	0.0019	Left
Sampaio-PRT	PRT	1996-03-09	2006-03-09	120	-0.0785	-7E-04	NA
Cavaco Silva-PRT	PRT	2006-03-09	2015-12-31	117	-0.1007	-9E-04	Right
Rodriguez Pedotti-PRY	PRY	1989-02-03	1993-08-15	44	0.1208	0.0027	Left
Wasmosy Monti-PRY	PRY	1993-08-15	1998-08-15	60	-0.0581	-0.001	NA
Cubas Grau-PRY	PRY	1998-08-15	1999-03-28	7	NA	NA	NA

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Gonzalez Macchi-PRY	PRY	1999-03-28	2003-08-15	53	0.0823	0.0016	NA
Nicanor Duarte Frutos-PRY	PRY	2003-08-15	2008-08-15	60	0.1456	0.0024	NA
Fernando Lugo-PRY	PRY	2008-08-15	2012-06-22	46	-0.1577	-0.0034	NA
Federico Franco-PRY	PRY	2012-06-22	2013-08-15	14	0.0567	0.0041	NA
Horacio Cartes-PRY	PRY	2013-08-15	2015-12-31	28	-0.0119	-4E-04	Right
Khalifah Ath-Thani-QAT	QAT	1972-02-22	1995-06-27	66	0.011	2E-04	Left
Hamad ibn Khalifah Al Thani-QAT	QAT	1995-06-27	2013-06-25	216	-0.569	-0.0026	NA
Tamim ibn Hamad Al Thani-QAT	QAT	2013-06-26	2015-12-31	30	0.4021	0.0134	Right
Roman-ROM	ROM	1989-12-26	1991-10-01	22	NA	NA	NA
Stolojan-ROM	ROM	1991-10-01	1992-11-04	13	NA	NA	NA
Vacariou-ROM	ROM	1992-11-04	1996-12-12	49	NA	NA	NA
Ciorbea-ROM	ROM	1996-12-12	1998-03-30	15	-0.1618	-0.0108	NA
Dejeu-ROM	ROM	1998-03-30	1998-04-15	1	NA	NA	NA
Vasile-ROM	ROM	1998-04-15	1999-12-14	20	-0.0717	-0.0036	NA
Isarescu-ROM	ROM	1999-12-22	2000-12-28	12	-0.0889	-0.0074	NA
A. Nastase-ROM	ROM	2000-12-28	2004-12-21	48	0.316	0.0066	NA
Traian Basescu-ROM	ROM	2004-12-29	2007-04-20	28	0.0678	0.0024	NA
Vacariou-ROM	ROM	2007-04-20	2007-05-23	1	NA	NA	NA
Traian Basescu-ROM	ROM	2007-05-23	2012-07-10	62	-0.0531	-9E-04	NA
Crin Antonescu-ROM	ROM	2012-07-10	2012-08-28	1	NA	NA	NA
Traian Basescu-ROM	ROM	2012-08-28	2014-12-21	28	0.123	0.0044	NA
Gorbachev-RUS	RUS	1985-03-11	1991-08-21	20	NA	NA	Left
Yeltsin-RUS	RUS	1991-08-21	1999-12-31	100	-0.145	-0.0015	NA
Putin-RUS	RUS	2000-01-01	2015-12-31	192	0.1498	8E-04	Right
Habyarimana-RWA	RWA	1973-07-05	1994-04-06	52	NA	NA	Left
Sindikubwabo-RWA	RWA	1994-04-06	1994-07-19	3	NA	NA	NA
Paul Kagame-RWA	RWA	1994-07-19	2015-12-31	257	0.0218	1E-04	Right
Fahd-SAU	SAU	1982-06-13	1996-01-01	73	0.0601	8E-04	Left
Abdullah ibn Abdilaziz-SAU	SAU	1996-01-01	2015-01-23	228	-0.4416	-0.0019	NA
Salman bin Abdulaziz Al Saud-SAU	SAU	2015-01-23	2015-12-31	11	NA	NA	Right
Al-Bashir-SDN	SDN	1989-06-30	2015-12-31	312	-0.2071	-7E-04	Both
Diouf-SEN	SEN	1981-01-01	2000-04-01	124	-1.2368	-0.01	Left
Abdoulaye Wade-SEN	SEN	2000-04-02	2012-04-02	144	0.461	0.0032	NA
Sall-SEN	SEN	2012-04-02	2015-12-31	44	0.04	9E-04	Right
Lee Kuan Yew-SGP	SGP	1959-06-05	1990-11-28	11	NA	NA	Left
Goh Chok Tong-SGP	SGP	1990-11-28	2004-08-12	165	-0.1711	-0.001	NA
Lee Hsien Loong-SGP	SGP	2004-08-12	2015-12-31	136	0.3275	0.0024	Right
Momoh-SLE	SLE	1985-11-28	1992-04-29	28	NA	NA	Left
Strasser-SLE	SLE	1992-05-01	1996-01-17	45	-0.1049	-0.0023	NA
Bio-SLE	SLE	1996-01-17	1996-03-29	2	NA	NA	NA
Kabbah-SLE	SLE	1996-03-29	1997-05-25	14	0.3254	0.0232	NA
Koroma-SLE	SLE	1997-05-25	1998-02-12	9	NA	NA	NA
Kabbah-SLE	SLE	1998-03-10	2007-09-17	115	-0.2177	-0.0019	NA
Bai Koroma-SLE	SLE	2007-09-17	2015-12-31	99	-0.0217	-2E-04	Right
Cristiani-SLV	SLV	1989-06-01	1994-06-01	54	NA	NA	Left
Calderon Sol-SLV	SLV	1994-06-01	1999-06-01	60	NA	NA	NA
Flores-SLV	SLV	1999-06-01	2004-06-01	60	0.0014	0	NA
Saca Gonz <e1>lez-SLV</e1>	SLV	2004-06-01	2009-06-01	60	-2E-04	0	NA
Funes-SLV	SLV	2009-06-01	2014-06-01	60	-0.0062	-1E-04	NA

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Sanchez Ceren-SLV	SLV	2014-06-01	2015-12-31	18	0.0129	7E-04	Right
Siad Barre-SOM	SOM	1969-10-21	1991-01-26	13	NA	NA	Left
Hassan Sheikh Mohamud-SOM	SOM	2012-09-16	2015-12-31	40	NA	NA	Right
Kostunica-SRB	SRB	2006-06-04	2008-07-07	26	0.4729	0.0182	NA
Cvetkovic-SRB	SRB	2008-07-07	2012-07-27	48	-0.2695	-0.0056	NA
Dacic-SRB	SRB	2012-07-27	2014-04-27	21	0.0328	0.0016	NA
Vucic-SRB	SRB	2014-04-27	2015-12-31	20	-0.2491	-0.0125	Right
Shankar-SUR	SUR	1988-01-25	1990-12-24	12	-0.1785	-0.0149	Left
Kraag-SUR	SUR	1990-12-29	1991-09-16	9	NA	NA	NA
Venetiaan-SUR	SUR	1991-09-16	1996-09-15	60	0.6177	0.0103	NA
Wijdenbosch-SUR	SUR	1996-09-15	2000-08-12	47	-0.0238	-5E-04	NA
Venetiaan-SUR	SUR	2000-08-12	2010-08-12	120	0.4117	0.0034	NA
Bouterse-SUR	SUR	2010-08-12	2015-12-31	64	0.268	0.0042	Right
Meciar-SVK	SVK	1993-01-01	1994-03-16	15	NA	NA	NA
Moravcik-SVK	SVK	1994-03-16	1994-12-13	9	NA	NA	NA
Meciar-SVK	SVK	1994-12-13	1998-10-30	46	NA	NA	NA
Dzurinda-SVK	SVK	1998-10-30	2006-07-04	93	-0.0212	-2E-04	NA
Fico-SVK	SVK	2006-07-04	2010-07-08	48	0.0904	0.0019	NA
Radicova-SVK	SVK	2010-07-08	2012-04-04	21	-0.018	-9E-04	NA
Fico-SVK	SVK	2012-04-04	2015-12-31	44	-0.2145	-0.0049	Right
Kucan-SVN	SVN	1990-04-22	1991-12-23	21	NA	NA	NA
Peterle-SVN	SVN	1991-12-23	1992-05-14	5	NA	NA	NA
Drnovsek-SVN	SVN	1992-05-14	2000-05-03	96	0	0	NA
Bajuk-SVN	SVN	2000-05-03	2000-11-17	6	NA	NA	NA
Drnovsek-SVN	SVN	2000-11-17	2002-12-11	25	0.0331	0.0013	NA
Anton Rop-SVN	SVN	2002-12-11	2004-11-09	23	0.1401	0.0061	NA
Janez Jansa-SVN	SVN	2004-11-09	2008-11-21	48	0.0299	6E-04	NA
Borut Pahor-SVN	SVN	2008-11-21	2012-02-10	39	0.1331	0.0034	NA
Janez Jansa-SVN	SVN	2012-02-10	2013-03-20	13	0.1464	0.0113	NA
Bratusek-SVN	SVN	2013-03-20	2014-09-18	18	0.003	2E-04	NA
Cerar-SVN	SVN	2014-09-18	2015-12-31	15	-0.1724	-0.0115	Right
Carlsson-SWE	SWE	1986-03-12	1991-10-30	22	NA	NA	Left
Bildt-SWE	SWE	1991-10-30	1994-10-07	36	NA	NA	NA
Carlsson-SWE	SWE	1994-10-07	1996-03-21	17	0.1401	0.0082	NA
Persson-SWE	SWE	1996-03-21	2006-10-06	127	-0.2402	-0.0019	NA
Reinfeldt-SWE	SWE	2006-10-06	2014-10-03	96	0.1371	0.0014	NA
Stefan L <f6>fven-SWE</f6>	SWE	2014-10-03	2015-12-31	14	0.0166	0.0012	Right
Mswati-SWZ	SWZ	1986-04-25	2015-12-31	312	0.2566	8E-04	Both
Al-Assad HSYR	SYR	1971-02-22	2000-06-10	126	NA	NA	Left
Bashar al-Assad-SYR	SYR	2000-06-11	2015-12-31	186	-0.0206	-1E-04	Right
Habre-TCD	TCD	1982-06-19	1990-12-02	12	NA	NA	Left
Deby-TCD	TCD	1990-12-04	2015-12-31	300	-0.4712	-0.0016	Right
Eyadema-TGO	TGO	1967-04-14	2005-02-05	182	0.2106	0.0012	Left
Bonfoh-TGO	TGO	2005-02-25	2005-05-04	3	NA	NA	NA
Faure Gnassingbe-TGO	TGO	2005-05-04	2015-12-31	127	0.186	0.0015	Right
Choonhavan-THA	THA	1988-08-04	1991-02-23	14	NA	NA	Left
Panyarachun-THA	THA	1991-03-07	1992-04-04	14	-0.0135	-0.001	NA
Kraprayoon-THA	THA	1992-04-05	1992-05-24	1	NA	NA	NA
Panyarachun-THA	THA	1992-06-10	1992-09-23	4	NA	NA	NA

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Leekpai-THA	THA	1992-09-23	1995-07-13	34	-0.0415	-0.0012	NA
Silpa-Archa-THA	THA	1995-07-13	1996-12-01	17	-0.0247	-0.0015	NA
Chavalit Yongchaiyudh-THA	THA	1996-12-01	1997-11-09	11	NA	NA	NA
Leekpai-THA	THA	1997-11-09	2001-02-09	39	-0.0048	-1E-04	NA
Thaksin Shinawatra-THA	THA	2001-02-10	2006-09-19	67	0.0504	8E-04	NA
Chulanont-THA	THA	2006-09-19	2008-01-29	16	0.0649	0.0041	NA
Sundaravej-THA	THA	2008-01-29	2008-09-09	8	NA	NA	NA
Wongsawat-THA	THA	2008-09-09	2008-12-02	3	NA	NA	NA
Vejjajiva-THA	THA	2008-12-15	2011-08-08	32	0.1328	0.0042	NA
Yingluck Shinawatra-THA	THA	2011-08-08	2014-05-07	33	0.1828	0.0055	NA
Prayuth Chan-ocha-THA	THA	2014-05-22	2015-12-31	19	-0.2072	-0.0109	Right
Kadreddin Aslonov-TJK	TJK	1991-08-31	1991-09-23	2	NA	NA	NĂ
Nabiyev-TJK	TJK	1991-09-23	1992-09-07	12	NA	NA	NA
Iskandrov-TJK	TJK	1992-09-07	1992-11-20	2	NA	NA	NA
Rakhmonov-TJK	TJK	1992-11-20	2015-12-31	277	0.1426	5E-04	Right
Gusmao-TLS	TLS	NA	NA	61	NA	NA	NA
Ramos-Horta-TLS	TLS	NA	NA	9	NA	NA	NA
Fernando de Ara <fa>io-TLS</fa>	TLS	NA	NA	2	NA	NA	NA
Ramos-Horta-TLS	TLS	NA	NA	49	NA	NA	NA
Buak-TLS	TLS	NA	NA	43	NA	NA	Right
Robinson-TTO	TTO	1986-12-18	1991-12-07	24	-0.0508	-0.0021	Left
Manning-TTO	TTO	1000 12 10	1995-11-09	47	-0.133	-0.0021	NΔ
Panday-TTO		1991-12-10	2001-12-24	73	-0.133	-0.0023	ΝΔ
Manning-TTO		2001-12-25	2001-12-24	101	-0.4368	-0.0011	ΝΔ
Kamla Percad-Bissesar-TTO	TTO	2001-12-25	2010-00-20	64	0.0324	5E-04	NΔ
Kailla Telsau-Dissessai-TTO	TTO	2010-00-20	2015-09-09	2	NA	NA NA	Right
Zine Al-Abidine Ben Ali-TUN	TUN	1987-11-07	2010-12-01	253	_0.2837	-0.0011	Loft
Mohorana TUN	TUN	2011 01 15	2011-01-14	255	-0.2037 NA	-0.0011 NA	NA
Menzouli TUN	TUN	2011-01-13	2011-12-13	26	0.2259	NA 0.0062	NA NA
Caid Ecceleri TUN	TUN	2011-12-13	2014-12-31	10	0.2238	0.0003	Dight
Abbulut TUD	TUN	2014-12-31	2013-12-31	12	-0.0508	-0.0047	Laft
AKDUIUU-TUK Vilman TUD	TUR	1969-11-09	1991-00-24	10	NA NA	INA NA	NA
Yilmaz-TUR	TUR	1991-06-24	1991-11-20	0	INA NA	INA	INA NA
Demirel-10R	TUR	1991-11-20	1993-05-16	18	INA NA	INA	INA NA
Erdal Inonu-10R	TUR	1993-05-16	1993-06-25	1	NA 0.1040	INA 0.0020	INA
Ciller-TUR	TUR	1993-06-25	1996-03-06	33	0.1048	0.0032	NA
Yilmaz-TUR	TUR	1996-03-06	1996-06-28	う 10	NA 0.105	NA 0.0007	INA NA
Erbakan-TUR	TUR	1996-06-28	1997-06-30	12	-0.105	-0.0087	NA
Yilmaz-TUR	TUR	1997-06-30	1999-01-11	19	-0.0906	-0.0048	NA
Ecevit-TUR	TUR	1999-01-11	2002-11-18	46	0.1609	0.0035	NA
Abdullah Gul-TUR	TUR	2002-11-19	2003-03-14	4	NA	NA	NA
Erdogan-TUR	TUR	2003-03-14	2015-12-31	153	-0.0241	-2E-04	Right
Lee Teng-Hui-TWN	TWN	1988-01-13	2000-05-20	125	-0.3546	-0.0028	Left
Chen Shui-bian-TWN	TWN	2000-05-21	2008-05-20	96	-0.114	-0.0012	NA
Ma Ying-jeou-TWN	TWN	2008-05-20	2015-12-31	91	0.0704	8E-04	Right
Mwinyi-TZA	TZA	1985-11-05	1995-11-05	71	NA	NA	Left
Mkapa-TZA	TZA	1995-11-05	2005-12-21	121	-0.0119	-1E-04	NA
Kikwete-TZA	TZA	2005-12-21	2015-11-05	119	0.1812	0.0015	NA
John Magufuli-TZA	TZA	2015-11-05	2015-12-31	1	NA	NA	Right
Museveni-UGA	UGA	1986-01-29	2015-12-31	312	-0.2353	-8E-04	Both

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Kravchuk-UKR	UKR	1990-07-18	1994-07-19	49	NA	NA	NA
Kuchma-UKR	UKR	1994-07-19	2005-01-23	126	0.0588	5E-04	NA
Yushchenko-UKR	UKR	2005-01-23	2010-02-25	61	0.1995	0.0033	NA
Yanukovych-UKR	UKR	2010-02-25	2014-02-22	48	0.1429	0.003	NA
Oleksandr Turchynov-UKR	UKR	2014-02-23	2014-06-07	4	NA	NA	NA
Petro Poroshenko-UKR	UKR	2014-06-07	2015-12-31	18	-0.0758	-0.0042	Right
Sanguinetti-URY	URY	1985-03-01	1990-03-01	3	NA	NA	Left
Lacalle de Herrera-URY	URY	1990-03-01	1995-03-01	60	0.2472	0.0041	NA
Sanguinetti-URY	URY	1995-03-01	2000-03-01	60	-0.0472	-8E-04	NA
Jorge Batlle-URY	URY	2000-03-02	2005-03-01	60	-0.1338	-0.0022	NA
Tabare Vazquez-URY	URY	2005-03-01	2010-03-01	60	0.0794	0.0013	NA
Jose Mujica-URY	URY	2010-03-01	2015-03-01	60	0.2554	0.0043	NA
Tabare Vasquez-URY	URY	2015-03-01	2015-12-31	9	NA	NA	Right
G.H.W. Bush-USA	USA	1989-01-20	1993-01-20	37	0.0862	0.0023	Left
Clinton-USA	USA	1993-01-20	2001-01-20	96	0.0066	1E-04	NA
G.W. Bush-USA	USA	2001-01-21	2009-01-20	96	0.0422	4E-04	NA
Obama-USA	USA	2009-01-20	2015-12-31	83	0.0423	5E-04	Right
Karimov-UZB	UZB	1990-03-24	2015-12-31	310	-0.1199	-4E-04	Right
Andres Perez-VEN	VEN	1989-02-02	1993-08-31	44	0.0323	7E-04	Left
Velasquez-VEN	VEN	1993-08-31	1994-02-02	6	NA	NA	NA
Caldera Rodriguez-VEN	VEN	1994-02-02	1999-02-02	60	0.2453	0.0041	NA
Hugo Chavez-VEN	VEN	1999-02-02	2012-03-05	157	-0.806	-0.0051	NA
Maduro-VEN	VEN	2012-03-05	2015-12-31	45	0.3913	0.0087	Right
Nguyen Van Linh-VNM	VNM	1986-12-18	1991-06-27	18	NA	NA	Left
Do Muoi-VNM	VNM	1991-06-27	1997-12-29	78	0.0576	7E-04	NA
Phieu-VNM	VNM	1997-12-29	2001-04-22	40	-0.1007	-0.0025	NA
Nong Duc Manh-VNM	VNM	2001-04-23	2011-01-19	117	0.1012	9E-04	NA
Phu Trong-VNM	VNM	2011-01-19	2015-12-31	59	0.2987	0.0051	Right
Saleh al-Hashidi-YEM	YEM	1978-07-17	2012-02-27	266	0.0186	1E-04	Left
Abd Rabbuh Mansur Hadi-YEM	YEM	2012-02-27	2015-12-31	46	2.8141	0.0612	Right
deKlerk-ZAF	ZAF	1989-08-15	1994-05-10	53	0.0763	0.0014	Left
Mandela-ZAF	ZAF	1994-05-10	1999-06-16	61	-0.1944	-0.0032	NA
Mbeki-ZAF	ZAF	1999-06-16	2008-09-25	111	0.1297	0.0012	NA
Motlanthe-ZAF	ZAF	2008-09-25	2009-05-09	8	NA	NA	NA
Zuma-ZAF	ZAF	2009-05-09	2015-12-31	79	-0.0067	-1E-04	Right
Kaunda-ZMB	ZMB	1964-10-24	1991-11-02	23	NA	NA	Left
Chiluba-ZMB	ZMB	1991-11-02	2002-01-02	122	-0.134	-0.0011	NA
Levy Mwanawasa-ZMB	ZMB	2002-01-03	2008-06-29	77	-0.0817	-0.0011	NA
Banda-ZMB	ZMB	2008-06-29	2011-09-23	39	0.2998	0.0077	NA
Sata-ZMB	ZMB	2011-09-23	2014-10-28	37	0.2008	0.0054	NA
Scott-ZMB	ZMB	2014-10-29	2015-01-25	3	NA	NA	NA
Edgar Lungu-ZMB	ZMB	2015-01-25	2015-12-31	11	NA	NA	Right
Mugabe-ZWE	ZWE	1980-03-04	2015-12-31	312	0.2729	9E-04	Both
		10000001			1		

Rank	Country	Name	Leader's ID	Tenure	Change in	Δ in Tax
				Months	Tax	
1	YEM	Abd Rabbuh	YEM-2012	43	2.81	0.07
		Mansur Hadi				
2	COD	Laurent Kabila	DRC-1997	27	0.98	0.04
3	GNB	Vieira	GNB-2005	10	0.29	0.03
4	SLE	Kabbah	SIE-1996-2	12	0.33	0.03
5	GRC	Georgios Papan-	GRC-2009	25	0.63	0.03
		dreou				
6	EGY	al-Sisi	EGY-2014	15	0.35	0.02
7	IRN	Rouhani	IRN-2013	27	0.52	0.02
8	LBY	Akila Saleh Issa	LIB-2014	13	0.24	0.02
9	SRB	Kostunica	SER-2006	26	0.47	0.02
10	FRA	Mitterand	FRN-1981	17	0.29	0.02

1.3.2 Leaders with the Largest Increases per Month

1.3.3 Leaders with the Largest Decreases per Month

Rank	Country	Name	Leader's ID	Tenure	Change in	Δ in Tax
				Months	Tax	
1	NIC	Violeta Chamorro	NIC-1990	74	-5.08	-0.07
2	ROM	Ciorbea	RUM-1996	3	-0.16	-0.05
3	COD	Joseph Kabila	DRC-2001	177	-4.63	-0.03
4	BGD	Ershad	BNG-1982	9	-0.20	-0.02
5	JPN	Taro Aso	JPN-2008	12	-0.26	-0.02
6	MWI	Peter Mutharika	MAW-2014	15	-0.32	-0.02
7	ITA	Renzi	ITA-2014	19	-0.37	-0.02
8	JPN	Hashimoto	JPN-1996	30	-0.53	-0.02
9	ALB	Rama	ALB-2013	17	-0.29	-0.02
10	SRB	Vucic	SER-2014	15	-0.25	-0.02

1.4 Data Sources

Variable	Description	Source
Net Gasoline Tax	Net tax estimated using the "gap" approach, which is the difference between the local price and the bench- mark	Ross, Hazlett and Mahdavi (2017)
GDP Per Capita PPP	Gross domestic product per capita based on purchash- ing power parity	The World Bank (2019)
GDP Growth	Gross domestic product per capita annual growth in percent	The World Bank (2019)
Central Gov Debt	Total stock of debt liabilities issued by a country's cen- tral government as a percent of gross national product	International Monetary Fund (2019 <i>a</i>)
Oil and Gas Income Depen- dence	Total oil and gas income as percentage of GDP	Ross (2013), The World Bank (2019)
VAT	Value-added Tax Rate	International Monetary Fund (2019b)
Democracy	Dichotomous measure of democracy based on Robert Dahl's elements of contestation and participation	Boix, Miller and Rosato (2013)
Non-Democracy	Dichotomous measure of autocracy based on Robert Dahl's elements of contestation and participation	Boix, Miller and Rosato (2013)
Parliamentary System	Binary variable that takes the value of 1 when the chief executive is elected by the assembly / parliament, according to the DPI Dataset	(Scartascini, Cruz and Keefer, 2018, p.3)
Presidential System	Binary variable that takes the value of 1 when the chief executive is elected in a separate election from the assembly / parliament, according to the DPI Dataset	(Scartascini, Cruz and Keefer, 2018, p.3)
Oil Importing Country	Binary variable that takes the value of 1 when the value of oil and gas exports per capita is lower than XXX USD	Ross and Mahdavi (2015)
Oil Exporting Country	Binary variable that takes the value of 1 when the value of oil and gas exports per capita is higher than XXX USD	Ross and Mahdavi (2015)
Persistent Subsidizer	Binary variable that takes the value of 1 when the median net implicit tax is below 0 for the 1990-2015 period	Ross, Hazlett and Mahdavi (2017)
Persistent Taxer	Binary variable that takes the value of 1 when the country has a fixed-price system, but is not a persis- tent subsidizer	Ross, Hazlett and Mahdavi (2017)
Leader's Age	Leader's age in years	Goemans, Gleditsch and Chiozza (2009)
Leader's Gender	Leader's gender as defined in Archigos	Goemans, Gleditsch and Chiozza (2009)
Leader's Schooling	Binary variable that takes the value of 1 when the leader attended college and 0 otherwise, as defined by the Cursus Honorum dataset	Baturo (2016)
Executive Political Ideology	Political orientation of the party in power in terms of their economic policy agenda, as defined in the DPI dataset. This variable has three categories: Left, Right, and Center	Scartascini, Cruz and Keefer (2018)
Economic Crisis Year	Binary variable that takes the value of 1 when the country experienced an economic crisis according to any of the four criteria defined by the IMF	IMF, 2020

2 Supplementary Tables

2.1 Democratic Countries

	Model 1	Model 2	Model 3	Model 4
(Intercept)	-2.3972	-0.5130	0.6665	-0.4185
	(5.5592)	(6.8474)	(7.6988)	(6.8407)
GDP Per Capita	0.6390	0.3419	0.1121	0.3195
	(1.1832)	(1.4794)	(1.6320)	(1.4774)
GDP Per Capita Sq.	-0.0304	-0.0221	-0.0091	-0.0207
	(0.0636)	(0.0810)	(0.0873)	(0.0809)
GDP Growth	-0.0001	-0.0033^{*}	-0.0030	-0.0032^{*}
	(0.0011)	(0.0014)	(0.0016)	(0.0014)
Central Government Debt	-0.0005	-0.0007	-0.0011	-0.0007
	(0.0007)	(0.0009)	(0.0009)	(0.0009)
FF Income Dependence	-0.0012	-0.0053	-0.0054	-0.0053
	(0.0039)	(0.0031)	(0.0032)	(0.0031)
Value-Added Tax Rate	0.0040	0.0089	0.0042	0.0089
	(0.0058)	(0.0078)	(0.0076)	(0.0078)
Leader's Age			0.0010	
			(0.0013)	
Leader's Gender (M)			0.0131	
			(0.0601)	
Leader's Schooling			-0.0518	
			(0.0418)	
Executive Political Ideology			-0.0196	
			(0.0128)	
Economic Crisis Year				0.0058
				(0.0168)
\mathbb{R}^2	0.9559	0.8946	0.8985	0.8946
Adj. \mathbb{R}^2	0.9536	0.8935	0.8973	0.8935
Country Intercepts	Ν	Y	Y	Y
Country Trends	Ν	Y	Y	Y
Leader Intercepts	Y	Ν	Ν	Ν
Leader Trends	Y	Ν	Ν	Ν
Num. obs.	18083	18083	15953	18083
RMSE	0.0957	0.1450	0.1430	0.1450
N Clusters	91	91	87	91

***p < 0.001; **p < 0.01; *p < 0.05

Table S2: Model results for democracies. The outcome is the net implicit tax on gasoline. The sample includes all democratic countries with more than one political leader throughout the period of analysis. Coefficient estimates indicate the expected change in net implicit taxes for one-unit changes in each covariate. Column 1 includes leader intercepts, leader trends, and country-level covariates. Column 2 includes country intercepts, country trends, and country-level covariates. Column 3 includes country intercepts, country trends, country-level covariates, and leader-specific covariates. Column 4 adds a binary variable to measure economic crisis.

2.2 Non-Democratic Countries

	Model 1	Model 2	Model 3	Model 4
(Intercept)	-9.9631	1.2501	0.9629	1.3784
	(4.5897)	(4.0274)	(6.2303)	(3.9860)
GDP Per Capita	2.2740^{*}	-0.2610	-0.1656	-0.2895
	(1.0261)	(0.8946)	(1.2896)	(0.8850)
GDP Per Capita Sq.	-0.1176	0.0140	0.0112	0.0154
	(0.0535)	(0.0473)	(0.0668)	(0.0467)
GDP Growth	-0.0005	-0.0009	-0.0038	-0.0009
	(0.0014)	(0.0013)	(0.0025)	(0.0013)
Central Government Debt	-0.0002	-0.0007	-0.0014	-0.0007
	(0.0005)	(0.0008)	(0.0016)	(0.0008)
FF Income Dependence	-0.0081	-0.0086	-0.0086	-0.0087
	(0.0038)	(0.0038)	(0.0045)	(0.0037)
Value-Added Tax Rate	-0.0063	0.0052	-0.0049	0.0055
	(0.0063)	(0.0101)	(0.0056)	(0.0106)
Leader's Age			0.0032^{*}	
			(0.0014)	
Leader's Gender (M)			-0.0234	
			(0.0894)	
Leader's Schooling			-0.0707	
			(0.0437)	
Executive Political Ideology			-0.0251	
			(0.0358)	
Economic Crisis Year				-0.0065
				(0.0305)
\mathbb{R}^2	0.9231	0.8897	0.8943	0.8897
$Adj. R^2$	0.9201	0.8881	0.8925	0.8881
Country Intercepts	Ν	Y	Y	Y
Country Trends	Ν	Y	Y	Y
Leader Intercepts	Y	Ν	Ν	Ν
Leader Trends	Y	Ν	Ν	Ν
Num. obs.	8088	8088	6707	8088
RMSE	0.1330	0.1574	0.1519	0.1573
N Clusters	56	56	53	56

***p < 0.001; ** p < 0.01; * p < 0.05

Table S3: Model results for non-democratic countries. The outcome is the net implicit tax on gasoline. The sample includes all non-democratic countries with more than one political leader throughout the period of analysis. Coefficient estimates indicate the expected change in net implicit taxes for one-unit changes in each covariate. Column 1 includes leader intercepts, leader trends, and country-level covariates. Column 2 includes country intercepts, country trends, and countrylevel covariates. Column 3 includes country intercepts, country trends, country-level covariates, and leader-specific covariates. Column 4 adds a binary variable to measure economic crisis.

2.3 Parliamentary Democracies

	Model 1	Model 2	Model 3	Model 4
(Intercept)	5.4578	18.2226	20.0944	18.2560
	(18.4418)	(14.8035)	(17.4226)	(14.8398)
GDP Per Capita	-1.0283	-3.6645	-3.9588	-3.6734
-	(3.7255)	(2.9984)	(3.5500)	(3.0051)
GDP Per Capita Sq.	0.0545	0.1913	0.2024	0.1920
	(0.1861)	(0.1526)	(0.1807)	(0.1529)
GDP Growth	0.0003	-0.0015	-0.0006	-0.0012
	(0.0019)	(0.0023)	(0.0022)	(0.0023)
Central Government Debt	-0.0002	0.0042^{*}	0.0039	0.0042^{*}
	(0.0019)	(0.0018)	(0.0022)	(0.0018)
FF Income Dependence	-0.0018	-0.0015	-0.0017	-0.0016
	(0.0074)	(0.0022)	(0.0020)	(0.0022)
Value-Added Tax Rate	0.0172	-0.0029	-0.0072	-0.0029
	(0.0135)	(0.0129)	(0.0129)	(0.0128)
Leader's Age			0.0004	
			(0.0029)	
Leader's Gender (M)			0.0334	
			(0.0804)	
Leader's Schooling			-0.0155	
			(0.0606)	
Executive Political Ideology			-0.0076	
			(0.0202)	
Economic Crisis Year				0.0147
				(0.0321)
\mathbb{R}^2	0.9487	0.8739	0.8780	0.8739
Adj. \mathbb{R}^2	0.9457	0.8726	0.8767	0.8727
Country Intercepts	Ν	Y	Υ	Y
Country Trends	Ν	Y	Y	Y
Leader Intercepts	Y	Ν	Ν	Ν
Leader Trends	Y	Ν	Ν	Ν
Num. obs.	9441	9441	8289	9441
RMSE	0.1002	0.1534	0.1545	0.1534
N Clusters	44	44	42	44

***p < 0.001; **p < 0.01; *p < 0.05

Table S4: Model results for parliamentary democracies. The outcome is the net implicit tax on gasoline. The sample includes all parliamentary democracies with more than one political leader throughout the period of analysis. Coefficient estimates indicate the expected change in net implicit taxes for one-unit changes in each covariate. Column 1 includes leader intercepts, leader trends, and country-level covariates. Column 2 includes country intercepts, country trends, and country-level covariates. Column 3 includes country intercepts, country trends, country-level covariates. Column 4 adds a binary variable to measure economic crisis.

2.4 Presidential Democracies

	Model 1	Model 2	Model 3	Model 4
(Intercept)	-7.2594	-1.7754	-3.5719	-1.7426
	(4.2876)	(5.8180)	(6.4086)	(5.8585)
GDP Per Capita	1.7066	0.4464	0.7442	0.4385
	(0.9759)	(1.2844)	(1.3894)	(1.2876)
GDP Per Capita Sq.	-0.0893	-0.0179	-0.0274	-0.0174
	(0.0560)	(0.0722)	(0.0761)	(0.0721)
GDP Growth	-0.0002	-0.0043^{*}	-0.0043^{*}	-0.0043^{*}
	(0.0014)	(0.0020)	(0.0019)	(0.0020)
Central Government Debt	-0.0006	-0.0032^{**}	-0.0029^{**}	-0.0032^{**}
	(0.0010)	(0.0008)	(0.0008)	(0.0008)
FF Income Dependence	-0.0008	-0.0092	-0.0078	-0.0092
	(0.0115)	(0.0150)	(0.0190)	(0.0150)
Value-Added Tax Rate	-0.0014	0.0122	0.0090	0.0122
	(0.0048)	(0.0075)	(0.0070)	(0.0074)
Leader's Age			0.0012	
			(0.0010)	
Leader's Gender (M)			-0.0532	
			(0.0696)	
Leader's Schooling			-0.0670	
			(0.0454)	
Executive Political Ideology			-0.0252^{*}	
			(0.0112)	
Economic Crisis Year				0.0011
				(0.0189)
\mathbb{R}^2	0.9365	0.8779	0.8859	0.8779
Adj. \mathbb{R}^2	0.9335	0.8762	0.8842	0.8762
Country Intercepts	Ν	Υ	Υ	Υ
Country Trends	Ν	Υ	Υ	Y
Leader Intercepts	Y	Ν	Ν	Ν
Leader Trends	Y	Ν	Ν	Ν
Num. obs.	7415	7415	6779	7415
RMSE	0.0921	0.1257	0.1205	0.1257
N Clusters	47	47	46	47

*** p < 0.001; ** p < 0.01; * p < 0.05

Table S5: Model results for presidential democracies. The outcome is the net implicit tax on gasoline. The sample includes all presidential democracies with more than one political leader throughout the period of analysis. Coefficient estimates indicate the expected change in net implicit taxes for one-unit changes in each covariate. Column 1 includes leader intercepts, leader trends, and country-level covariates. Column 2 includes country intercepts, country trends, and country-level covariates. Column 3 includes country intercepts, country trends, country-level covariates, and leader-specific covariates. Column 4 adds a binary variable to measure economic crisis.

2.5 Oil Importers

	Model 1	Model 2	Model 3	Model 4
(Intercept)	-3.0655	-0.2522	2.3964	-0.2490
· - /	(3.6009)	(4.0393)	(4.4233)	(4.0365)
GDP Per Capita	0.7234	0.1149	-0.2508	0.1139
	(0.8197)	(0.9676)	(0.9666)	(0.9664)
GDP Per Capita Sq.	-0.0373	-0.0076	0.0110	-0.0076
	(0.0440)	(0.0566)	(0.0539)	(0.0565)
GDP Growth	-0.0000	-0.0021	-0.0029^{*}	-0.0021
	(0.0010)	(0.0012)	(0.0014)	(0.0012)
Central Government Debt	-0.0009	-0.0011	-0.0016^{*}	-0.0011
	(0.0006)	(0.0006)	(0.0007)	(0.0006)
FF Income Dependence	-0.0096	-0.0265^{*}	-0.0321^{**}	-0.0265^{*}
	(0.0074)	(0.0115)	(0.0108)	(0.0115)
Value-Added Tax Rate	0.0039	0.0054	0.0014	0.0054
	(0.0047)	(0.0065)	(0.0061)	(0.0065)
Leader's Age			0.0010	
			(0.0012)	
Leader's Gender (M)			0.0366	
			(0.0513)	
Leader's Schooling			-0.0678	
			(0.0347)	
Executive Political Ideology			-0.0199	
			(0.0113)	
Economic Crisis Year				0.0006
				(0.0150)
\mathbb{R}^2	0.9395	0.8779	0.8845	0.8779
Adj. \mathbb{R}^2	0.9366	0.8767	0.8831	0.8767
Country Intercepts	Ν	Υ	Υ	Υ
Country Trends	Ν	Υ	Υ	Υ
Leader Intercepts	Y	Ν	Ν	Ν
Leader Trends	Y	Ν	Ν	Ν
Num. obs.	23050	23050	19972	23050
RMSE	0.1091	0.1522	0.1477	0.1522
N Clusters	115	115	109	115

*** p < 0.001; ** p < 0.01; * p < 0.05

Table S6: Model results for oil importers. The outcome is the net implicit tax on gasoline. The sample includes all oil-importing countries with more than one political leader throughout the period of analysis. Coefficient estimates indicate the expected change in net implicit taxes for one-unit changes in each covariate. Column 1 includes leader intercepts, leader trends, and country-level covariates. Column 2 includes country intercepts, country trends, and country-level covariates. Column 3 includes country intercepts, country trends, country-level covariates, and leader-specific covariates. Column 4 adds a binary variable to measure economic crisis.

2.6 Oil Exporters

	Model 1	Madal 9	Madal 2	Madal 4
	12 2007	C 1050	11 0000	100del 4
(Intercept)	-13.3067	-6.1858	-11.8090	-4.8267
	(8.0255)	(8.8328)	(8.0896)	(8.4604)
GDP Per Capita	2.5636	1.2117	2.3271	0.9222
	(1.6852)	(1.7763)	(1.6142)	(1.6965)
GDP Per Capita Sq.	-0.1222	-0.0593	-0.1086	-0.0444
	(0.0884)	(0.0882)	(0.0811)	(0.0844)
GDP Growth	-0.0021	-0.0008	-0.0034	-0.0009
	(0.0015)	(0.0013)	(0.0017)	(0.0014)
Central Government Debt	0.0010	0.0006	0.0009	0.0006
	(0.0010)	(0.0012)	(0.0021)	(0.0012)
FF Income Dependence	-0.0079^{*}	-0.0068^{*}	-0.0064	-0.0069^{*}
	(0.0029)	(0.0024)	(0.0030)	(0.0025)
Value-Added Tax Rate	0.0165	0.0226	0.0294	0.0226
	(0.0107)	(0.0422)	(0.0494)	(0.0420)
Leader's Age		· /	0.0007	. ,
0			(0.0032)	
Leader's Gender			-0.1214	
			(0.2065)	
Leader's Schooling			-0.0692	
Loudor 5 Sourcound			(0.0883)	
Executive Political Ideology			0.0002	
Executive Fontieur facology			(0.0486)	
Economic Crisis Vear			(0.0100)	-0.0853
Leononne erisis rear				(0.0411)
	0.9695	0.9485	0.9498	0.9498
Adi B^2	0.9693	0.9400	0.0480	0.9490
Country Intercents	0.9005 N	0.3411 V	0.3403 V	0.3431 V
Country Trends	N	v	V	v V
Leader Intercente	v	N	N	N
Leader Trends	I V	N	N	N
Num obs	1 2101	⊥ĭ 2101	18	1N 2101
DMCE	3121 0 1097	0 1204	2000	0 1277
N Chusters	0.1087	0.1394	0.1392	0.1377
IN UTUSTERS	21	21	18	21

****p < 0.001; ***p < 0.01; *p < 0.05

Table S7: Model results for oil exporters. The outcome is the net implicit tax on gasoline. The sample includes all oil-exporting countries with more than one political leader throughout the period of analysis. Coefficient estimates indicate the expected change in net implicit taxes for one-unit changes in each covariate. Column 1 includes leader intercepts, leader trends, and country-level covariates. Column 2 includes country intercepts, country trends, and country-level covariates. Column 3 includes country intercepts, country trends, country-level covariates, and leader-specific covariates. Column 4 adds a binary variable to measure economic crisis.

2.7 Persistent Subsidizers

	Model 1	Model 2	Model 3	Model 4
(Intercept)	-18.2846	7.2037	6.9924	8.1705
	(11.3450)	(14.7434)	(16.3555)	(14.4887)
GDP Per Capita	3.6732	-1.2896	-1.2590	-1.4739
	(2.2861)	(2.8455)	(3.1180)	(2.7997)
GDP Per Capita Sq.	-0.1815	0.0600	0.0563	0.0688
	(0.1141)	(0.1383)	(0.1498)	(0.1363)
GDP Growth	-0.0006	0.0005	-0.0007	0.0005
	(0.0007)	(0.0007)	(0.0028)	(0.0008)
Central Government Debt	0.0003	-0.0010	-0.0006	-0.0010
	(0.0014)	(0.0017)	(0.0033)	(0.0017)
FF Income Dependence	-0.0144^{***}	-0.0184^{**}	-0.0182^{**}	-0.0186^{***}
	(0.0024)	(0.0038)	(0.0044)	(0.0036)
Value-Added Tax Rate	0.0059	0.0286	0.0200	0.0276
	(0.0131)	(0.0181)	(0.0295)	(0.0171)
Leader's Age			0.0029	
			(0.0017)	
Leader's Gender (M)			0.1281	
			(0.1214)	
Leader's Schooling			-0.1755	
			(0.1015)	
Executive Political Ideology			-0.0465	
			(0.0206)	
Economic Crisis Year				-0.0235
				(0.0553)
\mathbb{R}^2	0.8500	0.7105	0.7439	0.7112
Adj. \mathbb{R}^2	0.8448	0.7077	0.7408	0.7082
Country Intercepts	Ν	Υ	Υ	Υ
Country Trends	Ν	Υ	Υ	Υ
Leader Intercepts	Y	Ν	Ν	Ν
Leader Trends	Y	Ν	Ν	Ν
Num. obs.	3193	3193	2603	3193
RMSE	0.1130	0.1551	0.1370	0.1549
N Clusters	13	13	11	13

*** p < 0.001; ** p < 0.01; * p < 0.05

Table S8: Model results for persistent gasoline subsidizers. The outcome is the net implicit tax on gasoline. The sample includes all persistent subsidizers with more than one political leader throughout the period of analysis. Coefficient estimates indicate the expected change in net implicit taxes for one-unit changes in each covariate. Column 1 includes leader intercepts, leader trends, and country-level covariates. Column 2 includes country intercepts, country trends, and country-level covariates. Column 3 includes country intercepts, country trends, country-level covariates, and leader-specific covariates. Column 4 adds a binary variable to measure economic crisis.

2.8 Persistent Taxers

	Model 1	Model 2	Model 3	Model 4
(Intercept)	-21.8643	-11.3711	-14.7488	-11.9187
	(14.8720)	(10.1266)	(11.2351)	(9.3330)
GDP Per Capita	4.9350	2.4413	3.1234	2.5113
	(3.1910)	(2.2416)	(2.4786)	(2.0602)
GDP Per Capita Sq.	-0.2600	-0.1230	-0.1616	-0.1223
	(0.1647)	(0.1275)	(0.1434)	(0.1175)
GDP Growth	-0.0049	-0.0079	-0.0085	-0.0091
	(0.0038)	(0.0043)	(0.0044)	(0.0044)
Central Government Debt	-0.0015	-0.0040	-0.0039	-0.0040
	(0.0010)	(0.0019)	(0.0020)	(0.0018)
FF Income Dependence	-0.0091	-0.0060	-0.0085	-0.0069
	(0.0056)	(0.0048)	(0.0041)	(0.0051)
Value-Added Tax Rate	-0.0109	0.0135	0.0052	0.0142
	(0.0238)	(0.0218)	(0.0308)	(0.0226)
Leader's Age			0.0048	
			(0.0015)	
Leader's Gender (M)			0.1323	
			(0.0467)	
Leader's Schooling			0.0752	
			(0.0187)	
Executive Political Ideology			-0.0619	
			(0.0196)	
Economic Crisis Year				-0.0773
				(0.0360)
\mathbb{R}^2	0.7123	0.6742	0.6713	0.6797
Adj. \mathbb{R}^2	0.7036	0.6680	0.6649	0.6734
Country Intercepts	Ν	Y	Y	Y
Country Trends	Ν	Y	Y	Y
Leader Intercepts	Y	N	Ν	N
Leader Trends	Y	N	Ν	Ν
Num. obs.	1878	1878	1728	1878
RMSE	0.1646	0.1742	0.1751	0.1728
N Clusters	15	15	12	15
$^{***}p < 0.001; ^{**}p < 0.01; ^{*}p < 0.05$				

Table S9: Model results for persistent gasoline taxers. The outcome is the net implicit tax on gasoline. The sample includes all persistent taxers with more than one political leader throughout the period of analysis. Coefficient estimates indicate the expected change in net implicit taxes for one-unit changes in each covariate. Column 1 includes leader intercepts, leader trends, and country-level covariates. Column 2 includes country intercepts, country trends, and country-level covariates. Column 3 includes country intercepts, country trends, country-level covariates, and leader-specific covariates. Column 4 adds a binary variable to measure economic crisis.

3 Randomization Inference Regression Tables

Table S10: Comparison of model with country intercepts and country trends and model with leader intercepts and leader trends for **all countries** with more than one political leader during the period of analysis.

	Model 1	Model 2
(Intercept)	0.0786^{***}	0.0473^{***}
	(0.0000)	(0.0000)
\mathbb{R}^2	0.8735	0.9276
Adj. R ²	0.8724	0.9245
Num. obs.	31446	31446
RMSE	0.1787	0.1375
N Clusters	136	136
***p < 0.001;	$p^{**} p < 0.01;$	$p^* < 0.05$

Table S11: Comparison of model with country intercepts and country trends and model with leader intercepts and leader trends for **all democratic countries** with more than one political leader during the period of analysis.

	Model 1	Model 2
(Intercept)	0.9150^{***}	0.9445^{***}
	(0.0000)	(0.0000)
\mathbb{R}^2	0.8749	0.9435
Adj. R ²	0.8737	0.9407
Num. obs.	20633	20633
RMSE	0.1566	0.1073
N Clusters	100	100
***p < 0.001	; $**p < 0.01;$	$p^* < 0.05$

Table S12: Comparison of model with country intercepts and country trends and model with leader intercepts and leader trends for **all autocratic countries** with more than one political leader during the period of analysis.

	Model 1	Model 2
(Intercept)	0.0786^{***}	0.0473^{***}
	(0.0000)	(0.0000)
\mathbb{R}^2	0.8180	0.8621
Adj. R ²	0.8158	0.8572
Num. obs.	10813	10813
RMSE	0.2036	0.1793
N Clusters	65	65
*** $p < 0.001;$ ** $p < 0.01;$ * $p < 0.05$		

Table S13: Comparison of model with country intercepts and country trends and model with leader intercepts and leader trends for **parliamentary democracies** with more than one political leader during the period of analysis.

	Model 1	Model 2
(Intercept)	0.9150^{***}	0.9445^{***}
	(0.0000)	(0.0000)
\mathbb{R}^2	0.8549	0.9440
Adj. R ²	0.8536	0.9408
Num. obs.	10386	10386
RMSE	0.1631	0.1037
N Clusters	46	46
***p < 0.001	; $**p < 0.01;$	$p^* < 0.05$

Table S14: Comparison of model with country intercepts and country trends and model with leader intercepts and leader trends for **presidential democracies** with more than one political leader during the period of analysis.

	Model 1	Model 2
(Intercept)	0.7946^{***}	0.8396***
	(0.0000)	(0.0000)
\mathbb{R}^2	0.8033	0.8949
Adj. R ²	0.8009	0.8902
Num. obs.	8751	8751
RMSE	0.1554	0.1154
N Clusters	53	53
$^{***}p < 0.001;$	$p^{**} p < 0.01;$	$p^* < 0.05$

Table S15: Comparison of model with country intercepts and country trends and model with leader intercepts and leader trends for **oil importers** with more than one political leader during the period of analysis.

	Model 1	Model 2
(Intercept)	0.0486***	0.0473***
	(0.0000)	(0.0000)
\mathbb{R}^2	0.8486	0.9089
Adj. \mathbb{R}^2	0.8471	0.9046
Num. obs.	26340	26340
RMSE	0.1752	0.1384
N Clusters	131	131
*** $p < 0.001; **p < 0.01; *p < 0.05$		

Table S16: Comparison of model with country intercepts and country trends and model with leader intercepts and leader trends for **oil exporters** with more than one political leader during the period of analysis.

	Model 1	Model 2
(Intercept)	0.0159^{***}	0.0816***
	(0.0000)	(0.0000)
\mathbb{R}^2	0.9414	0.9640
Adj. R ²	0.9406	0.9626
Num. obs.	3491	3491
RMSE	0.1428	0.1134
N Clusters	22	22
***p < 0.001;	**p < 0.01;	$p^* < 0.05$

Table S17: Comparison of model with country intercepts and country trends and model with leader intercepts and leader trends for **persistent subsidizers** with more than one political leader during the period of analysis.

	Model 1	Model 2
(Intercept)	0.0720***	0.0372***
	(0.0000)	(0.0000)
\mathbb{R}^2	0.5899	0.7936
Adj. R ²	0.5872	0.7874
Num. obs.	4377	4377
RMSE	0.1811	0.1300
N Clusters	15	15
$^{***}p < 0.001;$	$p^{**} p < 0.01;$	$p^* < 0.05$

Table S18: Comparison of model with country intercepts and country trends and model with leader intercepts and leader trends for **persistent taxers** with more than one political leader during the period of analysis.

	Model 1	Model 2
(Intercept)	0.2600***	0.4251***
· - /	(0.0000)	(0.0000)
\mathbb{R}^2	0.6770	0.7211
Adj. \mathbb{R}^2	0.6719	0.7131
Num. obs.	2127	2127
RMSE	0.1754	0.1640
N Clusters	17	17
*** $p < 0.001;$ ** $p < 0.01;$ * $p < 0.05$		

4 Supplementary Figures

4.1 Kernel Density Plots by Subgroup



Figure S1: Mean monthly change in net implicit taxes for leaders in democracies versus autocracies.



Figure S2: Mean monthly change in net implicit taxes for leaders in presidential democracies versus in parliamentary democracies.



Figure S3: Mean monthly change in net implicit taxes for leaders in oil exporters versus in oil importers.

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